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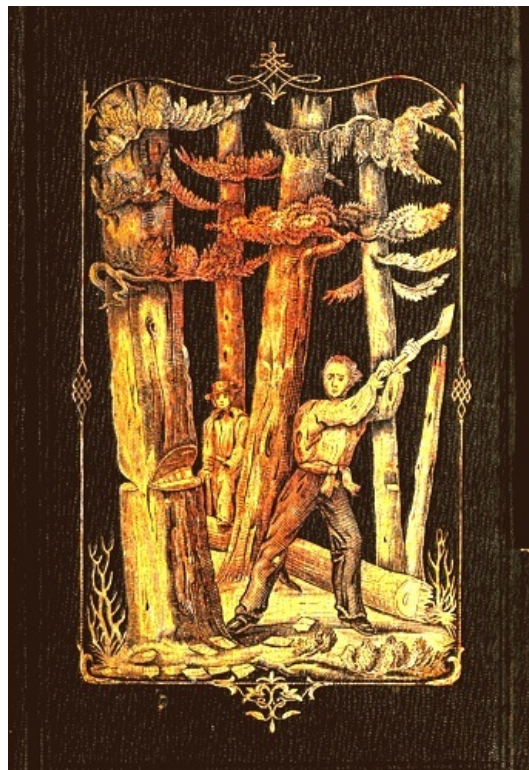
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*** START OF THE PROJECT GUTENBERG EBOOK FOREST LIFE AND FOREST TREES:
COMPRISING WINTER CAMP-LIFE AMONG THE LOGGERS, AND WILD-WOOD ADVENTURE





FOREST LIFE

AND

FOREST TREES:

COMPRISING

**WINTER CAMP-LIFE AMONG THE
LOGGERS, AND WILD-WOOD
ADVENTURE.**

WITH

**DESCRIPTIONS OF LUMBERING OPERATIONS ON
THE VARIOUS RIVERS OF MAINE AND
NEW BRUNSWICK.**

BY JOHN S. SPRINGER.

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PREFACE.

The writer of the following pages was reared among the Pine forests of Maine, and has spent several of the most pleasant years of his life in active participation in many of the scenes here delineated.

The incidents he has related are real, and in no case is the truth sacrificed to fancy or embellishment.

When the author commenced writing, his motive was to indulge somewhat in pleasant reminiscences of the past, and to live over again that portion of his life which, in general, was so pleasantly spent among the wild mountains, forests, lakes, and rivers of Maine. It was during this retrospective exercise with his pen that the idea of writing a book, embracing his own experience and observations during the time in which he participated in the lumberman's life, suggested itself.

Recollecting that, while the life, habits, and adventures of many classes of men had engaged the attention of the reading community, and that, among the multitude of narratives issued from the press, nothing of interest or importance had been put forth exemplifying the life and adventures of a very large class of persons known as lumbermen, he naturally became possessed with a desire to entertain others with some relation of what appeared to him to afford sufficient material for a book of some interest, and chiefly because the matter it might embrace had never been presented in a connected detail.

Suggesting the substance of what has already been said to several intelligent lumbermen, an interest was at once awakened in their feelings upon the subject, accompanied with an urgent request that the plan should be prosecuted, and that a work should be prepared which might make their pursuits, adventures, and hardships more generally known. To many of these friends the author is also indebted for some assistance in furnishing statistical matter.

In incorporating the somewhat lengthy notice of Forest Trees, forming the first part of this volume, the author has ventured to make his own taste and feelings the criterion by which he has been guided in his selections and observations for the reader, and although they may not hold a strict relation to the narrative, he hopes that they may not be deemed inappropriate or uninteresting.

This volume makes no pretensions to literary merit; sooner would it, indeed, claim kindred with the wild and uncultivated scenes of which it is but a simple relation.

In justice to the gentlemen whom he has quoted in arranging the statistical portion of this volume, as well as to himself, the author would state that the material was procured some four years ago. The statement of this fact may account for any discrepancy which may appear from more recent accounts of the lumbering interests, should they be found to vary from the representations here made.

THE AUTHOR.

PART I. TREES OF AMERICA.

PART II. THE PINE-TREE, OR FOREST LIFE.

PART III. RIVER LIFE.

CONTENTS.

PART I.
TREES OF AMERICA.

CHAPTER I.

Trees, how regarded by Lumbermen.—Cedars of Lebanon.—Oldest Tree on Record.—Napoleon's Regard for it.—Dimensions.—Durability of the Cedar, how accounted for.—The Oak.—Religious Veneration in which it was held by the Druids.—The Uses to which their Shade was appropriated.—Curious Valuation of Oak Forests by the Ancient Saxons.—The Number of Species.—Its Value.—Remarkable old Oak in Brighton.—Charter Oak.—Button-wood Tree.—Remarkable Rapidity of its Growth.—Remarkable Size of one measured by Washington.—by Michaux.—Disease in 1842, '43, and '44.—The Oriental Plane-tree —Great Favorite with the Ancients.—Cimon's Effort to gratify the Athenians.—Pliny's Account of its Transportation.—The Privilege of its Shade a Tax.—Used as an Ornament.—Nourished with Wine.—Hortensius and Cicero.—Pliny's curious Account of one of remarkable Size

13

CHAPTER II.

The Elm.—English Elm.—Scotch Elm.—Slippery Elm.—American Elm.—Superiority of latter.—Different Shapes, how accounted for.—Great Elm on Boston Common.—Rapidity of Growth.—The Riding Stick.—Remarkable Dimensions of noted Trees.—Boston Elm again.— Its Age.—By whom set out.—Washington Elm, why so named.—"Trees of Peace," a Tribute of Respect.—English Elm in England and America.—Uses in France.—In Russia.—Birch Family.—Its Variety and Uses.—The Maple Family.—Number of Species.—Red Maple.—Unrivalled Beauty of American Forests.—Rock Maple.—Amount of Wood cut from one in Blandford.—Curious method of distinguishing it from the River Maple.—Amount and Value of the Sugar in Massachusetts.—Great Product from one Tree.—Sugar Maple in the State of Maine.—Dr. Jackson's Reports, &c.

19

CHAPTER III.

Beech-trees.—Purity, Size, Fruit.—Efforts of Bears after the Nut.—The Uses to which its Leaves are appropriated.—Mr. Lauder's Testimony, &c.—Use of Wood.—Singular Exemption.—The novel Appearance of the Leaves of a Species in Germany.—Chestnut-tree —Remarkable one on Mount Ætna.—Balm of Gilead.—Willow.—Ash.— Basswood, or Tiel-tree.—The Poplar.—The Hemlock.— Beauties of its Foliage.—Uses.—Hickory.—The Fir-tree.—Spruce-tree.—Its conical Form.—Uses.—American Larch.—Success of the Dukes of Athol in planting it on the Highlands of Scotland

28

PART II.

THE PINE-TREE, OR FOREST LIFE.

CHAPTER I.

The Pines.—White Pines: rank claimed for this Variety.—Predilections. — Comparison instituted.—Pitch and Norway Pines.—White Pine.— Magnitude.—New York Pines.—Lambert's Pine on Northwest Coast.— Varieties.—Its Rank.—Great variety of purposes to which it is devoted.— Great Pine near Jackson Lake.—Capital Invested.—Hands employed on the Penobscot

37

CHAPTER II.

The Pine twenty-five Years ago.—Its rapid Disappearance.—Explorations.— Outfit.—Up-river Journeying.—Its Distance.—Mode of Nightly Encampment.—Cooking.—Disturbed Slumbers. —Ludicrous Fright.— Deer.—Encounter with Bears.—Mode of Exploring. —Forest Observatory.—Climbing Trees.—The Emotions excited by the View.— Necessity of Compass.—Nature's Compass.—The Return.— Annoyances from mischievous Bears.—Stumpage.—Permits.—Outfit and Return.— Crossing Carrying-places.—A Strong Man.—Skill of Boatmen.—Item of personal Experience.—Blind Path.—A Family in the Wilderness.—Things to be considered in locating Camps

44

CHAPTER III.

Method of constructing Camp and Hovel.—Timber.—Covering.—
Arrangement of Interior.—The Bed.—Deacon Seat.—Ingenious Method
of making a Seat.—Cooking: superior Method of Baking.—The nightly
Camp Fire.—Liabilities from taking Fire.—A Camp consumed.—Men
burned to Death.—Enjoyment.—The new Camp: Dedication.—A Song.—A
Story.—New Order in Architecture.—Ox Hovel.—Substitute for Lime.—
The Devotedness of the Teamster.—Fat and lean Cattle.—Swamping
Roads.—Clumps of Pine.—The points of Interest in a Logging Road.—The
Teamster's Path.—Regret.—The peculiar Enjoyment of Men thus
engaged

65

CHAPTER IV.

Tokens of Winter.—The Anticipation.—Introduction of Team.—Difficulties
attending it.—Uncomfortable Boating.—The Contrast.—Method of
crossing Streams and Rivers.—The Docility of the Ox.—Facilities of
Turnpikes.—Stopping-places.—Arrival.—An Adventure.—Ten Oxen in the
Ice.—Method of taking them Out.—An uncomfortable Night.—The
midnight Excursion.—Oxen running at large in the Wilderness.—
Developments of Memory.—Logging.—Division of Labor.—How to
manage in the absence of a Cook.—"Uncle Nat."—Anecdote.—Felling
Pines.—Ingenuity of Choppers.—Preparatory Arrangements.—The Bob-
sled.—Method of Operation described.—The Excitement.—Comparison.
—Immediate Length of Pine-trees.—Conclusion

83

CHAPTER V.

The Skill and Enterprise of Lumbermen.—Method of taking Logs down Hills
and Mountains.—Dry Sluice.—Stern Anchor.—Giant Mountain Steps.—
Alpine Lumbering.—Warping a Team down Steeps.—Trial of Skill and
Strength.—The rival Load.—Danger and Inconvenience of Hills in
Logging Roads.—A distressing Accident.—Solemn Conclusion of a
Winter's Work.—Some of the Perils attendant upon Lumbering.—A
fearful Wound.—Narrow Escape.—The buried Cap.—The safest Way of
Retreat.—A Sabbath in the Logging Camp.—Sunday Morning Naps.—
Domestic Camp Duties.—Letter Writing.—Recreations.—Sable Traps.—
Deer and Moose.—Bear Meat.—A rare Joke.—Moose Hunt.—Bewildered
Hunters.—Extraordinary Encounter.—Conclusion of Sabbath in the
Woods

100

CHAPTER VI.

Camp Life.—Winter Evenings.—An Evening in Camp.—Characters.—Card-
playing.—A Song.—Collision with wild Beasts.—The unknown Animal in a
Dilemma.—"Indian Devil."—The Aborigines' Terror.—A shocking
Encounter.—The Discovery and Pursuit.—The Bear as an Antagonist.—
Their thieving Propensities.—A thrilling Scene in the Night.—A
desperate Encounter with three Bears

129

CHAPTER VII.

Provision Teams.—Liabilities.—A Night in the Woods.—Traveling on Ice.—A
Span of Horses lost.—Pat's Adventure.—Drogers' Caravan.—Horses in
the Water.—Recovery of a sunken Load.—Returning Volunteers from
Aroostook.—Description of a Log Tavern.—Perils on Lakes in Snow-
storms.—Camping at Night.—Rude Ferry-boats

142

PART III.

RIVER LIFE.

CHAPTER I.

"Breaking Up."—Grotesque Parading down River.—Rum and Intemperance.
—Religious Rites profaned.—River-driving on Temperance Principles.—
The first Experiment.—A spiritual Song

149

CHAPTER II.

Log-landing.—Laborious Exposure.—Damming Streams.—Exciting Scenes.
—Log-riding.—Fun.—Breaking a Dry-landing.—A sudden Death.—
Thrilling Scenes on the "Nesourdnehunk."—Lake-driving.—Steam Tow-

boat.—Remarks on Lake Navigation.—Driving the main River.—Union of Crews.—Substantial Jokes.—Log Marks.—Dangers of River-driving.—Sad Feelings over the Grave of a River-driver. —Singular Substitute for a Coffin.—Burial of a River-driver.— A Log Jam.—Great Excitement.—A Boat swamped.—A Man drowned.— Narrow Escape.—Mode of Living on the River.—Wangun.—Antidote for Asthma.—The Wangun swamped.—An awful Struggle.—The miraculous Escape.—Driving among the Islands.— Amusing Exertions at identifying.—Consummation of Driving.—The Claims of lumbering Business for greater Prominence.—The Boom 155

CHAPTER III.

Observations on the St. Croix River.—Boundary Line.—Pine Timber. — Agriculture in the Interior.—Youthful Associations with Grand Lake.— Traditional Name of Grand Lake.—Lake Che-pet-na-cook.— Rise of Eastern Branch St. Croix.—Lumbering Prospects.—Hemlock. — Reciprocal Relations of the Lumber Trade between Americans and Provincials.—The Machias Rivers.—Origin of Name.—Character of Soil.— Lumber Resources and Statistics.—West Machias.—Narraguagues River, curious Definition of.—Capacity of Stream.—Statistics.— Union River.— Observations on its Lumbering Interests.—Mills in Franklin 176

CHAPTER IV.

Penobscot River.—Its various Names.—Character of the Country through which it flows.—Its Length.—The vast Extent of Territory which it drains. —Its Multitude of Lakes.—Mount Ktaadn.—Indian Legend.— Elevation of the Mountain.—Overwhelming Prospect.—A Sabbath in the Wilderness. —Moose in the Lake.—An uncomfortable Night.—Dr. Jackson's Narrative.—New Lumber Resources.—The interesting Origin of this new Resource.—John Bull outwitted.—Freshets on the Penobscot.—Freshet of 1846, cause of it.—Sudden Rise of Water. —Bangor submerged.— Bowlders of Ice.—Destruction of Property.— Narrow Escape of Ferry-boat.—Peril of Boys.—Editorial Observations. —Lumber Statistics.— Where the Lumber finds a Market.—Speculations on future Prospects of Lumbering Interests.—Anticipations of the Future.—Bangor 186

CHAPTER V.

Length of Kennebeck.—Moose-head Lake.—Its peculiar Shape.—Its Islands. —Burned Jacket.—Interesting Deposit.—Mount Kineo.—The Prospect from its Summit.—Moose River.—Old Indian.—The Banks of the Kennebeck.—Beauties of the Country, &c.—Lumber on Dead River. — Falls at Waterville.—Skowhegan Falls.—Arnold's Encampment.— Nau-lau-chu-wak.—Caritunk Falls.—Lumber.—Statistics.—Author's Acknowledgments.—Androscoggin.—Course and other Peculiarities. —A question of Rivalry.—Water Power.—Original Indications.— Interesting Sketch of Rumford Falls.—Estimated Water Power.— Lumber Statistics. —Droughts and Freshets.—Umbagog Lake.—The serpentine Megalloway.—Granite Mountains.—Beautiful Foliage.— Romantic Falls. —Character of Country.—Manner of Life in Log-cutting, &c.—Statistics, &c.—Presumpscot River, great Water-powers of.—Warmth of Water.— Statistical Remarks.—Saco River 227

CHAPTER VI. NEW BRUNSWICK.

Object of the Chapter.—Description of St. John's River.—First Falls.— Contiguous Country.—"Mars Hill."—Prospect.—Grand Falls. —The Acadians, curious Facts respecting them.—The Mirimachi River.— Immense amount of Timber shipped.—Riots.—State of Morals.—The great Mirimachi Fire.—Hurricane.—Destruction of Human Life.—Area of the Fire.—Vessels in Harbor.—Painfully disgusting Sights.—Destruction among Fish.—Fire, rapidity of Progress.—Curious instance of Escape.— Ristigouche River, its Length.—Capacious Harbor.—Appearance of the Country.—High Banks.—Groves of Pine.—A Statistical Table 244

LIST OF ENGRAVINGS.

Frontispiece—Moose Deer.	
Shooting Deer—Black Bear	49
Winter Quarters of Lumbermen	69
Log Hauling—Process of Loading Logs	95
The Common Wolf	113
Log Tavern in the Wilderness	146
River Drivers Breaking a Jam	165
A Coaster ascending the Penobscot for Lumber	187
View of the Penobscot—Forests and Lakes northeast from Ktaadn	189
Northeast View of Mount Ktaadn, from the west Branch of the Penobscot	199
Godfrey's Falls, on the Seboois River	208
Chase's Mountain, as seen from Sugar-loaf Mountain	211
Sugar-loaf Mountain, on the Seboois River	225
View of Lily Bay, on Moose-head Lake	228
Skowhegan Falls, on the Kennebeck	231
Rumford Falls, on the Androscoggin	235
View of Umbagog Lake—Source of the Androscoggin	237
Frye's Falls, on a Tributary of Ellis River	238
Rumford Bridge, Androscoggin River	239
Aroostook Falls	250

FOREST LIFE AND FOREST TREES.

PART I.

CHAPTER I.

Trees, how regarded by Lumbermen.—Cedars of Lebanon.—Oldest Tree on Record.—Napoleon's Regard for it.—Dimensions.—Durability of the Cedar, how accounted for.—The Oak.—Religious Veneration in which it was held by the Druids.—The Uses to which their Shade was appropriated.—Curious Valuation of Oak Forests by the Ancient Saxons.—The Number of Species.—Its Value.—Remarkable old Oak in Brighton.—Charter Oak.—Button-wood Tree.—Remarkable Rapidity of its Growth.—Remarkable Size of one measured by Washington.—by Michaux.—Disease in 1842, '43, and '44.—The Oriental Plane-tree. —Great Favorite with the Ancients.—Cimon's Effort to gratify the Athenians.—Pliny's Account of its Transportation.—The Privilege of its Shade a Tax.—Used as an Ornament.—Nourished with Wine.—Hortensius and Cicero.—Pliny's curious Account of one of remarkable Size.

Lumbermen are accustomed to classify and rate forest trees by the lower, middle, and higher grades, just as animals are classified, from the muscle, through the intermediate grades, up to man, the crowning master-piece of the Creator's skill. But while man is universally recognized as first in the scale of animated nature, there is less uniformity of sentiment in respect to trees, as to which is entitled to hold the first rank in the vegetable kingdom. In the days of King David and Solomon, the noble Cedars of Lebanon held the pre-eminence, and were celebrated in verse as emblems of beauty, grandeur, and especially of durability; but "with the moderns the Cedar is emblematical of sadness and mourning":

"Dark tree! still sad when others' grief is fled—
The only constant mourner of the dead."—BYRON.

"Perhaps the oldest tree on record is the Cypress of Somma, in Lombardy. It is supposed to have been planted in the year of the birth of Christ, and on that account is looked upon with reverence by the inhabitants; but an ancient chronicle at Milan is said to prove that it was a tree in the time of Julius Cæsar, B.C. 42. It is one hundred and twenty-three feet high, and twenty-three feet in circumference at one foot from the ground. Napoleon, when laying down the plan for his great road over the Simplon, diverged from a straight line to avoid injuring this tree." [1]

"The Cedar was styled the glory of Lebanon. The Temple of Solomon and that of Diana at Ephesus were built of this wood. The number of these trees is now greatly diminished. They were often of vast size, sometimes girding thirty-six feet, perfectly sound, with a lofty height, whose spreading branches extended one hundred and ten feet." The durability of the Cedar is said to be attributable to two qualities: "1st, the bitterness of the wood, which protects it from the depredations of worms; and, 2dly, its resin, which preserves it from the injuries of the weather."

To the *Oak* some assign the first rank. It is celebrated in the East, and by many of the ancients was regarded with *religious* veneration. In the West, and by moderns, it is employed more as an emblem of the strength, compactness, and durability of the state.

"The religious veneration paid to this tree by the original natives of Britain, in the time of the Druids, is well known to every reader of British history." The patriarch Abraham resided under an Oak, or a grove of Oaks; and it is believed that he planted a grove of this tree. "In fact, since, in hot countries, nothing is more desirable than shade—nothing more refreshing than the shade of a tree—we may easily suppose the inhabitants would resort for such enjoyment to

"Where'er the Oak's thick branches spread
A deeper, darker shade."

Oaks, and groves of Oaks, were esteemed proper places for religious services; so that while the Methodist denomination may not claim originality in holding grove or camp-meetings, they may, at least, plead the usages of antiquity in their defense. Altars were set up under them; affairs of state were discussed and ratified under their ample shade.

"Abimelech was made king under an Oak." "Absalom rode upon a mule which went under the thick boughs of a great Oak, and his head caught hold of the Oak, and he was taken up between the heaven and the earth," and, while there suspended, was slain by Joab and his armor-bearers.

"In England, whose Oak forests are now one of the sources of national wealth and naval supremacy, the tree was once prized only for the acorns, which were the chief support of those large herds of swine whose flesh formed so considerable a part of the food of the Saxons. Woods of old, says Burnett, were valued according to the number of hogs they could fatten; and so rigidly were the forest lands surveyed, that, in ancient records, such as the Doomsday-book, woods are mentioned of a single hog. The right of feeding hogs in woods, called pannage, formed, some centuries ago, one of the most valuable kinds of property. With this right monasteries were endowed, and it often constituted the dowry of the daughters of the Saxon kings." [2]

Of the Oak some naturalists have enumerated twenty-four species. The wood of the White Oak is distinguished by three properties, which give to it its great value: hardness, toughness, and durability. The great variety of purposes to which it is appropriated shows it to be a tree of great value. For ship and carriage building, and in the manufacture of implements of husbandry, it is very valuable. This tree also holds rank on account of its size. In the "Report on the Trees and Shrubs of Massachusetts," notice is given of one still standing in Brighton. "In October, 1845, it measured twenty-five feet and nine inches in circumference at the surface. At three feet, it is twenty-two feet four inches; at six feet, fifteen feet two inches. It tapers gradually to the height of about twenty-five feet, where the stump of its ancient top is visible, below which point four or five branches are thrown out, which rise twenty or thirty feet higher. Below, the places of many former limbs are covered over by immense gnarled and bossed protuberances. The trunk is hollow at the base, with a large opening on the southwest, through which boys and men may easily enter. It had probably passed its prime centuries before the first English voice was heard on the shores of Massachusetts Bay. It is still clad with abundant foliage, and, if respected as its venerable age deserves, it may stand an object of admiration for centuries to come."

The Charter Oak, in Hartford, Connecticut, is said to measure at the ground thirty-six feet; and in the smallest place above it is eight feet four inches in diameter.

THE BUTTON-WOOD TREE.

This tree is "remarkable for the rapidity of its growth, especially when standing near water. Loudon mentions one which, standing near a pond, had in twenty years attained the height of eighty feet, with a trunk eight feet in circumference at three feet from the ground, and a head of the diameter of forty-eight feet." "Nowhere is this tree more vigorous than along the rivers of Pennsylvania and Virginia, and especially on the Ohio and its tributaries." 'General Washington measured a Button-wood growing on an island in the Ohio, and found its girth, at five feet from the ground, about forty feet.' "In 1802, the younger Michaux and his companions found a large tree of this kind on the right bank of the Ohio, thirty-six miles from Marietta. Its base was swollen in an extraordinary manner, but, at four feet from the ground, its circumference was found to be forty-seven feet," or fifteen feet and eight inches in diameter. It is said that "it may be propagated with more ease than any tree of the forest." "It is valuable stove fuel." S. W. Pomeroy, Esq., a writer in the *New England Farmer*, expresses the opinion that, on land possessing the same fertility, this tree will furnish fuel which will give the greatest amount of caloric to the acre,

except the locust on dry soil.

It will be remembered that in 1842, '43, and '44, this tree appeared to be under the influence of a general blight throughout the Eastern States. Various opinions were entertained respecting the cause of the malady which occasioned so much regret. "By most persons it was considered the effect of frost, supposing the tree not to have matured its wood, viz., the new shoots, during the previous summer, so that it was incapable of resisting the effect of frost." Others ascribed it to the action of some insect or worm, and others believed it to be some unaccountable disease, while others regarded the phenomenon as a providential token of the approach of some important event unknown and unanticipated. The tree has now pretty generally recovered from its malady.

"The Oriental Plane-tree holds the same place on the Eastern continent which our Button-wood does on this." "It was the greatest favorite among the ancients." "Cimon sought to gratify the Athenians by planting a public walk with them." "It was considered the finest shade tree in Europe." "Pliny tells the story of its having been brought across the Ionian Sea, to shade the tomb of Diomedes, in the island of the hero. From thence it was taken to Sicily, then to Italy; from Italy to Spain, and even into the most remote parts of the then barbarous France, where the natives were made to pay for the privilege of sitting under its shade.

"No tree was ever so great a favorite with the Romans. They ornamented their villas with it, valuing it above all other trees for the depth of its salutary shade, &c. They nourished it with pure wine; and Hortensius is related to have begged of his rival, Cicero, to exchange turns with him in a cause in which they were engaged, that he might himself do this office for a tree he had planted in his Tusculanum."

"Pliny describes some of the most remarkable planes. In the walks of the Academy at Athens were trees whose trunks were about forty-eight feet from the ground to the branches. In his own time there was one in Lycia, near a cool fountain by the road side, with a cavity of eighty-one feet circuit within its trunk, and a forest-like head, and arms like trees overshadowing broad fields. Within this apartment, made by moss-covered stones, to resemble a grotto, Licinius Mucianus thought it a fact worthy of history, that he dined with nineteen companions, and slept there too, not regretting splendid marbles, pictures, and golden-fretted roofs, and missing only the sound of rain drops pattering on the leaves." [3]

CHAPTER II.

The Elm.—English Elm.—Scotch Elm.—Slippery Elm.—American Elm. —Superiority of latter.—Different Shapes, how accounted for.—Great Elm on Boston Common.—Rapidly of Growth.—The Riding Stick.—Remarkable Dimensions of noted Trees.—Boston Elm again.—Its Age.—By whom set out.—Washington Elm, why so named.—"Trees of Peace," a Tribute of Respect.—English Elm in England and America.—Uses in France.—In Russia.—Birch Family.—Its Variety and Uses.—The Maple Family.—Number of Species.—Red Maple.—Unrivaled Beauty of American Forests.—Rock Maple.—Amount of Wood cut from one in Blandford.—Curious method of distinguishing it from the River Maple.—Amount and Value of the Sugar in Massachusetts.—Great Product from one Tree.—Sugar Maple in the State of Maine.—Dr. Jackson's Reports, &c.

THE ELM-TREE.

Of this family there are several varieties. The American, the English, the Scotch, and Slippery Elm. Of this enumeration, the American Elm stands first in point of ornament, while the timber of the English Elm is esteemed more highly on account of the toughness of the wood.

It has been well said that the Elm is a tree deservedly esteemed for its ornament and shade. "The American Elm assumes many different shapes, and all of them beautiful. Of these, three are most striking and distinct. The tall Etruscan vase is formed by four or five limbs separating at twenty or thirty feet from the ground, going up with a gradual divergency to sixty or seventy, and then bending rapidly outward, forming a flat top with a pendent border." "Transplanting the Elm, it is said, often produces in it a character akin to that of the Oak. It is then a broad, round-headed tree." "Of this kind is the 'Great Elm' on Boston Common."

Few trees of other species are to be found standing near the abodes of civilized life which have attained the vast dimensions of the Elm. Whatever may have been the peculiar properties of other trees, they have disappeared. Upturned by the passing hurricane, or leveled by the woodman's ax, they have passed away, while the Elm stands at our doors associated with the history and memory of the different generations which, like its autumnal sheddings, have long time ago mingled with the dust.

The Elm grows with great rapidity, which, in addition to its beauty as an ornament, secures for it the favor of man. "I once heard," says the author of Massachusetts Reports, &c., an old man, standing under the shade of a tree nearly two feet in diameter, which towered above all around it, say, "This tree, after I had been many years successful in business, and in a change of fortune had retired to this farm, with a little that remained, I stuck into the ground after I had used it as a stick in a ride of eight miles from P."

"From its having been so long a favorite, it has been more frequently spared, and oftener transplanted than any other tree. There are, in all parts of the state, many fine old trees standing." "In Springfield, in a field a few rods north of the hotel, is an Elm which was twenty-five feet and nine inches in circumference at three feet from the ground." The great Elm on Boston Common measures, at the same distance from the ground, seventeen feet eleven inches in circumference. "It is said to have been planted about the year 1670, by Captain Daniel Henchman, an ancestor of Governor Hancock. It is, therefore, more than one hundred and seventy-five years old." "There is an Elm in Hatfield, near the town-house, which measures at the ground forty-one feet; at three and one half feet from the ground it measures twenty-seven feet in circumference. The smallest place in the trunk is seven feet four inches in diameter. The top spreads over an area of one hundred and eight feet in diameter, making a circle of three hundred and twenty-four feet, covering a surface of over seven thousand five hundred square feet." "The Washington Elm, in Cambridge—so called because beneath its shade, or near it, General Washington is said to have first drawn his sword on taking the command of the American army—measured, in 1842, fifteen feet two inches at one foot, thirteen feet two at three feet from the ground. The celebrated Whitfield preached under the shade of this tree in 1744." "Two Elms were set out by the Indians in front of the house of the Rev. Oliver Peabody, who succeeded, in 1722, to the venerable Eliot, the Indian apostle, in the same truly Christian ministry, in Natick," Massachusetts. "This voluntary offering of the grateful savages they called Trees of Peace."

There is an Elm standing in front of Mr. J. Chickering's house, Westford, Massachusetts, which I recently measured eighteen inches from the ground. Its circumference was twenty feet, and its *spurs* were not prominent, as will be inferred from the fact that at four feet from the ground it measured eighteen feet in circumference. Seven and a half feet from the ground it divides into two branches, each of itself a very large trunk, the largest of which would measure three feet and a half in diameter. Seven or eight feet from the first division, at short intervals, the main branch, which grew on the west side next the house, divides into eight more branches, all nearly equal in size, and averaging a circumference of four and a half feet. About forty feet from the base of the tree these eight branches subdivide into twenty-one other branches, and so on indefinitely to the terminating twigs. The east main branch was divided into four principals, equal in size to the corresponding ones on the other side, and were subdivided also in the same manner as the one described.

In height it is about seventy feet, vase-topped, with a pendent border. The extent of the spreading branches, northwest and southeast, was one hundred and five feet; those corresponding with the exact opposite points of the compass extended ninety-five feet, giving an area of three hundred feet in circumference. Some of the pendent branches, which drooped within a few feet of the ground, I judged to be forty feet in length. These, stretched to a horizontal position, would give a breadth of one hundred and eighty feet to the top. Various opinions obtain respecting the number of solid feet it contains, ranging from nine to eleven hundred.

An old gentleman residing in the immediate vicinity, now eighty years old, told us that he could very well remember it when but a small tree, from which we infer its age to be about one hundred years. It appears to be perfectly sound, and now thrives as vigorously as a young sapling. It is a magnificent specimen of the vegetable kingdom, majestically imposing, awakening in the spectator a feeling of veneration in spite of himself. So ample is its wide-spreading Etruscan-shaped top, that at fifty rods' distance (were the trunk hid) one might mistake it for a group of twenty good-sized trees.

"The Slippery Elm has a strong resemblance to the common Elm. It has less of the drooping appearance, and is commonly a much smaller tree." "The inner bark of this Elm contains a great quantity of mucilage. Flour prepared from the bark, by drying perfectly and grinding, and mixed with milk, like arrowroot, is a wholesome and nutritious food for infants and invalids." "Dr. Darlington says that, in the last war with Great Britain, the soldiers on the Canada frontier found this, in times of scarcity of forage, a grateful and nutritious food for their horses."

'The English Elm is said to have been introduced by importation, and planted by a wheel-wright for his own use in making hubs for wheels, for which purpose they are probably superior to any other wood known.' In its appearance it is said to have 'less grace than the American Elm, but more stateliness and grandeur.' 'It is distinguished from the American Elm, also, by the rough, broken character of its bark, which is darker, and also by having one principal stem, which soars upward to a great height, and the boldness and abruptness with which it throws out its branches. The leaves are of a darker color, smaller, and closer.'

'The largest dimensions given of the English Elm on the Continent is sixty feet high, and twenty feet in circumference at the ground, containing two hundred and sixty-eight feet of timber.' "The

Crawley Elm stands in the village of Crawley, on the high road from London to Brighton. Its trunk measures sixty-one feet in circumference at the ground, and thirty-five feet round the *inside* at two feet from the base. This tree is not so large as would seem from this account, as it diminishes very rapidly upward."

"The noblest and most beautiful English Elms in this country are found in Roxbury, the largest of which measures fifteen feet five inches five feet from the ground; it holds its size fully to the height of twenty or twenty-five feet, where it divides into three large branches, the main central one of which rises upward to a height much above one hundred feet." "As among the ancient Romans, so in France at the present day, the leaves and shoots are used to feed cattle. In Russia, the leaves of a species of the Elm are used as a substitute for tea. The inner bark is in some places made into mats, and in Norway they kiln-dry it, and grind it with corn as an ingredient in bread."

THE BIRCH.

Of the Birch family there are several varieties, called the Black, Yellow, Red, Canoe, the Gray, and the Dwarf. Of these the Yellow and Canoe Birches are the most interesting and useful. The general outlines of the Yellow Birch often resemble the Elm, the root-spurs rise high up the trunk, protruding much beyond the regular circle of its shaft. It is very firmly rooted, capable of withstanding a violent blast. It attains to the height of seventy or eighty feet, and often measures from nine to ten feet in circumference three and four feet from the ground. Its wood is very useful for cabinet purposes, and is excellent for fuel.

The White or Canoe Birch is most remarkable for the beautiful thin sheets of bark which it affords, from which the Indian canoe is constructed. It also makes excellent covering for a tent. In some parts of the northern regions it is said to attain a diameter of six or seven feet.

The White Birch possesses "in an eminent degree the lightness and airiness of the Birch family, spreading out its glistening leaves on the ends of a very slender and often pencil spray, with an indescribable softness. So that Coleridge might have called it as he did the corresponding European species,

"Most beautiful
Of forest trees—the lady of the woods."

THE MAPLE-TREE.

This family is very numerous. "Nearly forty species are known, of which ten belong to the United States." "The climate of New England is peculiarly favorable to their growth, as is shown by the perfection to which several of the most valuable species attain.' The Red Maple is most remarkable for the varying color of its leaves, which greatly beautify forest scenery. The leaves begin to turn in the latter part of summer and during the earlier part of autumn, from green to a deep crimson or scarlet. The forests of no other country present so beautiful a variety of coloring as our own; 'even corresponding climates with the same families bear no comparison.' The difference is said to depend "on the greater transparency of our atmosphere, and consequently greater intensity of the light; for the same cause which renders a much larger number of stars visible by night, and which clothes our flowering plants with more numerous flowers, and those of deeper, richer tints, gives somewhat of tropical splendor to our really colder parallels of latitude."

Of the Maple family we may briefly notice only one more, the Rock Maple, "which in all respects is the most remarkable tree of the family." While young, it is justly admired for its ornamental beauties as a shrub. When in a state of maturity, "for the purposes of art, no native wood possesses more beauty or a greater variety of appearance."

"In the forest the Rock Maple often attains great height, and produces a large quantity of timber. A tree in Blandford, which was four feet through at base and one hundred and eight feet high, yielded seven cords and a half of wood." It is said that the wood of this tree may be easily distinguished from the Red, or the River Maple, by pouring a few drops of sulphate of iron upon it. This wood turns greenish; that of the two former turns to a deep blue.

"In Massachusetts, between five and six hundred thousand pounds of sugar are annually made from the juice of the Rock Maple, valued at about eight cents a pound," yielding a revenue of about forty-four to fifty thousand dollars per annum. Of the sap, "the average quantity to a tree is from twelve to twenty-four gallons each season. In some instances it is much greater. A tree in Bernardstown, about six feet in diameter, favorably situated, produced in one instance a barrel of sap in twenty-four hours." "Dr. Rush cites an instance of twenty pounds and one ounce of sugar having been made within nine days, in 1789, from a single tree in Montgomery county, New York." In another instance, thirty-three pounds are said to have been produced from one tree in one season. A gentleman from Leverett informs me that in one season he obtained from one tree

one hundred and seventy-five gallons of sap, which, if of average strength, would have made forty-three pounds of sugar.

The following remarks upon the Sugar Maple of Maine, from the "Third Annual Report" of Dr. Jackson's geological surveys in this state, will be read with interest, suggesting profitable hints to some. "The *Acer Saccharinum*, or Sugar Maple, is one of the most luxuriant and beautiful native forest trees in Maine, and abounds wherever the soil is of good quality. Its ascending sap is very rich in sugar, which is very readily obtained by means of a tap, bored with an augur half an inch in diameter, into the sap-wood of the tree, the sap being collected in the spring of the year, when it first begins to ascend, and before the foliage puts forth. It is customary to heap snow around the roots or stumps of the trees, to prevent their putting forth their leaves so soon as they otherwise would, for the juices of the tree begin to be elaborated as soon as the foliage is developed, and will not run.

"After obtaining a quantity of Maple sap, it is poured into large iron or tinned copper kettles, and boiled down to a thick sirup; and after ascertaining that it is sufficiently concentrated to crystallize or grain, it is thrown into casks or vats, and when the sugar has formed, the molasses is drained off through a plug-hole slightly obstructed by tow. But little art is used in clarifying the sirup, and the chemist would regard the operations as very rude and clumsy; yet a very pleasant sugar, with a slightly acid taste, is made, and the molasses is of excellent flavor, and is largely used during the summer for making sweetened water, which is a wholesome and delicious beverage.

"The sugar frequently contains oxide of iron, which it dissolves from the rusty potash kettles in which it is commonly boiled down, and hence it turns tea black. A neat manufacturer will always take care to scour out his kettles with vinegar and sand, so that the sugar may be white. He will also take care not to burn the sirup by urging the fire toward the end of the operation. If his sirup is acid, a little clear lime-water will saturate it, and the lime will principally separate with the molasses or with the scum. The sirup should be skimmed carefully during the operation. It is not worth while, perhaps, to describe the process of refining sugar; but it is perfectly easy to make Maple sugar as white as the best double-refined loaf-sugar of commerce. It would, however, lose its peculiar acid flavor, which now distinguishes it from ordinary cane sugar.

"Were it generally known how productive are the groves of Sugar Maples, we should, I doubt not, be more careful, and not exterminate them from the forest, as is now too frequently done. It is, however, difficult to spare any forest trees in clearing a farm by fire; but groves in which they abound might be spared from the unrelenting ax of the woodman. Maple-trees may also be cultivated, and will become productive in twenty or thirty years; and it would certainly be one of our most beautiful pledges of regard for posterity to plant groups of Maples in convenient situations upon our lands, and to line the road sides with them. I am sure that such a plan, if carried into effect, would please public *taste* in more ways than one, and we might be in part disfranchised from dependence on the cane plantations of the West Indies.

"The following statistics will serve as an example of the products of the Sugar Maple in Maine; and it will also be noted that the whole work of making Maple sugar is completed in three or four weeks from the commencement of operations.

	Lbs. sugar.
At the Forks of the Kennebeck, twelve persons made	3,650
On No. 1, 2d Range, one man and a boy made	1,000
In Farmington, Mr. Titcomb made	1,500
In Moscow, thirty families made	10,500
In Bingham, twenty families made	9,000
In Concord, thirty families made	<u>11,000</u>
	36,650

"This, at twelve and a half cents a pound, would be worth \$4,581.

"It must be also remarked, that the manufacture of Maple sugar is carried on at a season of the year when there is little else to be done; and if properly-shaped evaporating vessels were used, a much larger quantity of sugar could be made in the season."

CHAPTER III.

Beech-trees.—Purity, Size, Fruit.—Efforts of Bears after the Nut.—The Uses to which its Leaves are appropriated.—Mr. Lauder's Testimony, &c.—Use of Wood.—Singular Exemption.—The novel Appearance of the Leaves of a Species in Germany.—Chestnut-tree.—Remarkable one on Mount *Ætna*.—Balm of Gilead.—Willow.—Ash.—Basswood, or Tiel-tree.—The Poplar.—The

Hemlock.—Beauties of its Foliage.—Uses.—Hickory.—The Fir-tree.—Spruce-tree.— Its conical Form.—Uses.—American Larch.—Success of the Dukes of Athol in planting it on the Highlands of Scotland.

The Beech is a tree of no ordinary interest; first, as being more free from impurities than any tree with which we are acquainted. The bark is very clean and smooth, of a light lead color, sprinkled with fine dots of black, so that it has a grayish appearance. It attains the height of sixty to eighty feet. The lower branches are thrown out in a horizontal attitude, while the upper ones assume somewhat of an erect position. The leaves are of graceful proportions, and profuse, forming a dense shade. Some seasons this tree produces an abundance of nuts, which grow in round, prickly burrs, very similar to chestnuts. The nuts are triangular in shape, and supply the pigeon, partridge, squirrels, bears, and other animals with food. The squirrel will hoard up in his little burrow many quarts of these nuts, where he eats them at his leisure during the seasons of winter and spring. It is quite amusing to see the little fellows repeat their visits to their underground habitations, or leap from branch to branch, with their cheeks stuffed nearly to bursting with the precious Beech-nut. The Beech does not dispense its fruit until after severe frosts occur, when the burr either opens or drops from the limb where it grew; in the former case, after a smart frost at night, the early morning breeze shakes them from their elevated position, when they come rattling down upon the dry leaves like showers of hail. Impelled by hunger, bears often climb and gather the nut before it is ripe. I have frequently seen, during my backwoods excursions, the topmost limbs broken off and pulled in toward the trunk of the tree, some of them three inches in diameter, until the whole of the top branches were furred in, forming a tufted circle fifty feet in air.

Burned and cracked, the Beech-nut makes a very good substitute for coffee. "The leaves were formerly used in Britain, and are to this day in some parts of Europe, for filling beds." Evelyn says that "its very leaves, which form a natural and most agreeable canopy all the summer, being gathered about the fall, and somewhat before they are much frost-bitten, afford the best and the easiest mattresses in the world to lay under our quilts instead of straw; because, besides their tenderness and loose lying together, they continue sweet for seven or eight years long; before which time straw becomes musty and hard. They are used by divers persons of quality in Dauphine, and in Switzerland I have sometimes lain on them to my very great refreshment. So as of this tree it may properly be said,

"The woods a house, the leaves a bed."

"We can," says Sir Thomas Dick Lauder, "from our own experience, bear testimony to the truth of what Evelyn says here as to the excellence of Beech leaves for mattresses. We used always to think that the most luxurious and refreshing bed was that which prevails universally in Italy, and which consists of an absolute pile of mattresses filled with the elastic spathe of the Indian corn—which beds have the advantage of being soft as well as elastic—and we have always found the sleep enjoyed on them to be peculiarly sound and restorative. But the beds made of Beech leaves are really not a whit behind them in these qualities, while the fragrant smell of green tea which the leaves retain is most gratifying."

"The wood of the Beech is preferred to all other wood for plane stocks, saw handles, and cylinders used in polishing glass.

"Botanists are unable to find more than one kind of Beech, believing that the distinctions of '*white*' and '*red*' Beech in common use among the people describes but one species.

"The Beech is said never to be struck by lightning. In traveling through a forest country, many trees of a different species, such as the Oak, and, more commonly than any tree within my observation, the Hemlock, may be seen riven by lightning, but never the Beech.

"A most remarkable species of the Beech is said to have been discovered by accident in Germany. In early spring, when the leaves of the purple Beech are agitated by the wind, during bright sunshine, their clear red gives the tree the appearance of being on fire: an effect, Bosc observes, so truly magical, that it is scarcely credible by those who have not seen it."—*Loudon*.

THE CHESTNUT-TREE.

This tree is distinguished by the rapidity of its growth and the excellence of its wood for posts and rails—the latter lasting half a century—the good quality of the nut it bears, and the age and size to which it attains.

"Some of the most remarkable trees of Europe are Chestnut-trees. On Mount Ætna is the famous *Castagno di cento cavalli*, so called from its having sheltered a hundred mounted cavaliers. Brydon found this, in 1770, two hundred and four feet in circumference, and it had the appearance of five distinct trees. A century before, when seen by Kircher, they were united, so that probably it had been one tree. The Forworth Chestnut, in England, was fifty-two feet in girth in 1820, when measured by Strutt. Near Sanserre, in France, is a tree of more than ten feet in

diameter at six feet from the ground. It is supposed to be a thousand years old."

The largest measurements given of the Chestnut in this country are of one in Bolton, with an erect, undivided trunk forty or fifty feet; three feet from the ground it measured seventeen feet in circumference.

"Southeast of Monument Mountain, near the road leading to Sheffield, in a pasture, an old Chestnut measured, in September, 1844, 'at the ground, thirty feet two inches in circumference; at four feet, twenty-one feet in circumference: the branches extended sixty feet.'"

The Balm of Gilead, the Willow, of which there are twenty-one species, the Ash and Basswood, the Poplar and Hemlock, all afford specimens of great magnitude, as well as possess properties of much value; to which list we may add the Hickory, chiefly for the great variety of valuable purposes to which the wood is appropriated. "Few trees contribute so much to the beauty of woods in autumn; the colors of all at that season are rich, and each species has its own. The fruit of some of the species in its wild state vies with the best of foreign nuts."

THE FIR-TREE.

"In its native forests the Fir-tree varies from two to ten feet in diameter, and from one hundred to one hundred and eighty feet in height. A stump is mentioned as still found on the Columbia River, which measures forty-eight feet in circumference at three feet from the ground, exclusive of its very thick bark."

THE SPRUCE-TREE.

This tree presents a tapering trunk, with a top of mathematical exactness, a regular cone. They attain to the height of seventy or one hundred feet, measuring at the base—the largest I have ever seen—about eight feet in circumference. Lightness, strength, and elasticity are the distinguishing qualities of this wood; and, owing to this, it is extensively used in ship-building, and the frame-work of houses.

The Hemlock is a large tree, often measuring fifteen feet in circumference at the base; the column rises to an elevation of from seventy to one hundred feet; it holds its size remarkably until it reaches the principal limbs, two thirds its height, when it tapers rapidly to the extremity. Its foliage is beautiful for its softness, and forms the principal ingredient in the bed of lumbermen. The use of the boughs for brooms is known to the good country people throughout New England. By persons of classical taste, it is considered the most beautiful of the evergreens.

The author of Massachusetts Reports on Trees, &c., to whom I am much indebted for many of the preceding observations, remarks of the young Hemlock, "that in the beginning of summer each twig is terminated with a tuft of yellowish-green, recent leaves, surmounting the darker green of the former year; the effect, as an object of beauty, is equaled by very few flowering shrubs, and far surpasses that produced by any other tree." The bark is valuable in tanning leather, and makes excellent fuel. This tree grows in immense quantities in the northeast part of Maine, often occupying acres of ground, to the exclusion of nearly all other trees. Its wood is more valued for boards than formerly; its close grain and hardness fit it peculiarly for flooring. "It is much used in the large Atlantic cities as a substitute for stone in the pavement of streets, for which purpose it is sawn into hexagonal (six-sided) blocks of eight inches in thickness, and eight, ten, or eighteen inches in breadth."

