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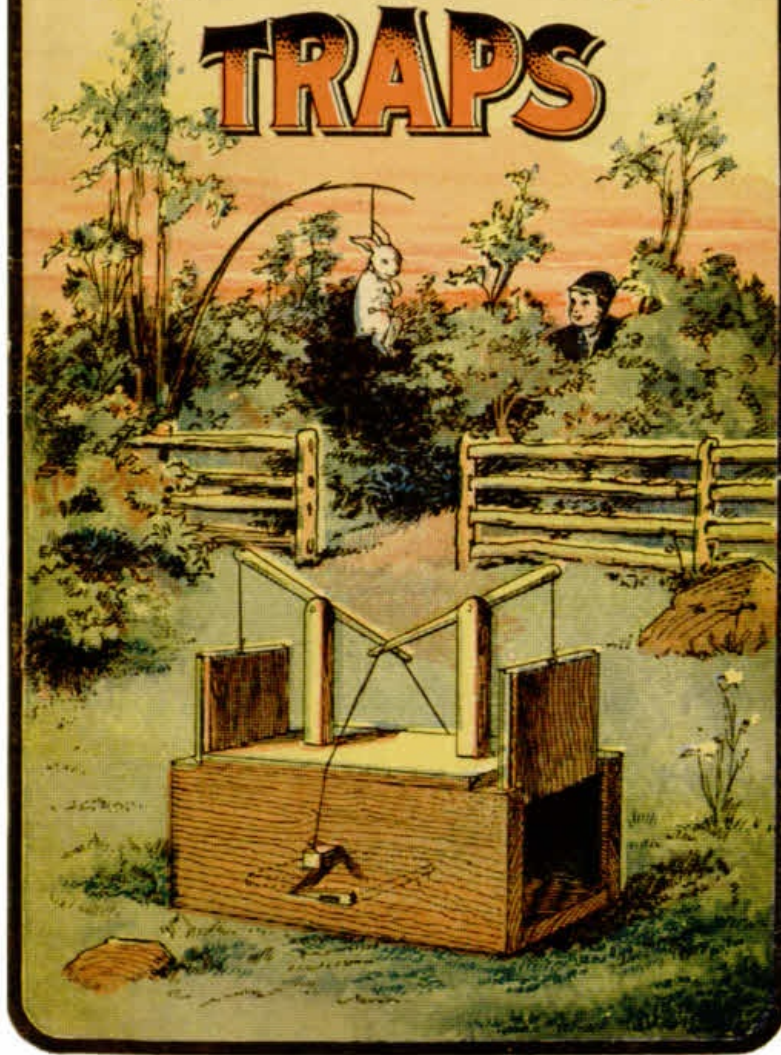
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# HOW TO MAKE AND SET TRAPS



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# **How to Make and Set Traps**

**Including Hints on How to Trap**

**Moles, Weasels, Otter, Rats, Squirrels and Birds.**

**ALSO HOW TO CURE SKINS.**

**COPIOUSLY ILLUSTRATED.**

**By J. HARRINGTON KEENE.**

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## I. THE MOLE.

Dirt has been defined as "matter in the wrong place." It is very useful, and, indeed, indispensable, as earth in a garden, but decidedly unbecoming and dirty when on your face or clothes. In a similar way, most of the creatures termed "vermin" are in themselves very graceful and beautiful specimens of the Creator's handiwork, but when they encroach on man's paths of progress and improvement they become "vermin," and though all life should be looked upon as a fearful and wonderful thing, not to be lightly taken from its possessor, they are then justifiably slain.

The little gentleman in black velvet—the mole—is a lovely-coated little fellow, possessing many virtues, such as courage, industry, and parental affection, but when he once gets into your father's garden, which has probably cost money and exceeding care to render it neat and productive, our little friend is transformed into one of the most troublesome of "vermin," and must be relentlessly sacrificed by the trapper. If this is not done, Master Mole will himself sacrifice the crops in his efforts to get at the worms, which, as the late Charles Darwin so conclusively showed, are one of the great regenerating forces of the land's fertility.

Look at rats again. See how lithe and agile they are, how fond of their young, and provident in storing food for future consumption; yet they are without a redeeming excellency if, like dirt, they are in the wrong place—as they are, by the way, pretty certain to be.

Of the squirrel Mr. Ruskin, in his marvelously eloquent way, has said: "Of all quadrupeds ... there is none so beautiful or so happy as the squirrel. Innocent in all his ways, harmless in his food, playful as a kitten, but without cruelty, and surpassing the dexterity of the monkey, with the grace of a bird, the little dark-eyed miracle of the forest goes from branch to branch more like a sunbeam than a living thing. The chamois is slow to it, and the panther clumsy. It haunts you, listens for you, hides from you, looks for you, loves you, as if it were a plaything invented by the angel that walks by your children."

[4]

Alas! there is a reverse side to this beautiful word-picture of the great art critic. The gamekeeper will tell you that mischievous Master "Squiggy" is very fond of birds' eggs—many a tiny wren, and many a sweet-voiced blackbird has discovered this also—and that he above all will often suck the dove-hued eggs of the pheasant. Much, therefore, as I admire this little creature when he is in his native fir-tree, I shall tell you how to catch him alive, so that he may be kept away from doing harm.

Again, the brilliant kingfisher, flashing by you like a beam of azure light, is in his right place near the stickleback pond, but on my trout river he is "vermin." The same exposition of the properties of vermin might be followed out in reference to all the creatures I intend to hereafter teach you how to capture or destroy.

So much by way of introduction, and now suppose, as I have above referred to "the little gentleman in the velvet suit," we begin with him. Do not be alarmed at the few items of natural history I am going to give you in reference to each "varmint." It is better for you to know about the funny little ways of the lower creation now than wait till you are men, and perhaps unable to devote much time to the acquisition of such knowledge. Besides, there is nothing mean or paltry in such studies. Why, the great German Heber and our hardly less great Sir John Lubbock have devoted their lives to ants and such small fry till marvels of intelligence in these insects have been unfolded to their wondering vision. Even the wise and mighty King Solomon did not forget them. Do not despise small things because they are small, therefore, for are we not ourselves as motes and specks of dust in the sunbeam in the immensity of God?

I most, however, return to the mole, or you may accuse me of preaching a sermon when you were expecting to hear how to catch vermin.

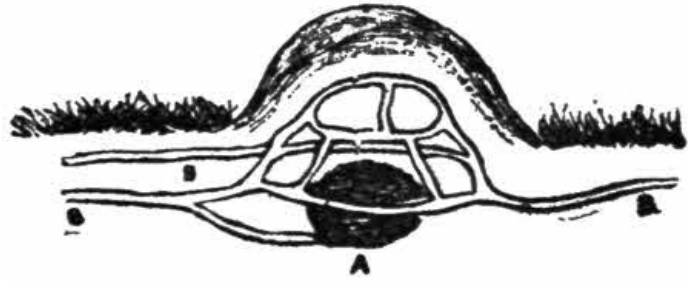
Well, the scientific name of the mole is *Talpa Europæa*, and its distribution is all over Europe. France, Italy, Spain, Portugal, Germany, Holland, Sweden, and Denmark alike produce it as well as our own land. The main thing—or one of them—that arrests the attention on first seeing the mole is the very hand-like fore paws. These are attached to the body by a short forearm, and suggest immense strength—which, as a matter of fact, they possess. They are used for scooping the earth from before and throwing it on one side; and for this purpose the claws are long and trenchant. The hind feet, which are comparatively small, serve the purpose of throwing out the earth behind with incredible quickness. The head also, being sharp-pointed, offers no opposition to this boring through the soft soil, and the eyes, being so tiny, are never injured by the soil through which the pointed snout passes.

[5]

For a long time people failed to discover that the mole possessed eyes, so rudimentary and hidden are they. They are covered by the soft fur, and it is to be presumed that as they are of little or no use in the total darkness of subterranean passages, they serve only to apprise their owner of the approach of light whenever it may find itself near the surface of the ground. It sometimes has happened to me to find a mole strayed from its habitation, I suppose, and on the surface of the soil. From the experiment of putting an obstacle in front of it, and its avoidance thereof, I have come to the conclusion that it can see slightly, though it is evident when you dissect the head that the organs of hearing are vastly more developed than those of sight. The

sense of smell is perhaps stronger than that of hearing—as one would infer from the long, pointed, greyhound-like snout; and this should be borne in mind when setting the trap. If indeed, in the case of any animal, you are told that the sense of smell is well developed, handle the ginsnare or trap as little as possible with the naked hand. There is a distinctive odor in the human hand which animals, whether vermin or not, seem instantly to recognize.

Moles construct a fortress, or habitation, under a hillock or some such convenient protection as a sort of central position, from which they proceed outwards through various “runs” or roads in search of food (see [Fig. 2](#)). This fortress has a dome of earth, which is beaten hard by the creature, and so rendered strong and impervious to rain, snow, dews, or frost. A in [Fig. 2](#) represents the hollow center, which is also dry and hard, whilst B B B signify the ramifying tunnels leading into the galleries of the central fortress,



**Fig. 2.**

[6]

and outwards to the tracts for feeding and exploration, as well as to the nests of the various pairs of sexes forming the community. Along these tracts the individuals travel and obtain their livelihood, never stopping to gossip; for if, indeed, one mole meets another by chance, one must turn out of the way into the nearest alley, or there is a “row,” which generally means death to the weaker—for, let me tell you, Mr. Talpa is a very pugnacious little man when thwarted.

Of course, you know that the food of the mole is chiefly comprised of worms—and speaking of that reminds me of a method I once saw of catching moles, which was cruel but very singular. I was fishing on the Colne, near Wraysbury, and I noticed an old man in the field behind me industriously going over the ground, and here and there drawing out a live mole by means of what seemed a string.

I laid down my rod and went over to him, and after a little persuasion I got to understand the whole bag of tricks. His method was to dig down to a fresh tunnel and “lay” a lobworm, threaded on a rather small fish-hook tied on fine brass wire, covering in the hole with leaves and dirt and securing the wire by a string to a stout peg. The mole, being almost sure to return, would thus take the bait, and in most cases get hooked in the mouth. This seems to me, however, a needlessly cruel way of mole-catching when there are others quite as effectual and practically painless, and I shall therefore not go any farther into the particulars necessary for its practice.

Moles are extremely voracious and, this being so, they crave and enjoy large quantities of water. I have frequently watched moles descending by a beaten run to the water—and, indeed, just opposite where I am writing there is a tiny roadway from a mole hillock to the neighboring ditch. Should a plentiful supply such as this not be handy, the little animal sinks a well for himself, beating the interior hard and forming quite a little shaft, which receives the rain and stores it. I came across one some time ago which was quite a foot in depth and almost full.

I have said that there is a fortress usually built by a colony of moles in the approximate form of [Fig. 2](#), and so there is. The aim of the mole-catcher should be if possible to find out where this central position is and cut off retreat. I have seen the mole-catcher in Windsor Park dig the moles out on finding out this metropolis of moles—as it might be fitly called.

It has been proved that immediately on anything very alarming occurring, they forsake their explorations and flee into the citadel. This is how it was done and who did it.

[7]

Monsieur le Court, a French gentleman, very sensibly believing that there was little else but horror and danger in the tumult and bloodshed of the great French Revolution, fled from the court where he had waited on and been the companion of the highest, and secluded himself in the depth of the country to become the historian and friend of the humble La Taupe, as the French term the mole. M. Geoffrey St. Hillaire visited him, and together they watched their opportunity till one of the moles had penetrated far from the fortress in search of food.

Le Court then placed straws with little flags on the end out of the ground at intervals in the passage behind the mole in such a way that if the creature fled back again it would infallibly knock them down. With a trumpet buried, leaving the mouth-piece out of the ground, he blew a blast loud enough to shake the good-nature out of the best toy of your acquaintance, and instantly one after the other, almost as fast as a horse can trot, down went the little flags till the central home was reached. The mole usually builds at the intersection of several of the roads and not in the habitation. Its nest consists of fibers and dried grass, straw, etc., and the young seldom number more than five. Moles will sometimes take the water, but such instances are extremely rare; there is no reason, however, why it should not be a good swimmer, its front paws being so spatulous and strong.

Mole trapping is very seldom practiced, except by professionals, who besides the blood money generally awarded on the production of each mole’s tail, make a very nice little amount by selling the skins. Still there is nothing difficult about mole catching, and the most stupid boy could render himself successful if he observes a little and follows the directions I am about to give. First, then as to tools, which are indispensable when one is out for a day’s trap-setting. [Fig. 3](#) shows an implement which at A consists of an iron heavy spike which is used for making holes for the insertion of the spring stick of the trap to be described presently. B

[8]

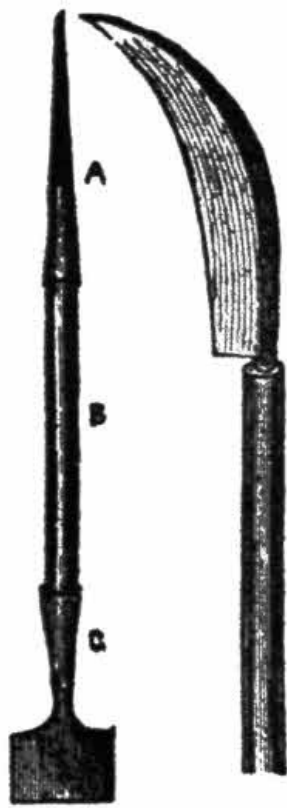


Fig. 3.

is the wooden haft—ash is as good as any; C is a sort of spatula or little spade for digging into a mole run. Fig. 4 shows a light hatchet or a rather long handle for cutting hazel or ash-spring sticks, pointing them, etc.

Now as to the traps themselves. Fig. 5 shows the iron trap, usually sold with galvanized uprights and claws. A indicates the spring which, on the mole by placing its head in the circular orifice of B releasing the latter, closes the claws to, killing the mole instantly. B, of course, is a movable tongue of the shape shown at C, and ought to be tied to the body of the trap in case the mole should by any means escape, pulling the tongue (C) after it. This is, of course, a very neat kind of trap, but a dozen of them would come expensive, and besides, I do not prefer them in actual practice on a large scale, as they are by no means so likely to be viewed without suspicion by the mole as are the homespun traps I am going to describe.

Get a strip of wood (deal is as good as anything) about six inches long by four broad and half an inch thick, like D, Fig. 6. Bore nine holes in it, four for the reception of the ends of two half circular hoops of wood shown at A, and four smaller ones for the two wires at A2 A2 to pass through. One largish hole is made in the center, and through this passes a cord with a knot at the end (C). B shows a piece of wood cut like a little spatula with a somewhat blunt handle or head (see B2). This tongue is placed against the knot when the spring hazel stick E is in position as in Fig. 7. I want you to look carefully at Fig. 6 because it very nearly explains itself.

The whole apparatus is buried in the ground in the run of a mole, and fastened down by sticks stuck athwart and across, as shown at Fig. 7. The stick E is thus kept in position by the knot C and the tongue B and B2. When a mole passes through the circular loops at A A it hits its nose against

[9]



Fig. 5.

B and knocks it out, releasing the knot C, which in turn releases the bent stick, up this flies, and one of the wires A2 are bound to catch the hapless Talpa, compressing it so strongly as to kill it almost instantly.

These are the details of how to set the trap. Having found out a run where the mole-heaps are fresh, or have recently been thrown up, cut down with the spade end of your tool (Fig. 3) into it, and with your hands take out the dirt, feeling for and making clear the direction of the passage each way. Now with the pointed end of Fig. 3 make a

hole slantwise, but not too much so, for the insertion of E (Fig. 6), which should be a hazel, withy, or ash stick from half an inch in diameter. Adjust the string of the trap to the top of it, and then set the tongue, carefully spreading the loops of wire within the hoops. Now, with the left hand on the trap, and assisted by the knee, bend the spring stick down, place the trap in its position, and with the right hand force in some short hazel sticks across and across, as shown in Fig. 7. This done, your trap is set, and a turf can be broken up and spread round the top of it, to keep out any light, from the interior of the run. If my readers have carefully gone through this explanation with me there is no fear but that they will be able to make and set the trap—and also catch moles.

