

FARMER'S ADVOCATE

AND HOME MAGAZINE.

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The Farmer's Advocate

—AND—
HOME MAGAZINE.
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Condensed farmers advertisements of agricultural implements, seeds, stock or farms for sale, or farms to let, not to exceed four lines, 50c., prepaid.

Advertising accounts rendered quarterly.

Advertisements, to secure insertion and required space, should be in by 20th of each month.

Letters enclosing remittances, &c., only acknowledged when specially requested. Our correspondence is very heavy and must be abridged as much as possible.

On the Wing.

Immediately on the completion of the May number of the ADVOCATE, we took flight to ARKANSAS.

Many enquire of us about the lands in our Dominion and in different parts of the States, and as Arkansas appears to be drawing much attention at the present time and some extremely flattering accounts of that State have been sent to Canada by Canadians, we wished to pay a personal visit to enable us to form a more correct opinion than we could obtain from hearing or reading accounts, as no one can form as correct an idea by reading as by personal examination.

Col T. B. Mills, of Little Rock, gave us an invitation last year, but we could not previously spare time to accept it.

We left our office in the evening; slept from Detroit to Chicago, and took the morning train for St. Louis, via Alton. On this line a dining car is attached at breakfast, dinner and supper time, and run about thirty miles each time, allowing all who choose to get a good meal for 75 cts., without any detention (note 1).

At St. Louis (note 2) we took the Iron Mountain R. R. for Little Rock, the capital of the State, said to contain 20,000 inhabitants. We staid one day at Poplar Bluff (note 3). From Little Rock (note 4) we took the Fort Smith & Little Rock R. R., and returned (note 5), to Cherokee, in the Indian Territory; then to the Grand Prairie (note 6). The farthest southern point we visited was Hot Springs (note 7). We traveled by rail, boat, horse-cars, wagons, carriages, and by mules and mustangs, nearly 3,000 miles.

Notes numbered in this article will be more fully referred to in future numbers, as they would monopolize too much space. The States of Missouri, Illinois, Michigan, Texas and the Indian Territory will also receive attention.

This we think the finest trip we have ever taken on this continent. The weather was most favorable, neither too hot nor too cold. We only saw one man we thought the worse for liquor; no beggars asked for donations, and we heard neither oath nor blasphemy. We walked and rode up mountains, some 300, some 600 ft. high. We saw no one sick except those going to Hot Springs from other States or those at the Springs, in the process of being cured or hoping to be. Roses perfumed our way even on the mountain side, and on the vast level prairie in Little Rock the masses of roses and honeysuckles were astonishing. The perfume from these, with the fragrance from the flowers of the most beautiful of all ornamental trees—the Magnolia—filled the air with the most delightful odors, such as no chemical preparations can equal. We found nothing to equal it in the gardens of London, England, or Paris, or in any on this continent.

The western portion of the State of Arkansas rises to such an altitude that the nights are always cold, and one requires a slight covering. The southern portion is hotter, and the heat in mid-day would be oppressive to those unaccustomed to it; but white men, when acclimated, work throughout the whole day about as well as the negroes. This State is semi-tropical, and is claimed by its inhabitants to be the healthiest State in the Union. We saw aged white men, over eighty, healthy and vigorous, who hardly knew what sickness was. When new settlers live on the low, rich bottom lands, on the prairie, or on the wood lands that are apt to overflow, they are pretty sure to have fevers and agues in the latter part of the summer, until they become acclimated, if great precaution is not taken; with care, a person might live surrounded with malaria and not be affected, but no one takes that care. Agues and fevers will prevail in all new settlements to a greater or less degree.

The soil and timber in many places are excellent; peaches are to be seen growing at nearly every shanty; grape vines are seen in many places running from the top of one tree to another, and hanging in beautiful festoons down from limbs of trees nearly a hundred feet high.

Cotton and corn were the principal crops we saw growing; many pieces of wheat were seen, but it will not compare with the crops of wheat we raise in Canada. In some parts of the State tobacco is extensively planted. Agriculture appears to be carried on in the most shiftless, careless manner; the wood on the land is seldom cleared off, as with us; the underbrush is merely cut away, the larger trees girdled to deaden them, the corn and cotton is cultivated among the trees, and the ground is only scratched over in the roughest manner; the mule and cultivator do the principal work of tillage. On the prairie large herds of cattle are running; the prairies in this State have a beautiful appearance, being interspersed with belts and spots of timber. Quails are to be seen on the mountains, in the woods and on the prairies; turkeys, prairie hens and deer were not seen by us, this being the

close season, and they avoid the haunts of men when breeding. Rabbits are numerous. We saw a few harmless snakes; rattlesnakes are sometimes found, but they get out of man's way when they can do so. We found no inconvenience from flies or any other insects or vermin; later in the season such things become more troublesome.

We found the inhabitants most hospitable and kind, and felt no more fear or dread from knife, pistol, Indian or negro than in our country. The negroes on the bottom lands shine like polished boots; the negroes in Canada look as if they had been white-washed, in comparison with those in Arkansas. We think it all moonshine about their becoming extinct, judging from the large numbers of young darkies to be seen around the shanties; one would be inclined to think that they produce by ovation, their numbers are so great. They appeared to be happy and contented, and are settling down to work as well as when in bondage. Many of them dress stylish, and hold offices of high position.

We met several Canadians and Englishmen; they were as well satisfied as settlers are here, and had no desire to leave; in fact, some could not be induced to return. Canada in that country is looked on as a place stricken with small-pox in summer and frozen corpses in winter.

The war news is closely watched and a strong pro-Russian feeling prevails; among the best informed, however, a strong and growing admiration of Great Britain is to be found, but these expressions dare not be uttered by any politicians or stump speakers, or their chance for election to any office would be ruined. Office-seekers are more numerous there than with us, and this is one of the greatest curses to this continent; we have enough in Canada. Striving to obtain positions that will give unearned and undeserved wealth is what has caused repudiation and tends to cause State and national bankruptcy. The franchise is too low, and men of straw get power, who have nothing to lose and are reckless in expenditure.

Arkansas is called the State of roses. Our visit was made in May, and we saw it in its rosiest condition; everything was pleasing and pleasant to us, and for any one in Canada desiring a pleasant trip for health or pleasure, we would recommend them to go to Hot Springs and call at Little Rock, St. Louis, Chicago, etc., etc. You will see something worth remembering. We would not advise our readers who are on good farms or in good circumstances in Canada to think of selling their possessions to go west or south before first going and examining for themselves. There are many going. One day when we were at Little Rock eight Canadians came there to view the country; 8,000 acres were purchased the same day by some Germans for a Lutheran colony. Many Canadians have already purchased land; one of our M. P.'s, Mr. Oliver, of Oxford, has purchased 2,000 acres in Grand Prairie.

Despite the many advantages, Arkansas has some disadvantages, the greatest of which, as it appeared to us, is the lack of the Union Jack floating o'er its capital. If that flag should ever wave there, and it never will unless the inhabitants of the States become more enlightened—and that light is now plain to some already there—their laws would be better administered. The laws of the State are good, but there is a laxity in the administration of them; there is a lack of a higher tone of honor and justice. Even the State purposes repudiation, and the inhabitants think, or try to think, it is right. With such an example, what will they not tolerate for money? There are many millions of acres of good land that we believe British farmers would save from floods and would make most valuable; but the credit of the State and of the country is not such as to be able to raise sufficient funds to bring the land into proper tith. Grass does not grow either on the high or low lands with the density or vigor that it does in Canada or in Europe. In many places there are immense valueless hills to pass before obtaining good land. The long continued summer of nine months takes the vim and pluck out of the inhabitants, and tends to make them shiftless.

Schools are far apart and meeting houses sparsely attended, where they have any. The meat in the market is of a very poor quality; vegetables are scarce and dear, fish of poor quality, and fruit not as plentiful or as cheap as it should be.

The prices charged to travelers in the Western and Southern States are higher than in any other part of the world in which we have traveled, taking the accommodation into consideration; for instance, we often paid 75 cts. and \$1 for a meal of dishes, with not as good food as we could get at a dozen farmers' hotels in this city for 25 cts.; beds from 50 cts. to \$2.50; a cup of chickory coffee, 15 cts., not half as good as we have had in London, England, for 2 cts.; for a transfer ticket from one station to another 50 cts. is charged at Chicago and St. Louis, and the distance is under one mile; it is more than double what it should be, but companies make monopolies and charge extortionately.

Poor, penniless whites, or what they term "white trash," are not wanted. Colored labor is cheap. No one should think of taking a family there before examining and selecting a location or business.

All who go to the West or South will not be satisfied. There is some good land and a large quantity that is worthless. Never think of purchasing land in any State without personal inspection. There are millions of acres in Pennsylvania; also in Missouri, Arkansas and Texas that are not worth one cent an acre for agricultural purposes, and we doubt if they ever will be. Deeds of good land are sometimes given that are not worth the paper they are drawn on.

The Month.

The weather during the past month has been very favorable for the winter wheat. A few frosts have checked its luxuriant growth very materially. The present prospect indicates the best wheat crop ever harvested in Canada.

Growers of small fruits complain bitterly of the damage done to strawberries, currants, cherries, &c. The injury to these is more than counterbalanced by the good effect on the wheat. We have heard of one man that turned his stock on his wheat immediately after the frost; but we do not consider that man's head level. Timothy, clover and barley may have been touched on undrained lands; but to a good farmer, that has his land in good tith and well drained, the frost has not done any perceptible injury, while on undrained

and poorly-cultivated farms some injury may have been done.

We hope there may be a large crop of apples, despite the quantities destroyed.

The Provincial Exhibition Directors of Toronto had promised to furnish the necessary accommodation this year; but the inhabitants have voted against giving the necessary money, thus there is a deadlock. Whether the Exhibition may go begging, or whether Toronto will make some arrangement contrary to the voice of the people, remains to be seen. Torontonians consider that bankruptcy is inevitable unless the constant demands for cash are stopped.