"The American *Larch*, known very generally in New England by the aboriginal name of Hackmatack, is sometimes known to attain an elevation of seventy feet, but does not usually exceed forty or fifty feet." It has crowded tufts of leaves, not unlike those of the Spruce or Pine, much shorter than those of the latter, and more slender and graceful than those of the former, and of lighter green, so disposed on the ends of the branches as to make the foliage of the tree the lightest of all the forest trees, especially when compared with the great strength of the tree itself. "Late in autumn they turn to a soft, leather-yellow color, and in the first days of November fall." "It has a straight, erect, rapidly-tapering trunk, clothed with a bluish-gray bark, rather rough, with small roundish scales." The branches are numerous, and most firmly attached to the stem, shooting out at apparently measured distances from each other, generally in a horizontal position, which makes its ascent quite as convenient as a ladder; and, as it grows mostly on open or meadow land, it is often climbed by timber-hunters, affording a good prospect of the forest on the opposite side of the meadow or intervalles.

The wood of the Hackmatack is distinguished by the following qualities: "Close-grained, compact, of reddish color, remarkable for its great weight, strength, and durability," the latter even being greater than the Oak. "On these accounts it is preferred before all other woods for knees, beams, and top timbers in ship-building."

The Larch is extensively cultivated in Europe, particularly in Scotland. Though in America it is most generally found in low meadow land, where is depth of soil and plenty of moisture, it has

nevertheless "the property of flourishing on surfaces almost without soil, thickly strewn with fragments of rocks, on the high, bleak sides and tops of hills, where vegetation scarcely exists."

The following account of the experiments made by the Dukes of Athol, on the Highlands of Scotland, is so encouraging and deeply interesting, that, although long, I insert it, hoping the example may be followed in appropriate positions in this country:

"The estates of the Dukes of Athol are in the north of Scotland, in the latitude of nearly 50° north. Between 1740 and 1750, James, duke of Athol, planted more than twelve hundred Larch-trees in various situations and elevations, for the purpose of trying a species of tree then new in Scotland. In 1759 he planted seven hundred Larches over a space of twenty-nine Scotch acres, intermixed with other kinds of forest trees, with the view of trying the value of the Larch as a timber tree. This plantation extended up the face of a hill from two hundred to four hundred feet above the level of the sea. The rocky ground of which it was composed was covered with loose and crumbling masses of mica slate, and was not worth above £3 a year altogether. Before he died, in 1764, he was satisfied of the superiority of the Larch as a timber over other firs, even in trees only eighteen or nineteen years old. His successor, John, duke of Athol, first conceived the idea of planting Larch by itself as a forest tree, and of planting the sides of the hills about Dunkeld. He planted three acres with Larches alone, at an elevation of five or six hundred feet above the level of the sea, on a soil not worth a shilling an acre. He also planted over four hundred acres on the sides of hills before his death, in 1774. His son, Duke John, continuing the execution of his father's plans, had planted in 1783 279,000 trees. Observing the rapid growth and hardy nature of the Larch, he determined to cover with it the steep acclivities of mountains of greater altitude than any that had yet been tried. He therefore inclosed a space of twenty-nine acres on the rigid summit of Craig-y-barns, and planted a strip entirely with Larches among the crevices and hollows of the rocks, where the least soil could be found. At this elevation none of the larger kinds of natural plants grew, so that the grounds required no previous preparation of clearing. This plantation was formed in 1785 and 1786. Between that year and 1791 he planted six hundred and eighty acres with 500,000 Larches, the greater part only sprinkled over the surface, on account of the difficulty of procuring a sufficient number of plants. Besides a plantation of seventy acres for the purpose of embellishment, he had, in 1799, extended his plantations of Larches over an additional space of eight hundred acres, six hundred of which were planted entirely, though thinly, with Larch. These took 800,000 plants.

"Observing, with satisfaction and admiration, the luxuriant growth of the Larch in all situations, and its hardihood even in the most exposed regions, the duke resolved on pushing entire Larch plantations still further to the summit of the highest hills.

"He therefore determined to cover with Larch sixteen hundred Scotch acres, situated from nine hundred to twelve hundred feet above the level of the sea. Its soil, presenting the most barren aspect, was strewed over thickly with fragments of rock, and vegetation of any kind scarcely existed upon it. "To endeavor to grow ship-timber," writes the duke, "among rocks and shivered fragments of schist, such as I have described, would have appeared to a stranger extreme folly, and money thrown away; but, in the year 1800, I had for more than twenty-five years so watched and admired the hardihood and the strong vegetative powers of the Larch, in many situations as barren and as rugged as any part of this range, though not so elevated, as quite satisfied me that I ought, having so fair an opportunity, to seize it."

"Having now no doubt whatever of the successful growth of the Larch in very elevated situations, the duke still further pursued his object of covering *all* his mountainous regions with that valuable wood. Accordingly, a space to the northward of the one last described, containing two thousand nine hundred and fifty-nine Scotch acres, was immediately inclosed, and planted entirely with Larch.

"This tract, lying generally above the region of broom, furze, juniper, and long heath, required no artificial clearing. An improved mode of planting was employed here, that of using young plants only, two or three years' seedlings, put into the ground by means of an instrument invented by the duke instead of the common spade.

"In 1824, the growth of the Larch in this last tract, called *Loch Ordie Forest*, having greatly exceeded the sanguine hopes and expectations of the duke, he determined on adding to it an extensive adjoining tract, consisting of two thousand two hundred and thirty-one Scotch acres, denominated Loch Hoishnie. The preparations of fencing, clearing (where that was necessary), making roads, and procuring plants from different nurserymen, occupied the time till October, 1825, when the planting commenced, and was carried on in such good earnest that the whole was finished by December, 1826.

"The planting of this forest appears to have terminated the labors of the duke in planting. He and his predecessors had planted more than fourteen millions of Larch plants, occupying over ten thousand English acres. It has been estimated that the whole forest on mountain ground, planted entirely with Larch, about six thousand five hundred Scotch acres, will, in seventy-two years from the time of planting, be a forest of timber fit for building the largest ships. Before being cut down for this purpose, it will have been thinned to about four hundred trees to an acre. Supposing each

tree to yield fifty cubic feet of timber, its value, at a shilling a foot (one half the present value), will give £1,000 an acre, or, in all, a sum of £6,500,000 sterling." [4]

THE PINE-TREE, OR FOREST LIFE.

PART II.

CHAPTER I.

The Pines.—White Pines: rank claimed for this Variety.—Predilections.—Comparison instituted.—Pitch and Norway Pines.—White Pine.—Magnitude.—New York Pines.—Lambert's Pine on Northwest Coast.—Varieties.—Its Rank.—Great variety of purposes to which it is devoted.—Great Pine near Jackson Lake.—Capital Invested.—Hands employed on the Penobscot.

After the foregoing brief notice of some of the most interesting trees, we come at length to consider that species which constitutes the theme of the following pages.

The PINE has been appropriately called the Monarch of the Forest. Taken all in all, it is the crowning master-piece of all woody plants. This avowal is made in full view of what has been said respecting other specimens of the vegetable kingdom. From early education, we are accustomed to regard some things as before others in point of merit, whether truth in the case would support our notions or not.

For trees we have our preferences. There is much of interest in every development of nature—much to admire, especially in the grandeur, the picturesque beauty, and sublimity of large forest trees. These things are so clearly defined in the mind of the botanist—so many excellencies does he discover in each genus, and every species of the respective families, that each succeeding description seems to place the last before every preceding one.

Mankind, pretty generally, are disposed to place the Oak at the head of the vegetable kingdom, and it is crowned monarch of the forest.

I was reared among the noble Pines of Maine, nestled in my cradle beneath their giant forms, and often has the sighing wind made music that has calmed me to repose as it gently played through their tasseled boughs. Often have I been filled with awe as I gazed upon their massive trunks and raised my eye to their cloud-swept tops.

When a child, even, I could never read the following eulogy on the Oak without a fit of jealousy:

"The Oak for grandeur, strength, and noble size
Excels all trees which in the forest grow."

Of the truth of this sentiment I could never feel persuaded; in fact, in only one particular is this true. In strength the Oak excels, but in towering grandeur and massive diameter the Pine far exceeds the Oak, and indeed all other North American trees. Properly there are but three species of the Pine. 1. The White Pine. 2. Pitch Pine. 3. The Norway, or Red Pine, as it is sometimes called. [5] The Red Pine is remarkable for its tall trunk; it sometimes rises eighty feet before it puts out a limb. I recollect cutting one on the Mattawamkeag River, which disembogues into the Penobscot, eighty-two feet before reaching a limb. They are sometimes found one hundred feet in height and four feet in diameter.

The Pitch Pine is inferior to the red in size. The largest measurements I have ever seen give to one a diameter of two and a half feet, and ninety feet height; to another a girth of seven feet at the ground, and eighty feet height. This Pine is chiefly valued for the excellence of its fuel; and for generating steam in working engines it is preferable to any other wood. [6] Formerly, in some parts of the country, it was found much larger than it now is. "Men are living in Massachusetts and Maine who remember that it was not uncommon to find them of more than a hundred feet in height and four or five feet in diameter."

At present the White Pine is altogether the most important of the species. In New England, particularly in the northern part, it is often found to measure one hundred and fifty feet in height.

It is said that not many years since pines were found in the eastern part of New York which measured two hundred and forty feet in height. "Lambert's Pine, on the Northwest Coast, is found growing to the height of two hundred and thirty feet, and Douglas's Pine, in the same region, the loftiest tree known, has been said to exceed three hundred feet." The traveler quoted above describes one of the following dimensions: "One specimen, which had been blown down by the wind—and this was certainly not the largest which I saw—was of the following dimensions: its entire length was two hundred and fifteen feet; its circumference, three feet from the ground, was fifty-seven feet nine inches (nineteen feet three inches in diameter); and at one hundred and thirty-four feet from the ground it was seventeen feet five inches" in circumference, or about six feet in diameter. [7]

In Doctor Dwight's Travels we have an account of a tree in Lancaster, New Hampshire, which measured two hundred and sixty-four feet in length. "Fifty years ago, several trees growing on rather dry land in Blandford, measured, after they were felled, more than thirteen rods and a half, or two hundred and twenty-three feet in length."

I have worked in the forests among this timber several years, have cut many hundreds of trees, and seen many thousands, but have never found one larger than the one I felled on a little stream which emptied into Jackson Lake, near the head of Baskahegan stream, in the eastern part of Maine. This was a "Pumpkin" Pine; its trunk was as straight and handsomely grown as a molded candle, and measured six feet in diameter four feet from the ground, without the aid of spur roots. It was about nine rods in length, or one hundred and forty-four feet, about sixty-five feet of which was free of limbs, and retained its diameter remarkably well. I was employed about one hour and a quarter in felling it. The afternoon was beautiful; every thing was calm, and to me the circumstances were deeply interesting. After chopping an hour or so, the mighty giant, the growth of centuries, which had withstood the hurricane, and raised itself in peerless majesty above all around, began to tremble under the strokes of a mere insect, as I might appear in comparison with it. My heart palpitated as I occasionally raised my eye to its pinnacle to catch the first indications of its fall. It came down at length with a crash which seemed to shake a hundred acres, while the loud echo rang through the forest, dying away among the distant hills. It had a hollow in the butt about the size of a barrel, and the surface of the stump was sufficiently capacious to allow a yoke of oxen to stand upon it. It made five logs, and loaded a six-ox team three times. The butt log was so large that the stream did not float it in the spring, and when the drive was taken down we were obliged to leave it behind, much to our regret and loss. At the boom that log would have been worth fifty dollars.

Of the White Pine there are varieties, which by some are attributed to peculiar characteristics of the various locations in which they grow. That variety called sapling Pine, bull sapling, &c., usually grows on high, hard-wood land, or a mixture of evergreens and deciduous trees; particularly on the boundaries which mark damp, low forests and the lower border of ridges. The pumpkin Pine is generally found on flat land and in ravines; also on abrupt ridges, called horsebacks, where the forest is dense.

The sap or outside of the sapling Pine is much thicker than that of the pumpkin Pine. I have seen it more than six inches thick on the former, and less than half an inch on the latter. This difference is accounted for by the rapidity with which the sapling grows, and the tardiness with which the swamp Pine matures, which, as before intimated, is to be attributed to the difference in their location.

Of course, we must yield to the opinions of learned botanists; but while they maintain that these two are simply varieties of the same species, the proof seems insufficient to convince many whose daily occupation renders them most familiar with forest trees. If the difference is only attributable to soil and position, then we may reply that we have found the sapling in all possible locations. Besides, there are marked distinctions. The general contour differs much. The size, number, and position of the branches, the shape of the trunk, the toughness of the wood in the sapling, and the softness of that of the pumpkin Pine, all indicate a specific and essential difference. We have seen whole groves of saplings on low, swampy land. The same number of saplings are generally much sounder than an equal number of soft Pine.

The soft Pine-tree holds its diameter to a much greater length than the sapling. I have seen a log of the former twenty feet long, differing not more than an inch and a half in diameter at either end. In a sapling log of the same length there would be a difference of several inches.

There is one circumstance in the habits of this Pine worthy of note. As a general thing, they grow in clusters or communities. Indeed, this is a common characteristic of the Hemlock, the Cedar, and the Hackmatack.

But there is, however, a sort of nationality in the local attitude of the latter. While the Pines, growing in clusters, seem to constitute the aristocracy—families of nobility—the rest of the forest seems to make up the populace; and I may add, that backwoodsmen are accustomed to pay them the same deferential regard above other gentlemen foresters which is awarded to superiors in human society. Indeed, the Pine has claims upon our regard, not only on account of its unequalled dimensions, but "from the importance of its products in naval, and especially in civil and domestic

architecture, in many of the arts, and in some instances in medicine."

"As it affords timber and boards of a greater size than any other soft-wooded tree, and is lighter and more free from knots, it is used in preference for the masts of ships, for the large beams, posts, and covering of wooden buildings, and for the frame-work of houses and bridges, as well as for clap-boards and shingles. The clearness, softness, and beauty of this wood recommend it for the panels and frames of doors, for wainscotings, for the frames of windows, for cornices and moldings, and for all the uses of the joiner. As it receives paint perfectly, it is employed for floors which are to be painted. Varnished without paint, it gradually takes a yellowish or light reddish color, and has considerable beauty. It is excellent for the carver in wood, and is used for the figure-heads of vessels; and as it takes gilding well, it is preferred for the frames of looking-glasses and pictures."

Its importance may be estimated, also, from the vast amount of employment it furnishes and the revenue it produces. Its history is full of interest from the hour it leaves the stump in the forest, through the various processes it passes until taken from the hold of the ship and piled away upon our market piers. The amount of employment it furnishes to lumbermen, mill-men, rafters, coasters, truckmen, merchants, and mechanics, exceeds that furnished by any other single product in Maine or the province of New Brunswick. On the Penobscot alone there are said to be ten thousand men engaged in lumbering.

CHAPTER II.

The Pine twenty-five Years ago.—Its rapid Disappearance.—Explorations. —Outfit.—Up-river Journeying.—Its Distance.—Mode of Nightly Encampment.—Cooking.—Disturbed Slumbers.—Ludicrous Fright.—Deer. —Encounter with Bears.—Mode of Exploring.—Forest Observatory. — Climbing Trees.—The Emotions excited by the View.—Necessity of Compass.—Nature's Compass.—The Return.—Annoyances from mischievous Bears.—Stumpage.—Permits.—Outfit and Return.—Crossing Carrying-places.—A Strong Man.—Skill of Boatmen.—Item of personal Experience.—Blind Path.—A Family in the Wilderness.—Things to be considered in locating Camps.

Allusion has been made to the peculiarity of the Pine-tree in associating together in clusters or families. It is now a rare thing to find a sufficient quantity of timber in one of those clusters to meet the demands of a team during the usual period of hauling, which is about three months.

Twenty-five or thirty years ago, large tracts of country were covered principally with Pine-trees. Those tracks seemed purposely located in the vicinity of lakes, large streams, and rivers; a winter's work could then be made contiguous to improved portions of the country, which rendered little previous exploration necessary. But the woodman's ax, together with the destructive fires which have swept over large districts from time to time, have, so to speak, driven this tree far back into the interior wilderness. In fact, the Pine seems doomed, by the avarice and enterprise of the white man, gradually to disappear from the borders of civilization, as have the Aborigines of this country before the onward march of the Saxon race.

The diminished size and number of these Pine communities, near the borders of civil and agricultural abodes, added to the fact that this tree has been pursued to wild and unknown forest regions, renders exploring expeditions previous to the commencement of a winter's campaign absolutely indispensable, at least to insure success. This labor is performed, more or less, at all periods of the year; but, perhaps, the more general and appropriate time is found to be during the earlier part of autumn. The work of exploring is often performed during the winter, while the crews are on the ground, in camp. The difficulty of traveling through deep snows is overcome by the use of the snow-shoe, which enables the wearer to walk upon the surface of the untrodden snow. This shoe is about three feet long by sixteen inches wide, oval before and tapering to a point behind. It is simply a flat net-work, made from thongs of green hide, surrounded by a slender frame or bow of wood. This net-work is fastened, near the middle, to the bottom of the boot, and the woodman, throwing himself along, one side at a time, with a lengthened pace-like stride, passes over the ground at a rapid rate.

When the business of timber-hunting is deferred until autumn, the following method is practiced: Two or three men accustomed to the business take the necessary provisions, which usually consists of ship-bread, salt pork, tea, sugar, or molasses; for cooking utensils, a coffee-pot or light tea-kettle, a tin dipper, sometimes a frying-pan, a woolen blanket or two for bed-clothes, and an ax, with gun and ammunition; all of which are put on board a *skiff*, if the exploration is to be on the St. Croix, or on a *bateau* if on the Penobscot River, with two sets of propellers, setting-poles for rapids, and paddles to be used on dead water.

With these slight preparations, away we start; now making our way up the main river, then

shooting along up the less capacious branches; sometimes performing a journey of two hundred miles far into the interior, in those solitudes which never before, perhaps, echoed with the tones of the white man's voice. The location for our nightly encampments are selected in time to make the necessary arrangements for refreshment and repose, before the darkness shuts down over the dense wilderness that surrounds us. Selecting a proper site near some gushing spring, or where a murmuring streamlet plays along its romantic little channel, we pitch our tent, which formerly consisted of a slender frame of little poles, slightly covered on the top and at each end with long boughs, the front entirely open, before which burns the watch-fire, by whose light the deep darkness of a forest night is rendered more solemn and palpable.

In some instances a large blanket is spread over the frame; and when there are good reasons to expect rain, we haul our boat up, turn it bottom side up, and crawl beneath it, this proving a sure protection from the falling rain or dew. Of late, small portable tent-coverings are used, which prove very convenient.

Next the evening meal is prepared. Here the tea is thoroughly boiled, in the coffee-pot or tea-kettle, over the little fire. A thin slice of salt pork is cut, and, running a sharp stick through it, it is held over the fire and roasted, being withdrawn occasionally to catch the drippings on a cake of pilot or ship bread. This is a good substitute for buttered toast, the roasted pork making an excellent rasher. Sometimes we ate the pork raw, dipping it in molasses, which some relish; and though the recital may cause, in delicate and pampered stomachs, some qualms, yet we can assure the uninitiated that, from these gross simples, the hungry woodsman makes many a delicious meal. After *pipe* devotions (for little else ascends from forest altars, though we have sometimes heard the voice of prayer even in the logging swamps), we throw our weary limbs upon our boughy couches to seek repose in the slumbers of night.

Sometimes our slumbers are disturbed by the shrill whooping of the owl, whose residence is chosen in those lonely solitudes of dense woodlands, where this ghostly watchman of the night makes the wild wood reverberate with the echo of his whoo-ho-ho-whah-who! which is enough, as one has observed, to frighten a garrison of soldiers. Few sounds, I am certain, so really harmless in themselves, awaken such a thrill of terror, as it breaks suddenly upon the ear during the stillness and loneliness of the midnight hour.

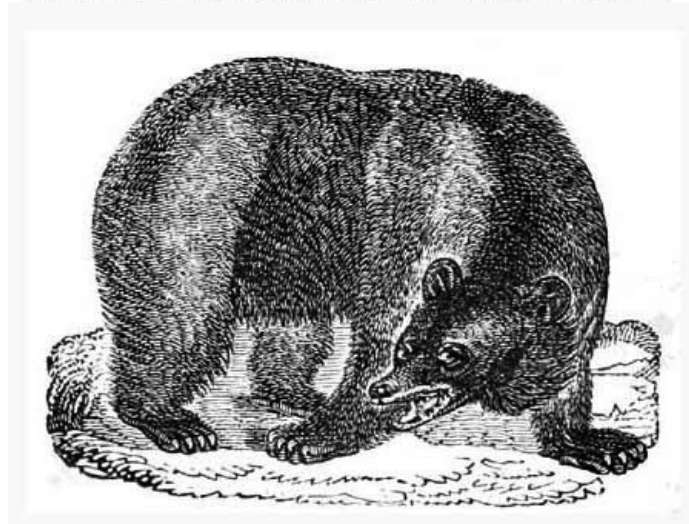
As I lay one night encamped upon the banks of a small stream which contributed its mite to the accumulating waters of the Penobscot River, an opportunity presented itself of testing the strength of my nerves. It was during the midnight hour, when even the trees seemed to sleep profoundly. Not a zephyr moved a twig, and the silence which reigned was painful. Rendered somewhat restless from the combined circumstances of the previous day's labor and a hard bed, I lay musing upon an account which I had formerly read of a midnight attack upon a company of militia, during the sanguinary struggles of the Revolution, by a party of savages. In the midst of my reverie, I fancied that I could almost hear the stealthy footsteps of the wily Indian, when a sudden scream from a tree-top, nearly over the spot where I lay, brought me upon my feet at a bound. Seizing my gun, I looked aloft to see if I could discover the author of my sudden fright. By the light of the fire which still burned in the front of the tent, I discovered a pair of large eyes, resembling those of a cat. In an instant the woods echoed with the sharp report of my gun, when down came his owlship with a summerset to the ground. I have often listened to the quaint old figure, "I was not brought up in the woods to be scared by an owl," yet I think few can listen to the whooping of this solitary bird in the solemnity and stillness of midnight without being conscious of their susceptibility to emotions of fear, even though the judgment is assured of the absence of all that could harm.

Sometimes the tramping of timid deer, attracted by the waning light of our watch-fire, or some roving beast of prey, attracted by the savory vapors of our evening meal, startle us from our slumbers. "Once, while on a timber-hunting excursion," said a mess-mate, "on the east branch of the Penobscot, the night being very mild, and feeling too much fatigued to make the usual preparations for security, we built our fire near the trunk of a large prostrate tree. When we laid down our heads were near the fallen tree, which protected us somewhat from the current of air, but we were without covering, except the spreading branches of the trees. We had not lain long before we heard a heavy tramping some little way off. It approached nearer and nearer, until the animal seemed directly upon us.

"As I lay upon my back, I turned my eyes upward, when they met the full gaze of a large bear, which stood with its fore paws on the log directly over my head. In an instant I sprang upon my feet, and, seizing a brand from the fire, I hurled it after him, at the same instant making the woods tremble with the echo of my voice.

"Alarmed at my sudden motions, and more than all at the fiery messenger, which emitted thousands of sparks as it whizzed along after him, glancing from tree to tree in its course, at each concussion emitting new volleys of fiery particles, without stopping to apologize for his intrusion upon our sleeping apartment, he plunged into the forest at full speed. By the rustling of dry leaves and the cracking of fallen limbs, we could hear him a long way off, with unabated energy fleeing from the object of his terror. Next morning we came across an old she-bear and her cubs. We had a spirited little dog with us, who instantly encountered the bear; but one blow from her

paw completely disabled him, and his injuries proved so serious that we were obliged to kill the little fellow, much to our regret, for, of all places in the world, the companionship of a good dog is most valued in the woods. One of our men caught a cub; it struggled and whined, which soon attracted the attention of the old one. She at once rushed after him, and he was soon glad to drop his prize, but not until the old dam had nearly torn his clothes from his back.



SHOOTING DEER. ——BLACK BEAR.

"Arriving at length upon or near the territory to be explored, we haul our bateau safely on shore, and turn it bottom upward. Then, dividing our luggage into parcels, and making use of our blankets for knapsacks, we begin to traverse the wild forests, unfrequented except by the stately moose, the timid deer, the roaming black bear, and other wild animals of less note, whom we frequently disturb in their solitary haunts.

"The uneven surface of the country, together with the density of the forest, circumscribe the range of vision. To overcome this impediment, we ascend into the top of some lofty tree. Sometimes extensive views of the surrounding forest are obtained from the side of abrupt ridges, and from the top of a *Horseback*. This latter is an "extremely curious ridge, and consists of sand and gravel, built up exactly like the embankments for rail-roads, the slope on either side being about 30°, while it rises above the surrounding low lands" from thirty to ninety feet. Dr. Jackson speaks of one in particular, between Weston and Houlton, in the northeastern part of Maine, "the top of which is perfectly level, and wide enough for two carriages to pass abreast."

"Its surface was originally covered with Maple, Birch, and hard Pine-trees, while the low lands on either side are covered with a dense growth of Cedars. I could not help thinking, as I looked upon this natural embankment, that it would be easy for an antiquarian to mistake this ridge for a work of art, and to suppose that some of the aboriginal inhabitants of our country knew how to annihilate distance by rail-roads. My first impression respecting the geological origin of this embankment was that it was alluvial, and formed the bank on intervening shores of two lakes which existed in the low tracts, now covered with Cedars; but, on examining the nature of the materials of which it is composed, I became satisfied that it belonged to the formation of transported clay, sand, gravel, and bowlders, which is called diluvium, consisting of the loose fragments of rocks that were transported by a mighty current of water the last time the waters prevailed over the land. The occurrence of similar embankments at Houlton served to confirm

this opinion, for there they had the same north and south direction, a coincidence so remarkable that it could not be the result of chance. The Horsebacks of New Limerick and Houlton are much more elevated" (as indeed they are on the banks or a little removed from the shores of the Mattawamkeag River), "and some of them are said to rise to the height of ninety feet." "I can not stop to speculate on the causes of this transportation of loose materials, but I may say that there are abundant proofs, on the whole face of this continent, that there has been a mighty rush of waters over its surface from the north and northwest, and that such a current has swept over the highest mountains of Massachusetts."

When it is necessary to obtain views from low lands, the obstructions are overcome by ascending the highest trees. When an ascent is to be made, the Spruce-tree is generally selected, principally for the superior facilities which its numerous limbs afford the climber. To gain the first limbs of this tree, which are from twenty to forty feet from the ground, a smaller tree is undercut and lodged against it, clambering up which the top of the Spruce is reached. In some cases, when a very elevated position is desired, the Spruce-tree is lodged against the trunk of some lofty Pine, up which we ascend to a height twice that of the surrounding forest.

From such a tree-top, like a mariner at the mast-head upon the "look-out" for whales (for indeed the Pine is the whale of the forest), large "clumps" and "veins" of Pine are discovered, whose towering tops may be seen for miles around. Such views fill the bosom of timber-hunters with an *intense interest*. They are the object of his search, his treasure, his *El Dorado*, and they are beheld with peculiar and thrilling emotions. To detail the process more minutely, we should observe that the man in the tree-top points out the direction in which the Pines are seen; or, if hid from the view of those below by the surrounding foliage, he breaks a small limb, and throws it in the direction in which they appear, while a man at the base marks the direction indicated by the falling limb by a compass which he holds in his hand, the compass being quite as necessary in the wilderness as on the pathless ocean.

In fair weather the sun serves as an important guide; and in cloudy weather the close observation of an experienced woodsman will enable him to steer a tolerably correct course by the moss which grows on the trunks of most hard-wood trees, the north side of which are covered with a much larger share than the other portions of the trunk. This Indian compass, however, is not very convenient nor safe, particularly in passing through swampy lands, which are of frequent occurrence.

After spending several days in scouring the wilderness in search of the Pines, minutely examining their quality (for an experienced lumberman can determine this with surprising certainty), calculating the distance the logs may have to be hauled, and noting the surface of the land through which the logging roads are to be cut, &c., we retrace our steps to the landing, where the bateau has been left. Once more our frail bark floats upon the dancing current of the stream, gliding onward as if stimulated with the very joyousness of the "homeward bound" voyagers. After several days' exploration on foot, the boat ride is particularly welcome. In the realization of this, however, we are sometimes sadly, even provokingly disappointed.

It is known to those versed in the habits of the black bear, that late in the fall of the year they manifest an uncommon fondness for pitch or resinous substances. In the course of my travels through the forest, I have often seen Fir-trees which contained large quantities of balsam, with their bark entirely stripped from the trunk by these craving depredators. Under the impulses of this peculiar appetite, they sometimes tear even our bateau to pieces for the tar with which it is besmeared. If injured beyond the means of repair, we are compelled to pursue our journey down on foot. Perchance we may fortunately meet some Indian trapper with his frail canoe, which we charter for a portion of the journey, until another boat, or means of conveyance, can be secured. Were any of my readers ever on board the Indian's bark canoe? Some, doubtless, have been, and such will bear me out in the declaration that the voyager experiences emotions peculiarly agreeable. As a conveyance, it seems to occupy a space between riding and flying; not in respect to its speed, although this is considerable when the paddle is vigorously applied, but its fairy-like buoyancy quite dissipates the idea of one's gravity.

Having determined, during the exploration, upon the territory from which we wish to cut and haul our logs, we proceed to obtain permits from the state or proprietors, which secure the exclusive right to cut timber within the bounds of the grant for a stipulated price; so much per thousand feet, board-measure, which varies from one to eight dollars *per M.*, according to the quality of the timber and its convenient location to the lake, river, or stream upon which it is to be floated to market. Among other preliminaries which anticipate the winter operations of lumbermen is the "putting up" of large quantities of meadow hay.

Skirting the stagnant sections of rivers and streams, extensive strips of meadow land spread back to the border of "uplands," whose outlines are distinctly defined by immense forests which hem in these large areas, sometimes embracing many thousands of acres. This interval is covered with a heavy growth of meadow grass. By this remarkable arrangement, Nature has anticipated, as it would appear, the wants of lumbermen in locating, and in preserving from the encroachments of the forest, a plentiful supply of subsistence for the teams employed in procuring lumber in its immediate vicinity, and far from the haunts of civilized man.

To these wild and solemn retreats, where the dismal hooting of the night-owl breaks upon the ear, and the sighing winds, as they pass through the tall, waving grass, waft the distant howl of the wolf, large crews of men resort, with the usual haying implements, provisions, &c., for making and stacking the hay to be used during the ensuing winter.

In the latter part of autumn these meadows are covered with water, which finally freezes. It is therefore necessary to erect temporary scaffolds, called more generally "staddles," upon which the hay is to be piled in large stacks. These staddles are made of poles laid upon cross-stakes or crutches, sufficiently high to protect the hay from the water beneath. From these the hay is removed, sometimes in boats before the waters freeze, and afterward upon sleds on the ice. When the former method of transportation is adopted, two bateaus or skiffs are placed side by side, small poles being thrown across them; the hay is then loaded on this platform, and carried to the most convenient landing, where it is reloaded and hauled on ox-sleds to the camp. If the hay is removed upon the ice, the stacks are hauled away whole. The mode of loading is simple; the central part of the scaffolding is cut away, the sled shoved underneath, when the remaining props are cut away, and the whole stack settles on to the sled, and is thus moved off to the place of destination. This expeditious method of loading is particularly convenient and desirable, as may be imagined when one takes into consideration the biting winter winds which sweep across these wide meadow fields.

Since agricultural interests have invited men far into the interior in the vicinity of lumber berths, where large tracts of land have been cleared up, less value is attached to, and less use made of meadow hay than formerly, as English grass becomes more plenty, is more available, and is much better in its quality.

A distinguishing characteristic of this kind of business is the unceasing encounter by our lumbermen with the blood-thirsty millions of flies who swarm and triumph over these sanguinary fields. In the use of fire-arms these unvanquishable hosts are not skilled, to be sure, but in a charge they are invincible. No amount of slaughter will intimidate them. Though the sweeping hand of destruction annihilates them by thousands, still, with full ranks, the contest is carried on with unabated vigor, a respite only being afforded in rainy weather, or when high winds prevail; then they retire from the field.

At night the mosquito lancers take up the action—the Indian tribes of the insect species—and all night they keep up their ceaseless war-whoop, as they repeat their sallies upon the weary, disturbed sleeper. No coat of mail is proof against the attacks of one species of fly commonly called the midget, which is so small as to be almost imperceptible to the naked eye. The black fly and the mosquito can only reach the exposed parts of the body, but to the midget every portion is accessible. He insinuates himself under the collar, the wristband, and through the texture of the garments, and the whole region between the shirt and the skin is a field for his operations.

In one process of the haying operations, in particular, they are very annoying. The hay, when cut, is carried in small cocks upon two poles by two men to the scaffolding, for the purpose of being stacked. While thus employed, with both hands engaged, millions of these little invisibles insinuate themselves under the garments, and, whatever interest or ambition may fail to do, by way of producing energetic motion, the irritating smart of their bite abundantly makes up. *Nolens volens*, the men thus employed dance to the tune of "*Midget's meadow-hay jig*," and when no longer able to resist the earnest invitation to rub and scratch, which their irritating bite holds out, down drop the poles, hay and all! Ah! let him who has experienced the irritation, and the relief of furious friction, *think*—I'm sure he may not pen it.

But, notwithstanding the labor and annoyances of meadow life, there are pastimes and adventures to be met with. A shot now and then at some stray deer who may chance to stroll upon the meadow to graze; the hooking of beautiful trout, pickerel, and other delicious pan-fish, afford agreeable relief from *ennui*; while the spoils of the forest and the brook afford most agreeable changes of diet. Here, also, very frequently are skirmishes had with the common black bear. If Bruin is not intentionally pugnacious, he is really meddlesome; nay, more, a downright trespasser—a regular thief—an out-and-out "no-government" animal, who, though neither profane nor yet immoral, still, without apostolical piety, would have "all things common." These peculiar traits of character secure to him the especial attention of mankind, and ever make him the object of attack. Though formidable as an enemy, it is hard to allow him to pass, even if he be civilly inclined, without direct assault. On one occasion, while two men were crossing a small lake in a skiff, on their return from the meadows, where they had been putting up hay, they discovered a bear swimming from a point of land for the opposite shore. As usual in such cases, temptation silenced prudential remonstrance; so, changing their course, they gave chase. The craft being light, they gained fast upon the bear, who exerted himself to the utmost to gain the shore. But, finding himself an unequal match in the race, he turned upon his pursuers and swam to meet them. One of the men, a short, thick-set, dare-devil sort of a fellow, seized an ax, and the moment the bear came up, inflicted a blow upon his head which seemed to make but a slight impression. Before a second could be repeated, the bear clambered into the boat; he instantly grappled the man who struck him, firmly setting his teeth in the man's thigh; then settling back upon his haunches, he raised his victim in the air, and shook him as a dog would a wood-chuck. The man at the helm stood for a moment in amazement, without knowing how to act, and fearing that the

bear might spring overboard and drown his companion; but, recollecting the effect of a blow upon the end of a bear's snout, he struck him with a short setting-pole. The bear dropped his victim into the bottom of the boat, sallied and fell overboard, and swam again for the shore. The man bled freely from the bite, and as the wound proved too serious to allow a renewal of the encounter, they made for the shore. Medical aid was procured as soon as possible, and in the course of six weeks the man recovered from the effects of the bite. But one thing saved them from being upset; the water proved sufficiently shoal to admit of the bear's getting bottom, from which he sprang into the boat. Had the water been deep, the boat must inevitably have been upset, in which case the consequences might have been more serious.

It was on one of these haying occasions that a more startling but harmless encounter with the elements was experienced. One afternoon, about two o'clock, while several men were making their way up a small stream on a branch of the Penobscot, their attention was suddenly arrested by a sound which resembled distant thunder. Each moment the noise grew more distinct, accompanied with a tremulous motion of the earth. Still nearer and yet nearer it approached, with a rushing sound, intermingled with loud reports. Between our boatmen and the forest at the southwest spread an area of meadow land. Looking in this direction, a dense column, rising high in the heavens, was seen whirling in the distance, and approaching with incredible velocity. They barely effected a landing when it came upon them. In an instant their boat was hurled into the tops of the trees over their heads, while they were able to retain their position by holding on to the small undergrowth, and escaped unhurt. The hurricane, in its passage across the meadow, seemed to lose its force, so that by the time it reached the opposite side of the meadow its power was broken, and its career of destruction ended. In its passage it laid a strip of forest level some seventy rods wide and thirty miles long. No tree within this limit withstood its fury. The toughest and stateliest mingled in wildest confusion with blanched trunks, yielding sapling, and slender undergrowth.

At the proper time, which varies in different localities, but generally during the early part of fall, a more extensive outfit is made for another up-river expedition, for the purpose of erecting winter camps, clearing the main roads, and attending to such other preliminaries as may be deemed necessary.

Several years ago the whole distance from our homes to the interior was traveled by water, on which occasions heavy-laden boats were taken up these rivers and streams, and across the lakes, an operation which was both hazardous and laborious, particularly where the swift current of rapids was to be overcome, and when it became necessary to carry the boat and cargo around impassable falls—a frequent occurrence, the river in some places being nothing but one continuous succession of rapids for miles. In some places, to save the labor of "carrying by," attempts are made to shove the boats up fearful rapids, where a single mistake or false maneuver would swamp them. A lively little incident of this kind is quoted below, from Doctor Jackson's account of an excursion up the Penobscot on the business of a geological survey of the state.

"While we were engaged in exploring the rocks (at Grindstones Falls), our men tried to shove the boat up the falls, but the violence of the current prevented their effecting their object, the boat being instantly filled and sunk in the attempt, while all our baggage and provisions that remained on board were swept off and carried down the stream. A scene of unwonted activity now ensued in our endeavors to save our articles, as they were rapidly borne down the foaming waters. The boat, fortunately, was not much injured, and we succeeded in hauling it upon a rock, and bailed out the water, after which we gave chase to our lost articles, and succeeded in saving those that were most essential to our safety. The bread-barrel, although scuttled, was but half full of bread, and floated down stream with its opening uppermost, so that but little of it was injured. Our bucket of rice burst open and was lost. The tea-kettle and other cooking apparatus sank in the river, and were fished up by a hook and line. The tent was found about a mile down the river, stretched across a rock. The maps and charts were soaked with water, so that it required as much labor and patience to unroll them as the papyri of Herculaneum. Our spare boots and shoes were irrecoverably lost. Having rescued the most important articles from the water, we carried by the falls, camped, and dried our papers and provision, being thankful that no worse an accident had befallen us. Fortunately, we had taken the precaution to remove our surveying instruments and the blankets from the boat before the falls were attempted.

"Having kindled a camp-fire and dried ourselves, a storm of rain began to pour around us; but our great fire was not easily damped, and we passed a comfortable night beneath the shelter of a water-proof tent.

"The Penobscot boatmen are well skilled in the art of camping in a comfortable manner, and soon prepare their fire for the night, make a bed of boughs, and pitch the tent in such a manner as to afford a complete shelter. Having partaken of our meal, we reposed upon the boughs spread upon the earth, our feet being turned toward the fire. This being our first encampment for the season, the novelty of the scene prevented sleep; the night was very pleasant, and the broad moon, slowly descending in the west, added her effulgence to beautify the scene, her image being reflected by the rippling waters, while various contrasts of light and shade from the dense foliage, and the pale moonbeam and glaring red camp-fire, gave an effect full of beauty, and worthy the attention of an artist.

"Amid pleasant scenes, we are, however, subject to contrasts of a less agreeable kind; and here our Indian, while cutting wood, suffered a severe accident; his hatchet, accidentally slipping, was driven deeply into his leg between two bones, so as to expose the anterior tibial artery. I was then called upon in my surgical capacity, and, having my instruments with me, dressed his wound in the usual manner, and early next morning we took him to Malтанawcook Island, where we made arrangements with another Indian, Louis Neptune, to supply his place while he was recovering from his wound."

These difficulties of transportation have been somewhat abated by the construction of roads, which penetrate much nearer to lumber berths than formerly, and enable us to convey our provisions, implements, and even boats, with horse-teams, a considerable portion of the distance once laboriously performed by water. I am not familiar with any kind of labor which tests a man's physical abilities and powers of endurance more than boating supplies up river. The labor of carrying by falls, and portages from lake to lake, imposes a heavy tax upon the body. Barrels of pork, flour, and other provisions, too heavy for one man to carry alone, are slung to a pole by the aid of ropes, one man being at either end, and thus we clamber, under our heavy burdens, over rocks, the trunks of fallen trees, slippery roots, and through mud-sloughs, sometimes without any path, through the thickets and groves of trees. The boat is turned bottom upward, the gunwales resting upon the shoulders of three men, two abreast near the bows, and one at the stern. In this position we pass over the same route through which the provisions have been carried to the next landing, where the goods are again reshipped, and we proceed by water on lake or stream, with the alternate routine of paddling, poling, and lugging, until the place of destination is reached.

Persons wholly unacquainted with river navigation can have but an imperfect idea of the skill as well as nerve brought into requisition in taking a heavy-laden bateau, skiff, or canoe up over rapids. Let such a person stand upon the banks of the river, and survey some places over which these frail boats, loaded to the gunwale, pass, and he would not only regard the thing as exceedingly difficult and hazardous, but as altogether impossible; with the inexperienced it would, indeed, be both, but our skillful watermen will perform it with the greatest dexterity. Should any traveler chance to take an up-river trip with those boatmen, I am quite sure his observations would confirm my statement respecting them. I am happy to add here the testimony of Dr. Jackson, who had an opportunity to witness their skill: "Those who have never been on such a journey would be surprised at the dexterity of the Penobscot boatmen as they drive their frail bateau through the rapids and among dangerous rocks. The slightest failure on their part, on passing the numerous water-falls, would place the lives of those on board in imminent peril, and the traveler has good reason to be thankful if the boat by their care is saved from being overturned or sunk in the river.

"When the waters rush down a rapid slope of smooth and round rocks, forming what are called gravel-beds, the most strenuous exertions of the boatmen are required to stem the current, and not unfrequently their 'setting' poles are caught between the rocks, so as to be jerked from their grasp. Bateaux are navigated up stream by means of slender poles of spruce, about twelve or fifteen feet in length, armed with an iron point, confined by a ferule or iron band around its extremity. One boatman stands in the bow and braces his foot against the stern as he labors; the other stands in the stern, and they both pole on the same side as they proceed up the margin of the stream. Descending the river, they make use of paddles." However, the depth to which these frail boats are loaded, in which condition they pass through rough waters and wide lakes, where the wind is liable in a few minutes to raise high waves, can not be regarded as prudent, with all their matchless skill in navigating.

When I call to mind the intemperate habits to which most lumbermen in times past were addicted, I am surprised that no more accidents have occurred while navigating our rivers.

I shall not soon forget the perilous circumstances in which I was once placed, in company with others, while taking a deeply laden skiff up to the head waters of the St. Croix.

Having safely passed the rapids of the river, we embarked upon the Lake Che-pet-na-cook, up which we paddled about twenty miles to the portage, over which we had to carry our effects to Grand Lake, distant some two miles. By the time we had accomplished these moves the shadows of a September evening began to gather around us, giving a peculiar tint to the large sheet of water before us, which spread to the north some twenty-five miles, with an expanse east and west of about six miles, washing a portion of the shores of Maine on the west, and the province of New Brunswick on the east.

The point of destination lay about half way up the lake on the American side. Our boat was deeply laden with men and provisions; of the former there were seven in number. A light wind from the east caused a gentle ripple upon the surface of the waters, which induced us to hug the easterly shore pretty closely. We proceeded slowly, and when it became necessary to change our course in order to cross the lake, night had nearly settled down upon the waters, leaving only sufficient light to reveal the opposite shore, which stretched along the verge of the horizon, presenting the appearance of a long, dark cloud settling upon the borders of the lake.

We had plenty of new rum on board, which was used at stated intervals, as, according to the faith

of nearly every man in those days, it gave to the arm more vigor in the necessary labor of plying the paddle. It soon became evident that one of our number had imbibed too freely, to the imminent hazard of our lives. The reader may easily imagine our perilous condition under such circumstances. Our frail skiff was about eighteen feet long, and four feet across the top of the gunwale amid-ships, tapering to a point at either end, constructed of thin slips of pine boards nailed to some half dozen pair of slender knees about two inches in diameter. On board were some fifteen hundred pounds of provisions, with seven men, which pressed her into the water nearly to the gunwale; three inches from the position of a level, and she would fill with water.

As men usually are quite insensible to danger when in liquor, so was it with "*Dan*" in this instance. Too comfortable in his feelings to keep still, as indeed was indispensable to the most steady among us, he kept constantly lurching about, and periling us with a capsizing repeatedly. He was admonished in the most pressing and peremptory manner to keep quiet; but in his drunken idiocy he became a terror, and it was manifest that something must be done to insure our safety.

Our paddles hung powerless over the sides of the frail thing which buoyed us upon the surface of the deep water; to advance seemed too uncertain and dreadful, while the darkness rested down deeper upon the lake. A hasty consultation was held upon the propriety of putting back to the shore, when the drunken wretch gave a sudden lurch, which settled the gunwale under water! "My God! we are gone!" shouted some half dozen voices at the instant. However, by a counter-motion we raised the submerged gunwale from sinking further. In an instant our helmsman was upon his feet, and, raising his paddle in a most menacing attitude over the head of the intoxicated man, "D—n you!" said he, "if you move again I'll split your skull open!" The threat was terrible, and he would have cleft his head open in an instant. I expected he would strike, for our lives depended upon quieting him in some way; but the fellow seemed to awake to our perilous condition, and slunk down into the bottom of the boat. We put about instantly for the shore, and in a few moments touched the beach. With a willing step I placed my feet on terra firma once more.

It was then determined that part of the crew should remain, while the others should cross the lake, unload the provisions, and return for those left behind. Four men were accordingly left, and I was glad to make one of the number, though left upon a wild and unfrequented spot, without food or shelter, with the prospect of spending the greater portion of the night there, even should the rest of the crew make a successful trip; and, in the event of their being swamped, a thing by no means impossible, for sometimes the wind suddenly rises, and in a very short time lashes the lake into foaming waves, in which case the skiff could not live, then the circuit of the lake must be performed, and days must elapse before relief could be obtained; but still, with these certainties and probable contingencies before us, we were glad to feel mother earth under the soles of our feet. By the time these matters had been fixed, the darkness had shut out the western shore entirely from view; our comrades, therefore, only shaped their course by the fire which we had kindled upon the shore, and which we kept burning by a constant supply of brush and the most inflammable wood that could be procured.

