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[Transcriber's Note: The Table of Contents was originally located on page 40 of the periodical. It has been moved here for ease of use.]

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The Corn-Root Worm.

Editor Prairie Farmer—I write you in regard to the corn question. I would like to know if angle-worms damage corn.

Eight years ago I came to the conclusion that I could raise double the number of bushels of corn that I was then raising. I then commenced experimenting on a small scale. I succeeded very well for the first three or four years. I got so that I could raise over ninety bushels per acre. In one year I got a few pounds over 100 bushels per acre. Three years ago my crop began to fail, and has continued to fail up to the present year, with the same treatment. Last year it was so bad that I concluded to examine the roots of the corn plants. I found both angle-worms and grubs in the roots. This year I went into a thorough examination and found nothing there but angle-worms, with a wonderful increase. They were right at the end of the stalk where the roots were thick, but the worms thicker.

The corn at first seems to do very well, but long before the grain gets ripe the leaves begin to get dry and the stalks commence falling. The consequence is that over one-half the corn is loose on the cob and the ears very short. I am entirely headed in the corn line. Is it the angle-worms? If so, what is the remedy? I plant my corn every year on the same ground. I allow no weeds to grow in my cornfield. Farmers can not afford to raise weeds. I remove all weeds and put corn in their places.

I have plowed my land for the next year's crop of corn and put on twenty loads of manure to the acre and plowed it under. I have no faith in planting the ground next year unless I can destroy the worms that I call angle-worms. I have consulted several of my brother farmers, and they say that the angle-worms never destroy a crop of corn.

I thought last year that my seed corn was poor and run out, so I went to Chicago and got Sibley's "Pride of the North," but that was no better.

If you will kindly inform me how to remedy this looseness of the kernel I will agree to show you how 100 bushels of corn can be raised on one acre every good corn year.

Horace Hopkins.
Desplaines, Ill., Jan. 2.

We sent this communication to Professor Forbes, State Entomologist and received the following reply:

Editor Prairie Farmer—There can be hardly a shadow of a doubt that the injury which your correspondent so graphically describes is due to the corn root-worm (Diabrotica longicornis), a full account of which will be found in my report for 1882, published last November.

The clue to his whole difficulty lies in the sentence, "I plant my corn every year on the same ground." As the beetles from which the root-worms descend lay their eggs in corn fields in autumn, and as these eggs do not hatch until after corn planting in the following spring, a simple change of crops for a single year, inevitably starves the entire generation to death in the ground.

I inclose a slip, giving a brief account of this most grievous pest; but the article in my last report already referred to will be found more satisfactory.

S. A. Forbes.
Normal, Ill., January 3.

P.S.—You will probably remember that I published a paper on this insect in The Prairie Farmer for December 30, 1882.

The following is the description referred to:

From the "Crop Report" for 1882.

"The corn-root worm, in the form in which it affects the roots of corn, is a slender white grub, not thicker than a pin, from one fourth to three-eighths of an inch in length, with a small brown head, and six very short legs. It commences its attack in May or June, usually at some distance from the stalk, towards which it eats its way beneath the epidermis, killing the root as fast as it proceeds. Late in July or early in August it transforms in the ground near the base of the hill, changing into a white pupa, about fifteen-hundredths of an inch long and two-thirds that width, looking somewhat like an adult beetle, but with the wings and wing-covers rudimentary, and with the legs closely drawn up against the body. A few days later it emerges as a perfect insect, about one-fifth of an inch in length, varying in color from pale greenish-brown to bright grass-green, and usually without spots or markings of any kind. The beetle climbs up the stalk, living on fallen pollen and upon the silk at the tip of the ear until the latter dies, when a few of the beetles creep down between the husks, and feed upon the corn itself, while others resort for food to the pollen of such weeds in the field as are at that time in blossom. In September and October the eggs are laid in the ground upon or about the roots of the corn, and most of the beetles soon after disappear from the field. They may ordinarily be found upon the late blooming plants, feeding as usual upon the pollen of the flowers, and also to some extent upon molds and other fungi, and upon decaying vegetation. There can be no further doubt that the insect is single-brooded, that it hibernates in the egg as a rule, and that this does not hatch until after the ground has been plowed and planted to corn in the spring probably in May or June.

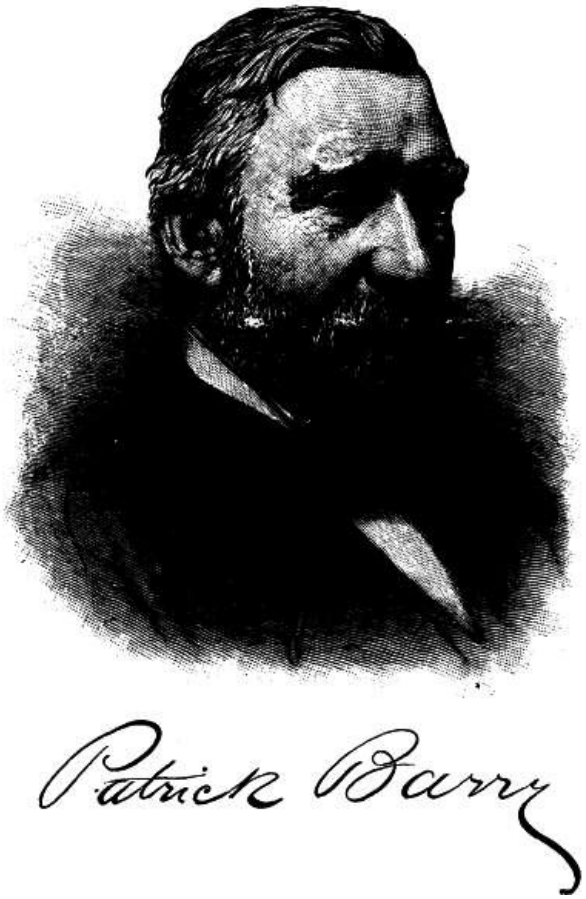
"Although the adult beetles, when numerous, do some harm by eating the silk before the kernels are fertilized by the pollen, and also destroy occasionally a few kernels in the tip of the ear, yet the principal injury is done by the larva in its attack upon the roots. The extent of this injury depends not only upon the number of the worms, but also upon the soil and weather and the general condition of the crop, being worst on high land and in dry weather. Under specially unfavorable circumstances the loss due to the insect may amount to from one-fourth to one-half or even three-fourths of the crop; but when the conditions are generally favorable, it rarely amounts to more than ten or twenty per cent, and frequently even to less. Although the roots penetrated by the larvæ die and decay, thrifty corn will throw out new ones to replace those lost. The hold of the stalk upon the ground is often so weakened that a slight wind is sufficient to prostrate the corn. Under these circumstances it will often throw out new roots from the joints above the ground, thus rallying to a certain extent against serious injury.

"As the result of numerous observations and comparisons, it is clearly to be seen that little or no mischief is done except in fields that have been in corn during the year or two preceding, and a frequent change of crops is therefore a complete preventive. Beyond this, the life history of the insect gives us little hope of fighting it effectually except at too great expense, as the eggs and worms are scattered and hidden in the ground, and the perfect beetle is widely dispersed throughout the field."

CALIFORNIA has about eighty thousand tons of wheat to ship to Europe. Besides this a large amount is already stowed in ships.

Patrick Barry.

Our portrait this week is of Patrick Barry, Esq., the noted nurseryman and horticulturist of Rochester, N. Y. Mr. Barry was born near Belfast, Ireland, in 1816. His father was a small farmer, but he gave the boy a good education, and at eighteen he was appointed to teach in one of the national schools. At the age of twenty he resigned this position, and came to America, where he began clerking in the Linnæan nurseries, at Flushing, L. I. During his stay of four years here he mastered the principles of the nursery business. In 1840 he moved to Rochester, and forming a partnership with Mr. Ellwanger, started the famous Mount Hope Nurseries. They began on a tract of but seven acres. In 1852 he issued the "Fruit Garden," which is to this day a standard work among horticulturists. Previous to this he had written largely for the agricultural and horticultural press. In 1852 he also began editing the Horticulturist, then owned by Mr. James Vick. Mr. Barry's second great work, and the one involving most time and labor was the Catalogue of the American Pomological Society.



Patrick Barry

Mr. Barry has long been President of the Western New York Horticultural Society. He is also a member of the Board of Control of the New York Experiment Station. He has served several terms in the city council of Rochester and in the Board of Supervisors of the country. Mr. Barry is an active business man and besides his great labor in conducting the nursery affairs, he discharges the duties of President of many corporate enterprises in which he has large financial interests. Mr. Barry was happily married in 1847, and the amiable sharer of his hardships and his successes is still living.

Compiled Correspondence.

HANCOCK CO., Dec. 31.—Weather very disagreeable; snow six inches deep, and from rain and sleet and thaw and freeze, has formed a hard crust, so as to make bad traveling—in the roads icy and slippery. To-day cloudy, damp and cool. A few days ago the mercury reached 8 degrees below zero, the lowest of the season. It is very hard on stock, and many of the cattle are without shelter, as usual. Accept New Year greetings for all THE PRAIRIE FARMER family.

L. T.

MILLS CO., MO., Jan. 8.—Since the first of January we have had hard winter weather. An old weather prophet says we are to have just such weather for forty days. I sincerely hope not. On Friday night, January 4th and 5th, all the thermometers commonly used by farmers went clear down out of sight. As they only mark about 30 degrees below zero it was uncertain how cold it really was. Unsheltered stock suffered terribly. A few farmers were caught without wood, and suffered from the storm in securing a supply. We have had five days of snow so that there is a heavy coat all over.

A. J. L.

ST. LOUIS, MO., January 13.—Advices from Mobile say the late cold snap caused immense damage in that section. The loss to the orange groves is estimated at nearly a $1,000,000, and the value of vegetables killed in Mobile county alone will reach the same sum. Great damage was also done to orange groves in Florida, but many orange growers profited by the Signal Service warning and built fires in their groves, and thus saved their trees. News from the Michigan peach belt is that the fruits are uninjured.

STRAWBERRIES are sold in New York city at fifteen cents each. [Pg 34]

Illinois Tile-Makers.

The Illinois State Tile-Makers' Convention at Springfield, last week, was more largely attended than in any previous year since the association was formed. Nearly one hundred joined the association.

The convention was welcomed to the city by Governor Hamilton in an appropriate address in which he expressed his deep sympathy with and interest in all the manufacturing enterprises that are giving employment to the people and adding wealth to the State. He announced himself as in favor of protection and encouragement to the manufacturing interests. He thought the tile men were greatly adding to the wealth and productiveness of Illinois, and that they were also indirectly improving the health of the people.

The President's address was brief but full of information and good sense. He pointed out at length the improvements in tile kilns, and in various appliances, which have been made in recent years, and declared that valuable as these all are, they can not make up for the lack of skill and experience. He believed the increased interest in terra cotta, and in useful ornamental and out tiling points to the great source of supply as the timber of the country decreases in quantity. The drain-tile manufacture was simply the beginning of an era of skillful clay working, which would not only add greatly to the fertility of the soil, but to the means of the beauty and endurance in numerous forms of building. Of the statistics of the business, he said the latest information is that there are in the State 600 factories, built at an average cost of $3,000 each, employing about 5,400 men seven months each year, who receive about $250,000 and their board. The total annual capacity of these factories he estimates at 56,100 miles annually. He estimates the amount invested in the industry, including the value of tile already laid, at $5,000,000, and the increased value of land drained at $10,000,000.

The Secretary's report gave the general condition of the society. In 1879 it was composed of forty-five members; in 1880, of thirty-five; in 1881, of twenty-eight; in 1882, fifty-three; in 1883, of eighty-three, and in 1884, of eighty-six. The first meetings of the association were necessarily crude, the programme having been prepared after the association met. Now, however, they were in working harness, and met with a regularly prepared programme. The proceedings of the meetings and a summary of the papers read and discussed, are now published in the report of the State Board of Agriculture.

The treasurer, John McCabe, Esq., of Rushville, made his report of which the following is the summary:

Amount on hand at last report	$29 35
Received from members last year	82 00
	$111 35
Paid out last year	87 50
Balance in the treasury	$ 23 85

These reports were followed by an essay by Mr. C. G. Elliott, which is of so much merit that we give it in full deferring a further report of proceedings until next week.

MISTAKES IN DRAINAGE.

To speak of our successes rather than our mistakes, is far more agreeable to ourselves and also to others. We all take pride in giving our experience in any work when we have been successful, but our errors and mistakes we often carefully hide from public gaze. The transactions of our industrial conventions are largely made up of the successful parts of the experiences of members. Our tile manufacturers fail to speak of their losses in correcting mistakes the number of kilns they have rebuilt, the number of tile they weekly commit to the waste pile, the percentage of good and poor tile in each kiln, and many other things that your humble servant will probably never suspect until he attempts to manufacture tile.

A similar statement may be made with reference to drainage mistakes. How many dry weather drains do we hear mentioned in our conventions, or see described in our newspapers. By such

drains, I mean those which in favorable seasons so operate as to permit the land to produce a heavy crop—one worth publishing—while in wet years, merely a total loss results. Cases of such drainage can be numbered by the score. How many miles of drain tile have been taken up and relaid during the past year because of some mistake in plan, size of tile, or execution of the work? Much might be said of drainage mistakes in a general way, but it is proposed in this paper to treat the subject in a specific and practical manner. It may be encouraging to remember that it is only by comparing success with mistakes that we make progress in any valuable science or art. Great skill and success rest upon a foundation of corrected mistakes.

MISTAKE NO. 1—LACK OF INFORMATION ON DRAINAGE.

We might more properly call this the cause of many mistakes. "Knowledge is power," says the old adage, and we might add that knowledge in drainage is success. This knowledge may be obtained in three ways: First, from reliable books; second, by inquiring of others who have had experience; third, by our own experience. The first is of prime importance to the beginner, for in books are found statements of the general principles and philosophy of drainage, together with the best methods and practice known. The second is often unreliable, for the reason that the error of one is often copied by another and becomes wide spread before it is detected. The third, though valuable is costly, and discouraging to the learner. Gleanings from all of these sources will, perhaps, give the most complete satisfaction.

Tile drainage began to be practiced in my own neighborhood about seven years ago. Those who were about to begin knew nothing about drainage, except from hearsay knowledge that had crept into the community. Not a single book upon the subject was consulted or even inquired for. Even now they are as rare in farmers libraries as the classic poets. Farmer A. wished to drain and consulted farmer B., who had put in some tile the year before. Did he think it paid? Yes. What kind of tile did he use and how was the work done? So A. planned and did his work in accordance with information obtained from B. Neighbor C. followed A., and so the work spread. It is now found that mistakes were made in the beginning which were handed from one to the other, until now, no alternative remains but to remove the whole work, and no little trouble and expense. This case is but one out of many which might be stated illustrating the lack of information at the beginning of drainage work. My observation upon this point has been that those have availed themselves of information given in books and papers upon drainage matters made fewer mistakes and did better work than those who relied upon the general wave of progress to push them along in the footsteps of their nearest neighbor. The theory, as well as the art, of drainage should be studied, and all knowledge adapted to the peculiarities of each case.

MISTAKE NO. 2—NOT PLANNING FOR FUTURE DRAINAGE.

A mistake often made by the novice is, that at first, drains are located without reference to the future drainage of other parts of the farm. Drains are put in as experiments, very much as we would plant a new variety of fruit or grain, expecting that probably the chances are against their success. Subsequently, when plans for more extended drainage are made, the drains already in operation were found to poorly serve the desired purpose.

In order to guard against this mistake, have faith in drainage. Put it down on the whitest page of your memorandum, and with your best pen and ink, that drainage will pay, and the fewer mistakes made about it the better it will pay. Put it down that the time will come when you will drain all of your wet land, and make your plans accordingly. Many times have I heard this objection to locating a drain so as to benefit a certain field, "O no; I'll never drain that field. It's all right as it is. If I can only get this wet over here dry I shall be satisfied." In two years this same farmer was planning how he could drain the rejected field, and regretting that he had not made provision for it from the beginning. I have in mind several miles of tile that will be taken up during the coming season and relaid with reference to the drainage of all land having a natural slope in that direction.

MISTAKE NO. 3—NOT BEGINNING AT THE RIGHT PLACE.

Many of the drains first put in are at the head of the water shed instead of at the lower part or outlet. They discharge improperly and fail to fit into a more thorough system, where plans for better drainage are laid out.

To avoid this error, begin at the outlet and work with reference to ultimately draining the whole section naturally sloping toward this outlet. If a surface ditch is necessary, make it. If tile can be used, lay them, even if only a fraction of the entire work is done each year. Drain laterally toward the main as it is carried upward. The outlay at first, rod for rod, will be greater, but the final cost will be less, and yearly profits greater.

I have in mind several cases of unsatisfactory drainage growing out of a desire to avoid difficulty and expense in making a sufficient outlet. Among them may be named the following: Putting a drain across one side of a pond because sufficient depth can not be had to admit of its being run through the center. Placing drains each side of a slough, parallel to its center line, leaving the center undrained. Draining cultivated fields and allowing the water to discharge upon land occupying a lower level. All of these are make-shifts for the purpose of avoiding the expense of a good outlet.

There is in this connection a difficulty which can not be overlooked, one which is beyond the control of the individual farmer, and that is, when the drainage section is owned by two or more parties. The adjustment of such cases has occupied the attention of our legislators, and some progress has been made in framing laws to meet the case, yet many difficulties remain unprovided for. If all parties agree to accept such awards and assessments as a commission may make, then the matter of drainage outlets can be satisfactorily adjusted, but if any party is disposed to resist, the desired drainage can be practically defeated. I may, at present, be justified in saying that where only a few neighbors are concerned, it is a mistake to attempt to use the law at all. Arrange the matter by mutual agreement or by leaving it to disinterested men to decide.

MISTAKE NO. 4—TOO SMALL TILE.

No mistake has become apparent sooner than this. The following observations will account for this, and also aid in correcting it. The whole area of land which naturally discharges toward the drain is not always taken into account. It is generally thought that land lying at some distance from the drain, though sloping toward it, does not affect the capacity required for the drain, whereas in times of heavy rains, when drains are taxed to their utmost, water flows from those more distant parts over the surface to the ground acted upon by the tile drain. We must then provide for the drainage not only of land contiguous to the drains but for an additional amount of water coming from adjoining slopes.

Another popular error is that the diameter of the tile is the measure of its capacity, whereas the grade upon which it is laid is as important as the size of the tile. The extreme porosity of many of our soils, and the lack of thorough lateral drainage is another thing by reason of which main drains become over-taxed, simply because drainage water is not held in check by close soils, or distributed by lateral drains, but is brought in large quantities over the surface to the drain line, and must be taken away in a short time or injury is done to the land. In making mains or sub-mains it is better to err in making them too large than too small.

MISTAKE NO. 5—NOT LATERAL ENOUGH.

We expect too much from a single line of tile. We often see a line of tile put through a fifteen or twenty acre field with the expectation that the field will be drained, and thanks to our tractable soil, and the magic influence of tile, a great work is done for the field. It is, however, the dry weather drains previously alluded to. Put in the lateral drains so that the whole flat will come under the direct influence of tile, and you will have a garden spot instead of a field periodically flooded. Your sleep will not then be disturbed by fears that the morning will reveal your tiled field covered with water, and your corn crop on the verge of ruin. We often see a single line laid through a pond containing from one half to three acres. Ponds with such drainage always get flooded. Put in an abundance of laterals and the difficulty is overcome.

I am glad to say that the tendency now among farmers who have practiced random drainage is toward more thorough work in this direction. The loss of an occasional crop soon demonstrates in favor of more thorough work.

MISTAKE NO. 6—INATTENTION TO DETAILS.

Farmers have been too much under the rule of professional ditchers. Having no well defined ideas of good drainage work, they have left the matter largely to the judgment, or rather the cupidity of the ditcher and the layer. There are many first-class, conscientious workmen, but it is to be regretted that the average ditcher does work far below the standard of excellence. If by some magic means the conditions of many of the drains in our State could be spread out before us in open view, it would be a wonder to this convention that tile drainage has wrought out such favorable results as it has. We would see tile laid on the siphon plan, good and poor joints, faulty connections, ditches crooked enough to baffle the sagacious mole should he attempt to follow the line. Patience would scarcely hold out to enumerate the exasperating defects of much of our drainage work. Nothing can overcome the egotism and self-confidence of the average ditcher except the constant supervision of the employer. Such work is so soon covered, and errors placed beyond immediate detection that nothing else will suffice. To guard against such mistakes, know what work you want and how you want it done, and then look after it yourself or employ some one in whom you have confidence to superintend it. When any mistake is guarded against, from beginning to end, the work will not be too well done. The cut-and-cover, hurry-scurry methods of doing things, common on some Western farms, will not do in drainage work. Carefulness in regard to every detail is the only safe rule to adopt.

MISTAKE NO. 7—FAILURE TO MAKE OPEN DITCHES FOR WATER COURSES.

The farmers of Illinois have, in many sections, been avoiding the main question in the drainage of our rich prairies, and that is the improvement of the natural water courses so that they will carry off the drainage water of sections for which they afford outlets. Every feasible plan and device has been used to circumvent the forces of nature and relieve valuable farm lands from surplus water. In the flat sections of our State nothing will serve this purpose but the deepening of our large sloughs by constructing capacious open ditches. Our land can not be properly drained without them. They must be of ample depth and width, and well made in every respect. No

problem connected with the drainage interests of our State should, at present, receive more careful attention than this. Nature, has, in most cases, marked out the line for work, and says, "let man enlarge and complete for his undivided use according to his strength and skill." When such work is done, the demand for tile to supplement the drainage thus made possible will be unprecedented. The drainage of our roads will be facilitated, and the greatest difficulty thus far encountered in the drainage of our flat prairies will be overcome. Much has been attempted in this direction in some portions of the State, but many open ditches are too shallow, too small, and too carelessly made to serve the desired purpose.

In pointing out some of the mistakes made in drainage, I am well aware that there are differences of opinion as to what may be properly considered a mistake. The aim of drainage is to fit the wet land of the entire farm for the successful cultivation of all the field crops at the least expense consistent with thoroughness. Now, if experiments must be tried by tiling here and there, and afterward take the tile up and remold the whole work, there is a loss which, were it not for the large profit resulting from the use of tile, would be disastrous.

Should a Board of Public Works build several bridges of insufficient capacity in order to find out the necessary dimensions and strength of one which will serve their purpose, we should at once regard them incompetent and wasteful. I know of tile which have been taken up at three different times, larger tile being used each time. This farmer discards the use of lateral drains and rests his success upon single lines of large tile. He will probably be disappointed in this and, perhaps, finally hit upon the correct method. Would it not have been the part of wisdom to have obtained some reliable information upon that matter at first from books, from inquiring of others of longer experience, from a competent engineer, or from all of these sources? Anything which needlessly adds to the expense, or detracts from the efficiency of the work, should be regarded as a mistake.

As a summary of what has been said regarding mistakes and how to avoid them, I append here a few

DRAINAGE MAXIMS.

1. Become informed upon the theory and best methods known and used.
2. Do not literally copy the methods of others, but carefully adapt them to your own case.
3. Provide good outlets and large mains.
4. Have faith in good tile and thorough work.
5. Study economy and efficiency in locating drains.
6. In difficult cases, or where you have doubt about the success of your plans, submit the case to a good engineer before expending money or labor.
7. Employ good help by the day, and work it under a competent superintendent, rather than job out the work by the rod.
8. Drain as you would plant fruit trees—for the future as well as the present.