You will now be agitated about the elections. In selecting a candidate, take a farmer, if you can find one, with ability and independence of character that cannot be bought to sell you. We have too many offices and office seekers, and too high salaries are paid to half of them. Our country and credit are safer in the hands of men that have wealth, honestly gained, than in the hands of poverty-stricken legislatures. They must beg, steal or starve, and must be only tools. A higher standard of wealth and a higher rate for franchise should be inaugurated. The poor hungry office seekers of the United States have already destroyed confidence in many of the States, and bankruptcy is rife. We should in time try to avoid the rocks of danger, and copy England more closely. Debts incurred should be promptly paid. This system of white washing defaulters is wrong. They should be compelled to disgorge every cent—no gift to any person or to an heir should at any time be legal, to defraud creditors of their just dues. There are far too many living in luxury in our country that have not obtained their money honestly.

Hay cured in cocks is much better than that cured by the sun. There is less danger from wasting or burning if this plan is adopted, and less danger of the hay being destroyed by heavy rains.

Now is the proper time to destroy the ticks on the ewes and lambs. It takes less wash than when the wool is long.

If you have any vacant ground, and want more feed, Hungarian or Millet may be found profitable. Or, if for fall feed, Rape will be found beneficial. Every good farmer should have a piece of Rape. Cattle, sheep and hogs will fatten on it as fast as on grain, and at a tenth part of the cost. Sow a piece somewhere, even if after you take off your pea or barley crop.

Hay Making.

Experienced farmers are well aware of the superior value of hay that has been cut when the grass is in its prime, and well saved; the bright green color, but little paler than before it was laid down in the swath, and the sweet fragrance it retains in the mow and the manger bear testimony to its excellence. But many farmers are sadly in need of that best instructor—experience, and the consequence is we often see hay fed to stock that is only fit for litter. Hay that has ripened its seed is less nutritious than straw that has been cut when the grain is still not too ripe. Canadian farmers can have hay for their stock fully as good as any saved in England. There the moisture of the climate that is so favorable to the growth of grass, renders it often very difficult to save and have hay in prime condition. Here the hay making season is all that we can desire, and yet with regard to the quality of the hay, the English is unquestionably the best, having been mown and saved in the proper season, and hence more nutritious.

The only reason given by those who defer mow-

ing till the grass is fully ripe is that by so doing they can have a greater quantity of hay—more tons to the acre; but the greater quantity is dearly purchased by the inferior quality. Were the bulk of hay increased even one-tenth, we must bear in mind that bulk does not necessarily imply nutrition, and that there would be less flesh-forming and fattening qualities in the increased quantity of dry over ripe hay than in the less quantity mown and saved in the proper season and manner.

We need hardly give one word of caution against cutting too early. This is an extreme people are not apt to fall into, but such a mistake might possibly be made, and would entail no little loss. Not only would the quantity, when being mown, be less, but the shrinkage would be much greater. As with grain, there is a proper state of maturity in which it should be reaped, and there would be a loss in cutting earlier or later, so is it with grass. When grass has attained its full growth and not yet hardened, then is it in its prime and ready for the mowing machine. It is very important that when this state of growth has been arrived at the grass be cut and saved with as little delay as possible. This state is indicated by the wilting of the blossom, just having passed its greatest perfection, and the seed almost fully formed, and the ripening of the most forward grains having only just commenced. There is no other time in the whole life of the plant in which it so abounds in saccharine juices as now. The object is to preserve those juices. They, and not the woody fibre into which the matured grass would soon be converted, are the true flesh and fat formers in feeding, and their presence is indicated by the bright color and sweet flavor of the hay.

The Canadian farmer can with less labor make hay of prime quality than the farmers of other countries. The soil and climate are well adapted to the growth of some of the most valuable grasses, though not giving so heavy a yield as countries having a more humid climate; and here the great labor often required in hay making is unknown. A few hours or days see it safe from the mowing machine in the rick or mow. But this, too, has its evils. The grass is often too much exposed to the sun; hay is often dried in a day, thereby evaporating too much of the saccharine juice, when it should be dried by turning and scattering, with less exposure to sun. One day's tedding in our ordinary hay-making weather will dry hay sufficiently to be put into cocks, where it should remain till it sweats a little, instead of being carried to the barn from the swaths, as is too often done.

Successful Treatment of Worn-Out Land—Sheep, Clover, Gypsum.

It is, if we may judge from general observation, much easier to impoverish land than to renovate it when run out. Despite manure and good cultivation, land has a tendency to lose its virgin fertility by continual crop-bearing. As plant food becomes exhausted the produce from well-cultivated fields becomes in proportion less. How much more is this the case when the land is compelled year after year to bear crops of wheat or other scourging crops, till at last exhausted of every atom that would give any return, it is no longer worth the labor.

In Britain the impoverishment of the soil from cropping is in a measure counteracted by the incessant application of fertilizers, by the feeding of stock, more especially sheep, and by a suitable rotation of crops. In America the more general custom is, when land has been exhausted, to leave it so, and seek fresh land. By reason of the an-

nual breaking of fresh soils the constant decline in the yield of older wheat fields is counteracted. The farmer of the Eastern and Northern States emigrates to the West.

A Michigan farmer, in a letter to the *N. Y. Tribune*, relates his experience in the successful treatment of worn-out land—a good, practical lesson for many. He bought a farm of 160 acres that had been given up and abandoned by its owner. Ninety acres of it had been called cleared, and some of it run over for fifteen years. His first study was to restore the land to a productive condition. Barn-yard manure could not be procured in sufficient quantities, but he had learned by experience the value in farming of land-plaster and clover on land such as his farm, and he expected that the profits from their use would be as great as he had known them to be. He had great difficulties to contend with. He was in debt, and on a worn-out farm; farm fences and farm houses wretched, and without money to purchase seed and other necessities; but he was not discouraged.

Having introduced the writer to our readers, we give the remainder of his experience as he tells it himself in the *Tribune* :—

The first year I worked as much of the land as I could with one team. As might have been and was expected, my crops were poor. But I succeeded in getting a few acres well caught to clover; on this I sowed the next spring about fifty barrels of plaster per acre, and a finer growth of clover I have seldom seen; of course I was encouraged, and began to see my way clear.

Field No. 1 was plowed in June for wheat, was kept clean by cultivation, and sown about September 15; yield 15 bushels per acre; it was seeded to clover in the spring. In the spring after the wheat, it was plastered and mowed twice during the season. The first sowing gave 1½ tons of hay, the next about 2 tons. The two years following the field was pastured, being plastered each year. It was then planted to corn, and the yield was 60 bushels per acre of ears. The corn was cut up at the roots, and placed in large shocks. The ground was then plowed and sowed to wheat; the yield was 25 bushels per acre.

Field No. 2 was in wheat when I came on the place; the yield was about 10 bushels per acre. The next spring it was sown to oats, with clover seed; the summer being very dry, the oats only turned 20 bushels per acre, and the clover did not catch well. The clover proved to be so thin that it was left the next year to go to seed on the ground. The next spring the clover came up as thick as it could grow, and having been plastered early, afforded a very great amount of feed. The next year it was left for seed, and 3 bushels per acre were taken off. It was then fall-plowed, and the next spring planted to corn. Plaster was sown on it broadcast in July; the yield was something over 100 bushels per acre of ears. Wheat was sown after the corn in this field, the same as in No. 1, but the yield was only 14 bushels per acre, as it was badly struck with rust.

Field No. 3 seemed hopelessly barren; this was the field that I offered to a neighbor to raise buckwheat on, but he only plowed the best part of it, so I did not get it seeded that year. The field was fallowed the next year, and sown to wheat in August; the yield was 8 bushels per acre. Clover seed was sown on the wheat in the spring, and a good catch obtained. The two following years the field was pastured, it being well plastered each year. It was then re-sowed for hay one year. The next year it was fallowed, plowed in June, kept clean by cultivator and sheep (we never plow but once for wheat), until sowing time. It was sown broadcast about the 15th of September, a boy following and sowing 75 pounds of plaster per acre. That was the handsomest field of wheat I ever raised, and averaged over 40 bushels per acre. I will not follow the fields separately any farther, but will state that they were all treated in about the same way, with like results.

There were some discouragements, of course; we cannot expect success always to attend us in anything. One year a hail storm reduced a fine crop of wheat to twelve bushels per acre; another year the midge cut down the yield to fifteen bushels per acre, when it should have been twenty-five; but the general tendency was to better crops each succeeding year. After the midge came we changed the rotation somewhat, and instead of sowing

wheat after corn, we left the ground for barley, to be followed by wheat, so that the rotation now is corn, barley, wheat, clover. We generally leave a field in clover two or three years; the first year it is mowed early for hay, then it is left for seed. The next year it is mowed again for hay, pastured the remainder of the season, then planted the next spring to corn. We plaster everything except wheat; formerly we plastered wheat in the fall with the best results, but of late it has caused too large a growth of straw. We do not plaster it now unless it shows, as it sometimes does, a sickly color in the fall; then a dressing of plaster, or plaster and ashes, proves very beneficial. The greatest trouble we have with wheat now is in the too large growth of straw, making expensive harvesting without increasing the yield. For a number of years past our average yield per acre has been twenty bushels, some years running up to thirty. Other crops have been proportionately good. All the other farms in the neighborhood have been improved proportionately; this whole region is now a fine farming country. No greater change was ever wrought in the agriculture of any country than has been wrought in this region. The most effective agents in producing this great change are clover and plaster; without them it would have been impossible to have brought this land up to its present state of productiveness.

Hungarian Grass.