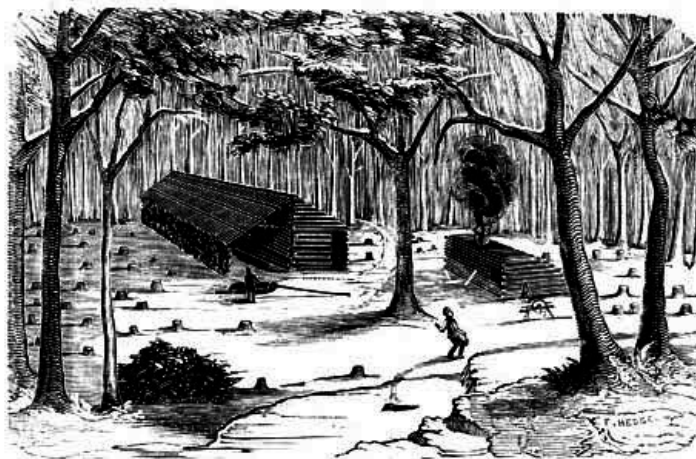
Not having had much experience in the wilderness at this time, and never under such peculiar circumstances, I felt somewhat timid and apprehensive, as we were far from relief and the abodes of civilization, and in a region where bears, wolves, and a dangerous specimen of the feline species, known by woodsmen as the "Indian devil," had prowled from time immemorial. From the manner in which my exiled companions piled the brush on the fire, I suspected, also, that they had some confidence in its protective power. The night was cold, but by our exertions to keep up a brilliant fire, and copious draughts of black pepper tea, which we made in a little kettle, we kept quite comfortable. This process lasted until two o'clock in the morning, when the boat returned for us, having twice crossed the lake, in all twelve miles. We stepped on board, and at four o'clock her third trip across during the night was finished. One half mile from the shore, surrounded by an almost unbroken wilderness, stood a log cabin, tenanted by a man with his family, who had settled down for the purpose of clearing up a farm. At the time we landed the sky was overcast with dense clouds, and the darkness was so intense that I could not see an inch before my nose; I felt the force of that trite old proverb, "It's always darkest just before day." To the above-named cabin we were piloted through a dense forest, which was interlaced with a thick growth of underbrush. We made our way along as entirely unassisted by vision as though there were no such thing. By the aid of a constant hallooing, which was kept up at the log cabin, we made a direct course; and, after an untold number of stumbles over old wind-falls, and jibes from the limbs, knots, and protruding boughs of trees, we reached the object of our solicitude hungry and much fatigued. Here, however, the hospitable inmates had anticipated our wants; a good meal of bread, baked beans, and pork, with coffee, was in waiting; and after heartily participating of the same, we threw ourselves upon a coarse bed, and were soon lost in a profound and undisturbed sleep. When we awoke the shades of night had entirely disappeared, the sun shone beautifully, and our ears were saluted with the wild notes of a thousand feathered songsters, whose sweet warblings lent a peculiar enchantment to the woodland scenery which skirted the shores of the lake, so strikingly in contrast with our dismal introduction the night previous, that we almost fancied ourselves awaking up in some fairy land.

CHAPTER III.

Method of constructing Camp and Hovel.—Timber.—Covering.—Arrangement of Interior.—The Bed.—Deacon Seat.—Ingenious Method of making a Seat.—Cooking: superior Method of Baking.—The nightly Camp Fire.—Liabilities from taking Fire.—A Camp consumed.—Men burned to Death.—Enjoyment.—The new Camp: Dedication. —A Song.—A Story.—New Order in Architecture.—Ox Hovel.—Substitute for Lime.—The Devotedness of the Teamster.—Fat and lean Cattle.—Swamping Roads.—Clumps of Pine.—The points of Interest in a Logging Road.—The Teamster's Path.—Regret.—The peculiar Enjoyment of Men thus engaged.

The re-outfit alluded to in the preceding pages having arrived upon the territory previously explored, arrangements are at once made to locate and build our winter camps. To determine upon the best point is by no means an easy task, it being very difficult to fix upon the location in a strange and imperfectly-explored forest. Wood and water privileges are to be taken into the account; a central position in respect to the timber; the landing, the locating of the main roads, &c., are to be attended to. To combine all these qualities, where we can see only a few rods in advance on account of the trees and thickets, and our work must necessarily cover hundreds of acres of wild land, it must be confessed is no ordinary task. I have seldom taxed my judgment as severely on any subject as in judiciously locating a logging establishment.

These preliminaries being settled, we commence "right merrily" our camp. The top strata of leaves and turf are removed from the spot upon which the structure is to be erected; this is necessary, as we should otherwise be in great danger of fire from the dry turf. While this process is going forward, others are engaged in felling the trees on the spot, and cutting them the length determined upon for our edifice. The work commences by throwing the larger logs into a square, notching the ends together. Thus one tier after another is laid up until the walls attain the proper height, the smallest logs being used to finish out the upper tiers. In form they resemble a tin baker, rising some eight feet in front, while the roof pitches down within two or three feet of the ground in the rear. A double camp is constructed by putting two such squares face to face, with the fire in the middle. The Spruce-tree is generally selected for camp building, it being light, straight, and quite free from sap. The roof is covered with shingles from three to four feet in length. These are split from trees of straight and easy rift, such as the Pine, Spruce, and Cedar. The shingles are not nailed on, but secured in their place by laying a long heavy pole across each tier or course. The roof is finally covered with the boughs of the Fir, Spruce, and Hemlock, so that when the snow falls upon the whole, the warmth of the camp is preserved in the coldest weather. The crevices between the logs constituting the walls are tightly calked with moss gathered from surrounding trees.



WINTER-QUARTERS OF LUMBERMEN.

The interior arrangement is very simple. One section of the area of the camp is used for the dining-room, another for the sleeping apartment, and a third is appropriated to the kitchen. These apartments are not denoted by partitioned walls, but simply by small poles some six inches in diameter, laid upon the floor of the camp (which is the pure loam), running in various directions, and thus forming square areas of different dimensions, and appropriated as above suggested. The head-board to our bed consists of one or more logs, which form also the back wall of the camp. The foot-board is a small pole, some four or six feet from the fire. Our bedstead is mother earth, upon whose cool but maternal bosom we strew a thick coating of hemlock, cedar, and fir boughs. The width of this bed is determined by the number of occupants, varying from ten

to twenty feet. Bed-clothes are suited to the width of the bed by sewing quilts and blankets together. The occupants, as a general thing, throw off their outer garments only when they "turn in" for the night. These hardy sons of the forest envy not those who roll on beds of down; their sleep is sound and invigorating; they need not court the gentle spell, turning from side to side, but, quietly submitting, sink into its profound depths.

Directly over the foot-pole, running parallel with it, and in front of the fire, is the "*deacon seat*." I think it would puzzle the greatest lexicographer of the age to define the word, or give its etymology as applied to a seat, which indeed it is, and nothing more nor less than a seat; but, so far as I can discover from those most deeply learned in the antiquarianism of the logging swamp, it has nothing more to do with deacons, or deacons with it, than with the pope. The seat itself, though the name be involved in a mystery, is nothing less nor more than a plank hewn from the trunk of a Spruce-tree some four inches thick by twelve inches wide, the length generally corresponding with the width of the bed, raised some eighteen inches above the foot-pole, and made stationary. This seat constitutes our sofa or settee, to which we add a few stools, which make up the principal part of our camp furniture. Should any of my readers ever be situated beyond the reach of cabinet-makers, but in the vicinity of the forest, I may introduce them into the secret of chair-making without the necessity of any tools except an ax. Split the top part of the trunk of a Spruce or Fir-tree in halves, cut a stick of the right length upon which three or four stout limbs grow; trim off the limbs of a sufficient length to suit your fancy; smooth the piece of timber to which they adhere by hewing, and your seat is completed. I can assure the reader that the instances are rare in which it becomes necessary to send them to the cabinetmaker for repairs, especially to have the legs glued in.

The luxury of a temporary table is now pretty generally enjoyed, with plates, knives and forks, tin dippers for tea and coffee, and sometimes cups and saucers. Formerly the deacon seat was used instead of a table, and a large frying-pan served for a platter for the whole crew. Around this the men would gather, each putting in his bread or potatoe, and salt fish, to sop in the pork fat; and never did king or courtier enjoy the luxuries of a palace more exquisitely than do our loggers this homely fare. On the St. Croix River, lumbermen generally adhere, from choice, to the original custom of eating from the frying-pan. Bread and beans are baked in a large "Duch oven," which is placed in a hole dug in the earth by the side of the fire, and entirely covered with hot coals and embers. In this position it is allowed to remain until the contents are done, when the ashes and cover are removed. I need not presume to inform the skillful cook that this mode of baking is unequalled. Our camp-fire is made on the ground next to the front wall, which is sometimes protected by a tier of large stones, but in other instances we simply set up two short stakes, against which enormous back-logs rest. After supper, each night unfailingly a very large fire is built to sleep by. Some of the wood used is so large that it often burns twenty-four hours before being entirely consumed. The amount of fuel made use of in building one camp-fire would supply an ordinary fire a week.

It is not an unfrequent occurrence, of course, for camps to take fire in this exposed situation, but some one generally discovers it in season to extinguish it by the timely application of snow or water. Instances have occurred, however, in which crews have been consumed with the camp. I recollect an instance in which a camp, on one of the tributaries of the Penobscot, took fire during the night while the inmates were asleep, and three out of four men were burned to death. In view of this liability, the roof of our camps are not so strongly fastened down but that, in the event of a retreat being cut off from the door, the united efforts of the inmates can burst it up, and thus make their escape. These things, however serious in some instances, are but little thought of or cared for.

Around this good camp-fire,

"With mirth to lighten duty,"

gather the crew after the toils of the day, to enjoy, as best they may, our long winter evenings; and around no fireside where there are equal responsibilities, intelligence, and many more luxuries, can be found more real contentment, or a greater degree of enjoyment.

Here rises the voice of song upon the wings of the winter night storm as it rolls past with the sublimity of an Alpine tempest. Here, also, are rehearsals of wild adventure, listened to with all the interest which isolated circumstances usually lend even to little matters.

The first night we lodged in one of our newly-erected camps, its dedication was proposed. It was moved and carried by acclamation that Hobbs should sing us a song, and that "Nick" should give us one of his yarns.

Hobbs, who, by-the-way, was a short, thick-set little fellow, with a chubby red face, and, withal, rather musical in his turn, gave vent to the following beautiful song, dedicated to the "Lumbermen" by the poet Whittier.

"Comrades! round our woodland quarters
Sad-voiced autumn grieves;

Thickly down these swelling waters
Float his fallen leaves.
Through the tall and naked timber,
Column-like and old,
Gleam the sunsets of November
With their skies of gold.

O'er us, to the South-land heading,
Screams the gray wild goose;
On the night-frost sounds the treading
Of the stately moose.
Fast the streams with ice are closing,
Colder grows the sky,
Soon, on lake and river frozen,
Shall our log-piles lie.

When, with sounds of smother'd thunder,
On some night of rain,
Lake and river break asunder
Winter's weaken'd chain,
Down the wild March-flood shall bear them
To the saw-mill's wheel,
Or, where Steam, the slave, shall tear them
With his teeth of steel.

Be it starlight, be it moonlight
In these vales below,
When the earliest beams of sunlight
Streaks the mountain's snow,
Crisps the hoar-frost keen and early
To our hurrying feet,
And the forest echoes clearly
All our blows repeat.

When the crystal Ambijejis
Stretches broad and clear,
And Millnocket's pine-black ridges
Hide the browsing deer;
Where, through lakes and wide morasses,
Or through rocky walls,
Swift and strong Penobscot passes,
White with foamy falls.

Where, through clouds, are glimpses given
Of Katahdin's sides—
Rock and forest piled to heaven,
Torn and plowed by slides!
Far below the Indian trapping
In the sunshine warm,
Far above the snow-cloud wrapping
Half the peak in storm!

Where are mossy carpets better
Than the Persian weaves,
And, than Eastern perfumes, sweeter
Seem the fading leaves;
And a music wild and solemn
From the Pine-tree's height,
Rolls its vast and sea-like volume
On the wind of night.

Make we here our camp of winter,
And through sleet and snow
Pitch knot and beechen splinter
On our hearth shall glow;
Here, with mirth to lighten duty,
We shall lack alone
Woman, with her smile of beauty,
And her gentle tone.

But her hearth is brighter burning
For our work to-day,

And her welcome at returning
Shall our loss repay.
Strike, then, comrades! Trade is waiting
On our rugged toil,
Far ships waiting for the freighting
Of our woodland spoil!

Ships, whose traffic links these highlands
Bleak and cold of ours
With the citron-planted islands
Of a clime of flowers;
To our frosts the tribute bringing
Of eternal heats.
In our lap of winter flinging
Tropic fruits and sweets.

Cheerly on the ax of labor
Let the sunbeam dance,
Better than the flash of saber
Or the gleam of lance!
Strike! With every blow is given
Freer sun and sky,
And the long-hid earth to heaven
Looks with wond'ring eye.

Loud behind us grow the murmurs
Of the age to come—
Clang of smiths, and tread of farmers
Bearing harvest home!
Here her virgin lap with treasures
Shall the green earth fill—
Waving wheat and golden maize-ears
Crown each beechen hill.

Keep who will the city's alleys,
Take the smooth-shorn plain,
Give to us the cedarn valleys,
Rocks and hills of Maine!
In our North-land, wild and woody,
Let us still have part—
Rugged nurse and mother sturdy,
Hold us to thy heart!

Oh, our free hearts beat the warmer
For thy breath of snow,
And our tread is all the firmer
For thy rocks below.
Freedom, hand in hand with labor,
Walketh strong and brave;
On the forehead of his neighbor
No man writeth Slave!

Brother looks on equal brother,
Manhood looks on men—
Be thy future, oh our mother,
As thy past hath been—
Heavenward, like thy mountain-guardians,
With their star-crowns deck'd,
And thy watchword, like Katahdin's
Cloud-swept pine, 'ERECT!'"

Then followed the "yarn." Now "Nick," as we familiarly called him, was a tall, sinewy man, the exact counterpart of Hobbs in physical proportions, full of fire, and fond of adventure. He had spent much of his life in the woods, and in different parts of the country, somewhat apt in his observations, and off-hand in his style of conversation.

Looking thoughtfully into the fire a moment, as if to call an item from his experience, he proceeded as follows:

"In the month of September, 18—, having business to transact with a man engaged in timber-making on Bartholomew's River, New Brunswick, I set out on horseback, late in the afternoon, for his encampment, distant some ten miles. Part of the distance I had to pass through a dense

wilderness, where a path had been made by cutting away the underbrush and small trees; the rest of the journey could only be prosecuted by riding in the bed of the stream, which at the time was quite dry.

"In answer to the inquiries made at the tavern where I hired my horse, I was told that the camp was on the bank of the stream, and could be easily seen from the channel through which I was to pass. The sun was about one hour high when I entered the woods; but I had not proceeded half way through when the heavens suddenly became overcast, which admonished me that I was about to experience one of those terrible thunder-tempests which sometimes occur at the close of a sultry September day, and are remarkable for the copious torrents of rain which fall in the vicinity of lakes and rivers, surrounded by the wilderness. I felt some solicitude to reach the river before it became dark, but the roughness of the road prevented me from going faster than a walking pace, and, ere I had accomplished the journey through the forest, the rain poured down in torrents. The thunder of heaven's artillery was tremendous, and the shooting chains of fire hissed through the tops of the trees like darting fiery serpents, here and there spending their force upon the lofty spire of some gigantic Pine, splitting and shivering its trunk into thousands of pieces, and strewing them far away upon the ground. Night, hastened by the gathering tempest, wrapped the whole scene in profound darkness; thus, amid the deafening peals of thunder, the darting forks of lightning which shot around me in every direction, and torrents of rain, my horse groped his way silently along, bearing me upon his back. At length, through much danger, I reached the channel of the river, to encounter new dangers and difficulties.

"When I entered the channel, the rain had not materially affected the amount of water then flowing; but I had not proceeded far when the swollen and foaming current, which had accumulated from hill sides and numerous brooks, rushed by me, rendering riding imminently hazardous. To be prepared for the worst, I divested myself of my boots and the horse of his saddle. In vain did I strain my eyes to gain a glimpse of the camp each time the lightning dispelled the darkness, which gave me a momentary glimpse of all around. Concluding at length that I had gone too far down the river, I turned my horse and breasted the foaming current, resolving to renew my exertions in an up-river course. But the water by this time was so high, and the channel so treacherous, that I concluded to gain the shore of the stream, and make my way, if possible, along its banks, though densely studded with trees and bushes growing in the wildest confusion. Owing to the precipitousness of the banks, I was unable to gain my object, and was therefore compelled to remain in the stream. Again and again I essayed to escape to the shore, but from the same causes failed of its accomplishment. My situation was becoming more critical every moment. Sometimes my horse was making his way over large rocks; then, suddenly coming to deeper portions of the channel, would lose his footing entirely, and swim with me upon his back. All this time the darkness was intense, the tempest raged with unabated fury, while the already swollen current continued to increase. The solemnity of the midnight hour, rendered terrible by the tempest overhead and threatening waters beneath, filled my mind with painful apprehensions. The awful grandeur of God seemed to pass before me, proclaimed in the voice of his thunder. Death, the judgment, and my sins stood before me; and I felt constrained to implore His protecting mercy. At length the lightning revealed a camp just upon the bank. Here I was able to leave the channel of the river, whose banks had so long held me a prisoner.

"Supposing that I had found the object of my hazardous search, I dismounted, and, flinging the bridle from my horse's head, left him to shift for himself, and hastened to enter; but, to my amazement, it proved an old, deserted, and solitary camp. Here, however, I resolved to worry out the remainder of the night. The wind chopping round to the northwest, it ceased raining and grew very cold, so that before daylight the rain drops froze upon the bushes; and, beginning to be very chilly, I found that exercise was necessary to keep me warm. The darkness was yet so great that I could see nothing; and, for fear of thrusting my head against the roof, I threw myself down and crawled about on my hands and knees, until, wearied with my exertions, I felt the need of repose. I then dug a hole down in the old boughs, which had been used by the former occupants as a bed, crawled into it, and covered myself entirely under the rubbish, except my face. For a few moments I thought I should be able to sleep, but my hopes were speedily dissipated. I had not lain long before I was covered with myriads of fleas. Springing from my restless couch, I shook and brushed them from my clothes; and as all hopes of rest were dismissed, I continued to exercise myself as well as I could until the grizzly rays of early morning dispelled the darkness which had so long held me a prisoner. As soon as it became sufficiently light, I set out, in my stockings, in pursuit of the camp, which I had failed to find the night previous. Proceeding up river about two miles, I came at once upon the camp. It was Sabbath morning; the inmates were indulging themselves in a late nap, and, notwithstanding my urgent circumstances, I resolved to wait a little, and give them a gentle surprise. You may be assured that my wretched appearance fully qualified me for the occasion. My feet were still partially covered with the ragged remnants of my stockings; my clothes were considerably torn and thoroughly wet, and the shives of the old bough bed were sticking into them nearly as thickly as a fleece of porcupine quills; my hat, rendered soft by the thorough drenching it had received, settled down over my head and ears; the black dye from the hat had run down in little lines all over my face, leaving their dry channels distinctly defined; my long and tangled hair, together with my haggard, care-worn countenance, rendered me altogether an object which, under any circumstances, was calculated to inspire terror. Stepping up to the camp, I gave a sudden, loud rap, without any further demonstration,

which awoke the crew. As they naturally supposed themselves far away from any human beings, a knock at their door thus early, and on a Sabbath morning, the more surprised them, and awakened their curiosity. 'Who or what the d—l can that be?' I overheard some one within say. Presently a man, who, by-the-way, knew me perfectly well, came to the door, and, with some caution, opened it. I met him with a fixed and vacant stare, without uttering a word. He returned my gaze with an expression of inquisitive astonishment.

"'You don't seem to know me,' I observed. The tones of my *voice* increased his astonishment, for they seemed familiar, but the strangeness of my *appearance* confounded him, and I could not refrain from laughing outright. Finally, half suspecting whom I *might* be, he exclaimed, with much energy, '*Nick! in the name of G—d, is it you?*' I soon satisfied them on this point, while I briefly related my night's adventure. Their astonishment was great at seeing me in such an extraordinary plight, but not greater than was my satisfaction to meet them and to obtain the succor which I needed. After breakfast, some of the men went in pursuit of my horse, saddle, and boots. The last two they found on a little island in the stream, where, for fear of losing them by the flood, I had lashed them to a stump the night before."

Having thus finished his story and replenished his pipe, the old man leaned back against the camp walls and enveloped himself in a cloud of smoke, while he listened, in turn, to the various incidents in the experience of others, of which his own had been suggestive.

Finally, after some little discussion as to the precise location which each should occupy on the new bed, all hands "turned in," to live over again the fortunes of the day in the fantastic dreams of night.

Having completed our own cabin, we proceed next to construct a hovel for the oxen, which are yet behind. In erecting this, the same order in architecture is observed as in that of the camp, the timber of which it is composed, however, being much larger than that with which our own habitation is constructed. With the trunks of trees the walls are carried up nearly equal in height, leaving one side, however, enough lower than the other to give a moderate pitch to the roof, which is covered with the same kind of material as that of the camp. In the camp for the workmen there is no floor but the earth; the ox hovel, however, has a flooring made of small poles laid closely together, and hewed down with some degree of smoothness with the adz, and in the final finish the crevices in the walls are plastered with clay or ox manure. A temporary shed is thrown up in front, which serves as a depôt for hay and provender.

No little pains are bestowed upon the conveniences designed for the team. With the exception of sporting horses, never have I witnessed more untiring devotion to any creature than is bestowed upon the ox when under the care of a good teamster. The last thing before "turning in," he lights his lantern and repairs to the ox hovel. In the morning, by the peep of day, and often before, his faithful visits are repeated to hay, and provender, and card, and yoke up. No man's berth is so hard, among all the hands, as the teamster's. Every shoe and nail, every hoof and claw, and neck, yokes, chains, and sled, claim constant attention. While the rest of the hands are sitting or lounging around the liberal fire, shifting for their comfort, after exposure to the winter frosts through the day, he must repeatedly go out to look after the comfort of the sturdy, faithful ox. And then, for an hour or two in the morning again, while all, save the cook, are closing up the sweet and unbroken slumbers of the night, so welcome and necessary to the laborer, he is out amid the early frost with, I had almost said, the care of a mother, to see if "old Turk" is not loose, whether "Bright" favors the near fore-foot (which felt a little hot the day before), as he stands upon the hard floor, and then to inspect "Swan's" provender-trough, to see if he has eaten his meal, for it was carefully noted that at the "watering-place" last night he drank but little; while at the further end of the "tie-up" he thinks he hears a little clattering noise, and presently "little Star" is having his shins gently rapped, as a token of his master's wish to raise his foot to see if some nail has not given way in the loosened shoe; and this not for once, but every day, with numberless other cares connected with his charge.

A competent hand in this profession generally calculates to do a good winter's hauling, and bring his team out in the spring in quite as good flesh as when they commenced in the early part of the season. But as in all other matters, so in this, there are exceptions to the general rule. Some teamsters spoil their cattle, and bring them out in the spring miserably poor, and nearly strained to death. Such a practice, however, can not be regarded as either merciful or economical. So far as true policy is concerned, it is much better to keep a team well. What may be gained by hard pushing during the former part of the season will be more than made up during the latter, when the teams are moderately urged and well kept, and then you have a good team still for future labor.

Having completed our winter residences, next in order comes the business of looking out and cutting the "main," and some of the principal "branch roads." These roads, like the veins in the human body, ramify the wilderness to all the principal "clumps" and "groves of pine" embraced in the permit.

We have here no "turnpikes" nor rail-ways, but what is often more interesting. No pencilings can excel the graceful curves found in a main road as it winds along through the forest, uniform in

width of track, hard-beaten and glassy in its surface, polished by the sled and logs which are so frequently drawn over it. Each fall of snow, when well trodden, not unlike repeated coats of paint on a rough surface, serves to cover up the unevenness of the bottom, which in time becomes very smooth and even. And besides, no street in all our cities is so beautifully studded with trees, whose spreading branches affectionately interlace, forming graceful archways above. Along this road side, on the way to the landing, runs a serpentine pathway for the "knight of the goad," whose deviations are marked now outside this tree, then behind that "windfall," now again intercepting the main road, skipping along like a dog at one's side. To pass along this road in mid-winter, one would hardly suspect the deformities which the dissolving snows reveal in the spring—the stumps and knolls, skids and roots, with a full share of mud-sloughs, impassable to all except man, or animals untrammelled with the harness.

In the process of making these roads, the first thing in order is to look out the best location for them. This is done by an experienced hand, who "spots" the trees where he wishes the road to be "swamped." We usually begin at the landing, and cut back toward the principal part of the timber to be hauled.

In constructing this road, first all the underbrush is cut and thrown on one side; all trees standing in its range are cut close to the ground, and the trunks of prostrated trees cut off and thrown out, leaving a space from ten to twelve feet wide. The tops of the highest knolls are scraped off, and small poles, called skids, are laid across the road in the hollows between. Where a brook or slough occurs, a pole-bridge is thrown across it.

These preparatory arrangements are entered upon and prosecuted with a degree of interest and pleasure by lumbermen scarcely credible to those unacquainted with such a mode of life and with such business. Though not altogether unacquainted with other occupations and other sources of enjoyment, still, to such scenes my thoughts run back for the happier portions of life and experience.

I have attended to various kinds of labor, but never have I entered upon any half so pleasing as that usually performed in the "logging swamp." Although greatly jeopardizing my reputation for taste, I will utter it. Positively, it is delightful. I have since had some years' experience in one of the professions, in the enjoyment of some of the refinements of life, yet, if it could be done consistently, I would now with eagerness exchange my house for the logging camp, my books for the ax, and the city full for those wilderness solitudes whose delightful valleys and swelling ridges give me Nature uncontaminated—I had almost said, uncursed, fresh from the hand of the Creator. To write of those things makes the bustling city seem dull and irksome. Fain would I hie away once more to those pleasant pastime labors.

Happily, all tastes are not alike. Yet there are few who, on entering a beautiful native forest, would not experience delight; the varieties of trees set out by the hand of Nature, their graceful forms and spreading branches interlocked with neighborly affection and recognition; the *harmonious confusion* of undergrowth; the beautiful mosses, the ever-varying surface—old age, manhood and youth, childhood and infancy—massive trunks and little sprouts; the towering Pine and creeping Winter-green, intermingled by the artless genii of these wild retreats, all combined, serve to explain the *attachment* of the Aborigines to their forest abodes, and give to savage life the power of enchantment.

CHAPTER IV.

Tokens of Winter.—The Anticipation.—Introduction of Team.— Difficulties attending it.— Uncomfortable Boating.—The Contrast.—Method of crossing Streams and Rivers.—The Docility of the Ox.—Facilities of Turnpikes.—Stopping-places.—Arrival. —An Adventure.—Ten Oxen in the Ice.—Method of taking them Out. —An uncomfortable Night.—The midnight Excursion.—Oxen running at large in the Wilderness.—Developments of Memory.—Logging. — Division of Labor.—How to manage in the absence of a Cook.— "Uncle Nat."—Anecdote.— Felling Pines.—Ingenuity of Choppers. —Preparatory Arrangements.—The Bob-sled.—Method of Operation described.—The Excitement.—Comparison.—Immediate Length of Pine-trees.— Conclusion.

By the time these arrangements are made, serious indications of winter appear in cold, freezing nights and light falls of snow. It is now about time to look for the arrival of the team and extra hands.

This event we anticipate with as much interest as voyagers are wont to feel when they meet upon the ocean after several months at sea. Letters and newspapers are expected, and, when received, perused with avidity. New acquaintances are to be made, new tools to be examined, and every thing foreign, however insignificant, is an object of interest.

The introduction of the team to winter quarters is always attended with more or less trouble: much less, however, of late than in former years. Then, all the chains and other implements connected with the business, together with provisions for the crew and provender for the oxen, enough to last until the swamps, rivers, and lakes were frozen, so as to allow teams to pass over them, were boated in the manner described in a former chapter, which required many trips, and were continued until a late period in the fall.

To the latest trips an additional and most uncomfortable inconvenience is added to the many hardships of boating provisions. This is when the ice makes on our poles while in the act of passing up over rapids. Often our hands become so cold and stiff as to render it very difficult to hold on to the icy instrument. The mariner may stop a moment, even in a gale, while at the yard-arm, to blow his freezing fingers; but not so with the lumberman with a loaded boat in a rapid current: every finger is needed every moment, as life and property would be endangered by paying even slight attention to cold fingers.

Where the nature of the route will allow it, and an early start is desired, our teams are attached to a long sled, lightly loaded, which is dragged over miry, rough roads. In crossing large streams, we unyoke the oxen and swim them over. If we have no boat, a raft is constructed, upon which our effects are transported, when we re-yoke and pursue our route as before. Our oxen are often very reluctant to enter the water while the anchor ice runs, and the cold has already begun to congeal its surface. But an ox hardly knows how to refuse compliance with his master's wishes, so submissive is he in his disposition.

Of late, since roads have been cut, and even "turnpikes" made a considerable portion of the distance up the main rivers, such as the "Calais and Houlton Road" on the St. Croix, and the "Military Road" on the Penobscot, which connect with other less perfect thoroughfares, and finally terminate in common swamp roads, our conveyances are much easier, and the business of taking the team on to the ground is, and may be safely, deferred until frosts and snows admit of a more agreeable mode of travel.

What is called a team is variously composed of from four to six, and even eight oxen. During the months of November and December, after the ground and swamps are frozen, and early snows fall, our team is attached to a "long sled," loaded with provisions, tools, &c., accompanied with a new recruit of hands. Leaving home and the scenes of civilization, slowly we move forward to join those who had preceded us to make preparations for our reception. After several days' journeyings, putting up at night at places erected and supplied for the convenience of such travelers, and at suitable distances on the route, we finally reach our new home. Our arrival is no less agreeable to ourselves than welcome to our comrades. But there are incidents scattered all the way along, and seldom do we perform such a journey without experiencing something worth relating.

On one occasion, late in the fall, we started for our winter quarters up river. We had traveled about one hundred miles, passing along up the military road, then south upon the Calais road to Baskahegan Lake, which we were to cross, our camps being on the opposite side. We reached the borders of the lake late in the afternoon. The ice was not so thickly frozen as was anticipated, so that the practicability of crossing seemed exceedingly problematical. Having been long on the way, we were anxious, if possible, to arrive in camp that night. The shores of the lake were so swampy that it was deemed impracticable to perform the route around it, and it was finally determined to make an effort to cross upon the ice. We had twelve oxen, which were disposed of in the following order: the lightest yoke of oxen was selected and driven in yoke before to test the strength of the ice, and, in case the loaded teams should break through, to be used to pull them out. These were our reserve. The next in the line of march was a pair of oxen attached to a sled, with hay, &c. Next in order was a four-ox team; these were also attached to a sled, loaded with hay and provisions; and, finally, to bring up the rear, still another four-ox team, with a loaded sled—all of which were strung out at suitable distances, to prevent too much weight coming upon any one point, thus rendering our passage more safe. The word was given, when we all moved forward, intending first to gain a point which ran out into the lake, covered with a thick small growth. The ice cracked and buckled beneath our feet at every step. Proceeding in this way, we gained the point in safety. It had by this time become late, and the last rays of the setting sun gilded the tops of the towering pines, which peered far up in the air above the surrounding forest.

The night was very cold, and the wind swept up the lake with a penetrating chill, which made us button up our garments closely to prevent its too ready access to our bodies. Having gained the point in safety, we were emboldened to set forward again upon the main body of the lake, which was yet to be crossed. Here the ice seemed less capable of sustaining our weight than in the cove, which, from its protected position, had probably congealed sooner than the main lake, which was more exposed to the action of winds.

Here the ice gave more alarming indications of its incapacity to hold us. We had not proceeded more than three fourths of a mile when the hindermost team broke through, sled and all, which was very naturally accounted for, as the teams which preceded cracked and weakened the ice. The alarm was given along the line, when the other teams stopped; and while we were preparing

to extricate those already in, the next team of four oxen dropped in also; and finally they were all in at once, except the reserve pair. Had they kept in motion, probably the foremost teams might have escaped; but, upon stopping, the ice gradually settled, when in they went. There we were on that bleak spot, with the shades of night fast settling down upon us, and ten oxen struggling in the benumbing waters: business enough, thought we.

Standing upon the edge of the ice, a man was placed by the side of each ox to keep his head out of the water. We unyoked one at a time, and, throwing a rope round the roots of his horns, the warp was carried forward and attached to the little oxen, whose services on this occasion were very necessary. A strong man was placed on the ice at the edge, so that, lifting the ox by his horns, he was able to press the ice down and raise his shoulder up on the edge, when the warp-oxen would pull them out. For half an hour we had a lively time of it, and in an almost incredible short time we had them all safely out, and drove them back upon the point nearly a mile. It was now very dark. We left our sleds in the water with the hay, pulling out a few armsful, which we carried to the shore to rub the oxen down with. Poor fellows! they seemed nearly chilled to death, while they shook as if they would fall to pieces.

We built up a large fire, and, leaving the principal part of the crew behind to take care of the oxen, I, with several of the hands, started to find, if possible, the camps, where were waiting those who had been previously engaged in making arrangements for the winter. This was esteemed by some rather risky, as it was getting very dark, and we did not know exactly which way to shape our course. But the prospect seemed gloomy and uninviting to remain upon that bleak point all night, and, besides, we wished the assistance of the camp's crew in taking our teams over next day. Delay was not to be thought of. We therefore started. A squall of snow came up when we were midway across, which completely bewildered us, and we became divided in opinion as to the proper course to steer. Tenacious of my own views, I resolved to pursue the course which appeared to me right, when the others consented to follow. Finally, after several hours of hard travel, we gained the shore, not far from the road which led back to the camp, about half a mile distant in the woods. We were here, again, puzzled to know whether the camp lay at the right or left. Settling that matter by guess, as Yankees often do other things, we traveled along by the shore about one fourth of a mile, when, to our great relief, we came to the road, up which we passed, and reached the camp a little after midnight, hungry and fatigued. We found our comrades snugly quartered and soundly sleeping. Refreshing ourselves with hot tea, bread, and beef, we turned in and slept until daylight, when, after breakfast, all hands started to rejoin those left behind. We were with them in a few hours. Poor fellows! they had had a pretty uncomfortable season, not one moment's sleep during the night, and scantily provided with food, while the oxen fared harder still. We succeeded in getting out of the ice all but one load of hay, which we left behind. Not venturing to cross directly, we now followed round the lake, close in shore, and finally reached our winter quarters in safety, and without further accident.

The task of taking oxen on to the ground every fall is very considerable, especially when we go far into the interior, as we frequently do nearly two hundred miles. This labor and expense is sometimes obviated by leaving them in the spring to shift for themselves in the wilderness and on the meadows, where they remain until autumn, when they are hunted up. During their wilderness exile they thrive finely, and, when found, appear very wild; yet wondering, they seem to look at us as though they had some lingering recollection of having seen us before. It is often very difficult to catch and yoke them; but, with all their wildness, they evidently show signs of pleasure in the recognition. When turned out in this way, however, instances have occurred when they have never again been seen or heard from. In some cases they probably get mired or cast, and die; in others, they doubtless stray away, and fall a prey to bears and wolves. Bears as well as wolves have been known to attack oxen. An individual who owned a very fine "six-ox team" turned them into the woods to browse, in a new region of country. Late in the evening, his attention was arrested by the bellowing of one of them. It continued for an hour or two, then ceased altogether. The night was very dark, and, as the ox was supposed to be more than a mile distant, it was thought not advisable to venture in search of him until morning. As soon as daylight appeared, he started, in company with another man, to investigate the cause of the uproar. Passing on about a mile, he found one of his best oxen laying prostrate, and, on examination, there was found a hole eaten into the thickest part of his hind quarter nearly as large as a hat; not less than six or eight pounds of flesh were gone. He had bled profusely. The ground was torn up for rods around where the encounter occurred; the tracks indicated the assailant to be a very large bear, who had probably worried the ox out, and then satiated his ravenous appetite, feasting upon him while yet alive. A road was bushed out to the spot where the poor creature lay, and he was got upon a sled and hauled home by a yoke of his companions, where the wound was dressed. It never, however, entirely healed, though it was so far improved as to allow of his being fattened, after which he was slaughtered for food.

After a few days' respite, and as soon as a sufficient quantity of snow has fallen, we commence hauling the logs. As there are several departments of labor, each man is assigned to some one of them. In most cases, indeed, every hand is hired with the distinct understanding that he is to perform a particular part of the labor, and the wages differ accordingly, being regulated, also, by the ability with which they can severally fill those stations.

First, then, comes the "boss," or the principal in charge. Then the choppers, meaning those who select, fell, and cut the logs, one of whom is master chopper. Next the swampers, who cut and clear the roads through the forest to the fallen trees, one of whom is master swamper. Then comes the barker and loader, the man who hews off the bark from that part of the log which is to drag on the snow, and assists the teamster in loading. Then we have the captain of the göad, or teamster, whom we have already alluded to; and finally the cook, whose duty is too generally known to require any particular description. Every crew is not supplied with the last important character; this deficiency, I believe, is much more common on the St. Croix than on the Penobscot, where the mode of camp life and fare is much better attended to. When we have no person specially set apart to this work, the crew generally take turns, to do which there is an obligation imposed by usage and common consent on some rivers, and each man, therefore, must comply, or furnish a substitute by employing some one to act for him. In those instances where no cook is provided, we take turns, a week at a time, or each man consents to perform some particular duty in cookery; for instance, one makes all the bread, another the tea and coffee, and so on through the routine of camp domesticism. A slight degree of rebellion sometimes manifests itself touching this business, especially before matters receive their regular winter mold. One refuses to cook, another says he "was hired to do something else," while another says, "I'm d—d if I cook any how." I recollect a pleasant occurrence of this kind, at least one rendered so by the clever management of an old man connected with the crew. They had returned to camp from the labors of the day, the fire was nearly out, and nothing prepared for supper. Alike fatigued and hungry, each refused, in turn, to discharge the duties of cook, and the gloomy prospect presented itself of a supperless night. "Uncle Nat," as we familiarly called him, was a "jolly old soul," the very personification of good nature, corpulency, and quietude, possessing, withal, a good share of ingenious wit; and, from his corpulency and asthmatical tendencies, reminding one of a small locomotive by the puffing and blowing consequent on physical exertion. Now how to settle this matter, and have even any number of volunteer cooks, at once occurred to "Uncle Nat." "Dear me" (his favorite expression), "what a time about cooking. Why, it is the easiest thing in nature to get supper. Now, boys, if you will all wait upon me, I'll be cook." "Agreed! agreed!" was the ready response on all hands. This matter being settled, "Uncle Nat" very deliberately deposited himself on the "deacon seat," and commenced drilling the volunteer assistants. "Now, Richard, get a little wood and kindle up the fire." "Isaac, step down to the brook and fetch a pail of water;" "and you, Mac, while the fire is getting under way, wash a few potatoes, and get them ready to put on when the pot boils." "Now, Jake, cut a few slices of pork," continued our chief cook, with much sang froid, "and put it over the fire to fry." "But you were to get supper, Uncle Nat." "Yes, I was to get supper, but you were to wait upon me," says he, casting a significant glance toward Tom, at the same time ordering him to make the dishes ready. Remonstrance was vain: they had agreed to wait upon him, if he would be cook. Every thing was arranged, supper ready, and there still sat the old gentleman—hadn't stirred an inch. "Dear me" (deep breathing), "dear me," said Uncle Nat, "I have got supper, and 'twas one of the easiest things in the world." The "boys" are caught—it was a "good 'un;" and to the enjoyment of a relishable supper was added a hearty laugh. Uncle Nat's proposition passed into a by-word, and all, ever after, were ready to do any thing, provided they could be "waited upon."

In the process of taking logs to the landing from the swamp, the first thing in order is to select the tree. The direction in which it is judged likely to fall is determined by circumstances. First, the inclination of the tree as it stands; and, second, the direction and power of the wind. Sometimes this matter may be governed, where the tree stands very erect, by under-cutting one side more than the other; to which an expedient is added, when necessary, by falling one tree against another. Choppers can, if skillful, lay a tree, in falling, with sufficient accuracy to hit and drive a stake into the ground. When, however, a tree stands upon an abrupt hill-side, we are apt to get deceived. It is thrilling business to bring those giant Pines down. The ground trembles under the stroke, while the reverberating echo of its fall, as it rings through mountains and valleys, may, on a still morning, be heard six or eight miles. Before felling the Pine, small trees are cut for bed-pieces, the Pine-tree falling across them transversely, to prevent it from becoming too deeply imbedded in the snow. This also facilitates the barking and loading operation. The proper place being selected, the trunk of the tree is cut off while the "swampers" have been directing their road to the spot. The "barkers"—like whalemens leaping upon the back of their prize with their cutting spades—are at once at work with their axes, hewing the bark from that portion of the log which is to be drawn along on the snow, while the other end is to rest upon the sled. The "teams" next approach the scene of action, drawing after them a short sled, called a "bob-sled;" probably so named from the bobbing motion it has while drawn over the rough ground. It would be an insult to every New Englander's intelligence to attempt a description of this sled; I therefore pass it, remarking, by-the-way, that, considering the service for which it is designed, it is made very strong, as it is required to sustain one end, or more than half the weight of the largest trees upon a single bar: in some cases several tuns burden rest upon a single point. While this bar alone sustains one half the entire log, it is also the only part of the sled to which the heavy trunks of those massive trees are bound; it therefore draws as well as sustains the load, challenging the powers of six and even eight of the stoutest oxen.



LOG HAULING—PROCESS OF LOADING LOGS.

In the process of loading, the bob-sled is placed several feet from the side of that end of the log which is to be placed upon it. Then a large skid, from four to eight inches in diameter and several feet in length, is placed near the large bar running under the log. A chain is next attached to the bar, passing now under, then over the log, back to the sled, crossing it. It is then attached by other chains to one or two yoke of oxen, whose united strength is requisite to roll one end of it upon this big bar, to which it is bound with strong, heavy chains. Of late, the tackle and fall has been introduced in loading, which very much facilitates the operation.

The six oxen are now attached to the sled, one pair of them to the tongue; the others are attached by chains in advance as leaders. The teamster now arranges every ox in the most advantageous position, passing through several evolutions with his goad-stick; then giving the word of command, they settle to it. Slowly it moves forward, while the vociferations of the animated teamster, the squatting-like posture of the hard-drawn team, indicate the importance and interest of the occasion; and the bob-sled, as though it were a thing of life, actually screams out at every joint as if in keenest agony beneath its ponderous load.

The reader has perhaps been present at a "launching;" the nervous emotions experienced in the process described, including the felling of the gigantic Pines, the skidding and hauling, quite equal those awakened at the launching of a vessel. This process is gone through with several times each day during the winter (Sundays excepted); really it is like going to launching every day, and the pleasurable excitement of the labor renders it extremely delightful to most who are engaged in it.

The general custom is to take the whole trunk of the tree to the landing at one load, when its size will allow, where it is sawed into short logs from fourteen to thirty feet in length, to facilitate the driving down river. I have cut one tree into five logs, the shortest of which was not less than fourteen feet. I have seen them hauled eighty-two feet in length, resembling, in their passage to the landing, immense serpents crawling from their lurking-places. Thus we continue to fell, clear, and haul until the "clump" is exhausted, and our attention is again directed to another school of these forest whales, and so on until our winter's work is completed.

Formerly, Pine-trees grew in abundance on the banks of rivers and streams, and the margins of those wild lakes found in the interior. Thousands were cut and rolled into the water, or on the ice, and perhaps a much larger number were so near the landing as to require merely to be dragged out, thus avoiding the labor of loading, in which case, from the massive size of the trees, it was necessary to cut them into short logs. Such opportunities, however, for lumber have gone by, and the greater portion has now to be hauled from a considerable distance. A greater scarcity is too evidently at hand, though, were every Pine-tree sound and good, no end to the quantity might yet be thought of; for, notwithstanding the immense quantities cut, and the devastating fires by which hundreds of millions have been destroyed, on some rivers it still abounds, but a large portion of Pine is found in a rotten and decayed state at heart. Having long since come to maturity, that peculiar process which makes its impress upon all earthly objects, *decay*, is nowhere more general in its depredations than among the noble Pines in the north and east. There is a cancerous disease peculiar to the Pine-tree, to which lumbermen give the original name of "*Conk*" or "*Konkus*." The manifestation of this disease on the outside of the tree, usually several feet from the butt-end, is a small spot of a brown color, sometimes resembling gingerbread in appearance and texture, protruding as a general thing only to the surface, and varying in size from a ninepence to the crown of a hat. In some clumps of Pine, all that indicates the presence of this disease is a little yellow pitch starting out through the bark and trickling down the outside.

The uninitiated would be led to suspect but little, if indeed any, harm from an appearance so slight and unnoticeable as that presented by the konkus. It exerts no influence either upon the size or beautiful proportions of the tree, as those most seriously affected, in outward

appearances, are as handsomely grown as the most perfect, which leads to the conclusion that the disease does not much affect them until quite mature.

On cutting one of these trees, the infection is found to spread itself, more or less, throughout the trunk, turning the wood to a reddish color, making it spongy in texture; and while the fibrous portions of the wood retain their thread-like straightness, the marrowy portion or flesh-like membranes, and intermediate layers between the fibers, appear dry and of a milky whiteness. Sometimes the rot shoots upward, in imitation of the streaming light of the Aurora Borealis; in others downward, and even both ways, preserving the same appearance.

Large families, and even communities of the Pine, are thus infected, so that in a group of thirty trees perhaps not more than half a dozen short logs can be obtained.

Frauds are sometimes practiced upon those who purchase logs, by driving a knot or piece of a limb of the same tree into the konkus and hewing it off smoothly, so that it has the appearance of a natural knot, but the dissecting process at the saw-mill exposes the imposition.

Much of this timber is hollow at the butt, affording in some instances fine winter retreats for bears, where they den. We have a high time of it when we chance to make such a discovery. "A few rods from the main logging road, where I worked one winter," said Mr. Johnson, "there stood a very large Pine-tree. We had nearly completed our winter's work, and it still stood unmolested, because from appearances it was supposed to be worthless. While passing it one day, not quite satisfied with the decision that had been made upon its quality, I resolved to satisfy my own mind touching its value; so, wallowing to it through the snow, which was nearly up to my middle, I struck it several blows with the head of my ax, an experiment to test whether a tree be hollow or not. When I desisted, my attention was arrested by a slight scratching and whining.