I have been prosy and practical enough and now have used my allotted time and space. It may [Pg 35] not be wholly out of place to further tax your time and patience, and ask you to lift your eyes from taking a critical view of defective drains, muddy ditches, and unattractive detail work, and look at the result of careful and thorough labor. As the years come and go with their changing seasons, your drained fields are ever your friends, always cheering you with a bountiful harvest, always answering to every industrious touch you may bestow upon them. "No excellence without labor," says the scholar to the discouraged student. "No excellence without labor," says the soil to the farmer, as he drains and plows and digs, and so we all learn that success in dealing with nature is brought about by thorough and honest work.

Our enthusiasm scarcely knows bounds when we see that by our drainage work the apparently obstinate soil is made to reflect the sunlight from a covering of golden grain; when gardens and orchards bloom and yield fruit where once the willows dipped their drooping branches in the slimy fluid below, and frogs regaled the passer-by with their festive songs. Roses now twine over the rural cottage and send their fragrance into the wholesome air, where once the beaver reared his rude dwelling, and disease lurked in every breath, ready to seize his unsuspecting victim.

Think you that these changes can be wrought without earnest and careful effort? I have but little sympathy with the glittering generalities and highly colored pictures of success in industrial pursuits, held before the public gaze by unpractical but well meaning public teachers. We need the dissemination of ideas of thoroughness and the knowledge necessary to put those ideas into practical use in order that the farmers of Illinois may make the fewest possible mistakes in drainage.

Farmers Advice.

Farmers get plenty of advice. Were we able to work as easy and as well as the advice generally given to us would seem to indicate we could how easy and independent our occupation would become. In no other line of business is advice so freely given, and so much blame attached because the advice is not followed.

The great trouble is that nearly everybody imagines they know how to farm. Although these same

people may never have been practical farmers, they yet seem to think that anybody can farm, and, of course, they know as much about it as any one, and can tell at least how it ought to be done.

Theoretical farming is always very fine—more so than any other calling. Very few believe in theory in other branches in business. As a rule, to be successful in other occupations, a long training is necessary; step by step must one go until each detail is learned. And it is only by industry, experience, and hard work that these are fully mastered. Advice is offered sparingly, because it is known that experience is the only true guide. But in farming theories are supposed to take the place of experience, and men who have very little, if any, practical knowledge can tell us how to farm. The fact is there is hardly a business or occupation that practically requires more study and experience than farming. A practical farmer, who makes his farm and farm work a study, learns something every day, and unless he is willing to learn not only by his own experience, but by that of others, he will soon discover that he is falling behind.

Such a man is able to discriminate between the practical experience of one and the theory of the other. If new plans or new methods are presented, he can, in some degree, judge whether they are in any way practical, and if they are, he is willing to give them a trial. He knows that what might prove just the right thing to plant in one section of country, under certain conditions, and in some soils would, under a different climate and soil, result far from satisfactory. The large per cent of this kind of real practical knowledge can only be gained by experience.

Whenever we meet a man who will not learn, we can not help but conclude that he will never make a successful farmer. We want to learn, too, not only by our successes, but by our failures. If we try a new plan and fail, we want to be able to know why we failed—just as much as to know why we succeeded.

One great trouble with us in learning is that we are too apt to keep in mind our successes and forget the failures. This is the great fault of theoretical farming. If by a combination of favorable conditions success is obtained, it is given out as a fact—no exception being given or allowed for the very favorable conditions under which the method was tried. Such things may rightly be compared to the many specifics given to cure the various ills of life. A remedy is tried which, under favorable conditions, effects a cure, and forthwith the cure is given out as a specific. Others, with the same complaint but under different conditions, try the same remedy and fail to receive the least benefit. No mention is made of these failures, and, of course, others are induced to give the remedy a trial. For this reason it is always interesting to hear of failures as well as successes, provided the real cause can be stated.

MILLER CO., MO.
N. J. SHEPHERD.

Cisterns on the Farm.

There is hardly any one thing on a well-regulated farm so much needed as a cistern near the kitchen door, so the farmer's wife will have to go but a little distance for water, and no man knows how much is used in a farmer's kitchen, unless he carries it for his wife for six months or a year, and if he has to carry it a hundred yards or so from the spring, he will wonder what in the world his wife does with so much water.

The cistern should be a large one and hold not less than 200 barrels, and well built, that is, walled up with brick and scientifically plastered. All of the pipes from the roof should lead into one hopper, and one pipe leading from the bottom of the hopper (under ground is the best) into the cistern. In the bottom of the hopper should be fitted a piece of woven wire, which can be readily taken out and put in again; the meshes of the wire should not be larger than one-eighth of an inch. This piece of woven wire should never be in its place except when water is running into the cistern, when it will serve as a strainer to keep leaves or trash of any kind from running into the cistern. A waste-water pipe should be attached to the down pipe (all of the down pipes should lead into one) which leads into the hopper, to waste all the water that comes from the roof until the water is perfectly clear and free from leaves or trash of any kind; then the waste-water pipe should be taken off and a pipe of proper length slipped onto the down pipe conducting the water, pure and clean, into the hopper. But before letting the water into the hopper, the piece of woven wire should be put in its place in the bottom of the hopper, and after the rain is over it should be taken out and hung up in a dry place until wanted again, and the waste-water pipe put on. If the piece of woven wire is left in the hopper the meshes will get filled up, and the hopper will fill with leaves and trash of all kinds and run over, and no water get into the cistern—and if it does it will not be pure. By this arrangement only pure water will run into the cistern; but even then it ought to be cleaned out very fall or early in the spring. Farmers will find a cistern in their house lots or inside the barn a great convenience—but the one near the kitchen is of the greatest importance because the men will not carry water if they can help it, and the farmer's wife, if she has any spunk, will insist upon the water being carried for her or raise the roof off the house, and I don't blame her—the hair on the top of my head is very thin—and scarce.

HIKE'S POINT, KY.
E. F. C.

Field and Furrow.

MASS. PLOUGHMAN: Farm accounts, even when kept in the most simple form, not only afford great satisfaction, but they do much to aid the farmer in his efforts to success. If at the end of the season he is able to strike the balance, and thus learn the cost of his principal crops, he is in a position to correctly judge what crops will promise the most profit another year.

THE Farm Economist has this to say in regard to marketing corn. While it is contrary to general opinion, it is nevertheless true, as facts and figures are capable of proving: "Farmers in discussing their declining markets should remember that every bushel of corn sold in the form of whisky cuts off the sale of ten bushels in the form of meat. It might be well to consider this in discussing how the market for farm products can be improved." This same paper further remarks, "Where's the sense in a farmer growling because he is not represented in the government when he won't go to a convention and see that he is represented. Quit your growling and do your duty. One good vote in the primaries or in the convention is worth 1,757,362 growls afterward."

THE Wisconsin Tobacco Reporter states that the new phase to the Sumatra question has brought out considerable discussion among dealers in the Edgerton market and that the prevailing impression appears to be that even if the recent decision be upheld, under the jugglery by which Sumatra is run into the country, prices for 1883 Wisconsin leaf will not be materially affected, as it can not entirely supplant its use and there will be a good demand for all our product. The editor adds: The scarecrow argument will doubtless be used by some buyers in bearing the market, but we are inclined to look upon it more as a bugaboo than many others, whatever the effect may be on future crops. We know of no good reason why 1883 Wisconsin should sell for lower prices than have ruled thus far this season and the report from Eastern markets seem to warrant this view.

A. B. ALLEN, in N. Y. Tribune: My cistern is about five feet in diameter and five feet deep. After cleaning it out in spring, I put about one bushel of sand in the bottom, and then let the rain-water come in. This keeps the water sweet and clear for a whole year. I have tried charcoal and various things for this purpose, but find pure clear sand best of all. It must not have other soil mixed with it, or any vegetable matter. The kind I use is white, and very like such as is found at the sea shore. Of course the roof end of the pipe should have wire gauze fastened over it so that no foul stuff can be carried down, and the eaves-troughs must be kept clean, the roof and chimneys also, and never be painted, or the latter even whitewashed. The sand is an excellent absorber of even the finest of foul stuff, and this is the reason, in addition to its own purity, of its keeping the water so free from generating the smell of ammonia.

PEORIA TRANSCRIPT: During some of the comparatively idle days of winter, the farmer may combine pleasure with profit by hitching up, taking his family, and driving to some one of his successful farm neighbors for a friendly visit. Such an act may be looked upon by the man-of-toil as a poor excuse to get out of doing a day's work, but we venture that he who tries the experiment once will be very apt to repeat it as often as time or opportunity will justify. In our neighborhood, and we presume the same condition of affairs exists in nearly every locality, there are farmers who have lived within a mile or two of each other for years, who hardly know their neighbors from a stranger when they meet upon the public highway or at town meeting, and as for going to the house, nothing short of death in the family or some event of great importance will ever bring them into the friendly relations which should exist between neighboring farmers.

A NEW JERSEY correspondent of the Rural New Yorker writes: My clear water carp pond covers an area of about three-fourths of an acre, and is located about eighty feet below springs in the hillside, which furnish a never-failing supply of pure, clear water. The normal temperature of these springs, where they empty into the pond, varies but little according to season, but maintains an average of fifty degrees, Fah. Several times through the summer I found the water in the pond indicated an average of 80 degrees, Fah. The pond is so constructed that the water is constantly drawn from the bottom, thus keeping the surface at this high temperature. About one-half the pond is covered with mud to the depth of two feet or more—an essential in all carp ponds for hibernating. A limited supply of pure German carp fingerlings to place in the pond was sent me by Prof. S. F. Baird, United States Commissioner of Fish and Fisheries, Washington, D. C., and placed therein on April 6th last. No food was given besides that which grew in the pond. I saw them at rare intervals during the summer, and was agreeably surprised, when I drew the pond November 16th last past, to find that they had grown to be sixteen inches in length, and a pair weighed eight pounds.

The Monarch Lightning Sawing Machine.

On our 268th page appears the advertisement of the New Improved Monarch Lightning Sawing Machine, manufactured by the Monarch Mfg. Co., 163 Randolph. St., Chicago. The result of long experience in the manufacture of implements for cutting up wood is the superior and valuable machine which is advertised in our paper.

Such of our readers who live in a timbered district, and who need such a machine, should send for their large illustrated free catalogue. This company is the largest and most successful corporation in this city engaged in manufacturing one man power drag saws. The Monarch Lightning Sawing Machine has been sold all over the Western States, and always gives satisfaction. It is a first-class firm, thoroughly reliable, and their machine is of superior excellence.—Farm, Field and Fireside, January, 1884.

See their advertisement on another page of this issue.

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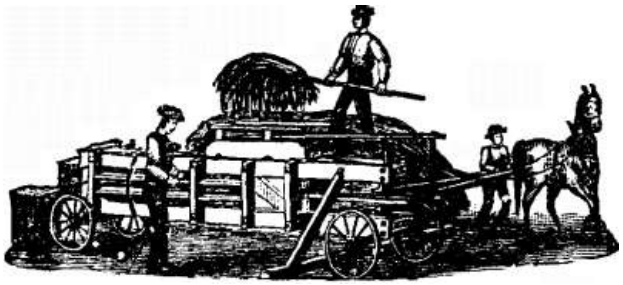

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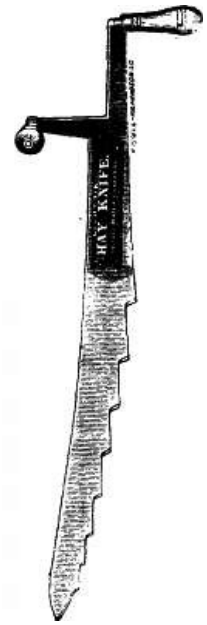

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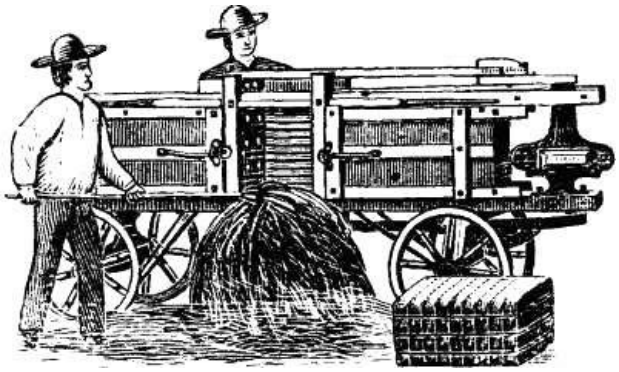

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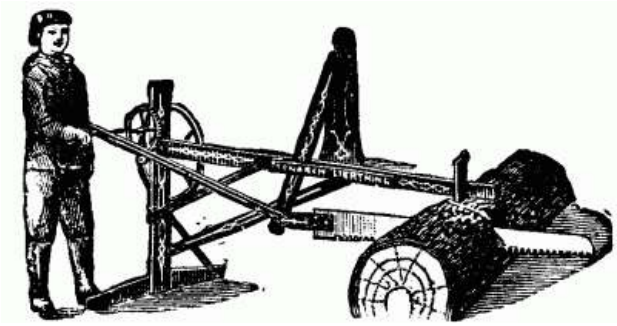

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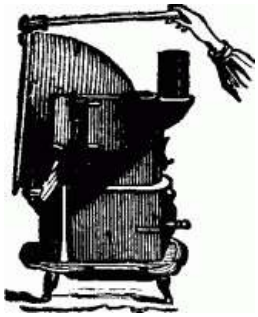

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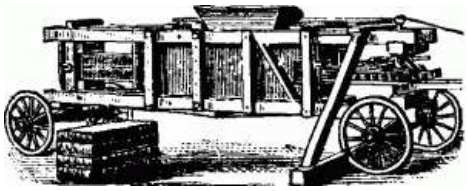

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REMEMBER *that* $2.00 *pays for* The Prairie Farmer *from this date to January* 1, 1884; $2.00 *pays for it from this date to January* 1, 1885. *For* $2.00 *you get it for one year and a copy of* The Prairie Farmer County Map of the United States, free! *This is the most liberal offer ever made by any first-class weekly agricultural paper in this country.* [Pg 36]

Iowa Wool Men.

The Iowa Wool-Growers' Association met at Des Moines last week. The attendance was light. The general sentiment expressed was that sheep growing was profitable in Iowa, if the dogs could be got rid of. The Legislature will be importuned to abolish the curs. The session the last evening was devoted to the tariff on wool. The petition of the Ohio sheep-growers, presented to Congress, asking a restoration of the tariff law of 1867 on wool, was read and unanimously accepted. Officers for the ensuing year were elected as follows: S. P. McNeil, Gordon Grove, President; J. C. Robinson, Albia, Samuel Russell, West Grove, and A. N. Stewart, Grove Station, Vice-Presidents; A. J. Blakely, Grinnell, Secretary.

Polled Cattle-Breeders.

Twenty-seven head of Galloway and Angus cattle, belonging to A. B. Matthews, Kansas City, were sold at auction at Des Moines, Iowa, January 9th, at prices ranging from $235 to $610. The sale aggregated $10,425, or $386 per head. In the evening of the same day some twenty-five polled cattle-breeders met and organized a State association. An address was read by Abner Graves, of Dow City, in which the breed was duly extolled. An interesting discussion followed, in the course of which it was stated that the polled breeds have two anatomical peculiarities in common with the American bison, indicating a close relation to, or possible descent from the buffalo family. The officers elected were: President, Abner Graves, of Dow City; Vice-Presidents, Messrs. Bryan, of Montezuma, D. J. Moore, of Dunlop, and Charles Farwell, of Montezuma; Secretary and Treasurer, H. G. Gue, of Des Moines. Liberal subscriptions were made to the articles of incorporation which were formed inside the organization, after the meeting adjourned.

Merino Sheep Breeders.

The sixth annual meeting of the Northern Illinois Merino Sheep Breeders' Association was held at Elgin, January 9th. The meeting was well attended and enthusiastic. George E. Peck presided. The annual report of Secretary Vandercook showed the association to be in a growing condition. The discussion of the day was mainly on the tariff question. A communication from Columbus Delano, President of the National Wool-Growers Association was read, asking for the co-operation of the society in a move upon Congress for the restoration of duties on imported wools as they were established by the act of 1867 met with a hearty reception. Thomas McD. Richards delivered an interesting address on wool-growing and the merino as a mutton sheep. He argued that a prevailing idea to the effect that good mutton could not come from fine-wool sheep was entirely erroneous. Touching on the tariff question he said the past year had been an unprofitable one to mere wool-growers, and that sheep had been unsalable at paying prices. The removal of the duty on wool had paralyzed the industry, and the tariff must be restored. There was an abundance of competition among the wool-growers of our own land without compelling them to compete with the stockmen of South America and Australia. The farmers had not clamored for a removal of the duty on wool. If the tariff was not restored the wool interests of the country would be ruined. Already legislation had lowered the price of wool several cents, and had depreciated the value of sheep at least $1 per head. The tariff was also dilated upon by Col. John S. Wilcox, of Elgin, Daniel Kelley, of Wheaton, and Asa H. Crary. The conclusion arrived at was that energetic and united action for the restoration of the duty was the thing desired. V. P. Richmond read an interesting essay on "Merinos; Their Characteristics and Attributes." The annual election of officers resulted as follows: President, George E. Peck, Geneva; Vice-Presidents, Thomas McD. Richards, Woodstock, and Daniel Kelley, Wheaton; Secretary and Treasurer, W. C. Vandercook, Cherry Valley. It was decided to hold the association's annual public sheep-shearing at Richmond, McHenry county, April 29 and 30, and C. R. Lawson, L. H. Smith, and A. S. Peck were designated a committee to represent the association at the annual sheep-shearing of the Wisconsin association.

Cattle Disease.

The House committee on agriculture last week discussed in a general way the subject of pleuro pneumonia in cattle. Mr. Loring, Commissioner of Agriculture, expressed his views upon the subject in a short speech. Mr. Grinnell, of Iowa, chairman of the committee appointed by the convention of cattle men, in Chicago, to visit Washington to influence Legislation in reference to diseased cattle, was present. It was arranged that a sub-committee, consisting of Congressmen Hatch, Dibrell, Williams, Winans, Wilson, and Ochiltree, should meet the representatives of the cattle interests at the Agricultural Department. Pleuro-pneumonia among cattle will be the first subject considered. The House committee on agriculture will report a bill at an early day.

The assistant Secretary of the Treasury has transmitted to the House the report of the cattle commission, consisting of James Law, E. F. Thayer, and J. H. Sanders, for the past year. The commission recommended that the National Government prevent the shipment northward, out of

the area infected with Texas fever, of all cattle whatsoever, excepting from the beginning of November to the beginning of March. Special attention is invited by the Assistant Secretary to the recommendation of the commission that the Secretary of the Treasury be empowered to order the slaughter and safe disposal of all imported herds that may be found infected on their arrival in the United States, or may develop a dangerous or contagious disease during quarantine; and that he be also empowered to have all ruminants (other than cattle) and all swine imported into the United States, subjected to inspection by veterinary surgeons, and if necessary to prevent the spread of contagious diseases, slaughtered or submitted to quarantine until they shall be considered uninfected; and that an appropriation of $1,500,000 be made to defray the expenses of preventing a further spread of the lung plague among cattle in this country, and for stamping out the plague now existing. A supplemental report of the majority of commission, submitted by Law and Thayer, and of a later date than the first report is also submitted. This report deals especially with the inadequacy to the end sought to be accomplished of the inspection of cattle at ports of export, and recommends that such inspection and guarantee be delayed. Their reason for doubting the adequacy of the inspection at ports of exports is that neither lung plague nor Texas fever can be certainly detected by such examination, because those diseases pass through an average stage of incubation for thirty days, during which it is impossible for the most accomplished expert to detect the presence of the germ in the system. The result would be, if such an inspection were the only thing relied upon, that cattle which had been exposed to infection in the stock yards several days before inspection would pass that inspection, but three weeks later, when they arrived at a foreign port, would show marked symptoms of the disease. This result destroys absolutely the efficacy of the certificates of inspection as to guarantees to foreign imported cattle. The report closes with the statement that so long as the infected districts in this country can not be secluded, the landing of infected cattle in England from this country can not be prevented, and so long as American cattle show these diseases on their arrival in England we can hope for no modification of the present restrictions that country places against American cattle.

At the conference between House sub-committee on agriculture and the Chicago convention committee a general discussion on contagious diseases among cattle was indulged in. The committee of cattle men, in answer to the inquiries of representatives, said diseases existed in Delaware, the District of Columbia, Maryland, Pennsylvania, Virginia, Connecticut, New York, and possibly in other places. In New York a few counties are reported infected.

Mr. Hunt, of New Jersey, said if Congress would appropriate an adequate amount payable to the order of the authorities of the different States and protect New Jersey for six months from the importation of diseased cattle, the State in that time would stamp out pleuro-pneumonia in its territory.

Dr. Law, of the Cattle Commission of the Treasury Department, said the disease was undoubtedly the result of importation. He said that with plenty of money and a Federal law it could be eradicated in twelve months. New York City had at one time stamped it out in three months. He advocated the burning of buildings where the disease occurred.

Judge Carey, of Wyoming, gave the history of the disease, saying it was like Asiatic cholera spreading through Europe and reaching New York forty years ago. It existed on the continent of Europe, in Great Britain, Australia, New Zealand, and this country. He said $100,000,000 was invested in the cattle business of the United States.

Representative Hatch said that Mr. Singleton, of Illinois, had offered $1,000 reward for an animal afflicted with pleuro-pneumonia, but no one had accepted.

Several members of the cattle committee at once offered to show the disease to any one doubting its existence.

Representative Weller gave notice that he would offer a bill appropriating $10,000,000 by the Government for suppressing contagious diseases among cattle, to be distributed among the States and Territories in the ratio of representation in Congress, provided that each State appropriated a sum equal to the amount given by the Government.

The legislation proposed is to make the shipment of cattle known to be diseased a penal offense; to establish a cattle bureau in the Department of Agriculture; increase the power of the Commissioner of Agriculture; provide funds for an elaborate investigation of the diseases of cattle; and provide an appropriation to purchase diseased cattle so they can be destroyed. An appropriation will be asked the first year of $500,000.

The Horse and His Treatment.

NUMBER TWO.

First, as regards food. The horse is naturally a wild animal and therefore, though domesticated,

he demands such food as nature would provide for him. But man seems to forget this. Nature's food would be largely of grass. It is true that when domesticated and put to hard work he needs some food of a more concentrated and highly nutritious nature than grass; but while labor may necessitate grain, the health of his system yet demands a liberal allowance of grass. In direct opposition to this many farmers keep their horses off pasture while they are at work, which comprises almost the entire season of green pasture. I have frequently heard farmers say that their horses did best during the spring and summer, if kept in the stable at night. I can only say that I have found the very opposite to be true and I believe I have carefully and faithfully tested the matter. I have found that when the horses were allowed the range of a blue grass pasture at night, they endured work the best because they digested their grain and hay better, and good digestion made good appetites. In fact, I consider pasture the best food and the best medicine a horse can be given. If his coat is rough, if he is stiff and lifeless, if he is losing flesh and strength, turn him on pasture and he will soon grow better.

Some grasses make far better pasture than others. All in all, I consider blue grass the best. It comes earliest in the spring, and while very palatable and easily digested, seems to possess more substance than other grasses. Next I would place timothy. Clover is good medicine for a sick horse, but because of its action on the salivary glands is apt to make work horses "slobber" at certain seasons.

For winter, hay is provided. But how is it provided in a majority of cases? The grass is cut out of season; is cured negligently, very likely is exposed to rain; and then piled up to mold and rot. A few tarpaulins to put over the cocks in case of rain, and barracks or mow to protect and preserve the hay would give the horse good hay, and be one of the very best of investments. It should be remembered that the digestive organs of none other of our farm animals are so easily deranged as those of the horse. Musty, moldy hay is the moving cause of much disease. The man who can not provide a good mow should sell his horses to some farmer who can manage better.