As the cattle of the country increase in number it is evident that the quantity of winter feed must also increase, and also as the quality of our live stock is improved so must our winter provender increase in quantity, as well as improve in quality. Well-bred stock must be well fed to be profitable. If we have not a certainty that our hay crop will be amply sufficient for our winter stock we should prepare to add to it at once. Those who have not grown Hungarian Grass can have no idea how much fodder can be grown to the acre from this very valuable crop. No farmer should be without it or its kindred millet, of which it is a variety. For soiling, it will in the short season of its growth, yield two or even three heavy cuttings. For hay, it should be cut just before the seeds begin to form; if left later, it will become dry and hard, and have lost much of its nutrition in quality, but if cut green the hay is eaten greedily by farm stock. The present month (June) is the best time to soil it, though it is sometimes sown as late as the middle of July. The ground for it should be well cultivated; and the richer the soil the heavier the crop. From two pecks to a bushel of seed is usually sown. Sow evenly, harrow it in well and roll it. Rolling is the more necessary as it is sown in the dry season. In two months from the time it is sown you may have it saved as hay—in less time often. It may succeed an early soiling crop—fall rye, or oats and peas, so that there may be two well-paying crops in the same season. Hungarian Grass may be suffered to mature so that the seed may be saved, but by so doing the fodder is so much deteriorated as to be more worthless than ordinary straw, and if the farmers' object be to have fodder for his cattle, his aim should be to have it of good quality, regardless of the seed. Hungarian Grass and all the cultivated varieties of millet bears seed that, if saved for the purpose, would make a very nice flour, and for this it is used in some countries; but the object of the grower is the flour, not the fodder, and the nutrition that would be had in well saved hay has been taken from it by the maturing and ripening of the seed.

Though the crop seemed from its great bulk impoverishing, the ground for soiling or early cutting for hay is very heavy. The soil is not as much impoverished by it as might be supposed. Any crop, cereal or other, does not when cut, before being matured scourge the land as it would if permitted to ripen the seed.

Coal Ashes Applied to Fruit Trees.

Of our early recollections of gardening, one of the earliest was the application of coal ashes to the strawberry border. It was said to keep down the growth of weeds and to add to the productiveness of the crop, while improving the flavor of the berries. Coal ashes are generally looked upon as a nuisance about a place, quite useless for any purpose unless it be to raise some low spot that might otherwise be a pool of stagnant water. But they are greatly undervalued. Their value is not, as has been said, only that of the wood ashes among them from the wood used to set them on fire. We have for some years applied them as a mulch to our small fruits, and had very profitable results. We have had a very heavy crop of currants, black, red and white, large currants, ripening early and of very fine flavor, though there was a general failure of currants in the neighborhood. So was it also with the Houghton Seedling. We could not spare much coal ashes for our strawberries, but the little we used in dressing them proved their value. This season, in addition to top-dressing our borders of small fruit, we applied a liberal dressing of coal ashes to the surface around our plum trees. They are not as good a fertilizer as wood ashes, but we are so fully convinced of their value in the garden that we are careful to have them carefully preserved. A correspondent of the *Prairie Farmer* has applied to his vines coal ashes as a remedy for grape-rot. He had for years been experimenting to prevent the rot, but unsuccessfully till he tried the coal ashes. The treatment that has succeeded he thus describes: It was simply by scraping away the top soil from about the roots of the vines, and spreading upon them about a bushel of coal ashes (with which considerable wood had been burned). This was done in May, and the foliage received more or less dusting during the operation. The result was that the vines were entirely free from rot and mildew. Among several hundred bearing Concord vines treated in different ways, those only that had been so treated were free from rot. All others had few ripe grapes unaffected. This remedy needs to be further tried before we can place entire reliance on it. We hope grape growers will try the experiment.

The Advantage of Cultivating the Soil in Summer.

Soil cultivated regularly and frequently will cost the farmer nothing for weeding. This is one item of profit. The judicious saving of expense is clear gain. The frequent stirring of the soil effectually destroys such weeds as are annuals. Uprooted when they germinate, the tender germ perishes, and, hardy as many of them are, the injury to the germs is certain death to them. The roots of other weeds are also checked in their growth, if not killed. The general drouth of our Canadian climate makes the killing of weeds by the frequent stirring of the soil certain and comparatively easy work.

This continued disturbance of the roots destroys them, although by the same cultivation the soil is kept moister than it would otherwise be, and the growing crops are nourished, care being taken not to disturb their roots. During the driest weather it is most necessary that the cultivation between the rows of drilled crops be continuous, as the more you stir the soil during drouth the more moisture the growing crop imbibes. The freshly turned soil possesses the property of attracting the dew during the night; the dew rests heavy on it, while undisturbed soil around receives little benefit from it, and this dew sinks into the soil and nourishes the thirsting roots. Soils of every

variety are better for this frequent stirring, but on none are good effects so easily discerned as on the lighter soils. Morning and evening the horse and cultivator should be kept going between the drills. The weeds may have been utterly destroyed and the soil may seem loose and mellow, but the stirring of the soil should continue. Ammonia, a necessary element of plant food, is conveyed to the earth in the dew, so that the nutriment from the atmosphere is supplied in greater abundance to the plants growing in the soil that is well fitted to profit by it by the hand of the diligent.

Another great object in the cultivation of the soil is to make it so loose as to afford free access to the air heated by the sun's rays, an absolute requirement for growing plants. Heat and moisture, as is well known, are the great stimulants of civilization, and they are thoroughly incorporated with the soil by continuous summer cultivation more than by any other means.

Our Roads.

Farmers living on bad roads cannot avail themselves of good markets, and they thus lose in two ways: 1st, by inability to sell at the proper time; 2nd, by the expenditure of time and labor in teaming. We extract the following from the *Monetary Times*, which is deserving of consideration:—

"There can be no question that the common roads have suffered comparative neglect, the more so because the railway system has undergone great development. The municipal votes in aid of railway construction have lessened the fund available for the improvement of common roads; and the concentration of public attention on the benefits which might be expected from railways has contributed to the neglect from which the roads whereon the farmers' wagons travel have suffered.

The state of these roads during the past winter is an admonition to farmers to bestir themselves to improve them.

Statute labor is no doubt languid, careless and inefficient; but objections to commuting it into a money payment would probably be thick enough. Could not this labor be better directed and made more efficient? And, if so, might it not be greatly extended? Could not the use of farmers' teams as well as of men be got? The latter could be used to haul stone at a season of the year when there is little to do on the farm. Until all the principle roads in the country are well covered with stone the farmer will be under a great disadvantage in not being able to get his produce to market except under favor of the capricious weather which he can in no way control. In England many macadamized roads have been made in this way; each farmer, according to his means, being required to haul so many loads of gravel or other road-making material. Few persons in this country have yet ventured to dream of covering all the principal roads with stone or gravel; but it is a measure to which county councils should vigorously apply themselves.

A Dangerous Nuisance.

Tramps are to be found in every locality, some begging, some stealing and some intimidating the women and children. The impudence, audacity and villany of many of them is beyond credence. It is time the farmers in all sections should be alive to their danger. The only remedy we see is to arrest every vagrant, no matter what the plea may be, and give them hard labor and hard fare if found out of their own township.

If they belong to our country we should find work to make them earn their porridge; if they belong to the States they should be marched out of our borders, and if they are the pauper emigrants imported by our Government through their emigration agents, the agents' pay should be stopped to pay their passage back again. This compelling the paupers to go to the country and live sponging on farmers should be stopped. Canada has been

made too much of a nursery to train incapacitated emigrants to work, and then many of them go to the States. This is bad enough, but the regular American tramp is to be dreaded under whatever guise he may appear, and farmers will suffer the most from them. We do not include in the class of tramps men who are anxious to work, but can find nothing to do. They should get employment in the township or municipality to which they belong.

The Wealth of Our Country.

What constitutes the wealth of a country? The true wealth consists not so much in her natural resources as in the active, profitable labors of her people. Some countries in Asia and Africa have far greater stores of natural resources than Britain, and yet Britain is the wealthiest country on the Globe; while the resources of Asia, if at all turned to profitable account, go to enrich an alien people. Our own Dominion has within her wide domain ample sources of national wealth, but it is only by the active pursuits and the well encouraged labor of her people that she can attain to that eminence for which she is so well designed. It is not by sending to alien nations the crude materials from which national wealth is to be obtained by the skilled labor of her people that this position is to be attained. When the products of her farms and the products of her mines have increased, by the industry of Canadians, ten, twenty or a hundred fold, then our country can be said to be prosperous. This is true political economy—our country's common weal. The great benefits received by a people from the encouragement of the skilled labor of her sons are constantly before our eyes. We will give one instance:—

"Soon after launching the magnificent steamer, *Rio de Janeiro*, John Roach, of Philadelphia, her builder, said to the President of the United States, part of the Cabinet and numerous other invited guests:—"Seven months ago the material for yonder vessel, which was launched a half hour ago, was lying in the bowels of the earth. There it was worth \$5,000. To-day, in its present shape, it represents \$500,000, and that money has gone to the elevation of American labor."

A Cheap and Good Deodorizer.

An effectual and inexpensive deodorizer is obtained by dissolving half a dram of nitrate of lead in a pint of boiling water and two drams of common salt in a pail of water; the two solutions are then mixed and the sediment allowed to settle. A cloth dipped in the liquid and hung up in the apartment is all that is required to purify the most fetid atmosphere. It is recommended for its cheapness, a pound of the materials costing about twenty-five cents.

Cost of Keeping Sheep.

STOCKING.

I think I can keep one sheep and one cow to every acre on a given amount of pasture, just as well as to keep the cow alone. I know that I can keep ten ewes through the winter on what food will be consumed by a good healthy fresh cow. In regard to the alleged injurious effects of keeping sheep and dairy cows in the same pasture, as affirmed by some, I must state that I have never observed them. And even if there were any injurious effect resulting from this practice it would be confined to the short space of time intervening between first turning the cows to pasture and harvest, say from the middle of May to the middle of July (two months.) After that time the sheep will prefer to cling to the old pasture, while the cows will be ever seeking and longing for the new. It has been my practice for the past ten years to select annually at least three of the best ewe lambs to be retained in the flock as breeders, and weeding out annually as many older and inferior animals. By so doing, if there is any improvement made in breeding it will be retained and perpetuated in the flock. It has likewise been my practice to change bucks at least once in three years.

Dairy.

Keeping Up the Flow of Milk.

BY L. B. ARNOLD, SECRETARY OF THE AMERICAN DAIRYMEN'S ASSOCIATION.