"Suspecting the cause, but not quite satisfied, I thumped the tree again, listening more attentively, and heard the same noise as before: it was a bear's den. Examining the tree more closely, I discovered a small hole in the trunk, near the roots, with a rim of ice on the edge of the orifice, made by the freezing of the breath and vapor from the inmates.

"Satisfied now of the character of the prisoners, I communicated my discovery at once to the rest of the crew, who immediately left their work and ran like a pack of hounds, jumping and leaping through the deep snow. We kicked the snow away from the roots to learn the place of entrée, which we plugged up with bits of wood, after removing the frozen dirt and turf with which it was closed. We next cut a hole into the tree, about four feet from the ground, some eight or ten inches in diameter; into this a pole was thrust, to 'stir them up' and prepare them to thrust their heads out below when the hole should be opened again.

"Having annoyed them sufficiently to induce them to attempt an egress from the passage below, the obstacles were removed, after stationing two men, one on either side, with their axes to dispatch them—when the old bear thrust out her head. A severe wound was inflicted, which sent her back growling and gnashing her teeth. Again thrusting the pole through the upper aperture, we punched and jibed her for some minutes before she could be induced to make a second effort to escape; when she did, she was met as before, receiving a second and more deadly wound, which was succeeded with less furious demonstrations of rage than before. A third effort was made to drive them out, but there was no response save the piteous crying of small cubs. We then cut a small hard-wood tree, trimmed off the branches, leaving one prong about six inches long, sharpened out, forming a hook. Enlarging the aperture below, we thrust in the wooden hook, which grappled a heavy but resistless carcass. With much exertion we drew it forth: she was dead. The cubs, four in number—a thing unusual by one half—we took alive, and carried them to the camp, kept them a while, and finally sold them. They were quite small and harmless, of a most beautiful lustrous black, and fat as porpoises. The old dam was uncommonly large; we judged she might weigh about three hundred pounds. Her hide, when stretched out and nailed on to the end of the camp, appeared quite equal to a cow's hide in dimensions."

Here in our wild winter quarters, where we delight to dwell during a period of from three to four months, we find much to interest and amuse—much to do, for an equal amount of labor is rarely performed within the same time under any other circumstances, and I may add, too, with less fatigue or disrelish. With incident, romance, story, song, and adventure, time passes rapidly away.

CHAPTER V.

The Skill and Enterprise of Lumbermen.—Method of taking Logs down Hills and Mountains.—Dry Sluice.—Stern Anchor.—Giant Mountain Steps.—Alpine Lumbering.—Warping a Team down Steeps.—Trial of Skill and Strength.—The rival Load.—Danger and Inconvenience of

Hills in Logging Roads.—A distressing Accident.—Solemn Conclusion of a Winter's Work.—Some of the Perils attendant upon Lumbering.—A fearful Wound.—Narrow Escape.—The buried Cap.—The safest Way of Retreat.—A Sabbath in the Logging Camp.—Sunday Morning Naps.—Domestic Camp Duties.—Letter Writing.—Recreations.—Sable Traps.—Deer and Moose.—Bear Meat.—A rare Joke.—Moose Hunt.—Bewildered Hunters.—Extraordinary Encounter.—Conclusion of Sabbath in the Woods.

Lumbermen not only cut and haul from clumps and communities, but reconnoiter the forest, hill, vale, and mountain side for scattering trees; and when they are deemed *worth* an *effort*, no location in which they may be found, however wild or daring, can oppose the skill and enterprise of our men.

For taking logs down mountain sides, we adopt various methods, according to the circumstances. Sometimes we construct what are termed dry sluice-ways, which reach from the upper edge of a precipice down to the base of the hill. This is made by laying large poles or trunks of straight trees together the whole distance, which is so constructed as to keep the log from running off at the sides. Logs are rolled into the upper end, the descent or dip often being very steep; the log passes on with lightning-like velocity, quite burying itself in the snow and leaves below. From the roughness of the surfaces, the friction is very great, causing the bark and smoke to fly plentifully.

At other times, when the descent is more gradual and not too steep, and when there is not a sufficient quantity to pay the expense of a sluice-way, we fell a large tree, sometimes the Hemlock, trim out the top, and cut the largest limbs off a foot, more or less, from the trunk. This is attached to the end of the log by strong chains, and as the oxen draw the load, this drag thrusts its stumpy limbs into the snow and frozen earth, and thus prevents the load from forcing the team forward too rapidly. Should the chain give way which attaches the hold-back to the load, nothing could save the team from sudden destruction.

There is a mountain on the "west branch" of the Penobscot where Pine-trees of excellent quality stand far up its sides, whose tops appear to sweep the very clouds. The side which furnishes timber rises in terraces of gigantic proportions, forming a succession of abrupt precipices and shelving table-land. There are three of these giant mountain steps, each of which produces lumber which challenges the admiration and enterprise of the logmen. The ascent to these Alpine groves is too abrupt to allow the team to ascend in harness; we therefore unyoke and drive the oxen up winding pathways. The yokes and chains are carried up by the workmen, and also the bob-sled in pieces, after taking it apart. Ascending to the uppermost terrace, the oxen are re-yoked and the sled adjusted. The logs being cut and prepared as usual, are loaded, and hauled to the edge of the first precipice, unloaded, and rolled off to the table of the second terrace, where they are again loaded, hauled, and tumbled off as before, to the top of the first rise, from which they are again pitched down to the base of the mountain, where for the last time they are loaded, and hauled to the landing.

To obtain logs in such romantic locations was really as hazardous as it was laborious, varying sufficiently from the usual routine of labor to invest the occasion with no ordinary interest. It was, indeed, an exhibition well calculated to awaken thrilling emotions to witness the descent of those massive logs, breaking and shivering whatever might obstruct their giddy plunge down the steep mountain side, making the valleys reverberate and ring merrily with the concussion.

In other instances loads are eased down hill sides by the use of "tackle and fall," or by a strong "warp," taking a "bite" round a tree, and hitching to one yoke of the oxen. In this manner the load is "tailed down" steeps where it would be impossible for the "tongue oxen" to resist the pressure of the load. Sometimes the warp parts under the test to which it is thus subjected, when the whole load plunges onward like an avalanche, subjecting the poor oxen to a shocking death.

But the circumstance which calls forth the most interest and exertion is the "rival load." When teams are located with sufficient proximity to admit of convenient intercourse, a spirit of rivalry is often rife between the different crews, on various points. The "largest tree," the "smartest chopper," the "best cook," the "greatest day's work," and a score of other superlatives, all invested with attractions, the greater from the isolated circumstances of swamp life.

The "crack" load is preceded by all needful preliminaries. All defective places in the road are repaired. New "skids" are nicely pealed by hewing off the bark smoothly, and plentifully as well as calculatingly laid along the road. All needful repairs are made on the bob-sled, and the team put in contending plight. The trees intended for the "big load" are carefully prepared, and hauled to some convenient place on the main road singly, where they are reloaded, putting on two and sometimes three large trees. All things in readiness, the men follow up with hand-spikes and long levers. Then comes the "tug of war;" rod by rod, or foot by foot, the whole is moved forward, demanding every ounce of strength, both of men and oxen united, to perform the feat of getting it to the landing. Were life and fortune at stake, more could not be done under the circumstances. The surveyor applies the rule, and the result gives either the one or the other party "whereof to glory." If not "teetotalers," the vanquished "pay the bitters" when they get down river. Men love and will have excitement; with spirits never more buoyant, every thing, however trifling, adds to

the stock of "fun alive" in the woods. Every crew has its "Jack," who, in the absence of other material, either from his store of "mother-wit" or "greenness," contributes to the merry shaking of sides, or allows himself to be the butt of good-natured ridicule.

But while the greater part of swamp life is more or less merry, there are occasional interruptions to the joyousness that abounds. Logging roads are generally laid out with due regard to the conveniences of level or gently descending ground. But in some instances the unevenness of the country admits only of unfavorable alternatives. Sometimes there are moderate rises to ascend or descend on the way to the landing; the former are hard, the latter dangerous to the team. I knew a teamster to lose his life in the following shocking manner: On one section of the main road there was quite a "smart pitch" of considerable length, on which the load invariably "drove" the team along on a forced trot. Down this slope our teamster had often passed without sustaining any injury to himself or oxen. One day, having, as usual, taken his load from the stump, he proceeded toward the landing, soon passing out of sight and hearing. Not making his appearance at the expiration of the usual time, it was suspected that something more than usual had detained him. Obeying the impulses of a proper solicitude on his behalf, some of the hands started to render service if it were needed. Coming to the head of the hill down which the road ran, they saw the team at the foot of it, standing with the forward oxen faced about up the road, but no teamster. On reaching the spot, a most distressing spectacle presented itself; there lay the teamster on the hard road, with one of the sled runners directly across his bowels, which, under the weight of several tons of timber, were pressed down to the thickness of a man's hand. He was still alive, and when they called out to him, just before reaching the sled, he spoke up as promptly as usual, "Here am I," as if nothing had been the matter. These were the only and last words he ever uttered. A "pry" was immediately set, which raised the dead-fall from his crushed body, enabling them to extricate it from its dreadful position. Shortly after, his consciousness left him, and never more returned. He could give no explanation; but we inferred, from the position of the forward oxen, that the load had forced the team into a run, by which the tongue cattle, pressed by the leaders, turning them round, which probably threw the teamster under the runner, and the whole load stopped when about to poise over his body.

He was taken to the camp, where all was done that could be, under the circumstances, to save him, but to no purpose. His work was finished. He still lingered, in an apparently unconscious state, until midnight, when his spirit, forsaking its bruised and crushed tenement, ascended above the sighing pines, and entered the eternal state. The only words he uttered were those in reply to the calling of his name. As near as we could judge, he had laid two hours in the position in which he was found. It was astonishing to see how he had gnawed the rave [8] of the sled. It was between three and four inches through. In his agony, he had bitten it nearly half off. To do this, he must have pulled himself up with his hands, gnawed a while, then fallen back again through exhaustion and in despair. He was taken out to the nearest settlement, and buried.

At a later period, we lost our teamster by an accident not altogether dissimilar. It was at the winding up of our winter's work in hauling. Late in the afternoon we had felled and prepared our final tree, which was to finish the last of the numerous loads which had been taken to the well-stowed landing. Wearied with the frequency of his travels on the same road for the same purpose, this last load was anticipated with no ordinary interest; and when the tree was loaded, he seemed to contemplate it with profound satisfaction. "This," said he, "is my last load." For the last time the team was placed in order, to drag from its bed the tree of a hundred summers. Onward it moved at the signal given, and he was soon lost to view in the frequent windings of the forest road. It was nearly sundown, and, had it not been for closing up the winter's work that day, the hauling would have been deferred until next morning.

The usual preparations for our evening camp-fire had been made, and the thick shadows of evening had been gathering for an hour, and yet he did not come. Again and again some one of the crew would step out to listen if he could catch the jingling of the chains as they were hauled along; but nothing broke upon the ear in the stillness of the early night. Unwilling longer to resist the solicitude entertained for his safety, several of us started with a lantern for the landing. We continued to pass on, every moment expecting to hear or meet him, until the landing was finally reached. There, quietly chewing the cud, the oxen were standing, unconscious of the cause that detained them, or that for the last time they had heard the well-known voice of their devoted master. Hastening along, we found the load properly rolled off the sled, but heavens! what a sight greeted our almost unbelieving vision! There lay the poor fellow beneath that terrible pressure. A log was resting across his crushed body. He was dead. From appearances, we judged that, after having knocked out the "fid," which united the chain that bound the load, the log rolled suddenly upon him. Thus, without a moment's warning, he ceased in the same instant to work and live. It proved, indeed, his "last load."

To contemplate the sameness of the labor in passing to and fro from the swamp to the landing several times a day, on a solitary wilderness-road, for a term of several months, with only those respites afforded in stormy weather and on Sundays, one might think himself capable of entering into the feelings of a teamster, and sympathetically share with him the pleasurable emotions consequent upon the conclusion of his winter's work. While it must be conceded that, of things possessing every element capable of contributing pleasure, we sometimes weary through excess,

let it not be supposed that our knight of the goad has more than usual occasion to tire, or sigh for the conclusion of the hauling season. To be sure, "ta and fra" the livelong winter, now with a load wending along a serpentine road, as it winds through the forest, he repeats his visits to the swamp, and then the landing; but he is relieved by the companionship of his dumb but docile oxen, for whom he contracts an affection, and over whom he exercises the watchful vigilance of a faithful guardian, while he exacts their utmost service. He sees that each performs his duty in urging forward the laboring sled. He watches every hoof, the clatter of shoes, the step of each ox, to detect any lameness. He observes every part and joint of the bob-sled while it screeches along under the massive log bound to it. He examines the chains, lest they should part, and, above all, the objects more watched than any others, the "fid-hook" and the "dog-hook," the former that it does not work out, the latter that it loose not its grappling hold upon the tree. Sometimes his little journeys are spiced with the infinite trouble which a long, sweeping stick will give him, by suddenly twirling and oversetting the sled every time it poises over some abrupt swell in the road. There is really too much to be looked after, thought of, and cared for in his passage to the landing to allow much listlessness or burdensome leisure. As well might a pilot indulge irresponsible dormancy in taking a fine ship into port, as for a teamster to be listless under his circumstances. No; the fact is, that, with the excitement attendant upon each load as it moves to the landing, ten times the number of tobacco quids are required than would abundantly suffice him on his return.

Then look at the relaxation and comfort of the return. The jingling chains, as they trail along on the hard-beaten way, discourse a constant chorus. With his goad-stick under his arm or as a staff, he leisurely walks along, musing as he goes, emitting from his mouth the curling smoke of his unfailing pipe, like a walking chimney or a locomotive; anon whistling, humming, or pouring forth with full-toned voice some favorite air or merry-making ditty. He varies the whole exercise by constant addresses to the oxen, individually and collectively: "Haw, Bright!" "Ge, Duke!" "Whoop! whoop!" "What ye 'bout there, you lazy—" "If I come there, I'll tan your old hides for you!" "Pchip, pschip, go along there!" Knowing him not half in earnest, unless it happens to be a sharp day, the oxen keep on the even tenor of their way, enjoying the only apparent comfort an ox can enjoy while away from his crib—chewing the cud.

Recently, however, the wolves have volunteered their services, by accompanying the teams, in some places, on their way to and from the landing, contributing infinitely more to the fears than conscious security of the teamsters.

Three teams, in the winter of 1844, all in the same neighborhood, were beset with these ravenous animals. They were of unusually large size, manifesting a most singular boldness, and even familiarity, without the usual appearance of ferocity so characteristic of the animal.

Sometimes one, and in another instance three, in a most unwelcome manner, volunteered their attendance, accompanying the teamster a long distance on his way. They would even jump on the log and ride, and approach very near the oxen. One of them actually jumped upon the sled, and down between the bars, while the sled was in motion.

Some of the teamsters were much alarmed, keeping close to the oxen, and driving on as fast as possible. Others, more courageous, would run toward and strike at them with their goad-sticks; but the wolves sprang out of the way in an instant. But, although they seemed to act without a motive, there was something so cool and impudent in their conduct that it was trying to the nerves—even more so than an active encounter. For some time after this, fire-arms were a constant part of the teamster's equipage. No further molestation, however, was had from them that season.

One of my neighbors related, in substance, the following incidents: "A short time since," said he, "while passing along the shores of the Mattawamkeag River in the winter, my attention was suddenly attracted by a distant howling and screaming—a noise which might remind one of the screeching of forty pair of old cart-wheels (to use the figure of an old hunter in describing the distant howling of a pack of wolves). Presently there came dashing from the forest upon the ice, a short distance from me, a timid deer, closely pursued by a hungry pack of infuriated wolves. I stood and observed them. The order of pursuit was in single file, until they came quite near their prey, when they suddenly branched off to the right and left, forming two lines; the foremost gradually closed in upon the poor deer, until he was completely surrounded, when, springing upon their victim, they instantly bore him to the ice, and in an incredibly short space of time devoured him, leaving the bones only; after which they galloped into the forest and disappeared." On the same river a pack of these prowling marauders were seen just at night, trailing along down river on the ice. A family living in a log house near by happened to have some poison, with which they saturated some bits of meat, and then threw them out upon the ice. Next morning early the meat was missing, and, on making a short search in the vicinity, six wolves were found "dead as hammers," all within sight of each other. Every one of them had dug a hole down through the snow into the frozen earth, in which they had thrust their noses, either for water to quench the burning thirst produced by the poison, or to snuff some antidote to the fatal drug. A bounty was obtained, on each, of ten dollars, besides their hides, making a fair job of it, as well as ridding the neighborhood of an annoying enemy. The following account of a wolf-chase will interest the reader:

"During the winter of 1844, being engaged in the northern part of Maine, I had much leisure to devote to the wild sports of a new country. To none of these was I more passionately addicted than that of skating. The deep and sequestered lakes of this northern state, frozen by intense cold, present a wide field to the lovers of this pastime. Often would I bind on my rusty skates, and glide away up the glittering river, and wind each mazy streamlet that flowed on toward the parent ocean, and feel my very pulse bound with joyous exercise. It was during one of these excursions that I met with an adventure which, even at this period of my life, I remember with wonder and astonishment.

"I had left my friend's house one evening, just before dusk, with the intention of skating a short distance up the noble Kennebeck, which glided directly before the door. The evening was fine and clear. The new moon peered from her lofty seat, and cast her rays on the frosty pines that skirted the shore, until they seemed the realization of a fairy scene. All Nature lay in a quiet which she sometimes chooses to assume, while water, earth, and air seemed to have sunken into repose.

"I had gone up the river nearly two miles, when, coming to a little stream which emptied into the larger, I turned in to explore its course. Fir and hemlock of a century's growth met overhead, and formed an evergreen archway, radiant with frost-work. All was dark within; but I was young and fearless, and as I peered into the unbroken forest, that reared itself to the borders of the stream, I laughed in very joyousness. My wild hurra rang through the woods, and I stood listening to the echo that reverberated again and again, until all was hushed. Occasionally a night-bird would flap its wings from some tall oak.

"The mighty lords of the forest stood as if naught but time could bow them. I thought how oft the Indian hunter concealed himself behind these very trees—how oft the arrow had pierced the deer by this very stream, and how oft his wild halloo had rung for his victory. I watched the owls as they fluttered by, until I almost fancied myself one of them, and held my breath to listen to their distant hooting.

"All of a sudden a sound arose, it seemed from the very ice beneath my feet. It was loud and tremendous at first, until it ended in one long yell. I was appalled. Never before had such a noise met my ears. I thought it more than mortal—so fierce, and amid such an unbroken solitude, that it seemed a fiend from hell had blown a blast from an infernal trumpet. Presently I heard the twigs on the shore snap as if from the tread of some animal, and the blood rushed back to my forehead with a bound that made my skin burn, and I felt relieved that I had to contend with things of earthly and not spiritual mold, as I first fancied. My energies returned, and I looked around me for some means of defense. The moon shone through the opening by which I had entered the forest, and considering this the best means of escape, I darted toward it like an arrow. It was hardly a hundred yards distant, and the swallow could scarcely excel my desperate flight; yet, as I turned my eyes to the shore, I could see two dark objects dashing through the underbrush at a pace nearly double that of my own. By their great speed, and the short yells which they occasionally gave, I knew at once that they were the much-dreaded gray wolf.



THE COMMON WOLF

"I had never met with these animals, but, from the description given of them, I had but little pleasure in making their acquaintance. Their untamable fierceness, and the untiring strength which seems to be a part of their nature, render them objects of dread to every benighted traveler.

"With their long gallop, which can tire
The hound's deep hate, the hunter's fire,"

"they pursue their prey, and naught but death can separate them. The bushes that skirted the

shore flew past with the velocity of light as I dashed on in my flight. The outlet was nearly gained; one second more, and I would be comparatively safe, when my pursuers appeared on the bank directly above me, which rose to the height of some ten feet. There was no time for thought; I bent my head and dashed wildly forward. The wolves sprang, but, miscalculating my speed, sprang behind, while their intended prey glided out into the river.

"Nature turned me toward home. The light flakes of snow spun from the iron of my skates, and I was now some distance from my pursuers, when their fierce howl told me that I was again the fugitive. I did not look back; I did not feel sorry or glad; one thought of home, of the bright faces awaiting my return, of their tears if they should never again see me, and then every energy of mind and body was exerted for my escape. I was perfectly at home on the ice. Many were the days I spent on my skates, never thinking that at one time they would be my only means of safety. Every half minute an alternate yelp from my pursuers made me but too certain they were close at my heels. Nearer and nearer they came; I heard their feet pattering on the ice nearer still, until I fancied I could hear their deep breathing. Every nerve and muscle in my frame was stretched to the utmost tension.

"The trees along the shore seemed to dance in the uncertain light, and my brain turned with my own breathless speed; yet still they seemed to hiss forth with a sound truly horrible, when an involuntary motion on my part turned me out of my course. The wolves close behind, unable to stop and as unable to turn, slipped, fell, still going on far ahead, their tongues lolling out, their white tushes gleaming from their bloody mouths, their dark, shaggy breasts freckled with foam; and as they passed me their eyes glared, and they howled with rage and fury. The thought flashed on my mind that by this means I could avoid them, viz., by turning aside whenever they came too near; for they, by the formation of their feet, are unable to run on ice except on a right line.

"I immediately acted on this plan. The wolves, having regained their feet, sprang directly toward me. The race was renewed for twenty yards up the stream; they were already close on my back, when I glided round and dashed past my pursuers. A fierce growl greeted my evolution, and the wolves slipped upon their haunches and sailed onward, presenting a perfect picture of helplessness and baffled rage. Thus I gained nearly a hundred yards each turning. This was repeated two or three times, every moment the wolves getting more excited and baffled, until, coming opposite the house, a couple of stag-hounds, aroused by the noise, bayed furiously from their kennels. The wolves, taking the hint, stopped in their mad career, and after a moment's consideration turned and fled. I watched them till their dusky forms disappeared over a neighboring hill; then, taking off my skates, I wended my way to the house, with feelings better to be imagined than described."

Such annoyances from these migrating beasts, in the vicinity of logging births as above-named, are of recent date. Up to 1840 I had been much in the wild forests of the northeastern part of Maine, clearing wild land during the summer and logging in the winter, and up to this time had never seen a satisfactory evidence of their presence. But since this period they have often been seen, and in such numbers and of such size as to render them objects of dread.

Every department of labor among the loggers, and in fact, to extend the observation, every department of life, is characterized more or less by adventure and peril. Our men get badly cut sometimes, and then, in the absence of a surgeon, are put upon their own resources to stanch blood and dress wounds.

I recollect an instance in which a man in one of the neighboring crews, while at work, received the whole bit of an ax into the muscular portion of his thigh, by an accidental blow from an associate. It was indeed a gaping wound. A wound of such an alarming character, in the absence of suitable medical aid, is deemed a serious matter, and not without just cause. In this instance use was made of handkerchiefs to swathe up the wound, so as to stanch the flowing blood, while they bore him to the camp upon a litter. He was laid upon the deacon seat, and the wound was sewed up by one of the crew with a common sewing-needle. It did well, and in the course of a few weeks he was able to resume his labors.

Life is constantly endangered in felling the Pine-trees. The tops of other trees seldom oppose any barrier to the giddy plunge of the towering Pine, breaking, splitting, and crushing all coming within its range. The broken limbs which are torn from its own trunk, and the wrenched branches of other trees, rendered brittle by the intense frosts, fly in every direction, like the scattered fragments of an exploding ship, always more or less endangering life. Often those wrenched limbs are suspended directly over the place where our work requires our presence, and on the slightest motion, or from a sudden gust of wind, they slip down with the stealthiness of a hawk and the velocity of an arrow. I feel an involuntary shudder, as if now in the presence of danger, while I remember some of the narrow escapes I have had from death by the falling of such missiles. I recollect one in particular, which was wrenched from a large Pine-tree I had just felled. It lodged in the top of a towering Birch, directly over where it was necessary for me to stand while severing the top from the trunk. Viewing its position with some anxiety, I ventured to stand and work under it, forgetting in the excitement my danger. While thus engaged, the limb stealthily slipped from its position, and, falling directly before me end foremost, penetrated the

frozen earth. It was about four inches through, and ten feet long. It just grazed my cap; a little variation, and it would have dashed my head in pieces. But my time had not come. Attracted, on one occasion, while swamping a road, by the appearance of a large limb which stuck fast in the ground, curiosity induced me to extricate it, for the purpose of seeing how far it had penetrated. After considerable exertion, I succeeded in drawing it out, when I was perfectly amazed to find a thick cloth cap on the end of it. It had penetrated the earth to a considerable depth. Subsequently I learned that it belonged to a man who was killed instantly by its fall, striking him on the head, and carrying his cap into the ground with it.

It is never safe to run from a falling tree in a line directly opposite from the course in which it falls, as it sometimes strikes other trees in such a way as to throw the butt from the stump. I have sometimes seen them shoot back in this way with the velocity of lightning half their length. Running from a falling tree in the way above alluded to, I knew a man killed in an instant. Another reason which should induce choppers or spectators to avoid this manner of retreat is, that the broken limbs frequently rebound, and are thrown back in a direction opposite that in which the tree falls. It reminds one of a routed enemy hurling their missiles, as they retreat, back upon the pursuing foe. I have sometimes seen the air in the region of the tree-tops literally darkened with the flying fragments, small and great, torn from trees in the thundering passage of one of those massive columns to the ground. Sometimes they come down like a shower of arrows, as if from the departed spirits of aerial warriors. To retreat safely, one should run in a direction so as to make nearly a right angle with the falling tree. A man by the name of Hale, a master chopper, cut a Pine which, in its passage down, struck in the crutch of another tree and broke the trunk of the falling one, the top of which pitched back and instantly killed him.

If lumbermen do not love the return of the seventh day for its moral purposes, they welcome it for the rest it brings, and the opportunity it affords for various little matters of personal comfort which demand attention. On visiting our winter quarters, one of the first things which might arrest attention, indicating a Sabbath in the logging-swamp, would be a long morning nap. Dismissing care, they court the gentle spell, until, wearied with the lengthened night, they rise, not, as on other mornings, when their hurrying feet brush the early frosts as they pass to their work, while the lingering night casts back its wasting shadows upon their path. On the Sabbath morning they recline upon their boughy couches until the sun has traveled a long way upon his daily circuit.

Every one feels free to sleep, to lounge, or to do whatever he may choose, with a moderate abatement in behalf of the teamster and cook, whose duties require some seasonable attention on all mornings. Breakfast over, each individual disposes of himself as best accords with inclination or interest. There are a few general duties which come round every Sabbath, which some, by turns, feel the responsibility of performing. For instance, every Sabbath it is customary to replenish the bed with a fresh coat of boughs from the neighboring evergreens. Of the healthful and invigorating influence of this practice there is no doubt. Then follow the various little duties of a personal character. Our red flannel shirts are to be washed and mended, pants to be patched, mittens and socks to be repaired, boots to be tapped and greased, &c. Our clumsy fingers, especially if unused to the needle, make most ludicrous and unwoman-like business of patching up our torn garments. Letter-writing receives attention on this day, if at all, with no other than the deacon seat, perhaps, for a writing-desk, a sheet of soiled paper, ink dried and thick, or pale from freezing, and a pen made with a jack-knife; letters are dedicated to a wife, it may be, or to a mother by some dutiful son, or to his lady-love by some young swamper. There are some recreations to relieve the monotony of a Sabbath in the wilderness. Sometimes a short excursion in search of spruce gum; for many a young urchin at home has had the promise of a good supply of this article, to be furnished on the return of the campers. Others go in pursuit of timber for ax-helves. As neither the White Oak nor Walnut grow in the latitude of Pine forests in the eastern section of Maine, the White Ash, Rock Maple, Beech and Elm, and sometimes the Hornbeam, are in general use. Others spend, it may be, a portion of the day in short timber-hunting excursions. Where the contiguity of encampments allow it, visits are exchanged among the denizens of the camps.

Formerly, when sable were more plenty, some one or more proprietors of a line of sable traps would take the opportunity on the Sabbath to visit them, as time from the weekly employment could not be spared for this purpose. Such traps are very simple in their construction. Some thin, flat pieces of wood, cleft from the Spruce or Fir-tree, are driven into the ground, forming the outline of a small circle some nine inches in diameter, and about the same in height, with an opening of three or four inches on one side, over which is placed the trunk of a small tree some three inches through, running cross-wise, and raised at one end about four inches, supported by a standard spindle, to which a small piece of meat is fastened for bait. The top of the whole is covered with light fir or spruce boughs, to prevent the sable from taking the bait from the top. Access to the bait is then had only by passing the head and shoulders into the little door or opening under the pole, when the slightest nibbling at the spindle will bring down the dead-fall and entrap them. These traps occur every few rods, and thus a line or circuit is formed for several miles.

Wild cats sometimes take the business of tending these sable traps, in which case they tear them

to pieces and devour the bait. One such animal will occasionally break up an entire line, and blast the hopes of the hunter till captured himself.

Although, when circumstances favor it, some portion of Saturday is devoted to hauling up camp wood, yet the practice of devoting a few hours of the concluding part of the Sabbath is not unfrequent. Upon the whole, we conclude that, notwithstanding the necessity of rest and recreation, and the necessary attentions to personal conveniences which the seventh day affords, the season usually wears away rather heavily than otherwise, and Monday morning, with its cheerful employments, brings not an unwelcome change. The pleasures of a forest life are, with lumbermen, found rather in the labor performed than the recreations enjoyed. Suspension from labor, without the pleasant relief which home privileges afford, leaves a vacancy of feeling not altogether free from *ennui*. The little domestic duties claiming attention—unpleasant, as indeed they are unnatural to the coarser sex—remind them strongly of the absence of *woman*, without whose amiable presence, society, and services man can not enjoy his quota of earthly bliss.

A tramp after deer and moose is sometimes taken. We often disturb them in penetrating the deep forests for timber. In such cases they always remove to some more sequestered place, and post themselves for winter quarters again, where we sometimes follow and take them when the condition of the snow renders their flight tardy and difficult. In the summer they roam at large through the forests and on the meadows, where they may often be seen feeding as we pass up the rivers; but in winter they confine themselves to much smaller limits, where they remain during the greater portion of the season. The flesh of the deer forms an agreeable change from our salt provisions. Venison is often quite plenty. From the hare and partridge our cook serves a delicious pot-pie. The flesh of the moose and bear are very good. Were it not for the unprepossessing appearance of the latter, his flesh would be esteemed before most wild meat. The flesh of a young black bear a year old, if fat, is not easily distinguished, when cooked, from a good pork spare rib. I recollect a ludicrous instance of imposition practiced upon an individual by furnishing him with bear meat for his dinner, while he supposed that he was feasting upon fresh pork. He was known to be exceedingly averse to eating bear meat, and often expressed his disrelish, and even disgust, at the idea. "Eat bear's meat? No! I would as soon eat a dog." A bear had been taken by a crew near by; it was fine meat, and it so happened that our anti-bear-eater was at their camp one day, when the cook served up in his best manner some of the flesh. Of course he was invited to dine, as lumbermen are always hospitable. On this occasion the invitation was especially urgent, as they "had a nice bit of fresh pork, which had been sent them by the provision-team."

Our friend ate and praised the nice pork alternately. "Fine, very; hadn't had any fresh pork before for nearly a year. It was tender—it was sweet and good." With much effort, the risibility of the jokers was kept in subjection through the meal. Many senseless things were said, and every thing seemed to elicit laughter.

Dinner over. "Well, captain, how have you enjoyed your dinner?" "First rate." "Do you know that you have been eating bear's meat?" "No!" said he; "that warn't bear's meat, was it?" "Yes." He seemed incredulous; but the evidences were at hand; the quarter from which the dinner had been taken was produced. Poor fellow! he looked as though he had swallowed a lizard; and, to "finish him up," the long-nailed shaggy paw was produced. He could stand it no longer; but, rushing out of the camp, and throwing himself down upon his hands and knees, he retched as though he had taken a dozen doses of ipecacuanha, while all the rest of the crew were convulsed with laughter at the poor fellow's distress.

The moose is the largest species of deer found in the New England forest. Their size varies from that of a large pony to the full-grown horse. They have large branching antlers, which grow and are shed every season.

The taking of moose is sometimes quite hazardous. The most favorable time for hunting them is toward spring, when the snow is deep, and when the warmth of mid-day melts the surface, and the cold nights freeze a crust, which greatly embarrasses the moose and deer in their flight.

"One pleasant morning, six of us started with the intention of taking deer; we had a gun and a large dog. Fatigued, at length, with several hours' travel, and meeting with no success, we concluded to give it up, and returned to camp late in the afternoon. Having been very intent in our search for game, we had taken little notice of the various courses which we had traveled, and, when the purpose was formed of returning, we found, much to our discomfort, that we were altogether in doubt as to the direction proper to be pursued. However, we were not without our opinions on the subject, though, unfortunately, these opinions differed. We finally separated into two parties, four supposing that the camp lay in a particular direction, while two of us entertained nearly opposite views. The gun was retained by the four, while the dog followed myself and comrade. We had not separated more than five minutes, when the dog started two fine moose. The other party, being within hail, soon joined us in the pursuit.

"As the snow was deep, and crusted sufficiently hard to bear us upon snow-shoes, while the moose broke through at every leap, we were soon sufficiently near them to allow a good shot. One of the men approached within a few yards of the hindermost, and fired. The ball took effect,

but did not stop him. Still pursuing, another ball was lodged in his body, when he turned at bay. It was now our turn to retreat; but, after making a few bounds toward us, he turned and fled again, when we again came up to the charge. I took the gun this time, and approached within fifteen feet of him, and fired. He dropped instantly upon the snow. Supposing him dead, we left the spot and pursued the other with all possible dispatch, for there was not a moment to lose, as the fugitive, alarmed by the report of the gun, was redoubling his exertions to effect his escape. The dog, however, soon came upon him and retarded his flight. Emboldened in his successful encounter with the other, Rover dashed incautiously upon him, but nearly paid the forfeit of his life. The moose gave him a tremendous blow with one of his sharp hoofs, which made him cry out till the woods echoed with his piteous howl. In vain did we try to induce him to renew the encounter. His passion for the chase seemed effectually cooled; so we were obliged to abandon the pursuit, and the more readily, as the day was now quite spent. We returned to dress the one we had shot, but were astonished, on arriving at the place where we left him, to find that he, too, had made his escape. Tracking him by a trail of blood which appeared to spirt out at every leap he made, we soon came up with him, and fired again. The ball hit, but only to enrage him the more. Five additional bullets were lodged in his perforated body, now making in all nine. Having but one shot more, we desired to make it count effectively; so, taking the gun, I approached very near upon one side, and fired at his head. The ball passed directly into one eye and out at the other, thus rendering him completely blind. The last shot caused him to jump and plunge tremendously. He now became furious, and, guided by the sound of our footsteps, would dart at us like a catamount whenever we approached him. We had no ax to strike him down, or to cut clubs with which to dispatch him. We were at a stand what to do. We tried first to entangle him in the deep snow by approaching him, and thus induce him to spring out of the beaten into the untrodden snow; but the moment he found himself out, he would back directly into the beaten path again.

"Our feelings became very uncomfortable, and now, from pity, we desired to put an end to his sufferings. To see his noble struggle for life, with nine bullets in him, and blind, inspired a painful regard toward him. What to do we knew not. It was really unsafe to approach him so as to cut his throat. We could neither entangle him in the snow, nor bring him down with the small sticks we had cut with our jack-knives. At length we hit upon the following expedient: obtaining a long stiff pole, one end of it was gently placed against his side. We found he leaned against it, and the harder we pushed the more he opposed. Uniting our strength, we pressed it as powerfully as we were capable; he resisted with equal strength. While thus pressing, we suddenly gave way, when he fell flat upon his side. Before he had time to recover, we sprang upon him, and with a knife severed the jugular vein, when he yielded to his fate. It was nearly two hours from the commencement of our last encounter before we dispatched him. Leaving him for the night, we returned to camp, quite overcome with hunger and fatigue.

"Next morning we went out to bring in our prize. We found the other moose affectionately standing over the dead carcass of her slaughtered companion. Manifesting much reluctance to flee, she permitted our approach sufficiently near to afford a good shot, which we were not unwilling to improve; so, raising the fatal instrument to my cheek, I let go. She fell on the spot, and was soon dressed with the other. We took the carcasses into camp, and, after reserving what we wished for our own use, sent the remainder down river to our friends." [9]

The "bull moose" is a formidable foe when he "gets his dander up," and specially so at particular seasons of the year; then, unprovoked, they will make war on man, betraying none of that shrinking timidity so characteristic of the *cervine* genus. A hunter, who used to put up occasionally over night at our camp, entertained us with the following singular adventure. "Once," said he, "while out on a hunting excursion, I was pursued by a 'bull moose,' during that period when their jealousy was in full operation in behalf of the female. He approached me with his muscular neck curved, and head to the ground, in a manner not dissimilar to the attitude assumed by horned cattle when about to encounter each other. Just as he was about to make a pass at me, I sprang suddenly between his wide-spreading antlers, bestride his neck. Dexterously turning round, I seized him by the horns, and, locking my feet together under his neck, I clung to him like a sloth. With a mixture of rage and terror, he dashed wildly about, endeavoring to dislodge me; but, as my life depended upon maintaining my position, I clung to him with a corresponding desperation. After making a few ineffectual attempts to disengage me, he threw out his nose, and, laying his antlers back upon his shoulders, which formed a screen for my defense, he sprang forward into a furious run, still bearing me upon his neck. Now penetrating dense thickets, then leaping high "wind-falls," [10] and struggling through swamp-mires, he finally fell through exhaustion, after carrying me about three miles. Improving the opportunity, I drew my hunter's knife from its sheath, and instantly buried it in his neck, cutting the jugular vein, which put a speedy termination to the contest and the flight."

The habits of the moose, in his manner of defense and attack, are similar to those of the stag, and may be illustrated by the following anecdote from the "Random Sketches of a Kentuckian."

"Who ever saw Bravo without loving him? His sloe-black eyes, his glossy skin, flecked here and there with blue; his wide-spread thighs, clean shoulders, broad back, and low-drooping chest, bespoke him the true stag-hound; and none who ever saw his bounding form, or heard his deep-

toned bay, as the swift-footed stag flew before him, would dispute his title. List, gentle reader, and I will tell you an adventure which will make you love him all the more.

"A bright frosty morning in November, 1838, tempted me to visit the forest hunting-grounds. On this occasion I was followed by a fine-looking hound, which had been presented to me a few days before by a fellow-sportsman. I was anxious to test his qualities, and, knowing that a mean dog will not often hunt well with a good one, I had tied up the eager Bravo, and was attended by the strange dog alone. A brisk canter of half an hour brought me to the wild forest hills. Slackening the rein, I slowly wound my way up a brushy slope some three hundred yards in length. I had ascended about half way, when the hound began to exhibit signs of uneasiness, and at the same instant a stag sprang out from some underbrush near by, and rushed like a whirl-wind up the slope. A word, and the hound was crouching at my feet, and my trained Cherokee, with ear erect and flashing eye, watched the course of the affrighted animal.

"On the very summit of the ridge, full one hundred and fifty yards, every limb standing out in bold relief against the clear blue sky, the stag paused, and looked proudly down upon us. After a moment of indecision, I raised my rifle, and sent the whizzing lead upon its errand. A single bound, and the antlered monarch was hidden from my view. Hastily running down a ball, I ascended the slope; my blood ran a little faster as I saw the 'gouts of blood' which stained the withered leaves where he had stood. One moment more, and the excited hound was leaping breast high on his trail, and the gallant Cherokee bore his rider like lightning after them.

"Away—away! for hours we did thus hasten on, without once being at fault or checking our headlong speed. The chase had led us miles from the starting-point, and now appeared to be bearing up a creek, on one side of which arose a precipitous hill, some two miles in length, which I knew the wounded animal would never ascend.

"Half a mile further on, another hill reared its bleak and barren head on the opposite side of the rivulet. Once fairly in the gorge, there was no exit save at the upper end of the ravine. Here, then, I must intercept my game, which I was able to do by taking a nearer cut over the ridge, that saved at least a mile.

"Giving one parting shout to cheer my dog, Cherokee bore me headlong to the pass. I had scarcely arrived, when, black with sweat, the stag came laboring up the gorge, seemingly totally reckless of our presence. Again I poured forth the 'leaden messenger of death,' as meteor-like he flashed by us. One bound, and the noble animal lay prostrate within fifty feet of where I stood. Leaping from my horse, and placing one knee upon his shoulder, and a hand upon his antlers, I drew my hunting-knife; but scarcely had its keen point touched his neck, when, with a sudden bound, he threw me from his body, and my knife was hurled from my hand. In hunters' parlance, I had only 'creased him.' I at once saw my danger, but it was too late. With one bound he was upon me, wounding and almost disabling me with his sharp feet and horns. I seized him by his wide-spread antlers, and sought to regain possession of my knife, but in vain; each new struggle drew us further from it. Cherokee, frightened at the unusual scene, had madly fled to the top of the ridge, where he stood looking down upon the combat, trembling and quivering in every limb.

"The ridge road I had taken placed us far in advance of the hound, whose bay I could not now hear. The struggles of the furious animal had become dreadful, and every moment I could feel his sharp hoofs cutting deep into my flesh; my grasp upon his antlers was growing less and less firm, and yet I relinquished not my hold. The struggle had brought us near a deep ditch, washed by the fall rains, and into this I endeavored to force my adversary, but my strength was unequal to the effort; when we approached to the very brink, he leaped over the drain. I relinquished my hold and rolled in, hoping thus to escape him; but he returned to the attack, and, throwing himself upon me, inflicted numerous severe cuts upon my face and breast before I could again seize him. Locking my arms around his antlers, I drew his head close to my breast, and was thus, by great effort, enabled to prevent his doing me any serious injury. But I felt that this could not last long; every muscle and fiber of my frame was called into action, and human nature could not long bear up under such exertion. Faltering a silent prayer to Heaven, I prepared to meet my fate.

"At this moment of despair I heard the faint bayings of the hound; the stag, too, heard the sound, and, springing from the ditch, drew me with him. His efforts were now redoubled, and I could scarcely cling to him. Yet that blessed sound came nearer and nearer! Oh how wildly beat my heart as I saw the hound emerge from the ravine, and spring forward with a short, quick bark, as his eye rested on his game! I released my hold of the stag, who turned upon the new enemy. Exhausted, and unable to rise, I still cheered the dog that, dastard like, fled before the infuriated animal, who, seemingly despising such an enemy, again threw himself upon me. Again did I succeed in throwing my arms around his antlers, but not until he had inflicted several deep and dangerous wounds upon my head and face, cutting to the very bone.

"Blinded by the flowing blood, exhausted and despairing, I cursed the coward dog, who stood near, baying furiously, yet refusing to seize his game. Oh! how I prayed for Bravo! The thoughts of death were bitter. To die thus in the wild forest, alone, with none to help! Thoughts of home and friends coursed like lightning through my brain. At that moment, when Hope herself had fled, deep and clear over the neighboring hill came the baying of my gallant Bravo! I should have

known his voice among a thousand. I pealed forth, in one faint shout, 'On, Bravo, on!' The next moment, with tiger-like bounds, the noble dog came leaping down the declivity, scattering the dried autumnal leaves like a whirl-wind in his path. 'No pause he knew,' but, fixing his fangs in the stag's throat, he at once commenced the struggle.

"I fell back, completely exhausted. Blinded with blood, I only knew that a terrific struggle was going on. In a few moments all was still, and I felt the warm breath of my faithful dog as he licked my wounds. Clearing my eyes from gore, I saw my late adversary dead at my feet, and Bravo, 'my own Bravo,' as the heroine of a modern novel would say, standing over me. He yet bore around his neck a fragment of the rope with which I had tied him. He had gnawed it in two, and, following his master through all his windings, arrived in time to rescue him from a horrible death.

"I have recovered from my wounds. Bravo is lying at my feet. Who does not love Bravo? I am sure I do, and the rascal knows it—don't you, Bravo? Come here, sir!"

CHAPTER VI.

Camp Life.—Winter Evenings.—An Evening in Camp.—Characters.—Card-playing.—A Song.—Collision with wild Beasts.—The unknown Animal in a Dilemma.—"Indian Devil."—The Aborigines' Terror.—A shocking Encounter.—The Discovery and Pursuit.—The Bear as an Antagonist.—Their thieving Propensities.—A thrilling Scene in the Night.—A desperate Encounter with three Bears.

The winter evenings of camp life are too much abridged in length to allow a long season either for repose or amusement, in consequence of the lateness of the hour in which the men leave work, and the various matters which regularly claim attention. By the time supper is over and the nightly camp-fire built, sleep early invites the laborer to the enjoyment of its soothing influences. And oh! how sweet is that repose! The incumbents of downy beds, nestled within the folds of gorgeous drapery, might earnestly but vainly court it.

Could you take a peep into our snug camp some evening, you might see one of our number, seated perhaps on a stool in the corner, with a huge jack-knife in his hand, up to his knees in whittlings, while he is endeavoring to give shape and proportions to the stick he is cutting to supply the place of a broken ax-handle. The teamster might be seen driving a heated "staple," with jingling ring, into a new yoke, which is to supply the place of one "Old Turk" split while attempting, with his mate and associates, to remove an immense pine log from its bed during the day; and as he strikes the heated iron into the perforated timber, the curling smoke, in two little spiral columns, rises gradually and gracefully, spreading as they ascend, until his head is enveloped in a dense cloud.

There sits another fellow staring into vacuity, while between his lips, profusely covered with a heavy beard, the growth of a quarter of a year, sticks a stub-stemmed pipe. Opening and shutting those ample lips, volumes of smoke roll out, like discharges from the side of a moss-grown battery, the very *beau ideal* of all that is exquisite in "tobaccoing." Bestride the deacon seat, a little removed, sits the cook, with a large pan between his knees, with shirt-sleeves furled, and in the dough to his elbows, kneading a batch of bread to bake for breakfast. The sweat rolls from his half-covered forehead, and, unable to relieve his hands, he applies now one elbow, then the other, to dry up the mizzle from his moistened brow. Yonder, at the further end of the camp, in close proximity to the fire, sits a lean, lank little man, with thin lips, ample forehead, and eyes no larger than a rifle bullet, piercing as the sun, poring over the dingy pages of an old weekly, perhaps for the tenth time. Songs, cards, or stories possess but little attraction for him. Intellectually inclined, but miserably provided for, still the old newspaper is a more congenial companion for him.

Behind the deacon seat, lounging upon the boughy bed, you may see half a dozen sturdy fellows—the bone and sinew of the crew—telling "yarns," or giving expression to the buoyancy of their feelings in a song, while the whole interior of the camp is lighted with a blazing hard-wood fire, which casts upward its rays through the capacious smoke-hole, gilding the overhanging branches of the neighboring trees. All within indicates health, content, and cheerfulness.