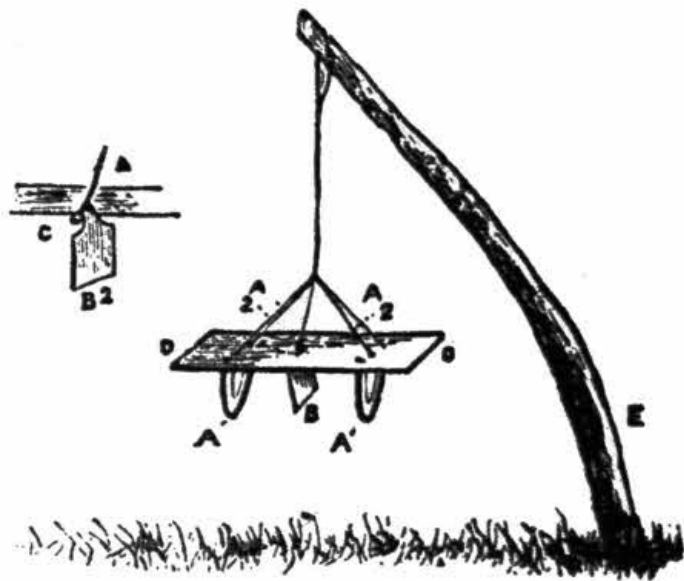


Fig. 6.



Fig. 7.

Damp weather, or after a warm shower, is the best time to set these traps; and as many as twenty or thirty should be systematically set per day while moles exist and good weather lasts. The straightened character of the stick will infallibly indicate when the trap is sprung, and if no



mole be caught move it a little farther away, but not away from the colony entirely, and set again.

The skins of the moles are in best condition in autumn, and if a sufficient number be properly cured, and set together by a professional furrier, a warm and rich garment, either cloak, hat, or waistcoat can be made. I have a mole-skin waistcoat I have worn for four winters, and it is far from being worn out yet. Queen Victoria has eight hundred skins sent annually to Windsor Castle by the Park mole-catcher, for preparation and making up. I dare say this man catches two or three thousand moles every year, and yet the number seem not to decline, so unfailing is the multiplication of these velvety little fellows.

[10]

The professional mole-catcher usually skins his moles in a very summary manner. Simply passing a very sharp knife round the head, and cutting off the forefeet, he turns the skin off inside out as I should do an eel. Indeed, it is a more rapid process than eel-skinning, for I once had a match with a mole-catcher, which was that I was to skin six fair-sized eels, while he skinned six moles. I lost, though I am exceedingly quick with eels, by one eel, much to my annoyance, for I had loudly boasted of my dexterity. Having skinned his mole as I described, the mole-catcher then simply stuffs a pledget of hay or wadding into the skin and leaves it to dry.

If you have time, however, it is much better to skin the mole by making an incision down the belly, and taking off the fur as you would do in the case of a rabbit. It should then be tacked with small tin tacks to a dry board, the inside toward you, and after removing with a blunt knife any particles of fat, it should be dressed with a soap made as follows:—whiting or chalk, 1 1/2 oz.; soft soap, 1 oz.; chloride of lime, 2 oz. If these ingredients are not handy powdered alum will serve, though not so well.

Now, one word in conclusion of this chapter on the mole, and it will serve as good advice whenever you are trapping. Be quiet; do not go lumbering all over the ground with the tread of a cart-horse, for it must be borne in mind that the mole has not only a good perception of actual sounds, but an exquisite sense of vibration. Like a trout, the softest tread will in some cases apprise it of danger and cause it to retire to its citadel. Your object is to catch moles by cutting off their retreat, for if they are in the central habitation they may not take the route when next a start is made that you desire and in which the trap is set.

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## II.

### THE WEASEL, STOAT AND POLECAT.

"If we consider the animal creation on a broad scale, the aggregate of living beings will be found to be the devourers and destroyers of others." The editor of Cassel's Natural History is responsible for this statement, and it struck me as a forcible and appropriate one for this chapter on weasels, etc. Without doubt the weasel, next to the rat, is one of the most destructive of our vermin, preying as it does with extraordinary ferocity on leverets, chicken, young ducks, pigeons, rabbits, in fact, on all creatures more timorous than itself. Truly it is not a very formidable enemy to the farmer in connection with his granaries and other stores, for it is an inveterate slayer of rats and mice, but the gamekeeper cannot tolerate it. Its "treasons, stratagems and spoils" are, without exception, excessive above all other of the spoiling mammalia whatsoever. [11]

Perhaps you doubt the conclusions to which I arrive in reference to this pretty, brown-backed white-bodied little animal, and there are some naturalists whose writings seem to clothe it with very different characteristics. A certain Mademoiselle de Laistre seems to contradict, in one of her letters, the commonly received opinion that it cannot be domesticated. She describes with touching minuteness how her weasel would drink milk out of her hands and fondle with her, showing signs of satisfaction and enjoyment, which could scarcely be apart from intelligence. "The little creature," she says, "can distinguish my voice amid twenty others, and springs over every one in the room till it finds me. Nothing can exceed the lively and pleasing way it caresses me with its two little paws; it frequently pats me on the chin in a manner that expresses the utmost fondness. This, with a thousand other kindnesses, convinces me of the sincerity of its attachment. He is quite aware of my intention when dressed to go out, and then it is with much difficulty I can rid myself of him. On these occasions he will conceal himself behind a cabinet near the door and spring on me as I pass with astonishing quickness."

This testimony would seem to rather invest *mustela vulgaris* with domestic virtues at least rare in his family, and, sooth to say, there is a vast crowd of witnesses waiting to be heard, whose report of his character is far different. The weasel, agile and lithe as he is, is ferocious to the degree which scorns fear, and there are many instances wherein he has attacked the absolute viceroy of creation—man.

I recollect once chasing a weasel with some determination and finding myself suddenly confronted by some seven or eight others, who ran up my legs and endeavored to reach my face. Fortunately I beat them off and killed seven with the stick I carried, but I feel satisfied I should not have escaped so well if I had not stood my ground and luckily possessed a stick.

I have frequently heard of similar experiences, and one I find is recorded in a cutting from a Scotch newspaper in my scrap-book.

One night, it appears, the father of Captain Brown, the naturalist, was returning from Gilmerton, near Edinburgh, by the Dalkeith road. He observed on the high ground at a considerable distance betwixt him and Craigmillar Castle a man who was leaping about performing a number of antic gestures more like those of a madman than of a sane person. After contemplating this apparently absurd conduct, he thought it might be some unfortunate maniac, and, climbing over the walls, made directly towards him. When he got pretty near he saw that the man had been attacked, and was defending himself against the assaults of a number of small animals which he at first took for rats, but which, in fact, turned out on getting closer, to be a colony of from fifteen to twenty weasels, which the unfortunate man was tearing from him and endeavoring to keep from his throat. Had he not been a powerful man, capable of sustaining the extreme fatigue of this singular exertion, he probably would have succumbed to the repeated efforts made by the ferocious little creatures to get at his throat. As it was, his hands were much bitten, and bleeding profusely. [12]

It further appears that the commencement of the battle was nearly as follows. He was walking slowly through the park when he happened to see a weasel. He ran at it, and made several unsuccessful attempts to strike it with a small cane he held in his hand. On coming near the rock, he got between it and the animal, and thus cut off retreat. The weasel squeaked out aloud, when a sortie of the whole colony was made, and the affray commenced.

Apropos of this, I have read somewhere of a colony of rats attacking a condemned criminal in the sewers of Paris—or in a dungeon closely contiguous—and I can quite believe that hunger and numbers would render these horrible vermin capable of homicide.

I do not quite see how any one can pity the members of this weasel family. Let any one of my boy readers hear the agonized cries of a pursued rabbit as it finds its relentless foe chasing it with a determination and persistence quite unequalled, and he will probably find the American love of fair play prompt him to take the weaker creature's part.

Emphatically I declare it—a weasel never relinquishes its quarry till the life's blood has been sucked and the brain extracted and eaten. Then wasteful as the little tyrant is, the rats may have the remainder, whilst it seeks for more prey. Its little finger-thick body and black, venom-leaden eyes seem the incarnation of destructiveness, whilst over the sharp incisive teeth rows might well be written

"Ch'entrate lasciate ogni speranza,"

the terrible epigraph Dante, in his wonderful "Divina Commedia," saw inscribed over the portals of the infernal regions.

Perhaps there is one redeeming feature in all this pitiless ferocity, and that is the indomitable courage with which the weasel defends its young against all marauders. It breeds as fast as a rabbit—that is, two or three, or even more times in a year—and its nest of dried herbage and undergrowth is generally made in the hollow of some old tree or wall. Close by the nest may often be found the remains of putrid mice, rats, birds, etc., which circumstance has suggested to some naturalists the conclusion that the weasel prefers carrion to fresh food. This is erroneous. It is true that it hunts, like some dogs, entirely, or nearly so, by scent, and will even follow the sightless mole through the interminable windings of its burrow; but fresh flesh and blood are its delight, and if there be a plentitude of food it disdains all the grosser parts of its prey with a fastidiousness worthy of Apicius, the *gourmet*. The weasel generally produces five or six young ones at a birth.

[13]

I do not counsel sparing the weasel any more than the rat. The best place for the gins to be set is underneath a wall whereby the weasel is known to travel. The best trap unquestionably is the steel trap, or gin, and the best bait is the inside of a newly-killed rabbit. This is the concrete essence of my experience. You can scent the bait with musk, and this addition will often prove of exceeding service. At the ends of drains, in the hollows of old buildings, in the dry tracts of ditches, by old trees—all these are likely places and a careful watch will often discover their tracks. In setting the gin do not allow it to spring hard as if you expected an elephant of the Jumbo type to tread on the plate. On the contrary, let it spring very lightly,

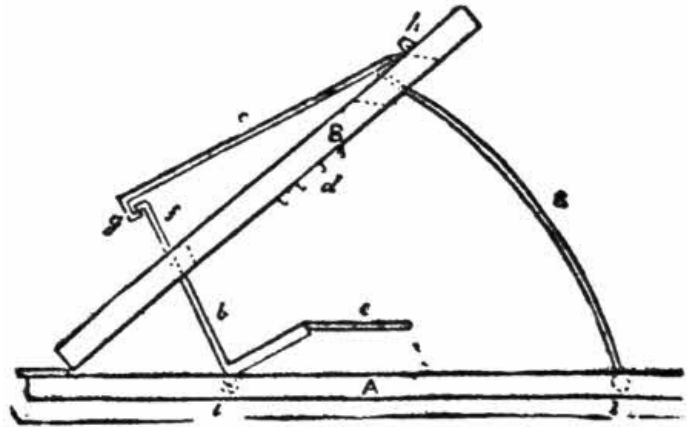


Fig. 11.

and if possible hang the bait up, so that the creature puts a foot on the plate and so gets caught. A very good sort of trap for open places is a fall-trap, which may be made at home and is useful for nearly all kinds of vermin, including even birds (See [Fig. 11](#)). Some little explanation is needed for the complete understanding of this trap. A is a board hollowed near the letter A to relieve e when the trap falls. B is a slab of lead or iron cut to admit a and f; h is a hinge holding c, which, when adjusted at g, impinges on a, and so sustains the slab B. On the little hooks d the bait is fixed, and the weasel confidently places his foot on e. Of course f then springs from g and down falls the slab, crushing the captive instantly. A stone slab is quite as useful, if not more so, than lead or iron, and it is evident that this fall-trap can be set with the greatest ease and delicacy.

[14]

The next useful trap is termed "The Fig. 4 Trap," from its resemblance to that character, and is shown in the engraving ([Fig. 12](#)). This consists of a large slab of stone, metal, or wood, propped up by three pieces of wood (A, B and C). If the engraving be carefully examined it will be seen to consist of a perpendicular A, of a horizontal bar C, at one end of which is attached the bait D, and of a slanting stick B. The upright A is usually half an inch square, and cut to a sort of chisel-shape at top; a notch is also cut in the side of the stretcher C, as shown in the side diagram x, to prevent it slipping down; and a notch is also cut at the top of B to receive the upright, as well as in C, to fix it, B being at this latter point of a chisel shape. It will be obvious to the attentive reader that if this trap be set carefully, and with a sufficiency of delicacy, a very slight tug at D will be sufficient to bring down the slab, crushing the animal, or, if a hollow be made in the ground, imprisoning it. This trap, for nearly all vermin (of course, except moles), is very cheap and effective; and for cats—in their wrong places, of course—is remarkably useful, especially if D represent a sponge, on which tincture of valerian or oil of rhodium has been sprinkled. One advantage of this trap is that it is inexpensive, and not likely to be coveted by anybody else. The gin has, however, preference in my mind over other artificial traps for weasels, and I counsel all my readers to adopt it as the surest if their pockets will sustain the initial expense. There is, however, nothing lost in endeavoring to make your own traps, for such perseverance implies interest in the pursuit of trapping, and this necessarily is the central motive towards the acquirement of natural knowledge.

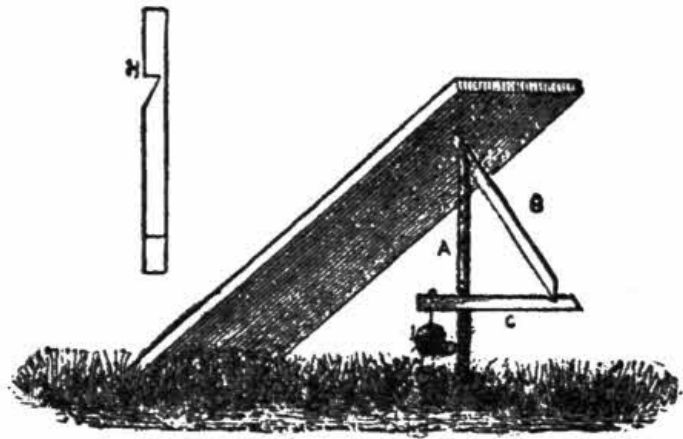


Fig. 12.

[15]

There is one method of capturing weasels which I have found very useful, though it entails the loss of an innocent live bird in many cases. Form a sort of oblong square with brushwood and

close it all in except two narrow lanes leading to the center, at which point peg down a young chicken or bird. Set the traps, as closely concealed as possible at the ends of these lanes, so that neither by ingress nor egress can the weasel escape without the chance of being caught. Each trap should be set very lightly, and in some dry ditch near a covert, or by the side of a wall, or, in fact, in any likely spot recognized by the trained eye.

Here is another bad character in the polecat, or foomart, and as it is the largest of the two, it commonly does most damage, though in saying this I really am not sure I can place either or them first in this respect. The weasel and polecat are unmitigated robbers and assassins, and according to opportunity are given indifferently to bad habits of the worst character. The polecat is, however, nearly sixteen inches from that to eighteen inches in length, and its bite is terrific and sometimes poisonous. Beware, therefore, of it when releasing one caught in a trap; in fact, as I before impressed on you, "kill it first." The body of the polecat has a woolly undercoat of pale yellow, while the longer hairs are of a deep glossy brown.

Its habits are very similar to those of the weasel, and it commonly kills chickens by biting the head off and then sucking the blood, leaving perhaps a dozen bodies as mementoes of its visitation. I have known it to catch fish, and I caught one in a trap, set as I supposed at the time, for an otter. The otter turned out to be a polecat, however, which measured, exclusive of the tail, fourteen inches. Eels seemed to be the prey for which it took water, as I had previously found the remains of several half-eaten on the shore.