In whatever branch of business men are engaged, they seldom stop to look after improvements, or even to exercise a very careful economy, if they feel sure that they are sustaining themselves without. The old maxim, "be satisfied with doing well, and leave to others the thought of doing better," is appropriate enough upon occasions, but it is not always wise. It seems more appropriate to be always on the lookout for the greatest economy and largest production and best use of the means for obtaining the necessities of life and happiness. Speculators may grasp too much, but there is little danger of farmers producing or saving too much, for if they have more than is necessary for their own wants, it always goes to promote the welfare of others. But farmers are like the rest of mankind. If they feel confident that they are making a little something, or even making the ends of the year meet, they are apt to be quite indifferent about the leaks which are rapidly wasting what might easily be made to increase their stores. Dairymen are probably not more improvident than other farming men, but they do suffer some large leaks to dwarf their annual income, which it seems almost strange that they will continually leave open.

One of these leaks consists in allowing the flow of milk, from deficient food, to shrink faster than it otherwise would. It is a fact well known to almost every dairyman that after a cow has been giving milk three or four months, if she is allowed to shrink in her mess for any considerable length of time, she will not come up again during the season to what she would have done had not the unnatural shrinking occurred, yet the great majority of dairymen allow this to go on regularly every year as soon as the grass begins to fail. This loss is both serious and needless. Let us look at this a moment. It takes a very large share of the food cows eat to support their bodies. Prof. Stewart estimates it at two-thirds. As a rule, I think it takes more. It must be an excellent cow that will convert one third of the food she eats into milk. There are many cows that do not, during the whole of their milking season, convert more than one fourth of their food into milk, and if the food of the year is estimated it will be a less proportion still. The great bulk of food goes to support their bodies. Their food for support must come out of their rations first, and the profit arising from manufacturing the small remainder into milk is where the dairyman gets his money from. This small fraction of food must make milk to pay for itself and also for the larger share employed in sustaining the body, and should leave a surplus for the owner's pocket. It will take a pretty good cow this year, and she must be well cared for besides, to leave a surplus with the present prices of butter and cheese. Without a surplus the food of the cow is as much a loss as the fuel for running an engine that does no business. The per cent. of food converted into milk must be as large as possible, or the surplus will be wanting in the fall. Farmers this year cannot afford, from a want of food, to let their cows shrink down in their messes through the midsummer drought, which may reasonably be expected, as they will do beyond redemption if scantily fed. The necessity this season for keeping the milk-giving capacity up to its highest tension is greater than usual. To do this there must be no letting up in the supply of milk-producing food. Grass is in full supply now, but it cannot reasonably be expected to be so in the heat of the summer, and some provision

should be made to meet the necessity which is likely to arise. The best means of doing this is by the rise of soiling crops. The practice of soiling to bridge over the usual dry time in the summer has been adopted by a few dairymen, and the practice is steadily growing in favor and increasing, as those who employ it with any sort of skill find it pays. The practice ought to become general this year. It is yet in season to get in crops for this purpose. Corn sowed or drilled (the latter is best) is the almost universal crop for summer soiling. It produces the heaviest yield and keeps the longest time in condition to feed. It is not, however, fed to the best advantage when fed alone. It is better to be fed in connection with clover or millet. Corn has an excess of gum, starch and sugar; clover and millet an excess of flesh-forming matter. By feeding corn with them the excesses balance each other and make a better food than either could alone. The clover and millet should be cut early and may be fed either green or dry. Neither is worth much if cut late. Millet is growing in favor as a soiling crop. It has many valuable qualities for such a use. It grows quick, produces largely, is exceedingly rich in nutritive matter if cut when in blossom, and has greatly the advantage over corn in the matter of drying. It contains but a small amount of moisture, and in its most succulent stage may be easily dried for fall or winter use. There is no other crop which cures so easily, and none so rich in valuable nutriment if cut in the proper season. It is so much inclined to form woody fibre as it matures that its value depreciates very rapidly as it passes the season of flowering. It should not be allowed to stand later than that, except when desired for seed. Peas and oats sown together, and cut green, make a splendid food for either summer, fall or winter use, but they do not produce so liberally as corn and millet. Any green crop is better than dry and scanty pasture for encouraging the yield of milk. If for any reason soiling cannot be adopted, wheat bran will be found an excellent substitute for deficient pasture. Something, at any rate, ought to be provided to prevent the customary shrinkage which so effectually every season converts a good cow into a poor one, and depletes the pockets of her owner.

Heat your cows by running, beating or exciting them, keep your milk in temperature 70° or upwards, pour hot water in your churn, set your vessels of milk around the fire, cook one side gently and then turn the other side and cook it also, wash your butter in warm water, or with the hands instead of a paddle, churn your butter back into the milk after it has risen to the top of the churn, until the grains are all broken and mashed into the particles of caseine—all of these ways produce a mass of cheesy grease and not butter, which should have its particles granulated. Keep all the milk vessels sour and dirty, and a few vegetables decomposing in the milk room, and the butter will be sure to have a bad flavor and be poor.

Manufacture of Edam Cheese.

The process of manufacture of the round or bullet cheeses in Holland, so widely known as Edam cheeses, is as follows:—

The rennet is put into the milk as soon as it is taken from the cow; when coagulated, the hand, or a wooden bowl, is passed gently two or three times through the curd, which is then allowed to stand a few minutes; then the bowl or finger is again passed through it, and it is permitted to stand some minutes longer. The whey is taken off with the bowl, while the curd is put into a wooden form of the proper size and shape of the cheese to be made. This form is cut out of the solid wood by a turner, and has one hole in the bottom. If the cheese is of the small size, about four pounds, it remains in this form about fourteen days. It is turned daily, the upper part during this time being kept sprinkled with about two ounces of purified salt. It is then removed into a second box of

the same size, with four holes in the bottom, and put under a press of about fifty pounds weight, where it remains several hours. It is then taken out, put on a dry, airy shelf in the cheese apartment, daily turned for about four weeks, when Edam cheeses are generally fit for market.—*Ex.*

Salt for Stock.

The use of salt for dairy cows varies with the season and the flow of milk. The larger the flow and the more immature the feed the greater the amount of salt required. In June, for example, when the flow is abundant and the grass tender, more salt is required than in November, when there is less milk and the grass is better supplied with mineral matter. In the former case the cows want salt where they can have access to it every day or oftener; in the latter twice a week will answer all demands. The best way I have tried for salting cows is to keep a little salt in the manger, where they can have access to it every time they come into the stable to be milked. They will lick a little every time they come in when the grass is very tender. Salting twice a week is then not enough, as tests made upon the quantity and quality of milk have proved. Later in the season they will take it less frequently. If salt can be had *ad libitum* cows will never eat any more than is required for their good, but if it is fed only at long intervals they often eat to their injury. For salting young cattle the best arrangement I know of is to place rock salt in a suitable box, or half barrel, where they can have easy access to it, and under a cover, so as to protect it from wasting by rain. This avoids both excesses and deficiencies, and requires the least labor and attention.—*Prof. L. B. Arnold, in N. Y. Tribune.*

The Horse.

How Shall the Stallion Foal be Reared.

It is specially imperative that a young entire should be kept constantly growing, should receive no check, should be so managed that he will develop the fullest amount of bone, muscle and constitution. This can only be effected by a liberal and varied dietary. Whilst still with his dam he should have a few pounds of bruised oats, and unless his pasture is particularly good, and his mother a first-rate nurse, a pound of bruised linseed cake should be added. Even at this early age he may have the head-stall put on during the day, and be accustomed to be led about, and stand tied up. After weaning, when colts are very apt to fall off in condition, the youngster must be carefully fed. Having already learned to eat oats, the supply will be increased. Unless the clover or vetches are particularly fresh and good, he should have dry fodder, either cut or long; and, throughout the winter, will be much the better of a few pounds of swedes or carrots, for which in many parts of England mangold are now substituted. A strong early foal, now nearly a year old, will eat daily 7 lbs. or 8 lbs. of good oats, about the same weight of roots, 12 lbs. or 15 lbs. of clover or other hay or of hay and straw chop, a pound or two of linseed cake, and a bran mash twice a week. Beans or peas are too heating for such young subjects. The colt should have plenty exercise, taken either of his own accord in an open yard, or if he lies in a loose-box, he must be led about for an hour daily. The sooner these colts are handled the better, and the discipline must be continued regularly. Without exercise the young stallion will never thrive as he should do, nor acquire that robustness, muscle, and of action so important in a good stud horse.—*Agriculturist N. B.*

Horses and the Horse Trade.

The number of horses in the United States is estimated at 3,000,000, Illinois ranking first in number; New York next with over half a million; then Ohio, Missouri, Pennsylvania, Texas, Iowa, Indiana and Kentucky. The number of horses in the New England States is estimated at 500,000, Maine having the largest number and Massachusetts next. The farm or workhorses of Maine and Vermont are noted throughout the land. The farmer who breeds horses knows his own interest well enough to study the tastes of the community, and to breed up to them. Speed is, to be sure, only one of the many qualities which are essential to a good roadster, and size, style, action, temper, firm constitution and endur-

ing qualities are equally important in making a general estimate of the character of horses. The horses raised in Maine are, generally speaking, fine specimens of the equine race. So are those imported from Vermont and Canada, the latter having qualities of their own quite distinct from the thorough New England animal. The weight of a good roadster may vary from 950 to 1,000 pounds. For ordinary purposes on the road and for general work an old horse dealer tells us that 1,000 lbs. is heavy enough. A large sized horse would not be found serviceable in horse-cars, omnibuses or hacks, and certainly not in the buggy or light carriage. A heavy horse will not last so long over the hard pavements of the city as a medium-sized one. The practice now conforms to this rule, we believe, as strangers especially notice in all large cities (in the east, at least) quick, tough horses for most kinds of work. A medium-sized horse will range from 14½ to 15½ hands in height.—*Dunton's Spirit.*

Diet for Thick-Winded Horses.