Card-playing is often resorted to as an evening pastime. If not provided with candles or lamps, the lovers of this recreation are careful to select a store of pitchy knots, whose brilliant combustion relieves them from all the inconvenience of darkness. This is, however, a bewitching amusement, and often proves detrimental to the peace and rest of the whole crew, and injurious also to the interests of employers.

The last winter I spent in the logging swamp, there were several packs of cards brought into the

encampment by men in my division. I had resolved not to allow card-playing in my camp; but how to accomplish my purpose without inviting other unpleasant results was something to be thought of, as that man makes to himself an uncomfortable birth who incurs the ill will of his comrades in any way, especially in the exercise of authority not strictly related to the business for which they are employed, and by an infringement upon what they esteem their private and personal rights. Pointing out a pack of cards, while in camp one afternoon, to the owner of the same, at a moment when he was in a decidedly favorable mood for my purpose, "Come, Hobbs," said I, "burn them!" at the same time accompanying the request with the best reason I could offer to induce compliance. Taking them down, and thoughtfully shuffling them over for a minute, "Well," said he, "they are foolish things, aint they?" Of course I acquiesced. "Here goes!" said he, taking the poker and stirring open the hot bed of live coals, and in they went. The work of extirpation being commenced, he rifled the knapsacks of others belonging to the crew of their packs of cards, and threw them into the fire also, pronouncing deliberately, "High, low, Jack, and the game!" I really expected a fuss when the matter should come to the knowledge of the others. They submitted, however, to their bereavement like philosophers. It passed off without any muss being kicked up, though the agent was a little menaced for the liberties he had taken in the matter; but he enjoyed the sympathies of the instigator.

Loggers, unlike most classes of men, are under the necessity of manufacturing their own songs. [11] The mariner, the patriot, the soldier, and the lover have engaged the attention of gifted bards in giving rhyme and measure to their feelings; yet they are not without poetical sentiment. The following is inserted as a specimen of log swamp literature, composed by one of the loggers:

THE LOGGER'S BOAST.

"Come, all ye sons of freedom throughout the State of Maine,
Come, all ye gallant lumbermen, and listen to my strain;
On the banks of the Penobscot, where the rapid waters flow,
O! we'll range the wild woods over, and a lumbering will go;
 And a lumbering we'll go, so a lumbering will go,
 O! we'll range the wild woods over while a lumbering we go.

When the white frost gilds the valleys, the cold congeals the flood;
When many men have naught to do to earn their families bread;
When the swollen streams are frozen, and the hills are clad with snow,
O! we'll range the wild woods over, and a lumbering we will go;
 And a lumbering we'll go, so a lumbering, &c.

When you pass through the dense city, and pity all you meet,
To hear their teeth chattering as they hurry down the street;
In the red frost-proof flannel we're incased from top to toe,
While we range the wild woods over, and a lumbering we go;
 And a lumbering we'll go, so a lumbering, &c.

You may boast of your gay parties, your pleasures, and your plays,
And pity us poor lumbermen while dashing in your sleighs;
We want no better pastime than to chase the buck and doe;
O! we'll range the wild woods over, and a lumbering we will go;
 And a lumbering we'll go, so a lumbering, &c.

The music of our burnished ax shall make the woods resound,
And many a lofty ancient Pine will tumble to the ground;
At night, ho! round our good camp-fire we will sing while rude winds blow:
O! we'll range the wild woods over while a lumbering we go;
 And a lumbering we'll go, so a lumbering, &c.

When winter's snows are melted, and the ice-bound streams are free,
We'll run our logs to market, then haste our friends to see;
How kindly true hearts welcome us, our wives and children too,
We will spend with these the summer, and once more a lumbering go;
 And a lumbering we'll go, so a lumbering we will go,
 We will spend with these the summer, and once more a lumbering go.

And when upon the long-hid soil the white Pines disappear,
We will cut the other forest trees, and sow whereon we clear;
Our grain shall wave o'er valleys rich, our herds bedot the hills,
When our feet no more are hurried on to tend the driving mills;
 Then no more a lumbering go, so no more a lumbering go,
 When our feet no more are hurried on to tend the driving mills.

'When our youthful days are ended,' we will cease from winter toils,
And each one through the summer warm will till the virgin soil;

'We've enough to eat,' to drink, to wear, content through life to go,
Then we'll tell our wild adventures o'er, and no more a lumbering go;
And no more a lumbering go, so no more a lumbering go,
O! we'll tell our wild adventures o'er, and no more a lumbering go."

Our winter quarters and employments not unfrequently bring us into collision with wild animals of a formidable character. Of these the "Indian devil," or a species of the catamount, is chief. We often track animals of whom we have never gained sight.

Passing along one day in pursuit of timber, my attention was arrested by a track of uncommon size and appearance. It was round, and about the size of a hat crown, and penetrated the snow where it would bear me. I noticed where the creature stepped over a large fallen tree about two feet and a half high. A light snow several inches deep covered the log, which he did not even brush with his belly as he passed over it. From the nature of the track, I knew he did not jump. His legs could not have been less than three feet in length. After this discovery, I made my way to where the rest of the crew were at work with right good will. A similar track, of probably this same animal, has been seen by many different persons and parties, at places quite remote from each other, for several winters; but no one, that I am aware of, is satisfied that he has yet been seen, unless, indeed, by two or three lads while on the shore of the Grand Lake, who were fishing out of holes cut in the ice near the shore. About half a mile from them a long point made out into the lake, running parallel with the shore, which formed the boundary of a deep cove. The ice had become quite weak; still, it bore them with safety. While busily engaged with their fishing-tackle, their attention was suddenly arrested by a loud, splashing noise, as though some one was struggling in the water; and, on looking for the cause, they saw a large animal endeavoring to make the main land, crossing directly from the point toward them. He continued to break in every few rods, when he would spring out again with the agility of a cat. After getting out, he would stand and look round, then venture forward, and break through as before. The description they gave of his appearance was that he looked just like an immense cat; appeared to be about four feet high, and five or six feet long, thick-set about the head and shoulders, resembling somewhat in this particular the bull-dog. His general color was quite like that of a mouse, or, to use the boys' own words, "bluish," with light breast and belly. His tail was very long, reaching down quite to the ice, and curled up at the end; this he moved about just as a cat moves its tail. Waiting but a moment to gain this general view, they made for home with all possible dispatch, about one mile distant. Several men, with guns and axes, immediately started for the lake, but nothing further was seen of him. The manner in which the ice was broken fully confirmed the statement made by the boys respecting the size of this unknown creature.

There is an animal in the deep recesses of our forests, evidently belonging to the feline race, which, on account of its ferocity, is significantly called "*Indian Devil*"—in the Indian language, "the Lunk Soos;" a terror to the Indians, and the only animal in New England of which they stand in dread. You may speak of the moose, the bear, and the wolf even, and the red man is ready for the chase and the encounter. But name the object of his dread, and he will significantly shake his head, while he exclaims, "*He all one debil!*"

An individual by the name of Smith met with the following adventure in an encounter with one of these animals on the Arromucto, while on his way to join a crew engaged in timber-making in the woods.

He had nearly reached the place of encampment, when he came suddenly upon one of these ferocious animals. There was no chance for retreat, neither had he time for reflection on the best method of defense or escape. As he had no arms or other weapons of defense, the first impulse, in this truly fearful position, unfortunately, perhaps, was to spring into a small tree near by; but he had scarcely ascended his length when the desperate creature, probably rendered still more fierce by the promptings of hunger, sprang upon and seized him by the heel. Smith, however, after having his foot badly bitten, disengaged it from the shoe, which was firmly clinched in the creature's teeth, and let him drop. The moment he was disengaged, Smith sprang for a more secure position, and the animal at the same time leaped to another large tree, about ten feet distant, up which he ascended to an elevation equal to that of his victim, from which he threw himself upon him, firmly fixing his teeth in the calf of his leg. Hanging suspended thus until the flesh, insufficient to sustain the weight, gave way, he dropped again to the ground, carrying a portion of flesh in his mouth. Having greedily devoured this morsel, he bounded again up the opposite tree, and from thence upon Smith, in this manner renewing his attacks, and tearing away the flesh in mouthfuls from his legs. During this agonizing operation, Smith contrived to cut a limb from the tree, to which he managed to bind his jack-knife, with which he could now assail his enemy at every leap. He succeeded thus in wounding him so badly that at length his attacks were discontinued, and he finally disappeared in the dense forest.

During the encounter, Smith had exerted his voice to the utmost to alarm the crew, who, he hoped, might be within hail. He was heard, and in a short time several of the crew reached the place, but not in time to save him from the dreadful encounter. The sight was truly appalling. His garments were not only rent from him, but the flesh literally torn from his legs, exposing even the bone and sinews. It was with the greatest difficulty he made the descent of the tree. Exhausted

through loss of blood, and overcome by fright and exertion, he sunk upon the ground and immediately fainted; but the application of snow restored him to consciousness. Preparing a litter from poles and boughs, they conveyed him to the camp, washed and dressed his wounds as well as circumstances would allow, and, as soon as possible, removed him to the settlement, where medical aid was secured. After a protracted period of confinement, he gradually recovered from his wounds, though still carrying terrible scars, and sustaining irreparable injury. Such desperate encounters are, however, of rare occurrence, though collisions less sanguinary are not unfrequent.

On one occasion, we tracked one of those animals where we had the day before been at work. From appearances, he seemed to have something unusual attached to one of his fore feet, which we judged to be a common steel trap. Returning to the camp for the gun and a lunch, two men started in pursuit. They followed him three days before overtaking him. In one place on the route they measured a bound of fifteen feet, which he made to take a rabbit, which he caught and devoured, leaving only small portions of the hide and fur of his victim. From the course traveled, it was evident that he was aware of his pursuers, whom he unquestionably desired to avoid. On the third day they came in sight of him for the first time. No longer retreating before his pursuers, he now turned upon them. Aware that they could have but one shot, it being impossible to reload before he would be upon them, they suffered him to approach very near, to make their aim more certain. The forest echoed with the report of the discharge; the shot took effect, and a furious scuffle followed. The snow flew, while the enraged and furious growl and gnashing teeth mingled with the clattering trap, and the echo of the powerful blows inflicted upon his head with the shivered breach of the gun, under which he yielded his life to his superior pursuers.

But there is no animal among us with whom encounters are so frequent as the common black bear. Their superior strength, the skill with which they ward off blows, and even wrench an instrument from the hand of an assailant, and their tenacity of life, render them really a formidable antagonist. We have sometimes been diverted, as well as severely annoyed, by their thievish tricks. In one instance we were followed several days by one of them on our passage up river, who seemed equally bent on mischief and plunder. The first of our acquaintance with him occurred while encamped at the mouth of a small stream, whose channel we were improving by the removal of large rocks which obstructed log-driving. Our camp was merely temporary, so that all our goods were exposed. While we were asleep during the night, he came upon our premises, and selected from the baggage a bundle containing all the winter clothing of one of the men—boots, shaving tools, &c.

His curiosity was too great to allow of a far removal of the pack without an examination of its contents; and never did deputy inspector or constable perform a more thorough search. Duties on the package were inadmissible; the goods were esteemed contraband, and were accordingly confiscated. The wearing apparel was torn into shreds. There was a pair of stout cow-hide boots, of which he tried the flavor; they were chewed up and spoiled. The razor did not escape his inquisitiveness. Whether he attempted to shave we say not, but he tested its palatableness by chewing up the handle.

From this position we removed a few miles further up stream, where we were to construct a dam, the object of which was to flow the lake, to obtain a good head of water for spring driving. This job being somewhat lengthy, we erected a more permanent camp for our convenience. A few evenings after our settlement at this point, while all hands were in camp, we heard some one moving about on the roof, where a ten-gallon keg of molasses was deposited. At first it was supposed to be a trick by some one of the crew; but, on looking round, there was no one missing.

Suspecting with more certainty the character of our visitor, we seized a fire-brand or two, and sallied forth like a disturbed garrison of ants, when we discovered that we were minus a keg of molasses. Following in the direction of the retreating thief, we found the keg but a few rods distant, setting on one end, with the other torn out. He evidently had intended a feast, but, intimidated by the fire-brands and the hallooing, he had retreated precipitately into his native haunts; but only, as it would seem, to plan another theft. About two hours afterward, when all was still, a noise was again heard in the door-yard, similar to that of a hog rooting among the chips, where the cook had thrown his potato parings. Peering through the crack of the camp door, sure enough, there was Bruin again, apparently as much at home as a house-dog.

We had a gun, but improvidently had left our ammunition at another place of deposit, about a hundred rods distant. Resolved upon chastising him for his insolence in the event of another visit, the lantern was lighted, and the ammunition soon brought to camp.

The gun was now charged with powder and two bullets. We waited some time for his return, first removing a strip from the camp door for a port-hole. Hearing nothing of him, all hands turned in again. About twelve o'clock at night he made us his third visit in the door-yard, as before, and directly in front of the camp, offering a most inviting shot. Creeping softly to the door, and passing the muzzle of the gun through the prepared aperture, our eye glanced along the barrel, thence to a dark object not thirty feet distant. A gentle but nervous pressure upon the trigger, a flash, a sheet of fire, and the very woods shook with the reverberating report, which sent Bruin away upon a plunging gallop. The copious effusion of warm blood which spirted on the chips was

evidence that the leaden messenger had faithfully done its duty. A portion of his lights were shot away, and dropped to the ground, which convinced us that he was mortally wounded, and that it would not be possible for him to run far. Seizing as many fire-brands as could be procured, with axes, and the gun reloaded, all hands dashed into the forest after him, half-naked, just as they had risen from the bed, leaping, yelling, and swinging their fire-brands like so many wild spirits from the regions of fire.

Guided in the pursuit by the cracking of rotten limbs and the rustling of leaves as he heavily plunged on, we pursued him through a dense swamp. From the increased distinctness with which we heard his step, it was evident we were gaining upon him. Soon we heard his labored breathing. Just before we overtook him, he merged from the swamp, and with much exertion ascended a slight elevation, covered with a fine growth of canoe Birch, where, from exhaustion and loss of blood, he lay down, and suffered us to surround him. The inflammable bark of the Birch was instantly ignited all round us, presenting a brilliant and wild illumination, which lent its influence to a most unbounded enthusiasm, while our war-dance was performed around the captured and slain marauder. Taken altogether, the scene presented one of the most lively collections of material for the pencil that we have ever contemplated. There were uncommon brilliancy, life, and animation in the group. After dispatching, we strung him up and dressed him on the spot, taking only one quarter of his carcass, with the hide, back to camp.

A portion of this was served up next morning for breakfast; but while the sinewy, human-like appearance of the fore leg might have whetted the appetite of a cannibal, a contrary influence was exerted on ours.

More sanguinary was the following encounter, which took place in the vicinity of Tara-height, on the Madawaska River: "A trap had been set by one of the men, named Jacob Harrison, who, being out in search of a yoke of oxen on the evening in question, saw a young bear fast in the trap, and three others close at hand in a very angry mood, a fact which rendered it necessary for him to make tracks immediately. On arriving at the farm, he gave the alarm, and, seizing an old dragoon saber, he was followed to the scene of action by Mr. James Burke, armed with a gun, and the other man with an ax.

"They proceeded direct to the trap, supplied with a rope, intending to take the young bear alive. It being a short time after dark, objects could not be distinctly seen; but, on approaching close to the scene of action, a crashing among the leaves and dry branches, with sundry other indications, warned them of the proximity of the old animals. When within a few steps of the spot, a dark mass was seen on the ground—a growl was heard—and the confined beast made a furious leap on Jacob, who was in advance, catching him by the legs. The infuriated animal inflicted a severe wound on his knee, upon which he drew his sword, and defended himself with great coolness.

"Upon receiving several wounds from the saber, the cub commenced to growl and cry in a frightful and peculiar manner, when the old she-bear, attracted to the spot, rushed on the adventurous Harrison, and attacked him from behind with great ferocity. Jacob turned upon the new foe, and wielded his trusty weapon with such energy and success, that in a short time he deprived her of one of her fore paws by a lucky stroke, and completely disabled her eventually by a desperate cut across the neck, which divided the tendons and severed the spinal vertebræ. Having completed his conquest (in achieving which he found the sword a better weapon than the ax, the animal being unable to knock it from his hand, every attempt to do so being followed by a wound), he had ample time to dispatch the imprisoned cub at leisure.

"During the time this stirring and dangerous scene we have related was enacting, war was going on in equally bloody and vigorous style at a short distance. Mr. Burke, having discharged his gun at the other old bear, only slightly wounded him; the enraged Bruin sprang at him with a furious howl. He was met with a blow from the butt-end of the fowling-piece. At the first stroke the stock flew in pieces, and the next the heavy barrel was hurled a distance of twenty feet among the underwood by a side blow from the dexterous paw of the bear. Mr. Burke then retreated a few feet and placed his back against a large Hemlock, followed the while closely by the bear, but, being acquainted with the nature of the animal and his mode of attack, he drew a large hunting-knife from his belt, and, placing his arms by his side, coolly awaited the onset.

"The maddened brute approached, growling and gnashing his teeth, and with a savage spring encircled the body of the hunter and the tree in his iron gripe. The next moment the flashing blade of the *couteau chasse* tore his abdomen, and his smoking entrails rolled upon the ground. At this exciting crisis of the struggle, the other man, accompanied by the dog, came up in time to witness the triumphal close of the conflict.

"Two old bears and a cub were the fruits of this dangerous adventure—all extremely fat—the largest of which, it is computed, would weigh upward of two hundred and fifty pounds. We have seldom heard of a more dangerous encounter with bears, and we are happy to say that Mr. Burke received no injury; and Mr. Jacob Harrison, although torn severely, and having three ribs broken, recovered under the care of an Indian doctor of the Algonquin tribe."

CHAPTER VII.

Provision Teams.—Liabilities.—A Night in the Woods.—Traveling on Ice.—A Span of Horses lost.—Pat's Adventure.—Drogers' Caravan.—Horses in the Water.—Recovery of a sunken Load.—Returning Volunteers from Aroostook.—Description of a Log Tavern.—Perils on Lakes in Snow-storms.—Camping at Night.—Rude Ferry-boats.

After the swamps, rivers, and lakes freeze, and the fallen snow has covered the ground, supplies for the rest of the winter and spring operations, consisting of hay, grain, flour, beef, pork, molasses, &c., are hauled on to the ground with horse-teams. In some instances the route extends two hundred and fifty miles from the head of ship navigation. As these routes, for the most part, lay through dense forests, over rough roads, along the frozen channels of rivers, across bleak and expansive lakes, far removed from the fireside and home of the hardy logger, there is something of the *hardships* of adventure, if not its romance, connected with the experience of these transporting teams during their winter trips.

Sometimes loaded sleds break down in their passage over the rough forest roads, or horses tire by extra exertion over untrodden snows, and night overtakes the lone teamster, many miles from the abode of any human being, amid frosts and snow, without fire and without comfortable sustenance. Detaching his horses, and covering them with their blankets, if he be loaded with hay, he allows them to feed from the load during the night, while, muffled in his coat, he burrows deep in the hay, alternately lulled and aroused by the tinkling of the horses' bells and by the howling of the hungry wolf. Sometimes the treacherous ice parts beneath his horses, and the swift current carries them under, hiding them in a moment and forever from his vision. I recollect the occurrence of the following thrilling event. It is customary to travel on ice as far as it makes on the rivers and streams, taking to the shore to pass the open and rapid sections, and then returning to the river and traveling as before. Returning homeward, after a trip into the woods with a load of provision, just at nightfall, might have been seen a span of fine horses, measuring off their ten miles an hour with the ease and fleetness of reindeers, upon the smooth surface of one of our eastern rivers far up in the interior. With vision circumscribed by the gathering darkness, and misjudging his position, the driver, quietly seated upon his sled, failed to see the danger in season to check the speed of his horses, when suddenly he plunged into one of those open places in the river where the water ran too rapidly to allow it to freeze. A few rods below the ice closed over again, beneath which the current swept with fearful rapidity. With the teamster still floating upon the half-sunken sled, the horses swam directly down with the current to the edge of the ice below. The moment they reached it, the noble creatures, as if confident of clearing the chilling element at a bound, simultaneously reared, and, striking their fore feet upon the ice, their hinder parts sank in the deep channel, and, falling backward, they were swept beneath the ice, together with the sled attached, and were drowned, while the teamster alone escaped by springing from the sled before it went under.

When a team breaks in where the water is stagnant, a deliberate and calculating teamster may succeed in extricating his horses, while a shiftless man will let them drown. A gentleman of my acquaintance harnessed a fine mare into a single sled, loaded with provisions, which he sent by an Irishman up into the woods to his logging-camps. While passing the river, the horse broke in, and, after struggling several hours, sank through exhaustion and chill, and was drowned.

In giving a brief account of the affair, Pat, evidently affected by the disaster, observed, "Ah! indade, sir, but she looked at me very wishfully, indade she did, sir!" "But why did you not help her, Patrick?" "Dade, sir, an' didn't I put on the whip pretty smartly, sure?"

It is quite common for drogers, as they are sometimes called, to form a northern caravan, by congregating together in their up-river tours to the number of twenty, and sometimes thirty teams. Some of these are composed of two horses, and others from four to six. Company, and mutual assistance in cases of necessity, are the motives which unite them, and the difficulties which they encounter often call into requisition this friendly interference.

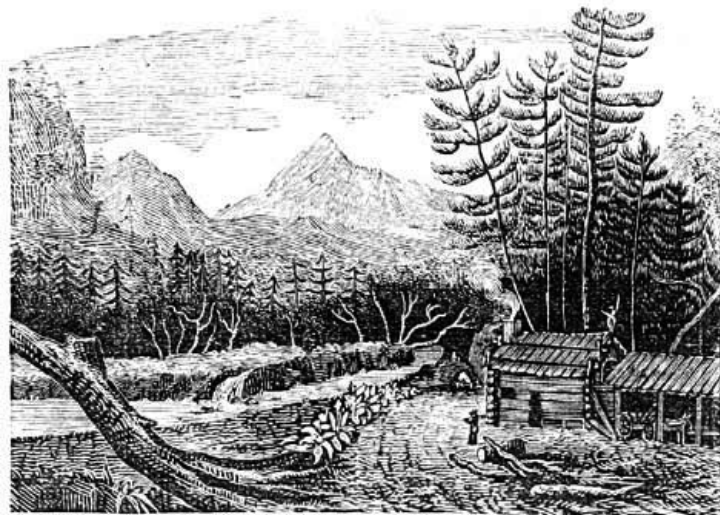
I was once passing up the Penobscot in company with twenty or thirty horse-teams, all loaded with supplies, immediately after a thaw, which had so far wasted the snow that we were obliged to leave the land road, and, at some risk, venture upon the ice, although in many places it was thin, and covered with water to the depth of two feet.

It was deemed prudent to form a line with the teams at such distances apart as would subject the ice to the pressure of one team only on a given point, the whole preceded by a man with ax in hand to test its capacity to bear the approaching load. In some instances, where the current was stagnant, the ice was sufficiently strong to bear us for a mile or two without much alteration in our course. In places where the swiftness of the current had prevented the formation of ice of suitable thickness, we were obliged to use much caution, passing from one side of the river to the other to avoid suspicious places, making but little progress in our serpentine path. In this way several miles had been traveled without accident, which induced our pilot to exercise less vigilance, when suddenly the line was broken by the disappearance of one team through the ice. The alarm passed along the line, with the order to "Hold up! a team in!" "Don't close up; we shall

all be in together!" But teamsters are afraid of ice over a running current; indeed, there is imminent danger to life under such circumstances. Some reined up; others, taking alarm, made for the shore; others put their horses into the run and passed by; while others, more cool and generous, came to the rescue of the drowning team. It proved to be a pair of our heaviest horses. The load consisted of thirteen barrels of pork, with other lighter articles, the whole team and load weighing over three tons. It was the work of but a few moments to extricate the horses, after disengaging them from their harness. The barrels rolled from the sled, and sank in fifteen feet of water. The most of the teamsters concurred in the opinion that the barrels were not recoverable; but, procuring a long pole, with a sharp pike in the end, I ran it down and stuck it firmly into one of the staves, and raised one barrel with perfect ease to the surface. A rope was thrown around it, by which it was rolled out upon the firm ice. Thus one after another was fished up, reloaded, and we were under way again in less than an hour.

About noon we stopped to feed the horses and take some dinner on the ice. Unloosing the straps which attached the horses to the pole, we proceeded to bait. While thus situated, a company of volunteers, returning from the bloodless boundary war on the Aroostook, passed us, who, to amuse themselves, wantonly discharged a volley of musketry, which created a tremendous panic among our horses, causing them to upset several loads, breaking harnesses, and doing other damage, which occasioned considerable delay, and much swearing among the exasperated teamsters. One of our little teamsters was so enraged that he challenged the whole company to fight him. I really believe he would have engaged any one, or any number of them, had they halted.

During the first three or four days' travel, particularly up the Penobscot, we find taverns at convenient distances for the accommodation of travelers, after which we leave, on some of the up-river routes, all settlements, for the distant and wild locations of the logging-camps. All along these solitary routes, at convenient distances, of late years, log shanties have been erected for the accommodation, principally, of supply-teams, where, during the winter, the temporary inn-holders do a driving business, abandoning the premises when the traveling season is over.



LOG TAVERN IN THE WILDERNESS

It may not be uninteresting to take a peep into one of these log taverns. We see here, then, rude walls thrown up of round logs, notched together at the ends—a building about as high as a common one-story house, covered with shingles laid upon ribs only. These are so closely put together that common short shingles may be laid on them quite as well as if the roof were boarded—a plan frequently adopted in new country settlements, where boards are not to be obtained. This building is divided by a partition into two apartments, in one of which, perhaps in the corner, a huge fire-place is constructed of rude stones, to the height of six or seven feet, where a large wooden mantle-bar is thrown across, from which point, with small split sticks, straw, and clay, it is topped out in the fashion of a chimney. This is the cook, eating, sitting, bar, and often the card-playing room, where teamsters, in crowded numbers, enjoy all the luxuries which their circumstances will admit, one of which is a most excellent appetite. The other room is strictly appropriated to sleeping purposes, with births rudely constructed, in tiers one above the other (with a space between the feet and fire), similar to the accommodations on board a vessel, so that in a space seven by thirty feet sixty men may be accommodated with lodging. Such a number of men, crowded into an area of so scanty dimensions, might be supposed to suffer inconvenience from confined and impure air; but the ready access which the twinkling starlight and sparkling hoar-frost find to the apartment through the numerous unstopped crevices warrants a more agreeable conclusion.

Thus sociably, quietly, and snugly ensconced within that rude shelter, enveloped and surrounded with interminable forests, the hours of darkness are passed, while without, the piercing cold

causes even the nestling trees to quake as the wings of the wild winter night labor with the furious snow-storm.

Sometimes a portion of the route lays across large lakes, where the bleak winds pierce, or the dense snow-storm thickens the atmosphere, and obliterates alike the path and the shore from sight. I have known teamsters, while crossing these icy regions, suddenly overtaken by snow-storms so dense as to circumscribe the compass of vision to thirty rods, and to be compelled to wander all day long upon those bleak fields before they were able to find the logging road which formed their egress from the lake.

Belated at other times, night overtakes them on the ice. In such cases, where it is not deemed prudent to proceed, they find access to the shore, where the thick evergreen forest trees afford some protection from the night winds. Here a fire is kindled, some coarse boughs plucked and thrown upon the snow, upon which a buffalo-skin is spread, and with a similar covering they repose, after snugly blanketing their horses. A biscuit of pilot-bread, with a "frizzled" slice of pork, constitute their repast—ten to one if it be not rinsed down with a draught of "fire-water" from the little canteen in the pea-jacket pocket. On some routes early fall trips are made with loads of camp supplies on wheels, over very rough roads, before the rivers and streams freeze. These are crossed upon a raft made of poles or logs capable of bearing a portion only of the load, which is carried over in parcels, according to the capacity or tonnage of the rude ferry-boat; sometimes swimming, and at others transporting the horses singly on the raft. In like manner we manage with our ox-teams, when we take an early start for the scene of our winter operations.

RIVER LIFE.

PART III.

CHAPTER I.

"Breaking Up."—Grotesque Parading down River.—Rum and Intemperance. —Religious Rites profaned.—River-driving on Temperance Principles. —The first Experiment.—A spiritual Song.

Having completed our winter's work in hauling logs, another period commences in the chain of operations, "breaking up," moving down river, and making preparations for "river-driving."

The time for breaking up is determined by various circumstances; sometimes an early spring, warm rains, and thawing days render the snow roads impassable for further log hauling. In other cases, when it is the intention to take the teams down river, where lakes and rivers are to be crossed on the route, it is necessary to start before the ice becomes too weak to bear up the oxen. Sometimes scarcity of timber renders an early removal necessary, while in those instances where it is concluded to turn the oxen out to shift for themselves, on browse and meadow grass, we haul as long as it can be done, esteeming every log hauled under such circumstances clear gain.

Breaking up is rather a joyful occasion than otherwise, though camp life, as a whole, is very agreeable. Change is something which so well accords with the demands of our nature, that in most cases, when it occurs, its effects are most exhilarating. Under such circumstances, after three or four months spent in the wild woods, away from home, friends, and society, the anticipation of a renewed participation in the relations of life, in town and country, creates much buoyancy of feeling. All is good nature; every thing seems strangely imbued with power to please, to raise a joke, or excite a laugh.

Whatever of value there may be about the premises not necessary for the driving operation, is loaded upon the long sled; the oxen being attached, the procession moves slowly from the scene of winter exploits, "homeward bound," leaving, however, a portion of the crew to make the necessary preparations for river-driving.

After several days' travel, the neighborhood of home is reached; but, before the arrival in town, some little preparations are made by the hands for a triumphant entrée. Accordingly, colors are displayed from tall poles fastened to the sled, and sometimes, also, to the yoke of the oxen, made

of handkerchiefs, with streaming pennants floating on the wind, or of strips of red flannel, the remains of a shirt of the same material, while the hats are decorated with liberal strips of ribbon of the same material, and waists sashed with red comforters; their beards being such as a Mohammedan might swear by. Thus attired, they parade the town with all the pomp of a modern caravan. The arrival of a company of these teams, ten or a dozen in number, sometimes amounting to forty or fifty oxen, and nearly as many men, creates no little interest in those thriving towns on the river which owe their existence, growth, and prosperity to the toils and hardships of these same hardy loggers. Each team is an object of special interest and criticism; and, according to the "condition" of flesh they are found in, so is the praise or discredit of the teamster in command, always making the amount of labor performed and the quality of the keeping furnished an accompanying criterion of judgment. This voluntary review, to the knight of the goad, is fraught with interest, as by the decisions of this review he either maintains, advances, or recedes from his former standing in the profession, and thus it affects not only his pride, but also his purse, as a teamster of repute commands the highest rate of wages.

Some twenty years since, these arrivals, and also those of the river-drivers, were characterized by a free indulgence in spirituous liquors, and many drunken carousals. Grog-shops were numerous, and the dominion of King Alcohol undisputed by the masses. Liquor flowed as freely as the waters which bore their logs to the mills. Hogsheads of rum were drunk or wasted in the course of a few hours on some occasions, and excessive indulgence was the almost daily practice of the majority, even from the time of their arrival in the spring until the commencement of another winter's campaign. I speak now more particularly of employees, though I calculate, as a Southerner would say, that many of the employers in those days had experience enough to tell good West India from New England rum.

"In 1832, in a population not exceeding four hundred and fifty or five hundred, on the St. Croix, three thousand five hundred gallons of ardent spirits were consumed." A distinguished lumberman, whose opinion is above quoted, remarks further, "So strong was the conviction that men could not work in the water without 'spirits,' that I had great difficulty in employing the first crew of men to drive on the river on temperance principles. When I made known my purpose to employ such a gang of men, the answer almost invariably was, 'You may *try*, but, depend upon it, the drive will never come down.' But old men, who had been spurred on to exertion for thirty years by ardent spirits, were forced to acknowledge, when they came down river, that they had never succeeded so well before; and learned, at that late period, that the cause of their stiff joints and premature old age was not wholly on account of exposure to the cold and work in the water, but the result of strong drink."

It would be difficult to give an exaggerated sketch of the drunken practices among loggers twenty-five years ago. I recollect that matters were carried so far at Milltown, that the loggers would arrest passers-by, take them by force, bring them into the toll-house grog-shop, and baptize them by pouring a quart of rum over their heads.

Distinctions of grade were lost sight of, and the office of deacon or priest constituted no exemption "pass" against the ordeal, rather the rite profaned. This process of ablution was practiced with such zeal upon their own craft and transient passers-by, that a hogshead of rum was drawn in a short time, running in brooks over the floor. The affair was conducted amid the most boisterous and immoderate merriment—the more distinguished the candidate, the more hearty the fun.

But a change has come over, not the spirit of their dreams, but their practices and estimate of such excesses. I doubt whether any portion of society, or class of men whose intemperate habits were so excessive, and whose excuses, at least for a moderate use of liquor, were so reasonable, can be found where the principles of total abstinence have wrought so thorough and complete a change. Not that the evil is wholly eradicated, for many still continue its use. But it has now been fully demonstrated that men can endure the chilling hardships of river-driving quite as well, and, indeed, far better, without the stimulus of ardent spirits, and perform more and better-directed labor.

At the time alluded to, however, more prominence was given to rum as a necessary part of the supplies than to almost any other article. "The first and most important article," says Mr. Todd, of St. Stephen's, N. B., "in all our movements, from the stump in the swamp to the ship's hold, was *Rum!* RUM!" To show how truly this one idea ran through the minds of the loggers, I present the following original rum song, illustrating the "spirit of the times," and of the log swamp muse.

"'Tis when we do go into the woods,
 Drink round, brave boys! drink round, brave boys!
'Tis when we do go into the woods,
 Jolly brave boys are we;
'Tis when we do go into the woods,
We look for timber, and that which is good,
 Heigh Ho! drink round, brave boys,
 And jolly brave boys are we.

Now when the choppers begin to chop,
 Drink round, &c.,
When the choppers begin to chop,
 Jolly brave boys, &c.;
And when the choppers begin to chop,
They take the sound and leave the rot,
 Heigh ho! drink round, &c.,
 And jolly brave boys, &c.

And when the swampers begin to clear,
 Drink round, &c.,
And when the swampers begin to clear,
 Jolly brave boys, &c.;
And when the swampers begin to clear,
They show the teamster where to steer,
 Heigh ho! drink round, &c.,
 And jolly brave boys, &c.

And when we get them on to the sled,
 Drink round, &c.,
And when we get them on to the sled,
 Jolly brave boys, &c.;
And when we get them on to the sled,
'Haw! back, Bright!' it goes ahead,
 Heigh ho! drink round, &c.,
 And jolly brave boys, &c.

Then, when we get them on to the stream,
 Drink round, &c.,
Then, when we get them on to the stream,
 Jolly brave boys, &c.;
So, when we get them on to the stream,
We'll knock out the fid and roll them in,
 Heigh ho! drink round, &c.,
 Jolly brave boys, &c.

And when we get them down to the boom,
 Drink round, &c.,
And when we get them down to the boom,
 Jolly brave boys, &c.;
And when we get them down to the boom,
We'll call at the tavern for brandy and rum,
 Heigh ho! drink round, &c.,
 Jolly brave boys, &c.

So when we get them down to the mill,
 'Tis drink round, &c.,
So when we get them down to the mill,
 Jolly brave boys, &c.;
And when we get them down to the mill,
We'll call for the liquor and drink our fill,
 Heigh ho! drink, &c.,
 Jolly brave boys, &c.

The *merchant* he takes us by the hand,
 Drink round, brave boys! drink round, brave boys!
The merchant he takes us by the hand,
 And '*jolly brave boys are we*;
The merchant he takes us by the hand,
Saying, 'Sirs, I have *goods* at your command;
 But heigh ho! drink round, brave boys,
 The *money* will foot up a 'spree.'"

CHAPTER II.

RIVER-DRIVING.

Breaking a Dry-landing.—A sudden Death.— Thrilling Scenes on the "Nesourdnehunk."— Lake-driving.—Steam Tow-boat.—Remarks on Lake Navigation.—Driving the main River.— Union of Crews.—Substantial Jokes.—Log Marks.—Dangers of River-driving.—Sad Feelings over the Grave of a River-driver.— Singular Substitute for a Coffin.—Burial of a River-driver.—A Log Jam.—Great Excitement.—A Boat swamped.—A Man drowned.— Narrow Escape.— Mode of Living on the River.—Wangun.—Antidote for Asthma.—The Wangun swamped.—An awful Struggle.—The miraculous Escape.—Driving among the Islands.—Amusing Exertions at identifying. —Consummation of Driving.—The Claims of lumbering Business for greater Prominence.—The Boom.

The business of *river-driving* is not so agreeable as other departments of labor in the lumbering operations, though equally important, and also, in many respects, intensely interesting. The hands left at the camps at the time the team breaks up, to make the necessary instruments for *river-driving*, are soon joined with the addition of such forces as are requisite for an expeditious drive. As in most labor performed there is a directing and responsible head, so is it in river-driving; here, too, we have our "boss."

As early as April, and sometimes the last of March, the high ascending sun begins to melt the snow on the south of mountain and hill sides, flowing intervals and lowlands, forming considerable rivers, where at other seasons of the year the insignificant little brook wound its stealthy course among the alders, hardly of a capacity to float the staff of a traveler; but, at the period referred to, by a little previous labor in cutting away the bushes and removing some of the stones in its channel, it is made capable of floating large logs, with the occasional assistance of a dam to flow shoal places.

In brook-driving it is necessary to begin early, in order to get the logs into the more ample current of the main river while the freshet is yet up. In some cases, therefore, as a necessary step, the ice in the channel of the brook is cut out, opening a passage of sufficient width to allow three or four logs to float side by side. In forming a landing on the margin of such streams, the trees and bushes are cut and cleared out of the way for several rods back, and a considerable distance up and down, according to the number of logs to be hauled into it. To facilitate the sawing of the logs into suitable lengths for driving, as well as more especially to form bed-pieces upon which to roll them into the brook in the spring, a great many skids are cut and laid parallel with each other, running at right angles to the margin of the stream. On these landings, in the spring, the water is from one to two feet deep, the cause of which is sometimes accounted for from the fact that in the autumn the water is quite low, and the ice, in forming, is attached to the grass and bushes, which prevent it from rising; the result is, that the whole is overflowed in the spring. Into the channel thus cut the logs are rolled, as fast as it can be cleared, by shoving those already in down stream, until the brook, for a mile or more, is filled with new and beautiful logs.

No part of the driving business is so trying to the constitution, perhaps, as clearing such a landing. It often occupies a week, during which all hands are in the water, in depth from the ankle to the hips, exerting themselves to the utmost, lifting with heavy pries, hand-spikes, and cant-dogs, to roll these massive sticks into the brook channel. The water at this season is extremely chilly, so much so that a few moments' exposure deprives the feet and legs of nearly all feeling, and the individual of power to move them, so that it often becomes necessary to assist each other to climb upon a log, where a process of thumping, rubbing, and stamping restores the circulation and natural power of motion. This effected, they jump in and at it again.

When the water is too shallow on any part of a stream to float the logs, dams are constructed to flow the water back, with gates which can be opened and shut at pleasure, and either through the apertures of the gates or sluice-ways made for the purpose, the logs are run. This dam answers the same purpose in raising the water to float the logs below as above, on the brook. Shutting the gates, a large pond of water is soon accumulated; then hoisting them, out leaps the hissing element, foaming and dashing onward like a tiger leaping upon his prey. Away the logs scamper, reminding one of a flock of frightened sheep fleeing before the wolf. Some logs are so cumbersome that they remain unmoved, even with this artificial accumulation of water. In such cases, embracing the moment when the water is at its highest pitch, in we leap, and, thrusting our hand-spikes beneath them, bow our shoulders to the instrument, often stooping so low as to kiss the curling ripples as they dance by. In this way, sometimes by a few inches at a time, and sometimes by the rod, we urge them over difficult places; while, in connection with the annoyance of very cold water, broken fragments of ice mingle in the *melée*, imposing sundry thumps and bruises upon the benumbed limbs of the enduring river-driver.

In some places, on low, swampy land, a body of water accumulates several rods wide, and from three to ten feet deep. Here the logs, as if to play "hide and seek," run in among the bushes, giving infinitely more trouble than amusement. Under such circumstances, it becomes necessary for the men to keep on the logs most of the time; and as logs roll very easily in the water, and are often extremely slippery, it requires the balancing skill of a wire-dancer to keep on them; and often some luckless wight, whether he will or no, plunges over head and ears into the flood as he is whirled from the back of some ticklish log; and, however unwelcome to himself, no sooner is

his head above water than he hears the wild woods echo the jeering laugh of his more fortunate comrades.

In other places, where banks are too abrupt to allow the team to pass on to the river, the logs are unloaded and rolled down in one general mass; the first few fall upon the ice, others rolling against them; the main body fall back and accumulate in great numbers. To break or clear such a landing is often very dangerous. While at work prying on the foremost, large masses start suddenly, and often the only way of escape is to spring in advance of the rushing pile and plunge the river. "I saw one poor fellow," said a logger, "hurled into eternity very suddenly while at work on one of those jams. Co-operating with others in an attempt to roll a stick from the pile, the main lever gave way, and the stick slipped back. This person used a single hand-spike, holding up the upper end and sallying back. When the log rolled back it caused the hand-spike to spring forward, and, before he had time to relinquish his grasp, it flung him headlong forward, like an arrow from the hunter's bow, down the embankment into the water; when recovered, he was dead. It was supposed that some internal injury was inflicted by the sudden ejection, which caused him to suffocate more readily in the water. Rarely could the man be found his equal in physical energy; but strength opposes no barrier to death."

Logs are now driven down streams whose navigation for such purposes was formerly regarded as impracticable—some from their diminutive size, and others from their wild, craggy channel. There is a stream of the latter description, called "*Nesourdnehunk*," which disembogues into the Penobscot on the southwest side of Mount Ktaadn, whose foaming waters leap from crag to crag, or roll in one plunging sheet down perpendicular ledges between two mountains. On one section of this stream, said to be about half a mile in length, there is a fall of three hundred feet. In some places it falls twenty-five feet perpendicularly. Down this wild pass logs are run, rolling, dashing, and plunging, end over end, making the astonished forest echo with their rebounding concussion.

It would be a match for "Dame Nature" to locate a handsome Pine-tree beyond the grasp of the logmen. Where the Eastern hunter pursues the mountain goat, the logger would pursue the stately Pine. We have seen them in the deep ravine, on the abrupt hill-top, and far up the rugged mountain side, or peering down from some lofty cliff upon the insignificant animal at its base who is contemplating its sacrifice; a few minutes, and the crash of its giddy plunge is heard, "and swells along the echoing crag," causing the earth to tremble under the stroke of its massive trunk; and if it does not break in pieces, as is sometimes the case, in falling, it will in time find its way to the slip of the saw-mill. The resolution, daring, skill, and physical force of the men engaged in this business can find no rival, to say the least, in any body or class of men whatever.

In many cases logs are hauled on to the ice of the lakes, streams, and rivers, instead of being left upon the banks or landing-places. When hauled on to the lakes, they are laid together as compactly as possible, and inclosed in a "boom," which is made by fastening the ends of the trunks of long trees, so as to prevent them from scattering over the lake on the breaking up of the ice. A strong bulk-head or raft is constructed of the logs, with a capstan or windlass for the purpose of warping the whole forward in a calm, or when the wind is ahead. In this operation, two or three men take an anchor into the boat, to which, of course, the warp is attached, when they row out to the extent of the rope, let go the anchor, and haul up by working the windlass. Sometimes a tempest breaks up the boom, and the logs are scattered, which gives much trouble, and not unfrequently causes a delay of one year before they reach the mills.

On Moose-head Lake, at the head of the Kennebeck, a steam tow-boat has recently been built, which has proved very serviceable to lumbermen in towing rafts to the outlet. Probably the time will come when the business of other large lakes in Maine will require the services of similar boats. Had the same degree of knowledge and interest existed twenty years ago in regard to the application of steam to the various purposes of life that is now manifested, the crystal waters of the beautiful Grand Lake, at the head of the St. Croix, would have been plowed by the prow of some little steamer long ago. But now one great leading motive for such an undertaking is irrecoverably past; the White Pines have been mowed by the woodmen's ax; they have disappeared forever, at least in any considerable quantity. Still, other interests may arise and create a demand sufficiently promising, in a remunerative point of view, to induce an individual, or joint investment, for the construction of such a boat as may be needed. The Grand Lake is some twenty-five miles in length from north to south, and from six to eight miles wide at its greatest breadth. An imaginary line, passing lengthwise, constitutes the boundary between Maine and New Brunswick, the eastern shore being within the limits of her majesty's dominions. Settlements to a large extent have already been made on the American side; and when, in the course of time, the other side shall spring into importance, some little commerce may be opened between the two ports, a custom-house be established, &c., so that the places here sketched may constitute a miniature likeness of the two countries, with the broad Atlantic between them. However, in reference to the realization of what is here said of steamboats and commerce, we will say with the Dutchman, when he spoke prospectively of other matters, "*Vell, vell, ve shall see vat ve shall see!*"

From lakes and tributary streams, the various parcels of logs cut and drove by different companies issue forth, and form one grand drive on the main river, where the separate crews unite, and make common cause in the driving operation. In other instances one drive may

precede another, making the river for miles one general scene of logs and river-drivers. Sometimes the foremost logs of one drive, unobstructed, pass on and mingle with what is called the "tail end" of the preceding drive. Under such circumstances, if there be any grudge to gratify by the foremost crew, or a substantial joke to be put, such truant logs are run aground, into creeks, in meadow land, among the bushes, and on the shore. A crew of thirty or forty men will take a log belonging to another crew and run it up high and dry on to the land, stand it on end, prop it up, and leave it in that position. The rear crew, on coming up, stimulated by the prank, knock away the props, and throw it down; a score of pikes pierce its sides, when they shove it upon the run perhaps twenty rods to the river again, amid the most vociferous hurrahs and whooping, enough to give one quite an idea of the Indian war-whoop. Some, perhaps, who may trace these lines may be curious to know how the logs of one party can be distinguished from those of another. The answer is, precisely as one farmer distinguishes his sheep from those of his neighbor by the particular mark they bear, each differing in some particular from every other. A representation of these marks, which are cut in the side of the log, would remind one of the letters or characters of the Chinese.