This circumstance was a strange one to me, and altogether exceptional, until I looked up my natural history books, when I found that Bewick refers to a similar fact in his "Quadrupeds." He says:—"During a severe storm one of these animals was traced in the snow from the side of a rivulet to its hole at some distance from it.... Its hole was examined, the foomart taken, and eleven fine eels were discovered as the fruits of its nocturnal exertions. The marks on the snow were found to have been made by the motions of the eels while in the creature's mouth." We have no reason for doubting Bewick, but it is certain that the polecat must have extracted the eels from either beneath stones or mud, where, during cold weather such as described, it is their infallible habit to retire in a semi-torpid condition.

[16]

In trapping it use a strong gin, and set very lightly. The baits are precisely similar to those for the weasel. Be, above all, careful to use the naked hands as little as possible.

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### III. RATS.

Rats may, I think, fairly lay claim to being the most mischievous of all vermin. They are fellows of irreclaimably bad habits, and never so happy as when devouring or destroying something. Artemus Ward has placed it on record that "Injins is pisen wherever you meet 'em," and the same might be said of rats. In that exquisitely whimsical poem of Browning's, "The Pied Piper of Hamelin," we are told that the townspeople were plagued emphatically with

"Rats!  
They fought the dogs and killed the cats,  
And bit the babies in their cradles,  
And ate the cheeses out of the vats,  
And licked the soup from the cook's own ladles.  
Split open the kegs of salted sprats,  
Made nests inside men's Sunday hats,  
And even spoiled the women's chats  
By drowning their speaking  
With shrieking and squeaking  
In fifty different sharps and flats."

I have not the least doubt but that they did all this and other things worse; hence I would say with no uncertainty, "Slay all and spare none," whenever you get a chance. I do not know of one redeeming feature in the character of *Mus decumanus* unless it be good in a pie, as our friend the Rev. J. G. Wood hints that it is from experimental trial.

Hundreds on hundreds of tales relating to its cunning or intelligence might be cited until you were heartily tired of reading, much less I of writing. How rats will bite holes in leaden pipes, attack the face of a sleeping infant—an instance of which I might relate from actual knowledge—how they devour each other, leaving only the skin turned inside out as neatly as you could turn a stocking, and last, but far from least, how they have been trained to perform a drama in pantomime and various other tricks quite too numerous to refer to here. The rat is practically omnivorous, and so gets his living where more select appetites and digestions would starve. "Hit him 'ard, he ain't a' got no friends," as was said of the pauper boy in "Oliver Twist." Every creature's hand seems turned against him, and we, agreeably to this bent of nature, will now proceed to compass his destruction by means of trapping.

[17]

Unquestionably the best trap is the common iron gin. Everybody knows what that is like, with its centre plate and formidable rows of teeth on either side the jaws. I shall therefore spare you a drawing and description of it, and content myself with simply advising that the teeth be of the shape shown at [Fig. 8](#)—that is, square points fitting when closed in half circles. Now this form of tooth does not cut

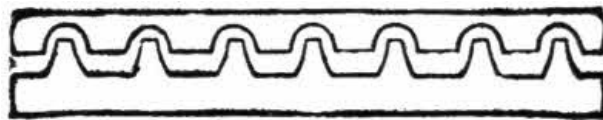


Fig. 8.

through the limb of the captured animal so readily as the saw-shaped does, and is preferable on that account. Rats are very prone to gnaw through a fractured limb and free themselves—they will not do this nearly so readily, however, if the teeth be of the shape indicated. This is also the best shape for the capture of other vermin, as we shall see as these chapters proceed.

In all cases a chain about eighteen inches is attached by means of an S hook in the gin. A swivel should be placed about the middle, and a ring of about an inch and a quarter should terminate it. A good stout stake, about eighteen inches long, is also necessary, and ash is particularly recommendable if it can be procured. If it be trimmed when cut, like [Fig. 9](#), so that a short piece of branch keeps the ring from slipping off, so much the better. Another tool which is ever useful when gins are being set (and that will be pretty frequent with the vermin I shall speak about) is a hammer shaped something like [Fig. 10](#). You will see that it has a broad, hatchet-like form to it instead of the claws of an ordinary hammer, and this is for cutting into the earth, separating roots, etc. In twenty ways it comes in useful, so I advise my readers to get one made after this pattern.

Be careful in setting your trap to keep your fingers well away from the teeth, and to do this observe the following method. Place your right foot upon the spring firmly, and as the jaws fall back, quickly lift the catch over with your right hand; then, without relaxing pressure, raise the plate of the trap from underneath until it allows of the catch to meet the nick in the plate. Set them lightly or hard, according to the animal to be trapped. Experience will soon enable you to judge how this should be for a rat. A fine sieve is generally used by trappers to sift dirt over the trap when set, but you can dispense with this if you wear gloves. In rat-trapping, by the by, always wear thick gloves; rats can smell you infallibly.

[18]

You can easily detect a rat-run, and quite as easily tell if it be fresh or not, by noticing the appearance of the excrement. Having determined on a fresh run, endeavor so to set your trap that the catch shall be light, and the whole affair completely hidden from sight, the pan or plate being baited with whatever seems to have been the recent food, or food most likely to be got near by the run. For rats in runs where they come to feed, by walls, rick-sides, or



Fig. 9.

places at which they appear most, the traps should be set. When the run appear stale or not much used, they should be shifted to other places. For rats a great variety of baits may be used, but the best is generally something like what they are in the habit of feeding upon on farm premises; grain, with sufficient chaff or cut hay to cover the bottom, meal mixed with sweet broth or small bits of meat. Rats may be enticed with oils of aniseed, thyme, and rhodium, and when traps are new and smell of the shop a few drops should be rubbed inside the bottom of the traps to take the other smell away. By using a drag of these oils, rubbed on a herring or a piece of clean rag, rats may be enticed a long way.

A capital bait for old poaching rats—such as would not hesitate to kill your spring chickens or young rabbits—is the drawing of game of any sort, or the young of pigeons or young birds. I have also found the following a capital dodge to enable one to overcome the cunning of an old buck rat. Get some sprats and pound them. Put them in glass bottles and cork and seal, and hang them up in the sun for three weeks or so, or put them on a dung-hill of moderate heat. This will entirely decompose and resolve them into an oily substance exceedingly bad smelling. Pour some of this on a rag and drag it about from a common center where the trap is, and indeed it is well to drag it after one as the traps are seen to successively. The trap bait should be roasted salt fish. A kippered herring does famously, and a few drops of oil of aniseed can be put on the bait. I have known this to be exceedingly successful.

[19]



Fig. 10.

A similar sort of treatment is necessary for the water-rat. There is, however, but little necessity to use baits if the trap be set under water at the spot where the creature emerges. The precise place can be easily seen, and its freshness or staleness as a "run" be determined in the same way as that of a brown rat. The water-rat is easily distinguished from its cousin the brown by the tail of the former being covered with hair and that of the latter with scales, of which there are 200 rows. It must not be supposed, however, because the water-rat derives its living from the water chiefly that it is not a destructive creature inland. A very interesting writer says: "We have seen water-rats cross a wide meadow, climb the stalks of the dwarf beans, and after detaching the pods with their teeth, shell the beans in a most woman-like manner." They are also said to mount vines and feed on grapes, and I can verify that they are fond of plums from the following incident:

Between my study window and the margin of a stream at the foot of my garden stand two tall trees of the bullace plum, and this year they have been unusually full of fruit. I placed a ladder against one of the trees in order to pick the plums, but rain or some other interference prevented my doing so at the intended time; thus the ladder remained for some days. Now I have a large tabby cat, and besides a good rat-killer she is fond of birds, and strangely enough will climb trees and spring at a bird within reach, in nine cases out of ten falling to the ground with her captive in her mouth. As I sat writing one morning Tabby mounted her coign of vantage by means of the ladder, and scaled to the topmost height, enjoying the sunshine, and not, I fancy, on this occasion waiting for prey. However, good things come when least expected, and presently Tabby and I both beheld a large water-rat—unseen by the latter, of course—approach the ladder, and after peering slyly round, began to mount it, which he did with remarkable agility. On reaching the first large branch he stepped on it, and without the least hesitation made for a cluster of the plums and began his feast. I told you Tabby saw him as well as I, and I would have given much too if she had not. As Mr. Rat sat absorbed with his back to her, like a jungle leopard, creeping with silent certainty on its innocent, unsuspecting prey, Tabby slowly approached, and the steadfast glare in her greenish eyes was full of a deadly purpose, which gathered strength as she progressed. Presently, when within three feet of the still gourmandizing rat, her fell purpose culminated in a terrific but unerring spring, which tumbled rat and cat out of the tree to the ground. Habet! alas! he had it, and after a few terrific crunches of her jaws Tabby rose from the body proudly, with swinging tail and a victorious air, which as plainly as language conveyed infinite self-complacency at the death-dealing deed.

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These rats are more clever in boring their tunnels than the brown species, resembling, in fact, the ingenuity of the mole rather than the rat. They are much more cleanly also. Should you get an apple or pear or melon which has been bitten by a brown rat you will instantly detect it by its peculiar musty odor and taste. The water-rat is, on the contrary, a much more cleanly animal, and its flesh is not uncommonly eaten by the French peasants on *maigre* days. It breeds in the spring, and again in autumn if the spring litter be very early, bringing forth five or six at a time. The nest is usually by the side of a river or stream. In the roots of an old willow tree just opposite my house I found six nests this year. Not that these rats will not at times build away from the water. I know of several instances, as a neighbor was plowing in a dry, chalky field, far removed from any water, he turned out a water rat that was curiously laid up in an *hybernaculum* artificially formed of grass and leaves. At one end lay about a gallon of potatoes, regularly stowed, on which it was to have supported itself for the winter.

When a rat is caught in a gin always be careful to keep your hand at a distance on releasing it. In fact, do not let it go at all, but kill it at once. I do not like the idea of letting a suffering animal be farther tormented by dogs, or even cats. There can be no true sport in it except, perhaps, to the savage instincts of the dog, and why a human being should find cruel sport for a dog I cannot tell you.

The other species, the black rat (*Mus rattus*), is perhaps a more ancient importation even than the brown. It is, however, scarcer than either of the others. Its colors are grayish black above and ash-colored, and beneath it is about seven and a half inches long when full grown.

Ferrets are often employed to aid in exterminating the brown rat. The ferret is of no use whatever for the water-rat, though it is certainly extremely useful when barns, wood-heaps, and such like erections are infested. The gun is the thing, in the hands of an experienced sportsman, to kill them as the ferrets force them to leave their homes, but a few sharp dogs and a half dozen sharp school-fellows with sticks will produce very certain destruction. Be careful not to mistake the head of a ferret coming out of a hole for that of a rat, as once happened to me in this wise. I was staying at a farm-house, and it was proposed one fine December morning to try an hour or two's ferreting. My school chum, with whom I was staying, possessed some very tame and good working ferrets, one in particular, a fine brownish dog ferret, by which he set great store. The great wheat barn was to be laid siege to, and he being a good shot and older than I, took down his gun and loaded it preparatory to starting.

[21]

"Jack," said he to me, "you can shoot, can't you?" I was but fourteen then and a school boy, and I fear I answered rather too readily and without sufficient modesty, "Oh, yes; have you a gun to spare?" Yes, he had a single-barrel pretty little weapon, and, proud as a cock-robin, I sallied forth, on mighty shots intent. "Now," said he, with emphasis, "stand here; watch that hole, and as soon as you see the *whole* of a rat's body fire away, but be careful not to kill a ferret, which you may easily do if you fire too hastily." I recollect I rather scorned the idea of mistaking a ferret for a rat, and with steadfast attention prepared to kill the first of the rodents that appeared. It seemed an age, and then one swiftly popped his head out and bolted past me, my fire hitting the ground at least a yard behind him. How savage I was! not to speak of the half sneers of my companions. Next time I would be ready. Ah! there was a slight movement in the hole, a small nose poked itself out and then disappeared. I pointed the gun straight for the hole. Out it came again, and then a brown head swiftly appeared. Bang! Hurrah! I had killed him. Round came the boys. "Well done," said my friend Ted, as he stooped to draw out the murdered wretch. "Why, you duffing idiot, you've killed my best dog ferret!" Moral, do not jump at conclusions.

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#### IV. THE OTTER.

The otter is one of the most graceful of living creatures, but as a fisherman and fishculturist, I candidly confess that I look on him as a detestable nuisance on my river. What says the poet!

“Nor spears  
That bristle on his back defend the perch  
From his wide, greedy jaws; nor burnished mail  
The yellow carp; nor all his arts can save  
Th’ insinuating eel, that hides his head  
Beneath the slimy mud; nor yet escapes  
The crimson-spotted trout, the river’s pride  
And beauty of the stream.”

This is a faithful picture of the otter’s remorseless and predacious nature. I caught one the other day in an eel-grate, whither he had doubtless gone for the eels. The biter was, however, bit, for the rush of water was too powerful, and on opening the door in the morning I found him dead and stiff. [22]

The otter usually kills many more fish than it actually wants for food, and as otters generally hunt in pairs, it is not uncommon to find in the morning as many as thirteen or fourteen prime trout—in an ordinarily plentiful river, of course—killed and only partly eaten. Like the lord mayor’s jester, however, the otter knows what is good, or, indeed, best, for it eats away the shoulders of the fish, leaving the rest to rot or be devoured by rats.

I have said it is graceful, and so it is, in a remarkable degree. Let me advise you, if you live in New York, to visit the Zoological Gardens, in Central Park, and watch the fine sinuous turns and sweeps as the otter seizes or seeks for its prey. Its body is long and flexible, and its feet short and webbed, and the adjacent muscles are of immense muscular power. Its eyes are large, the ears short, and it is bewhiskered like a Viking. Its coat is double, like that of the seal. Long glossy hairs form the outer one, and a short waterproof woolly waistcoat comprises the inner, so that neither cold nor wet can affect the well-being of this amphibious hunter. In the daytime it hides itself in its hole, which usually is some feet deep in the bank, *above* highwater mark, but at night its depredations commence; and when the female has young, say five, and the male otter works with her, as he generally does, I estimate that from thirty to forty fish per night are, if anything, rather within the number than beyond. Can any one deny, therefore, that the otter comes within the common-sense definition of vermin?

If the otter be taken young, and great kindness and care be shown it, it may be transferred from the category of vermin into that of “pets,” and I do not think there is a much more interesting pet in existence, and I recollect one which used to run about after its master at Eton, England, some years since. A friend of mine (head river-keeper on a nobleman’s estate) took a tame one from an old poacher which the latter had constantly employed to catch fish and bring to him. My friend tells me that when he caught the poacher he had some sixty fine trout, scarcely injured, in a bag, all of which had been captured by the otter.

There are many instances of a similar character referred to in the natural history books which I cannot produce here. It is sufficient to say that otter-taming, and even the utilizing of the creature for fishing purposes, is by no means uncommon. [23]

The otter is usually hunted with dogs of a particular breed, but I shall not attempt to describe this species of sport in this place. There are those who object to hunting on principle, and I am not bigoted enough to say they are altogether wrong. Certain, however, it is that otter hunting is remarkably exhilarating, and there is a great deal of fun to be got out of the mishaps which are sure to ensue to the hunters as they scamper and splash and rush and dash over the bowlders, through bush and brier and stream and rivulet, till the wily brute is either caught or “kenneled.” So far as we are now concerned, I shall content myself with telling you how to trap this vermin of the water, and if ever you become possessed of a stream or lake of fish do not forget that the otter is your chiefest enemy—excepting the human poacher, of course.

Now we will presume you are one morning early taking a walk by the side of your favorite stream. On each side the willows and alders bend over the water and their roots clutch the banks with rugged fingers, forming coverts for rats, moorhens, dabchicks, and other small fry, as well as for the quiet-loving trout.