The *British Agriculturist* gives an inquiry from a correspondent on this subject, and the reply is as follows:—

Your old favorite, we presume, is thick in his wind—blows when pressed quickly up hill or with a heavy load; his wheezing and short breathing are noticeable both in inspiration and expiration; he shows his imperfection chiefly when worked immediately after a full meal or in thick muggy weather. This condition somewhat resembles asthma in human patients; it is connected with and often brought on by gastric derangement, such as overloading the stomach and eating indigestible fare. Free allowances of musty hay often produce it, and occasionally it results from a single greedily-devoured meal of wheat or barley. When fairly established it is incurable, but may usually be held in check, and, by strict attention to diet, the animal enabled to perform moderate work with comparative comfort to itself and satisfaction to the master. The food must be concentrated and of the best quality, mainly consisting of oats, which had better be given bruised, mixed with chaff, and damped when put into the manger. This dampening of the dry food operates beneficially in various ways. It favors digestion, it lessens the amount of fluid which the animal drinks, and horses with damaged wind require specially careful management as to their water supply; they must not suffer from thirst, but should have their drink in small quantities at short intervals, should have a full allowance at night, and only a restricted amount in the morning; and even this should be a couple or three hours before the period for work arrives. Oat straw, being hard and dry, usually does better than hay. Rank, succulent new clover hay is particularly unsuitable for such cases. But with a liberal supply of corn, which may be varied by admixture with a little maize and a few dry peas or beans, the quantity of fodder may be reduced to eight or ten pounds daily. To counteract the effect of the concentrated dry food and maintain the bowels in a proper state—a matter of primary importance in all cases of damaged wind—a pound of bruised linseed cake should be given every night, and once a week a bran mash, with a little salt and nitre. Frequent bulky mashes of boiled roots are unsuitable in such cases, but a few slices of raw Swedes for an evening meal are not hurtful.

IS RINGBONE HEREDITARY?—A mare is much more likely to transmit a tendency to ringbone if it has occurred from some naturally faulty conformation. Thus, if the pasterns are unduly upright so that an excessive jar is thrown upon the bones of the pastern, or if the pasterns are excessive in length and obliquity, so as to increase the strain on the lateral ligaments of the joints, the same conformation and tendency to disease may be looked for in the progeny. Again, if the mare is very lame from the ringbone during pregnancy, so as to concentrate her attention on this point, she is much more likely to have colts liable to ringbone. But if, on the other hand, her conformation is good, her joints large and well formed, her cords well set back from the bones, her pasterns neither unduly upright nor too long and sloping, and if her general health is good, an old ringbone, the result of direct mechanical injury, and which now neither causes lameness nor tenderness, is no more likely to be hereditary than a docked tail or a crooked ear. In these last conditions too, with strong, perfect limbs, and healthy constitution, a ringbone acquired by accident may recover as perfectly as a splint or sprain, and determine no permanent injury, even though a little bony enlargement is left.

Garden, Orchard and Forest.

Seasonable Hints—June.

BY HORTUS.

The weather was so wet during transplanting season that very few failures amongst newly planted trees may be expected. Good care is now necessary in the way of staking and mulching. For mulch we prepare well-rotted manure, though other substances as tanbark, sawdust and chip-manure will answer. To keep the ground clean amongst trees, plant potatoes or other roots; anything that will require cultivation in rows, but avoid grain or grass for several years, and then only if the ground is exceedingly rich. When the weather sets in hot and dry give the mulching a good soaking with water, this will keep the ground cool and moist, and will assist and sustain the formation of roots.

Keep a look out for the slug that preys on the foliage of the pear and cherry; for small trees or those high enough to be reached by hand, road-dust or sand sharply dashed on will be sufficient to destroy them. Fresh slacked lime put on when the dew is on or after rain will remove them, and be beneficial to the trees as well. For tall trees Hellebore dissolved in water (about a pound to a washtub full of water) may be syringed on without much trouble. The lice hatch out during the early part of this month on the apple trees, and may be observed by carefully examining trees, moving about to locate themselves. An application of soft soap or weak lye brushed on will be sufficient to eradicate them, if put on before they encase themselves in their armor. For the curculio we advise fumigating with gas tar, placed in a pan with a long handle and lighted—it may be carried from tree to tree until all are dosed; in the cool of the evening will be the time to do it, or otherwise jar the trees early in the morning, having a sheet spread underneath to catch the insects.



FIG. 1.

The severe frosts during May have so injured the fruit that it's incumbent on all fruit-growers to protect what's left.

The latter part of June will be found to be a good time for pruning—remove all small limbs crossing each other and any large ones that may be dispensed with. The head of a young tree several years planted should be composed of four main branches—and those at a distance of 3 to 4 feet from trunk may be allowed to branch out in two or more limbs as illustrated. With the foliage

on a person can judge better of the proper shape of the tree, and, once adjusted, the use of saw and knife will rarely be required and the less the better. Wounds made now on the trees rapidly heal over. Promptly cut out any signs of the blight on pear or apple and burn the affected branches, also, remove any signs of the black knot, painting over the wounds with shellac varnish. To promote fruitfulness in shy bearing varieties, such as Northern Spy and some other, hanging weights on the limbs thus bending them down is often practised with success. The application of Hellebore will stop the ravages of the worm on currants and gooseberries—do it early before too much of the



FIG. 2.

foliage is destroyed, thereby disfiguring the plants and injuring the fruit. Though it is very annoying to have to fight these and other kindred pests it is somewhat gratifying to know we have such a useful agent as Hellebore which so effectually fixes them. We turn with pleasure to the raspberry, the very useful fruit, although it has its enemies still they are not so formidable or so numerous as to cause any labour for their removal. The common practice with most cultivators of the raspberry is to cut the young fruit-bearing canes in the spring. A better plan is to nip the top of the young suckers when they have attained a height of 3 feet or so. This will force them to form a lateral growth as shown in fig. 2. The canes become stout and stocky and are more able to support the fruit and not break down with rain or wind. Many shrubs, roses, grape vines &c., may be layered during the present month. Loosen the soil around the plant, bend down the young growth, give it a slight twist and cover with three inches of soil, if the wood, such as roses, is, to hard to twist make a tongue in it and peg down as in fig. 3. Mulching the layers will promote formation of roots.

Ornamental hedges clipped about middle of month will throw out new growth sufficient to keep hedge looking fresh and green. If left too long before clipping it will look bare and unhealthy for balance of the season. Stir the soil on flower beds with hoe and rake after rains, this will keep it loose and mellow and assist the growth. Stake your Dahlias and give an occasional watering with liquid manure. Spread the ashes around fruit trees, and dust lime and sulphur on gooseberries and roses for prevention of mildew. Collect all the bones and bury them amongst the grapes. Keep the hoes going and down with the weeds.

A maple tree cut in New Ipswich recently, measured 4½ feet in diameter, and yielded 4½ cords of wood.

The Tent Caterpillar.

I notice that the tent caterpillar is at work in the orchards, to the great damage of the trees. I wish to call the attention of orchardists to the fact that soapsuds is a speedy and sure remedy for this worm. My manner of destroying this pest is to cut a long, slim pole—one that will reach to the top of my apple trees—and tie some old cloths on to the small end of the pole as a swab, and then take a pail of soapsuds and go over my orchard, and thoroughly soak every nest I can find. I assure you that the soap will kill every worm that it hits in a few minutes.

The morning should be chosen for this work, as the worms are then at work on their nests, instead of feeding on the leaves of the trees. A boy ten or twelve years old will do the work as well as a

man. Try it and you will be satisfied.—C.H., in Michigan Farmer.

Weeds as a Water Purifier

I had recently a striking proof of this. Into my pond runs a stream of 25 gallons per minute of pure water from a drain which I cut 12 feet deep some 30 odd years ago. Weeds will grow and thrive in this pond, and we have annually to rake out large quantities of them. They look very beautiful as they grow in the pellucid water, which is used for household purposes. Said a visitor to me one day, "if you had a pair of swans your pond would be free of weeds;" so a kind friend presented me with a pair, and very soon they cleared the pond, pulling the weeds up by the roots and feeding on them. My family were delighted with the graceful swans and the removal of weedy obstructions to boating; but although the pond was free of weeds the water was no longer pure and pellucid, but most decidedly muddy in taste, and when the steam issued from the kettle the smell of mud was unmistakable. Well, no one thought it could be the swans, but at last I came to that conclusion, and despite family and other remonstrances, returned them to their original owner. After a short period the weeds reappeared, and, as they increased in bulk, the water gradually resumed its pellucidity and purity, and "Richard was himself again." What the weeds do for the water and its occupants the land vegetation does for the air; men, animals, and other living creatures poison it, while vegetation absorbs the injurious gases, and reconverts them into wholesome food and fuel for man and beast, filling the atmosphere with that precious oxygen without which men and animals and other living creatures could no longer exist. So it is in the vast ocean whose living occupants and vegetation probably exceed in quantity that which is on land. We owe to the river vegetation much of the purity of

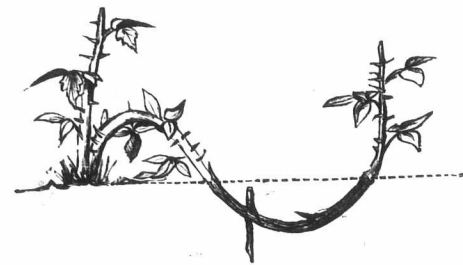


FIG. 3.

water. It is the excess of impurities from our towns are beyond its powers of appropriation.—J.

One of the most beautiful things that can be made in the flower bed line is to sow in a cut space in the lawn a bed of double portulacca. The flowers will not all come double, but every single one should be picked out before it seeds, and allow only the most beautiful ones to perfect the seeds. The same ground will be self-sown from year to year, and if the selection is carefully attended to, will grow finer with the years. The reason for cutting a bed out of the lawn is that the flower becomes an evil and a very troublesome one in the garden, and the safest way is to hedge it in and away from cultivated land. Such a bed is, during all the summer season, from eight or nine o'clock until the afternoon, a perfect glory of beautiful color.

Pruning Grape Vines in Summer.

Grape vines are managed in summer in different ways by different men; and when one has read the various methods of summer pruning published in the agricultural papers, he finds the opinions of grape growers so various that he is merely befogged by them, if he is a novice in the business. Even the books published on grape culture are of little value, as they were written from fifteen to twenty years ago, and when our ideas on grape growing were very crude. I will state a few points that twenty-five years' experience have proved to me to be correct, as follows:

1. Thrifty vines, as the Concord, Hartford Prolific and other vines of very free growth, should have trellises ten or twelve feet high, in order to obtain the greatest amount of fruit, after the vines have fruited four or five years; and the summer pruning should consist in cutting away feeble shoots wherever found, thus throwing the vitality of the vines into the stronger canes, which will produce the fruit buds of the next season.