Though blue grass is the best for pasture, timothy is the best for hay. Clover makes better hay than blue grass. Corn fodder has substance, and pound for pound contains about two-thirds as much nutriment as hay. But it is not good forage for the horse. Where hay is procurable corn fodder should never be fed.

I am convinced that the great majority of farmers do nor feed their horses enough forage. I know of farmers who do not feed hay at all when their horses are at work, which is more than half the year. Grain is fed exclusively. Yet they wonder why their horses lose flesh and have rough coats. Feeding a horse all grain is like feeding a man all meat. The food is so oily and difficult of digestion that it soon deranges the digestive organs. The horse should have all the hay he wishes to eat, at all seasons of the year. This brings me to another error in his treatment.

When at work the horse should have at least ninety minutes for each meal. My observation convinces me that a large number of farmers do not give him this much time. Their reason for neglecting to do so is, that it would be a loss of time. But the very opposite of this is the case. Time is gained. The horse has opportunity to eat slowly, which is essential to complete digestion; can eat all he wishes; and has time to rest after eating, giving the organs of digestion a chance to work. Give your horse an hour and a half to eat his noon-day meal, at least, and at the end of the season you will find that by so doing you have gained time. He may not have walked before the plow and harrow so many hours, but he has stepped faster and pulled more energetically.

Another error is the feeding of too much grain. Some farmers have grain in the feeding troughs all the time during the spring and summer. The horse is sated. This manner may do for a hog, whose only business is to lie around, grunt, and put on fat; but for a horse it will not do. A horse should never be given all the grain he will eat. At every meal he should clean out his box, and then be ready to eat hay for at least fifteen minutes.

Another error is in confining the grain feed almost altogether to corn. Corn is a heavy, gross diet. It contains a large proportion of oil, and tends to produce lymph and fat, which are inimical to health, and destructive of vigor and endurance. Oats is a much better food; yet it is very rarely fed in the South, and not half of the farmers of the North feed it. Corn heats the blood, and on this account should not be fed in hot weather. Oats is a lighter, easier diet, does not heat the blood, and makes muscle, rather than fat. All in all, oats is the most economical food, at least for horses at work in hot weather.

One more error which I shall notice in feeding is the giving of too much dry food. The horse does best upon moist food, or that which has a large percentage of water in its composition. Carrots, turnips, beets, pumpkins, etc., may be given in small quantities with decided advantage, especially in the winter. In summer the hay should be sprinkled with water, and the oats soaked. This will not only make the food more palatable and easily digested, but will obviate the necessity of watering after meals. Many object to watering after the horse has eaten, because the fluid carries the grain into the intestines where it can not be digested. But if grain and forage are dampened, the horse will not require watering after a meal. He will rarely drink if water is offered him, and the moisture will aid digestion. This is surely better and more humane than to give a horse dry food and then work him for six or seven hours in the hot sun, afterward, without any drink.

Of the quality of water given to the horse there is not much to condemn. He generally gets better water than the hog, or sheep, because he is very fastidious in this matter and will not drink foul water unless driven to do so by dire necessity. But I believe that three times is not often enough

to water a horse at work in hot weather, though this is the common and time honored practice. The stomach of the horse is small—very small in proportion to the size of his body. When he has labored in summer for half a day his thirst is intense, and when he is permitted to slake it he drinks too much, producing really serious disorders. No valid objection can be urged against watering five times per day. The arguments are all in its favor.

The errors in stabling are fully as grievous as any we have noticed. I have lately written of the evils of lack of light and proper ventilation in these columns, and also discussed the problem of currying in various phases, so shall not repeat here what I have heretofore written. One of the other evils of stable management often allowed, is the accumulation of manure. It is not within the scope of this article to notice the evil the neglect to save manure works to the farm and the farmer. But that the accumulation of the manure in the stable is a hurt to the horse, no sensibly reasoning person can doubt. Its fermentation gives off obnoxious gases which pollute and poison the air the horse is compelled to breathe, and thus in turn poison the animal's blood. This is a more fruitful cause of disease than is generally supposed. The gases prove injurious to the eye, and when we consider the accumulation of manure and the exclusion of light, we are not apt to wonder much at the prevalence of blindness among horses. The manure should be cleaned out in the morning, at noon, and again at night. Use sawdust or straw liberally for bedding. It will absorb the urine, and as soon as foul, should be removed to the compost heap with the dung, where it will soon be converted into fine, excellent manure. [Pg 37]

Another thing that deserves attention is the stable floor. I unhesitatingly say that a composition of clay and fine gravel is best. Pavement is the worst, and planks are next. The clay and gravel should be put in just moist enough to pack solidly. Stamp till very firm and then allow to dry and harden for a week. The stable floor should be kept perfectly level. Do not make the horse stand in a strained, unnatural position. The stall should be large enough for him to move around—at least six feet wide. Narrow stalls are a nuisance but very common.

JOHN M. STAHL.

Cost of Pork on 1883 Corn.

About three weeks ago the "Man of the Prairie" wanted to know how many pounds of pork a bushel of corn would make this year. As I wanted to know the same thing I have weighed my hogs every week and also the corn I fed them, and for the benefit of your readers I will give the results:

December	10—	15	hogs,	weight	4,130		
"	17—	"	"	"	4,280	ate 960	lbs Corn.
"	24—	"	"	"	4,410	" 864	"
"	31—	"	"	"	4,572	" 816	"

This gives a gain, in twenty-one days, of 442 lbs, and they ate in that time 2,640 lbs., or $47^{1}/_{7}$ bu. corn.

The corn was planted about the eighth of May; was the large white variety; is quite loose on the cob, and a good many of the ears are mouldy. A common bushel basket holds of it in ear 35 lbs. The hogs were fed the corn in ear twice a day, and had all the water they wanted to drink. This gives $9^{62}/_{165}$ lbs. pork to the bushel. At the present price of pork ($5.25) it would make the corn worth about 49½ cts. per bushel.

G. W. POWESS.
WINNEBAGO CO., ILL.

P.S. The weight of corn given is its weight shelled, as it shells out 55 lbs from 80 lbs. in ear.

G. F. P.

Grease, So-Called.

This ailment occurs sometimes in the fore feet, but oftener in the hind feet; and though neither contagious nor epizootic, it not unfrequently appears about one time or within a brief period, on most or all of the horses in a stable. It essentially consists in a stoppage of the normal secretions of the skin, which is beneficially provided for maintaining a soft condition of the skin of the heel,

and preventing chapping and excoriation; and it usually develops itself in redness, dryness, and scurfiness of the skin; but in bad or prolonged cases, it is accompanied with deep cracks, an ichorous discharge, more or less lameness, and even great ulceration, and considerable fungus growth; and in the worst cases it spreads athwart all the heel, extends on the fetlock, or ascends the leg, and is accompanied with extensive swelling and a general oozing discharge, of a peculiar strong, disagreeable odor.

Most of the causes of grease are referable to bad management, especially in regard to great and sudden changes in the exterior temperature of the heels. The feet of the horse may be alternately heated by the bedding and cooled by draft from the open stable door; or they may first be made hot and sensitive by the irritating action of the urine and filth on the stable floor, and then violently reacted on by the cold breezes of the open air, or they may be moist and reeking when the horse is led out to work, and then chilled for a long period by the slow evaporation of the moisture from them amid the clods and soil of the field; or they may be warm and even perspiring with the labor of the day, and next plunged into a stream or washed with cold water, and then allowed to dry partly in the open air and partly in the stable; and in many of these ways, or of any others which occasion sudden changes of temperature in the heels, especially when those changes are accompanied or aggravated by the irritating action of filth, grease is exceedingly liable to be induced. Want of exercise, high feeding, and whatever tends to accumulate or to stagnate the normal greasy secretion in the skin of the heels, also operate, in some degree, as causes. By mere good management and by avoiding these known causes, horse owners might prevent the appearance of this disease altogether.

In the early, dry, scurfy stage of grease, the heels may be well cleaned with soft soap and water, and afterwards thoroughly dried, and then treated with a dilution of Goulard's extract—one part to eight parts of water, or one part with six parts of lard oil. In the mildest form of the stage of cracks and ichorous discharge, after cleansing, some drying powder, such as equal quantities of white lead and putty (impure protoxide of zinc), may be applied, or simply the mixture of Goulard's extract with lard oil may be continued. In the virulent form of cracks, accompanied with ulceration, the heels ought to be daily washed clean with warm water, and afterwards bathed with a mild astringent lotion, and every morning and evening thinly poulticed or coated with carbolized ointment; and the whole system ought to be acted on by alteratives, by nightly bran mash, and, if the animal be in full condition, with a dose of purgative medicine. In the worst and most extensively spread cases, poultices of a very cooling kind, particularly poultices of scraped carrots or scraped turnips, ought to be used day and night, both for the sake of their own action, and as preparatives to the action of the astringent application; and the whole course of treatment ought to aim at the abatement of the inflammatory action, previous to the stopping of the discharge. Nothing tends so much to prevent grease and swelling of the legs as frequent hand rubbing and cleansing the heels carefully as soon as a horse comes in from exercise or work. In inveterate cases of grease, where the disease appears to have become habitual, in some degree, a run at grass, when in season, is the only remedy. If a dry paddock is available, where a horse can be sheltered in bad weather, it will be found extremely convenient; as in such circumstances, he may perform his usual labor, and at the same time be kept free from the complaint.

Foul in the Foot.

This name is given to a disease in cattle, which presents a resemblance to foot rot in sheep, but is different from this. It appears to be always occasioned by the neglect and aggravation of wounds and ulcers originating in mechanical injury—particularly in the insinuating of pieces of stone, splinters of wood, etc., between the claws of the hoof, or in the wearing, splitting, or bruising of the horn, and consequent abrasion of the sensible foot; by walking for an undue length of time, or a long distance upon gravelly or flinty roads, or other hard and eroding surfaces. It is sometimes ascribed, indeed, to a wet state of the pasture; but moisture merely predisposes to it, by softening the hoof and diminishing its power of resisting mechanical injury.

The ulcers of foul in the foot usually occur about the coronet and extend under the hoof, causing much inflammatory action, very great pain, and more or less separation of the hoof; but they often originate in uneven pressure upon the sole, and rise upward from a crack between the claws, and are principally or wholly confined to one side or claw of the foot. A fetid purulent discharge proceeds from the ulcers, and a sinus may sometimes be discovered by means of a probe to descend from the coronet beneath the hoof. The affected animal is excessively lame, and may possibly suffer such a degree of pain as to lose all appetite and become sickly and emaciated.

If the disease is of a mild form, or be merely in the initiatory stage, it may be readily cured by cleaning, fomentation, and rest; if it be of a medium character, between mild and violent, it may be cured by cleaning, by carefully paring away loose and detached horn, by destroying any fungus growth, and by applying, with a feather, a little butyr of antimony; and if it be of a very bad form, or has been long neglected, it will require to be probed, lanced, or otherwise dealt with according to the rules of good surgery, and afterwards poulticed twice a day with linseed meal, and frequently, but lightly, touched with butyr of antimony.

Founder.

This disease consists in inflammation of the laminæ and of the vascular parts of the sensible foot. It sometimes attacks only one foot, sometimes two, and sometimes all four; but, in a great majority of cases, it attacks either one or both of the front feet. A chronic form sometimes occurs, and exhibits symptoms somewhat similar to those of contraction of the hoof; but acute inflammation of the laminæ is what is generally called founder.

This disease is occasioned by overstraining of the laminæ from long standing, by prolonged or excessive driving over hard roads, by congestion from long confinement, by sudden reaction from standing in snow after being heated, or from covering with warm bedding after prolonged exposure to cold, by sudden change of diet from a comparatively cool to a comparatively heating kind of food, and by translation of inflammatory action from some other part of the body, particularly after influenza.

In the early stages of founder, a horse evinces great pain, shows excessive restlessness of foot, and tries to lighten the pressure of his body on the diseased feet. In the more advanced stages he is feverish, breathes hard, has violent throbbing in the arteries of the fetlock, lies down, stretches out his legs, and sometimes gazes wistfully upon the seat of the disease; and in the ulterior stages, if no efficacious remedies have been applied, the diseased feet either naturally recover their healthy condition, or they suppurate, slough, cast part or all of the hoof, and gradually acquire a small, weak, new hoof, or they undergo such mortification and change of tissues as to render the animal permanently useless.

The shoe of a foundered foot must be removed; the hoof should be pared in such a manner that the sole and central portion of the same alone come to sustain the weight of the body. Therefore, the wall of the hoof, or that portion of the hoof which, under normal conditions, is made to bear upon the shoe, should be pared or rasped away, all around, to such an extent that it does not touch the ground when the animal stands upon the foot. A well-bedded shed, or a roomy, well-bedded box-stall, should be provided, with a view of allowing ample room for stretching out, as well as for changing position on a floor which should not be slanting, and which conveniences can not be had in a single stall, or when the animal is kept tied up in a confined space. Fomentations, evaporating lotions, wet cloths, and moist poultices should be applied to the feet. The animal ought to have light and spare diet, and bran mashes. When much fever exists febrifuges and diuretics should be given.

Questions Answered.

Cow Drying up Unevenly. D. W., Auburn, Ill.—1. What is the cause of a cow going dry in one teat? She dropped her calf the 25th of May, and it sucked till it was three months old two teats on one side; that was her third calf; her next one will be due the last of April next. For some six weeks past the quantity of milk has been diminishing, till now she does not give more than a gill from one teat, while the opposite one gives more than double that of either of the others. Can any thing be done to remedy the difficulty? 2. If a cow gives more milk on one side than the other, does it indicate the sex of the coming calf?

Reply.—Most likely the cow will give milk from all four quarters after calving. She should be allowed to gradually dry up now, and toward the time of calving, she should not be fed exclusively on dry food. 2. No.

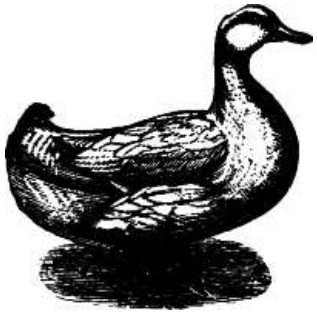
Curing Cheese.

The curing of cheese develops not only flavor, but texture and digestibility. As a rule, says an English exchange, no American cheese is well cured, and this is for want of suitable curing houses. Dr. H. Reynolds, of Livermore Falls, Me., remarks upon this subject as follows: "Increased attention needs to be given by cheese-makers to this matter of curing cheese. Cheese factories should be provided with suitable curing rooms, where a uniform temperature of the required degree can be maintained, together with a suitable degree of moisture and sufficient

supply of fresh air. The expense required to provide a suitable curing room would be small compared to the increased value of the cheese product thereby secured. Small dairymen and farmers, having only a few cows, labor under some difficulties in the way of providing suitable curing room for their cheese. Yet if they have a clear idea of what a curing room should be, they will generally be able to provide something which will approximate to what is needed. Good curing rooms are absolutely needed in order to enable our cheese-makers to produce a really fine article of cheese. The nicer the quality of cheese produced, the higher the price it will bring, and the more desirable will it become as an article of food. In the curing of cheese certain requisites are indispensable in order to attain the best results. Free exposure to air is one requisite for the development of flavor. Curd sealed up in an air-tight vessel and kept at the proper temperature readily breaks down into a soft, rich, ripe cheese, but it has none of the flavor so much esteemed in good cheese. Exposure to the oxygen of the air develops flavor. The cheese during the process of curding takes in oxygen and gives off carbonic acid gas. This fact was proved by Dr. S. M. Babcock, of Cornell University, who, by analyzing the air passing over cheese while curding, found that the cheese was constantly taking in oxygen and giving off carbonic acid gas. The development of flavor can be hastened by subjecting the cheese to a strong current of air. The flavor is developed by the process of oxidation. If the cheese is kept in too close air during the process of curding, it will be likely to be deficient in flavor."

An anonymous writer very truly remarks that the dairyman, by the force of circumstances, has to become versed in the breeding and management of stock, especially that of dairy breeds; hence, in the very nature of things, he becomes a thoughtful, studious, observing man, and, what is better, he attains a higher intelligence. The advantages of dairying call out, among other things, enhanced revenues, because butter and cheese have become necessities; it enriches the farm, and is perfectly adapted to foster the breeding and raising of better and more stock. It embodies thrift, progress, and prosperity. Under "new methods" it makes fine butter and choice beef, not by any means less, but even more, and affords better grain. It does not imply farm houses with added burdens, but, on the contrary, relieved of drudgery, and the time thus gained can be spent in cultivating the refining graces, and thus making farmers' homes abodes of culture, refinement, and education, placing the dairy farmer upon a level financially, socially, and intellectually with any other class or profession.

MISCELLANEOUS.



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Horticulturists, Write for Your Paper.

Southern Ill. Horticultural Society.

The members of the Southern Illinois Horticultural Society recently held a meeting at Alton, and resolved to put a little more life into the organization. A new constitution was adopted, and the following officers were elected for the ensuing year:

President—E. A. Riehl, Alton.
First Vice-President—G. W. Endicott, Villa Ridge.
Second Vice-President—Wm. Jackson, Godfrey.
Secretary and Treasurer—E. Hollister, Alton.

The following select list of fruits was recommended for the district, or Southern grand division of the State:

Apples—Summer—Red Astrachan, Keswick Codlin, Benoni, Saps of Wine, and Maiden's Blush.

Fall—It was unanimously agreed that fall apples were not profitable for market purposes.

Winter—Ben Davis, Rome Beauty, Jonathan, Wine-Sap, Winter May, Gilpin, and Janet.

Apples for family use—Summer—Early Harvest, Red Astrachan, Carolina Red June, Benoni, Maiden's Blush, Bailey Sweet and Fameuse.

Fall—Fall Wine, Rambo, Grimes' Golden, Yellow Belleflower.

Winter—Jonathan, Rome Beauty, Winesap, Ben Davis, Janet, Gilpin, Moore's Sweet, Sweet Vandevere.

Peaches for Market—Bartlett, Howell, and Duchess.

Pears for Family Use—Bartlett, Seckel, Howell, White Doyenne, D'Anjou, and Sheldon.

Peaches—For Family Use and Market—Alexander, Mountain Rose, L. E. York, Oldmixon Free, Crawford's Late Stump, Picquet's Late, Smock, Salway, and Heath Cling.

Grapes—Home Use and Market—Worden or Concord, Cynthiana or Norton's Va., Mo. Reisling, Noah, Ives.

Strawberries—Home and Market—Capt. Jack, Downing, and Wilson.

Raspberries—Black Caps—Doolittle and Gregg.

Reds—Cuthbert, Brandywine, and Turner for home use only.

Notes on Current Topics.

FARM ECONOMY.

Now, if one wants to ascertain how many agricultural implements are used by the farmers of the West, let him take a trip across the country for a day or two, and he will see reapers and mowers, and hay rakes and cultivators, and plows and seeders, standing in the fields and meadows, at the end of the rows where they had last been used. A stranger might think that this is not the place for them at this particular time of year. But in this he shows his ignorance of Western farm economy—for it is the very place for them; the identical locality where a great many of our farmers choose to keep their costly implements. Besides—don't you see, our farmers believe in fostering the manufactures of our country; and this place of caring for their tools after using them adds 15 or 20 per cent to the business of the manufacturers.

ABOUT THE BORER.

I referred to the fact that I had lately been cutting away, digging up, and making stove-wood of a number of dead and decaying apple trees. Some of them had been dead and dying for two or three years. In splitting up the body and roots of one of these, I dislodged scores of the borers, of all ages and sizes—making quite a dinner for a hen and chickens that happened to be nigh. This fact brought forcibly to my mind what I should have thought of before, namely—that these dead and dying trees ought not to be allowed to remain a day after their usefulness has departed; but should be removed bodily and consigned to the flames. Otherwise they remain as breeding places for the pests, to the great detriment of the rest of the orchard. Cut away your decaying trees at once.

COAL ASHES.

Now that coal has become so common as a substitute for wood for fuel, not only on the railroads and manufactories, but in the villages and on the farms, wood ashes will still be harder to procure. Though not near so valuable for the purposes for which wood ashes is chiefly used in horticulture, it is believed that ashes from the coal has too great a value to be wasted. It should all be saved and applied to some good purpose on the garden or orchard. Has any one tried it as a preventive to pear blight? or mildew on the gooseberry? or the grape rot? or for the yellows or leaf-curl in peach trees? or for the rust in the blackberry and raspberry? In any or all of these it may have a decided value, and should be faithfully experimented with. As an absorbent alone it ought to be worth saving, to use in retaining the house slops and other liquid manures that are too often wasted.

ONE CAUSE OF FAILURE

in our orchard trees, of which we read and hear so much in late years, is doubtless to be found in the fact that we fail to feed them properly. A hog will fail to put on fat if he is not fed; a hen will not lay eggs if she is starved for food; and is it more reasonable to expect an apple or a peach or a pear tree to thrive and grow and yield of its luscious fruit in perfection while it is being starved? Our fresh soils—some of them at least—contain a fair proportion of the food needed to support the life of a tree; we plant our orchards, and for some years, more or less, they give us paying returns for our investments. But that food will not always last; it is gradually exhausted, and we fail to feed them again, or in that proportion their necessities require. They languish and die; a disease seizes them, and we complain and grumble at the dispensations of Providence.

Think of it, fellow fruit-growers; let us begin to treat our fruit trees as we do our hogs and our hens, and see if we can not be favored with corresponding results. It is doubtless true that many of the diseases to which our trees are subject are caused by starvation, or by improper feeding; and a sickly tree is much more certain to be attacked by insects than a healthy one.

Rare, indeed, is the case where a tree is carefully fed and cared for, and its wants regularly and bountifully supplied, that it does not repay as bountifully in its life-giving fruits.

T. G.

Pear Blight.

THE TWO THEORIES WITH REGARD TO ITS CAUSE, AND THEIR PRACTICAL VALUE.

It is assumed that this pest has cost agriculturists many millions of dollars during the past decade; not only in the loss of trees, but the time—as it seldom appears until after the first crop—consequently the land, manure, labor, enclosure, and taxes are not insignificant items. Climate, soil, and cultivation have utterly failed, so also the nostrums, such as "carbonate of lime" suggested by the best authority, and the experts now admit that parasites (such as cause the rust or smut in our cereals) are the cause of this mischief. The only question is whether they act directly or indirectly: this question determines whether it is remediable. If these parasites accomplish all this mischief by direct contact, as in the case of rust, their ubiquitous character is so demonstrated that we are utterly discouraged; whereas, if we prove that their indirect action is the only one that is to be dreaded, and that indirect action is remediable we are encouraged to cultivate the pear, though we have lost more than five hundred of one variety and almost all of the other varieties before we discovered the real cause of the failure. "Where you lose you may find;" success does not indicate merit, and "fools never learn by experience." As a celebrated surgeon said in his lecture. "A good oculist is made at the expense of a hatful of eyes."

The celebrated Johnson who wrote the Encyclopedia of Agriculture a few years since, is now regarded as an old fogy, because he assumed that the spores of smut travel from the manure and seed of the previous crop in the circulation of the plant to the capsule, and thus convert the grain into a puff-ball, so also the ears of corn, the oats, and rye. This monstrosity on the rye grains is called ergot, or spurred rye, and when it is eaten by chickens or other fowls their feet and legs shrivel or perish with dry gangrene, not because the spores of the fungus which produced the spurred rye circulate in the blood of the chicken, nor that the spawn or mycelium thus traverses

the fowl, but the peculiar and specific influence acts upon the whole animal precisely like the poison of the poison oak, producing its specific effect on the most remote parts of the system, and not as mustard confined to the part it touches. The mustard acts directly, but the "poison Ivy" acts indirectly; so also the virus of cow-pox poisons the whole system, but usually appears in but one spot unless the lymphatics of the whole arm are weak, and in that case crops of umbilicated pustules precisely like the original, may recur on all parts of the arm for several months. The specific effect of ergot or the fungus when indirect is manifested by contracting and even strangulating the tubes or capillaries causing them to pucker up (as a persimmon acts directly on the mouth), but in this case permanently though indirectly, so that rye bread sometimes causes dry gangrene in the human subject; the shins and feet shrivel precisely as those parts of the limbs of the pear do, moreover a dark fluid exudes (as the circulation is arrested where a patch occurs) in both cases alike, consequently if the remedy in both cases is based on the same principles, and is demonstrated to be equally effectual, the cause and the disease are similar.