No employment that I am aware of threatens the life and health more than river-driving. Many a poor fellow finds his last resting-place on the bank of some wild stream, in whose stifling depths his last struggle for life was spent; where the wild wood skirts its margin—where, too, the lonely owl hoots his midnight requiem. I have visited many spots that were, from facts called up by retrospection, lonely and painfully silent, but have never been so spell-bound, so extremely oppressed with a feeling of sadness, as while standing over the little mound which marked the resting-place of a river-driver on the banks of a lonely stream, far away from the hearth of his childhood and the permanent abodes of civilization. The silent ripple of the now quiet stream (for the spring floods were past), the sighing of the winds among the branches of trees which waved in silence over the unconscious sleeper, rendered the position too painful for one predisposed to melancholy. When in those wild regions we have the misfortune to lose one of our number, after the body is recovered, we place it in a coffin composed of two empty flour barrels. One is passed over the head and shoulders, the other receives the lower extremities, when the two are brought together and fastened, his grave-clothes generally being some of his common wearing apparel. Seldom, if ever, does the voice of prayer rise over their bier under these circumstances; in silence the corpse is committed to its rude burial, while now and then a half-suppressed sigh is heard, and the unbidden tears steal down the sunburned cheeks of his manly associates. Events of this kind generally come suddenly, though, when in dangerous circumstances, are often anticipated. After such an occurrence, an air of sobriety pervades the company; jokes are dispensed with, the voice of song is hushed, and for several days the deportment of the men is characterized with a degree of cautiousness unusual, except when reminded by some such impressive example of the frailty and uncertainty of human life. But with most the impression soon wears off, and their accustomed cheerfulness is regained; their exertions marked with the same daring as before the accident, or as though a life had never been lost in the business. Lower down the river, in the vicinity of new settlements, the usual ceremonies on funeral occasions are practiced when an itinerant clergyman chances to pass that way. The following notice of such an occurrence was cut from the Bangor Courier: "Passing into the town of Passadumkeag late one evening during the past summer, a crowd had gathered in the street. It proved to be the funeral of a river-driver. His body had been taken from the water and shrouded in the open air. Many of the sympathetic villagers were there; and a pious elder, who chanced that way, breathed a prayer over his remains before they were borne to their final place of rest."

BURIAL OF A RIVER-DRIVER.

"They drew him from his watery bed,
And shrouded him with kindly care;
At ev'n his humble bier was spread,
And o'er it rose the voice of pray'r;
His only pall night's sable damp,
The stars of heav'n his funeral lamp.

They bore away that youthful form,
And laid it in the humid grave,
That yestermorn with life was warm,
And launch'd upon the dancing wave
With jocund voice, and hopes as bright
As stirr'd beneath that morning's light.

His oar with nervous arm he plied,
Nor shrank from dangers gath'ring fast,
Struggling against that treacherous tide,
His stout heart braves it to the last;
Till, spent his strength, and dim his eye,
His oar and skiff float idly by.

Far distant lies the home he left,

And side by side an aged pair,
Unconscious of their hopes bereft,
Breathe now his cherish'd name in pray'r;
Their eyes with watchfulness grow dim:
Oh! vainly will they wait for him!

A fair young maid, with pensive face,
Looks forth upon the silent night,
Her heart sweet memories doth trace,
Till future years glow in their light.
Alas! for life's all changeful scene,
How soon must perish that fond dream
For him on whom her thoughts doth pore;
His hopes and schemes of earth are o'er!"

Brook-drives are, as has before been remarked, usually distinct parcels of logs belonging to an individual or company. These various parcels are often thrown together in one mass on the ample current of the main river, to the number of twelve or thirteen thousand pieces; in which case the different crews unite and make common cause. As the water rises suddenly, and falls as rapidly on the river, by which, in the first instance, many logs run upon intervals and meadow land, or upon high rocks and ledges, and, in the other case, from the rapid decline of water, there is necessarily much activity called for to clear such logs from the position in which they are placed, else they must be left behind, or require great physical exertion to disengage and bring them on with the rest. A steady current or pitch of water is preferable to one either rising or diminishing, as, when rising rapidly, the water at the middle of the river is considerably higher than at the shores—so much so as to be distinctly perceived by the eye of a spectator on the banks, presenting an appearance like a turnpike road. The lumber, therefore, is always sure to incline from the center of the channel toward either shore. On the falls, and the more difficult portions of the river, sometimes immense jams form. In the commencement, some unlucky log swings across the narrow chasm, striking some protruding portions of the ledge, and stops fast; others come on, and, meeting this obstruction, stick fast also, until thousands upon thousands form one dense breast-work, against and through which a boiling, leaping river rushes with terrible force. Who that is unaccustomed to such scenes, on viewing that pile of massive logs, now densely packed, cross-piled, and interwoven in every conceivable position in a deep chasm with overhanging cliffs, with a mighty column of rushing water, which, like the heavy pressure upon an arch, confines the whole more closely, would decide otherwise than that the mass must lay in its present position, either to decay or be moved by some extraordinary convulsion. Tens of thousands of dollars' worth lay in this wild and unpromising position. The property involved, together with the exploits of daring and feats of skill to be performed in breaking that "jam," invest the whole with a degree of interest not common to the ordinary pursuits of life, and but little realized by many who are even familiar with the terms *lumber* and *river-driving*. In some cases many obstructing logs are to be removed singly. Days and weeks sometimes are thus expended before the channel is cleared. In other cases a single point only is to be touched, and the whole jam is in motion. To hit upon the most vulnerable point is the first object; the best means of effecting it next claims attention; then the consummation brings into requisition all the physical force, activity, and courage of the men, more especially those engaged at the dangerous points.



RIVER DRIVERS BREAKING A JAM

From the neighboring precipice, overhanging the scene of operation, a man is suspended by a rope round his body, and lowered near to the spot where a breach is to be made, which is always selected at the lower edge of the jam. The point may be treacherous, and yield to a feeble touch,

or it may require much strength to move it. In the latter case, the operator fastens a long rope to a log, the end of which is taken down stream by a portion of the crew, who are to give a long pull and strong pull when all is ready. He then commences prying while they are pulling. If the jam starts, or any part of it, or if there be even an indication of its starting, he is drawn suddenly up by those stationed above; and, in their excitement and apprehensions for his safety, this is frequently done with such haste as to subject him to bruises and scratches upon the sharp-pointed ledges or bushes in the way. It may be thought best to cut off the key-log, or that which appears to be, the principal barrier. Accordingly, he is let down on to the jam, and as the place to be operated upon may in some cases be a little removed from the shore, he either walks to the place with the rope attached to his body, or, untying it, leaves it where he can readily grasp it in time to be drawn from his perilous position. Often, where the pressure is direct, a few blows only are given with the ax, when the log snaps in an instant with a loud report, followed suddenly by the violent motion of the "jam;" and, ere our bold river-driver is jerked half way to the top of the cliff, scores of logs, in wildest confusion, rush beneath his feet while he yet dangles in air, above the rushing, tumbling mass. If that rope, on which life and hope hang thus suspended, should part, worn by the sharp point of some jutting rock, death, certain and quick, would be inevitable.

The deafening noise when such a jam breaks, produced by the concussion of moving logs whirled about like mere straws, the crash and breaking of some of the largest, which part apparently as easily as a reed is severed, together with the roar of waters, may be heard for miles; and nothing can exceed the enthusiasm of the river-drivers on such occasions, jumping, hurraing, and yelling with joyous excitement.

Such places and scenes as are thus sketched may be found and witnessed on most rivers where lumber is driven. Referring to an item of experience on a drive down the Mattawamkeag, says a logger, "Our drive consisted of about thirteen thousand pieces, with a crew of thirty-two men, all vigorous and in the prime of life. Out of such a number, exposed as we were to the perils attendant upon the business, it was a question which we sometimes inwardly pondered, Who of our party may conclude the scenes of mortal life on this drive?"

"We commenced about the 25th of March to drive, while snow, and ice, and cold weather were yet in the ascendant. The logs were cleared from the lake and stream of Baskahegan in fifty days, which brought us into the Mattawamkeag. Twelve miles down this river, below the junction of Baskahegan, we came to Slugundy Falls. There the water passes through a gorge about fifty feet wide, with a ledge on either side, making a tremendous plunge, and in immediate proximity a very large rock stands a little detached from its ledgy banks. There the whole body of our logs formed an immense jam, and such a mass of confusion as then presented itself beggars description. Logs of every size were interwoven and tangled together like heaps of straw in 'winnow,' while the water rushed through and over them with a power which seemed equal to the upturning of the very ledges which bound it. We paused to survey the work before us, calculating the chances of success, of life and death. We knew the dangers attending the operation; that life had on former occasions been sacrificed there, and that the graves of the brave men who had fallen were not far distant; and we remembered that we too might make with them our final resting-place. The work was, however, commenced; and after five days incessant application, mutually sharing the dangers incurred, we made a clean sweep of this immense jam without accident. A short distance below are Gordon Falls, at which place there is a contraction of the channel, with high ledges on either hand, a straight but rapid run, with a very rough bottom, at once difficult and dangerous to navigate or drive. Here logs to a greater or less extent always jam, the number varying according to the height of the freshet. This place we soon passed successfully. Logs, 'wangun' and all, were soon over, excepting one empty boat, which two brothers, our best men, in attempting to run, 'swamped' and capsized; in a moment they both mounted upon her bottom, and were swiftly passing along the dashing river, when the boat struck a hidden rock, and the foremost one plunged headlong into the boiling waves. Being an active man, and an expert swimmer, we expected to see him rise and struggle with the tide which bore them onward; but, to our amazement and sorrow, we saw no more of him until four days after, when his corpse was discovered some distance below the place of this sad accident. At the foot of the falls a small jam of logs made out into the channel; several of the men ran out upon this to rescue the other, who had also lost his footing on the boat. He passed close to the jam under water, when one of the crew suddenly thrust his arm down and seized him by the hair of his head, and drew him to land. On recovering from the shock which he had sustained in his perilous passage, and learning that his brother was drowned, he blamed the crew for not permitting him to share the same fate, and attempted to plunge again into the river, but was restrained by force till reason once more resumed her sway. The body of the other received the humble attentions usual upon such interments, as soon as a coffin could be procured. Not two hours previous to this accident, this individual, taking one of the crew with him, visited the grave of a fellow-laborer near by; left the spot, launched his frail boat, and lay down the next hour in a river-driver's grave."

Fourteen days from this time we drove our logs to the boom, having passed a distance of only one hundred and thirty miles in ninety days.

The mode of living on these driving excursions is altogether "itinerant," and really comfortless,

for the most part. A temporary shelter where night overtakes them is a luxury not always enjoyed. Often nothing is above them but the forest's canopy, and beneath them the cold earth, it may be snow, with a slight bed of coarse boughs, over which a blanket is spread, and generally a large fire is kept burning through the night. Days and nights, without intermission, are often passed without a dry shred to the back. This is being "packed;" and, if not a "water cure," it is being water-soaked in earnest.

It would not be surprising if rheumatism were entailed upon the river-driver as a consequence of such exposure; yet I have known men to enjoy better health under these circumstances than under almost any other. As an instance, I have seen a man passing sleepless nights with asthma at home, now on the bed, then on the floor or reclining on a chair, struggling for a free respiration until his very eyes would start from their sockets. I have known such a man exchange his position for the exposures peculiar to log-driving, and never for once suffer from this distressing complaint during the whole campaign, but, on returning to the comforts of home, experience an immediate relapse.

From the foregoing account, which is really believed to come short of the reality, the reader will be enabled to form some estimate of the dangers, hardships, and deaths encountered by thousands in the lumbering operations—a business which is hardly supposed to possess any peculiarities of incident or adventure above the most common pursuits of life. How little are the generality of mankind disposed to consider as they should, that for much which contributes to their comfort and ease, many a hardship has been endured and multitudes of individuals have been sacrificed.

The camping utensils for river-driving, with provisions, are moved along day by day, according to the progress made by the drive, so that for the most part each night presents a new location, with the usual preparations. The boats appropriated for the removal of the whole company, apparatus, and provisions, when loaded, are called "*wanguns*," an Indian word signifying bait, and, when thus appropriated, means bait or provision boats.

Among the dangers to be incurred, where both life and property are hazarded, is that of "running the wangun"—a phrase perfectly understood on the river, but which the uninitiated will better understand when I say that it means the act of taking these loaded bateaux down river from station to station, particularly down quick water. This is a business generally committed to experienced watermen, especially when a dangerous place is to be passed, as to "swamp the wangun" is often attended with not only the loss of provisions and utensils, but also life. From this fact, the circumstance is always regarded with interest by all hands, who watch the navigators in their perilous passage with no ordinary or unnecessary solicitude.

On one occasion two active young men put off from the shore with the "wangun," to make the passage of some quick water just at the head of a fearful fall, where, as was customary, the whole party were to be carried by. In passing a rock, where the water formed a large whirlpool, the boat, on striking it, instantly capsized. One of the men, being an expert swimmer, told his comrade to take hold of the back of his vest, and he could swim with him to the shore; but the current carried them so swiftly toward the falls that it became necessary for the swimmer to disengage himself from his companion, who clung to him with a death-grasp. His efforts to effect a separation were unsuccessful, and every moment they were carried nearer to the fatal falls. Suddenly sinking in the water, the swimmer contrived to turn round and face his drowning friend. Drawing up his legs, and bracing his feet against his companion, he gave a sudden and powerful kick, which disengaged him. Then rising to the surface, after this most painful act, to which he was impelled from dire necessity, he struck for the shore, and barely reached it in time to save himself from the sad fate that awaited his unfortunate associate, who, poor fellow, still clinging with a death-grasp to the shred of garment which was rent from his companion in the struggle, was carried over the falls, and then, passing under a jam of logs, floated down the river several miles, where his body was found, and interred on the banks of the Penobscot.

I have often passed the spot where he sleeps. The green grass waves in silence over his grave, and now the plow of the husbandman turns the greensward at his side, where once the forest trees majestically waved over his rude bier.

The following instance of the remarkable escape of a river-driver was related by one who witnessed the affair. I think it happened on the Androscoggin. Among the crew there and then engaged was a young man who prided himself upon his fearlessness of danger; and, to maintain the character he thus arrogated to himself, would unnecessarily encounter perils which the prudent would shun. His frequent boastings rendered his society not a little unpleasant, at times, to the less pretending; and although this dislike was not so great as to lead them to rejoice in seeing him suffer, yet an event which might be likely to cool his courage would not have been unwelcome to the crew. On one occasion he ventured upon a jam of logs just above a rolling dam, over which the spring freshets poured one vast sheet of water, plunging several feet perpendicularly into a boiling cauldron. The jam started so suddenly that he was precipitated with the logs over this fearful place, where not only the fall and under-tow threatened instant death, but the peril was imminent of being crushed by the tumbling logs. No one really expected to see him come out alive, but, to our surprise, he came up like a porpoise, and swam for the

shore; but the swift current swept him down, and carried him under a jam of logs which formed below the dam. From previous exertion and exhaustion, we thought this must finish the poor fellow, and we really began to forget his faults, and call to remembrance whatever of virtue he had manifested. Soon a dark object was seen to rise to the surface immediately below the jam. It was our hero, who, elevating his head and striking forward with his arms, swam with a buoyant stroke to a small island just below, where he landed in safety, having sustained no injury, and without having experienced any abatement of his former daring. Seemingly there was not one chance in a thousand for the life of a man making such a fearful voyage. This circumstance brings to mind a poetical sentiment I have somewhere read on the ways of Providence in the disposal of human life:

"An earthquake may be bid to spare
The man that's strangled by a hair."

Men often lose their lives where we have least reason to expect it, and are as often spared, perhaps, where we see no grounds of hope for them. Thus physicians may sometimes be censured as unskillful when they lose a patient, while in fact God has fixed the bounds of mortal life; or be praised for skill when their success is but apparent, while to the Creator's purposes alone are we to look and give credit for such deliverances.

River-drivers usually eat four times a day—at least this practice obtains on the Penobscot—viz.: at five and ten o'clock A.M., and at two and eight P.M. After the two o'clock meal, when the drive on the main river is under successful headway, the camp-ground is forsaken, the tent struck, and the wangun is run as far down river as it is thought the drive will reach by night, where arrangements are made, as usual, for the crew, by the cook and "cookee," as his assistant is called. It may happen that the drive does not progress according to the calculations of the cook, and a short row down river is necessary to reach the wangun.

Between the mouth of the Piscataquis and Oldtown, a distance of twenty or twenty-five miles, are numerous beautiful islands, some of them large, and generally covered with a heavy growth of hard-wood, among which the Elm abounds. When the logs arrive at this point, many of the encampments are fixed upon these islands. As the sun sinks behind the western hills, the lengthened shadows of the beautiful island forests shoot across the mirrored river, casting a deep shade, which soon disappears amid the denser curtain of an advanced evening, with which they blend. The roar of rushing waters is over, and the current glides smoothly on. No sound is heard but the echo of the merry boatmen's laugh, and of voices here and there on the river, with now and then the shred of a song, and the creaking and plashing of oars. While thus passing down, as the boats turn a sudden bend in the river, a dozen lights gleam from the islands, throwing their lengthened scintillations over the water. Now the question goes round, "Which is our light?" "There's one on the east side!" "Yes, and there's another on Sugar Island!" "And there's one on Hemlock!" says a third. "Why the d—l hadn't they gone to Bangor, and done with it?" "Wangun No. 1, ahoy!" shouts the helmsman, a little exasperated with fatigue and hunger. Now, while all the rest of the cooks remain silent, No. 1 cook responds in turn. Another calls out the name of their particular log-mark: "Blaze Belt, ahoy!" "Where in thunder are you?" "Blaze Belt, this way, this way!" comes echoing from Hemlock Island, and away the Blaze Belt bateau rows with its merry-making crew. Thus each crew, in turn, is finally conducted to its respective camp-fire.

The prospect of a release from the arduous labors on the drive at this point of progress raises the thermometer of feeling, which imparts a right merry interest to every thing. Like sailors "homeward bound," after a three or nine months' cruise, and within one day's sail of port, relaxation and pastimes only are thought and talked of.

The mine of song and story is opened, and the rarest specimens of match songs and "stretched" stories are coined and made current by the members of the different crews. The "smartest team," "chopper," "barker," "the largest tree," "the biggest log," "the greatest day's work," bear or moose story, the *merits* of crews, teamsters, "bosses," cooks, and swampers, falls and rapids, streams and rivers, all, all come up as themes of converse, song, and story. There is less hurrying in the morning now than in the former part of the driving; let the water rise or fall, it is all the same thing at this point, for the driver has reached the ample channel of the river, where neither falls or rapids occur. A day, and the work is consummated—'tis done! The crews are disbanded: they disperse, some to their homes and farms; some to idleness and recreation; some to hire in the mills to saw the logs thus run; others to take rafts of boards to the head of tide navigation, where hundreds of vessels are in waiting to distribute the precious results of the lumberman's toil to the thousand ports of the Atlantic and Pacific coasts, where the sound of saws, planes, and hammers of a million house-wrights, cabinet-makers, carpenters, coopers, and jobbers make the air vocal with the music of cheerful labor, giving bread to the millions, wealth to thousands, and comfort and convenience to all.

For this branch of human industry we set up a claim, in point of *rank*, not yet awarded to it by the world. We claim for it greater prominence as a source of wealth—greater respect on the ground of the talent and skill concentrated by the prime operators—greater deference for it as a business—for the endurance, energy, and courage of the thousands of hardy freemen who engage in it,

and greater interest from the amount of substantial romance and adventure in the "Life among the Loggers."

While it is the professed object of this volume faithfully to portray all the points alluded to, I am nevertheless impressed with the idea that no point which I have treated comes so far short of the reality as the attempt to picture the romance of the business.

The boom, which constitutes the general receptacle of all logs, is worthy a few lines of observation.

On the Penobscot it stretches up the side of the river in the vicinity of numerous islands, whose location is peculiarly favorable; the boom-sticks run from one island to another, and, where the distance is too great, a pier is sunk—a square frame of stout timber filled with stones. These piers sometimes span the whole river, united by the boom-sticks. This is true of the main boom on the St. Croix. On the Penobscot it stretches up the river about two miles; at the upper end there being a shear boom, which swings out to intercept and turn the logs floating down the river into its ample embrace.

The Boom Corporation, on the Penobscot, is regulated by legislative enactments, and all logs running into it, or within the limits of its charter, are subject to its laws and regulations. Its bounds embrace a section of the river six miles in length, and to the care of all logs coming within its limits the agent is obligated to give his attention, and the company responsible. It is the duty of the boom-master, with the men under him, to raft the logs of each individual in parcels by themselves previous to their delivery for the mills, guided in his selection by the particular marks cut on the logs, for which service and safe-keeping the owner or owners of the boom receive thirty-three cents per M. feet, board measure, which makes the property of the boom very valuable. In addition to this, every log found in the boom without a mark is a "prize log."

Among other duties devolving on the boom agent is to inspect, personally, every raft of logs, setting down the number and mark in a memorandum kept for the purpose. This course of management protects each log-owner's property from plunder, as, in case any and all persons were indiscriminately allowed to raft out logs, the temptation might prove too strong, in some cases, to regard with due honesty logs bearing marks of a different character. Besides these main booms, there are many lesser ones, up and down the river, subject to no special legislation or law except the will of the owner.

These observations relate chiefly to the Penobscot and St. Croix Rivers. Of the rules and regulations of similar corporations on other rivers I am uninformed, but it is to be presumed that they are much the same, in general.

CHAPTER III.

Observations on the St. Croix River.—Boundary Line.—Pine Timber. —Agriculture in the Interior.—Youthful Associations with Grand Lake.—Traditionary Name of Grand Lake.—Lake Che-pet-na-cook.— Rise of Eastern Branch St. Croix.—Lumbering Prospects.—Hemlock. — Reciprocal Relations of the Lumber Trade between Americans and Provincials.—The Machias Rivers.—Origin of Name.—Character of Soil.—Lumber Resources and Statistics.—West Machias.—Narraguagues River, curious Definition of.—Capacity of Stream.—Statistics.— Union River.—Observations on its Lumbering Interests.—Mills in Franklin.

Having in the foregoing pages given brief sketches of some of the most interesting *trees* known to us, devoting considerable attention to the White Pine, and the life and adventures of lumbermen, the concluding pages of this book will consist of brief sketches of the rivers of Maine and New Brunswick, and such statistics as to the extent of the lumbering operations on each river as may interest the curious in such matters.

The Mschoodiac, more generally known as the St. Croix, constitutes the first link in the boundary between Maine and the province of New Brunswick.

The name by which this river is more generally known is St. Croix, which is probably of French origin. The original and Indian name is Mschoodiac. An intelligent Indian, belonging to the Penobscot tribe, to whom I am indebted for the signification of the original names which our rivers bear, informed me that the signification of Mschoodiac was, "Burned land river," "Open space," or "Wide prospect river," thus deriving its name from some peculiarity in the country along its borders.

Probably, at some period anterior to the white man's knowledge of our Western World, a section of forest adjacent to some part of the river was destroyed by fire, originating perhaps in the torch of some invading tribe as they laid waste the wigwams of their discomfited enemies, or from the

embers of the little fire kindled by the hungry hunter to cook his hurried meal. In process of time, the principal part of a forest, withered and destroyed by such a devastating scourge, would fall to the ground, opening wide prospects where densely-compacted forest trees once completely circumscribed the view. But the river may have derived its name from a circumstance of still earlier date, viz., the existence of immense fields of *meadow* land, which abound more or less in the whole region lying about the St. Croix, often affording the voyager an unobstructed view for miles up and down the stream. In former years vast quantities of this wild grass were cut by lumbermen for the subsistence of oxen and horses during their winter operations.

The St. Croix has two branches, the east and west; the latter, at its source, is contiguous to the head waters of the Machias River in the west, while the former, being of more importance and greater magnitude, stretches far to the north to the lakes, whence is its source. Of these bodies of water mention may be made of Grand Lake in particular, which is about twenty-five miles long by eight wide at its greatest extent, romantically diversified in the northern part with beautiful islands, deep coves, and far-reaching points of land, covered with dense and rather undersized trees. The shores, east and west, are composed for the most part of immense granite rocks, rising very abruptly on the southwest to a considerable elevation, covered with a heavy growth of majestic Pine, Hemlock, and Spruce-trees.

Beautiful white sand beaches, which run outward with a very gradual descent for many rods into the lake, afford a most luxurious bathing-ground, where probably the young savages of former generations gambled and indulged in aquatic sports.

Not many years since, an unbroken forest stretched abroad over a vast area of country, of which this lake formed a central point. The pervading silence, which rested like night over this vast wilderness, was only broken by the voice of the savage, and the discordant howlings of wild beasts. But within a few years the ax of the pioneer has leveled large tracts of forest, and thus opened the virgin soil to the sun's germinating rays, so that now may be seen skirting the shores of the lake, north and northwest, cultivated fields, relieving the solitude which once reigned there. The gray-haired red man of past generations knew this lake by the name Madongamook, which signified "Great grandsires," and owes its origin to the following circumstance: From time immemorial it is said that some of the aborigines made the immediate vicinity of this lake's outlet a permanent annual "setting-down place," or head-quarters. Here their ancestors gathered around the council-fire for uncounted generations. Hence this sheet of water was called Great-great-grandsire's Lake, of which Grand Lake is an abridgment.

The author entertains many pleasant reminiscences of former visits to this lake. To use the language of the red man, he has spent many pleasant "moons" on the shores of Madongamook, paddled with the Indian hunter in his tiny birch over its silver waters, chased wild game through its forest confines, and flung from its transparent depths the delicious trout. Indians affirm that there is in these waters a great fish, "all one big as canoe," a sort of fresh-water whale.

But it is time to proceed on our down-river trip. So, leaving the outlet of Grand Lake, and passing south about two miles across a "carrying-place," we strike the head of another lake, called *Che-pet-na-cook*, into which the surplus waters of the former lake pass. The name by which this lake is designated is said to signify *hilly pond* or *lake*. In form it is long and narrow, resembling a deep, massive river. That peculiarity from which its name is derived is strikingly prominent. A range of abrupt and elevated ridges rises suddenly from its western shore, covered with a close, heavy growth of trees, principally Spruce. One peak of the ridge rises several hundred feet from the surface of the lake, which is called "*Spruce Mountain*." After mid-day, a section of this mountain ridge, so dense and frowning as to resemble a thunder-cloud, casts a cavernous shade, like a misty pall, over the surface of its waters, which seem to lay with prostrate fear at its base, imparting an oppressive solemnity over the scenery.

At the foot of this lake, which is between twenty and thirty miles long, the east branch of the St. Croix takes its rise. From this point it passes through a rocky channel for the most part, occasionally flowing through a section of meadow or intervale land until it reaches Baring, a distance of some fifty miles, where for the first time it meets with a formidable barrier to its hitherto wild and unrestrained progress in the character of a "*dam*." Passing this through its various avenues, it flows on to Milltown, which occupies both sides of the river, and includes both the English and American villages. Between this place and the head of ship navigation, some two miles distant, the channel is *dammed* several times on a succession of falls, where are numerous saw-mills; and, finally, after having leaped a thousand rocky precipices above, and struggled through as many gates and sluice-ways below, it quietly flows on to the Passamaquoddy Bay, where its restless waters find repose in the bosom of the Atlantic Ocean.

In regard to the lumbering resources on this river, I believe it is generally admitted that the supply of Pine is comparatively small, the principal part having already been brought to market; and although the territory belonging to this river is large, still its resources are curtailed by the proximity of the head waters of the St. John, Penobscot, and Machias Rivers.

The comparative scarcity of Pine timber has induced the manufacture of a much larger proportion of Spruce than formerly; still it is presumed that the same amount of Pine lumber now

annually cut may continue to be for years to come. Should Hemlock come into more general use, the resources of the lumbermen will be greatly augmented, as timber of this kind abounds on the St. Croix. And why may not this be the case? For many purposes Hemlock lumber is preferred to Pine. A gentleman in Bangor informed the writer that he had, from choice, made use of Hemlock boards for nice floors to a residence recently built for himself, esteeming it richer in color, less liable to indentation, and of greater durability. With the exception of *Pine*, the resources for lumber on this river are still very considerable, and must continue to be for many years, unless sweeping fires shall blacken and wither the beautiful forests which now adorn the interior. Vast tracts of timber land have already been destroyed by fire on the territory belonging to this river, as the blanched trunks of standing trees, and barren hill country surrounding Baileyville, Baring, Calais, and St. Stephen's, most painfully indicate, greatly marring the beautiful scenery which once adorned the valley through which the river flows.

Lumber manufactured on this river may be considered as both English and American products; still, by common concurrence, and not strictly in accordance with revenue regulations, it is shipped indiscriminately. The manufacture of the English side of the river is received on board American vessels and shipped to the States, and the lumber manufactured on the American side shipped on board English vessels and taken to the English markets duty free.

For the most part, the firms who conduct the lumbering business on the St. Croix are of great respectability; several of them are very wealthy.

The following table [12] of estimates has been gathered from the most reliable sources; and, although mathematical exactness is not pretended, still it is believed that the calculations here presented approach the truth sufficiently near to give the reader a very satisfactory view of the *extent* of the lumbering operations on the boundary river:

	English.	American.	
No. of Saw-mills	42	33=75	Average price per M.
No. of Lath Machines		60	
Amount of Long Lumber	65,000,000		\$ 7.50.
Amount of Laths	90,000,000.		1.00.
Amount of Shingles	21,000,000.		2.50.
Amount of Pickets	2,165,000.		3.50.
Amount of Clap-boards	200,000.		18.00.
No. of Juniper Knees		8,300.	1.40 each.
No. of Men employed, directly and indirectly	1,200 to 1,500.		
No. of Oxen and Horses, do		1,000.	

Leaving the St. Croix, and traveling westward about forty miles, we come to East Machias River, to the west of which, six miles distant, is another river called West Machias. The name Machias originated in some obstruction in the way of the Indian traveler, either in the river itself or upon its banks, whether natural or accidental I am not aware.

The eastern stream is about fifty miles long, including the small lake, which constitutes its chief source, and is navigable only about six miles for large vessels, at which point the village, bearing the same name as the river, is located, and also the mills. As the lake which feeds the river is fed principally by springs, it affords a good supply of water the year round. The land in the immediate vicinity of the stream is quite good for agricultural purposes; but, as we recede from the river, the soil appears poor, presenting a desolate and forbidding aspect. Once a flourishing forest covered it, but now blackened, decayed, and decaying trunks of trees, scorched by fire, some prostrate, others still standing, limbless, naked, and desolate, intermingle with a small, dwarfish, and sparse second growth, and mantel the sterile plain and rocky hill side. Indeed, this is but too true a portrait of immense tracts of land all along the coast of Maine, from the St. Croix to the Penobscot, and still further westward. It is wonderful that these desert regions, whose sterility scarcely gives existence to the wild grass and stunted shrubs which grow there, once supported a dense and majestic forest.

At East Machias village there are seventeen saws in operation, and eleven lath machines; the latter, for the most part, are situated in the base of the saw-mills, and manufacture laths from the slabs made in the mill. At this place the saws cut, on an average, about six hundred thousand feet, board measure, to a saw, one half of this lumber being sawed from Pine, and the other from Spruce logs. The same quality of lumber brings fifty cents more per thousand here than on the St. Croix. In answer to the question, *Why is this so?* the reply was, "We saw nearly all our lumber to *order*, and of prescribed dimensions."

The resources for lumber are still quite abundant. The West Machias stream is about the same size as the East, both being quite small; it has more numerous water privileges, and is more liable to be affected by droughts. Here the lumbering operations are carried on more vigorously than on the other river, cutting some two hundred thousand more to a saw. The greatest distance that lumber has been cut from the village is about sixty miles. Opinions the most reliable encourage the belief of the existence of sufficient timber to meet the demands of this market for years to come. This stream is also navigable for vessels up to the mills, being carried at flood-tide

quite near the mill slips, where they receive their cargoes. Both rivers empty into Machias Bay at points quite approximate, through which float the cargoes of industrial wealth to the broad Atlantic and to the various ports of destination.

Annexed is a table showing at a glance the state of the lumber trade per annum on each river:
[13]

EAST MACHIAS			
		Average price per M.	Total.
No. of Saw-mills	17.		
No. of Lath Machines	11.		
Amount of Long Lumber	10,200,000.	\$8.00.	\$81,600.
No. of Laths	13,200,000.	1.00.	<u>13,200.</u>
			\$94,800.
No. of Men Employed	450.		
No. of Oxen and Horses, do.	380.		

WEST MACHIAS			
		Average price per M.	Total.
No. of Saw-mills	20.		
No. of Lath Machines	14.		
Amount of Long Lumber	18,000,000.	\$8.00.	\$144,000.
No. of Laths	16,800,000.	1.00.	<u>16,800.</u>
			\$160,800.
No. of Men Employed	475.		
No. of Oxen and Horses, do.	400.		

The next river worthy of note, for the lumber it produces, is the Narraguagues, whose waters disembogue into a small bay bearing the same name, thirty miles beyond the West Machias, its course being nearly parallel with the latter.

The true Indian orthography is said to be Na-la-gua-gwees, and signifies palate, stream, or river. To use the precise language of my Indian interpreter, opening his mouth wide and thrusting his finger down his throat, "It means all one, jes if I open my mouth and river run down my throat into mine belly." Whether there is any peculiarity about the river, or the form of the bay into which it falls, to originate such a name, I am unaware.

This stream, for water power, is about equal in its capacity to either of the Machias rivers. The mills are principally located at Cherryfield, where are fifteen saw and eight lath mills, three shingle and one clap-board machine. The saw-mills are said to produce about nine millions of long lumber per annum, worth eight dollars per *M.* on an average. The lath mills produce six million four hundred thousand pieces, worth one dollar per *M.* Nine hundred thousand shingles are annually turned out, at two dollars and fifty cents per *M.* The clap-board machine may be credited with one hundred thousand pieces during the sawing season; of their quality I am not informed. In general they range from fifteen to thirty dollars per *M.*

Computing the value of the foregoing products, we have presented the annual product:

Long Lumber	\$72,000
Laths	6,400
Shingles	2,250
Clap-boards	<u>2,000</u>
Total	\$82,650

Sixty teams are said to be employed on this river during the hauling season, and about three hundred men. The resources for lumber were reported by the most intelligent operators as equal to those of any lumber district in the state of equal size.

In the adjoining town of Franklin five saw-mills were reported, situated on small streams, doing a large business. These mills are said to manufacture about three million feet, worth eight dollars per *M.*, giving twenty-four thousand dollars.

About half way between the Narraguagues and the Penobscot Rivers, and upon an almost exact parallel with the latter, runs Union River, which disembogues into an arm of Frenchman's Bay. On the banks of this river, near its mouth, stands the village of Ellsworth, which is decidedly one of the most beautiful places in Maine, and in the immediate vicinity of which the mills are principally located; in all, about twenty-five.

The annual amount of long lumber manufactured here is about sixteen million feet, worth some hundred and twelve thousand dollars; the aggregate amount of the various kinds of short lumber annually produced is worth some sixteen thousand dollars more.

From four to five hundred men, and about the same number of oxen and horses, are employed in the lumbering business. Logs are driven from two to forty miles. The territory through which this stream flows is well timbered, and affords an abundant supply of logs.

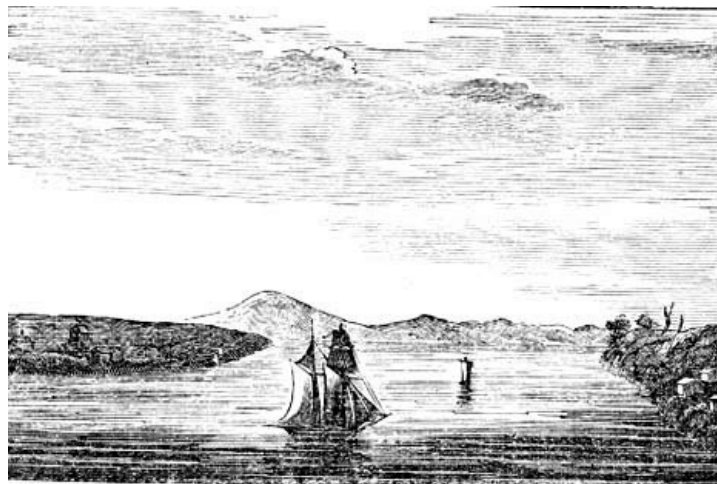
CHAPTER IV.

class="hang" Penobscot River.—Its various Names.—Character of the Country through which it flows.—Its Length.—The vast Extent of Territory which it drains.—Its Multitude of Lakes.—Mount Ktaadn.—Indian Legend.—Elevation of the Mountain.—Overwhelming Prospect.—A Sabbath in the Wilderness.—Moose in the Lake.—An uncomfortable Night.—Dr. Jackson's Narrative.—New Lumber Resources.—The interesting Origin of this new Resource.—John Bull outwitted.—Freshets on the Penobscot. —Freshet of 1846, cause of it.—Sudden Rise of Water.—Bangor submerged.—Boulders of Ice.—Destruction of Property.—Narrow Escape of Ferry-boat.—Peril of Boys.—Editorial Observations. —Lumber Statistics.—Where the Lumber finds a Market.—Speculations on future Prospects of Lumbering Interests.— Anticipations of the Future.—Bangor.

Passing westward in a direct line about twenty miles, we come to the noble and interesting Penobscot. Although Penobscot is now the name of the entire river, it was originally the name of only a section of the main channel, from the head of tide-water to a short distance above Oldtown. Penobscot is the Indian name, and signifies stony or rocky river, as it certainly is within the above limits, being nothing less than a continuous fall before the dams were built.

From the head of tide-water, at the city of Bangor, to the mouth of the river, a distance of about thirty miles, it was known to the Indians by the name of Baam-tu-guai-took, which means broad river, sheet of water, or, more literally, all waters united. Another section of the river is called Gim-sit-i-cook, signifying smooth or dead water.

Unlike the Kennebeck, and similar to the St. Croix, the Penobscot flows chiefly through a wilderness country. The time is yet distant when its banks shall exhibit the same advances in agricultural industry and wealth which now beautify, enrich, and enliven the banks of the Kennebeck.



A COASTER ASCENDING THE PENOBSCOT FOR LUMBER.

This river, on many accounts, is the most important in Maine, and at present, from its vast lumbering resources and operations, the most noted. It is three hundred and fifty miles long, with numerous, and, in some instances, copious branches, which drain an immense uncultivated territory, embracing a region of country from east to west about one hundred and fifty miles in breadth, spanning the whole of the northern portion of the state, running round and cutting off the head waters of the St. Croix on the east, and of the Kennebeck on the west, interlacing its numerous branches with those of the St. John's River in the north, which brings within its embrace about one third the entire wilderness territory of Maine.

The scenery in some sections of this territory, about the head waters, is grand and picturesque. Its numerous water-falls, some of which are fearful to contemplate, much more for the *river-driver* to work upon; its swelling hills, and, in some instances, towering mountains, from whose tops may be counted an almost endless number of lakes, and the vast groves of towering pines here and there scattered over millions of acres of forest land, make it altogether one of the wildest and most romantic portions of country.

One of the most attractive features in the interior is Mount "Ktaadn," which, from its isolated position, height, and sublime grandeur as the "birth-place of storms," surrounded with a

beautiful, rich, and luxuriant forest, with streams and lakes, is worthy of special attention.

The following sketch of a visit to this mountain by a party of gentlemen may be esteemed worthy of a perusal:

Our travelers, after having made the ascent of the river to the proper point, and made the necessary arrangements for their journey up the mountain, "entered the slide at eight o'clock" A.M., in the early part of September, and found its ascent quite steep, "though not difficult or dangerous at all, when one takes time."

On almost all sides of the mountain there is a short, tangled growth of alders and white birch coming up between the rocks. These, being kept down by the winds, grow into an almost impassable bramble. At a distance it has a beautiful, smooth appearance, like a green, grassy hill, or what one of the company called a 'piece of oats.' The slide serves as a path up through all this tangle, reaching to the top of the southeastern ridge of the mountain, which is above all timber growth, making about one third of the whole perpendicular height of Ktaadn, to which the ascent of the brook below would add another third.



VIEW OF THE PENOBSCOT—FORESTS AND LAKES N.E. FROM KTAADN.

"Although it was hard climbing, we ascended pretty fast, and the clear morning air gave an indescribable beauty to the prospect below. The most pleasing was the constant change and variety caused by our rapid ascent. It was known that the mountain, at this season of the year, is frequented by bears in pursuit of cranberries, but we did not see any, though our gunner had enjoined silence in hopes of obtaining a shot. I remained with the rear, to see all up safe. The most zealous 'went ahead,' and were soon out of sight, until, near the head of the slide, we heard them from the distant topmost peaks calling out, 'Come on, ye brave!' At this distance they looked very small in stature. From the head of the slide we turned to the left, and ascended northwest to the first and most eastern peak; by this time our comrades had reached the most western. We here paused to view our position. It is perhaps the most favorable spot for surveying the whole structure. From thence the principal peaks are in a curved line, going southwest, then west and northwest. The second peak, called by us the 'Chimney,' is near the first, but separated by a sharp cut one hundred and fifty or two hundred feet deep, and nearly square in its form. We had seen one of our comrades upon its summit, else we might not have attempted the ascent. His zeal seemed to blind him to danger, for, when questioned on our return, he could neither tell *when* or *how* he ascended. Our first plan was to pass around the base without going over the top; but this we found impossible, and were about to give up, when one pointed out a diagonal course, where, by taking a few pretty long steps, he thought we could ascend. I tried first, and succeeded, and all followed but two. From the 'Chimney' we went from one hammock to another, making, on the whole, a gradual ascent, till we reached the middle of the principal peaks, a distance of nearly half a mile. There we met our comrades on their return from the western peak, and all sat down to rest. Here we found a monument that had been erected by some former visitor, but was overgrown with moss, appearing lonely, as if it had seen no relations for years. On the first and most eastern peak, all the monuments which I had made the year previous looked new and fresh. It is not easy to decide which of the two (the western and middle peaks) is highest. Judgment was given in favor of the middle one.

"While sitting on the south side of the monument at twelve o'clock, we put the thermometer in a favorable place, and it went up to 84°. At the same time, on the north side, and six feet from us, water was freezing, and the snow dry and crusty. Near by the monument a rock stood in its natural position, having a sharp peak in the top. This was the highest one of the kind. Of this about four inches were broken off, and one of the company carried it home with the conviction that we had lowered the height of Ktaadn to that amount. About two P.M. we returned to the eastern peak. It may be well to pause here and take a re-survey of the scene thus far presented, and as much more as can be viewed from this point.

"From this eastern peak a spur makes out eastward one mile. Half a mile down, however, it

divides, and a branch runs to the northeast the same distance. On the southwest, across the cut, is the 'Chimney.' From this the line of peaks and hammocks curves to the west till it reaches the middle and highest peak. From one hammock to the other there are, in all, thirty rods of narrow passes. Some of them are so narrow that a man could drop a stone from either hand, and it would go to unknown depths below. In some places the only possible way is over the top, and only one foot wide. For a great part of the time the wind blows across these passes so violently that the stones themselves have to be firmly fixed to keep their places. It seemed remarkable, as if for our convenience, that the day of our visit was still and quiet. From the middle peak the line curves to the northwest, to the further monument. From this point a branch makes down to the southwest, having on it some extensive table-lands, while the top ridge or curve turns directly north with the 'sag.' At the bottom of the 'sag' we come upon a wide flat, which runs north half a mile, and stretches out to a considerable width. At the northern extremity of the flat the ridge curves to the east, and rises to a peak about equal in height to the eastern peak of the northern wing. This is probably the highest of the northern peaks, from which a spur makes down, a little south of east, to within one quarter of a mile from the one that comes from the southern wing. All this nearly includes a deep basin, with walls almost perpendicular, and in some places apparently two thousand feet high.

"To survey the bottom of this basin I have since made a separate journey. It contains perhaps two hundred acres, covered with large square blocks of granite that seem to have come from the surrounding walls. There are in all six lakes and ponds, varying in size from two to ten acres. One of them I crossed on ice the 15th of October.

"From its outlet inward to the southwest is about a mile, where there is a small lake of clear water which has no visible outlet. So far as I can learn, I was the first human visitor to this fabled residence of the Indians' Pamolah. It is not strange that a superstitious people should have many traditions of his wonderful pranks, and be kept away from close engagement with such a foe. When we reach the lake on our way to Ktaadn, it is easy to see the origin of those fears which the Indians are said to have respecting the mountain as the residence of Pamolah or Big Devil. Clouds form in the basin, and are seen whirling out in all directions. Tradition tells a 'long yarn' about a 'handsome squaw' among the Penobscots, who once did a great business in *slaying* her thousands among the young chiefs of her nation, but was finally taken by Pamolah to Ktaadn, where he now protects himself and his prize from approaching Indians with all his artillery of thunder and hail.

"The Indian says that it is 'sartin true, 'cause handsome squaw always ketch em deble;' whether this be true or not, the basin is the birth-place of storms, and I have myself heard the roar of its winds for several miles. But on the 15th of October, when I entered it and went to the upper lake, all was still as the house of nymphs, except when we ourselves spoke, and then the thousand echoes were like the response of fairies bidding us welcome. In this way the music of our voices would find itself in the midst of a numerous choir singing a '*round*.'

"The upper lake, which I visited and went around, has an inlet, a white pearly brook, coming out nearly under the chimney, and running a short distance through alders and meadow grass. It has no visible outlet; but on the north side it seems to ooze out among the rocks. We can trace this water-course curving to the east of north till it reaches the lower and largest lake, from which flows a brook sufficiently large for trout to run up. This brook curves to the south, running into West Branch, and is called Roaring Brook. The mountain around this basin is in the form of a horse-shoe, opening to the northeast. From the peak on the northern wing there is another deep gorge, partly encircled with a curving ridge, which some would call another basin. On the north side of this gorge there is a peak nearly equal in height to the one on the south of it, but considerably further east, making this northern basin or gorge open to the southeast. These two basins, from some points of view, seem to be one. From the last-mentioned peak the mountain slopes off from one peak or shoulder to another, perhaps three miles, before it reaches the timber growth. Some of the branches of the Wassataquoik come from this northern part, but some of them from the basin or southern part of Ktaadn.

"Rough granite, moss-covered rocks are spread over its whole surface from the short growth upward. Blueberries and cranberries grow far up the sides. At the time of our visit considerable snow lay on its summits and lined the walls of the great basin. The party, of course, found plenty of drink. The Avalanche Brook, having its source about the middle of the slide, furnished water pure as crystal. The ascent was attended with some danger and fatigue. But what a view when the utmost heights are gained! What a magnificent panorama of forests, lakes, and distant mountains! The surface of the earth, with its many-tinted verdure, resembled, in form and smoothness, the swelling sea. In the course of the forenoon, light fogs from all the lakes ascended, and, coming to Ktaadn, intertwined themselves most fantastically above our heads, then settled down and dispersed. But what can be fitly said about the vast expanse of the heavens, to be seen from such an elevation, especially when the sun goes down, and the glowing stars appear in silent majesty? All the gorgeous, artificial brilliancy of man's invention is more than lost in the comparison. Language has no power to describe a scene of this nature. The height of Ktaadn above the level of the sea is five thousand three hundred feet. Its position is isolated, and its structure an immense curiosity. From its summit very few populous places are

visible, so extensive is the intervening wilderness. On its sides the growth of wood is beautiful, presenting a regular variation in altitude and size all the way up to the point where it ceases.