2. Pinching back bearing canes to within a leaf or two of the nearest bunches is of no benefit to the fruit, as the leaves of the canes are the lungs of the vines; and I claim if the vines be shortened in at all, it should be done very moderately, merely stopping the further growth of canes by pinching them off near their ends.

3. In no case should the most thrifty canes be shortened during the summer, as they will be the canes which bear the next year's fruit.

4. As the fruit begins to turn in color, do not remove any leaves to expose the grapes to the sun, as they ripen no sooner by so doing, and the effect of the sun is injurious rather than beneficial, while the removal of the leaves actually retards the ripening of the grapes by checking the flow of sap through the canes, which the leaves regulate according to the requirements of the growing fruit.

5. To produce the best fruit, and in perfection, the small clusters of grapes, when the vines set a great deal of fruit, must be cut or pinched off, leaving but one bunch generally to each shoot or cane. Many vines are often so productive that it is impossible for the roots to afford full sustenance to the entire crop; and in such cases I remove about one half, always leaving the largest bunches, and the result is splendid fruit, while that on vines not so served is of much less value.—*Farmer's Friend.*

Plum Culture.

M. B. Bateham visited the noted plum orchards of the Messrs. Brown, of Huron County, Ohio, the past fall, and he reports in the *Rural New Yorker* that they had planted about 7,000 trees altogether. The greater part of their youngest orchard, two years planted, was killed to the ground by the previous winter—as were several hundred trees of older growth. They have also lost many trees from the same cause in previous years. This winter-killing is not so much in consequence of the severe cold, as the condition of the trees when winter sets in. The mischief is evidently a result of the shedding of the leaves during hot and dry weather in the latter part of summer, followed by the starting of the terminal buds and a fresh flow of sap on account of moist and warm weather early in autumn, leaving the wood sappy during the winter. Frequently it will occur that tufts of new leaves put out at the tips of the young shoots, which continue green until killed by the severe frosts in November. Some varieties, I was told, are more liable to this trouble than others; but I could not discover much difference.

The remedy, I think, must be found in the choice of soil, or its preparation for planting—to secure such depth as will induce the roots to go deep enough to resist the effects of drought. Or, what amounts to the same thing, have the soil worked so deeply that it will absorb and hold moisture sufficient to withstand drought; then the leaves will not fall prematurely.

Mulching is another means of contributing to the same end, and will be found immensely beneficial both to plum and pear trees. Apply the mulch any time after the spring rains and surface cultivation, covering the ground with refuse straw, corn stalks, marsh hay, or other litter. The curculio is not considered a hindrance to plum cultivation on a large scale. When plum trees are planted amongst other trees, or only here and there on the ground around the farm, or suburban dwelling, then each tree requires faithful watching from the time the flowers fade in the spring, till the fruit is as large as a pigeon's egg, to prevent the ravages of the curculio. The season for the deposit of the eggs of that insect being over, there is no difficulty

with the fruit for the balance of the season. There is but one way to prevent the curculio from doing injury to the fruit, and that is the jarring process. That process is exacting as to time and constant attention, but all who tried it faithfully admit that it has been successful in securing the crop of the trees in a perfect condition, and that it pays. All other methods have invariably failed from some cause or other, and since it was first tried as recommended by J. J. Thomas, in 1845, it has lived and kept its position as the main reliance of the plum grower. We have little confidence in any other plan that has yet been presented to the public.

Paris Green in the Orchard.

Some time since an enquiry was made as to whether there is any way to destroy the canker worm on apple trees. Four years ago they attacked my orchard by millions, and a few days after it looked at a distance as if fire had passed through the branches, not a leaf left. In the orchard I had about one hundred and fifty trees, twenty years old. I had taken great pains with my trees, and they did extremely well up to this time. I felt almost discouraged, and knew of no remedy. After a time the trees all leaved out again, but grew very little that season. The following season the trees were loaded with these pests by billions, so that if one passed under the trees he would be covered with the destroyers and their threads, which hang down with a worm at their ends, about as thick as the warp of open gauze; on these threads they swing as a pendulum when the wind blows, and by these means pass on to the next trees, if near enough. This time, too, they left scarcely a leaf, and then disappeared. The trees leaved out again, but looked weakly, and grew but little. The third season I was on the look out. As the trees leaved I found them again covered. I could stand it no longer, but declared war; bought a hand pump and \$5 worth of Paris Green; put a kerosene barrel into my wagon, filled it with water, added one table-spoonful of green to a pailful, gave it a good stirring, and had a man to drive around under the trees and keep the mixture well stirred; I took the pump and sprinkled about a pail, evenly as possible, on each tree. The second day after I operated a second time with a weaker solution and less quantity, as I found their number but few, and those not in good health. The past season I kept a good look out, but failed to find one. I have other orchards, but so far have not been troubled. I keep my war material all ready now; if the enemies appear I shall storm their works immediately. There are a number of orchards hereabout nearly destroyed by the canker worm.—*T. L. G., in Factory and Farm.*

The Grape Mildews.

The warm and rainy weather of the last of June and first of July is especially favorable for the development of the various kinds of moulds, mildews and other species of fungi. Of this group of parasitic plants, the grape vines are especially infested: the two leading species of which are the *Peronospora viticola*, or American grape vine mildew, and *Uncinula spiralis* or "oidium," as it is commonly called. The last is closely related to the *Oidium Tuckeri* which has proved so disastrous, at some seasons, to the grape crop of European countries. The oidium is a surface feeder, never sending its threads deep down into the tissue of the leaf. Running here and there over the surface of the leaves, young stems and berries, it gives, while young, a cobwebby appearance to the surface when viewed with a hand lens; but after forming a multitude of spores, to the naked eye it looks as if the surface had been finely dusted with flour. This mildew makes its appearance often quite early in the season, depending upon the weather, and gradually develops itself during the summer months.

The story of the other mildew is somewhat different, it being confined very largely in its action to the leaves, and develops itself very rapidly, usually only upon the under surface. It is, then, a deep-seated parasite, sending its absorbing threads far into the tissue of the foliage. To the naked eye all that one sees of this species is usually some yellowish spots on the upper side of the leaves, and a corresponding distribution of frosty, mouldy places upon the under side. These frosty appearing spots are due to multitudes of threads, which pass through the stomata, and branching in a tree-like manner, bear a spore upon the extremity of each ultimate ramification. These spores, which are formed very rapidly, germinate in a few hours,

and thus spread the disease to new spots on the same or another leaf. Besides these aerial spores, there is another kind found towards the close of the season, within the tissue of the grape plant. They are provided with a thick coat of cellulose; and, as they do not germinate until spring, their special office seems to be to carry the mildew over the dormant and severe months of winter.

REMEDIAL MEASURES.

A mixture of six pounds of potash, two gallons of coal tar, and one-fourth pound carbolic acid, diluted with four barrels of water, has been used and recommended by some. This makes a wash which is applied to the vines. The application of flour of sulphur, either alone or mixed with slacked lime, is the leading and perhaps the most effectual remedy. This can be best distributed by means of a pair of bellows, and should be applied even before the vines show signs of mildew, and thereby avail yourself of the ounce of preventive when it equals a pound of cure. Should the mildew appear, the operation should be repeated two or three times during the year, or as often as a good judgment will decide.

The collecting and burning of the foliage would tend in good measure to diminish both forms of mildew in coming years. But concerted action is required in a work like this, that it may be the most successful; and for this we cannot hope until the grape crop is on the verge of total ruin, and doubtful if then.

As all fungi are lovers of moisture, and flourish only when it is quite prevalent, the using of only those localities for vineyards that are naturally dry, or the thorough drainage of those that would otherwise be wet, would do much to lessen the amount of mildew and do good to the grape vines in other ways than one.

"Early and over-bearing are prolific sources of mildew," and the sharp edge of the pruning knife may do much to keep away these pests. Any culture, in fact, that will secure the most healthy and hardy vines will be one of the best means of avoiding the diseases which might otherwise prey upon them.—*B. D. H., in Scientific Farmer.*

Washes for Fruit Trees.

Insects and mildews injurious to the leaves of fruit tree seedlings and root grafts can be kept in subjection, or destroyed, by a free use of the following combination of lime and sulphur: Take of quick or unslacked lime four parts, and of common flour of sulphur one part; break up the lime in small pieces, then mix the sulphur with it in an iron vessel, pour on them enough boiling water to slake the lime to a powder; cover the vessel close as soon as the water is poured on. This makes a most excellent whitewash for orchard trees, and is very useful as a preventive of blight on pear trees, to cover the wounds in the form of a paste when cutting away diseased parts; also for coating the trees in early spring.

It may be considered as a specific for many noxious insects and mildew in the orchard and nursery; its materials should always be ready at hand; it should be used quite fresh, since it soon loses its potency. This preparation should be sprinkled over the young plant as soon or before any trouble from aphides, thrips or mildew occurs, early in the morning while the dew is on the trees. This lime and sulphur combination is destructive to these nests in this way by giving off gaseous sulphurous compounds, which are deadly poison to minute life, both animal and fungoid; while the lime destroys by contact the same things, and its presence is noxious to them. In moderate quantities it is not injurious to common vegetable life.

Another recipe for a wash for orchard trees is to put one-half bushel of lime and four pounds of powdered sulphur into a tight barrel, slaking the lime with hot water, the mouth of the barrel being covered with a cloth; this is reduced to the consistency of ordinary whitewash, and one-half ounce of carbolic acid is added to each gallon of liquid at the time of application. Apply to the trunk; it will not hurt the branches or foliage if applied to them also.

An experienced fruit-grower recommends the use of the following simple method: He takes lye from wood ashes or common potash, mixes a little grease with it, heats quite warm, and with a little syringe throws it up into all parts of the trees, branches and trunk. It will effectually kill all kinds of caterpillars and worms that are infesting the tree or running over the bark. Trees treated in this manner are exceedingly healthy and vigorous in appearance, possessing a smooth, glossy bark.