I have seen dry gangrene in the human subject originate apparently from an old "frost bite;" which means merely chronic debility of the capillaries of the foot or shin. Thus the extremities of the pear, or the weakest part, always succumb first, and the most vigorous trees never manifest it until they are weakened by their first crop of fruit. All are familiar with the fact that an old frost bite will swell or succumb to a temperature which will be innocuous to any other part of the body. The microscope may invariably reveal fungi in the patch of pear blight precisely as the housewife discovers the mold plant in her preserves and canned fruit, and even in the eggs of fowls, the mycelium (or spawn) penetrating the fruit or preserve though it be covered while boiling hot. If so, the reason why all parts of the tree are not attacked at the same time, is not because the fungus is not ubiquitous. We first notice the action of strychnia in the legs, or in paralyzed limbs exclusively, because they are weaker and become subject to its influence more easily; so also the same tree may escape for a long time after the limb which has succumbed is removed. Moreover the grafts, however numerous, may all be blighted, but the standard seedling on which so many varieties were grafted has survived more than fifty winters, and it fruited last year.

David Stewart, M. D.
Port Penn, Del.

Treatment of Tree Wounds.

Valuable trees that have been wounded or mutilated are often sacrificed for lack of the discreet surgery which would repair the injury they have suffered; and Professor C. A. Sargent, of the Bussey Institution, has done good service to farmers, fruit-raisers, and landscape-gardeners, by translating from the French the following practical hints, which we give with slight abridgment:

Bark once injured or loosened can never attach itself again to the trunk; and whenever wounds, abrasures, or sections of loose bark exist on the trunk of a tree, the damaged part should be cut away cleanly, as far as the injury extends. Careful persons have been known to nail to a tree a piece of loosened bark, in hope of inducing it to grow again, or at least of retaining on the young wood its natural covering. Unfortunately the result produced by this operation is exactly opposite to that intended. The decaying wood and bark attract thousands of insects, which find here safe shelter and abundant food, and, increasing rapidly, hasten the death of the tree. In such cases, instead of refastening the loosened bark to the tree, it should be entirely cut away, care being taken to give the cut a regular outline, especially on the lower side; for if a portion of the bark, even if adhering to the wood, is left without direct communication with the leaves, it must die and decay. A coating of coal-tar should be applied to such wounds.

Loosened Bark.—It is necessary to frequently examine the lower portions of the trunk, especially of trees beginning to grow old; for here is often found the cause of death in many trees, in large sheets of bark entirely separated from the trunk. This condition of things, which often can not be detected, except by the hollow sound produced by striking the trunk with the back of the iron pruning-knife, arrests the circulation of sap, while the cavity between the bark and the wood furnishes a safe retreat for a multitude of insects, which hasten the destruction of the tree. The dead bark should be entirely removed, even should it be necessary, in so doing, to make large wounds. Cases of this nature require the treatment recommended for the last class.

Cavities in the Trunk.—Very often, when a tree has been long neglected, the trunk is seriously injured by cavities caused by the decay of dead or broken branches. It is not claimed that pruning can remove defects of this nature; it can with proper application, however, arrest the progress of the evil. The edge of the cavity should be cut smooth and even; and all decomposed matter, or growth of new bark formed in the interior, should be carefully removed. A coating of coal-tar should be applied to the surface of the cavity, and the mouth plugged with a piece of well-seasoned oak securely driven into the place. The end of the plug should then be carefully pared smooth and covered with coal-tar, precisely as if the stump of a branch were under treatment. If the cavity is too large to be closed in this manner, a piece of thoroughly seasoned oak board, carefully fitted to it, may be securely nailed into the opening, and then covered with coal-tar. It is often advisable to guard against the attacks of insects by nailing a piece of zinc or other metal over the board in such a way that the growth of the new wood will in time completely cover it.

Coal-tar, a waste product of gas-works, can be applied with an ordinary painter's brush, and may be used cold, except in very cold weather, when it should be slightly warmed before application. Coal-tar has remarkable preservative properties, and may be used with equal advantage on living and dead wood. A single application, without penetrating deeper than ordinary paint, forms an impervious coating to the wood-cells, which would, without such covering, under external influences, soon become channels of decay. This simple application then produces a sort of instantaneous cauterization, and preserves from decay wounds caused either in pruning or by accident. The odor of coal-tar drives away insects, or prevents them, by complete adherence to the wood, from injuring it. After long and expensive experiments, the director of the parks of the city of Paris finally, in 1863, adopted coal-tar, in preference to other preparations used, for covering tree wounds. In the case of stone fruit trees it should, however, be used with considerable caution, especially on plum trees. It should not be allowed to needlessly run down the trunk; and it is well to remember, that the more active a remedy is the greater should be the care in its application. The practice of leaving a short stump to an amputated branch, adopted by some to prevent the loss of sap, although less objectionable in the case of coniferous trees than in that of others, should never be adopted. Such stumps must be cut again the following year close to the trunk, or cushions of wood will form about their base, covering the trunk with protuberances. These greatly injure the appearance and value of the tree, and necessitate, should it be found desirable, the removal, later on, of such excrescences, causing wounds two or three times as large as an original cut close to the trunk would have made.

The Tomato Pack of 1883.

Through the co-operation of packers in all parts of the United States, the American Grocer was enabled to present its annual statement of the 1883 pack of tomatoes some weeks earlier than usual. Despite a cold, backward spring, unusually low temperature throughout the summer, with cool nights in August and September, drouth in some sections, early and severe frosts in others, the trade is called upon to solve the question: Can the demand absorb a supply of three million cases?

The pack of 1883 is heavily in excess of that of 1882, due to an increase in the number packers, and to an unusually heavy yield in New Jersey and Delaware. In detail, the result in the different States is as follows:

	Cases, two doz. each.
Maryland	1,450,000
New Jersey	612,703
Delaware	156,391
California	117,000
Ohio	112,000
Indiana	90,000
Virginia	75,000
Kansas	65,000
New York	59,344
Iowa	47,925
Missouri	34,500
Michigan	30,700
Massachusetts	25,000
Canada	20,000
Connecticut	18,000
Illinois	14,516
Pennsylvania	15,000
Total	2,943,579

The above total of 2,943,579 cases, of two dozen tins each represents seventy million, six hundred and forty-five thousand, eight hundred and ninety-six cans, as the minimum quantity of canned tomatoes packed in the United States this year.

Never in recent years have the holdings of the jobbers been as light as at present. Undoubtedly there is an unusually large stock of tomatoes in packers' hands, but there are innumerable parties in all the great centers of trade ready to take hold freely at 80 cents.

At no time has the stock of extra brands been equal to the inquiry, and hence we have seen the anomaly of a range in prices of from 80 cents to $1.40 per dozen. There is room for improvement in quality, as well as for methods of marketing the large production of Harford county. A move in the right direction has been started by the forming of associations, which seek to build extensive warehouses and aid weak packers to carry stock, instead of forcing it upon a dull market. [Pg 39]

Three million cases or seventy-two million cans means a supply of only one and two-fifths cans per capita per annum, or seven cans per annum for every family of five persons. With tomatoes retailing from 8 to 15 cents per can, the consumption could reach three times that quantity, and

then each family would only find tomatoes upon its bill of fare once every fortnight.

While many packers have failed to secure a fair return for their work, others have been well paid. Some few have made heavy losses, and will, in the future, be less inclined to bet against wet weather, drought and frost.

If general business is good during the first half of 1884, The Grocer can see no good reason why the stock of tomatoes should not go into consumption between 85 cents and $1 per dozen for standards. Any marked advance would be sure to check demand, and, therefore, low prices must rule if the stock is absorbed prior to the receipt of 1884 packing.

The year closes with Maryland packed obtainable from 75 to 85 cents; New Jersey and Delaware, 90 to 95 cents; fancy brands, $1.10 to $1.35, delivered on dock in New York.

Sweating Apples.

According to the Popular Science News, apples do not sweat after they are gathered in the autumn. Here is an account of what takes place with them.

The skin of a sound apple is practically a protective covering, and designed for a two-fold purpose: first, to prevent the ingress of air and moisture to the tender cellular structure of the fruit; and, second, to prevent the loss of juices by exudation. There is no such process as sweating in fruits. When men or animals sweat, they become covered with moisture passing through the skin; when an apple becomes covered with moisture, it is due to condensation of moisture from without. Apples taken from trees in a cool day remain at the temperature of the air until a change to a higher temperature occurs, and then condensation of moisture from the warmer air circulating around the fruit occurs, just as moisture gathers upon the outside of an ice-pitcher in summer. This explains the whole matter; and the vulgar notion of fruits "sweating" should be dispelled from the mind.

It is almost impossible to gather apples under such conditions of temperature that they will not condense moisture after being placed in barrels. It would be better if this result could be avoided, as dryness of fruit is essential to its protracted keeping.

Our northern autumns are characterized by changes from hot to cold, and these occur suddenly. The days are hot, and the nights cool, and this favors condensation. Apples picked on a moderately cool day, and placed in a moderately cool shed, protected from the sun, will not gather moisture, and this is the best method to pursue when practicable.

Prunings.

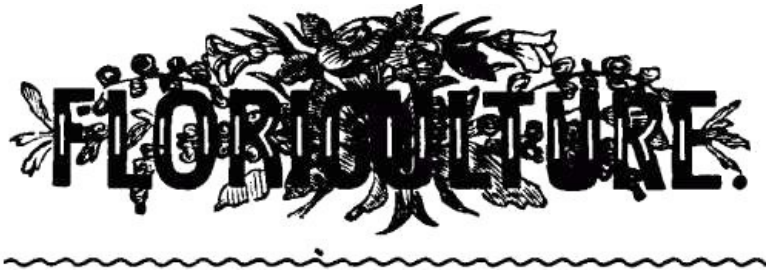
Mr. N. Atwell, one of the Michigan commissioners, whose duty it is to look after the peach districts of that State and check if possible the ravages of the destructive disease known as "yellows," claims that there is no known remedy, and that the only safe plan is to uproot and burn the trees upon the first appearance of the disease.

If you are going to set a new orchard this spring, remember that it is an excellent thing to prepare a plan of the orchard, showing the position of each tree, its variety, etc. If a tree dies it can be replaced by one of the same sort. Some fruit-raisers keep a book in which they register the age and variety of every tree in the orchard, together with any items in regard to their grafting, productiveness, treatment, etc., which are thought to be desirable.

Cor. California Rural Press: The first generation of codling moth begins to fly about the first of May. To make sure gather some in the chrysalis state in March or April, put in a jar, and set the jar in a place where you will see it every day. When they begin to have wings, prepare your traps thus: The half of a kerosene can with the tin bent in at the top an inch; a half inch of kerosene in the can, a little flat lamp near the oil. The light reflected from the bright tin will draw the moth five rods at least. If your orchard is forty rods square, sixteen traps will do the work. The moth will fly about the light until it touches the oil. This will end it.

The Industrial South has the following in relation to Albemarle and Nelson (Virginia) apple orchards in the space of fifteen square miles: "What would you think of an orchard planted, if not since the war, as I think it was, a very short time before, and away up on the side of the Blue Ridge, that to look from below you would think of insuring your neck before setting out to it, producing eighteen hundred barrels? This was the produce of picked fruit, to say nothing of the fallen—enough to keep a big drying establishment running for months. These are true figures—and it is the property of a worthy citizen of Richmond, who, in its management, has cause to exclaim "ab imo pectore," save me from my friends. Then there is another from which the owner, with a dryer of his own, has sold five thousand dollars of the proceeds besides cider, vinegar, and brandy. There is yet another, that the lady-owner sold as the fruit hung in the orchard, for forty-five hundred dollars. The fruit in the area referred to brought over fifty thousand dollars, bought by the agent of a New York house, and doubtless much of it will reach Europe."

PROF. COOK in the New York Tribune: The Rev. W. W. Meech writes that he has seen in several papers of high standing "the beetle Saperdabivitati, parent of the borer," described as a "a miller"—"a mistake very misleading to those who are seeking knowledge of insect pests." He adds that among hundreds of quince trees growing he has had but three touched by this enemy in eight years. He simply takes the precaution to keep grass and weeds away from the collar of the tree, "so that there is no convenient harbor for the beetle to hide in while at the secret work of egg-laying." He thinks a wrap of "petroleum paper around the collar" would be found a preventive, as it is not only disagreeable but hinders access to the place where the eggs are deposited. It is an unfortunate error to refer to a beetle as a moth. It would be better if all would recognize the distinction between "bug" and "beetle," and between "worms" and "larva," in writing popular articles. I notice that some of the editors of medical journals are referring to bacteria as "bugs." Surely reform is needed. I am not so sure of Mr. Meech's remedy. I imagine that fortune, not his pains, is to be thanked for his grubless trees. I have known this borer to do very serious mischief where the most perfect culture was practised. The caustic wash is much safer than a petroleum wrap. The eggs are often laid high up on the trunk or even on the branches. Nothing is better for the borers than the soap and carbolic acid mixture.



Gleanings by an Old Florist.

SMILAX AND ITS USES.

Smilax, as now used by florists, is but a very recent affair. Although introduced first into Europe from the Cape of Good Hope as early as 1702, it remained for the florist of our time to find out its great adaptability for decoration and other uses in his art or calling. To Boston florists belong the credit of its first extensive culture and use, and for several years they may be said to have had the monopoly of its trade, and Boston smilax, along with Boston tea roses, which was pre-eminently the variety called the Bon Silene, was, for years, shipped to this and other cities. It is scarcely a decade of years ago, in this city, when a batch of one hundred strings could not be bought here, home-grown; now there would be no difficulty in getting thousands. Like everything else of like character, the first introducers reaped a golden harvest, so far as price is concerned, having often obtained a dollar a string; while now, the standard price, even in mid winter, is $2 per dozen, and often in quantity, it can be obtained at less. But where there was one string used then, there are now thousands. In olden times the florist was often put to his wits to find material to go around his made-up pieces and for relief as a green; now, everything green is smilax, and it must be confessed, that with the choice ferns, begonia leaves, and the like, that he used to have to prepare with, his work then was really often in better taste, so far as relief to flowers is concerned, with the old material than the new.

But for the purpose of festooning buildings, churches, and the like, smilax is by all odds the very thing wanted, and as much ahead of the old-time evergreen wreathing, that we had to use, as the methods now in use for obtaining cut flowers are ahead of the old. It is hard to say what the florist could do without smilax, so indispensable has it become. There are now probably twenty of the principal growers of this city that have at least one house in smilax, who will cut not less than three thousand strings in a winter, while of the balance of smaller fry enough to make up the total to 100,000 strings per year. In times of scarcity of material, it is cut not over three feet long; again, when the supply exceeds the demand, the buyer will often get it six to nine feet long, and at a lower price than he can buy the short—supply and demand ruling price, as a rule, between $1 and $3 per dozen.

The plant now under consideration is called, botanically, Myrsiphyllum asparagoides; by common usage it is called smilax, although not even a member of the true smilax family, some of which are natives of this country.

The plant seeds readily, hence every one who grows smilax may, by leaving two or three strings uncut, grow his own seed; it is then sure to be fresh—which is sometimes not the case when purchased. The seed is more likely to germinate if soaked twelve hours in warm water or milk before sowing.

A bed may be formed any time of the year, but the usual custom is to prepare it so as to be ready to cut, say, in the fall, for the first time. Take a pan or shallow box and sow the seed any time during the winter before March. When well up, so they can be handled, transplant into small pots, and from these shift into larger, say to three or four inch pots. Keep the shoots pinched

back so as to form a stout, bushy plant. During winter they will require an artificial temperature of not less than 50 degrees. When summer comes they may be kept in the house or stand out of doors until the bed in which they are to grow is ready. This may be prepared any time most desirable, but if to cut first in the fall, so manage it that they may have two or three months to perfect their growth.

The common practice is to give the whole house to the use of the plant, but this may be varied at pleasure, growing either the center bunch, the front bunch, or both, as may be desirable.

The best soil is decayed sod from a pasture enriched with cow manure. It requires no benches to grow this plant; all that is necessary is to inclose the space designed by putting up boards one foot high to form a coping to hold the soil. Into this the plants are set evenly over the entire space, in rows nine inches to one foot apart. At the time of planting, a stake is driven into and even with the soil at each plant, being careful to have them in true lines both ways, and driven deep enough to be quite firm; on the top of this stake is driven a small nail or hook. Directly over each nail, in the rafter of the house, or a strip nailed to them for the purpose, is placed another nail, and between the two a cord similar to that used by druggists or the like—but green, if possible, in color, for obvious reasons—is stretched as taught as may be, so that when finished the whole house or space used is occupied by these naked strings, on which, as the growth proceeds, the plants entwine themselves. Some care will be required at first to get them started, after which they will usually push on themselves.

The most convenient height of the rafters above the soil is from four to ten feet, which will give long enough strings, and, what is important for quick growth, keep the plants when young not too far from the glass.

In planting, some make a difference of a month or two in the time, so that the crop may not come in all at once; but usually the plants will vary some in their growth, and hence, by cutting the largest first, the same result is obtained. If a heat of 55 degrees can be obtained as a minimum, and care is taken in keeping a moist, growing temperature, a crop can be taken off every three months at least. So as soon as ready to cut and a market can be obtained for the crop, strings should be strung again at once, leaving some of the smaller shoots when cutting for a starter of the next crop. Like everything else, heavy cropping requires heavy manuring, and hence a rich compost should be added to the soil at each cutting.

Some plant their beds fresh every year, others leave them longer. The root is perennial in character, and consists of fleshy tubers, not unlike asparagus, and may be divided for the new beds; but the general practice is to grow new plants. Always beware of buying old, dry roots, as they will sometimes refuse to grow, even if they look green and fresh. With many, in cutting, the practice is to cut clear through at the bottom, string and all, then by a deft movement of the hands the smilax is slipped from the string which, with the addition of a foot or two to tie again, is at once ready for the next, while others bring to market string and all, these being simply matters of practice or convenience.

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MISCELLANEOUS.

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All Communications, Remittances, etc., should be addressed to The Prairie Farmer Publishing Company, *Chicago, Ill.*

Entered at the Chicago Office as Second-Class Matter.

CHICAGO, JANUARY 19, 1884.

[Transcriber's Note: Original location of Table of Contents.]

WHEN SUBSCRIPTIONS EXPIRE.

We have several calls for an explanation of the figures following the name of subscribers as printed upon this paper each week. The first two figures indicate the volume, and the last figure or figures the number of the last paper of that volume for which the subscriber has paid: EXAMPLE: John Smith, 56—26. John has paid for THE PRAIRIE FARMER to the first of July of the present year, volume 56. Any subscriber can at once tell when his subscription expires by referring to volume and number as given on first page of the paper.

1841. 1884.

The Prairie Farmer

PROSPECTUS FOR 1884.

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Its managers are conscious from comparison with other journals of its class, and from the uniform testimony of its readers, that it is foremost among the farm and home papers of the country. It will not be permitted to lose this proud position; we shall spare no efforts to maintain its usefulness and make it indispensable to farmers, stock-raisers, feeders, dairymen, horticulturalists, gardeners, and all others engaged in rural pursuits. It will enter upon its forty-fourth year under auspices, in every point of view, more encouraging than ever before in its history. Its mission has always been, and will continue to be—

To discuss the most approved practices in all agricultural and horticultural pursuits.

To set forth the merits of the best breeds of domestic animals, and to elucidate the principles of correct breeding and management.

To further the work of agricultural and horticultural organization.

To advocate industrial education in the correct sense of the term.

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To be, in brief, an indispensable and unexceptionable farm and home companion for the people of the whole country.

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The Prairie Farmer is designed for all sections of the country. In entering upon the campaign of 1884, we urge all patrons and friends to continue their good works in extending the circulation of our paper. On our part we promise to leave nothing undone that it is possible for faithful, earnest work—aided by money and every needed mechanical facility—to do to make the paper in every respect still better than it has ever been before.

SPECIAL NOTICE

To each Subscriber who will remit us $2.00 between now and February 1st, 1884, we will mail a copy of **THE PRAIRIE FARMER for One Year, and one of our New Standard Time Commercial Maps of the United States and Canada**—showing all the Counties, Railroads, and Principal Towns up to date. This comprehensive map embraces all the country from the Pacific Coast to Eastern New Brunswick, and as far north as the parallel of 52 deg., crossing Hudson's Bay. British Columbia; Manitoba, with its many new settlements; and the line of the Canadian Pacific Railway, completed and under construction, are accurately and distinctly delineated. It extends so far south as to Include Key West and more than half of the Republic of Mexico. It is eminently adapted for home, school, and office purposes. The retail price of the Map alone is $2.00. Size, 58 × 41 inches. Scale, about sixty miles to one inch.

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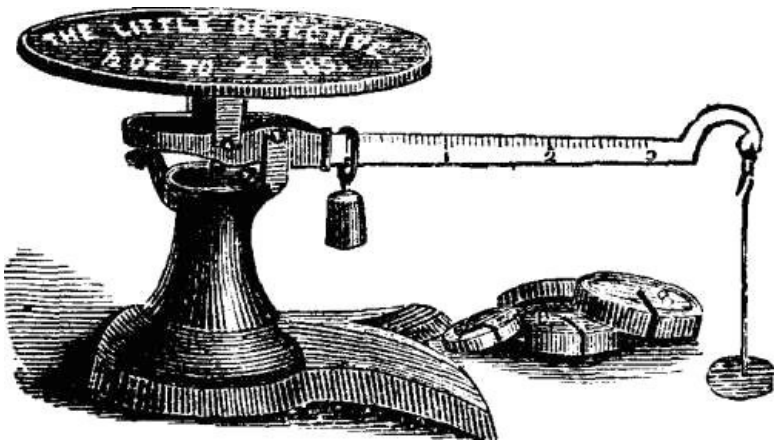

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Weighs 1-4 oz. to 25 lbs.

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WILL YOU?

THE Illinois State Board of Agriculture will hold a meeting at the Sherman House in Chicago, on the 4th of March next. The principal business of the meeting will be to complete arrangements for the next State Fair and the Fat Stock Show.

THE annual meeting of the Northern Illinois Horticultural Society will be held at Elgin Tuesday, January 22d and continuing three days. Kindred societies are invited to send delegates, and a large general attendance is solicited. Further particulars will be gladly received by S. M. Slade, President, Elgin, or D. Wilmot Scott, Secretary, Galena.

THE Brooklyn Board of Health petitions Congress to appropriate a sufficient amount of money to stamp out contagious pleuro-pneumonia and provide for the appointment of a number of veterinarians to inspect all herds in infected districts, to indemnify owners for cattle slaughtered by the Government, and to forbid the movement of all cattle out of any infected State which will not take measures to stamp out the disease.

Secretary L. A. Goodman, of the Missouri State Horticultural Society writes The Prairie Farmer that on the 5th of January the mercury at Westport, Wis., indicated 26 degrees below zero, the lowest point ever recorded there. He adds: "The peaches are killed, as are the blackberries. Cherries are injured very much and the raspberries also. The dry September checked the growth of the berries and sun-burned them some, and now the cold hurts them badly. Apples are all right yet and prospects for good crop are excellent."