"The great basin described by Mr. Keep was to none of us an inferior object of interest. Want of time and strength prevented our descent into it. It is open to general inspection from all the heights around it. The day being quiet, the view was divested of much of its terror; but we could readily believe it the abode of all the furies in a storm, and where the polar monarch has his chief residence in Maine. We called to each other across the basin, and echo answered 'Where!' in earnest. The air was exhilarating, as may be supposed, but the effect not as sensible as we anticipated.

"The whole party returned to the head of the slide at three P.M., and engaged in picking cranberries. These grow on all parts of the mountain above the timber region, and no doubt annually yield many thousand bushels. 'They grow on vines among the rocks, and are commonly called the mountain or highland cranberry. They are smaller than the meadow cranberry, but of a better flavor.'

"At four o'clock six of the party went down to the camp to prepare fuel for the Sabbath. Our guide and the gunner remained at the head of the slide all night, and kept a fire with old roots; yet it was presumed that they had now and then a *little cold* comfort. The result of their stay is thus set forth by Mr. Keep:

"On Sabbath morning the eastern horizon was clear of clouds, and we looked anxiously for the sun. Just before it came up, a bright streak appeared of silver whiteness, like the reflected light of the moon. We could see the further outline of land quite plain, and for a short distance beyond was this silvery streak. Soon a small arc of the sun appeared above this bright line. I was hardly able to control my emotions while the whole came in sight. On Saturday night, about sundown, our view of the country around was more distinct and enchanting—a boundless wilderness in all directions, much of the view being south of the lakes. Of the latter, not far from two hundred are to be seen dotting the landscape. In one of them we can count one hundred islands. Soon after sunrise on Sabbath morning we went down to the camp to spend the day with the company.'

"That holy morning found us refreshed, and somewhat prepared to appreciate our peculiar circumstances. The weather was charming. The air resounded with the pleasing murmur of the Avalanche Brook, as it flowed down over its bed of rocks; nor was the song of birds denied us. Gentle breezes stirred the beautiful foliage of the circling woods. Impressive stillness reigned, and the whole scene was adapted to awaken happy and exuberant emotions.

"Early we mounted some rocks on the bank of the stream toward the rising sun, and overlooking a vast region of country, and there poured forth sacred melody to our heart's content. The echo was glorious. Verily we thought our 'feet were set in a large place;' and we could readily imagine that the wide creation had found a tongue with which our own exulted in unison.

"At the hour appointed we assembled in the camp, and engaged in the exercises of a religious conference. It was good to be there. The scene finds its portraiture in the words of Cowper:

"The calm retreat, the silent shade,
With pray'r and praise agree,
And seem by thy sweet bounty made
For those who follow thee.

Then, if thy spirit touch the soul,
And grace her mean abode,
O! with what peace, and joy, and love
She there communes with God.'

"It is not too much to say that we enjoyed a measure of such experience. The day—the place—the topics of remarks—the songs of Zion—all encircled by a kind Providence, and made effective by the presence of God, will ever be worthy of a grateful remembrance.

"In the afternoon, by request, Rev. Mr. Munsell addressed us from the 11th verse of the 145th Psalm, 'They shall speak of the glory of thy kingdom, and talk of thy power.' Our position added deep interest to the theme of discourse, and naturally furnished much ground for illustration. Indeed, the entire services of the day were attended with peculiar influences, being had under circumstances so widely different from the ordinary life of the company.

"That Sabbath was our delight, even in the face of a possible deficiency in food. But the course adopted imparted bodily rest and a peaceful mind.

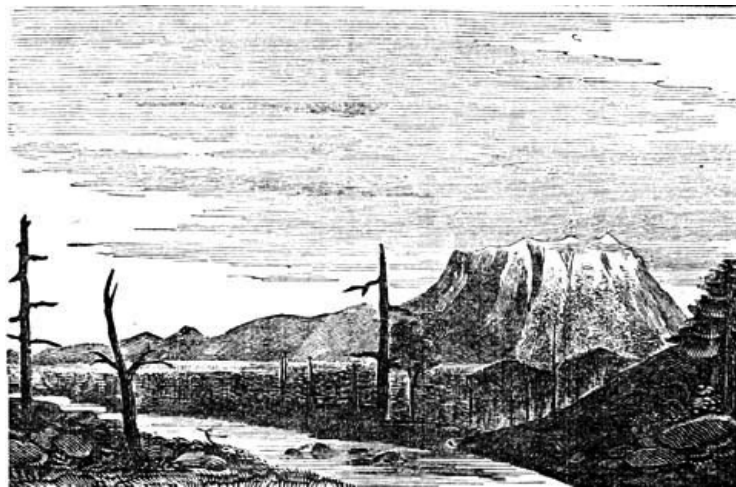
"We had traveled with burdens on our backs twenty-five miles—crossed several streams—climbed rough hills—walked on rocky places—tumbled over huge trunks of fallen trees—crowded through plenty of jungle—waded the Avalanche Brook—and all this in forbidding weather; but, aside from the glorious view on the summit of Ktaadn, our toil found its recompense in the novelty and influence of a Sabbath observance on such an elevation, and amid the wild scenes and solitudes

of a mountain forest.

"Scarcity of food, and the engagements of some of the party, made it necessary on Monday morning to start for home. We left the camp about half past nine, following down the brook to the point from whence we ascended, and then direct to the lake.

"'At this time,' says our guide, 'we fell into much confusion on account of two of the company who were missing, the gunner and Mr. Mesurvey, for whom we made search, but in vain. Few can imagine our feelings save those who have heard the cry of *lost* coming up from the deep gloom of the wilderness in the native tone of some wanderer calling for help. After consultation, it was resolved that we must leave the ground for home, hoping for the best. We left at one, and came to the lake at four P.M., and here, to our great joy, we saw a smoke on the opposite side, near the outlet, and at five rejoined our missing companions. They had caught trout enough for us all, weighing from one to three pounds. With these, and cranberry-sauce in plenty, also bread, pork, and tea, we made merry around a cheerful fire. That night, however, a storm of rain coming up, found us poorly prepared.'

"In this connection an incident may be related. Just before our arrival, while the gunner was fishing, suddenly two moose bounded furiously into the lake, and appeared to be swimming toward him. Though all along desirous of an interview, their visit was rather too startling. He scampered with all haste to the shore, seized his gun and fired, but the balls would not go through the '*law*,' which at that season afforded protection, and so the moose escaped.



NORTHEAST VIEW OF MOUNT KTAADN, FROM THE WEST BRANCH OF THE PENOBSCOT.

"The night just referred to was a time of *realities*. Truth proved 'stranger than fiction.' Amid anxiety for the lost, the ax had been left on the mountain. A pile of logs lay near the outlet of the lake. With some of these our missing companions had made a fire; some formed the floor of the camp, and others, used as rafters, were covered with boughs for protection, but not from rain. On the above floor (the spot allowing no other), no boughs at hand could make a downy bed. Every one found out that he was composed of flesh and bones. It also became difficult to regulate the fire, so that the heat was often intense. Contrary winds would ever and anon drive the smoke into the camp, and thus cause great involuntary weeping. The scene was *felt*, and few could find sleep without stealing it. It was visible darkness all around. Toward midnight the rain commenced. One of the party, writing to another from Lincoln in December, says, 'Old Mount Ktaadn from this place looks dreary enough. Its snow-capped top often reminds me of our amusing adventures; but nothing in all our travels affords more amusement in moments of meditation than the night on the Pond Dam. That old plaid cloak, dripping in the rain; its occupant upon a log without the camp, singing "The morning light is breaking," when it was only one o'clock; and then again, "He shall come down like rain," &c.—all together have left an impression on my mind not soon to be effaced.'

"The occupant of that 'cloak,' unable to sleep, conversed with the 'daughters of music,' and was prompted to sing the night out and the morning in; and as the rain increased, the whole crew joined heartily in the chorus. Our departure from such lodgings was very early. Beneath continual droppings from the trees and bushes, we pressed through an obstinate path-way, and arrived at the Wassataquoik camp at half past nine. This march was really toilsome, but brought us out at the desired point. After a long rest, we followed the old supply road most of the way, forded the Wassataquoik, and came out opposite Mr. Hunt's, whence the bateaux took us across the East Branch. This was a little past four o'clock P.M. Our appearance was far from beardless, our 'externals' somewhat ragged and torn, and our appetites keen as a 'Damascus razor.' 'Mine host' and family received us most cordially, having felt some anxiety in our absence. They made us joyful around a full table of good things. On the day following, Wednesday, we passed to Mr. Cushman's, and on Thursday took conveyances for home."

Another visitor [14] to this point of attraction observes:

"While I was engaged in noting the bearings of this mountain, the clouds suddenly darted down upon its summit and concealed it from view, while we could observe that a violent snow-squall was paying homage to Pomola, the demon of the mountain, Presently the storm ceased, and the clouds, having thus paid their tribute, passed on, and left the mountain white with snow. This took place on the 20th of September.

"Crossing the lake—'Millnoket, a most beautiful sheet of water, containing a great number of small islands, from which circumstance it takes its name'—we reached the carrying-place at the head of a long creek, where we pitched our camp amid a few poplar-trees, which were of second growth, or have sprung up since the forests were burned. The want of good fuel and of boughs for a bed was severely felt, since we were obliged to repose on naked rocks, and the green poplar-trees appeared to give more smoke than fire. The night was cold and the wind violent, so that sleep was out of the question. Early in the morning we prepared to carry our boats over to Ambijejis Lake, and the labor was found very difficult, since the water was low, and we had to traverse a long tract of boggy land before reaching the other lake.

"Tracks of moose and cariboo abound in the mud, since they frequent the shallow parts of the lake, to feed upon the lily-pads or the leaves of the *Nuphar lutea*, which here abound. A noble-looking cariboo suddenly started from the woods, and trotted quietly along the shores of the lake quite near us, but we were not prepared to take him, and he presently darted into the forest and disappeared.

"Our provisions having been reduced, owing to the circumstance that our journey proved much longer than we had anticipated, I thought it necessary to put the whole party on a regular allowance, which was mutually agreed to. Our Indian, Neptune, succeeded in catching half a dozen musquash, which we were glad to share with him, and a few trout which were also taken, and served to save a portion of our more substantial food. At Pock-wock-amus Falls, where the river rushes over a ledge of granite, large trout are caught abundantly, and we stopped a short time to obtain a supply. They are readily taken with a common fishing-hook and line, baited with a piece of pork, or even with a slip of paper, which is to be trailed over the surface of the water. Some of the trout thus caught would weigh from three and a half to four pounds.

"On the 22d of September we prepared ourselves for ascending the mountain, taking with us our tent, a few cooking utensils, and all the food remaining, except a small quantity of Indian corn meal, which we concealed on the island for use on our return.

"Our party, all clothed in red flannel shirts, and loaded with our various equipments, made a singular appearance as we landed on the opposite shore and filed into the woods.

"Having reached a height where the forest trees were so diminutive that we could not camp any higher up for want of fuel, we pitched our tent. This place is about half way up the mountain. From it we have an extensive view of the surrounding country.

"Leaving our camp on the mountain side, at seven A.M. we set out for the summit of Ktaadn, traveling steadily up the slide, clambering over loose boulders of granite, trap, and graywacke, which are heaped up in confusion along its course. We at length reached a place where it was dangerous longer to walk on the loose rocks, and passing over to the right-hand side, clambered up among the dwarfish bushes that cling to the side of the mountain.

"Two of our party became discouraged on reaching this point, and there being no necessity of their accompanying us, they were allowed to return to camp. The remainder of our ascent was extremely difficult, and required no small perseverance. Our Indian guide, Louis, placed stones along the path, in order that we might more readily find the way down the mountain, and the wisdom of this precaution was fully manifested in the sequel. At ten A.M. we reached the table-land which forms the mountain's top, and ascends gradually to the central peak. Here the wind, and driving snow and hail, rendered it almost impossible to proceed, but we at length reached the central peak. The true altitude of Mount Ktaadn above the level of the sea is a little more than one mile perpendicular elevation. It is, then, evidently the highest point in the State of Maine, and is the most abrupt granite mountain in New England.

"Amid a furious snow-storm, we set out on our return from this region of clouds and snow. Louis declared that Pomola was angry with us for presuming to measure the height of the mountain, and thus revenged himself. 'Descending, we had nearly gone astray, and might have descended on the wrong side, had it not been for the precautions of Louis before named. Clouds and darkness hung upon the mountain's brow, and the cold blasts almost deprived us of breath. Incrusted with snow, we carefully slid upon the surface of the rocks.' 'We tumbled down some large blocks of granite, that descended with a terrible fracas, dashing the rocks into fragments as they bounded along.' 'Our party encamped upon the mountain side, and passed a sleepless night, without food, and amid a driving snow-storm.'

"Early next morning we struck our tent and descended the mountain, but so enfeebled had we become by hunger, privations, and fatigue, that it was with difficulty we could carry ourselves

and burdens. Every now and then our knees would give way beneath us, and cause us to fall upon the ground. When we reached the base of the mountain, we discovered some wild choke-cherries hanging in bunches from the trees, which the bears had often climbed and broken for the fruit. Felling one of these cherry-trees, we ate the astringent fruit, and were in some measure resuscitated in strength, so as to march with renewed vigor. A bed of blueberries also presented itself, and we stopped to dine upon them. 'Proceeding on, we met two of our company, who had passed down the night before, who had cooked all the Indian meal that we left at our old camp on the island, and brought the cakes for our relief. On our way down the river we fortunately met two young men ascending the stream in a canoe on an exploring expedition, we induced them to sell us twenty biscuits, which, being two to a man, on short allowance, we hoped to be able to reach Nickatow. On our way down we met another crew, who supplied us with the necessary rations to reach Nickatow, where, on our arrival, we obtained all that was necessary for the comfortable prosecution of our down-river journey.'

In addition to the natural resources of the Penobscot for lumber, several townships of good timber land, formerly claimed by the crown, but by treaty ceded to the United States, have become available by diverting a portion of the head waters of the St. John's River into the channel of the former, on the west branch. This was effected by cutting a canal from a lake on the St. John's, called Zelos, to Webster Lake, on the Penobscot.

Originally the canal was three hundred rods long by four wide, and four feet deep; but the strong current of water flowing through, at the rate of one mile in twenty minutes, has changed the regularity of the channel to a more natural and stream-like appearance.

By this bit of Yankee enterprise, the timber of eight townships, otherwise and necessarily destined for the provincial market, may be brought down the Penobscot, the aggregate amount of which is estimated, by the best judges, at five hundred millions of feet.

This has succeeded so well, that further surveys have been made with a view to open other communications between the waters in the same region, and, if the expectations of those interested in this matter should be realized, it is said that the timber of some thirty townships more will come down the Penobscot River. [15]

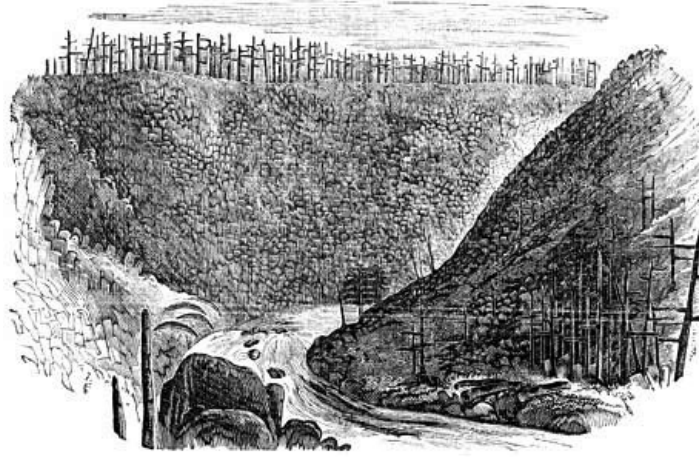
The project of excavating the canal alluded to was suggested by the proximity of the above-named lakes, and the remarkably favorable position of the strip of land lying between them. The direct cause of its being carried into effect is said to have originated in consequence of the levying of a provincial tax on lumber cut and run down the St. John's by Americans, in violation of an article in the treaty adopted by the two governments in the recent settlement of the boundary between Maine and New Brunswick.

The specific condition in the treaty thought to have been violated is this, in substance: All timber situated on land ceded to the United States, which, from its position, must pass down the St. John's, "*shall be dealt with as if it were the produce of the said province;*" [16] which condition on the part of Maine was thought to imply freedom from duty or taxation.

Therefore, in order to obtain some tribute (for it is, indeed, a trait quite prominent in the character of John Bull to expect and demand tribute), a duty was levied upon *all* timber running down the St. John's, whether from the crown lands or the territory ceded to Maine. And the crown, in order to satisfy its loyal subjects for this new requisition, made a corresponding discount on the stumpage charged those hauling timber from the crown lands, while the Yankees were left without indemnification.

But Brother Jonathan was not to be outgeneraled by this maneuver, but characteristically "*guessed*" out a way of escape; and not only thwarted the cunning of his crafty neighbor in this matter, but actually laid his dominions under tribute, *nolens volens*, by diverting a portion of the waters of St. John's River, bringing it into the channel of the Penobscot, where it probably runs "*duty free.*" While, therefore, the Yankees thus resisted the attempted encroachment, we doubt not but they secretly render a "*tribute*" of *thanks* for the provocation.

The Penobscot is not so likely to be affected by destructive freshets as are most large rivers; for instance, the Kennebeck, whose accumulating waters rush through its deeply-cut channel with tremendous power, carrying all before it; and for this reason the former runs through immense tracts of low intervale lands, which, in time of abundant rains, act as vast reservoirs, receiving and scattering the surplus water over thousands of acres. Nothing is likely to produce disastrous freshets, except such as arise from unusual causes; and as such a combination is not likely to occur once in a century, an event of this nature is not often expected nor dreaded.



GODFREY'S FALLS ON THE SEBOOIS RIVER. BANKS 200 FEET HIGH.

The Penobscot has two principal and many minor branches; among the latter, mention may be made of "*Mattawamkeag*," which "means a stream running over a gravelly bed;" and the "*Piscataquis*," which is about one hundred miles in length, and forms a junction with the main river some thirty or forty miles above Bangor; its waters are clear as crystal, and the current rapid. Also the "*Seboois*," several days' journey from the mouth of the Matawamkeag. Some of the wildest and most interesting scenery in the state occurs on this river and on the lofty mountains in its vicinity. Godfrey's Falls, as seen in the opposite cut, plunge around the base of high mountainous banks hundreds of feet above the wild torrent which rushes between them. These falls are impassable, and when boatmen arrive here they are compelled to carry their effects and boats up a ledge on the left side of the falls, at an angle of 45°, and then through the burned forest for the distance of four miles before again attempting to navigate the river.

Not less than fifty mountains and seventeen lakes may be seen from the summit of Sugar-loaf Mountain, which stands a little removed from the shores of the Seboois, as represented in the cut at the end of this chapter; and among the interesting objects viewed from this point is *Chase's* Mountain, on the west side of the Seboois, very peaked, which rises like a vast pyramid from the dense forest country around it, a representation of which may be seen on page 211.

There are many important islands in the Penobscot; several of them contain many hundred acres of land. Among them mention may be made of "*Olemon*," which contains some three hundred acres; likewise "Sugar Island," of corresponding magnitude; "Orson Island," twelve hundred acres; "Marsh Island," five thousand acres; "Oldtown," the present site of an Indian village, three hundred acres; Orono, one hundred and fifty acres. On these islands are several flourishing villages, Oldtown, Orono, and Stillwater, in the vicinity of which are the principal mill sites, which are from seven to fourteen miles above Bangor.

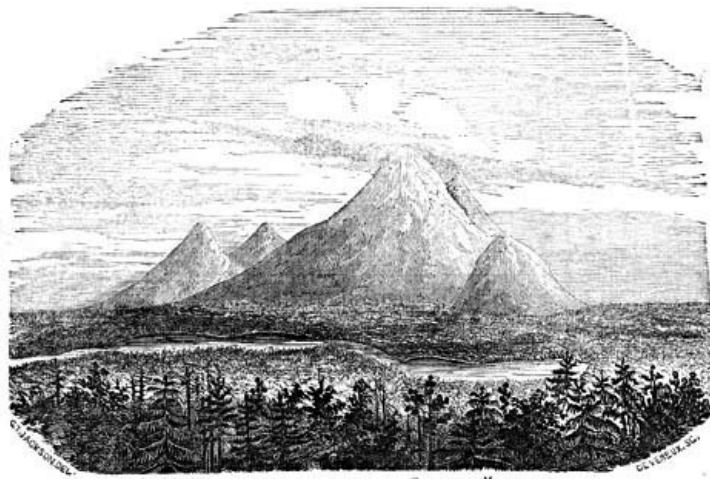
The overwhelming catastrophe which occurred on this river in the spring of 1846 will long be remembered by those who witnessed it. The following graphic account of this occurrence, from the pen of Dr. West, was published in the Bangor Courier, and will be read with deep interest:

"TO THE REV. DR. TYNG, New York.

"Reverend and dear Brother—We have passed through a scene within the last two or three days which will deeply interest and impress you. Our city has met with a calamity unparalleled in its annals, and perhaps unequaled, in proportion to its population and means, by any in our country. We have been inundated by the river in consequence of what is called here an ice-jam. The history of the matter is briefly as follows:

"It sometimes happens that the ice in the river breaks up above, while it remains too strong at the outlet to admit of its passing down. The consequence is the accumulation of a dam of ice which completely fills the river from bank to bank, and heaps up sometimes to the height of from fifteen to thirty feet, and thus forming a reservoir of water above it, which overflows the banks and inundates the country around.

"The present winter has been a remarkable one in the mode of the formation of the ice. After the river was first frozen over, the ice continued to form in cakes or sheets, and to flow down the rapids to the still and frozen portions, and these were drawn under. This continued until the submerged sheets were stopped by rocks or shoals; then the accumulation went on until the bed of the river became consolidated to an astonishing thickness. Around the piers of our great bridge it was cut through to the depth of about fourteen feet. Thus the entire bed of the river seemed to have become, at least except the channel, an almost solid body of ice.



CHASE'S MOUNTAIN, AS IT APPEARS FROM SUGAR-LOAF MOUNTAIN.

"The greatest fears were entertained throughout the winter for the consequences during the spring freshet, and yet no effectual precautions could be taken to guard against impending calamity. The very worst of these fears have now been more than realized.

"A few days ago the river began to break up for about thirty miles above the city, while it continued firmly bound for about twelve miles below. There were several different spots where the jams, or ice-dams were formed; and when they broke away, they came rushing down with the force of a mountain torrent, until the strong ice below resisted their progress. These jams came down one at a time, and, lodging against another below, kept increasing their magnitude. The two most formidable jams were within seven miles of the city, in the vicinity of the two largest and most important ranges of saw-mills. Those which formed above, when they broke away, passed through at Oldtown and Stillwater with little comparative damage other than carrying away the bridges, and adding to the size of the jams below.

"The first movement was the raising the two principal ranges of mills from their foundations by the rise of the water. After this the first jam that passed down swept away the Basin mills, which belong to a New York company, and which rented for above ten thousand dollars per annum. They next carried away a large range of mills belonging to some of our most enterprising citizens, and which rented for fifteen thousand dollars per annum. One of the proprietors thus lost about fifty thousand dollars. The mills in these two ranges contained about fifty saws, were possessed of the most unfailing water power, were recently fitted up with the best improved machinery, and performed last year about one third of all the business on the river.

"The jams thus worked their way down gradually, carrying destruction to bridges and small houses, and other buildings on the banks, until they were all concentrated in one immense mass of four miles in length, of great height and depth, and filling the river, which varies in width from one thousand to fifteen thousand feet from bank to bank. Of the magnitude and power of such a mass, no just conception can be formed by persons unused to similar scenes. Above the jam the water was twenty or thirty feet above its usual height, filling up the rapids, and making a dead level of the falls.

"The first injury to the city was from the breaking away of a small section of the jam, which came down and pressed against the ice on our banks. By this, twenty houses in one immediate neighborhood, on the west bank of the river alone, were at once inundated, but without loss of life. This occurred in the daytime, and presented a scene of magnificent interest. The effect of this small concussion upon the ice near the city was terrific. The water rose instantly to such a height as to sweep the buildings and lumber from the ends of the wharves, and to throw up the ice in huge sheets and pyramids. This shock was resisted by the great covered bridge on the Penobscot, which is about one thousand feet in length, and this gave time to save much property from impending destruction. But, meanwhile, another auxiliary to the fearful work had been preparing by the breaking up of the ice in the Kenduskeag River. This river flows through the heart of the city, dividing it into two equal portions. The whole flat on the margin of the river is covered with stores and public buildings, and is the place of merchandise for the city. The Kenduskeag runs nearly at right angles with the Penobscot at the point where they unite. The Penobscot skirts the city on the eastern side, and on the banks of this river are the principal wharves for the deposit of lumber.

"I must mention another circumstance to give you a just idea of our situation. There is a narrow spot in the river, about a mile below the city, at High Head, in which is

a shoal, and from which the greatest danger of a jam always arises, and it was this that caused the principal inundation.

"The next incident occurred at midnight, when the bells were rung to announce the giving way of the ice. It was a fearful sound and scene. The streets were thronged with men, women, and children, who rushed abroad to witness the approach of the icy avalanche. At length it came rushing on with a power that a thousand locomotives in a body could not vie with; but it was veiled from the eye by the darkness of a hazy night, and the ear only could trace its progress by the sounds of crashing buildings, lumber, and whatever it encountered in its path-way, except the glimpses that could be caught of it by the light of hundreds of torches and lanterns that threw their glare upon the misty atmosphere. The jam passed on, and a portion of it pressed through the weakest portion of the great bridge, and thus, joining the ice below the bridge, pressed it down to the narrows at High Head. Meanwhile the destruction was in progress on the Kenduskeag, which poured down its tributary ice, sweeping mills, bridges, shops, and other buildings, with masses of logs and lumber, to add to the common wreck.

"At that moment, the anxiety and suspense were fearful whether the jam would force its way through the narrows, or there stop and pour back a flood of waters upon the city; for it was from the rise of the water consequent upon such a jam that the great destruction was to be apprehended. But the suspense was soon over. A cry was heard from the dense mass of citizens who crowded the streets on the flat, 'The river is flowing back!' and so sudden was the revulsion, that it required the utmost speed to escape the rising waters. It seemed but a moment before the entire flat was deluged; and many men did not escape from their stores before the water was up to their waists. Had you witnessed the scene, occurring as it did in the midst of a dark and hazy night, and had you heard the rushing of the waters and the crash of the ruins, and seen the multitudes retreating in a mass from the returning flood, illumined only by the glare of torches and lanterns, and listened to the shouts and cries that escaped from them to give the alarm to those beyond, you would not be surprised at my being reminded of the host of Pharaoh as they fled and sent up their cry from the Red Sea, as it returned upon them in its strength.

"But the ruinous consequences were, providentially, the loss of property rather than life. The whole business portion of the city was inundated; and so entirely beyond all reasonable estimate was the rise of the waters, that a very large proportion of all the stocks of goods in the stores were flooded. Precautions had been taken, in the lower part of the city, to remove goods from the first to the second story, and yet many who did so had the floors of the second story burst up, and their goods let down into the waters below; while in the higher portions, where the goods were piled up on and about the counters, the waters rose above them, and involved them in a common destruction. Others, who did not remove their goods, suffered a total loss of them.

"Thus far, however, the devastation was confined to the least valuable part of the wealth of the city. The lumber on the wharves constitutes the larger portion of the available property of the city; and here a kind Providence has spared the devoted city, and by one of those singular methods by which a present evil, which seems to be the greatest that could be inflicted, is the means of averting a greater one; for it was the occurrence of the jam which, while it inundated the stores, appeared to be the means of saving the lumber. The pressure of the ice against the wharves and lumber was so great as to wedge it in with immense strength, and formed a sort of wall outside the wharves, from which the jam, when it started, separated and passed out, leaving the lumber safe, though injured.

"After the ice stopped, things remained in this situation during the next day, which was Sunday—the saddest and most serious Sunday, probably, ever passed in Bangor. Few, however, could spend the day in worship. All that could labor were employed, while the flood kept rising, in rescuing what property could be saved from the waters, and in taking poor families from their windows in boats.

"The closing scene of this dreadful disaster occurred on Sunday evening, beginning at about seven o'clock. The alarm was again rung through the streets that the jam had given way. The citizens again rushed abroad to witness what they knew must be one of the most sublime and awful scenes of nature, and also to learn the full extent of their calamity. Few, however, were able to catch a sight of the breaking up of the jam, which, for magnitude, it is certain, has not occurred on this river for more than one hundred years. The whole river was like a boiling cauldron, with masses of ice upheaved as by a volcano. But soon the darkness shrouded the scene in part. The ear, however, could hear the roaring of the waters and the crash of buildings, bridges, and lumber, and the eye could trace the mammoth ice-jam of four miles long, which passed on majestically, but with lightning rapidity, bearing the contents of both rivers on its bosom. The noble covered bridge of the Penobscot, two bridges of the Kenduskeag, and the two long ranges of saw-mills, besides other mills, houses, shops, logs, and lumber enough to build up a

considerable village. The new market floated over the lower bridge across the Kenduskeag, a part of which remains, and, most happily, landed at a point of the wharves, where it sunk, and formed the nucleus of a sort of boom, which stopped the masses of floating lumber in the Kenduskeag, and protected thousands of dollars' worth of lumber on the wharves below.

"So suddenly and so rapidly was all this enacted, that it seems impossible to believe it to have occurred without loss of life. Yet such appears to be the happy result. Rumor, indeed, consigned many to a watery grave, who were most unexpectedly preserved. There were, for instance, twenty or thirty men on one of the bridges when it gave way, some of whom jumped into the water to save themselves, but none were lost. A raft passed down the Kenduskeag with three or four boys upon it, and they were seen floating into the vortex of the jam, but the raft passed near enough to a store for them to leap from it to a platform, and thus they saved their lives. A boat also was crossing the river when the jam started, and the river was rushing in a torrent, but they also got safe to land. Many such hazards occurred, but without the loss of a single life.

"I have thus given you a very hasty and unstudied narrative of this severe calamity, as I have gathered it before any account has been published. I have no time or space for reflections. There are, no doubt, many wise and good designs to be accomplished by such an event, which will readily suggest themselves to every Christian mind. The present state of our churches before this, I think, was highly promising, and the presence of God's Holy Spirit manifest. I most earnestly pray that a serious, practical, and real reformation may ensue.

"The individual losses are very great. Some have lost their all, and many from five to fifty thousand dollars each; yet the aggregate will be swelled, by a first estimate, far beyond its real amount. From what I have already seen, I think there is no reason whatever for the friends of Bangor abroad to entertain any distrust respecting its recovery and progressive prosperity. Such a buoyant and elastic spirit I never saw in man, as is apparent to-day, at the very moment when men usually most despond. There is no such thing as depression. Despair is a word which the active and laborious merchants of this city do not know the definition of; and as soon as time can enable man to restore the city to its former prosperity, it will be done. My prayer is that its future prosperity may be tempered by a more sanctified spirit—that the hand of God may be more recognized—the institutions of religion more generally sustained—the uncertainty and vanity of worldly possessions more deeply realized, and that this singularly appropriate antidote to a bold and Heaven-daring intemperance may dilute, if not wash it entirely away.

"Very truly, your friend and brother,

"JOHN WEST.

"Bangor, Maine, March 30, 1849."

The editor of the Bangor Courier, in some cheerful remarks upon the incidents of the event, observes:

"We could not bring ourselves to believe that the market-house, in which we had our office, would be removed. We were induced to move our materials at the earnest solicitation of friends, and under their strong advice. We felt all the while as though the alarm would soon be over, and labor resumed in the old premises, and therefore a clumsy article here and another there were left, until the value of the aggregate was about two hundred dollars, the removal of which we thought we had wisely avoided. The market moved off majestically, but with gentle dalliance, until it plunged forward from the bridge into the fast receding current of the stream, when it righted with a ship-like propriety, bearing aloft a beautiful flag-staff—emblem of Liberty, erected in honor of Henry Clay, the beloved and whole-hearted patriot and orator, who in private station receives the highest attentions and sincerest regards of the American people—and sped its way onward to the ocean, until happily bethinking how many little articles it contained which would be so missed and mourned, that it settled down with a determination to proceed no further. We visited the wreck in the evening, and, fearing it might prove our last, we bore away several pamphlets and documents as prizes. At an early hour yesterday morning we paid it another visit, when, in company with our office hands, and the kind help and timely suggestions of personal friends and a few strangers, we succeeded in securing every article of value. There happened to be one case of type left in one of the racks which had ridden out the perils and roughness of the voyage without spilling a type.

"It may be a little fanciful, perhaps, but there seems to be an increased value in these articles which have once slipped from us, made the voyage of the stream, and are, at length, so unexpectedly and singularly recovered. One of our citizens—a Kennebecker, by-the-way—was particularly zealous in saving the Whig flag-staff, declaring it should long remain to bear aloft the flag of freemen.

"The whole river seems to have been an entire mass of ice, partly solid and partly porous. The

sudden rise of the river excited alarm, and its sudden subsidence, at the rate of about two feet a minute, caused astonishment.

"There is in the upper side, and near the middle of Exchange street, a large cake of ice more than five feet thick. On Broad street there are ice-balls twenty-five feet in diameter, and scattered about in every direction are thousands of smaller masses.

"It will be difficult for people who did not witness it to realize that all the business part of the city was a pool in which large vessels might sail—that Exchange street, and Main street, and others lower down, were deep canals for half their length, and that Central street was a running river. But such things were, and hundreds of stores were under water! Boats were in requisition, and various contrivances were resorted to in the effort to turn an honest penny. Among them we noticed one fellow had taken the Wall street sign, and fastened it upon the stern of his boat, in order to popularize his boat and route. The scene in the vicinity of the steam-boat wharf or at the Rose Place is truly astonishing—such heaps of ice thrown in wild confusion, furnishing a capital idea of icebergs from the Northern Ocean. We advise our friends to visit these places, and to gather in some idea of the mighty power of the flood and of the process of making ice mountains.

"It is quite wonderful, considering the suddenness and extent of the rise of the water, that no more lives were lost in this vicinity. There were some families in great peril. A family living at the Point, between Brewer village and the river, were alarmed by the approach of the flood, and started, several women in the number, for higher land in the vicinity, but, before reaching it, the water was up to their armpits. They reached what was then an island, and were compelled to remain during the night. A family living near Crosby's ship-yard could not escape, and were taken off in a boat by one of the neighbors.

"Twenty women and children, as the water flowed over the plain at Brewer, fled to a school-house, but could not return, and were obliged to go back upon the hills and remain until the water subsided.

"General Miller, at the post-office, with his clerks, had a cool time of it. They were all at work, when the flood suddenly came upon them, and filled the office to the depth of four feet. The general started, and held the door for the clerks to dodge out and escape up stairs; but Calvin lingered behind for some minutes, when the general called loudly to know what detained him.

"'Oh,' said he, wading along with the water up to his armpits, 'I stopped for the purpose of stamping these paid letters,' at the same time holding up a bundle.

"We are happy to add that Calvin remains perfectly cool, and that in three hours after getting into the old office yesterday morning, every thing was cleaned up and business going on as usual.

"The actual amount of property lost in the city by this flood is estimated by pretty good judges at between two and three hundred thousand dollars. This falls severely upon some of our citizens, but the heaviest losses come upon those able to ride out the storm."

But, notwithstanding the severity of this visitation, few traces are left to denote it, at least to impress the stranger's mind. Bridges have been re-erected, damages repaired, and the business community have risen from under it with the elasticity of a sapling oak after the tempest has overpast.

Between fifty and sixty saws were swept away, which have not yet (1848) been replaced.

The following table, showing the condition of the lumber manufacture and trade on the Penobscot, has been obtained from the most reliable sources of information, and is presented for the inspection of those interested in such matters.

Number of saw-mills on the Penobscot and tributaries,	240.
Number of clap-board machines,	20.
Number of lath machines,	200.

Amount of long lumber sawed annually, [17] 200,000,000 feet, at \$10.00 per *M*.

Amount of laths sawed annually, 400,000,000 pieces, at \$1.00 per *M*.

Amount of clap-boards sawed annually, 5,500,000 pieces, at \$18.00 per *M*.

Amount of shingles [18] sawed and split annually, 110,000,000 pieces, at \$2.50 per *M*.

Amount of pickets [19] sawed annually, 10,000,000 pieces, at \$6.50 per *M*.

The number of men, oxen, and horses employed directly and indirectly on this river alone, would not vary, probably, much from twenty thousand. [20]

The reader may inquire with some curiosity, "Where does all this lumber find a market?" We may remind such that Maine has furnished, in times past, the principal part of the lumber consumed in the United States and the West India Islands, though other states in the Union possess

immense tracts of fine timber land, which, as the lumbering interests of Maine diminish, will be cut and brought into market. Indeed, such movements have already become quite common in the western part of the State of New York, and also in Pennsylvania and Georgia, as well as in other portions of the country where there are large tracts of timber land, much of which has already been bought up by Eastern lumbermen.

In regard to the consumption of lumber, we may observe that the island of Cuba alone consumes forty millions of feet per annum for the one article of sugar-boxes. The city of Boston is supposed to make use of the same amount per annum for building and cabinet purposes.

Persons unacquainted with the resources of the Penobscot are continually anticipating a decrease in the amount of lumber from the great tribute under which our forests have been already laid; but those who are best qualified to judge estimate that there is now timber enough standing in the forests, on territories through which the waters of the Penobscot pass, to maintain the present annual operations, vast as they are, for fifty successive years, after which it is thought the amount will diminish about *one tenth* per annum until its final consumption, when, doubtless, the pursuits of the lumbermen will give place to the labors and rewards of husbandry, and to the working of the various veins of mineral deposits already known and yet to be discovered.

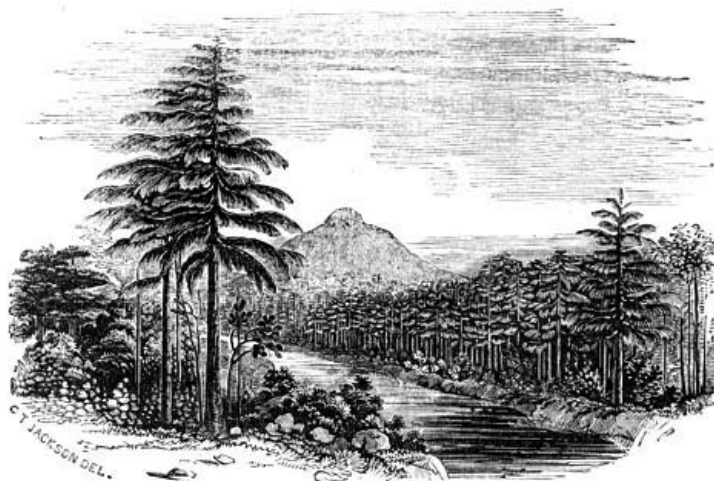
A period not as long, probably, as from the landing of the Pilgrims at Plymouth to the present time, will transpire, ere the loggers' camp will give place to the farm-house, and golden fields of waving grain relieve the sun-hid earth of the gigantic forests so long cherished upon its laboring bosom.

We can seem to look through the following prophetic verse as a magic spy-glass, which dispels *time* as well as space, and see the reality it points out pass vividly before the imagination.

"Loud behind us grow the murmurs
Of the age to come,
Clang of smiths and tread of farmers,
Bearing harvests home!
Here her virgin lap with treasures
Shall the green earth fill,
Waving wheat and golden maize-ears
Crown each beechen hill."

The reader may be asked, in conclusion, to estimate the results of fifty years' lumbering on the Penobscot. What a vast revenue, in addition to the agricultural interests of the contiguous country! When we look to Bangor, so favorably located at the head of navigation, the grand center of all these great interests, it would seem not irrational to predict for it a glorious career in growth, wealth, and importance, nor improbable that the same may be fully realized. She is surrounded by resources of wealth altogether beyond any other town or city in the state, of which neither her citizens, with all their foresight, nor capitalists, seem to be fully aware.

Of one great disadvantage, which must retard her progress, mention may be made, viz., capitalists *abroad* own too much of the territory on her river. A judicious policy in business must be steadily pursued, else she may only prove the mere *outlet* through which the wealth of her territory shall pass to other hands, leaving her with the bitter inheritance of one day becoming possessed of the knowledge, when too late, of what she *might have been*.



SEBOOIS RIVER—SUGAR-LOAF MOUNTAIN, 1900 FEET HIGH.

CHAPTER V.

Length of Kennebeck.—Moose-head Lake.—Its peculiar Shape.—Its Islands.—Burned Jacket.—Interesting Deposit.—Mount Kineo.—The Prospect from its Summit.—Moose River.—Old Indian.—The Banks of the Kennebeck.—Beauties of the Country, &c.—Lumber on Dead River.—Falls at Waterville.—Skowhegan Falls.—Arnold's Encampment.—Nau-lau-chu-wak.—Caritunk Falls.—Lumber.—Statistics.—Author's Acknowledgments.—Androscoggin.—Course and other Peculiarities.—A question of Rivalry.—Water Power.—Original Indications.—Interesting Sketch of Rumford Falls.—Estimated Water Power.—Lumber Statistics.—Droughts and Freshets.—Umbagog Lake.—The serpentine Megalloway.—Granite Mountains.—Beautiful Foliage.—Romantic Falls.—Character of Country.—Manner of Life in Log-cutting, &c.—Statistics, &c.—Presumpscot River, great Water-powers of.—Warmth of Water.—Statistical Remarks.—Saco River.

The beautiful Kennebeck lies about sixty miles west of the Penobscot River, running from north to south, nearly parallel with the latter, constituting one of those great marks of designation which divide the state longitudinally into three sections south of the 46th degree of north latitude to the sea-coast inclusive.



VIEW OF LILY BAY, ON MOOSE-HEAD LAKE.

The Kennebeck takes its rise in the southwest section of Moose-head Lake (according to Mitchel's Atlas), so called, probably, from the near resemblance it has, with its numerous coves, arms, and bays, to the branchy horns of the moose. As laid down on some maps, particularly on the map of the Eastern States in Smith's Atlas, published by J. Paine, of Hartford, it requires but a small exercise of the imagination to see in its outlines the form of an immense animal, making the portage from the mouth of the St. Lawrence to the Atlantic Ocean with fearful strides of fifteen miles each. The figure of the lake, as laid down on Mitchel's maps, corresponds more exactly with the branching appearance of a moose horn. "Its whole extent, from north to south, is about forty miles, and varies in width from one to eight miles, and very irregular in shape, owing to its deep coves, bays, and islands, which in some parts almost fill the lake. Many of these islands are mere ledges of slate, covered with a scanty growth of cedar and fir, rising perpendicularly from the surface of the water, which fall suddenly to a great depth by their sides. Others are large islands of many acres, well wooded, and bordered by beaches of sand, as well as by ledges of rock. On the eastern side, a few miles from the foot of the lake, rises a high rocky point, called Burned Jacket. It is composed of gneiss, curiously crossed in every direction by veins of quartz. Its sides are covered with huge blocks of gneiss which have fallen from the top, forming long dens and passages between them. On a small, low island, northwest from Moose Island, I found the beach almost covered with fine black ferruginous sand. It is the common black sand used in writing. It lies upon and in a strata with the yellow beach sand, and may be collected in great abundance. Such sand is commonly sold, when put up in pound papers, at six cents each. To obtain large quantities, it might be scooped up with shovels, and afterward separated from the yellow sand by powerful magnets." Take your knife-blade, when charged with the magnet, and immerse it in your sand-box, and quantities will adhere to it, leaving whatever is foreign to itself. "Mount Kineo, to which allusion has already been made, has the appearance of a huge artificial wall of stone rising directly out of the water on the eastern side of the lake, opposite the mouth of Moose River." "We paddled under its cliffs, which jutted out over our heads at a height of five or six hundred feet. Below, they descend perpendicularly ninety feet. The northern and western sides are covered with trees, and slope so that one can reach the top by a path along the edge of the precipice. From its summit is enjoyed a beautiful prospect of the lake, with its islands, and of the adjoining country, forming a most picturesque landscape. The country, to the northward and westward, is generally low. Moose River is seen making its way through it, and finally emptying into the lake on the opposite side. To the eastward the country is more hilly, until the view is lost

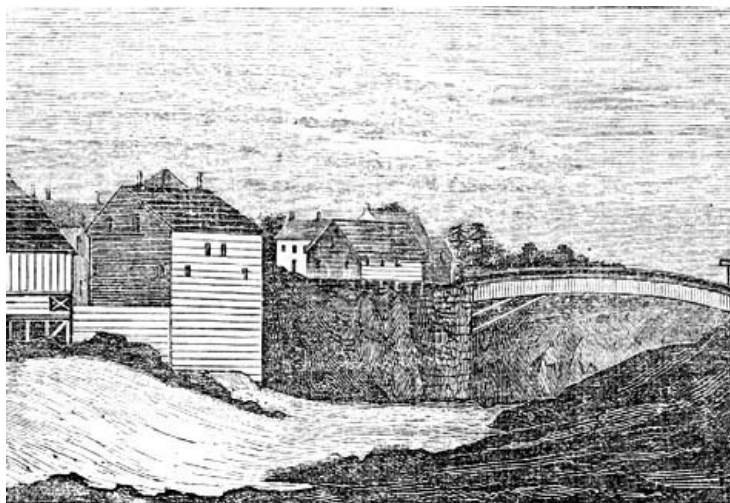
among the mountains of the Ktaadn group. On looking down from the edge of the precipice, we see the water directly beneath; and so steep and overhanging is the rock, that by a single leap one might throw himself from almost the highest point, and strike the water six hundred feet below, and many feet distant from the base of the mountain. Mount Kineo receives its name from that of an old Indian who formerly lived and hunted in its vicinity."

The most striking feature of the Kennebeck is derived from the well-cultivated and beautiful country through which its waters flow. "From Anson to Bath," a distance of about eighty miles, it passes through a particularly well-cultivated section, presenting an extent of territory probably under a higher state of cultivation than any other division of the state.

To use the complimentary and probably truthful remarks of a gentleman long a resident at the capital, Augusta, "No river in the United States, within the same distance, can be found with more pleasant and delightful scenery, more beautiful villages, or a more thriving population." "The principal business places on its banks are, beginning at its mouth, Bath, Richmond, Gardiner, Pittston, Hallowell, Augusta, Waterville, Fairfield, Bloomfield, Millburn, Norridgewock, and Anson. Bath has long been known for its ship-building, having furnished many of the finest ships engaged in our European trade. Richmond, Gardiner, Pittston, and some other towns on the river, have also built many fine vessels. From Merry-meeting Bay (the confluence of the Kennebeck and Androscoggin from the west) to the Dead River is a fine farming country, while the lumbering region on the Kennebeck, for the most part, extends northward to the lake, around it and its tributaries, and at the Dead River. Formerly a considerable quantity of lumber was cut on the Sebesticook; but now the quantity is very much diminished, owing to the scarcity of logs on that river."