Presently, as you attentively note these features, you are aware of a sort of footpath proceeding from the stream, and on looking closer you notice that fresh excrement has been left and that footprints of a dog-like animal are to be seen in the soft earth. Follow this trail and perchance, ere many steps have been taken, you come upon the carmine-spotted body of a two-pound trout, minus head and shoulders, or a pound silver eel with its broadest part eaten away. You now know that an otter has been at work, and you must vow that he shall die. But how? Listen. The track is fresh. Good! Procure the largest rabbit-gin you can, and after attaching it firmly to a stake driven under water, drive two more sticks under water exactly where the otter comes ashore, and set it upon them. Do not bait the trap at all, or the otter will not come near, but simply set it under water, so that when his ottership comes to bank with his ill-gotten booty he puts his foot on the plate of the gin. A good plan also, where this one is not practicable, is to carefully cut up a sod of



dirt in the pathway of the otter, and set the gin very gingerly, covering it up completely with short grass and a sprinkling of dirt. In any case use gloves, so that your hands are not smelt, for, strange as it may seem in an animal getting its food by sight, the sense of smell is exquisitely developed in the otter. When caught be very careful not to handle him. His teeth are "orful."

Daniel, in his "Rural Sports," says "the trap must be set in and covered with mud to prevent the otter seeing it. The instant the trap strikes, the otter plunges into the water with it, when its weight preventing his rising to the surface soon destroys him." But I incline to my own plan in preference. Of course, if the "spoor," "spraint," or "seal" cannot be seen it is advisable to set several traps at intervals along the bank, covering them lightly with moss. [24]

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## V. THE SQUIRREL.

At the commencement of this series of articles I referred to the squirrel, and quoted the words in which Mr. Ruskin describes his unbounded admiration for this sprightly little fellow. The squirrel has a very voracious appetite, however, and if he once by accident or design tastes the luscious richness of pheasant or partridge egg he becomes a poacher of very extreme character. Gamekeepers do not object to squirrels as a rule, as long as they confine themselves to those parts of a covert where game are not, though in the case of largely stocked preserves these parts are not easily found.

When Master "Squiggy," however, takes to sucking eggs and teaching his grandmother and uncles, aunts and cousins, to do the same, then it becomes a manifest duty to snare him and take him away if you do not kill him. Of course it is not likely that my boy readers will be called upon to assist professionally in such a proceeding, but I will briefly describe how squirrels may be caught alive, for when removed from the place of mischief they make capital pets after a time of patience and taming.

It is necessary for two to embark in the proceedings that follow. One is the climber, and he, I need scarcely say, should be a tolerably good one. A pair of climbing irons are almost indispensable, and I should certainly advise boys to get them. He is also provided with a long pole with a loop of fine twisted brass wire attached to it (Fig. 1).

Now let us term these two warriors A and B. Having spotted a squirrel and observed him run up a tree, A attaches his irons and prepares to climb. Before this is done B stands beneath the tree and attracts the squirrel's attention, and keeps his eye fixed on him, B never moving from where he stands. Meanwhile A is gradually approaching from behind the squirrel, and when he is near enough he slips the loop over the creature's head, gives a sharp wrench, and lets the pole, squirrel, and all drop to the ground to be secured by B. Of course the squirrel is almost choked, but a firm hand in a thick leather glove soon releases the frightened animal, and you have to do with him as your pleasure will. You ought to take a bag with you and instantly pop him into it. This is the way the men catch squirrels in the country, and is far better than trapping them so as to cause pain.

I have thus told you how to catch squirrels without materially hurting them, and I suppose I may as well tell you how to keep them. Well, having caught the lively young gentleman, keep him in the dark for a day or two, only occasionally letting him get a glance of the outer world. Feed him during this period with beechnuts, chestnuts, and by all means let him have plenty of water. After a time you may take away all covering from his cage and let him, like yourself, enjoy the glories of the sunlight. In a very short space of time his captivity will cease to be so irksome, especially if for the first week or two you use him to only seeing yourself near.

The squirrel, or at least the common red one of our forest, seems remarkably intelligent, and its humors vary almost as much in comparison as those of a child. I kept four, having brought them up from the nest, and their antics and different moods were a source of continued amusement. Sometimes Tom would quarrel with a sort of mimic anger with Jill, and Jim and Sam were almost continually finding fault with each other over poor unfortunate Lady Jill, whose chief misfortune seemed to be that she preferred Tom to either of the others. The affection seemed to be returned, for if we gave a piece of potato to Tom he instantly passed it over to Jill and shared it. Sometimes entire good-humor would prevail, when the gambols with each other were a very pretty sight. This was generally on a fine sunny spring morning after a good meal of nuts. The cage was large, and a sort of leap-frog was kept up for half an hour, ending by somebody getting Tom's temper out over Miss Jill. I never had a bite from either, and this I attribute to my never handling them unnecessarily, and never being afraid to take hold of them carefully but firmly.



Fig. 1.

Their end was a sad one. I acquired a splendid Persian cat, and the strangeness of a new habitation made Miss Pussy very spiteful and bad-tempered. One day I had turned out the four squirrels in order to clean the cage thoroughly, and they as usual betook themselves out of the window. With a sudden bound Puss had poor Jill, and with one scrunch she was dead. Puss then bounded after the others, and they escaping up a large yew tree I lost sight of all but one forever. What ultimately became of Jim and Sam I never knew, but Tom would often show himself in the tree and look down with eyes which seemed to say mournfully, "Ah, you've killed my little wife between you, and I'm not such a coon as to trust myself within range of her murderers." Shortly after this we removed, and thus ended my squirrel-keeping, not, however, without much regret on my side at least.

[25]

[26]

## VI. BIRD TRAPPING.

Bird-catching has always a fascination for boys, and, indeed, in my opinion, as a harmless but most interesting pastime, it may be compared not unfavorably with fishing.

"But," I hear some one say, "is it not cruel to catch and imprison or kill our pretty feathered friends, and if so, is it not wrong to teach boys cruelty?" I answer emphatically "No" to the first of these, and that reply does away with the other question.

It is not cruel to catch the hawk that preys on kindred species, as does the shark or pike, or the beautiful kingfisher that ruthlessly slaughters your innocent baby trout, or the weird and ghostly heron, whose insatiable maw will ever cry, "Give! Give!" like the daughters of the horseleech, from every inhabited stream, or the bad-mannered crow, or the mischievous jay with his egg-eating proclivities.

Then there are some birds, such as pigeons, blackbirds, thrushes, redwings and plovers, and the water-fowl, such as moorhens, widgeon, teal, ducks, etc., which are excellent eating, and who shall say that to kill and eat necessarily implies cruelty?

"But about the pretty song-birds?" you say. Well, now, what bird is happier in captivity than your consequential cock bullfinch, or merry-voiced chaffinch? And are there more annoying birds in existence to those who live by the soil? If you doubt me, go and ask the gardener and hear what he says about Chaffy's and Bully's work on the fruitbuds. Then remember what present pleasure the joyous song of the well-fed and warmly-caged linnet or siskin gives to all; but perchance most of all to some one whose hours are spent wearily on the bed of pain.

Of course, catching birds for the mere sake of doing it is wrong, and pray is not fishing liable to the same objection? To go out for the mere purpose of bringing home lots of fish, which are afterwards put to no use, is an abuse of an otherwise harmless sport to which such great and good men as Izaak Walton, Sir Henry Wotton, Archbishop Paley, Charles Kingsley, Mr. John Bright, and many others, have been and are devoted. [27]

Besides, the methods I shall explain, except for the larger birds of prey—*vermin*, in fact—need cause no pain to the captured bird, or if it does, only of the most instant character, which is over when the bird is dead or caged. The wildest birds require only proper treatment to render them happy in confinement, and of this fact I was never more forcibly convinced than when, visiting a very experienced bird-catcher the other day, I saw a huge tabby tom-cat reposing in the cage of a cock gold-finch, whose sweet song must have lulled the cat to sleep and a forgetfulness of its fierce destroying instincts. Hearing it sing, I could not help recalling Walton's pious and beautiful reflection anent the nightingale: "Lord, what music hast Thou provided for Thy saints in heaven when Thou affordest bad men such music on earth!"

Finally, in defense of the bird catcher's art, let me urge the benefit young people derive from an intimate knowledge of the natural history of birds and their surroundings. As in fishing the best naturalist in fish is invariably the best angler, so whether he be scientific or not, the best ornithologist is, by virtue of his knowledge, inevitably the most successful bird-catcher. Nothing can conduce to an unaffected love of nature—the "time vesture" of God, Carlyle terms it—more readily than close observation of the habits, instincts, and intelligences of the creatures over which man has been given dominion.

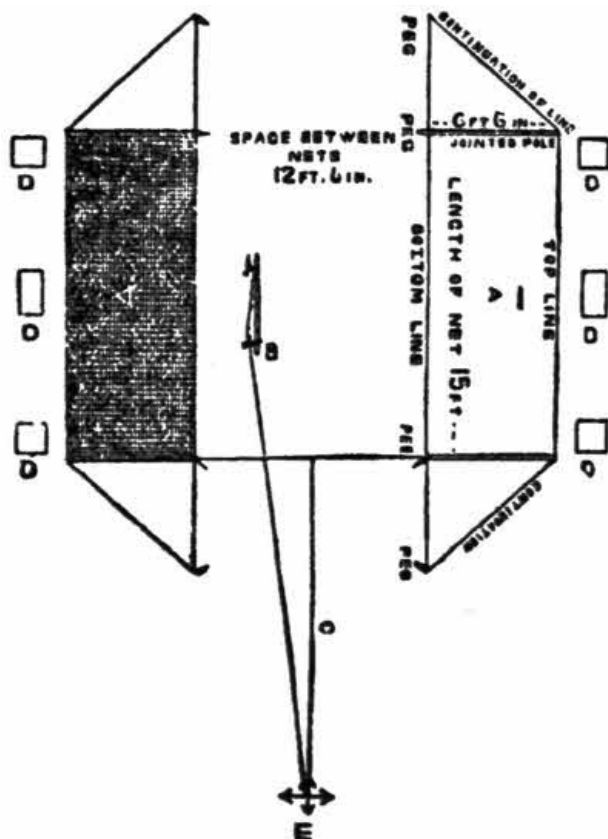
Birds, the flight of which man, with all his mechanical ingenuity, had never yet been able to imitate, are of the most beautiful and wonderful of these, and their capture within the limits I have laid down is a pastime at once innocent, amusing, instructive and profitable. One word more. Be gentle boys, and then presently become gentlemen in the true sense of the word, and handle each captive, if it be alive, mercifully, "as if you loved him," inflicting no unnecessary pain or discomfort in any wise.

Having then in some sort justified bird-catching, if indeed this was needed, let me say how I intend treating the subject in the few following chapters. First, with your attention, I will refer to bird-catching by net; secondly, catching birds by bird-lime; and thirdly, trapping birds, which latter division will embrace the various use of the springs, traps, snares, gins, etc., in vogue amongst professional trappers, game-keepers and others. As the directions will be severely practical, any one will be able to succeed from them—assuming, of course, he has the requisite patience. There is one thing, however, to be borne in mind, that is—there is a Wild Birds' Preservation Act, which, inefficient and muddling as it is, is nevertheless the law of the land, and in it a close time is provided, during which bird-catching is illegal. [28]

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## VII. BIRD-CATCHING BY NET.

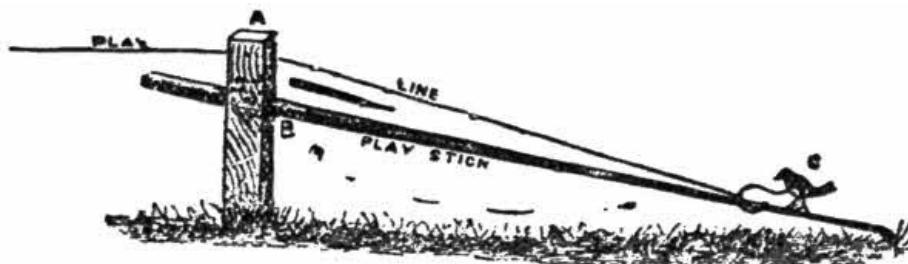
There are several sorts of nets used for various species of birds, but for song birds the most common is termed the clap-net, of which [Fig. 1](#) is an outline representation. In looking carefully at it you will see I have left one side without netting; this, however, should of course have a net; consider, therefore, the two sides as similar to that on which the net is shown.



**Fig. 1.**

catcher), to which is attached both the "top" and "bottom" line (see cut). Let this peg be firmly driven in, for on it the chief strain falls. Now plant the peg at the end of the jointed pole farthest from the bird-catcher (E). The pole is linked to this peg either by means of two staples or loops of rope attached to both in such a way as to act as a hinge. Now stretch the bottom between the two jointed poles as shown, driving the peg in firmly as before. Finally plant the peg *nearest* E, having stretched the bottom line tightly throughout.

Measure now a space of width sufficient to allow the two nets when drawn over toward each other to fall, covering their *top* edges about six inches with each other. Thus, as in the cut, if the net be six feet six inches broad you must allow twelve feet six inches between them. Having done this, fix the other net in a manner precisely similar to its fellow. C on the engraving, as can be seen, is the pull-line, and it is joined as is shown to a line stretching at right angles between the [30]



**Fig. 2.**

The play-bird is a bird of the same kind as those sought to be captured, which is attached by means of miniature harness (to be presently shown) to the play-stick, and it being comparatively free it proves very attractive (see [Fig. 2](#)). C is the bird. This stick is of three parts: A, a piece of wood made like [Fig. 3](#); and B, a piece of brass tubing beaten flat at one end and placed on the stick, which may be a hazel or ash twig. A hole is punctured through this tube, and a peg passed through it holds it in its place, as well as serving as an axle on which its movements work as

prompted by the play-line, which passes also through A, as shown in Fig. 2.



Fig. 3.

I have said the bird is harnessed and tethered to the stick at C (Fig. 2). This harnessing is perfectly painless to the little fellow, and consists of a sort of double loop affixed to a swivel (Fig. 6). The head of the bird is passed through and the loops are drawn down over and round its wings close to the body. Of course they are drawn and tied just tight enough to fit the body, and the swivel is

attached; then a piece of fine twine of about a foot and a half in length connects the play-bird with its stick. The method of using this bird is as follows: Directly the call-birds—which are cock birds in full song—have attracted others of their species, the bird-catcher gently pulls the play line, raising and lowering the stick. This prompts the play-bird to use its wings in a perfectly natural manner, and the consequence is, the wild birds becoming bolder at seeing one of their brethren so apparently unrestrained, venture in the forbidden space, and with no fear visible at once proceed to exchange civilities. As soon as the bird-catcher observes the bird well in the reach of the nets, he pulls swiftly and strongly at C (Fig. 1), and the nets close over both the play or decoy bird and those he has innocently lured to their captivity. Now this in no case injures them, and running up, the bird-catcher places them in a large airy cage opening inwards, and commonly covers them over with a cloth, lest in the first moments of restraint they injure themselves against the bars. Two or more play-birds should be used, so that not one may be over-tired.

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Thus you have the whole apparatus of “clap”-netting and its use explained. Now for a few hints as to where to set a net. First, do not forget to mark the habits of the birds yourself, and so learn where to find them at all seasons. Larks and linnets are easily found in open plains and by water brooks, goldfinches come in autumn to feed off the thistle-down, starling swarm as winter comes on and are met with in all sorts of pastures where some growth of underwood or deciduous trees are found. For shy birds let your full line be quite forty yards long; and a good plan for blackbirds, starlings, and other wary birds is to lay your nets and get behind a hedge or other hiding-place. A little ingenuity in this way will often procure a goodly stroke of success. The other morning after a frost I caught fourteen blackbirds close to a long laurel hedge, hiding myself in a large rhododendron.

Sometimes hawks, and even birds of a non-preying but quite different species to your call-bird, are caught in the clap-net. The former usually pounces down upon or near the poor little play-bird, and thus the biter is bitten. “Serve him right,” say you; so say I. The other birds are probably only curious to know what it is all about.



Fig. 6.