It may be of interest to many readers to know that the I. & St. L. R. R. will sell tickets from Indianapolis and intermediate points to St. Louis, to persons attending the meeting of the Mississippi Valley Horticultural Society, at one and one-third rates. Mr. Ragan informs us that this is the only railroad line from central Indiana that offers a reduction of fare. The Missouri Pacific system of roads, including the Wabash, and embracing about ten thousand miles of road, extending as far north and east as Chicago, Detroit and Toledo, and as far south and west as New Orleans, Galveston and El Paso, will return members in attendance, who have paid full fare over these lines, at one cent a mile, upon the certificate of the Secretary of the Society. The Chicago & Alton, C., B. & Q., Keokuk, St. L. & N. W., Chicago, B. & K. C., Illinois Central, Cairo Short Line, and Hannibal & St. Joe roads will return members on the same terms. The Ohio & Mississippi will sell tickets to St. Louis and return at one and one-third fare, to members indorsed by the Secretary. The Louisville and Nashville will give reduced rates to members applying to its General Passenger Agent, C. P. Atmore, of Louisville, Ky.

THE WEALTH OF THE NATION.

The Census Bureau and Bradstreet's agency have made from the most accurate examination possible an estimate of the wealth and business of the nation: Aggregate wealth of the United States in 1880 was $43,642,000,000 (forty thousand and a half billions); the total amount of capital invested in business was $8,177,000,000 (over eight billions); and the number of persons engaged in commercial business was 703,828. Twenty-two per cent of all the business capital of the country is credited to the State of New York. Massachusetts ranks second, Pennsylvania third, Ohio fourth, Illinois fifth, and Michigan sixth. The aggregate business capital of these six States was $5,113,087,000, leaving to all the other States $3,063,923,000. The total recorded number of traders in the United States in June, 1880—those having distinctive position in the commercial or industrial community—was 703,328; a trifle over 40 per cent were in the Western States. For the United States as a whole the average amount of capital employed to each venture —as indicated by the aggregate of capital in the country invested in trade (as explained in the table compiled from the forthcoming census work) and the total number of individuals, firms, and corporations engaged in business—is, in round numbers, $11,600.

The wealth of the country is, or was June 1, 1880, distributed as follows:

	Millions.
Farms	$10,197
Residence and business real estate, capital employed in business, including water-power	9,881
Railroads and equipment	5,536
Telegraphs, shipping, and canals	410
Live stock, whether on or off farms, farming tools and machinery	2,406
Household furniture, paintings, books, clothing, jewelry, household supplies of food, fuel, etc.	5,000
Mines (including petroleum wells) and quarries, together with one-half of the annual product reckoned as the average supply on hand	780
Three-quarters of the annual product of agriculture and manufactures, and of the annual importation of foreign goods, assumed to be the average supply on hand	6,160
Churches, schools, asylums, public buildings of all kinds, and other real estate exempt from taxation	2,000
Specie	612
Miscellaneous items, including tools of mechanics	650
Total	$43,642

It will thus be seen that the farms of the United States comprise nearly one-fourth of its entire wealth. They are worth nearly double the combined capital and equipments of all the railroads, telegraphs, shipping, and canals; more than double all the household furniture, paintings, books, clothing, jewelry, and supplies of food, fuel, etc. The live stock is more valuable than all the church property, school houses, asylums, and public buildings of all kinds; more than all the mines, telegraph companies, shipping, and canals combined. It would take more than three times as much "hard" money as the nation possesses to purchase all these domestic animals. The farms and live stock together exceed the value of any two other interests in the country.

CONTAGIOUS ANIMAL DISEASES.

Congress seems bound to act at once upon the question of protection to domestic animals from contagious diseases. The pressure brought to bear upon members is enormous, and cannot be ignored. The action of European States on swine importation from America, the restrictions on the landing of American cattle in England, and the strong effort being made there to prohibit their introduction altogether, the known existence of pleuro-pneumonia in several of the Atlantic States, the unceasing clamor of our shippers and growers of live stock, all conspire to open the eyes of the average Congressman to the fact that something must be done. Mr. Singleton, of Illinois, must be something above or below the average Congressman, if the report is correct that he does not believe pleuro-pneumonia exists anywhere within the borders of the United States, and that he is willing to back his non-belief by a thousand dollars forfeit, if an animal suffering from the disease can be shown him. The former owner of Silver Heels, and breeder of fine horses and cattle at his Quincy farm, must have his eyes shaded and his ears obstructed by that broad brimmed hat, that has so long covered his silvered head and marble brow. "The world do move," [Pg 41] nevertheless, and pleuro-pneumonia does prevail in this country to such an extent as to furnish a reasonable excuse for unfriendly legislation abroad, and we gain nothing by denying the fact, the Allerton and Singleton assertions to the contrary, notwithstanding.

IOWA STATE FAIR.

At the late meeting of the Iowa State Agricultural Society, President Smith strongly advocated the permanent location of the State Fair. He thought it had been hawked about long enough for the purpose of giving different cities a chance to skin the people. The Legislature should aid the society in purchasing grounds. Ample ground should be purchased, as the fair is growing, and they should not be governed solely by our present demands. Secretary Shaffer touched briefly on the weather of last summer, the acreage and yield of crops, the demonstration of the futility of trying to acclimatize Southern seed-corn in the North, and the appointment of a State entomologist. He thought the State should assist the society in distributing its publications. The improvement of the Mississippi river was briefly handled. The state of the corn during the past year, the seeding, the yield, etc., were summarized by months. The corn crop was a failure. The sorghum industry in its various bearings was discussed. Iowa will yet, he said, produce its own sugar. The question was raised whether the State should not encourage the growth of Northern cane. The sheep industry and its peril from worthless dogs was duly treated. This society was the first to insist on the necessity of Legislation on this subject looking to the extermination of worthless dogs. The society proceeded to locate the fair for the next year. Des Moines offered the present grounds for 10 per cent of the gate money. Dubuque offered free grounds and $2,500 in money. The first ballot resulted in seventy-one votes for Des Moines and twenty-three for Dubuque. Officers were elected as follows: President, William L. Smith, of Oskalossa; Vice-President, H. C. Wheeler, of Sac; Secretary, John Shaffer, of Fairfield; Treasurer, George H. Marsh, of Des Moines.

STILL ANOTHER FAT STOCK SHOW.

At the meeting of the Indiana State Board of Agriculture last week, it was decided to hold a Fat Stock Show at Indianapolis some time in December of the present year. Liberal premiums will be offered. The matter elicited a discussion of considerable length, and it was generally believed that the show, if properly managed, could be made a success. Even if it failed to realize expenses the first year, the exhibition would be incalculably beneficial to the State. The election of new members to the Board resulted as follows: First district, Robert Mitchell, of Gibson county; Second, Samuel Hargrave, of Pike; Third, J. Q. A. Seig, of Harrison; Fourth, W. B. Seward, of Monroe; Eighth, W. S. Dungan, of Johnson; Fourteenth, L. B. Custer, of Cass; Fifteenth, W. A. Banks, of La Porte; Sixteenth, R. M. Lockhart, of DeKalb.

Three Fat Stock Shows in the West! True, the success of the Chicago exhibit is having a wide influence. The live stock interests of the country are fully awakened to the important results from these shows. They are, indeed, educators of the highest character, and they stimulate to excellence unthought of by most farmers, ten years ago. Chicago, Kansas City, Toronto, and now Indianapolis! Is there not room for a similar exhibition in the great stock State of Iowa? Why do we not hear from West Liberty or Cedar Rapids?

Questions Answered.

F. J. St. Clair, Ursa, Ill.—Who was the first President to issue a Thanksgiving Proclamation?

Answer.—Washington, in 1798, on the adoption by the States of the Constitution of the United States.

Subscriber, Peotone, Ill.—How many kinds of soils are there, and what crops are best suited to bottom and what to upland soils?

Answer.—There are really but two soils, agriculturally considered, fertile soils and barren soils. Generally speaking, fertile soils are the result of the disintegration of mechanical forces and chemical agencies of limestone rocks; and barren soils—sandy soils—are produced by similar means, from rocks largely or wholly composed of silex or quartz. The mixture of these two give rise to soils of an infinite variety, almost, having many differing degrees of fertility, down to barrenness. But you have practically but one soil to deal with, a true limestone soil of high fertility, which has received considerable accessions from silicious rocks. Your bottom lands do not differ materially from the upland, except that the former have received considerable vegetable matter, which the latter have lost. For the lowlands, corn, grass, and potatoes are the best crops; for the highlands, the small grains, sorghum, beans, etc. But provide as much vegetable matter for the highlands as your lowlands possess, and make the sum of mixture in both alike, and your highlands will grow corn, grass, and potatoes as well as the low.

Charles Van Meter, Springfield, Mo.—What is the best work on Grape Culture? My means are small, and I can not, of course, buy a work costing ten or twelve dollars, however good it may be. Recommend, for this latitude, something good and cheap.

Answer.—For your needs you will find nothing better than Hussman's Grapes and Wine, a single volume, which will be sent you from The Prairie Farmer office, on remittance of $1.50. But there is something cheaper still, and very good, indeed, but covering different grounds from Hussman. The Grape Catalogue of Bush & Son & Meissner. You may obtain it by sending twenty-five cents to Bush & Son & Meissner, Bushberg, Missouri.

Constant Reader, Chicago, Ill.—I am thinking of going down, one of these days, to Florida, with a view to go into oranges and make more money than I have, or lose it all. I have read a good deal about the seductive business, in Florida, though but little of the details of cultivation in other countries. Tell me where I can find something about how they manage in Spain and the south of Europe.

Answer.—Most of the really valuable works on this subject are in foreign languages—French, Spanish, or Italian. However, for a wonder, a late publication of the Department of State, at Washington—Reports from the consuls of the United States, No. 33—contains a valuable and lengthy paper on Orange Growing at Valencia, Spain, contributed by the consul there, which you may perhaps obtain through your member of Congress.

J. D. Slade, Columbus, Ga.—I am interested in a large plantation near this city with a friend who is a practical farmer. We have decided to abandon the planting of cotton to a great extent and adopt some other crops. Having concluded to try the castor bean, I wish to ask some information. 1. Will you give me the names of parties engaged in the cultivation of the crop in Illinois and Wisconsin? 2. Where can I get the beans for planting? 3. Describe the soil, mode of preparation, planting, and cultivation, and give me such other information as we may need.

Answer.—1. Winter wheat and corn have, to a very large extent, taken the place of castor beans and tobacco in the agriculture of Southern Illinois. As for Wisconsin, we question whether a bushel of castor beans was grown there last year. The two sections where they are now mostly cultivated are in Southwestern Missouri, by the old settlers, and in Middle and Southern Kansas, by the first comers. For information on the whole subject, write the Secretary of the Kansas State Board of Agriculture for the quarterly report issued two or three years ago, which was mostly devoted to castor-bean culture. The Secretary's address is Topeka, Kansas. 2. Of the Plant Seed Company, St. Louis, and also valuable information—that city being the chief market for the castor beans. 3. The soil best suited to the crop is a light, rich, sandy loam, though any dry and fertile soil will yield good crops. For some reason not clearly understood, the castor bean has been found a powerful and energetic agent in improving some, if not all soils, the experience in Kansas being, that land which previously refused to yield good crops of wheat or corn either, after being cultivated two or three years in castor beans has borne great crops. This has been attributed to the completeness and the long time the crop shades the ground, and also to the long tap root of the plant, which makes it a crop of all others, suited to dry soils, and hot climate. After preparing the land as for corn, it should be laid off so the plants will stand, for your latitude, five feet each way. Three or four seeds are usually planted, but when the beans are five to six inches high, and out of the way of cut-worms, they are thinned to one. The cultivation is after the manner of Indian corn, and the planting should be at the same time. The beans for your latitude will begin to ripen late in July, and continue to the end of the season, when the plants are killed by severe frosts, light frosts doing scarcely any damage. In harvesting, a spot of hard ground is prepared and the pods as gathered are thrown on the ground and dried out in the sun. And here is where the trouble with making a successful and profitable crop comes in. The beans must be kept in the dry from the time of gathering the pods—one soaking rain always seriously damaging, and frequently destroying the merchantable value of so much of the harvest as happens to be on the ground. As in the case of broom corn, the hot, dry, and protracted late summer and fall months of that State, afford the Kansas farmer something like a monopoly of the castor bean crop. It is nevertheless giving place to corn and wheat.

Letter from Champaign.

The snow continues to accumulate, the last having fallen before midnight the 11th. There were only about two inches, but it is drifting this morning, for all it is worth, before a gale from the West. The first and second snows stay where they were put at first, but the subsequent ones are in drifts or scattered all abroad, in the many snows and the excellence of the sleighing, this winter resembles '78-'79, but there is more snow and the temperature is very much more severe. I suppose there is well-nigh eighteen inches now on the ground, something quite unusual in this latitude. Let us hope it will stay sometime longer yet, and save the fall wheat.

The intensely cold weather of last week was rough on stock of all kinds and in all conditions, and particularly hard on that portion having short rations. But I have seen many worse storms and much harder weather for stock; none however in which the fruits, small or large, suffered worse. At least that is the general judgment at the present. Peach buds are killed of course, and it will be lucky if the trees have escaped. All blackberries, but the Snyder, are dead down to the snow line —and some think the Snyder has not escaped, for reasons given further on. Examinations made of the buds of Bartlett, Duchess, Howell, Tyson, Bigarreau, Seckel, Buffum, Easter Buerre, and others yesterday, showed them all to be about equally frosted and blackened, and probably destroyed. Last year our pears suffered a good deal from the sleet of the second of February, which clung to the trees ten days, and the crop was a light one. This year, if appearances can be trusted, there will be less. In the many intense freezes of the last twenty-five years, I have never known pear buds to be seriously injured; last year being a marked exception and this still more so. Hardy grapes have probably suffered as much, and the tender varieties are completely done for. How well the May cherry has resisted the low temperature remains to be seen. As for the sweet cherries, it is probably the end of them.

There were buds set for an unusually abundant crop of apples in 1884—the Presidential year. The hardy varieties have escaped material damage, no doubt, but some of the tender Eastern varieties, like the Baldwin, Roxbury Russet, in all reasonable probability, have not only lost their buds but their lives also.

The disasters following the very low temperature of last week have no doubt been increased by the immaturity of the wood, due to the cool, moist summer. If summers like those of 1882-83 are not warm enough to ripen the corn crop, buds and wood of fruit trees will not acquire a maturity that resists intense cold as we see by our experience with pears, grapes, and peaches in the fruit season of 1883, and which is almost sure to be repeated with aggravations in 1884. Possibly the ground being but lightly frozen and protected by a good coat of snow, may save the apple trees and others from great disaster following thirty to thirty-five degrees below zero, when falling on half ripened wood, but the reasonable fear is that orchards on high land in Northern and Central Illinois, have been damaged more than last year. If so perhaps it were better after all, since it will open the eyes of a great many to the mistakes in location heretofore made, and lead them to put out future orchards where they ought to be.

If my word of warning could reach those engaged in taking measures at Washington to prevent the spread of epidemic and infectious diseases in our stock, it would be "go slow." If the wishes of a few veterinarians are met and the demands of a raft of pauper lawyers and politicians are complied with, it will result in the creation of a half dozen commissions. Each one of them, as previous ones have done, will find sufficient reason for their continuance and reports will be made that half the live stock in the country, South and West, is either in danger from or suffering under some of the many forms of epidemic or infectious diseases—and by the way, what justice is there in putting Detmers out of the way, and clinging to Salmon and Laws, both of whom indorsed nearly every thing the former did? Beware of commissions, and above all of putting men upon them whose bread and butter is of more consequence to them than the stock interest, vast as it is.

B. F. J.

Wayside Notes.

BY A MAN OF THE PRAIRIE.

Of the 2,500,000 packages of seeds distributed by the United States Agricultural Department during last year more than 2,000,000 packages were furnished to Congressmen, and I notice that some of the papers are making unfavorable comments on the fact. Now I do not discover

anything that seems to me radically wrong in this practice of the Department of Agriculture, or rather in the instructions under which the practice prevails. There are some men, mostly seedsmen, and some publishers, mostly those interested in securing patronage through seed premiums, or which are run in the interest of seed dealers, who grumble a great deal about this matter, and who sneer at the department and derisively call it the "Government seed store." But I imagine if the public was thoroughly informed of the good the department has done by its seed distributions, it would have a great deal better opinion of this branch than it now has, and I wish Mr. Dodge, or some other efficient man, who knows all about it from the beginning would give to the country a complete history of what has been done in the way of introducing and disseminating new seeds, plants, and cuttings. I believe if the whole truth were told it would put an end to ridicule and denunciation. I am aware that there have been some things connected with this work that were not exactly correct. There may have been some helping of friends in the purchase of seeds; there may have been some noxious weed seeds sent out to the detriment of the country; Congressmen may have used their quota of seeds for the purpose of keeping themselves solid with their constituents. But, after all, it is my candid opinion the seed distributing branch of the department has been an untold blessing to the farmers of this country. As to this matter of giving a large proportion of the seeds to Congressmen, I have not much fault to find about that either, though perhaps a better system of distribution might be devised. I have yet to learn that an application to a Congressman for seed has been disregarded, if the seeds were to be had, whether that application came from a political friend or a political foe. And I do wish that farmers generally would make more frequent application to the members from their respective districts than they do. It will be money in their pockets if they will keep posted in what the department has to distribute which is valuable, or new and promising, and solicit samples either from Congressmen or direct from the Commissioner of Agriculture.

"Put your thumb down there," said an experienced orchardist to me the other day. We were talking about the recently started theory that the best bearing orchards are to be found on the low lands of the prairies. "You just wait and see if these brag orchards ever bear another crop! It will be as it was after the severe winter of 1874 and '75, when the following autumn many of our orchards bore so profusely. The succeeding year the majority of the trees were as dead as smelts, and the balance never had vigor enough afterward to produce a decent crop. Once before," said he, "we had a similar experience in Illinois. Put your thumb down at this place and watch for results. Do not say anything about this in your Wayside Blusterings, at least as coming from me," and of course I don't. But I wanted the readers of The Prairie Farmer to help me watch with fear and trembling for the fulfillment of this horticultural prophesy, so I straightway make a note of it and ask you all to "put your thumbs down here" and wait. My friend's theory is that the severe cold of last winter destroyed a large portion of the roots of these trees; that the root pruning caused the extra fruitfulness, but proved too severe for the vitality of the trees to withstand, and that next year the bulk of the trees will not leaf out at all; and further that the old theory as taught by Kennecott, Whitney, Edwards, and the rest of the "fathers," that apple trees cannot thrive with wet feet, was the correct theory then and is the correct theory now. He would still plant on high, well drained land.

My neighbor up at the "Corners" has a large flock of grade Cotswold sheep—Cotswolds crossed on large native Merinos. He keeps them to produce early lambs for the Chicago market. For the last three or four years he has received, on an average, four dollars per head for his lambs, taken at his farm. It is a profitable and pleasant sort of farming. Some day I may tell how he manages, in detail. [Pg 42]

Poultry-Raisers. Write for Your Paper.

Chicken Chat.

Let me see—it was sometime during the month of December that the "Man of the Prairie" went wandering all over the village, and even scoured the country round about the village in search of

an extra dozen eggs, and went home mad, and, man fashion, threatened to kill off every hen on the place if they didn't proceed to do their duty like hens and fellow citizens. It was also during that same December that the fifty Plymouth Rock hens that we are wintering in the barn cellar, laid, regardless of the weather, 736 eggs—an average of nearly fifteen eggs apiece.

"Is it a fact that the corn is too poor for manufacture into eggs?"

I don't know anything about the corn in your locality, but I do know that our Plymouth Rocks had whole corn for supper exactly thirty-one nights during the month of December—not Western corn, but sound, well-ripened, Northern corn, that sells in our market for twenty cents more per bushel than Western corn. I also know that hens fed through the winter on corn alone will not lay enough to pay for the corn, but in our climate the poultry-raiser may feed corn profitably fully one-half the time. When the morning feed consists of cooked vegetable and bran or shorts, and the noon meal of oats or buckwheat, the supper may be of corn. I believe the analytical fellows tell us that corn won't make eggs, and I am sure I don't know whether it will or not, and I don't much care; but I know that hens will eat corn, when they can get it, in preference to any other grain, and I know that it "stands by" better than anything else, and that it is a heat-producing grain, and consequently just the thing to feed when the days are short and the nights long, and the mercury fooling around 30 degrees below zero. Hens need something besides egg material; they must have food to keep up the body heat, and the poultry-raiser who feeds no corn in winter blunders just as badly as the one who feeds all corn.

Talking about corn for fowls reminds me that the agricultural papers are full of wails from farmers who were taken in last season on seed corn. If they had followed the plan of an old farmer of my acquaintance they would not now be obliged to mourn a corn crop cut off by frost. When this old chap went to farming forty years ago he bought a peck of seed corn of the Northern yellow flint variety, and as he "don't believe in running after all the new seeds that are advertised in the papers," he is still raising the same variety—only it ripens some three weeks earlier than it did then. Every fall he does through his field and selects his seed corn from the best of the earliest ripened ears; when these ears are husked one or two husks are left on each ear, and then the husks, with the ears attached, are braided together until there are fifteen or twenty ears in a string. These strings of seed corn are hung up in the sun for a fortnight or so, and then hung from the rafters in a cool, dry loft over the wood-shed; there it remains till seed time comes again, and it never fails to grow.

FANNY FIELD.

Business Still Running.

"My own hens closed out business six weeks ago," not long since said "Man of the Prairie." He mentioned also, that he had not much faith in pure bred poultry. Now he severely complains that no eggs can be found among the farmers nor in village stores. I will not say that pure strains of poultry are better layers than common, but, when one pays a good price for poultry, it is an incentive to provide good shelter and bestow upon them some manifestations of interest which would not be done with the common fowls. Herein may lay in part the secret of better returns from pure strains.

Years ago our chickens 'closed out business' for several months. Of late this procedure is unknown. We crossed our best common hens with Plymouth Rock stock, paying a good price. We furnished comfortable quarters, gave variety of feed, and at present writing the lady-like biddies furnish enough eggs for our own use and some to sell to stores and neighbors.

We still have a few common hens (not caring to have all pure) yet we find that with same care and attention, the purer strains give best returns.

Skeptical, like a good many others, we were loth to experiment. Thanks to Fanny Field for her wise and instructive poultry writings. In a recent number she seemed to be in doubt whether her writings were heeded or doing any one good. Let me say in behalf of myself and a few others, that a few married ladies now have pin money by following her instructions, who, before, had to go to their lords (husbands) when they wanted a little money, which was sometimes begrudgingly given, and often times not at all.

BACHELOR & MAID.
COUNCIL BLUFFS, IOWA.

The Best Hive.

In answer to many inquiries as to the best hive, we will here state that is a mere matter of choice. Many good movable frame hives are now in use, free from patents, and while we prefer the Langstroth, there may be others just as good.

Apiarists differ as to what constitutes the best hive. Novices in bee culture generally think that they can invent a better hive than any in use, but after trying their invention for awhile, conclude that they are not as wise as they thought they were. Many hives are patented yearly by persons ignorant of the nature of the honey-bee, and few, if any, are received with favor by intelligent apiarists.

The requisites for a good hive are durability, simplicity, ease of construction and of working, and pleasing to the eye. We think the Langstroth embodies these. It was invented by the father of modern bee-culture. He gave to the world the movable frame; without its use, we might as well keep our bees in hollow logs, as our fathers did. Different sizes of movable frames are now in use, but two-thirds of the apiarists prefer the Langstroth.

Upon many farms, bees may be found in salt barrels, nail-kegs, etc., doing little good for their owner, while if they were put into hives, where the surplus could be obtained in good shape, they would become a source of income. Specialists either manufacture their own hives, or buy them in the flat, in the lumber region. As the farmer may need but a few hives, he may find leisure in winter to make them.