Poultry Yard.

Management of Chickens.

Chickens require neither food nor drink on the day on which they are hatched. Both are injurious, as they interfere with the natural digestion of the yolk, which is absorbed into the bowels at the period of hatching, and constitutes the first food. If grits, oatmeal and the like are spread before the hen on the twenty-first day, she is induced to leave the nest, the last-hatched chickens are unable to follow, and being weakly, frequently perish. If undisturbed, the hen seldom leaves the nest on the twenty-first day, while on the twenty-second day the chickens will be found strong enough to follow her. The plan of cramming pepper-corns or grains of barley down the throats of newly hatched chickens is exceedingly injurious. The best food for them is sweet, coarse oatmeal, mixed into a crumbly paste with milk, and a certain proportion of custard made by beating together an egg with two tablespoonfuls of milk, and "setting" it by a gentle heat. Custard so made is eaten with avidity, and the chickens make rapid progress upon it. Such a preparation is far superior to the hard-boiled egg so often employed, which is not relished by the chicken. The young birds are also very fond of a little cold oatmeal porridge; milk is frequently used to mix the barley or oatmeal, but it should be remembered that it soon becomes sour in summer, and is decidedly injurious if employed in that state. No more food, therefore, should be mixed with milk than can be eaten in a few hours. Sopped bread is by no means desirable, since it does not appear to afford the necessary resistance to the natural grinding of the gizzard, and consequently the chickens soon become weakly and affected with diarrhoea from its use. In order to satisfy the hunger of the hen, which is usually very great when she leaves the nest, it is quite desirable to give her as much grain as she can consume. Then, having satiated her own appetite, and quenched her thirst, which all this time is considerable, she will brood over her unfledged young and keep them at rest, whilst they are digesting the yolk that has been absorbed just before hatching.

After the first few days some whole grain, such as small tail wheat, or some barley, may be given to the young brood, and it will be found to be greatly relished, and doubtless affords a wholesome exercise for the extraordinary grinding power of the gizzard. Chickens should either have a constant supply of food, or be fed at very short intervals. The first food should be given at daybreak. With regard to animal food there is none equal to the natural supply of worms and insects obtained by the hen when she is at large; small worms or a shovelfull of mould, containing an ant's nest, may be given, if the chickens are in a confined situation, and will be found far superior to boiled egg, chopped meat, or any mere artificial substitute. Cooping, which is frequently employed to prevent the wandering of hens with chickens, is not desirable, and though in many cases it is a necessary evil, yet not the less an evil.—*American Cultivator*.

Speaking of ill-flavor of eggs, *The Journal of Horticulture*, London, remarks that it is the result of one of two causes—either the food on which the fowls are fed or the substance on which the eggs are laid, and adds:

This may be easily tested by shutting up a laying hen and giving her garlic or malted barley to

eat. In a few days the eggs will taste of the food. We have tried this ourselves, and know it to be correct. Another theory is—but we cannot speak of it with the same certainty—that an egg laid on any strong smelling substance will contract it. This is explained by the fact that the shell when the egg is first laid is comparatively soft and impressionable, and only hard after contact with the atmosphere. Let your birds be wholesomely fed on plain food and your nests be made with clean straw. Hay nests have a tendency to make eggs taste. Follow Nature and you will have nothing to complain of.

Packing Eggs for Transportation.

Many devices have been tried for packing eggs for hatching after transportation. My way is to take a box of suitable size for the number to be sent, allowing plenty of room. I bore a hole in two opposite sides, and make a rope-handle by putting a piece of rope in from the outside, and tying a knot on it to keep it from pulling out. The knots at the ends should both be on the inside, and the rope should be long enough to have a little slack when the lid is on. I pack a layer of hay, about two inches thick, on the bottom of the box: on this I put a layer of fine, perfectly dry sawdust or bran; now take the eggs, one at a time, and wrap them in a small piece of paper, and stick them into the bran endwise; when all are in, put on enough bran to cover the eggs, shaking slightly, so as to settle it close around them. Now another

Agriculture.

Darby's Pedestrian Broadside Digger.

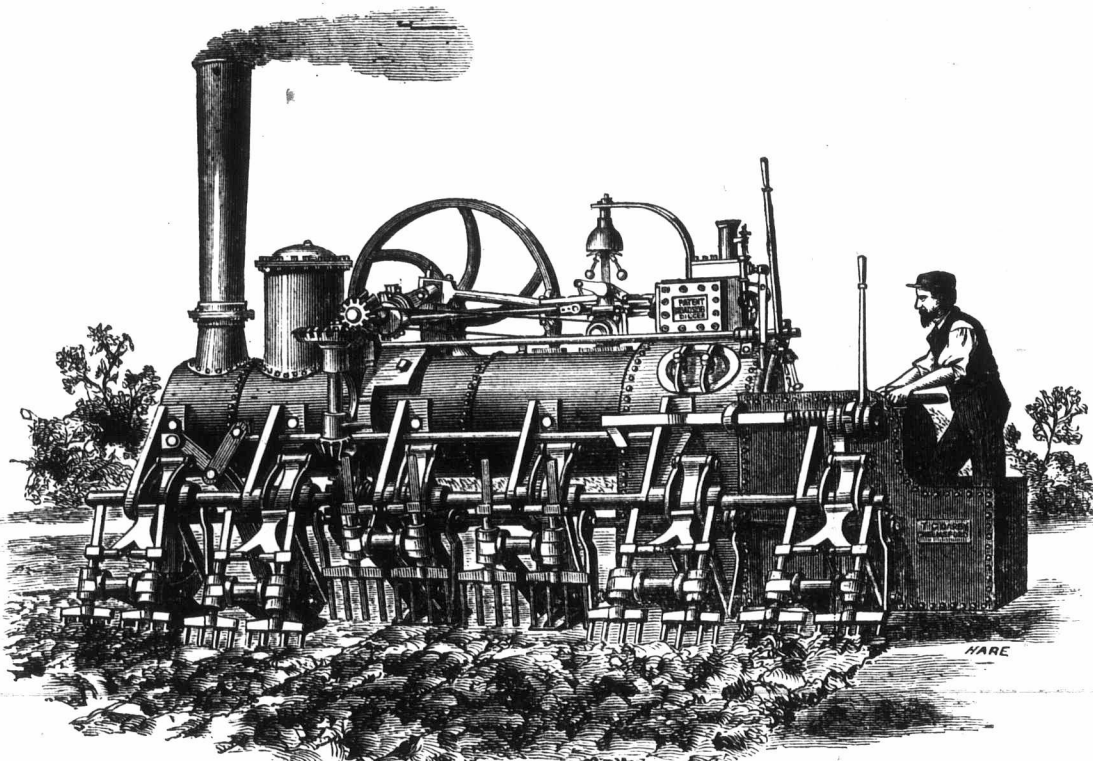
It is our duty to give you information about any new agricultural machinery. We now introduce to your notice a new implement that has been recently invented in England.

The intention of the inventor is to supercede the steam plow. This is a steam digging machine, and the advantages of digging land are many. The plow and horses first pack and press the land solid and hard in the furrow; this prevents aeration, as it closes the pores and prevents the water from soaking as readily through the soil. In digging the land is left uneven and broken at the bottom as well as loose on the top. We think it possible that digging machines may in the course of a quarter of a century be found in common use among good farmers. One man will invent, another will improve, and what may appear absurd to old plowmen may be found on trial to produce better crops and be even more economical than the plow. The flail and the reap hook have both vanished, and the time may come when the plow will perhaps be as hard to find on a good farm as a flail now is.

This implement is not yet in general use in England: it is being improved. Our manufacturers will be on the alert as soon as it is ready.

The digging apparatus is attached to one side of the machine, and consists of six pairs of forks attached and working in combination with six legs. On the other side there are two pairs of wheels; these, together with the legs, take the weight of the machine evenly and equally.

In traveling from place to place the two pairs of wheels are removed from the side and placed at each end of the machine.



DARBY'S PEDESTRIAN BROADSIDE DIGGER.

layer of hay to cover all. Screw the lid on, and mark. Eggs should not be too close to the sides of the box, nor too many in a box, unless one has had experience in packing. The box should be marked with a stencil "Eggs! With Care." The neater and more convenient it is to handle, the more respect it will probably receive at the hands of expressmen. Fresh eggs from healthy, thrifty fowls packed in this way, should (and do) hatch a fair percentage after long trips.—*Dr. Dickie*.

J. J. Cohens, in the *Journal of Agriculture*, says, "Use wood ashes, four-eighths; lime, three-eighths; salt, one-eighth. Mix well and apply around the trunk of fruit trees, and it will cure blight, provided the ground near the trees is not deeply cultivated, as the deep cultivation will surely cause blight."

The *Scientific Farmer* says that Hungarian grass cut green and well cured, is used by some good Vermont dairymen as a food for butter cows, and they claim that it has the effect to give butter the true summer yellow. It is suggested that Hungarian so cured remains bright and green all winter, and because one of the elementary colors which goes to make green is yellow, that it is this greenness of the fodder which imparts the yellow color.

A horizontal shaft extends alongside the engine and tender, upon which are six eccentrics, working alternately the several legs and forks, producing a smooth onward movement at the rate of two to four furlongs per hour. In turning the machine one of the outside legs marks time, and the others step round like soldiers wheeling. The whole gearing consists only of two pairs of bevel wheels and a short downright shaft from the engine crank shaft. Thus nearly all the power is applied direct in moving the land. The thickness as well as the depth of the spit can be easily adjusted.

The engine is eight-horse power, and is capable of digging five acres per day, ten inches deep—only one man required to work the whole.

The advantages of this system of cultivation are obvious. A great saving of power and manual labor is effected, and ropes, riggers, windlasses, anchors and porters dispensed with. Thus wear and tear is reduced to a minimum.

This machine is made by T. C. Darby, of Chelmsford, England. G. F. Francis, of London, Ont., is the general agent for this continent.

Construction of Tile Drains.

BY PROF. MANLY MILES, LANSING MICHIGAN.