There are several noted falls on the river; the first is at Waterville. "The Kennebeck River is there observed rushing through a breach which has been formed by the disruption of stratified argillaceous slate." "The fall of water is from a ledge of these rocks, and varies from eighteen to twenty feet, according to the state of the river."

The next considerable fall on the river is at Skowhegan, "produced by the falling of the Kennebeck over a rocky ledge to the distance of from ten to twelve feet. During the fatal campaign of Arnold, his army encamped upon an island near the falls, and occasionally relics of the encampment are now found, such as pipes, coins, &c."



SKOWHEGAN FALLS, ON THE KENNEBECK.

At Norridgewock the Kennebeck plunges about ten feet over ledges of hard argillaceous slate, which constitute another step in the series of pitches over which the river passes, seeking its home and level in the bosom of the Atlantic Ocean. Nau-lau-chu-wak is said to be the original and true Indian orthography, the sense of which is this: these falls, or this place, is the only obstruction to navigation.

At Caritunk Falls, still further up river, and half a mile from Solon village, "the Kennebeck dashes over hard quartz rock and mica slate ledges, which run northeast, southwest, and dip northwest 60°. Measured barometrically, the fall is sixteen feet perpendicular, but is said sometimes to be upward of twenty feet. The gorge through which the water passes is fifty feet." [21]

The lumbering interests on the Kennebeck still hold a marked prominence.

There is reported on this river and its tributaries, from Bath northward, including all its tributaries (not including the Androscoggin as one), one hundred and fifty saw-mills, several of which, from Augusta down, are driven by steam.

Averaging the various amounts of long lumber, as reported from sources the most reliable, we report 66,900,000 feet as the amount of long lumber sawed in one year, though not the invariable

amount, as this differs on all rivers more or less, as the various influences to which this business is subjected operate. The average price of long lumber has been variously estimated by different gentlemen who have given an opinion, but, from the best evidences before me, I venture to put it down at \$12 per *M*.

But the question here occurs, and to my own mind with distinct impressiveness, Why is there so great a disparity in the prices of long lumber on the Kennebeck and the Penobscot? This question I can not satisfactorily answer to myself, and to it I venture but one suggestion in reply. The probability is, that, in the wholesale slaughter (so to speak) of lumber on the Penobscot, there may be a larger proportion of the fourth, fifth, and sixth qualities of lumber—as it is there distinguished—than on the Kennebeck.

Having made application to some of the most intelligent lumbermen on the Penobscot for a solution of this question, I may yet be able to append such facts as the inquiry may elicit.

From the best sources of information to which I have had access, the following is furnished as a tolerable approximation to the truth in relation to the amount and value of short lumber:

Laths,	17 millions, at	\$100.00 per <i>M</i> .=	\$17,000.
Clap-boards,	4 millions, at	15.00 per <i>M</i> .=	60,000.
Shingles,	26½ millions, at	2.50 per <i>M</i> .=	66,250.

The "Gardiner Fountain" for January 28, 1848, reports the following as the amount of the various denominations of lumber manufactured at Gardiner and Pittston:

"Long lumber, 20,824 *M*.; Shingles, 16,302 *M*.; Clap-boards, 1905 *M*.; and of pickets, 50 *M*." The editor remarks that "the amount of money received for sales on the above lumber is \$445,000." In addition to other kinds of lumber, there are large quantities of door and blind stuff not enumerated.

There remains but one observation to be made touching the lumber business on the Kennebeck. It is estimated by good judges that the present annual amount of lumber on this river may be hauled for ten successive years, after which it will depreciate one fourth every ten years, and thus, in forty years, exhaust the resources of the river.

For the principal facts involved in the above statements, not duly credited already, I am indebted to Mr. A. W. Babcock, an intelligent gentleman and extensive operator on the Penobscot; also to Mr. E. Bartlett, of Augusta, whose zeal in furnishing answers to the various questions proposed for consideration has only been equaled by the degree of readiness which he has manifested to assist me; and to M. Springer, Esq., deputy collector of the customs for the port of Gardiner, Maine.

STATISTICS OF LUMBER ON THE KENNEBECK.

		Average price per <i>M</i> .	Total.
No. of Saw-mills	150.		
Amount of Long Lumber	66,000,900.	\$12.00.	\$802,000.
Amount of Laths	17,000,000.	1.00.	17,000.
Amount of Clap-boards	4,000,000.	15.00.	60,000.
Amount of Shingles	26,000,500.	2.50.	<u>66,250.</u>
			\$946,500.
Probable number of men employed	1,200 to 1,500.		
Probable number of Oxen and Horses employed	1,000.		

Taking leave of the beautiful Kennebeck, the flourishing villages which skirt its borders, and its rich, productive farms, spreading east and west, our attention is next arrested by the serpentine Androscoggin, with its vast water power.

"From Merry-meeting Bay, into which it empties, to Lewiston Falls, it formerly went by the name of Peyepscook or Pyepscook, which means crooked, like a diving snake," strikingly expressive of the zigzag course of the stream, and the numerous pitches in its channel, giving it the appearance, or at least suggesting the idea, of the movements of a diving eel.

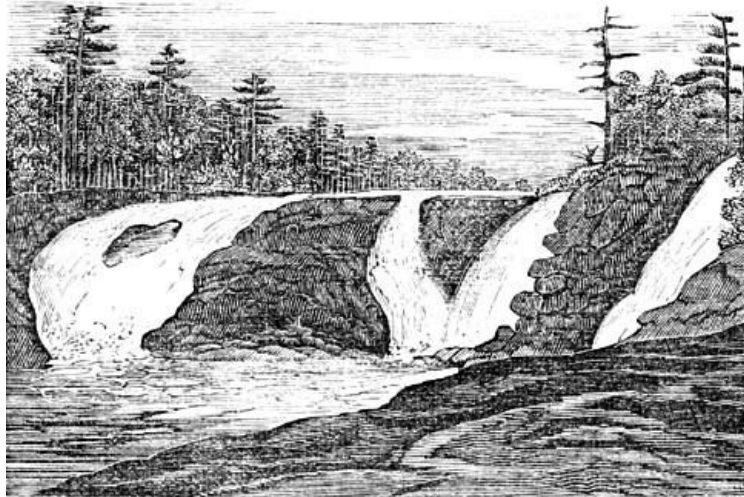
The length of this river is set down at two hundred and fifty miles, though the distance, in a direct line from the point where it takes its rise to its mouth, does not probably exceed one hundred miles. It is this circumstance which gives it an opportunity to drain a large territory, and, though less numerously attended with tributary streams than either the Kennebeck or Penobscot, it is said to discharge more water during the year than either of the latter rivers.

To glance at the map and institute a comparison between the Penobscot and Androscoggin, the former sixty miles longer, with its hundreds of lakes, numerous branches and tributaries, ramifying nearly one third the area of the entire state, in the regions of ice and snow, mountains and wildernesses, then survey the Androscoggin, with comparatively few tributaries or lakes, and the thing seems incredible that the latter annually pours into the Atlantic more water than the

former; yet actual surveys, made by the late Colonel Baldwin, J. A. Beard, Esq., and others, have demonstrated this result with mathematical certainty. In time of freshets, in the spring and fall, doubtless the Penobscot disgorges more water; but during the summer and winter months the waters of the Androscoggin exceed in quantity.

The country through which this river flows, "from Brunswick," a few miles from its junction with the Kennebeck, "to Dixfield, sixty miles distant, is not remarkable in its features; but from the latter place to Umbagog Lake," the grand reservoir of the Androscoggin, "and from Phillips, in Franklin county, westward, up the Megalloway River," the extreme north tributary of the Androscoggin, "some thirty or forty miles, the country is said to be wonderful for its mountains."

Respecting the water power and privileges on this river, Colonel A. J. Stone, to whom I am chiefly under obligations for the facts involved in this part of my work, says, "I doubt whether there is a state in the Union that can show so many as we can on the Androscoggin and its tributaries."



RUMFORD FALLS, ANDROSCOGGIN RIVER.

"There are now three or four water-falls at Rumford, on this river, while anciently there must have been others of greater magnitude, for deep holes are seen worn high up on the rocky banks, where the waters never ran in modern times. Now the whole descent is divided into two principal and two minor falls, the first two being from six to ten feet, the middle seventy feet perpendicular, and the fourth twenty feet, while the whole pitch is estimated at one hundred and eighty feet. It is the middle fall, however, that will attract the attention of the traveler, for there the torrent of water pouring down with the noise of thunder, and dashing itself into foam as it chafes the rocky walls, produces an effect full of grandeur."—*Geological Reports*.

"In the distance of half a mile on the river, at this place (Brunswick), we have forty-one feet fall (three dams across the river), consequently the water may be used in this distance three times." "By a survey made by the late Colonel Baldwin, the capacity of the Androscoggin is sufficient for carrying two hundred thousand spindles." Numerous privileges of the same capacity are of frequent occurrence. All that is requisite to make this river the seat of the most extensive factory operations in the world is capital, and from the superior water power here presented, it is fair to presume that the attention of capitalists may ultimately lead to investments in manufacturing on a magnificent scale.

At Livermore some incipient movements are making for the erection of factories by a company. At Brunswick, a cotton factory, with four thousand six hundred spindles, is already in operation.

In relation to the lumbering business on this river, the chief object of attention in noticing this and the rivers already alluded to, there are "from two to three million feet of lumber run down, and about the same amount is purchased (in the log) on the Kennebeck, and taken up through Merry-meeting Bay, and manufactured at Brunswick yearly."

"Five millions are manufactured into boards, and about one million into clap-boards and shingles, &c. About one half of the five millions manufactured into boards are shipped to Boston, Mass., Providence and Fall River, R.I., and to the West Indies. The remaining half are manufactured here into sugar-box shooks for the Havana market."

The mean or average price which lumber bears per *M*. here is \$14.30. The "resources for lumber on this river are very limited. The principal dealers are about leaving the business, though lumber, in small quantities, will probably be run for twenty or thirty years."

Logs are driven about one hundred and fifty miles, this being the longest drive. Others are hauled on to the river within forty miles of Brunswick.

From the causes alluded to, the Androscoggin is not much affected with drought, nor so seriously

by freshets as most rivers, the mills being protected by ledges. "The river is very crooked, and when we have an *ice* freshet, it is piled up in large quantities in the bends of the river, in some instances for five or six miles. Such was the case nine years since—also last spring; but the damage to our mills in these two ice freshets was but trifling."



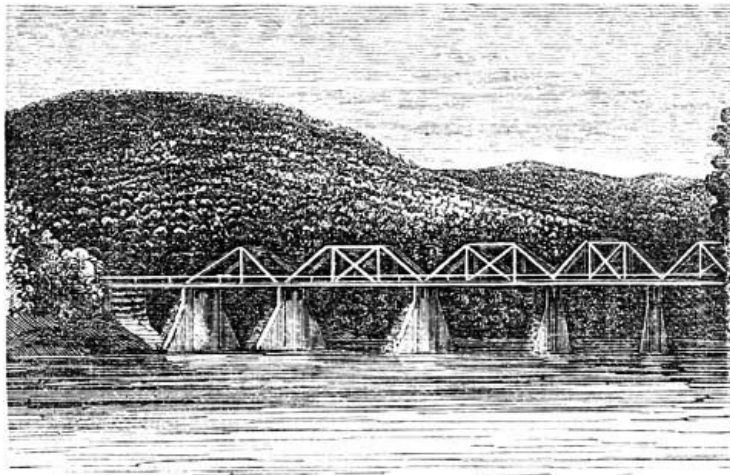
VIEW OF UMBAGOG LAKE—SOURCE OF THE ANDROSCOGGIN.

Umbagog Lake, from which the Androscoggin takes its rise, from the construction of its shores, acts as a regulator upon the height of the water. When the Megalloway rises, it flows into the Androscoggin, and raises its waters, so that they run back into the lake for the distance of two miles, having the appearance of a river running back to its source. The Androscoggin rises from the western side of the lake, and here is a sluggish stream, with low, grassy banks five feet high, covered with scattering swamp Maple-trees. "The Megalloway River is extremely serpentine and wild in its course, winding its way amid high mountains, while its banks are composed of sandy loam, covered thickly with Maple-trees."



FRYE'S FALLS, ON A TRIBUTARY OF ELLIS RIVER.

"The Umbagog Lake is an irregular, shallow sheet of water, with grassy and boggy shores, and is surrounded by lofty mountains of granite, which in September are clothed with the red and yellow foliage of Maple and Birch trees, the former greatly predominating, and covering the mountains to their very summits." Among other objects of romantic interest are "Frye's Falls, in Andover Surplus," upon Frye's Stream, so called. "This stream rushes over a precipitous mass of granite, gneiss, and mica slate rocks, precipitating itself by a fall of twenty-five feet into a rocky basin below. The chasm is fifteen feet wide, and the basin fifty-five feet broad. Here the waters form a beautiful pool, and then leap again, by a second fall of twenty feet, into another larger and shallower reservoir, from which they descend gradually to Sawyer's Brook, running into Ellis River."



RUMFORD BRIDGE, ANDROSCOGGIN RIVER.

There are about sixty saw-mills on this river and its tributaries, thirty-two of which are at Brunswick and Topsham; about two hundred shingle machines, most of which manufacture for home consumption; ten only, or thereabouts, manufacture for markets abroad, which cut about three hundred thousand to a machine. Average price per *M.*, \$2.75. Though there are said to be fifty clap-board machines of some sort on the river, yet only "nine can be reckoned as manufacturing for market," "which, owing to the scanty supply of timber, cut only about fifty *M.*" to a machine. Average price of clap-boards per *M.*, \$22.50. There are only nine lath machines, which, as is reported, for want of material, cut only about two hundred and fifty thousand to a machine. Average price per *M.*, \$1.18.

Throwing the whole, then, into a tabular form, we have presented for our inspection the results of the lumbering operations on the Androscoggin, for the market, as follows:

ANDROSCOGGIN.

		Average price per M.	Total.
No. of Saw-mills	60.		
No. of Shingle Machines	10.		
No. of Clap-board Machines	9.		
No. of Lath Machines	9.		
No. of Long Lumber	5,000,000.	\$14.30.	71,500.
No. of Shingles	3,000,000.	2.75.	8,250.
No. of Clap-boards	450,000.	22.50.	12,375.
No. of Laths	2,250,000.	1.18.	2,773.
			\$94,898.

There is also a small amount of lumber manufactured on the Presumpscot, a small river about fifty miles long, if we include Sebago Pond as a connecting link between Presumpscot Proper and the continuation of the inlet stream, which takes its rise about twenty miles east of the White Mountains in New Hampshire, running southwest, and finally emptying into Casco Bay, a few miles north of Portland.

"There are said to be seventeen falls of water on this river within twenty miles of Portland, each affording a good site for mills, and a sufficient volume of water on each pitch to carry eight hundred looms, together with all other needed machinery for such purposes." "Sebago Lake is a thoroughfare and feeder of the Cumberland and Oxford Canal, and there are between the lake and the sea twenty-six locks of nearly ten feet each, making the fall equal to two hundred and fifty-five feet." The fountains of this river are so springy that "the water never freezes so as to prevent or impede operations," nor are they troubled with droughts; the current is ever-living.

At Sacarappa, on the Presumpscot, there are six saws for long lumber, two shingle and two lath machines. At Great Falls there are four saws, also four more a few miles up the river, and four shingle and four lath machines. Above Sebago Pond there are also four more saw-mills, the produce of which finds a domestic market in the neighboring towns.

The resources for lumber on this river are nearly exhausted, as must be evident from the settled condition of the country through which it runs its short career.

Having no means by which to ascertain the various amounts of lumber manufactured on this river, I will venture upon a calculation, with a view to make results more tangible, keeping in view the scanty resources lumbermen must have in such a country for logs.

There are fourteen saws reported which manufacture for exportation. With a proper head of water and a sufficient number of logs, one saw is capable of cutting a million feet per annum. But, in the absence of the necessary supply of logs, we should feel inclined to limit the amount

manufactured per saw to one hundred and fifty thousand feet, board measure, the average price of which is said to be \$12 per *M*.

Of lath machines there are six reported, capable, under favorable circumstances, of cutting one million pieces per annum to a machine. But in this instance, from the scanty supply of material, we should not feel warranted in an estimate exceeding two hundred thousand to each machine as the average product, worth probably about the same as similar kinds of lumber on the Androscoggin.

Six shingle machines may be supposed to produce a limited amount of this kind of lumber, for the same general reason assigned for the scanty supply of other kinds. Two hundred and fifty thousand to each machine, worth two dollars and fifty cents per *M*., may therefore be considered not extravagant.

Some attention has been given to factory operations on this river at Sacarappa, where there is one mill with three hundred and sixty looms, whether for cotton or wool I am uninformed.

TABLE.

Number of saws manufacturing for market,	14.		
Number of lath and shingle machines, do.,	12.		
Amount of long lumber	2,100,000, at	\$12.00 =	\$25,200.
Number of thousand shingles	1,500,000, at	2.50 =	3,750.
Number of thousand laths	1,200,000, at	1.12 =	<u>1,344.</u>
Total			\$30,294.

Though this is comparatively a small lumber operation, still, provided the truth has been approximated in the estimates made, this done annually amounts to no mean revenue, and affords employment to not a few persons, supplying bread for many mouths, and enriching those who conduct the business. While such operations build up many beautiful villages along the romantic banks of those fine streams and rivers where falls occur, they also give an impulse to the farming interests of the country contiguous, and serve as so many little hearts in the great system, whose pulsations vibrate with general intelligence, education, and improved manners throughout the interior.

For the principal *facts* involved in the view given of the Presumpscot and its lumbering interests, I am mainly indebted to the kindness of E. Clarke, M.D., of Portland, Maine.

The next considerable river is Saco, which rises among the White Mountains of New Hampshire, at the *notch* near where the Ammonoosuc River takes its rise. The Saco, from its source to the Atlantic Ocean, into which it empties, is about one hundred and forty miles in length, its current rapid, and waters clear. In common with many other rivers, some portion of it is exceedingly crooked. Within the single town of Fryeburg its serpentine windings are said to be thirty-six miles, making in this meandering only four miles on a direct line. Fine intervale lands abound in this vicinity, and also in Brownfield.

There are four noted falls on this river. The first is called *Great Falls*, at Hiram, where the water plunges down a ledge of rugged rocks seventy-two feet. At Lemington are the *Steep Falls*, of twenty feet. At Buxton are *Salmon Falls*, of thirty feet; and ten miles below we come to *Saco Falls*, where the river is divided by *Indian Island*, containing thirty acres, and on each side the river tumbles over a precipice of rocks forty-two feet high, and disappears amid the waves of the Atlantic. From the east side of the above-named island, which is fertile and pleasant, the appearance of these falls is majestic.

This river is easily affected by freshets. At such times the water rises ten feet, and sometimes it has risen twenty-five feet; when in many places it overflows its banks, and makes great havoc with property.

This was particularly the case in the great flood of October, 1775, when a large stream, called *New River*, broke out of the *White Mountains*, and bore down every thing in its way, till it found a channel in Ellis River. The Saco, being swelled enormously by this accession to its waters, swept away mills, bridges, domestic animals, and great quantities of lumber.

The burst of New River from the mountains was a great phenomenon; and as its waters were of a reddish brown or blood color, the people considered it an ill omen in those times of revolution.

[22]

In regard to the lumbering interests on this river we know but little, save that in years gone by it has constituted a large share of the business done on the river, and that at the present time it has so much diminished as to be comparatively unimportant. [23]

CHAPTER VI.

NEW BRUNSWICK.

Object of the Chapter.—Description of St. John's River.—First Falls.—Contiguous Country.—"Mars Hill."—Prospect.—Grand Falls.—The Acadians, curious Facts respecting them.—The Mirimachi River.—Immense amount of Timber shipped.—Riots.—State of Morals.—The great Mirimachi Fire.—Hurricane.—Destruction of Human Life.—Area of the Fire.—Vessels in Harbor.—Painfully disgusting Sights.—Destruction among Fish.—Fire, rapidity of Progress.—Curious instance of Escape.—Ristigouche River, its Length.—Capacious Harbor.—Appearance of the Country.—High Banks.—Groves of Pine.—A Statistical Table.

With a view to give a general outline of the immense capacities of the strip of country lying east of the St. Lawrence, between the latitudes of 42° and 44° north, I shall include (as the terminus of Maine, not regarding geographical lines) that part of the country known as the province of New Brunswick, whose lumber in quality has, in years past, quite outrivalled that of Maine.

The River St. John's, the Mississippi of the East, "has a course of nearly six hundred miles from its source, near the Chaudière, in Lower Canada, to where it falls into the Bay of Fundy. At its entrance into the harbor the river passes through a fissure of solid and overhanging rock, exhibiting every appearance of having been formed by some convulsion of nature. The volume of water collected in a course of so many hundred miles, being here compelled to pass through so narrow a passage as thirteen hundred feet, occasions what are called the Falls of St. John's, which are merely a sluice on a grand scale. At times of great floods, the appearance from the overhanging precipices is truly wonderful, and the noise tremendous, particularly on the ebb of tide. The ordinary rise of the tide above the falls is only six feet, and then only when the river is not swollen. The tide must flow twelve feet below before the river becomes passable for vessels; the time for such passage lasts about twenty minutes after the rise of tide creates a fall from below; on the returning tide the water becomes level for the same space of time, and thus only at four times in the twenty-four hours can vessels enter St. John's harbor, in which the rise of tide is from twenty-five to thirty feet. Above the falls the river widens, and forms a bay of some magnitude, surrounded by high and rugged woodland. Passing up the bay, huge calcareous rocks, and vast, dark pine forests stretch up the sides of lofty hills and promontories."

From the city of St. John's, which is contiguous to the falls, up to Fredericton (the seat of government), ninety miles distant, there is much to admire in the bays and beautiful islands which dot its limpid waters. A great portion of the land skirting its banks is alluvial, running back to beautiful ridges which swell up in the distance, and "the result is a luxuriant landscape." "For one hundred and thirty miles further the river flows through a fertile wooded country." "Sixty-three miles above Fredericton are the towns of Northampton and Woodstock. The next conspicuous place we reach is Mars Hill, about five miles and a half west of the River St. John's, and one hundred from Fredericton. This town has considerable interest attached to it from the circumstance of its being the point fixed on by the British commissioners as the commencement of the range of highlands forming the boundary of the United States. The mountain is about three miles in length, with a base upward of four miles, an elevation of two thousand feet above the sea, and twelve hundred above the source of the St. Croix. Near the summit it is almost perpendicular. As it is the highest point in its vicinity, the prospect commands a great extent of territory. Immediately beneath stretch the vast forests of which the adjacent country is composed, whose undulatory swells, 'clothed with the somber evergreen of the Fir, Spruce, Hemlock, and Pine, and the lighter green of the Beech, the Birch, and Maple, resembling, while they exceed, the stupendous waves of the ocean.' About twenty-five miles north, on the St. John's, we come to the Grand Falls, where the river passes, greatly contracted, between rugged cliffs, overhung with trees, sweeping along a descent of several feet with fearful impetuosity, until the interruption of a ridge of rocks changes the hitherto unbroken volume into one vast body of turbulent foam, which thunders over a perpendicular precipice, about fifty feet in height, into a deep vortex among huge black rocks, when the St. John's rolls out impetuously through a channel still more confined in width over a succession of falls for about a mile, the cliffs here overhanging the river so much as to conceal it."

"When the sun's rays fall upon the mists and spray perpetually rising from the cataract, a gorgeous *iris* is seen floating in the air, waving its rich colors over the white foam, and forming a beautiful contrast with the somber rocks, covered with dark cedars and pines, which overhang the abyss."

"The St. John's is much broader above the falls than it is below; and there are but few rapids, and none of them dangerous to navigate." About thirty miles above the falls we come to the 'Madawaska settlement, the population of which is estimated at three thousand souls.' "Most of the settlers are French neutrals or Acadians, who were driven by British violence from their homes in Nova Scotia (called by the French Acadia) on the 17th of July, 1775. These people at first established themselves above Fredericton, and subsequently removed above the Grand Falls, and effected this settlement. The Acadians are a very peculiar people, remarkable for the

simplicity of their manners and their fidelity to their employers. Although they are said to be 'sharp at a bargain,' they are remarkably honest, industrious, and respectful, and are polite and hospitable to each other and to strangers. It is curious to observe how perfectly they have retained all their French peculiarities. The forms of their houses, the decorations of their apartments, dress, mode of cookery, &c., are exactly such as they originally were in the land of their ancestors. They speak a kind of *patois*, or corrupted French, but perfectly understand the modern language as spoken in Paris. But few persons can be found who can understand or speak English, and these are such as, from the necessities of trade, have learned a few words of the language. None of the women or children either understand or speak English.

"The Acadians are a cheerful, contented, and happy people, social in their intercourse, and never pass each other without a kind salutation. While they thus retain all the marked characteristics of the French peasantry, it is a curious fact that they appear to know but little respecting the country from which they originated, and but few of them have the least idea of its geographical situation. Thus we were asked, when we spoke of France, if it were not separated from England by a river, or if it were near the coast of Nova Scotia; and one inquired if Bethlehem, where Christ was born, were not a town in France!! Since they have no schools, and their knowledge is but traditional, it is not surprising that they should remain thus ignorant of geography and history. I can account for their understanding the pure French language from the circumstance that they are supplied with Catholic priests from the mother country, who of course speak to them in that tongue. Those who visit Madawaska must remember that no money passes current there but silver, for the people do not know how to read, and will not take bank-notes, as they have often been imposed upon, since they are unable to distinguish a £5 from a \$5 or five shilling note. As there are no regular taverns in this settlement, every family the traveler calls upon will furnish accommodations, for which they expect a reasonable compensation, and he will be always sure of kind treatment, which is beyond price. I have been thus particular to speak of the Acadian settlers of Madawaska, because little is generally known of their manners and customs, many people having the idea that they are demi-savages, because, like the aboriginal inhabitants, they live principally by hunting." [24]

There are several important tributaries to the St. John's, and among them mention may be made of the Aroostook, which, from its historical associations with the boundary question between the States and Great Britain, has become familiar to all. "This river is a broad and beautiful stream, having a gradual descent, free from obstructions, so that a raft may run to the falls at its confluence with the St. John's," a distance of over one hundred miles. "Its bottom is composed of pebbles for the principal part of its course, and there are a few low islands in its midst." The soil varies on different sections of the river as you pass down, sometimes being of a "chocolate brown" or "yellow loam," the latter being in some places covered with "a black vegetable mold several inches deep." The country around is covered with a majestic grove, composed of towering Pines, Rock-maple, and the various Birches, Spruce, Fir, &c. Where the attempt has been made, the soil is found to be exceedingly productive. Its principal products are square timber, hewn from the giant Pines found upon its borders, and sugar, produced from the sap of the Rock-maple, magnificent groves of which grow upon its banks. Beds of iron ore are found in its vicinity, and in some places limestone abounds; 'and, from indications, it is highly probable that beds of anthracite coal will, when necessity shall prompt investigation, be found in its vicinity.' In an agricultural point of view, it has been remarked, by competent judges, that "there were never greater natural advantages offered to the farmer than are to be found upon this river," and that it "will" in time "become, as it is destined by nature to be, the granary of the North."



AROOSTOOK FALLS, ON AROOSTOOK RIVER.

Among the most interesting objects to be met are the Ox-bow and Aroostook Falls. The former consists of a crook in the river, which "forms a curvature of one mile, while the neck of land included between the two portions of the curve is but twenty rods across, so that it is customary for the Indians to carry their canoes over this portage." The falls occur near its junction with the St. John's. "The water is very rapid, and rushes over ledges of slate and limestone rocks for three

fourths of a mile." "Then the river precipitates itself over a steep and broken ledge fifteen feet into a wide basin below." In the rocks there are "pot-holes," "five feet in diameter and four feet deep," "worn in the limestone by the grinding motion of rounded stones moved by the impetuous current."

The reader will see in the cut a picturesque view of a section of this beautiful water-fall, with its high ledges, overhung with a heavy growth of cedar-trees. The country in the vicinity of the falls "becomes more elevated, and lofty precipices of limestone and calciferous slate rise on each bank of the river, while the country in the rear is broken, hilly, and covered with an abundant mixed growth of forest trees."

We next turn our attention to the "Mirimachi," one of the principal rivers of the province, "which falls into the Gulf of St. Lawrence in 47° 10' north latitude, 64° 40' west longitude, forming at its estuary a capacious bay, with several islands, and a ship channel for vessels of seven hundred tons burden, and navigable upward of thirty miles from the sea. Chatham, Douglass, and Newcastle are the principal towns, situated on the banks of the river, about twenty-five miles from its mouth. At these settlements upward of two hundred vessels annually load with timber for Great Britain, &c. Seven miles above Chatham the Mirimachi divides into two branches, one running southwest and the other northwest. The southwest branch of the river contains more water than the River Thames from London upward. The sea-coast of Mirimachi is low, but inland the country rises in some places, consisting of extensive and rich intervalles, in others of a rugged, rocky territory."

This river is particularly prominent, in the history of New Brunswick, for the astonishing amount of ton timber which was formerly procured from the territory bordering it, and as the scene of a bloody and protracted riot on the part of the Irish population, chiefly emigrants, who rose *en masse*, and attempted to drive the Americans, who had flocked there in large numbers, from the country. Desperate encounters took place from time to time between small parties, but the Americans maintained their ground against fearful odds, and after the lapse of a few months quiet and order again prevailed. But in a more particular and impressive sense will the Mirimachi be remembered as the scene of one of the "most terrible natural conflagrations of which we have any record in the history of the world." The annexed account [25] will be found deeply interesting.

"The person who has never been out of Europe," and, we may add, out of *our* cities and older portions of country in the States, "can have little conception of the fury and rapidity with which fires rage after a continuation of hot seasons in North America and New Holland, when the dry underwood and fallen leaves, in addition to the resinous quality of the timber, afford combustible materials in the greatest abundance. I have seen the side of a mountain thirty miles long burning in New Holland, and illumining the sky for many miles; but the following description by an eye-witness (Mr. Coony), of the great Mirimachi fire, exceeds any thing of the kind that ever occurred."

"The summer of 1825 was unusually warm in both hemispheres, particularly in America, where its effects were fatally visible in the prevalence of epidemical disorders. During July and August, extensive fires raged in different parts of Nova Scotia, especially in the eastern division of the peninsula. The protracted drought of the summer, acting upon the aridity of the forests, had rendered them more than naturally combustible; and this, facilitating both the dispersion and the progress of the fires that appeared in the early part of the season, produced an unusual warmth. On the 6th of October, the fire was evidently approaching New Castle; at different intervals fitful blazes and flashes were observed to issue from different parts of the woods, particularly up the northwest, at the rear of New Castle, in the vicinity of Douglasstown and Moorfields, and along the banks of the Bartibog. Many persons heard the crackling of falling trees and shriveled branches, while a hoarse, rumbling noise, not dissimilar to the roaring of distant thunder, and divided by pauses, like the intermittent discharges of artillery, was distinct and audible. On the 7th of October the heat increased to such a degree, and became so very oppressive, that many complained of its enervating effects. About twelve o'clock, a pale, sickly mist, lightly tinged with purple, emerged from the forest and settled over it.

"This cloud soon retreated before a large dark one, which, occupying its place, wrapped the firmament in a pall of vapor. This encumbrance retaining its position till about three o'clock, the heat became tormentingly sultry. There was not a breath of air; the atmosphere was overloaded; and irresistible lassitude seized the people. A stupefying dullness seemed to pervade every place but the woods, which now trembled, and rustled, and shook with an incessant and thrilling noise of explosions, rapidly following each other, and mingling their reports with a discordant variety of loud and boisterous sounds. At this time the whole country appeared to be encircled by a *fiery zone*, which, gradually contracting its circle by the devastation it had made, seemed as if it would not converge into a point while any thing remained to be destroyed. A little after four o'clock, an immense pillar of smoke rose, in a vertical direction, at some distance northwest of New Castle for a while, and the sky was absolutely blackened by this huge cloud; but a light northerly breeze springing up, it gradually distended, and then dissipated into a variety of shapeless mists. About an hour after, or probably at half past five, innumerable large spires of smoke, issuing from different parts of the woods, and illuminated by flames that seemed to pierce them, mounted the sky. A heavy and suffocating canopy, extending to the utmost verge of observation, and

appearing more terrific by the vivid flashes and blazes that darted irregularly through it, now hung over New Castle and Douglass in threatening suspension, while showers of flaming brands, calcined leaves, ashes, and cinders seemed to scream through the growling noise that prevailed in the woods. About nine o'clock (P.M.), or shortly after, a succession of loud and appalling roars thundered through the forests. Peal after peal, crash after crash, announced the sentence of destruction. Every succeeding shock created fresh alarm; every clap came loaded with its own destructive energy. With greedy rapidity did the flames advance to the devoted scene of their ministry; nothing could impede their progress. They removed every obstacle by the desolation they occasioned, and *several hundred miles of prostrate forests* and smitten woods marked their devastating way.

"The river, tortured into violence by the hurricane, foamed with rage, and flung its boiling spray upon the land. The thunder pealed along the vault of heaven—the lightning appeared to rend the firmament. For a moment all was still, and a deep and awful silence reigned over every thing. All nature appeared to be hushed, when suddenly a lengthened and sullen roar came booming through the forests, driving a thousand massive and devouring flames before it. Then New Castle and Douglasstown, and the whole northern side of the river, extending from Bartibog to the Naashwaak, a distance of more than one hundred miles in length, became enveloped in an immense sheet of flame, that spread over nearly *six thousand square miles!* That the stranger may form a faint idea of the desolation and misery which no pen can describe, he must picture to himself a large and rapid river, thickly settled for one hundred miles or more on both sides of it. He must also fancy four thriving towns, two on each side of this river, and then reflect that these towns and settlements were all composed of wooden houses, stores, stables, and barns; that these barns and stables were filled with crops, and that the arrival of the fall importations had stocked the warehouses and stores with spirits, powder, and a variety of combustible articles, as well as with the necessary supplies for the approaching winter. He must then remember that the cultivated or settled part of the river is but a long, narrow strip, about a quarter of a mile wide, lying between the river and almost interminable forests, stretching along the very edge of its precincts and all around it. Extending his conception, he will see the forests thickly expanding over more than six thousand square miles, and absolutely parched into tinder by the protracted heat of a long summer.

"Let him then animate the picture by scattering countless tribes of wild animals, and hundreds of domestic ones, and even thousands of men in the interior. Having done all this, he will have before him a feeble outline of the extent, features, and general circumstances of the country which, in the course of a few hours, was suddenly enveloped in fire. A more ghastly or a more revolting picture of human misery can not well be imagined.

"The whole district of cultivated land was shrouded in the agonizing memorials of some dreadful deforming havoc. The songs of gladness that formerly resounded through it were no longer heard, for the voice of misery had hushed them. Nothing broke upon the ear but the accents of distress; the eye saw nothing but ruin, and desolation, and death. New Castle, yesterday a flourishing town, full of trade and spirit, and containing nearly one thousand inhabitants, was now a heap of smoking ruins; and Douglasstown, nearly one third of its size, was reduced to the same miserable condition. Of the two hundred and sixty houses and store-houses that composed the former, but twelve remained; and of the seventy that comprised the latter, but six were left. The confusion on board of one hundred and fifty large vessels, then lying in the Mirimachi, and exposed to imminent danger, was terrible—some burned to the water's edge, others burning, and the remainder occasionally on fire.

"Dispersed groups of half-famished, half-naked, and houseless creatures, all more or less injured in their persons, many lamenting the loss of some property, or children, or relations and friends, were wandering through the country. Of the human bodies, some were seen with their bowels protruding, others with the flesh all consumed, and the blackened skeletons smoking; some with headless trunks and severed extremities; some bodies burned to cinders, others reduced to ashes; many bloated and swollen by suffocation, and several lying in the last distorted position of convulsing torture; brief and violent was their passage from life to death, and rude and melancholy was their sepulcher—'unknelled, uncoffined, and unknown.' The immediate loss of life was upward of five hundred beings! Thousands of wild beasts, too, had perished in the woods, and from their putrescent carcasses issued streams of effluvium and stench that formed contagious domes over the dismantled settlements. Domestic animals of all kinds lay dead and dying in different parts of the country. Myriads of salmon, trout, bass, and other fish, which, poisoned by the alkali formed by the ashes precipitated into the river, now lay dead or floundering and gasping on the scorched shores and beaches, and the countless variety of wild fowl and reptiles shared a similar fate."

Such was the violence of the hurricane, that large bodies of ignited timber, and portions of the trunks of trees, and severed limbs, and also parts of flaming buildings, shingles, boards, &c., were hurried along through the frowning heavens with terrible velocity, outstripping the fleetest horses, spreading destruction far in the advance, thus cutting off retreat. The shrieks of the affrighted inhabitants mingling with the discordant bellowing of cattle, the neighing of horses, the howling of dogs, and the strange notes of distress and fright from other domestic animals,

strangely blending with the roar of the flames and the thunder of the tornado, beggars description.

Their only means of safety was the river, to which there was a simultaneous rush, seizing whatever was buoyant, however inadequate; many attempted to effect a crossing; some succeeded; others failed, and were drowned. One woman actually seized an ox by the tail just as he plunged into the river, and was safely towed to the opposite shore. Those who were unable to make their escape across plunged into the water to their necks, and, by a constant application of water to the head while in this submerged condition, escaped the dreadful burning. In some portions of the country the cattle were nearly all destroyed. Whole crews of men, camping in the interior, and engaged in timber-making, were consumed.

Such was the awful conflagration of 1825 on the Mirimachi.

This event, of course, put a great check upon the lumbering operations of that section; but since that period, the places named, "phoenix-like, have risen from their ashes finer towns than they were before the period of that terrific conflagration." Hundreds of shipping annually load with lumber, which is exported to the mother country.

The next considerable river in this region is the Ristigouche, larger than the Mirimachi, "two hundred and twenty miles long." "The entrance to this river is about three miles wide, formed by two high promontories of red sandstone." "For eighteen miles up this river, one continuous, safe, and commodious harbor for the largest class of ships is found." "Two hundred miles from its embouchure, whither the tide flows, it is upward of a mile wide; and from thence to within forty miles of its source it is navigable for barges and canoes." "The appearance of the country" on this river "is exceedingly grand and impressive; wherever the eye wanders, nothing is to be seen but an immeasurable dispersion of gigantic hills, with an infinite number of lakes and streams, glens and valleys. Some of the mountains are clothed with the tall and beautiful Pine; others sustain a fine growth of hard-wood; many have swampy summits, and several terminate in rich meadows and plains; in form some are conical, others exhibit considerable rotundity, many lank and attenuated, and not a few of most grotesque shapes. Sometimes the precipitous banks of the river are three hundred feet above its bed. Seventy miles from the sea the country becomes comparatively level, and all the way to the head of the Ristigouche is a fine, bold, open territory, consisting of a rich upland, skirted with large tracks of intervale, and covered with a dense and unviolated growth of mixed wood, in which large groves of Pine are very conspicuous." On this river the Pine is said to be of a very superior quality.

Other rivers might be named of no ordinary interest and capacity.

The following table gives an account of the lumbering installments and products of New Brunswick, as taken from the "History of Nova Scotia, Cape Breton," &c., &c.:

COUNTIES	Establishments for sawing, &c.	Estimated value of all mills,	Estimated quantity of lumber sawed at the mills during the year.	Estimated value of lumber sawed and carried to places of shipment.	Number of men employed in logging, sawing, and bringing to places of shipment.
		Estimated including all improvements: viz., privilege, site, sluices, land, dams and piers.			
		£	Feet.	£	
St. John's	29	31,700	11,305,000	28,262	320
King's	30	14,800	3,905,000	9,785	287
Gloucester	7	15,500	2,920,000	6,050	105
Westmoreland.	53	18,530	8,805,000	22,012	324
Kent	10	6,950	2,650,000	6,575	84
Northumberland	15	44,350	15,600,000	39,800	800
Sudbury	7	8,500	4,500,000	11,250	103
Queen's	6	9,200	6,200,000	15,500	118
Charlotte	42	64,500	38,955,000	99,475	1,357
York	29	18,000	9,000,000	22,500	300
Grand Total	228	232,030	103,840,000	261,210	3,792

To this amount of manufactured lumber may be added about two hundred and fifty thousand tons of square timber; this is not far from the annual amount manufactured in this province. Four dollars per ton is about a medium price; this gives a product of \$1,000,000. To this we may add, as the product of masts, staves, shingles, per annum, \$20,000. [26]

Grand total of the lumbering produce in dollars, reckoning four dollars to the pound:

Long lumber	\$1,041,840
Square timber	1,000,000

Other lumber as above 20,000
\$2,061,840.

THE END.

Footnotes

[1] Mass. Reports.

[2] Mass. Reports, Trees, &c.

[3] Emerson's Reports.

[4] Reports on Trees and Shrubs of Massachusetts.

[5] "With very few exceptions, the Pines are monœcious (having the male and female flowers on the same tree). The yellow pollen, which is very abundant, often falls in such quantities upon the branches and leaves below, and upon the neighboring plants, as to cover them; and being as light and fine as dust, it has been sometimes carried by the wind from a forest of Pines and spread upon the ground at a great distance. This affords a probable explanation of the stories which have been told, and which have been regarded with superstition or incredulity, of showers of sulphur."

Lambert, describing the common Scotch Fir, says, "The pollen is sometimes in spring carried away by the wind in such quantities as to alarm the ignorant with the notion of its raining brimstone."

[6] The amount of this wood annually consumed on the rail-roads in Massachusetts is valued at \$200,000.

[7] Since writing the above, the following account has come to hand: "The Bald Cypress of Oaxana (*Taxodium distichum*) and the famous Chestnut of Ætna have been often cited as the giants of the vegetable kingdom. But these sovereigns are dethroned, and put into the second rank by those lately discovered in Tasmania, which leave far behind them those antique monuments of nature. Last week I went to see the two largest trees existing in the world. Both of them are on the border of a small stream tributary to the river of Northwest Bay, in the rear of Mount Wellington. They are of the species named there Swamp Gum; I and my companions (five of us) measured them. One of them had fallen; we therefore easily obtained its dimensions. We found its body two hundred and twenty feet from the ground to the first branch. The top had broken off and partly decayed, but we ascertained the entire height of the tree to have been certainly three hundred feet. We found the diameter of the base of it to be thirty feet, and at the first branch twelve feet. Its weight we estimated to be four hundred and forty tons. The other tree, now growing without the least sign of decay, resembles an immense tower rising among the humble Sassafras-trees, although very large in fact. The Gum-tree at three feet above the ground measured one hundred and two feet in circumference. In the space of a square mile, I think there were not less than one hundred of these trees, none less than forty feet in circumference. It must require several thousand years to produce the largest one."—*Revue Horticole*.

[8] "Rave," the railing of the sled.

[9] The adventures of a mess-mate.

[10] Old fallen trees.

[11] I should make one exception; J. G. Whittier has lifted his gifted pen for them.

[12] To the following gentlemen, viz., Messrs. Todd & Darling, J. M'Alister, Esq., of St. Stephen's, and to W. Pike, Esq., port surveyor; L. L. Lowell, Esq., and other gentlemen of Calais, I am under lasting obligations for the courteous and intelligent manner in which they responded to the various questions proposed in preparing the statistics for the above table.

[13] For the most important facts involved in the annexed statement I am chiefly indebted to the kindness of Deacon Talbot, of East Machias, and to other gentlemen engaged in the business residing at West Machias.

[14] Dr. Jackson.

[15] Since the above was written, fourteen townships more have become available.

[16] *Sec. III. Of the Treaty between the States and Great Britain, 1842.*—In order to promote the interests and encourage the industry of all the inhabitants of the countries watered by the River St. John's and its tributaries, whether living within the State of Maine or the province of New Brunswick, it is agreed that where, by the provisions of the present treaty, the River St. John's is declared to be the line of boundary, the navigation of the said river shall be free and open to both parties, and shall in no way be obstructed by either; that all the produce of the forest in logs, lumber, timber, boards, staves, or shingles, or of agriculture, not being manufactured, grown on any of those parts of the State of Maine watered by the River St. John's or by its tributaries, of which fact reasonable evidence shall, if required, be produced, shall have free access into and through the said river and its said tributaries, having their source within the State of Maine, to and from the seaport at the mouth of the River St. John's, and to and around the falls of the said river, either by boats, rafts, or other conveyance; that, when within the province of New Brunswick, the said produce shall be dealt with as if it were the produce of the said province; that, in like manner, the inhabitants of the territory of the Upper St. John's, determined by this treaty to belong to her Britannic majesty, shall have free access to and through the river for their produce, in those parts where the said river runs wholly through the State of Maine: *Provided, always,* That this agreement shall give no right to either party to interfere with any regulations not inconsistent with the terms of the treaty, which the governments, respectively, of Maine or of New Brunswick may make respecting the navigation of the said river, where both banks thereof shall belong to the same party.

[17] The amount varies from year to year, sometimes exceeding, and then again falling short of the amount above stated.

[18] Sawed on the river and from the country.

[19] There are various other kinds of short lumber, such as staves, sash and window-blind stuff, not enumerated.

[20] The author, in preparing the above statement, has availed himself of the most reliable sources of information, and would particularly mention the following gentlemen, to whose intelligence and kindness he is particularly obligated Mr. S. Harris, of the surveyor general's office; Rufus Dwinel, Esq., and Mr. Taylor, of Bangor; also A. W. Babcock, Esq., and several other gentlemen of Orono.

[21] Geological Reports of Maine.

[22] Williamson's History of Maine.

[23] Several letters were written to different gentlemen at Saco, such as were named to me by their friends abroad, for information on this subject; but from some cause, they have remained silent, having taken no notice of my letters, which, I am happy to say, forms but *one*, and the only exception to the prompt and intelligent responses the author has received from gentlemen wherever his inquiries have been directed, whether to the province of New Brunswick, or to gentlemen in Calais, Bangor, Augusta, Brunswick, and Portland, Maine.

[24] Dr. Jackson's Geological Reports.

[25] History of Nova Scotia and New Brunswick.

[26] Having no data upon which to form an estimate of the amount of these products, we simply give this result as problematical. It probably falls short very far of the true annual value.

*** END OF THE PROJECT GUTENBERG EBOOK FOREST LIFE AND FOREST TREES:
COMPRISING WINTER CAMP-LIFE AMONG THE LOGGERS, AND WILD-WOOD ADVENTURE

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