Every farmer needs a workshop, and if he has none, should provide himself with one. It need not be large, and can be made quite inexpensively. In his barn, if it is large, partition off a room for a workshop 12 × 14 feet, and if he not be blessed with a good large barn, why a thousand feet of common boards, and a load of good stout saplings, with a little mechanical skill and some muscle, will provide a very good farm workshop.

Get a few tools, such as a saw, square, plane, hatchet, a brace, and a few bits, and before twelve months pass away you will wonder how you ever managed to do without one before; many a singletree or doubletree can be made, or broken implements repaired during leisure, or the rainy days of late winter or spring, and the boys will go there to try their hands, and develop their mechanical skill; exercising both brain and muscle. Remember that the school of industry is second to no university in the land.

Now for the hives; in the first place you need a pattern. Purchase of some dealer or manufacturer of apiarian supplies, a good Langstroth hive complete with section boxes. Then get a couple of hundred feet (more or less) of ten inch stock boards, mill dressed on both sides, then with your pattern hive, workshop, and tools, you are master of the situation. After your hives are made, don't forget to paint them; it is economy to paint hives as well as dwelling houses.

LANGSTROTH HIVE.

For the benefit of those who may not be able to obtain a pattern hive, or frame, we will give the dimensions. The sides of the Langstroth hive are 10 inches wide, by 23 inches long, the ends are 12 inches long, the back end the same width as the sides; front end, $^{3}/_{8}$ inches narrower, and recesses or sets back $3^{3}/_{8}$ inches from portico, all 7/8 inches thick. The Langstroth frame is 17¼×9¼ inches outside measure. The length of top bar of frame is 19¼ inches, the frame stuff is all $^{7}/_{8}$ wide, the top bar is $^{5}/_{8}\times^{7}/_{8}$, and is V shaped on the under side for a comb guide—the upright pieces ½×$^{7}/_{8}$, the bottom pieces ¼×$^{7}/_{8}$.

The above are the dimensions of an eight frame hive. Strips ¼×$^{7}/_{8}$ inches are nailed on the outside of the hive ¼ inch from the upper edge, and the cap or upper hive rests upon them. We make the cap $22^{1}/_{8}$ inches long by $13^{7}/_{8}$ inches wide in the clear, and ten inches high.

Some apiarists omit the porticos, but we like them, and the bees appear to enjoy them. Right angled triangle blocks, made right and left, are used to regulate the entrance. By changing the position of these blocks on the alighting board the size of the entrance may be varied, and the bees always directed to it by the shape of the block, without any loss of time in searching for it—in case of robbing the hive, the hive can be entirely closed with them. A board was formerly used to cover the frames, but is now generally abandoned, apiarists preferring duck, enameled cloth, or heavy muslin.

Mrs. L. Harrison.

No Safer Remedy can be had for Coughs and Colds, or any trouble of the Throat, than "*Brown's Bronchial Troches*." Price 25 cents. *Sold only in boxes.*

MISCELLANEOUS.

ARM & HAMMER BRAND

TO FARMERS.—It is important that the **Soda or Saleratus** they use should be *white* and *pure*, in common with all similar substances used for food.

In making bread with yeast, it is well to use about half a teaspoonful of the **"Arm and Hammer" Brand Soda** or **Saleratus** at the same time, and thus make the bread rise better and prevent it becoming sour by correcting the natural acidity of the yeast.

& SALERATUS

DAIRYMEN

AND

FARMERS

should use only the "**Arm and Hammer**" brand for cleaning and keeping milk-pans sweet and clean.

To insure obtaining only the "**Arm and Hammer**" *brand Soda or Saleratus, buy it in* "POUND *or* HALF-POUND PACKAGES," *which bear our name and trade-mark, as inferior goods are sometimes substituted for the* "**Arm and Hammer**" *brand when bought in bulk.*

"THE BEST IS THE CHEAPEST."

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THE FAMOUS EASY-RUNNING

Monarch Lightning Sawing Machine

IT BEATS THE WORLD FOR SAWING LOGS
OR FAMILY STOVE WOOD.

SENT ON 30 DAYS' TEST TRIAL.

The boy in the picture on the left is sawing up logs into 20-inch lengths, to be split into stovewood for family use. This is much the BEST and CHEAPEST way to get out your firewood, because the 20-inch blocks are VERY EASILY split up, a good deal easier and quicker than the old-fashioned way of cutting the logs into 4-feet lengths, splitting it into cordwood, and from that sawing it up with a buck saw into stovewood. We sell a large number of machines to farmers and others for just this purpose. A great many persons who had formerly burned coal have stopped that useless expense since getting our Machine. Most families have one or two boys, 16 years of age and up, who can employ their spare time in sawing up wood just as well as not. The

MONARCH LIGHTNING SAWING MACHINE

will save your paying money and board to ONE hired man and perhaps TWO men.

The boy at the right in the picture is sawing up cordwood in a buck frame. You can very easily use our machine in this way if you have cordwood on hand that you wish to saw up into suitable lengths for firewood.

A boy sixteen years old can work the machine all day and not get any more tired than he would raking hay. The machine runs **very easily**, so easily, in fact, that after giving the crank half a dozen turns, the operator may let go and the machine will run itself for **three or four revolutions**. Farmers owning standing timber cannot fail to see the many advantages of this great **labor-saving and money-saving machine**. If you prefer, you can easily go directly into the woods and easily saw the logs into 20-inch lengths for your family use, or you can saw them into 4-foot lengths, to be split into cordwood, when it can be readily hauled off to the village market. Many farmers are making a good deal of money with this Machine in employing the dull months of the year in selling cordwood.

It makes a great difference in **labor and money** both in using our machine, because you get away with a second man. It takes two men to run the old-fashioned cross-cut saw, and it makes two backs ache every day they use it. Not so with our saw.

We offer **$1,000** for a sawing machine that is **EASIER OPERATED** and **FASTER RUNNING** than ours. Every farmer should own our machine. It will pay for itself in one season. Easily operated by a sixteen-year-old boy.

Lumbermen and farmers should **GET THE BEST—GET THE CHEAPEST—GET THE MONARCH LIGHTNING SAWING MACHINE**.

E. DUTTER, Hicksville, O., writes:—It runs so easy that it is JUST FUN to saw wood.

C. A. COLE, Mexico, N. Y., writes:—With this machine I sawed off an elm log, twenty-one inches in diameter, in one minute, forty-three seconds.

Z. G. HEGE, Winston, N. C., writes:—I have shown your machine to several farmers, and all pronounce it a PERFECT SUCCESS.

WM. DILLENBACK, Dayton, Tex., writes:—I am WELL PLEASED with the MONARCH LIGHTNING SAWING MACHINE. My boys can saw WITH ALL EASE.

L. W. YOST, Seneca, Kan., writes:—I will bet $50 that I can saw as much with this machine as any two men can with the old-fashioned cross-cut saw.

T. K. BUCK, Mt. Vernon, Ill., writes:—I have given the Monarch a fair trial, and can truly say it is ALL YOU CLAIM FOR IT, a complete success, enabling a boy to do the work of two strong men, and indeed, more. I would not take $75 for the MONARCH and be deprived of the privilege of having another like it. I sawed off a twenty-inch solid water oak log twelve times yesterday in FORTY-FIVE MINUTES.

J. M. CRAWFORD. Columbia, S. C., writes:—I tried the Monarch on an oak log to-day before twenty farmers. All said it WORKED PERFECTLY.

N. B.—We are selling **SIX TIMES** as many Machines as any other firm, simply because our Machine gives perfect satisfaction. Our factory is running day and night to fill orders. Send in your order at once. The **BEST** is the **CHEAPEST**. Our agent sold four machines in one day. Another sold twenty-eight in his township. Another agent cleared **$100** in one week. **BE SURE AND MENTION THIS PAPER.**

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Scientific.

Some Gossip About Darwin.

The last number of the American Naturalist presents the following from David S. Jorden, of Bloomington, Indiana. It is one of those gossipy bits about the great scientist that every body enjoys reading.

In a recent visit to England, the writer strolled into the village of Down in Kent, and talked with some of the villagers in regard to Mr. Darwin, whose beautiful home is just outside the little town.

Some of this talk, although in itself idle and valueless, may have an interest to readers, as showing how a great man looks to his smaller neighbors.

The landlord of the "George Inn" said that "all the people wished to have Mr. Darwin buried in Down, but the government would not let them. It would have helped the place so much. It would have brought hosts of people down to see his grave. Especially it would have helped the hotel business which is pretty dull in winter time.

"Mr. Darwin was a very fine-looking man. He had a high forehead and wore a long beard. Still, if you had met him on the street, perhaps, you would not have taken much notice of him unless you knew that he was a clever man."

"Sir John Lubbock (Darwin's friend and near neighbor) is a very clever man, too, but not so clever nor so remarkable-looking as Mr. Darwin. He is very fond of hants (ants), and plants, and things."

At Keston, three miles from Down, the landlady of the Grayhound had never heard of Mr. Darwin until after his death. There was then considerable talk about his being buried in Westminster, but nothing was said of him before.

Several persons had considerable to say of Mr. Darwin's extensive and judicious charity to the poor. To Mr. Parslow, for many years his personal servant, Mr. Darwin gave a life pension of £50, and the rent of the handsome "Home Cottage" in Down. During the time of a water famine in that region, he used to ride about on horseback to see who needed water, and had it brought to them at his own expense from the stream at St. Mary's Cray.

"He was," said Mr. Parslow, "a very social, nice sort of a gentleman, very joking and jolly indeed; a good husband and a good father and a most excellent master. Even his footmen used to stay with him as long as five years. They would rather stay with him than take a higher salary somewhere else. The cook came there while young and stayed there till his death, nearly thirty years later.

"Mrs Darwin is a pleasant lady, a year older than her husband. Their boys are all jolly, nice young fellows. All have turned out so well, not one of them rackety, you know. Seven children out of the ten are now living.

"George Darwin is now a professor in Oxford. He was a barrister at first; had his wig and gown and all, but had to give it up on account of bad health. He would have made a hornament to the profession.

"Francis Darwin is a doctor, and used to work with his father in the greenhouse. He is soon to marry a lady who lectures on Botany in Oxford.

"For the first twenty years after Mr. Darwin's return from South America, his health was very bad —much more than later. He had a stomach disease which resulted from sea-sickness while on the voyage around the world. Mr. Parslow learned the watercure treatment and treated Mr. Darwin in that system, for a long time, giving much relief.

"Mr. Darwin used to do his own writing but had copyists to get his work ready for the printer. He was always an early man. He used to get up at half past six. He used to bathe and then go out for a walk all around the place. Then Parslow used to get breakfast for him before the rest of the family came down. He used to eat rapidly, then went to his study and wrote till after the rest had breakfast. Then Mrs. Darwin came in and he used to lie half an hour on the sofa, while she or someone else read to him. Then he wrote till noon, then went out for an hour to walk. He used to walk all around the place. Later in life, he had a cab, and used to ride on horseback. Then after lunch at one, he used to write awhile. Afterwards he and Mrs. Darwin used to go to the bedroom, where he lay on a sofa and often smoked a cigarette while she read to him. After this he used to walk till dinner-time at five. Before the family grew up, they used to dine early, at half-past one, and had a meat-tea at half-past six.

"Sometimes there were eighteen or twenty young Darwins of different families in the house. Four-in-hand coaches of young Darwins used sometimes to come down from London. Mr. Darwin liked children. They didn't disturb him in the least. There were sometimes twenty or thirty pairs of little shoes to be cleaned of a morning, but there were always plenty of servants to do this.

"The gardener used to bring plants into his room often of a morning, and he used to tie bits of cotton on them, and try to make them do things. He used to try all sorts of seeds. He would sow them in pots in his study.

"There were a quantity of people in Westminster Abbey when he was buried. Mr. Parslow and the cook were among the chief mourners and sat in the Jerusalem chamber. The whole church was as full of people as they could stand. There was great disappointment in Down that he was not buried there. He loved the place, and we think that he would rather have rested there had he been consulted."

MISCELLANEOUS.

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(*Syracuse Journal.*)

Something of a sensation was caused in this city yesterday by a rumor that one of our best-known citizens was about to publish a statement concerning some unusual experiences during his residence in Syracuse. How the rumor originated it is impossible to say, but a reporter immediately sought Dr. S. G. Martin, the gentleman in question, and secured the following interview:

"What about this rumor, Doctor, that you are going to make a public statement of some important matters?"

"Just about the same as you will find in all rumors—some truth; some fiction. I had contemplated making a publication of some remarkable episodes that have occurred in my life, but have not completed it as yet."

"What is the nature of it, may I inquire?"

"Why, the fact that I am a human being instead of a spirit. I have passed through one of the most wonderful ordeals that perhaps ever occurred to any man. The first intimation I had of it was several years ago, when I began to feel chilly at night and restless after retiring. Occasionally this would be varied by a soreness of the muscles and cramps in my arms and legs. I thought, as most people would think, that it was only a cold and so paid as little attention to it as possible. Shortly after this I noticed a peculiar catarrhal trouble and my throat also became inflamed. As if this were not variety enough I felt sharp pains in my chest, and a constant tendency to headache."

"Why didn't you take the matter in hand and check it right where it was?"

"Why doesn't everybody do so? Simply because they think it is only some trifling and passing disorder. These troubles did not come all at once and I thought it unmanly to heed them. I have found, though, that every physical neglect must be paid for and with large interest. Men can not draw drafts on their constitution without honoring them sometime. These minor symptoms I have described, grew until they were giants of agony. I became more nervous; had a strange fluttering of the heart, an inability to draw a long breath and an occasional numbness that was terribly suggestive of paralysis. How I could have been so blind as not to understand what this meant I can not imagine."

"And did you do nothing?"

"Yes, I traveled. In the spring of 1879 I went to Kansas and Colorado, and while in Denver, I was attacked with a mysterious hemorrage of the urinary organs and lost twenty pounds of flesh in three weeks. One day after my return I was taken with a terrible chill and at once advanced to a very severe attack of pneumonia. My left lung soon entirely filled with water and my legs and body became twice their natural size. I was obliged to sit upright in bed for several weeks in the midst of the severest agony, with my arms over my head, and constant fear of suffocation."

"And did you still make no attempt to save yourself?"

"Yes, I made frantic efforts. I tried everything that seemed to offer the least prospect of relief. I called a council of doctors and had them make an exhaustive chemical and microscopical examination of my condition. Five of the best physicians of Syracuse and several from another city said I must die!

"It seemed as though their assertion was true for my feet became cold, my mouth parched, my eyes wore a fixed glassy stare, my body was covered with a cold, clammy death sweat, and I read my fate in the anxious expressions of my family and friends."

"But the *finale*?"

"Came at last. My wife, aroused to desperation, began to administer a remedy upon her own responsibility and while I grew better very slowly, I gained ground surely until, in brief, I have no trace of the terrible Bright's disease from which I was dying, and am a perfectly well man. This may sound like a romance, but it is true, and my life, health and what I am are due to Warner's Safe Cure, which I wish was known to and used by the thousands who I believe, are suffering this minute as I was originally. Does not such an experience as this justify me in making a public statement?"

"It certainly does. But then Bright's disease is not a common complaint, doctor."

"Not common! On the contrary it is one of the most common. The trouble is, few people know they have it. It has so few marked symptoms until its final stages that a person may have it for years, each year getting more and more in its power and not suspect it. It is quite natural I should feel enthusiastic over this remedy while my wife is even more so than I am. She knows of its being used with surprising results by many ladies for their own peculiar ailments, over which it has singular power."

The statement drawn out by the above interview is amply confirmed by very many of our most prominent citizens, among them being Judge Reigel, and Col. James S. Goodrich, of the Times, while Gen. Dwight H. Bruce and Rev. Prof. W. P. Coddington, D. D., give the remedy their heartiest indorsement. In this age of wonders, surprising things are quite common, but an experience so unusual as that of Dr. Martin's and occurring here in our midst, may well cause comment and teach a lesson. It shows the necessity of guarding the slightest approach of physical disorder and by the means which has been proven the most reliable and efficient. It

shows the depth to which one can sink and yet be rescued and it proves that few people need suffer if these truths are observed.

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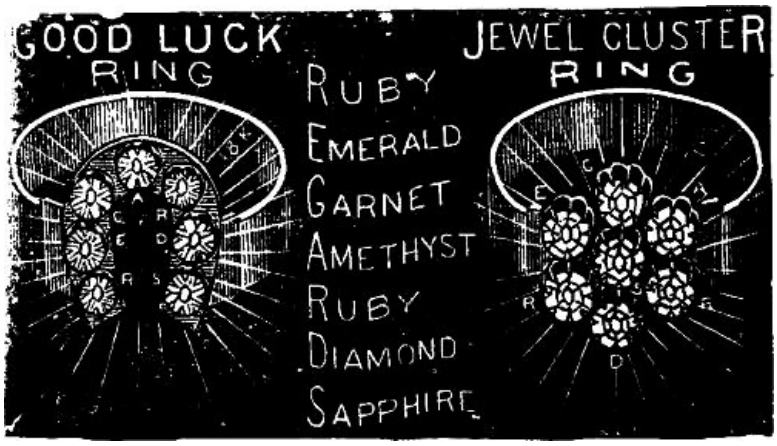

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"GOING UP HEAD."

AN OLD SOLDIER'S STORY.

The low school-house stood in a green Wabash wood
Lookin' out on long levels of corn like a sea—
A little log-house, hard benches, and we,
Big barefooted boys and rough 'uns, we stood
In line with the gals and tried to get 'head
At spellin' each day when the lessons was said.

But one, Bally Dean, tall, bony, and green
As green corn in the milk, stood fast at the foot—
Stood day after day, as if he'd been put
A soldier on guard there did poor Bally Dean.
And stupid! God made him so stupid I doubt—
But I guess God who made us knows what He's about.

He'd a long way to walk. But he wouldn't once talk
Of that, nor the chores for his mother who lay
A shakin' at home. Still, day after day
He stood at the foot till the class 'gan to mock!
Then to master he plead, "Oh I'd like to go head!"
Now it wasn't so much, but the way it was said.

Then the war struck the land! Why the barefooted band
It just nailed up that door: and the very next day,
With master for Cap'en, went marchin' away;
And Bally the butt of the whole Wabash band.
But he bore with it all, yet once firmly said,
"When I get back home, I'm agoin' up head!"

Oh, that school-house that stood in the wild Wabash wood!
The rank weeds were growin' like ghosts through the floor.
The squirrels hulled nuts on the sill of the door.
And the gals stood in groups scrapin' lint where they stood.
And we boys! How we sighed; how we sickened and died
For the days that had been, for a place at their side.

Then one fever-crazed and his better sense dazed
And dulled with heart-sickness all duty forgot;
Deserted, was taken, condemned to be shot!
And Bally Dean guardin' his comrade half crazed,
Slow paced up and down while he slept where he lay
In the tent waitin' death at the first flush of day.

And Bally Dean thought of the boy to be shot,
Of the fair girl he loved in the woods far away;
Of the true love that grew like a red rose of May;
And he stopped where he stood, and he thought and he thought
Then a sudden star fell, shootin' on overhead.
And he knew that his mother beckon'd onto the dead.

And he said what have I? Though I live though I die.
Who shall care for me now? Then the dull, muffled drum
Struck his ear, and he knew that the master had come
With the squad. And he passed in the tent with a sigh,
And the doomed lad crept forth, and the drowsy squad led

With low trailin' guns to the march of the dead.

Then with face turned away tow'rd a dim streak of day,
And his voice full of tears the poor bowed master said,
As he fell on his knees and uncovered his head:
"Come boys it is school time, let us all pray."
And we prayed. And the lad by the coffin alone
Was tearless, was silent, was still as a stone.

"In line," master said, and he stood at the head;
But he couldn't speak now. So he drew out his sword
And dropped the point low for the last fatal word.
Then the rifles rang out, and a soldier fell dead!
The master sprang forward. "Great Heaven," he said,
"It is Bally, poor Bally, and he's gone up head!"

—*Joaquin Miller.*

Too Fat To Marry.

A very fat young woman came to my office and asked to see me privately. When we were alone she said:

"Are you sure no one can overhear us?"

"Quite sure."

"You won't laugh at me, will you?"

"Madam, I should be unworthy of your confidence if I could be guilty of such a rudeness."

"Thank you, sir; but no one ever called upon you on such a ridiculous errand. You won't think me an idiot, will you?"

"I beg of you to go on."

"You don't care to know my name or residence?"

"Certainly not, if you care to conceal them."

"I have called to consult you about the strangest thing in the world. I will tell you all. I am twenty-three years old. When I was nineteen I weighed 122 pounds; now I weigh 209; I am all filling up with fat. I can hardly breathe. The best young man that ever lived loves me, and has been on the point of asking me to marry him, but of course he sees I am growing worse all the time and he don't dare venture. I can't blame him. He is the noblest man in the world, and could marry any one he chooses. I don't blame him for not wishing to unite himself to such a tub as I am. Why, Doctor, you don't know how fat I am. I am a sight to behold. And now I have come to see if any thing can be done. I know you have studied up all sorts of curious subjects, and I thought you might be able to tell me how to get rid of this dreadful curse."

She had been talking faster and faster, and with more and more feeling (after the manner of fat women, who are always emotional), until she broke down in hysterical sobs.

I inquired about her habits—table and otherwise. She replied:

"Oh, I starve myself; I don't eat enough to keep a canary bird alive, and yet I grow fatter and fatter all the time. I don't believe anything can be done for me. We all have our afflictions, and I suppose we ought to bear them with fortitude. I wouldn't mind for myself, but it's just breaking his heart; if it wasn't for him I could be reconciled."

I then explained to her our nervous system, and the bearing certain conditions of one class of nerves has upon the deposition of adipose tissue. I soon saw she was not listening, but was mourning her sorrow. Then I asked her if she would be willing to follow a prescription I might give her.

"Willing? willing?" she cried. "I would be willing to go through fire, or to have my flesh cut off with red-hot knives. There is nothing I would not be willing to endure if I could only get rid of this horrible condition."

I prepared a prescription for her, and arranged that she should call upon me once a week, that I might supervise her progress and have frequent opportunities to encourage her. The prescription which I read to her was this:

1. For breakfast eat a piece of beef or mutton as large as your hand, with a slice of white bread twice as large. For dinner the same amount of meat, or, if preferred, fish or poultry, with the same amount of farinaceous or vegetable food in the form of bread or potato. For supper, nothing.

2. Drink only when greatly annoyed with thirst; then a mouthful of lemonade without sugar.

3. Take three times a week some form of bath, in which there shall be immense perspiration. The Turkish bath is best. You must work, either in walking or some other way, several hours a day.

"But, doctor, I can't walk; my feet are sore."

"I thought that might be the case, but if the soles of your shoes are four inches broad, and are thick and strong, walking will not hurt your feet. You must walk or work until you perspire freely, every day of the week. Of course, you are in delicate health, with little endurance, but, as you have told me that you are willing to do anything, you are to work hard at something six or seven hours every day."

4. You must rise early in the morning, and retire late at night. Much sleep fattens people.

5. The terrible corset you have on, which compresses the center of the body, making you look a great deal fatter than you really are, must be taken off, and you must have a corset which any dress maker can fit to you—a corset for the lower part of the abdomen, which will raise this great mass and support it.

"This is all the advice I have to give you at present. At first you will lose half a pound a day. In the first three months you will lose from twenty to thirty pounds. In six months, forty pounds. You will constantly improve in health, get over this excessive emotion, and be much stronger. Every one knows that a very fat horse weighing 1,200 pounds, can be quickly reduced to 1,000 pounds with great improvement to activity and health. It is still easier with a human being. That you may know exactly what is being done, I wish you to be weighed; write the figures in your memorandum, and one week from now, when you come again, weigh yourself and tell me how much you have lost."