This kind of net is the best for amateurs, and I shall therefore not describe that sort which is used by professionals for lark and other birds at night time, often, I am sorry to say, when it is illegal, and when partridges and pheasants can be taken. Kingfishers may be caught by stretching a fine net loosely across an archway of a stream on which they are known to be, and sparrows may be taken in any numbers from old thatches, barn, rick, etc., at night in the following manner:

Stretch your net on two cane poles and let two people carry it upright; another holds a lantern at about the middle of this net on the outer side from the barn to be “netted.” Let another, taking a long pole, buffet about the interior under the eaves and in the nooks and corners; the birds will then fly out and make for the light, only to be entangled in the net. Beating the hedgerows at night will produce the same effect; and, let me tell you, sparrow pudding is not to be despised.

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Water-birds, such as dabchicks, moorhens, and even ducks, may be taken by means of nets stretched across ditches and “drawns” which they frequent. I have especially been successful with those little nuisances of the fish culturist, the dabchick, or dapper as they are called in some places, by means of a common dragnet, which I use for trout catching in spawning time, but as my readers have already the facilities I have in this direction, I need not say more about that style of netting.

## VIII.

### BIRD-CATCHING WITH TRAPS.

The word "trap" in the title of this book is intended to be made use of in a somewhat wide and also narrow sense. Under it I shall include what would otherwise be called a snare—namely, the "springe," or "springle." On the other hand I shall make use of it in what may seem a rather restricted sense, inasmuch as that I do not intend to tell you how to catch birds by means of the "gin," or steel trap. Mind you, there are some birds—such as the magpie and crow—which it is almost impossible to catch in any other manner. For them the deadly, pain-dealing "gin" is justifiable. For the use of boys, I do not, however, recommend it in bird-catching; it always maims if it does not kill outright, and thus, should any of you desire to stuff the bird you have captured, its injured plight is much against its appearance.

The springe, as many of you know, is a horse-hair loop fixed to some immovable object, such as the branch of a tree, etc. Mr. Montagu Brown, in his "Practical Taxidermy," thus describes the making of it. "Here," he says, "I have a black horsehair about two feet long; I double it, holding it between the right hand finger and thumb, leaving a little loose loop about half an inch long; from this point I proceed by an overhand motion of the thumb to twist it up. On reaching the bottom I make a small knot to prevent it unrolling, then pushing the knotted end through the eye of the loop, I thus form a loose noose. I then attach a piece of wire to the free end by a twisted loop (Fig. 7). With about half a dozen of these coiled in an oval tin box I am ready to snare any small bird whose haunt I may discover."

This springe is varied in a variety of ways, but it is remarkably deadly for nearly all birds. The piece of wire is of course twisted round a branch or other fixed point, and the noose, for such it is, is so arranged that the bird pecks through it, and so gets "haltered." I always make my springes of silkworm gut, used in fishing, as being stronger and practically invisible.

Ducks, moorhens, and dabchicks can be caught with nooses or springes made of a sufficient number of hairs or strands of gut, and suspended to a line fixed across the ditches and small streams they are known to frequent. A springe mounted as shown in Fig. 8 (A in 9) can also be fixed in the ground, with the noose hanging over the probable spot of emergence from the water of either of these birds. Their exact "run" can easily be determined by the freshness of the excrement. Snipes are to be taken by simply attaching the springe to a bullet and burying this in the soft ooze or mud where snipe are known to feed or run. Plovers can be taken in a similar way.



Fig. 7.

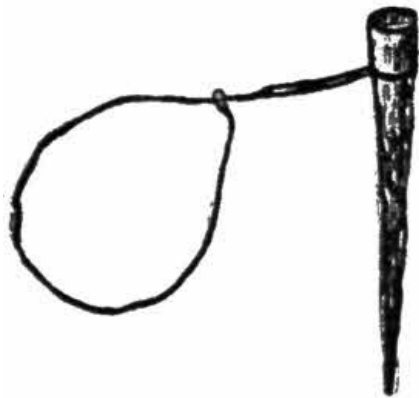
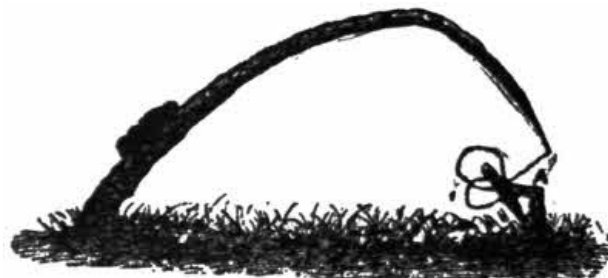


Fig. 8.

On the Continent, according to Mr. Box, the following is the method of using the springe for the capture of thrushes and such birds. The springes being made, the snarer cuts as many twigs about eighteen inches in length as he intends hanging springes. There are two methods of hanging them—in one the twig is bent in the form of figure 6, the tail end running through a slit cut in the upper part of the twig. The other way is to sharpen a twig at both ends, and insert the points into a stem of underwood, thus forming a bow, of which the stem forms the string below the springe, and hanging from the lower part of the bow is placed a small branch with three or four berries of the mountain-ash; this is fixed to the bow by inserting the stalk into a slit in the wood.

The bird-catcher is provided with a basket, one compartment of which holds his twigs, bent or straight, another his berries; his springes being already attached to the twigs, he very rapidly drives his knife into a lateral branch, and fixes them, taking care that the springe hangs neatly in the middle of the

bow, and that the lower part of the springe is about three fingers' breadth from the bottom. By this arrangement the bird, alighting on the lower side of the bow, and bending his neck to reach the berries below, places his head in the noose, finding himself obstructed in his movements, attempts to fly away, but the treacherous noose tightens around his neck, and he is found by the sportsman hanging by the neck, a victim of misplaced confidence.



Another adaptation of the springe is shown at Fig. 9. It consists of a wand of hazel, willow, or any other suitable wood, which is set in the ground firmly. A short piece of string, hair, or gut connects it with a cross piece of wood, and to this string also several (two or more) horsehair or gut springes are attached, set in precisely the same manner as shown in Fig. 8. A in Fig. 9 is a piece of wood which is so cut as to present an arm at right angles to the perpendicular. This piece of wood is driven in

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**Fig. 9.**

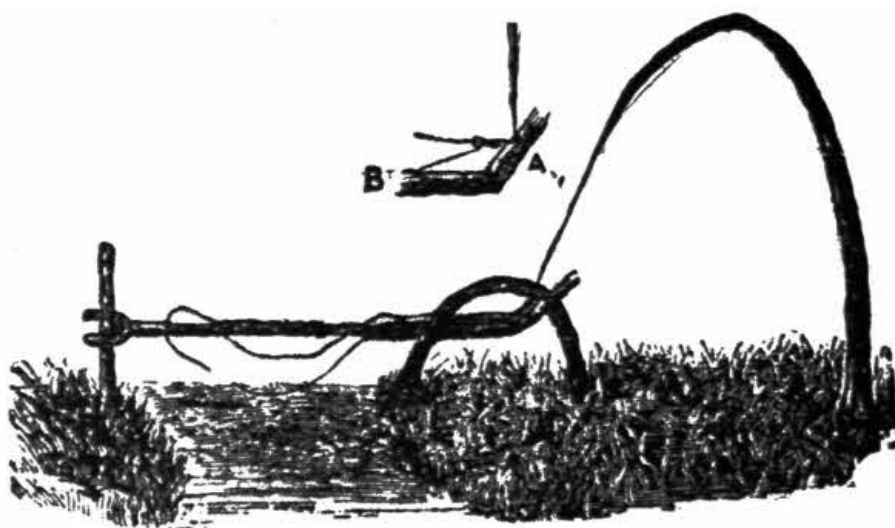
the ground and the wand bent over; the cross-piece is now placed to the edge of the arm of A, and there retained as "ticklishly" as

possible.

On this fine setting everything depends. Now get some short grass and cover up the cross-piece at A, so that it cannot be seen, then arrange your hair springes on the surface, and strew some crumbs or grains of rice, wheat, etc. The bird will settle on the cross-piece or on A, and peck at the crumbs, etc., and then will be caught by the legs or head. I have had excellent results with this.

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Another springle shown at [Fig. 10](#) is a remarkably good one for moorhens, or, in fact, any bird having a run, for the description of which quote "Practical Trapping," by Moorman (though, indeed, I believe he got his description from Doucie's "Rural Sports"). "The wand, or spring-stick," he says, "cross-piece and nooses as before, but instead of the simple crutch use a complete bow with both ends stuck in the ground. At some distance from this drive in a straight piece of stick; next procure a piece of stick with a complete fork or crutch at one end. To set it draw down the spring-stick and pull the cross-piece under the bow by the top side farthest from the spring-stick. Now hold it firmly with one hand while you place the forked stick with its crutch pressing against the opposite upright stick and bring its free end against the lower end of the cross-piece, and adjust as firmly as you can. Finally arrange the nooses in such a manner that if one of them or the crutched stick is touched the latter falls, and releasing the cross-piece the spring-stick flies up and the bird with it." (A) indicates the cross-piece, (B) the forked stick, (C) the adjustment. ([Fig. 10](#)).



**Fig. 10.**

## IX.

### BIRD-CATCHING WITH TRAPS, ETC.

Yet another of the springle traps which I have seen used with very great success for the capture of flesh-eating birds is shown in [Fig. 11](#). A and B are two sapling oak or ash-trees, growing near each other. Two holes are bored in A with a large gimlet; at C, in B, a wire loop is attached, and the loop E is passed through the upper perforation, as shown. At D a piece of cord with a round knot in it is passed through after B is bent toward A. F is a piece of wood, the point of which is shaped like a blunt cone, and this is sustained on the knot in the position shown by the spring of B, being similar, in fact, to the tongue of a wooden mole-trap, shown in a previous number. On this piece of wood is tied a fresh lump of meat, or a pigeon's egg may be blown and stuck on. Indeed, any bait may be used, providing it is not too heavy. The bird, of course, pecks strongly at it through the loop E, and is instantly caught, or if it attempts to alight, which is often the case, the noose catches it alive by the legs. My drawing is a rough one, but sufficiently explains what is meant.

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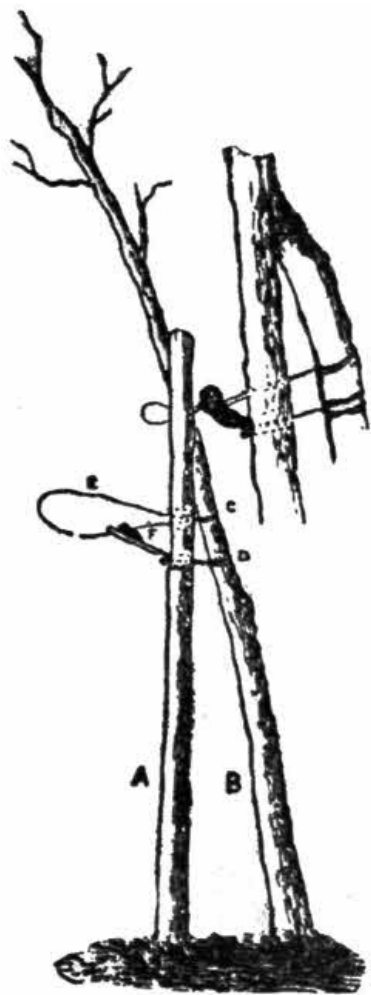


Fig. 11.

thickens sufficiently, stirring it repeatedly the while with a stick. The oil is smooth when it boils. In order to ascertain when it is done take out the stick and immerse it in water, after which see if it sticks to the fingers. If it does, the oil is ready to be poured into cold water, and thereafter placed in little flat tin boxes—the most convenient receptacles, as they fit in the waistcoat pocket, and can be used as required.

Birdlime is also made from holly bark, but according to the directions given in the "Encyclopædia Britannica" the process is much too troublesome for boys, and as one can buy birdlime enough to stick a flock of rooks together for a few pence from a professional bird-catcher, life may be considered too short for that process at this time. As I am some distance from a town, much less a professional bird-catcher, I make mine as above, and find it little if any inferior to that I have been in the habit of buying.

During winter time, when frost and snow cover the earth, birdlime is very useful, for at that time the "clap" net is of very little use. A good plan then is to sweep a bare place anywhere near a plantation or wooded garden, or even in the farm-yards, and having anointed a few dozen wheat ears with the straw attached—or rather, having anointed the straw for about a foot nearest the ear—to spread them about in the patch. The birds will attempt to take the ears away, and will so get limed and drop to the ground. You must very quickly pick them up or you will lose some, as their struggles not infrequently release them, at least partially, and they flutter out of reach.

Sometimes it will be found that a few handfuls of oats, barley or wheat thrown down where the

I have thus given a brief sketch of what boys can do in bird-catching with no more expense than a few cents—if we except the net, and that need not cost much if one is disposed to make it. There are many other traps which are variously successful. There is, for example, the trap-cage, which contains on one side a decoy bird, and a very useful one it is, and easily procured from a bird-fancier. Then there is the old sieve and string and brick trap, about which no boy needs to be told. I have taken twenty and thirty wild fowl in a night by baiting with pieces of sheep's lights or lungs a large eel-hook. Then again for kingfishers there is a round spring-trap, which catches them by the legs, and is cruel therefore. Herons may be taken on a baited hook—the bait-fish, of course. When all is said and done, however, for general bird-catching, where sport and not torture is the means here set forth are decidedly the most satisfactory.

First and foremost, however, if you would be successful, take this practical counsel to yourself. Study the natures and habits of the birds; the droppings and footprints will always indicate a favorite resort. Why, I took a dozen birds the other day with half a dozen of [Figure 9](#) traps in less than four hours by simply setting and resetting in the right places, and then retiring out of sight.

And not merely out of sight, let me tell the tyro, but out of the range of the sense of smell. Never get to windward of any birds if you are intent on catching them. It is a curious fact amongst the lower animals, especially those brought under domestication, that they perceive and appreciate at its value against themselves the presence of man by smell as well as sight. Creatures of prey, from the hatred with which they are held, seem to possess this faculty in the highest degree. Were it not so, indeed, the struggle for existence with them would soon end, and many at least of the species—whether fish, flesh or fowl—would become extinct as the dodo.

The bird-lime itself is the next consideration under this heading. I do not advise any boy to make it himself, but if he nevertheless chooses to do so, here is a recipe which will produce a very good "lime." Half a pint of Linseed-oil should be put into an iron pot and carefully boiled over the fire for four hours, or, in fact, till it

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limed straws are will be of service when they do not seem to care for the wheat ears themselves. There is the probability of the little fellows coming in contact with the ears, and so getting limed. These methods are chiefly applicable, as I have said, to cold weather.

A different mode of procedure may be practiced when the weather is very hot. Cut, say, a hundred twigs of some smooth, thin wood, such as withy, and after liming, stick them down by the side of any rivulet of water near woody growths, and of course not near a large tract of water such as a lake or river. Cover over the stream with brush or fern, so that the birds can come only by where your limed twigs are placed. I have had remarkable sport in this way when the birds have been coming to drink during the forenoon and afternoon.

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I tried an experiment for rooks with bird-lime some little time ago. We all know that in winter, during a thaw, rooks will frequent pastures in great numbers, especially if cattle be present. About fifty yards to the west of where I am now sitting is a long waterside pasture, and thousands of rooks could be seen digging right lustily. Rooks are too strong and wily to be limed in the usual way with bristles or twigs, so I made some paper cones—funnel-shaped, you know, like the grocers use for packing sugar—and anointed the inside with bird-lime, sticking also a few grains of wheat round the inner side. The result was ridiculous in the extreme. After scattering a few grains of corn about and placing about a dozen of these limed brown-paper funnels in a likely manner, I retired to a distance, and with my field-glass watched. A flock soon found out the scattered grain, and one after the other the cones were inspected, but for some time no one ventured to do more. Presently, however, after the loose grain was apparently all eaten, one of the wily birds had the temerity to poke his head inside a cone. The result was much to his evident surprise, for the cone stuck tight, and there he was tumbling and attempting to fly with a foolscap on which blindfolded him, and which stuck tight enough to allow me time to go up and release the poor fellow. I did not kill him, for old rook pie is by no means palatable. I tried this plan for a heron which continually frequented a little pond wherein my last year's trout are kept, but did not succeed in capturing him, though he took both the cone and fish used for a bait away somehow. Anyhow it has most thoroughly frightened my gentleman, for I have not seen him since.