I happened to be out of the city and did not see her until her second visit, two weeks from our last meeting. It was plain when she entered that already her system was being toned up, and when we were again in my private office, she said:

"I have lost six and a half pounds; not quite as much as you told me, but I am delighted, though nearly starved. I have done exactly as you prescribed, and shall continue to if it kills me. You must be very careful not to make any mistakes, for I shall do just as you say. At first the thirst was dreadful. I thought I could not bear it. But now I have very little trouble with that."

About four months after our first meeting this young woman brought a handsome young man with her, and after a pleasant chat, she said to me:

"We are engaged; but I have told my friend that I shall not consent to become his wife until I have a decent shape. When I came to you I weighed 209 pounds; I now weigh 163 pounds. I am ten times as strong, active, and healthy as I was then, and I have made up my mind, for my friend has left it altogether to me, that when I have lost ten or fifteen pounds more, we shall send you the invitations."

As the wedding day approached she brought the figures 152 on a card, and exclaimed, with her blue eyes running over:

"I am the happiest girl in the world, and don't you think I have honestly earned it? I think I am a great deal happier than I should have been had I not worked for it."

The papers said the bride was beautiful. I thought she was, and I suppose no one but herself and husband felt as much interested in that beauty as I did. I took a sort of scientific interest in it.

We made the usual call upon them during the first month, and when, two months after the wedding, they were spending the evening with us, I asked him if his wife had told him about my relations with her avoirdupois? He laughed heartily, and replied:

"Oh, yes, she has told me everything, I suppose: but wasn't it funny?"

"Not very. I am sure you wouldn't have thought it funny if you could have heard our first interview. It was just the reverse of funny; don't you think so madam?"

"I am sure it was the most anxious visit I ever paid any one. Doctor, my good husband says he should have married me just the same, but I think he would have been a goose if he had."

"Yes," said the husband, "it was foreordained that we two should be one."

"To be sure it was," replied the happy wife, "because it was foreordained that I should get rid of those horrid fifty-seven pounds. I am going down till I reach one hundred and forty pounds, and there I will stop, unless my husband says one hundred and thirty. I am willing do anything to please him."—*Dio Lewis' Monthly.*

Ornaments for Homes.

It is not the most expensively furnished houses that are the most homelike, besides comparatively few persons have the means to gratify their love of pretty little ornaments with which to beautify

their homes. It is really painful to visit some houses; there naked walls and cheerless rooms meet you yet there are many such, and children in them too. How much might these homes be brightened by careful forethought in making some little ornaments that are really of no expense, save the time.

Comb cases, card receivers, letter holders, match safes, paper racks, cornucopias, and many other pretty and useful things can easily be made of nice clean paste board boxes (and the boxes are to be found in a variety of colors). For any of these cut out the parts and nicely sew them together, and the seams and raw edges can be covered with narrow strips of bright hued paper or tape. Ornament them with transfer or scrap pictures.

I have seen very pretty vases for holding dried flowers and grasses, made of plain dark brown pasteboard, and the seams neatly covered with narrow strips of paper. Pretty ottomans can be made by covering any suitable sized box with a bit of carpeting, and stuffing the top with straw or cotton. Or, if the carpeting is not convenient, piece a covering of worsteds. A log cabin would be a pretty pattern.

To amuse the children during the long winter months, make a scrap-book of pictures. Collect all the old illustrated books, papers, and magazines, and cut out the pictures and with mucilage nicely paste them in a book, first removing alternate leaves so it will not be too bulky. Perhaps this last remark is slightly wandering from my subject, but I can't help it, I love the little folks and want them happy. Cares and trouble will come to them soon enough. Autograph albums are quite the rage nowadays, and children get the idea and quite naturally think it pretty nice, and want an album too. For them make a pretty album in the form of a boot. For the outside use plain red cardboard; for the inside leaves use unruled paper; fasten at the top with two tiny bows of narrow blue ribbon. A lady sent my little girl an autograph album after this pattern for a birthday present and it is very neat indeed. Any of the little folks who want a pattern of it can have it and welcome by sending stamp to pay postage. For the wee little girl make a nice rag doll; it will please her quite as well as a boughten one, and certainly last much longer. I have a good pattern for a doll which you may also have if you wish it. A nice receptacle for pins, needles, thread, etc., can be made in form of an easy chair or sofa. Cut the part of pasteboard and cover the seat, arms, and back with cloth, and stuff with cotton. Brackets made of pasteboard will do service a long time.

MRS. F. A. WARNER
SOUTH SAGINAW, MICH.

RAILROADS.

WHO IS UNACQUAINTED WITH THE GEOGRAPHY OF THIS COUNTRY WILL SEE BY EXAMINING THIS MAP THAT THE

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Chat About a Bear.

As I promised you last week, I will try and tell you about the bear I saw a few months ago away down in Nova Scotia, not many miles from that quaint old city of Halifax. Do I hear some of THE PRAIRIE FARMER boys and girls exclaim, as a real grown-up lady did just before I left Chicago: "Halifax! why, yes, I have heard tell of the place, but did not think that anybody ever really went there." People do go there, however, by the hundreds in the summer time, and a most delightful, hospitable, charming class of inhabitants do they find the Blue Noses, as they are called—that is, when one goes to them very well introduced.

But we will have a little talk about Halifax and surroundings when you have heard about the bear.

Well, in the first place I did not, of course, see the bear in the city, but in a place called Sackville—a section of country about five miles long, and extending over hill and dale and valley; through woods and across streams. My host owned a beautiful farm—picturesquely beautiful only, not with a money-making beauty—situated upon the slope of a hill, where one could stand and look upon the most tender of melting sunsets, away off toward the broad old ocean.

One morning as we were all gathered upon the front stoop, grandpa, mamma, baby, kitten and all, we looked down the valley and saw coming up the hill, led by two men, an immense yellow bear. One of the farm hands was sent to call the men and the bear up to the house. The men, who were Swiss, were glad enough to come, as they were taking bruin through the country to show off his tricks and make thereby a little money.

The children were somewhat afraid at first, but soon felt quite safe when they saw he was firmly secured by a rope. Old bruin's keeper first gave him a drink of water, then poured a pailful over him, which he seemed to enjoy very much, as the day was a warm one. One of the men said something in Swiss, at which the bear gave a roar-like grunt and commenced to dance. Around and around the great lumbering fellow went on his two hind legs, holding his fore paws in the air. It was not what one would call a very "airy waltz," however. Again the keeper spoke, and immediately bruin threw himself upon the ground and turned somersaults, making us all laugh heartily. He then told him to shake hands (but all in Swiss), and it was too funny to see the great awkward animal waddle up on his hind legs and extend first one paw and then the other. But what interested us all most, both big and little, was to hear the man say, "Kisse me," and then to watch the bear throw out his long tongue and lick his keeper's face.

We then gave the bear some milk to drink, when suddenly he gave a bound forward toward the baby. But he was securely tied, as we well knew. The milk roused all the beast's savage instincts, one of the men said.

But what will interest you most of all will be the fact that on the farm (which consisted of five hundred acres, nearly all woodland) there were seen almost every morning the footprints of a real savage bear. The sheep were fast disappearing, and the farmers about were not a little worried. One day I went for a walk into these same woods, and such woods! you Western boys and girls could not possibly imagine them—the old moss-covered logs, and immense trees cut down years ago and left to lie there until all overgrown with mosses and lichens. I never before experienced such a feeling of solitude as in that walk of over a mile in length through those deep dark woods, where sometimes we had literally to cut our way through with our little hatchets (we always carried them with us when in the forest).

As I sauntered on, those lines of Longfellow's in Evangeline, came unconsciously to my mind, so exactly did they describe the place:

> This is the forest primeval. The murmuring pines and the hemlocks,
> Bearded with moss, and in garments green, indistinct in the twilight,
> Stand like Druids of old, with voices sad and prophetic.
> Stand like harpers hoar, with beards that rest on their bosoms.

Loud from its rocky caverns, the deep voiced neighboring ocean
Speaks, and in accents disconsolate answers the wail of the forest.

Nova Scotia is, as you all know the Acadian country of which our own fireside poet writes so beautifully. It was but a few miles from where I was visiting that the scene of Evangeline, that exquisitely tender romance which so thrills the hearts of both old and young, was laid. As I drove through the country, coming ever and anon unexpectedly upon one of the many beautiful lakes from half a mile to two miles in length, in fancy I pictured the fair Evangeline and her guide, the good Father Felician, skirting these lakes in a light canoe as they traversed the whole and through in the sad and fruitless search for the lost lover Gabriel.

No wonder the soul of the poet was filled with such strange, mystic beauty which thus found expression in rhythm and song, for Acadia has an enchantment all its own and can best be interpreted by the diviner thought of the poet.

But I am afraid, boys and girls, that I have chatted with you so long now that there will be scarcely room this week to touch upon Halifax. But, however, if you wish, I will try and talk to you about it next week, and tell you of some of the winter sports the little Blue Noses indulge in in the winter time.

MARY HOWE.

A Fairy Story by Little Johnny.

Me an Billy we ben readn fairy tales, an I never see such woppers. I bet the feller wich rote em will be burnt every tiny little bit up wen he dies, but Billy says they are all true but the facks. Uncle Ned sed cude I tell one, and I ast him wot about, and he sed: "Wel Johnny, as you got to do the tellin I'le leav the choice of subjeck entirely to you; jest giv us some thing about a little boy that went and sook his forten."

So I sed: "One time there was a little boy went out for to seek his forten, and first thing he see was great big yello posy on a punkin vine."

Then Uncle Ned he sed: "Johnny, was that the punkin vine wich your bed once had a bizness connection with?" But I didn't anser, only went on with the story.

"So the little boy he wocked into the posy, and crold down the vine on his hands and kanees bout ten thousan hundred miles, till he come bime bi to a door, wich he opened an went in an found hisself in a grate big house, ofle nice like a kings pallows or a hotell. But the little boy dident find any body to home and went out a other door, where he see a ocion with a bote, and he got in the bote."

Then Uncle Ned he sed a uther time: "Johnny, excuse the ignance of a man wich has been in Injy an evry were, but is it the regular thing for punkin vines to have sea side resorts in em?"

But I only sed: "Wen the little boy had saild out of site of land the bote it sunk, and he went down, down, down in the water, like he was tied around the neck of a mill stone, till he was swollowed by a wale, cos wales is the largest of created beings wich plows the deep, but lions is the king of beests, an the American eagle can lick ol other birds, hooray! Wen the boy was a seekn his forten in the stummeck of the wales belly he cut to a fence, an wen he had got over the fence he found hisself in a rode runin thru a medder, and it was a ofle nice country fur as he cude see."

"Uncle Ned sed: "Did he put up at the same way side inn wich was patternized by Jonah wen he pennitrated to that part of the morl vinyerd?"

But I said: "Bimebi he seen a rope hangin down from the ski, and he begin for to clime it up, a sayin, 'Snitchety, snatchety, up I go,' 'wot time is it old witch?' 'niggers as good as a white man,' 'fee-faw-fum,' 'Chinese mus go,' 'all men is equil fore de law,' 'blitherum, blatherum, boo,' and all the words of madgick wich he cude think of. After a wile it got reel dark, but he kep on a climeing, and pretty sune he see a round spot of dalite over his hed, and then he cum up out of a well in a grate city."

Jest then my father he came in, and he said: "Johnny, you get the bucket and go to the wel and fetch sum water for your mother to wash the potatoes."

But I said it was Billy's tern, and Billy he sed twasent no sech thing, and I said he lide, and he hit me on the snoot of my nose, and we fot a fite, but victery percht upon the banners of my father, cos he had a stick. Then wile me and Billy was crying Uncle Ned he spoke up and begun: "One time there was a grate North American fairy taler—"

But I jest fetched Mose a kick, wich is the cat, and went out and pitcht into Sammy Doppy, which licked me reel mean.

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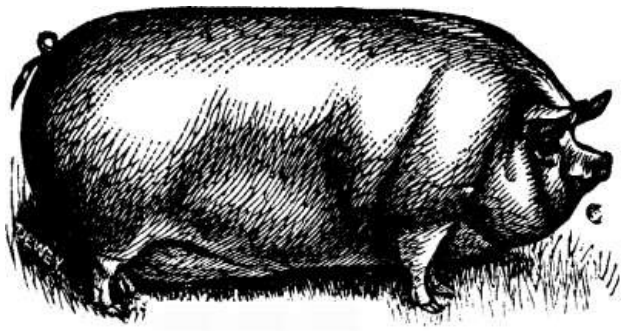

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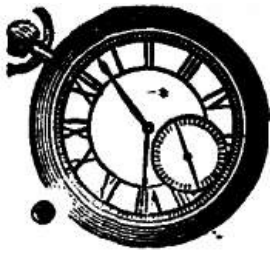

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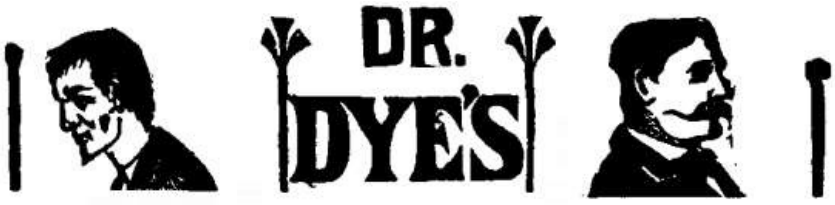

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FOR THOSE WHO FAIL.

"All honor to him who shall win the prize,"
The world has cried for a thousand years,
But to him who tries and who fails and dies
I give great honor and glory and tears.

Give glory and honor and pitiful tears
To all who fail in their deeds sublime,
Their ghosts are many in the van of years,
They were born with Time in advance of Time.

Oh, great is the hero who wins a name,
But greater many and many a time
Some pale-faced fellow who dies in shame
And lets God finish the thought sublime.

And great is the man with a sword undrawn,
And good is the man who refrains from wine;
But the man who fails and yet still fights on,
Lo, he is the twin-born brother of mine.

—Joaquin Miller.

A SINGULAR PHILOSOPHER.

Hon. Henry Cavendish was born in England, Oct. 10, 1731, and died Feb. 21, 1810. Cavendish was the son of Lord Charles Cavendish, a son of the Duke of Devonshire; and his mother was Lady Anne Grey, daughter of Henry, Duke of Kent. It is thus seen that the subject of this sketch belonged to two of the two most aristocratic, noble families in England, having for grandfathers the Dukes of Kent and Devonshire. This man, who became one of the most distinguished chemists and physicists of the age, born in high life, of exalted position and wealth, passed through the period of his boyhood and early manhood in utter obscurity, and a dense cloud rests upon his early life. Indeed, the place of his birth has been in dispute; some of his biographers asserting that he was born in England, others that he was born in France or Italy. It is now known that he was born at Nice, whither his mother had gone for the sake of health.

It seems incredible that one highly distinguished, who lived and died so recently, should have almost entirely escaped observation until he had reached middle life. From fragments of his early history which have been collected, we learn that he was a peculiar boy,—shy, reticent, fond of solitary walks, without playfellows, and utterly insensible to the attractions of home and social life. He was born with inflexible reserve; and the love of retirement so manifest in in later life mastered all his instincts even when a boy. If he had been of poor and obscure parentage, it would not seem so strange that one who for nearly fifty years was a Fellow of the Royal Society, and for a lengthened period a member of the Institute of France, and an object of European interest to men of science, had no one to record the incidents of his early life. But he lost his mother when almost an infant, and this sad event probably influenced greatly his early career, and isolated him from the world in which he lived.

We find him at Dr. Newcome's school at Hackney in 1742, and from this school he went directly to Cambridge, where he remained until 1753. He did not graduate, true to his odd instincts, although he spent the full period for a degree at Cambridge. No records of his college life have been preserved, and, as he went to London, it is wonderful that the next ten years of his life remain a blank. He joined the Royal Society in 1760, but contributed nothing until 1766, when he published his first paper on "Factitious Airs." Cavendish was a great mathematician, electrician, astronomer, meteorologist, and as a chemist he was equally learned and original. He lived at a time when science was to a large extent but blank empiricism; even the philosophy of combustion was based on erroneous and absurd hypotheses, and the speculation of experimenters were wild and fantastic. He was the first to submit these speculations to crucial tests, to careful and accurate experiment; and the results which were given to the world introduced a new era in scientific knowledge. We have so much to say regarding the man, that we can only present a brief outline of his great discoveries. Alone, in a spacious house on Clapham Common, outside of London, did this singular man work through many long years, until he filled it with every possible device capable of unfolding or illustrating principles in science.

At the time of a visit to London in 1856 this famous house was standing, and remained as it was when the owner left it, about a half century before. The exterior of the house would not attract special attention; but within, the whole world could not, perhaps, furnish a parallel. Anvils and forges, files and hammers, grindstones and tempering-troughs, furnaces and huge bellows, had converted the panelled and wall-frescoed drawing-room into the shop of a blacksmith. In the spacious dining-room chemical apparatus occupied the place of furniture. Electrical machines, Leyden-jars, eudiometers, thermometric scales, philosophical instruments, were distributed through the chambers. The third story, save two bed-chambers,—one for the housekeeper, the other for the footman,—had been fitted up for an observatory. The lenses and achromatic glasses, tubes and specula, concave mirrors, and object-prisms, and the huge, rough old telescope, peering through the roof, were still there as their owner had left them. All appliances of housekeeping were absent, and Cavendish House was destitute of all comforts, for which the owner had no taste.

In this house Cavendish lived for nearly half a century, totally isolated from the world and all human sympathies. He seldom or never visited relatives, and they were never guests at his house. He had several servants, all of whom were males, with one exception. He was shy of women, and did not like to have them come in his way. If he saw his female servant in any of the rooms, he would order her away instantly, or fly himself to other quarters. Rarely, during all the years of his solitary life, did a woman cross his threshold; and, when one did, he would run from her as if she brought the plague. His servants were all trained to silence, and in giving his orders the fewest words possible were used. His meals were served irregularly, whenever in the intervals of absorbing labors, he could snatch a fragment of time. He uniformly dined upon one kind of meat,—a joint of mutton; and he seemed to have no knowledge that there were other kinds in the market.

Upon one occasion he had invited a few scientific friends to dinner at Cavendish House, and when his servant asked him what he should provide, "A leg of mutton!" said Cavendish. "It will hardly be enough," said the servant. "Well, then get two." "Anything else, sir?" "Yes, get four legs of mutton."

His dress was peculiar,—a snuff-colored coat reaching to his knees, a long vest of the same color, buff breeches, and a three-cornered hat. With him the fashion never changed; he had but one suit; not an extra coat, hat, or even two handkerchiefs. When his wardrobe gave out, and he was forced to see his tailor, he became very nervous. He would walk the room in agony, give orders to have the tailor sent for, and then immediately countermand the same. His shoes for fifty years were of one pattern; and when he took them off they were put in one place behind a door, and woe to the servant who accidentally displaced them. He hung his old three-cornered hat on one

peg at his house, and when he attended the meetings of the Royal Society he had a peg in the hall known as "Cavendish's peg." If, through accident, it was taken by some member before his arrival, he would stop, look at the occupied peg, and then turn on his heel, and go back to his house. When he went to the meetings, he walked in the middle of the street, never on the sidewalk; and he invariably took the same route. Upon reaching the steps leading to the rooms, he would stop, hesitate, put his hand on the door-handle, and look about timidly, and sometimes return at a rapid pace.

His cane, which he carried for fifty years, he placed upright in his left boot, which he took off at the door, covering his foot with a slipper. Once inside the rooms of the Royal Society, and surrounded by the most distinguished men of England and the world, he became excessively shy, and read his wonderful papers in an awkward manner. Applause of any kind he could not bear; and if in conversation any one praised his researches or papers, he would turn away abruptly, as if highly indignant. If he was appealed to as authority upon any point, he would dart away, and perhaps quit the hall for the evening. This man of great genius and vast acquirements was incapable of understanding or enduring praise or flattery. He sought in every possible way to escape recognition or notice, listened attentively to conversation, but seldom asked questions; never spoke of himself, or of what he had accomplished in the world of science.

Cavendish was a man possessed of vast wealth, and, when he died, he was the richest bank-owner in all England.

"At the age of forty, a large accession came to his fortune. His income already exceeded his expenditure. Pecuniary transactions were his aversion. Other matters occupied his attention. The legacy was therefore paid in to his bankers. It was safe there, and he gave it no more heed. One of the firm sought to see him at Clapham. In answer to the inquiries of the footman as to his Business, the banker replied to see Mr. Cavendish personally. 'You must wait, then,' responded the servant, 'till he rings his bell.' The banker tarried for hours, when the long-expected bell rang. His name was announced. 'What does he want?' the master was heard to ask. 'A personal interview.' 'Send him up.' The banker appeared.

"'I am come, sir, to ascertain your views concerning a sum of two hundred thousand pounds placed to your account.'

"'Does it inconvenience you?' asked the philosopher. 'If so, transfer it elsewhere.'

"'Inconvenience, sir? By no means,' replied the banker. 'But pardon me for suggesting that it is too large a sum to remain unproductive. Would you not like to invest it?'

"'Invest it? Eh? Yes, if you will. Do as you like, but don't interrupt me about such things again. I have other matters to think about.'"

With all his wealth it never occurred to him that others were in need, and that he might do good by benefactions. Solicited on one occasion to contribute to a charitable object, he exclaimed, "Give, eh! What do you want? How much?" "Give whatever you please, sir," said the solicitor. "Well, then, will ten thousand pounds do?"

On another occasion he was forced, from circumstances, to attend a christening in a church; and, when it was intimated to him that it was customary to bestow some little present upon the attending nurse, he ran up to her, and poured into her lap a double handful of gold coins, and hastily departed. This was the only occasion on which he was known to cross the threshold of a church. Cavendish died possessed of five million dollars of property, and yet at no time had he the slightest knowledge of how much he had, and how it was invested. He despised money, and made as little use of it as possible.

As regards matters of religion, he never troubled himself about them. He would never talk upon the subject, and probably never gave it a thought. All days of the week were alike to him: he was as busy on Sunday as on any other day. When asked by a friend what his views were of God, he replied, "Don't ask me such questions: I never think of them."

The circumstances of Cavendish's death are as remarkable as his career in life.

"Without premitory disease or sickness, or withdrawal from daily duties, or decadence of mental powers, or physical disability, he made up his mind that he was about to die. Closing his telescopes, putting his achromatic glasses in their several grooves, locking the doors of his laboratories, destroying the papers he deemed useless, and arranging those corrected for publication, he ascended to his sleeping-apartment and rang his bell. A servant appeared.

"'Edgar,' said Cavendish, addressing him by name, 'listen! Have I ever commanded you to do an unreasonable thing?'

"The man heard the question without astonishment, for he knew his master's eccentricities, and replied in the negative.

"'And that being the case,' continued the old man, 'I believe I have a right to be obeyed.'

"The domestic bowed his assent.

"'I shall now give you my last command,' Cavendish went on to say, 'I am going to die. I shall, upon your departure, lock my room. Here let me be alone for eight hours. Tell no one. Let no person come near. When the time has passed, come and see if I am dead. If so, let Lord George

Cavendish know. This is my last command. Now, go.'

"The servant knew from long experience that to dispute his master's will would be useless. He bowed, therefore, and turned to go away.

"'Stay—one word!' added Cavendish. 'Repeat exactly the order I have given.'

"Edgar repeated the order, promised obedience once more, and retired from the chamber."

The servant did not keep his promise, but called to his master's bedside Sir Everard Home, a distinguished physician.

"Sir Everard inquired if he felt ill.

"'I am not ill,' replied Cavendish; 'but I am about to die. Don't you think a man of eighty has lived long enough? Why am I disturbed? I had matters to arrange. Give me a glass of water.'

"The glass of water was handed to him; he drank it, turned on his back, closed his eyes, and died.

"This end of a great man, improbable as are some of the incidents narrated, is no fiction of imagination. Sir Everard Home's statement, read before the Royal Institution, corroborates every particular. The mental constitution of the philosopher, puzzling enough during his life, was [Pg 47] shrouded certainly in even greater mystery in his death."

It is as a chemist that Cavendish stands preeminent. Without instructors, without companionship, in the solitary rooms of his dwelling, he meditated and experimented. The result of his researches he communicated in papers read to the Royal Society, and these are quite numerous. He was the first to demonstrate the nature of atmospheric air and also of water. He was the discoverer of nitrogen and several gaseous bodies. He did much to overthrow the phlogiston theory, which was universally accepted in his time; and his researches upon arsenic were of the highest importance. There is scarcely any department of chemistry which he did not enrich by his discoveries. He was a close student of electrical phenomena, and made many discoveries in this department of research. He was also an astronomer and observed the heavens with his telescopes with the deepest interest. Some of his most important discoveries were unknown until after his death, as they were hidden in papers, which, for some reason, he would not publish.

The life of this singular man was morally a blank, and can only be described by negations. He did not love; he did not hate; he did not hope; he did not worship. He separated himself from his fellow-men and from his God. There was nothing earnest, enthusiastic, heroic, in his nature, and as little that was mean, groveling, or ignoble. He was passionless, wholly destitute of emotion. Everything that required the exercise of fancy, imagination, faith, or affection, was distasteful to Cavendish. He had a clear head for thinking, a pair of eyes for observing, hands for experimenting and recording, and these were all. His brain was a calculating engine; his eyes, inlets of vision, not fountains of tears; his heart, an anatomical organ necessary for the circulation of the blood. If such a man can not be loved, he can not be abhorred or despised. He was as the Almighty made him, and he served an important end in the world.

Such a man manifestly would never sit for his portrait. And he never did. It was taken by Borrow the painter, unobserved by Cavendish, while at a dinner-party given for the express purpose of securing the likeness. It is now in the British Museum. Cuts of this painting are rare.—*Popular Science News.*

SEEDS, Etc.

THE DONKEY'S DREAM.

A donkey laid him down to sleep,
And as he slept and snored full deep,
He was observed (strange sight) to weep,
As if in anguished mood.

A gentle mule that lay near by,
The donkey roused, and, with a sigh,
In kindly voice inquired why
Those tears he did exude.

The donkey, while he trembled o'er
And dropped cold sweat from every pore,
Made answer in a fearful roar:
"*I dreamed I was a dude!*"

TOM TYPO.

Tom Typo was a printer good,
A merry, cheerful elf;
And whatsoever care he had,
He still "composed" himself.

Where duty called him he was found
Still working in his place;
But nothing tempted from his post—
Which really was the "case."

He courted pretty Emma Grey,
One of earth's living gems—
The sweetest Em, he used to say,
Among a thousand "ems."

So "chased" was Emma's love for Tom,
It met admiring eyes;
She "proved" a "copy" to her sex.
And wanted no "revise."

And Tom, he kept his "pages" clear
And grew to be a "type"
Of all that manhood holds most dear,
When he with age was ripe.

He made his last "impression" here
While yet his heart was warm,
Just in the "nick" closed his career,
And death "locked up his form."

He sank into his final rest
Without one sigh or moan;
His latest words—"Above my breast

Place no 'imposing stone.'"

Courtship of a Vassar Girl.

The parents and the old relatives are chatting over their darling's future. Meanwhile the fiances have escaped into the back parlor.

Virginia—Where are you leading me to, John?

John—I wish to tell you, while others forget us, how happy I am to marry you—you, so winning, so witty, the gem of Vassar College.

Virginia—Oh! how many compliments to a poor graduate who only won the premium of rhetoric, and was second best in geometry.

John—I love you, and worship you just as you are.

V.—Oh, my friend, how anaphorical, and especially how epanaletical.

J.—I don't understand.

V.—I mean that you repeat yourself. It is the custom of lovers to abuse of the gorgiaques figures from the very protasis and exordium.

J.—I love you because you are accomplished and perfect.

V.—Did I not know you, I should think that you favored asteisin and ethossoia.

J. (Somewhat abashed.)—Ah! do you see * * *

V.—Why this aposiopesis?

J.—Aposiopesis!

V.—This reticence?

J.—That is clearer. I acknowledge that the expressions you use annoy and trouble me.

V.—You, on your side, speak a language stamped with schematism, while to be correct, even in making love, your language should be discursive. Allow me to tell you so frankly.

J.—Anyhow, you do not doubt my love?

V.—I pardon this epitrope, but pray use less metaphor and more litotes in the prosopography you dedicate to my modest entity—

J.—What will you? Men love women; I am a man; therefore, I love you.

V.—Your syllogism is perfect in its premises, but the conclusion is false.

J.—Oh! you are a cruel angel!

V.—I like that catachresis, but once again I repeat, I am practical, and prefer synedoche.

J. [Very much perplexed.]—Will you continue the conversation in the garden?

V.—Yes. (They go into the garden.) Look, here is a very lovely parallelogram of green surrounded by petasites. Let us sit under those maritamboues will you?

J.—Willingly! Ah! here I am happy! My heart fills with joy; it seems to me it contains the universe.

V.—You are speaking pure Spinozism.

J.—When I think that you will be my wife, and I your husband! What will be our destiny!

V.—The equation being given you are looking for the unknown quantity. Like you, I shall await the co-efficient.

J. (Who is determined to follow out his own thoughts)—With the world of constellations above us, and nature surrounding us, admire with me those orbs sending us their pure light. Look up there at that star.

V.—It is Allioth, neighbor to the polar star. They are nearing the cosmical moment, and if we remain here a few moments longer the occultation will take place.

J. (Resignedly.)—And there those thousands of stars.

V.—It is the galaxy. Admire also the syzygy of those orbs.

J. (Exhausted.)—And the moon; do you see the moon?

V.—It is at its zenith; it will be at its nadir in fifteen days, unless there are any occultations in the movements of that satellite.

J.—How happy I am!

(They go indoors.)

The owner of a soap factory, who had been complained of for maintaining a nuisance, was terribly put out at the charge and explained to the court: "Your honor, the odors complained of can not exist!" "But here are twenty complaints." "Yes, but I have worked in my factory for the last fifteen years, and I'll take my oath I can not detect any smells." "As a rule, prisoner," replied the judge, as he sharpened his spectacles on his bootleg, "the best noses are on the outside of soap factories. You are fined $25 and costs." Moral: Where a soap factory and a school-house are at loggerheads the school should be removed.

MEDICAL.

For all forms of **Female Difficulties** it is unsurpassed by anything before invented, both as a curative agent and as a source of power and vitalization.

Price of either Belt with Magnetic Insoles, $10, sent by express C.O.D., and examination allowed, or by mail on receipt of price. In ordering send measure of waist, and size of shoe. Remittance can be made in currency, sent in letter at our risk.

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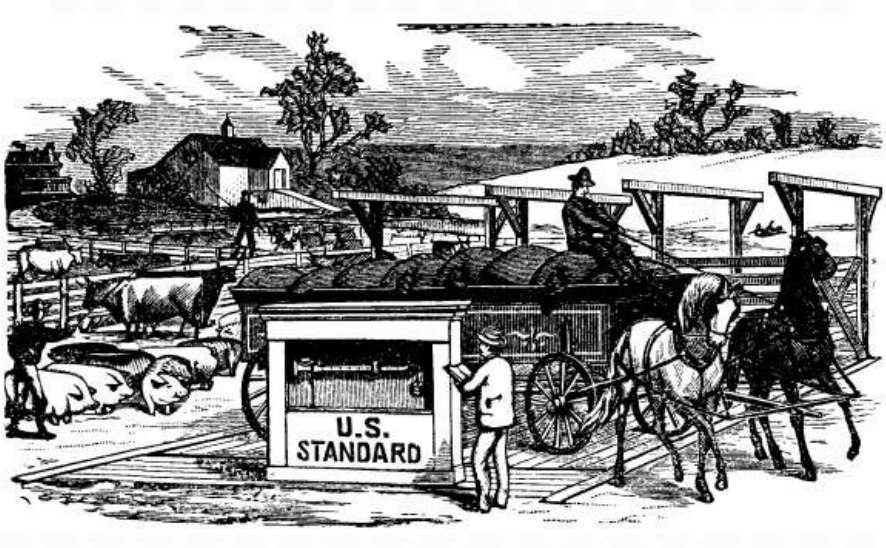
The PRAIRIE FARMER Sent Two Years Free

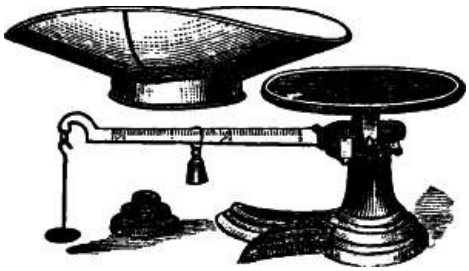
To any person ordering either size Wagon Scale at prices given below.



2-Ton Wagon or Farm Scale (Platform 6×12 feet), $35; 3-Ton (7×13), $45; 5-Ton (8×14), $55. Beam Box, Brass Beam, Iron Levers, Steel Bearings, and full directions for setting up.

The Prairie Farmer Sent 1 Year Free!

To any person ordering either of the following Scales, at prices named below.



The Housekeeper's Scale—$4.00

Weighing accurately from 1-4 oz. to 25 lbs. This is also a valuable Scale for Offices for Weighing Mail Matter. Tin Scoop, 50c. extra; Brass 75c. extra.

The Family Scale—$7.00.

Weighs from 1-4 oz. to 240 lbs. Small articles weighed in Scoop, large ones on Platform. Size of Platform, 10½×13½ in.

The Prairie Farmer Scale—
$10.00

Weighs from 2 oz. to 320 lbs. Size of Platform 14×19 inches. A convenient Scale for Small Farmers, Dairymen, etc.

Platform Scales—4 Sizes.

400 lbs., $15; 600 lbs., $20; 900 lbs., $24; 1,200 lbs., $28; Wheels and Axles, $2 Extra.

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MISCELLANEOUS

ESTABLISHED 1845.

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{104, 106, 108 & 110 Michigan St.

GENERAL NEWS.

THE State tax of Florida this year is but three mills.

HOG cholera is again raging in Champaign county, Ill.

A CAT show is to be held in New York, beginning on the 23d inst.

ICE harvesters along the Hudson river are on a strike for higher wages.

THE Ohio river is rapidly rising from the melting of heavy bodies of snow.

SEVERAL heavy failures among grain dealers of New York occurred last week.

SENATOR ANTHONY is unable to attend to the duties as President pro tem of the Senate.

THE glucose works at Buffalo N. Y., have been removed to Peoria, Ill., and Levenworth, Kansas.

On Friday last one murderer was hung in Virginia, another in South Carolina, and still another in California.

A very heavy snow storm prevailed in Western and Northern N. Y., last week. It also extended to New England.

The State Senate of Texas has passed a bill giving the public domain, except homesteads to actual settlers, to the public schools.

There were over four thousand suicides in Paris last year, which is attributed to the tremendous pace at which the people live in France.

The starch-sugar industry of the country consumes forty thousand bushels of corn per day, and the product is valued at about $10,000,000 per year.

In attempting to slaughter a flock of prairie chickens near Fort Sill, a party of eight hunters grew so careless that three of their number were badly wounded.

The employes in three of the nail-mills at Wareham, Mass., struck, Saturday, against reducing their wages ten per cent. The nailers and puddlers of Plymouth also struck.

Canada is raising a standing army of 1,200 men to serve for three years. The full number applied at the recruiting office in Montreal, where the quota was only one hundred.

The Grand Orient of France has issued an appeal to all the lodges of freemasons in the world asking a renewal of unity between the Grand Orient and all other branches of the masonic rite.

The situation in Tonquin effectually ties the hands of France. The announcement of the blocking of Canton harbor is the only important event of the week in the Franco-Chinese struggle.

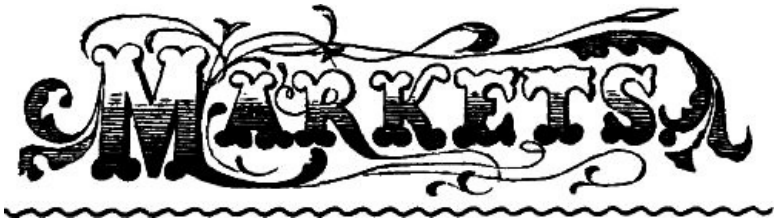
Dr. Tanner, the famous faster, is practicing medicine in Jamestown, N. Y. The physicians of that city have made a fruitless attempt to secure his indictment by the grand jury as an illegal practitioner.

The French press are advocating an organized effort against the prohibition of the importation of American pork. The prohibition, it is estimated, will cost the French ports 100,000,000 francs, and deprive the working people, besides, of cheap and wholesome food.

Articles of incorporation were filed at Springfield, Saturday, for the building of a railroad from a point within five miles of the northeast corner of Cook county to a point in Rock Island county, on the Mississippi, opposite Muscatine, Iowa. The capital is $3,000,000, and among the incorporators are Joseph R. Reynolds, Edgar Terhune Holden, and Josiah Browne, of Chicago.

CONGRESSIONAL.

Senator Edmunds has again been chosen president pro tem of the Senate. Mr. Anthony, of Rhode Island, declares himself too ill to perform the duties of the position. On Monday nearly 500 bills were introduced into the House. The total number of bills introduced and referred since the session began, reaches nearly 4,000. There are many important measures among them, while there are more that are of somewhat doubtful import, especially those which look to a still further increase of the pension appropriations. There are bills for the regulation of banks and banking; several new bankruptcy acts; one reducing the fees on patents as follows: The fee upon filing original application for a patent is reduced from $15 to $5. The minimum fees for a design patent shall be $5 instead of $10 and the minimum term for which granted shall be five instead of three and a half years; a bill to reorganize the infantry branch of the army; for reorganizing and increasing the navy; several to revise the tariff; to look after the forfeiture of land grants; to restrict importation of foreign adulterated goods; to stamp out contagious diseases of animals; to establish a department of commerce; to repeal the act prohibiting ex-confederate officers from serving in the United States army; to relieve Fitz John Porter, and hundreds of bills for the relief or benefit of individuals in different parts of the country. There are also bills for the regulation of transportation companies and for the establishment of a system of government telegraph. As yet no appropriation bills have been reported and the Ways and Means committee has but recently organized into subcommittees and has not begun the consideration of any subject. There is already business enough before this Congress to keep it in continuous session for years.



FINANCIAL AND COMMERCIAL.

OFFICE OF THE PRAIRIE FARMER,
CHICAGO. Jan 15, 1884.

There is an increased financial activity over last week. Bankers, on Monday, felt quite certain of a brisk week and were correspondingly cheerful. Interest rates are unchanged, being 6 and 7 per cent.

Eastern exchange sold between banks at 60@70c per $1,000 premium, and closed firm.

There is no change in Government securities.

The New York stock market was weak, and it is reported that the New York millionaires such as Gould, Vanderbilt, Sage, etc., have suffered to the extent of several millions each by the late general shrinkage in the value of stocks. Nevertheless, it is in such times as these that the Vanderbilts of the country reap their richest harvests. They have money to buy depressed stock with, and when the wheel turns their investments again add to their wealth. The little fellows have to sacrifice all their cash and then go to the wall.

Government securities are as follows:

4's coupons, 1907	Q. Apr.	123¼
4's reg., 1907	Q. Apr.	123¼
4½'s coupon, 1891	Q. Mar.	114 1/8
4½'s registered, 1891	Q. Mar.	114 1/8
3's registered	Q. Mar.	100

GRAIN AND PROVISIONS.

There was more of a speculative feeling in the Chicago grain and provision markets yesterday than for some time. There was something of a recovery from the panicky feeling of Saturday, when the bulls had complete charge of the prices, but there was no advance.

FLOUR was unchanged, the article not yet feeling the uncertain condition of the wheat market.

Choice to favorite white winters	$5 25@5 50
Fair to good brands of white winters	4 75@5 00
Good to choice red winters	5 00@5 50
Prime to choice springs	4 75@5 00
Good to choice export stock, in sacks, extras	4 25@4 50
Good to choice export stock, double extras	4 50@4 65
Fair to good Minnesota springs	4 50@4 75
Choice to fancy Minnesota springs	5 25@5 75
Patent springs	6 00@6 50
Low grades	2 25@3 50

WHEAT.—Red winter, No. 2, 97@99c; car lots of spring. No. 2, sold at 89@90½c; No. 3, do. 84½ @85c.

CORN.—Moderately active. Car lots No 2, 53@53 7/8c; rejected, 46½; new mixed, 49c.

OATS.—No. 2 in store, closed 32½@32¾.

RYE.—May, in store 58@58½.

BARLEY.—No. 2, 59 in store; No. 3, 52½c.

FLAX.—Closed at $1 45 on track.

TIMOTHY.—$1 28@1 35 per bushel. Little doing.

CLOVER.—Quiet at $6 15@6 35 for prime.

PROVISIONS.—Mess pork, February, $14 75@ 14 78 per bbl; Green hams, 9½c per lb. Short ribs, $7 47½ per cwt.

LARD.—January, $9 20; February, $9 75.

LUMBER.

Lumber unchanged. Quotations for green are as follows:

Short dimension, per M	$ 9 50@10 00
Long dimension, per M	10 00@11 50
Boards and strips, No. 2	11 00@13 00
Boards and strips, medium	13 00@16 00
Boards and strips, No. 1 choice	16 00@20 00
Shingles, standard	2 10@ 2 20

Shingles, choice	2 25@ 2 30
Shingles, extra	2 40@ 2 60
Lath	1 65@ 1 70

COUNTRY PRODUCE.

NOTE.—The quotations for the articles named in the following list are generally for commission lots of goods and from first hands. While our prices are based as near as may be on the landing or wholesale rates, allowance must be made for selections and the sorting up for store distribution.

BEANS.—Hand picked mediums $2 00@2 10. Hand picked navies, $2 15@2 20.

BUTTER.—Dull and without change. Choice to extra creamery, 32@35c per lb.; fair to good do 25@32c; fair to choice dairy, 23@28c; common to choice packing stock fresh and sweet, 18@22c; ladle packed 10@13c; fresh made, streaked butter, 9@11c.

BRAN.—Quoted at $11 87½@13 50 per ton; extra choice $13.

BROOM-CORN—Good to choice hurl 6½@7½c per lb; green self-working 5@6c; red-tipped and pale do 4@5c; inside and covers 3@4c; common short corn 2½@3½c; crooked, and damaged, 2@4c, according to quality.

CHEESE.—Choice full-cream cheddars 13@13½c per lb; medium quality do 9@10c; good to prime full cream flats 13@13¾c; skimmed cheddars 9@10c; good skimmed flats 6@7c; hard-skimmed and common stock 3@4c.

EGGS.—In a small way the best brands are quotable at 25@26c per dozen; 20@23c for good ice house stock; 18@19c per pickled.

HAY.—No 1 timothy $10@10 50 per ton; No 2 do $8 50@9 50; mixed do $7@8; upland prairie $8 00@10 75; No 1 prairie $6@7; No 2 do $4 50@5 50. Small bales sell at 25@50c per ton more than large bales.

HIDES AND PELTS.—Green-cured light hides 8¼c per lb; do heavy cows 8c; No 2 damaged green-salted hides 6c; green-salted calf 12@12½ cents; green-salted bull 6 c; dry-salted hides 11 cents; No. 2 two-thirds price; No. 1 dry flint 14@14½c. Sheep pelts salable at 28@32c for the estimated amount of wash wool on each pelt. All branded and scratched hides are discounted 15 per cent from the price of No. 1.

HOPS.—Prime to choice New York State hops 25@26c per lb; Pacific coast of 23@26c; fair to good Wisconsin 15@20c.

POULTRY.—Prices for good to choice dry picked and unfrozen lots are: Turkeys 13@14c per lb; chickens 9@10c; ducks 12@13c; geese 9@11c. Thin, undesirable, and frozen stock 2@3c per lb less than these figures; live offerings nominal.

POTATOES.—Good to choice 37@40c per bu. on track; common to fair 30@35c. Illinois sweet potatoes range at $3 50@4 per bbl for yellow. Baltimore stock at $2 25@2 75, and Jerseys at $5. Red are dull and nominal.

TALLOW AND GREASE.—No 1 country tallow 7@7¼c per lb; No 2 do 6¼@6½c. Prime white grease 6@6½c; yellow 5¼@5¾c; brown 4½@5.

VEGETABLES.—Cabbage, $8@12 per 100; celery, 25@35c per doz bunches; onions, $1 00@1 25 per bbl for yellow, and $1 for red; turnips, $1 35@1 50 per bbl for rutabagas, and $1 00 for white flat.

WOOL.—from store range as follows for bright wools from Wisconsin, Illinois, Michigan, Indiana, and Eastern Iowa—dark Western lots generally ranging at 1@2c per lb. less.

Coarse and dingy tub	25@30
Good medium tub	31@34
Unwashed bucks' fleeces	14@15
Fine unwashed heavy fleeces	18@22
Fine light unwashed heavy fleeces	22@23
Coarse unwashed fleeces	21@22
Low medium unwashed fleeces	24@25
Fine medium unwashed fleeces	26@27
Fine washed fleeces	32@33
Coarse washed fleeces	26@28
Low medium washed fleeces	30@32
Fine medium washed fleeces	34@35
Colorado and Territory wools range as follows:	
Lowest grades	14@16
Low medium	18@22
Medium	22@26

Fine	16@24
Wools from New Mexico:	
Lowest grades	14@16
Part improved	16@17
Best improved	19@23

Burry from 2c to 10c off: black 2c to 5c off.

LIVE STOCK MARKETS.

The total receipts and shipments for last week were as follows:

	Received.	Shipped.
Cattle	38,913	18,801
Calves	216	37
Hogs	169,076	42,205
Sheep	24,595	14,225

CATTLE.—Notwithstanding a reported advance in England, cattle did not improve in prices over Saturday. Indeed, there was a decline of a few cents per hundred. The supplies were large and the quality inferior. Indeed few really fat cattle came in during the week. Eastern markets were reported as over stocked. Shippers and dressed meat operators bought rather freely of common lots. We may quote as follows:

Fancy fat cattle	$7 00@ 7 25
Choice to prime steers	6 25@ 6 85
Fair to good shipping steers	5 60@ 6 20
Common to medium steers	4 65@ 5 55
Butcher's steers	4 50@ 5 00
Cows and bulls, common to good	3 25@ 4 50
Inferior cows and bulls	2 30@ 3 20
Stockers	3 50@ 4 50
Feeders	4 25@ 4 75
Milch cows, per head	25 00@55 00
Veal calves, per 100 lbs.	4 00@ 7 25

HOGS.-There were fair receipts on Saturday and Monday—an aggregate of 21,000 head or some 7,000 more than for the same days last week. As city packers are at work again, the market was quite active. They bought about 15,000 head, and shippers took nearly all that were left. Prices advanced from 5 to 10 cents. It may be said in general that the quality of the hogs now coming in is poor. Heavy lots were sold at $5 15@6 25; light hogs brought $5@5 60. Skips and culls $3 25@5.

Note.—All sales of hogs are made subject to a shrinkage of 40 lbs for piggy sows and 80 lbs for stags. Dead hogs sell for 1½c per lb for weights of 200 and over and [Transcriber's Note: blank in original] for weights of less than 100 lbs.

SHEEP.—The supply was sufficient to meet the demand, though considerably less than on Monday of last week. Really choice animals were scarce. Shippers and butchers bought freely. Common lots were dull, bringing $5 25@5 50, while fancy lots sold at $5.75@6. Very inferior sheep sold at $2 50.

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