One fine morning some time since I had a delightful ramble with a quaint old character living hereabouts who gets his living by mole and bird catching. Old "Twiddle" he is familiarly called. One faculty he has, and that is a natural love for nature's works and a gift of observation which has, perhaps almost unknown to himself, forced him into being a natural naturalist, if I may so use the expression. He can tell any bird on the wing by its flight, he knows all the fancies—some of them old, imagined fancies—of bees, each fly as it flits from the water's edge has a name, though far from being that given it by science. No matter for that; a rose by any other name would smell as sweet and old Twiddle can tell something of its life-history. Well, Twiddle and I started on our ramble, and this was how he was equipped. A cage containing a beautiful little cock gold-finch duly and comfortably furnished with food and water, and protected from the sharp though clear air of the bright November day by means of an old silk handkerchief. Some dozen or two of prepared bristles, a small box of birdlime, and a "dummy" or stuffed gold-finch set up on a branch of wood with one end sharpened so that the latter could be stuck in the ground and then the bird retained in any position deemed desirable. The bristles were of the best shoemaker's kind, and, were arranged in bunches of three on a stout carpet-needle.

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By the by I have improved on these by substituting a fish-hook straightened (see Fig. 6). To do this take an ordinary eel-hook and make it red-hot in the gas or candle flame, holding it the while by means of a pair of pliers. It can be readily straightened after this, whether hot or cold, as the heating softens the wire. The utility of the barb lies in the fact that the bird cannot by any chance fly away with the bristle or lose it for you in its struggles, because of the barb's holding power when thrust into the branch of a tree, etc.

But to return. Chatting about this and that we journeyed along till after old Twiddle had craned his neck over a ledge to regard the other side of a field he announced our walk for the present ended. On creeping through a hole in the hedge this field turned out to be a piece of evidently waste water meadow, so-called because the crops are, as it were, manured with water from the neighboring river, and a perfect little forest of thistles with their downy heads swaying in the breeze indicated the probable presence of the goldfinch. Some thorn-trees grew in a row down the center of the field, and hither and thither the sparrows flitted amongst their branches busily chattering the news of sparrowdom. But I saw no finches. "Twiddle," said I, "where are the goldfinches?" "Ye'll see where they be, sir, presently," he answered, setting down the caged bird near the largest of the thorns. "Now, Billy," he added, speaking to the bird, "crow away," and with that he removed the handkerchief. Billy needed no second bidding, and his little throat quivered and trembled with the glad song which came thrilling forth.

Twiddle now placed the dummy bird just beneath a branch of the thorn close to the cage and so as to be easily seen, and all around it and round the cage the bristles carefully limed were stuck. All was now ready. We retired behind the hedge where we could see and not be seen.

Presently the singing was answered and we saw a gold-finch hopping about amongst the branches of the thorn. Suddenly it caught sight of the dummy bird and with a pleased swiftness flew towards it. In another second it had touched a limed bristle and was rolling over and over hopelessly liming its wings with every fresh bristle it touched.

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Very carefully the little chap was dusted with a little fine earth to mitigate the stickiness and placed in another cage which the bird-catcher always carries for the wild birds. It is flat and long and well supplied with food and water; in the upper part of it is a hole sufficiently large to admit

the hand, and to the two edges of this hole is tacked the leg of an old stocking, which falls inwards. Then the bird can easily be placed inside, but cannot escape, because the folds of the stocking fold together.

We caught five there and, as the market value of the birds was about twenty-five cents, Twiddle, it must be owned, had a very profitable morning's work. Let me express a hope that my readers may be so successful.

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## The Art of Stretching and Curing Skins.

The market value of skins are greatly affected by the care used in skinning and curing. We take the following from *The Trapper's Guide*, the best known authority on these matters:

In drying skins it is important that they should be stretched tight like a strained drum head. This can be done after a fashion by simply nailing them flat on a wide board or a barn door. But this method, besides being impracticable on a large scale in the woods (where most skins have to be cured) is objectionable, because it exposes only one side of the pelt to the air. The stretchers that are generally approved and used by good trappers, are of three kinds, adapted to the skins of different classes of animals, and shall call them the board-stretcher, the bow-stretcher, and the hoop-stretcher, and will describe them, indicating the different animals to which each is adapted.

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THE BOARD-STRETCHER.—This contrivance is made in the following manner: Prepare a board of bass-wood or other light material, two feet three inches long, three inches and a half wide at one end, and two inches and an eighth at the other, and three-eighths of an inch thick. Chamfer it from the center to the sides almost to an edge. Round and chamfer the small end about an inch up on the sides. Split this board through the center with a knife or saw. Finally, prepare a wedge of the same length and thickness, one inch wide at the large end, and tapering to three-eighths of an inch at the small end, to be driven between the halves of the board. This is a stretcher suitable for a mink or a marten. Two larger sizes, with similar proportions, are required for the larger animals. The largest size, suitable for the full grown otter or wolf, should be five feet and a half long, seven inches wide at the large end when fully spread by the wedge, and six inches at the small end. An intermediate size is required for the fisher, raccoon, fox, and some other animals, the proportions of which can be easily figured out.

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These stretchers require that the skin of the animal should not be ripped through the belly, but should be stripped off whole. This is done in the following manner: Commence with the knife at the hind feet, and slit down to the vent. Cut around the vent, and strip the skin from the bone of the tail with the help of the thumb nail or a split slick. Make no other slits in the skin, except in the case of the otter, whose tail requires to be split, spread, and tacked on to the board. Peel the skin from the body by drawing it over itself, leaving the fur side inward.

In this condition the skin should be drawn on to the split board, (with the back on one side and the belly on the other) to its utmost length, and fastened with tacks or by notches cut in the edge of the board, and then the wedge should be driven between the two halves. Finally, make all fast by a tack at the root of the tail, and another on the opposite side. The skin is then stretched to its utmost capacity, as a boot-leg is stretched by the shoe-maker's "tree," and it may be hung away in the proper place, by a hole in one end of the stretcher, and left to dry.

A modification of this kind of stretcher, often used in curing the skins of the muskrat and other small animals, is a simple board, without split or wedge, three-sixteenths of an inch thick, twenty inches long, six inches wide at the large end, and tapering to five and a half inches at six inches from the small end, chamfered and rounded as in the other cases. The animal should be skinned as before directed, and the skin drawn tightly on to the board and fastened with about four tacks. Sets of these boards, sufficient for a muskrat campaign, can easily be made and transported. They are very light and take up but little room in packing, thirty-two of them making but six inches in thickness.

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THE BOW STRETCHER.—The most common way of treating the muskrat is to cut off its feet with a hatchet, and rip with a knife from between the two teeth in the lower jaw, down the belly, about two inches below where the fore-legs come out. Then the skin is started by cutting around the lips, eyes, and ears, and is stripped over the body with the fur side inward. Finally a stick of birch, water-beech, ironwood, hickory, or elm, an inch in diameter at the butt, and three feet and a half long, is bent into the shape of an oxbow and shoved into the skin, which is drawn tight, and fastened by splitting down a sliver in the bow and drawing the skin of the lip into it.

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This method is too common to be easily abolished, and is tolerable when circumstances make it necessary; but the former method of stretching by a tapering board, in the case of muskrats as well as other small animals, is much the best. Skins treated in that way keep their proper shape, and pack better than those stretched on bows, and in the long run boards are more economical than bows, as a set of them can be used many times, and will last several years, whereas bows are seldom used more than once, being generally broken in taking out.

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THE HOOP STRETCHER.—The skins of large animals, such as the beaver and the bear, are best dried by spreading them, at full size, in a hoop. For this purpose, a stick of hickory or other flexible wood should be cut, long enough to entirely surround the skin when bent. (If a single stick long enough is not at hand, two smaller ones can be spliced together.) The ends should be brought around, lapped, and tied with a string or a withe of bark. The skin should be taken from the animal by ripping from the lower front teeth to the vent, and peeling around the lips, eyes, and

ears, but without ripping up the legs. It should then be placed inside the hoop and fastened at opposite sides, with twine or bark, till all loose parts are taken up, and the whole stretched so that it is nearly round and as tight as a drum-head. When it is dry it may be taken from the hoop, and is ready for packing and transportation.

This is the proper method of treating the skin of the deer. Some prefer it for the wolf and raccoon. In many cases the trapper may take his choice between the hoop and the board method. One or the other methods will be found satisfactory for curing all kinds of skins.

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## Dressing and Tanning Skins and Furs.

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DRESSING SKINS WITH FUR WOOL ON.—The cheapest and readiest as well as the best method of dressing skins for use with the hair or wool on, is to first scrape off all the fat with a knife rather blunt on the edge, so as not to cut holes into the hide, upon a round smooth log. The log for convenience sake should have a couple of legs in one end, like a tressle; the other end should rest upon the ground.

After the fat is well cleaned off, take the brains of the animal, or the brains of any other recently killed, and work them thoroughly into the hide. This renders the hide pliable. Then to preserve from the ravages of insects scatter on it some powdered alum and a little saltpeter. If the hair side has become greasy, a little weak lye will take it out. Sheep-skins may be dressed in the same way, though the wool should be cleaned with soapsuds before using the brains. Another way, but more expensive, is to use a paste made of the yolk of eggs and whiting instead of brains, working it in the same way, letting it dry and brushing off the whiting. Then add the powdered alum as before. Deer-skins and even small calf-skins are often tawed as the process is called with the hair on for garments. If it is desired to give the deer-skin a yellow color, yellow ochre or chrome yellow may be used in combination with the brains or yolks of eggs and afterwards brushed off. [43]

If it is simply desired to preserve skins until they are sold, it is only necessary to dry them thoroughly. If the weather should be damp and warm, salt the flesh side slightly with fine salt.

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WITHOUT THE WOOL OR HAIR.—Sheep-skin, deer-skin, dog-skin, calf-skin, &c., for gloves, &c., are also tawed, but the hair must be taken off. The skins are first soaked in warm water, scraped on the flesh side to get off fat, and hung in a warm room until they begin to give a slight smell of hartshorn. The wool or fur then comes off rapidly. The hair side should now be thoroughly scraped against the hair. The skin is next soaked two or three weeks in weak lime water, changing the water two or three times. Then they are brought out again, scraped smooth and trimmed. Then rinsed in clean water, then soaked in wheat bran and water for two or three weeks. After this they are well stirred around in pickle of alum, salt and water. Then they are thrown again into the bran and water for two or three days. Then stretched and dried somewhat in a warm room. After this they are soaked in warm water and then worked or trodden on in a trough or pail filled with yolk of eggs, salt, alum, flour and water, beaten to a froth. They are finally stretched and dried in an airy room, and last of all smoothed with a warm smoothing iron. This makes the beautiful leather we see in gloves, military trimmings, &c. The proportions for the egg paste are as follows: 3 1/2 pounds salt, 8 pounds alum, 21 pounds wheat flour and yolks of nine dozen eggs. Make a paste with water, dissolving first the alum and salt. A little of this paste is used as wanted with a great deal of water.

Chamois skin and deer skins not wanted for gloves are similarly treated up to the point of treating with egg paste. Instead of using this process, they are oiled on the hair side with very clean animal oil, rolled into balls and thrown into the trough of a fulling mill, well beaten two or three hours, aired, re-oiled, beaten again and the process repeated a third time. They are then put into a warm room until they begin to give out a decided smell, then scoured in weak lye to take out superfluous grease. Here the intention is merely to get a thick felt-like skin of good color, a nicely grained surface is not required as in gloves. The skins are finally rinsed, wrung out, stretched and dried, and when nearly dry, slightly rub with a smooth, hard, round stick. [44]

These are the fine processes. A dried skin oiled so as to become smooth and pliable will retain the hair or wool a considerable time.

Or it may be made more durable where the color of the flesh side is no object by scraping, washing in soapsuds and then putting directly into the tan pit. For ordinary purposes rabbit, squirrel and other small skins can be efficiently preserved with the hair by the application of powdered alum and fine salt, put on them when fresh, or if not fresh by dampening them first. Squirrel skins when wanted without the hair will tan very well in wheat bran tea, the fat and hair having been previously removed by soaking in lime-water and scraping. Old tea leaves afford tannin enough for small skins, but they give a color not nearly so pleasant as bran. Almost any of the barks afford tannin enough for small skins—willow, pine, poplar, hemlock of course, sumach, etc.

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## Coloring or Dyeing Skins and Furs.

Furs are dyed by dealers, to suit some fashion, to conceal defects or to pass off inferior furs for better ones.

The best way is to brush the dye over the fur with a good sponge, brushing with the hair. As a matter of course, you can only dye them of a darker color than they are, and retain the handsome lustrous look peculiar to fur. They may be bleached, but the process leaves the fur looking like coarse flax or even hemp.

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BLUE.—Sulphate of indigo, (soluble indigo, sold by all druggists,) is the readiest and best to get a blue with. Furs are never dyed blue for sale, for that would be spoiling a white fur, but sheep-skins are. The skin should be dipped several times in a bath of hot alum water, allowed to drain, and then dipped into a solution of sulphate of indigo and water, with a few drops of sulphuric acid added, this gives a pale blue. Aniline blue is very fine, and dyeing with it is very simple. A solution of the color in water is made, a hot solution, and the skin put in all at once, (if a part of the skin is put in first that part will be darkest, so quick is the absorption of these colors). Fancy sheep-skin mats are colored blue, red, green, and yellow, and have a ready sale when they are new.

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BLACK.—The best black is obtained by first dyeing the skin a blue. Then boil one-quarter pound gall nuts, powdered, and one and one-quarter ounces of logwood, in three gallons of water. If the flesh side is to be blue, while the fur or wool is another, this decoction must be sponged on.

Get the wool or hair thoroughly impregnated with this and then add one-quarter pound copperas to the dye and go over the fur or wool many times with the sponge. The process above given will answer without previous blueing, but the black is not so brilliant. Another "home-made" dye which will answer for dyeing clothes a black, as well as sheep-skins, is this: Just make a bath of eight ounces of bichromate of potash, six ounces alum, four ounces fustic; boil in water enough to cover five pounds of yarn, cloth or a single sheep-skin. Make another bath of four pounds of logwood, four ounces each bar wood and fustic, or eight ounces fustic; same amount of boiling water as last. Stir the goods well around in the first bath, keeping the water hot for an hour; then work it in the second bath the same length of time. Take them and wring them; then, adding one-quarter pound of copperas to the last bath, put the goods in again and give them a good stirring. This is a good black dye for wool goods or furs, but not for silks or cottons.

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RED.—Furs of course are never dyed red, at least in this country. Sheep-skins might be dyed with madder or cochineal, but in the former case, the skin would of necessity be boiled with the dye, as that is necessary in using madder. Cochineal would be expensive and require much working, while as brilliant reds and purples may be got from the aniline colors, dissolved in moderately warm water, the skum taken off, and skin dipped. These colors are the cheapest, too, as they go very far. But always have the wool as free from grease as possible by working in weak hot lye or hot soapsuds.

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YELLOW.—Can be got on sheep-skins with black oak bark, (quercitron bark) old fustic, annotta, and Persian (also called French) berries. The skin should be previously dipped into a hot bath of alum, cream of tartar or spirit of tin, about two ounces to the gallon. About one-half pound of annotta, or a pound of the other articles, are enough for a single skin. If you wish to use fustic, be particular to ask for old fustic, as what is known in the trade as young fustic, is a different article and gives a different color. There is also now an aniline yellow which works like the other colors.

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GREEN.—Dye first blue as explained above, then pass through a yellow dye, until you get the shade required. An alum bath, cream of tartar, or spirits of tin, as above, must be used before the blue is given.

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PRESERVATION OF FURS.—While in use furs should be occasionally combed. When not wanted, dry them first, then let them cool, and mix among them bitter apples from the druggists, in small muslin bags, sewing them in several folds of linen, carefully turned in at the edges and kept from damp. Camphor or pepper used in the same manner, will have a similar effect. Well cleaned furs are much less liable to be attacked by moths, than those affording rich repasts of dried flesh, though no furs are absolutely safe without great watchfulness. Wrapping well in good brown

paper and keeping in a tight paper box, are all helps to the preservation of furs. Sunshine and fresh air kill the fur and wool moth grub. Therefore taking out the furs occasionally and airing, sunning and beating them is necessary.

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TO TAN MUSKRAT SKINS WITH THE FUR ON.—First for soaking, to 10 gallons of cold soft water add 8 parts of wheat bran,  $\frac{1}{2}$  pint of old soap, 1 ounce of borax; by adding 2 ounces of sulphuric acid, the soaking may be done in one-half the time. If the hides have not been salted, add a pint of salt. Green hides should not be soaked more than 8 or 10 hours. Dry ones should soak till very soft.

For tan liquor, to ten gallons warm soft water add  $\frac{1}{2}$  bushel bran; stir well and let stand in a warm room till it ferments. Then add slowly 2  $\frac{1}{2}$  pounds sulphuric acid; stir all the while. Muskrat hides should remain in about 4 hours. Then take out and rub with a fleshing knife—an old chopping knife with the edge taken off will do. Then work it over a beam until entirely dry.

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## Some Additional Valuable Miscellaneous Information Useful Alike to the Hunter, Trapper and Angler.

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HINTS TO TRAPPERS.—The skins of animals trapped are always valued higher than those shot, as shot not only make holes, but frequently plow along the skin, making furrows, as well as shaving off the fur. To realize the utmost for skins they must be taken care of, and also cleaned and prepared properly. Newhouse gives these general rules derived from experience.

1. Be careful to visit your traps often enough, so that the skin will not have time to get tainted. [47]
  2. As soon as possible after the animal is dead and dry, attend to the skinning and curing.
  3. Scrape off all superfluous flesh and fat, and be careful not to go so deep as to cut the fiber of the skin.
  4. Never dry a skin by the fire or in the sun, but in a cool, shady place, sheltered from rain. If you use a barn door for a stretcher (as boys sometimes do), nail the skin on the inside of the door.
  5. Never use preparations of any kind in curing skins, nor even wash them in water, but simply stretch and dry them as they are taken from the animal.
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TO DRESS BEAVER SKINS.—You must rip the skin the same as you would a sheep. Stretch it in all ways as much as possible; then it is to be dressed with equal parts of rock salt and alum dissolved in water, and made about as thick as cream, by stirring in coarse flour. This should be spread on nearly half an inch thick, and scraped off when dry, and repeated if one time is not enough. This same process of dressing applies likewise to otter skins.

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TO TRAP QUAIL.—A quail trap may be any kind of coop, supported by a figure 4. The spindle of the figure must either be so made as to hold grain, or, what is better, some grains of wheat or buckwheat are strung over a strong thread with the aid of a needle, and tied to the spindle. Quails and prairie hens easily enter a trap when the ground is covered with snow. At other times it is rather difficult to catch them.

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TO TRAP WILD TURKEY.—A wild turkey trap is made by first digging a ditch; then over one end is built a rude structure of logs, covered at the top.

The structure should not be tight, but, of course, sufficiently close not to let the birds through. Indian corn is scattered about and in the ditch, and inside of the pen. The turkeys follow up corn in the ditch, and emerge from it on the inside. Once there, the silly birds never think of descending into the ditch, but walk round and round the pen, looking through the chinks of the logs for escape that way. To make all sure, the ditch should end about the centre of the pen, and a bridge of sticks, grass and earth should be built over the ditch, just inside of the pen, and close to the logs; otherwise, in going around the bird might step inside the ditch, and once there, it would follow the light and thereby reach the outside of the pen.

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TO CATCH MUSKRATS WITHOUT TRAPS.—It is a mystery to many how muskrats, beavers, and other animals, are able to remain so long under water, apparently without breathing, especially in winter. The way they manage is, they take in a good breath at starting, and then remain under water as long as possible. Then they rise up to the ice and breathe out the air in their lungs, which remains in a bubble against the lower part of the ice. [48]

The water near the ice is highly charged with oxygen, which it readily imparts to the air breathed out. After a time, this air is taken back in the lungs, and the animal again goes under the water, repeating this process from time to time. In this way they can travel almost any distance, and live almost any length of time under the ice. The hunter takes advantage of this habit of the muskrat in the following manner. When the marshes and ponds where the muskrat abounds are first frozen over, and the ice is thin and clear, on striking into their houses with his hatchet, for the purpose of setting his trap, he frequently sees a whole family plunge into the water and swim away under the ice. Following one for some distance, he sees him come up to recover his breath, in the manner above described. After the animal has breathed against the ice, and before he has time to take his bubble in again, the hunter strikes with his hatchet directly over him, and drives him away from his breath. In this case he drowns in swimming a few rods, and the hunter, cutting a hole in the ice, takes him out.

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BLEACHING WOOL ON TANNED PELTS.—Put an old pot or other iron vessel in the bottom of a hogshead, and in the vessel a roll of brimstone. Fasten near the top a stick or two to place the skin on. The wool must be wet when hung on the sticks. Heat an old iron red hot, or take live coals to start the brimstone. When it is burning briskly, cover the hogshead tight to keep the smoke in. If not white enough, repeat the process.

The Esquimaux mode of tanning is very simple, and the material employed the cheapest and cost accessible of any used in the art, viz: the urine of man and beast. The skins are prepared in the fur, and softened and tanned in urine, which is usually kept in tubs in the porches of their huts, for use in dressing deer, seal and other skins. They show great skill in the preparation of whale, seal and deer skins, and these, on the whole, are equal to the best oil skins made in England. It imparts to them firmness and durability, and makes them waterproof. The boots worn by the Esquimaux are generally made from seal or walrus hides, and resist the encroachments of water.

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HAWK AND OWL TRAPS.—To catch hawks or owls, take a pole 20 feet long, to be set a short distance from the house or barn or on the poultry house. Split the top so as to admit the base of a common steel trap, which should be made fast. When both trap and pole are set you may be sure of game of some kind. These birds naturally light on high objects, such as dead branches of trees or tops of stacks, and one should use judgment about the place where he puts the traps. An open field near the chicken yard is probably the best.

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DOMESTIC MANUFACTURE OF FURS.—The skins of raccoons, minks, muskrats, rabbits, foxes, deer, cats, dogs, woodchucks and skunks are all valuable. Handsome robes may be made from the skins of the last two animals, and the writer has seen fur coats made from the skins of woodchucks, well tanned, dyed and trimmed, which were elegant as well as comfortable, and no one but a connoisseur would be able to guess their origin. Of the finer and nicer furs, beautiful collars, muffs, cuffs, caps, gloves and trimmings may be made with a little ingenuity and perseverance; and who would not feel a greater satisfaction in wearing a nice article, from the fact that it was something of their own manufacture—a product of their own taste and genius?

Very handsome floor-mats are made by tanning sheep pelts and dyeing them some bright color, which is done with very little trouble; the art of dyeing is now so familiar to almost every household. Furs may be dyed as easily as woolen goods, notwithstanding the impression that it is an art known only to the trade. Any dye that will color woolens will also dye furs, only care must be taken not to have the dye too hot, or the texture of the skin will be injured.

The mode of tanning usually followed by city furriers is to rub the skins well with rancid butter, then tread them thoroughly in a tub or vat, after which a large quantity of sawdust is mixed with them, and the process of treading continued until all the grease is absorbed, when they are finished off by beating, working and rubbing with chalk and potter's clay, whipping and brushing. An old trapper practiced this method with small skins, first washing with a suds of soap and sal-soda to free them from grease, then rinsing in clear water to cleanse them from the suds, then rubbing as dry as possible, after which they were put in a mixture of two ounces of salt to a quart of water, added to three quarts of milk or bran-water containing one ounce of best sulphuric acid, and stirred briskly for forty or fifty minutes; from this they are taken dripping into a strong solution of sal-soda and stirred till they will no longer foam; they are then hung to dry, when they are very soft and pliable.

A very good and simple process in use among farmers is to sprinkle the flesh side, after scraping it well, with equal parts of pulverized alum and salt, or washing it well with a strong solution of the same, then folding the flesh side together and rolling it compactly, in which state it should remain for eight or ten days; then it is opened, sprinkled with bran or sawdust to absorb the moisture, and rolled up again, and after remaining twenty-four hours, the process is completed by a thorough rubbing and manipulation, on which the pliability depends. Skins, when taken off, should be freed from grease or flesh by thorough scraping, when they may be dried, and left to await the leisure of the owner. Previous to tanning they must be well soaked and wrung dry.

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It is no extravagance to assert that every farmer's family may furnish their own fur collars, gloves, robes, and other articles of dress and ornament, with trifling expense, from the resources within their own reach; but from want of more knowledge on the subject valuable skins are wasted or disposed of for a mere fraction of their real value, and articles of apparel that should be made from them are bought at extravagant prices of fur dealers.

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INDIAN MODE OF TANNING BUFFALO SKINS.—The hard and incessant labor that is necessary to properly "Indian tan" a robe is not easily to realize unless one may see the work go on day by day from the first step, which is to spread out the pelt or undressed hide upon the ground, where it is pinned fast by means of wooden pins driven through little cuts in the edge of the robe into the earth. The flesh side of the robe, being uppermost, is then worked over by two and sometimes three squaws. The tools used are very rude, some being simply provided with sharp stones or buffalo bones. Others, more wealthy, have a something that much resembles a drawing-knife or shave of the

cooper. The work in hand is to free the hide from every particle of flesh, and to reduce the thickness of the robe nearly one half, and sometimes even more.

This fleshing, as it is termed, having been thoroughly accomplished, the hide is thoroughly moistened with water in which the buffalo brains have been steeped. For ten days the hide is kept damp with this brain water. Once each day the hide is taken up and every portion of it rubbed and re-rubbed by the squaws, who do not have recourse to anything like a rubbing-board, but use their hands until it would seem as if the skin would soon be worn off. There seems to be no definite rule as to the length of time which the robe shall occupy in curing. The squaw labors until the hide becomes a robe, which may require the work of one week or two, sometimes even more; but I think that ten days may be considered as the average time which it takes to properly cure a robe.

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TO DRESS DEER SKINS.—Put the skin into the liquid while warm, viz: eight quarts rain water to one pint soft soap. Warm it. Then punch the hide, or work it with a soft stick, and let it lay one day. It is then to be taken out and wrung—rolled between two logs—or even a wringing machine will be better. Then stretch it until it is dry, in the sun is best, or by a hot fire. Then oil it thoroughly with any oil convenient. [51]

It should then be treated to the same bath of suds (heated quite warm), and lay another day. Then pull it out and dry as before. Any oil will do, but good fresh butter is better than anything else. When the skin is dry rub it with ochre, which will give it a splendid yellow color.

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TANNING AND BUFFING FOR DEER SKIN GLOVES.—For each skin take a bucket of water and put into it 1 quart of lime; let the skin or skins lay in from 3 to 4 days; then rinse in clean water, hair and grain; then soak them in cold water to get out the glue; now scour or pound in good soap suds for half an hour; after which take white vitriol, alum and salt, one tablespoon of each to a skin; this will be dissolved in sufficient water to cover the skin and remain in it for 24 hours; wring out as dry as convenient, and spread on with a brush  $\frac{1}{2}$  pint of currier's oil, and hang in the sun about two days; after which you will scour out the oil with soap suds, and hang out again until perfectly dry; then pull and work them until they are soft; and if a reasonable time does not make them soft, scour out in suds again as before, until complete.

The oil may be saved by pouring or taking it from the top of the suds, if left standing a short time. The buff color is given by spreading yellow ochre evenly over the surface of the skin, when finished, rubbing it in well with a brush.

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DYEING FOR BUCKSKIN, (Buff.)—5 parts of whiting to 2 parts of ochre (yellow), and mix them with water to a paste; make into cakes and dry. When a dressed skin is dry, rub one of the balls over the surface; rub the powder in. Take a piece of sand-paper and raise a nap on the leather by going over it. (Black.)—Take clear logwood; after it is dry use copperas water to blacken it. Be careful and not use too much. (Dark Brown.)—5 pounds of oak bark; 4 pounds of fustic; 14 ounces of logwood. Use alum water (strong) to make it strike in. (Drab.)—Mix blue clay with soft soap; add blue vitriol to shade the color. It can be made any shade you wish.

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DYEING FOR MOROCCO AND SHEEP LEATHER.—The following colors may be imparted to leather, according to the various uses for which it is intended. (Blue.)—Blue is given by steeping the subject a day in urine and indigo, then boiling it with alum; or it may be given by tempering the indigo with red wine, and washing the skins therewith.

(Another.)—Boil elderberries or dwarf elder, then smear and wash the skins therewith and wring them out; then boil the elderberries as before in a solution of alum water, and wet the skins in the same manner once or twice; dry them, and they will be very blue. (Red.)—Red is given by washing the skin and laying them two hours in galls, then wringing them out, dipping them in a liquor made with ligustrum, alum and verdigris; in water, and lastly in a dye made of Brazil wood boiled with lye. (Purple.)—Purple is given by wetting the skins with a solution of roche alum in warm water, and when dry, again rubbing them with the hand with a decoction of logwood in cold water. (Green.)—Green is given by smearing the skin with sap green and alum water, boiled. (Dark Green.)—Dark green is given with steel filings and sal ammoniac, steeped in urine till soft, then smeared over the skin, which is to be dried in the shade. (Yellow.)—Yellow is given by smearing the skin over with aloes and linseed oil, dissolved and strained, or by infusing it in weld. (Light Orange.)—Orange color is given by smearing it with fustic berries boiled in alum water, or, for a deep orange, with turmeric. (Sky color.)—Sky color is given with indigo steeped in boiling water, and the next morning warmed and smeared over the skin. [52]

OPERATION OF TANNING.—The first operation is to soak the hide, as no hide can be properly tanned unless it has been soaked and broken on a fleshing beam. If the hide has not been salted add a little salt and soak it in soft water. In order to be thoroughly soaked, green hides should remain in this liquor from 9 to 12 days; of course the lime varies with the thickness of the hide. The following liquor is used to remove hair or wool, viz: 10 gallons cold water (soft), 8 quarts slacked lime, and same quantity of wood ashes. Soak until the hair or wool will pull off easily.

As it frequently happens it is desirable to cure the hide and keep the hair clean, the following paste should be made, viz: equal parts of lime and hard-wood ashes, (lime should be slacked,) and made into a paste with soft water. This should be spread on the flesh side of the hide and the skin rolled up, flesh side in, and placed in a tub, just covering it with water. It should remain 10 days, or until the hair will pull out easily, then scrape off with a knife.

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TO DEODERIZE SKUNK SKINS.—To deoderize skunk skins or articles for clothing scented, hold them over a fire of red cedar boughs, and sprinkle with chloride of lime; or wrap them in green hemlock boughs when they are to be had, and in 24 hours they will be cleansed.

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HOW TO SHOOT SNIPE.—To the beginner no bird is more puzzling, and, therefore, more difficult to shoot. Its flight is most uncertain, most variable, and most irregular—rising at one time as evenly as a lark, and flying close to the ground with scarcely the slightest deviation from a straight line; at another, springing from the ground as if fired from a gun, and then flying in a zig-zag course to the right or left, and, indeed, in every direction; and sometimes, again, rising to a great height, and then going straight away with the rapidity of lightning. And yet, with all these apparent difficulties, when the knack is once acquired, it becomes comparatively easy—indeed, is reduced almost to a certainty. The great art in this kind of shooting is coolness, and to avoid too much hurry. And, in this, as in every other kind of shooting, the first sight is the best; the moment you are “well on” your bird, the trigger should be pulled. In cross shots, fire well before your bird. Contrary to the usual practice, you should always walk down wind; the reason for this is that snipe always rise against it. Sometimes snipe are very wild, and at others will lie until they are almost trodden upon. If there be much wind, your best chance is to “down with them” as soon as they rise from the ground, or you have little hope of getting a bag.

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PRESEVERATIVES FOR SKINS.—The best material for the preseveration of skins of animals consists in powdered arsenious acid, or the common arsenic of the shops. This may be used in two ways: either applied in dry powder on the moist skin, or, still better, mixed with alcohol or water to the consistency of molasses, and put on with a brush. Some camphor may be added to the alcoholic solution, and a little strychnine will undoubtedly increase its efficacy. There are no satisfactory substitutes for arsenic, but, in its entire absence, corrosive sublimate, camphor, alum, etc., may be employed.

Many persons prefer the arsenical soap to the pure arsenic. This is composed of the following ingredients, arsenic, 1 ounce; white soap, 1 ounce; carbonate of potash, 1 dram; water, 6 drams; camphor, 2 drams. Cut the soap into thin slices, and melt over a slow fire with the water, stirring it continually; when dissolved, remove from the fire, and add the potash and arsenic by degrees; dissolve the camphor in a little alcohol, and when the mixture is nearly cold, stir it in.

The proper materials for stuffing out skins will depend much upon the size of the animal. For small birds and quadrupeds, cotton will be found most convenient; for the larger, tow; for those still larger, dry grass, straw, sawdust, bran, or other vegetable substances, may be used. Whatever substance be used, care must be taken to have it perfectly dry. Under no circumstances should animal matter, as hair, wool, or feathers, be employed.

The bills and loral region, as well as the legs and feet of birds, and the ears, lips and toes of mammals, may, as most exposed to the ravages of insects, be washed with an alcoholic solution of strychnine applied with a brush to the dried skin; this will be an almost certain safeguard against injury.

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FISHING WITH NATURAL FLY.—This consists in fishing with the natural flies, grasshoppers, etc., which are found on the banks of the rivers or lakes where you are fishing. It is practiced with a long rod, running tackle, and fine line. When learning this system of angling, begin by fishing close under the banks, gradually increasing your distance until you can throw your live bait across the stream, screening yourself behind a tree, a bush, or a cluster of weeds, otherwise you will not have the satisfaction of lifting a single fish out of the water. In rivers where immense quantities of weeds grow in the summer, so as almost to check the current, you must fish where the stream runs most rapidly, taking care that in throwing your line into those parts you do not entangle it among the weeds. Draw out only as much line as will let the fly touch the surface, and if the wind is at your back it will be of no material service to you in carrying the fly lightly over the water. In

such places the water is generally still, and your bait must, if possible, be dropped with no more noise than the living fly would make if it fell into the water.

Keep the top of your rod a little elevated, and frequently raise and depress it and move it to and fro very gently, in order that the fly by its shifting about may deceive the fish and tempt them to make a bite. The instant your bait is taken, strike smartly, and if the fish is not so large as to overstrain and snap your tackle, haul it out immediately, as you may scare away many while trying to secure one. There are very many baits which may be used with success in natural fly fishing, of which, however, we shall content ourselves with enumerating some of the most usual and useful.

Wasps, hornets and bumble bees are esteemed good baits for dace, eels, roach, bream and chub; they should be dried in an oven over the fire, and if not overdone, they will keep a long while.

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HOW TO SELECT FURS.—In purchasing furs, a sure test of what dealers call a “prime” fur is the length and density of the down next the skin; this can be readily determined by blowing a brisk current of air from the mouth against the set of fur. If the fibers open readily, exposing the skin to the view, reject the article; but if the down is so dense that the breath cannot penetrate it, or at most shows but a small portion of the skin, the article may be accepted.

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TO CLEAN FURS.—Strip the fur articles of their stuffing and binding, and lay them as much as possible in a flat position. They must then be subjected to a very brisk brushing, with a stiff clothes brush; after that, any moth-eaten parts must be cut out, and be neatly replaced by new bits of fur to match. Sable, chinchilla, squirrel, fitch, etc., should be treated as follows: Warm a quantity of new bran in a pan, taking care that it does not burn, to prevent which it must be actively stirred. When well warmed, rub it thoroughly into the fur with the hand. Repeat this two or three times; then shake the fur, and give it another sharp brushing until free from dust. White furs, ermine, etc., may be cleaned as follows: Lay the fur on the table, and rub it well with bran made moist with warm water; rub until quite dry, and afterward with dry bran. The wet bran should be put on with flannel, and the dry with a piece of book-muslin.

The light furs, in addition to the above, should be well rubbed with magnesia, or a piece of book-muslin after the bran process. Furs are usually much improved by stretching, which may be managed as follows: to a pint of soft water add three ounces of salt; dissolve; with this solution sponge the inside of the skin (taking care not to wet the fur) until it becomes thoroughly saturated; then lay it carefully on a board with the fur side downward, in its natural disposition, then stretch as much as it will bear, to the required shape, and fasten with small tacks. The drying may be quickened by placing the skin a little distance from the fire or stove.

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FISHING WITH ARTIFICIAL FLY.—Artificial fly fishing consists in the use of imitations of these flies and of other fancy flies, and is unquestionably the most scientific mode of angling, requiring great tact and practice to make the flies with neatness and to use them successfully, and calling forth as it does so much more skill than the ordinary method of bottom fishing, it merits its superior reputation.

It possesses many advantages over bottom fishing, but at the same time it has its disadvantages; it is much more cleanly in its preparations, inasmuch as it does not require the angler to grub for clay and work up a quantity of ground baits, and is not so toilsome in its practice, for the only encumbrances which the fly fisher has are simply a light rod, a book of flies and whatever fish he may chance to catch; but there are several kinds of fish which will not rise at a fly, and even those that do will not be lured from their quiet retreat during very wet or cold weather. It would be well if the young angler could go out for some little time with an old experienced hand, to observe and imitate his movements as closely as possible.

[56]

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TO PREPARE SHEEP SKINS FOR MATS.—Make a strong lather with hot water and let it stand till cold; wash the fresh skin in it, carefully squeezing out all the dirt from the wool; wash it in cold water till all the soap is taken out. Dissolve a pound each of salt and alum in two gallons of hot water, and put the skin into a tub sufficient to cover it; let it soak for twelve hours, and hang it over a pole to drain. When well drained stretch it carefully on a board to dry, and stretch several times while drying. Before it is quite dry, sprinkle on the flesh side one ounce each of finely pulverized alum and saltpetre, rubbing it in well.

Try if the wool be firm on the skin; if not, let it remain a day or two, then rub again with alum; fold the flesh sides together and hang in the shade for two or three days, turning them over each day till quite dry. Scrape the flesh side with a blunt knife, and rub it with pumice or rotten stone.

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TO TAN SHEEP SKINS.—Sheep skins, which are used for a variety of purposes, such as gloves, book-covers, etc., and which when dyed, are converted into mock Morocco leather, are dressed as follows: They are first to be soaked in water and handled, to separate all impurities, which may be scraped off by a blunt knife on a beam. They are then to be hung up in a close, warm room to putrefy. This putrefaction loosens the wool, and causes the exudation of an oily and slimy matter, all which are to be removed by the knife. The skins are now to be steeped in milk of lime, to harden and thicken; here they remain for 1 month or 6 weeks, according to circumstances, and when taken out, they are to be smoothed on the fleshy side with a sharp knife. They are now to be steeped in a bath of bran and water, where they undergo a partial fermentation, and become thinner in their substance.

The skins, which are now called pelts, are to be immersed in a solution of alum and common salt in water; in the proportion of 120 skins to three pounds of alum and five pounds of salt. They are to be much agitated in this compound saline bath, in order to become firm and tough. From this bath they are to be removed to another, composed of bran and water, where they remain until quite pliant by a slight fermentation. To give their upper surface a gloss, they are to be trodden in a wooden tub, with a solution of yolks of eggs in water, previously well beaten up. When this solution has become transparent, it is a proof that the skins have absorbed the glazing matter. The pelt may now be said to be converted into leather, which is to be drained from moisture, hung upon hooks in a warm apartment to dry, and smoothed over with warm hand-irons.

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TO TRAP YOUNG MINK.—MINK BREEDING.—Adult minks are almost untamable, but young ones readily submit to handling, and are easily domesticated. The time to secure young minks is in May and June, when they begin to run with their dams. The streams must be quietly watched for mink trails, and these tracked to the nest. [57]

When they leave the hole the old one may be shot, and the young ones secured, or they may be dug out. Those who own a breeding stock of minks ask high prices for them; but trappers represent to us that it is an easy matter to get the wild young ones. *Habits*.—A successful breeder says that he does not attempt to tame the wild mink, but only aims to supply for it in a small space all the necessities of its natural instincts. He says the mating season commences about the first of March, and lasts two weeks, never varying much from that date.

The female carries her young about six weeks. In the minkery, where diet, water, temperature, etc., are similar with each animal, there is so little difference in the time of mating and time of bearing young in different animals, that five out of six litters dropped last spring, were born within twelve hours of each other. The young are blind from four to five weeks, but are very active, and playful as kittens. The mother weans them at from eight to ten weeks old. At four weeks the mother begins to feed them meat; this they learn to suck before they have teeth to eat it.

The nests in which the young are born are lined by the mother with some soft material, and are made in the hollow of some old stump, or between the projecting roots of some old tree, and always where it is perfectly dry. The nest is located near pure running water, which the mother visits twice every twenty-four hours. She feeds her young on frogs, fish, birds, mice, crabs, etc., etc. The mink is from birth a pattern of neatness and cleanliness, and as soon as a nest begins to get foul and offensive, she takes one of the young in her mouth, and depositing it in a clean, suitable place, builds a nest about it, and then brings the balance of the litter. She feeds and cares for them until they are three and a half or four months old. When the young are weaned, about the 10th of July, she builds her nest near the water, in which the young soon learn to play. There are usually four in a litter, though the number ranges from two to six. Towards fall the mother separates them into pairs. One pair—or if the number be odd, the odd one—is left in the nest; the other pair or pairs, she places them often half a mile from each other, and then seeks new quarters for herself.

The young soon separate, and each one catches his own frogs, etc. They do not pair, but the male is a sort of rover and free-lover. Minks are unsociable, petulant, vicious in play, savage in war. Late in the fall they establish regular runaways from one stream to another, and usually under brush-fallen trees, weeds swale, and under banks—anywhere, in fact, where they can avoid the sunshine, and escape the chances of observation. The mink is a sure prophet, and just before hard winter begins, he lays by a store of food for the winter in safe places near his winter nests, of which he has several. As the snows fall he burrows under the snow, where he remains until about February, when his supply of food is exhausted, and he is forced to seek further for food. [58]

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MANAGEMENT OF.—Mink being by nature solitary, wandering creatures, being seldom seen in company except during the breeding season, are, therefore, impossible to be reared successfully, if large numbers are kept constantly together, therefore their inclosure should be a large one.

The male and female should be permitted to be together frequently from the middle of February until the middle of March. At all other times keep them entirely separate. The young mink make their appearance about the first of May. When wild in the woods they will seldom vary five days from this time, but when kept in confinement there is greater variation. About this season they should have plenty of fine hay, which they will carry into their boxes to make nests. A box three

or four feet long and eighteen inches wide is the shape they prefer. It should be placed as far as possible from the water to prevent the mink from carrying water and mud into it.

The young mink when first born are small and delicate, destitute of any kind of fur, and much resembling young rats. If the old mink is tame the young ones may be taken out of the nest and handled when they are three weeks old. They will soon learn to drink milk, and may feed every day. At five weeks old they may be taken from the mother and put into a pen by themselves, when they will soon become very playful and pretty, and make much better mothers than they would if allowed to run with the old ones.

The shelter should be in the shape of a long box, 5 or 6 feet wide, and 3 or 4 feet high, set upon legs, and with a good floor and roof. Divide it into separate compartments, 6 feet long (or longer would be better,) the front of each apartment to be furnished with a swinging door of strong wire screen, with the hinges at the top, and a button or some kind of fastener at the bottom. A trough 6 inches square, made by nailing three boards together, should run the whole length of the pen on the back side; one end of the trough should be made several inches lower than the other, so that the water can be drawn off. With this arrangement, the water can be turned in at one end of the trough, and drawn off and changed as often as desired. The lower end of the trough should be a little deeper than the other, to prevent the water from running over. Each apartment is furnished with a box 3 feet long and eighteen inches wide. On one side of the box and near one end is made a round hole, 2 1/2 inches in diameter, and provided with a sliding cover so that by means of a stick it can be opened or closed from the outside.

[59]

This is so the mink can be shut up when the pen is being cleaned out. On the top of the box and at the other end should be a door large enough to put in hay for the nest and take out the young. It is necessary that they have abundance of pure, soft water, fresh air, desirable shade and plenty of exercise. These conditions secure to the mink a good quality of dark fur and good health. Brush, weeds, etc., are allowed to grow in the yard, but not near enough the wall to admit of their climbing up and out.

In addition to the above directions for breeding mink, we give the following experience of a gentleman in Vermont: "I purchased one female and her litter of five, two males and four females in all, and constructed a building of rough boards, 10 by 4 feet, for a minkery. It had a floor tight enough to prevent the escape of the animals, was properly ventilated, and divided into six apartments, one of which is an ante-room in which to step from the outside and close the door. Water is supplied by a lead pipe running in at one side through all the rooms, and out at the other into a trough where small fish are kept, and occasionally given to the minks.

"They were kept together until December the 18th, when the males were put in an apartment by themselves. On the 10th of March each male was put in with a female, each pair separate, and after a couple of days, one of the males was put in with another female, and finally with the third. They were separated about the 1st of April, each female being kept alone and supplied with a suitable box, with warm material for a nest. When it was supposed they were about to bring forth their young, they were disturbed as little as possible; anything to excite them at this time, should be avoided, for when irritated, they will sometimes eat their young. The first female put with the perfect male, brought forth seven, one of which disappeared after they began to crawl around out of their nest. The other two females had each a pair, all of which (but the one mentioned) are now alive, fine, fat, sleek fellows, and fully grown. They are very easily kept, being fed once a day upon warm milk with wheat bread crumbs—a quart sufficing for the whole lot, and once upon fresh meat, care being taken not to over-feed.

"Any kind of meat and offal that is not too fat will answer. They are very fond of beef liver, chickens' heads and entrails, woodchucks (being careful not to give them the gall or the liver, which is poisonous), rats, mice, etc. They are more easily cared for than one hog and much more cheaply kept. Nothing was paid out for meat for them until after 1st July, when a contract was made with a butcher to leave a bullock's head once a week. I am confident that the increase of the minkery would have been fully one-third more if both the males had been perfect. I intend to keep them in pairs hereafter. They are not easily handled, but struggle when caught against their will and exude the thick fetid substance from glands near the vent. They will bite severely, but can be handled safely with thick buckskin gloves."

[60]



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## Transcriber's Note:

Illustrations have been moved to paragraph breaks near where they are mentioned.

Punctuation has been made consistent.

Variations in spelling and hyphenation were retained as they appear in the original publication, except that obvious typographical errors have been corrected.

Changes have been made as follows:

The notation 1 2 for fractions has been changed to  $\frac{1}{2}$ .

p. 11: *muste la* changed to *mustela* (invest *mustela vulgaris*)

p. 30: 5 changed to 6 [(Fig. 6). The]

p. 39: Fig. 6 referenced here does not exist.

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