It would seem to be unnecessary at the present time to urge upon farmers the importance of thoroughly draining all lands that are liable to be saturated with water any considerable portion of the year.

From the attention that is now given to this important subject, a discussion of the best methods of construction, to secure economy in labor and efficiency in the performance of the work, cannot fail to be of general interest.

Within the past few years many instances have come under my observation in which large expenditures have been made in laying tiles for the purpose of draining land, without securing any adequate return for the time and money invested in the attempted improvement. Failure in these cases has been the result of a neglect of well-established principles of construction, and carelessness in the execution of the work.

Well planned drains that are properly made, so that they cannot fail to act in a satisfactory manner, are not necessarily more expensive than the imperfectly constructed, and badly planned drains that are so frequently a source of annoyance.

In the first place a suitable outlet must be obtained, and the main drain must be laid in a manner that will secure its efficient action, without any tendency to become obstructed. On many low lands the fall that can be obtained in the main drain is unavoidably slight, and the greatest care is therefore required in its construction. If the fall on the line of the main drain is less than four inches in a hundred feet, the tiles should be laid so that each rod of drain will have its due proportion of the fall; or, in other words, the slope or inclination of the tile for the entire distance should be uniform. Neglect of this principle is a frequent cause of failure. As the weakest link in a chain is the measure of its strength, so any imperfection in the construction of the main drain must deteriorate the efficiency of the entire system depending upon it. When the fall was but ten inches in twenty-five rods, I have seen tiles laid so that the entire fall was used up in the first six rods, leaving the remaining nineteen rods without any slope, and in this last distance the curves in a vertical direction were numerous. The drain did not, of course, work well, and it was soon almost entirely stopped up with sediment. If the slope had been uniform the entire distance, and the tiles well laid, this would not have occurred.

It must, however, be admitted that it is exceedingly difficult to lay tiles on a uniform slope, under any circumstances, by the methods that are usually practiced; but when the fall is slight, or the tiles are to be laid in quicksand or in peat, it is almost impossible to secure the required accuracy in the work. Many persons rely upon the water that

may be sunning in the trench as a satisfactory guide in laying tiles, but the many failures resulting from this mode of performing the work that have come under my observation, have convinced me that the practice is not a safe one.

The following method of securing a uniform slope in tile drains, which was devised by me several years ago, when laying drains in quicksand has proved so convenient in practice that I consider it almost indispensable in finishing the ditch and laying the tiles in all cases.

The necessary apparatus is simple and cheap, and any one of ordinary ability may readily make and use it. A line drawn above the middle of the ditch, about seven feet above the bottom of the tile, serves as a guide for securing the desired slope.

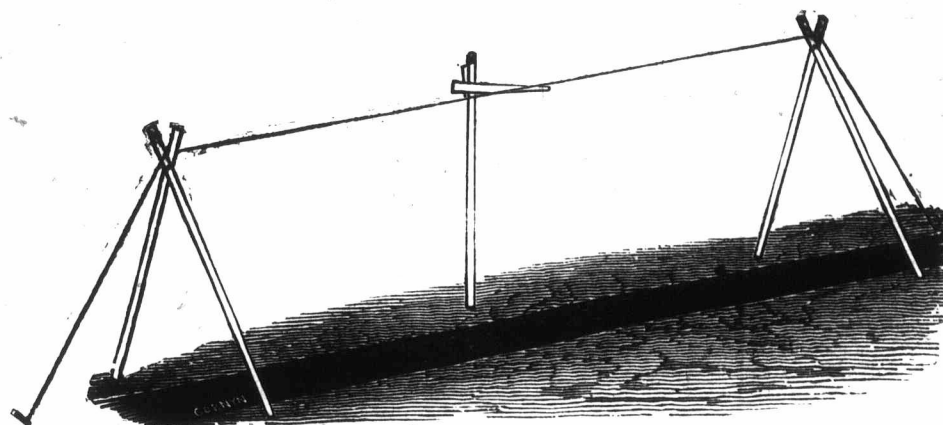


FIG. 2, SHOWING ARRANGEMENT OF LINE OVER DITCH.

and the "shears" and "gauge stakes" described below furnish a convenient means of adjusting the line to the required position. The shears are formed of two strips of boards, pine, or any other light woods, 1 inch thick, 2½ inches wide, and 7 feet long, joined by a small carriage bolt, about 6 inches from the upper end, as represented in fig. 1. The foot or lower end of the shears should be square so that they will not readily settle into the ground when subjected to pressure from above.

The top of the shears should be directly over the bottom of the ditch, and the height can be readily adjusted by spreading or contracting the legs.

The line, which should be small and strong, like a mason's line, is passed over the fork at the upper end of the shears, and it should be wound once around one of the short arms to prevent slipping. Each end of the line is fastened to a peg driven into the ground at least six feet from the foot of the shears, and nearly in a line with the ditch.

If the distance of the peg from the foot of the shears is less than the distance from the top of the shears to the ground, the strain will be greater upon that part of the line between the peg and the top of the shears, than it is between the shears, so that it is liable to be broken near the peg.

The arrangement of the line, with reference to the ditch, and the manner of securing it, is shown in fig. 2.

The smaller the line the better, if it has the requisite strength, as it is the less liable to sag between the shears when drawn tight than a large one.

Any sag in the line may be conveniently corrected by the "gauge stake," shown in fig. 3, made of a round rod of hard wood, one and one-half inches in diameter (a long fork handle will answer) and about 6 feet long. The lower end should have an iron point, (which can be made by a blacksmith from a piece of gas pipe); and the upper end should have an iron band to prevent splitting when the rod is driven into the ground. The horizontal arm should be about two feet long, and 2 by 2½ inches at the end through which the vertical rod passes, and tapering for the sake of

lightness to ¼ of an inch square at the opposite end. A wooden key or wedge back of the rod will secure the arm in any position, and it would be well to place a rivet through the base of the arm, back of the key, to prevent splitting.

By setting one or more of these "gauge stakes" on the bank of the ditch, the horizontal arm, which is under the line, may be raised until the sag of the line is corrected, and then fastened with the key. The mode of finishing the ditch and laying the tile will be considered in my next article.

The May Frost in the U. S.

The cold wave which lately passed over the country has proved disastrous to grain crops and fruit in many directions. It was especially fatal to tender garden plants and to corn and potatoes. In Wisconsin and Iowa there

was heavy snow, followed by severe freezing, which is reported as being fatal to fruit. Grapes in many places have probably suffered most severely, since they were in blossom, or else just budding. In fact, advices from Michigan show the damage to fruit there to have been more severe than elsewhere. In Indiana, in the latitude of Indianapolis, and eastward through Ohio, very serious damage was experienced, even the wheat crop having suffered severely. The cold snap extended far eastward, serious damage being reported in New York and

Pennsylvania. Nevertheless, damage from frost is always exaggerated. There will, we believe, be fruit enough. Corn cut down will spring again if not frozen below the surface.

In the vicinity of Chicago the damage is slight, being confined to the blackening of potato tops and other tender plants. We think, from a personal examination, that fruit is but little injured. Grapes which were just beginning to show, the fruit buds look badly. Still there will probably be a fair crop of this fruit. Apples do not seem to be much injured, and cherries, we think, will eventually show plenty of fruit left.

Phosphate of Lime.

The stimulus imparted to the production of phosphates, and the present activity in the market are not the effect of a mere feverish excitement, but arise partly from the rapid exhaustion of the Peruvian Guano deposits, (one authority has stated that at the present rate of consumption but little guano will be left in three years, and fresh discoveries of any importance are unlikely) partly from the great falling off in the production of high grade phosphate in the mines of Spain, France and West Indies, whence the principal supplies were drawn, and in part from the constantly increasing demand both in Great Britain and the Continent for active

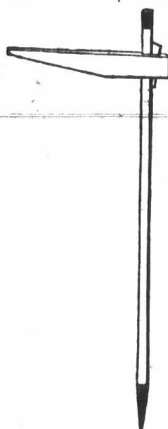


FIG. 3.

fertilizers. The value of this manure is determined by the quantity of Phosphoric acid it contains, and our product, a fluor-Apatite, is the richest mineral phosphate known. Normally it contains, according to Chapman, phosphoric acid 42.26; lime, 55.60; fluoride, 3.37; or, phosphate of lime, 92.26; fluoride of lime, 7.74. While low grade phosphates are abundant in many countries, for example, on the Charleston River in South Carolina there are enormous beds of coprolites, still affording immense quantities, but rarely giving over 50 to 55 per cent—they are comparatively neglected, and are relatively of much less value than ours, as will be seen by the market prices.

A private letter from England states that a pair of Canadian carriage horses were recently sold at Luca's Repository, in Liverpool, for 350 guineas.

June Preparation of the Soil for Wheat.

Genuine wheat soil is the first requisite to success. Good seed, genuine and unadulterated, the second.

The soil best adapted to the wheat plant is found on uplands, and is known by having a clear red clay subsoil. All soils will produce wheat; but all soils will not, nor can they be made to, produce good grain or remunerative crops. Low lands, for instance, having too much alluvium and humidity, almost always fail in bringing wheat to maturity. A surplus of straw food and moisture in the atmosphere builds the straw up, but fails to develop the grain. Rust invariably follows, and swivels the grain; and then both are lost.

The preparation of the soil for wheat should be commenced early—much earlier than is customary. So soon as the first clover crop is cut off in June, and while the soil is in its best condition, it should be turned flat, leaving not a single turf uncovered to harbor the fly. Before turning, a liberal supply of manure from the compost heap behind the cow-stalls should be spread on the land; or, if manure is scarce, caustic lime may be spread with great advantage. It decomposes the green crop, and assists in rapidly reducing the vegetable matter in the soil to plant food. Early turning has another great advantage. Decomposition will have been accomplished before wheat sowing; and the farmer saves much more by the dry process of decomposition, during July and August, than he does by the wet process, which takes place after his wheat is put in. Clover sod pays the farmer at least twenty-five per cent. to fifty per cent. more by early turning. So soon as turned, it should be double harrowed and rolled. Great care should be taken in having every hole and hollow, bunch of clover or sod, covered completely, that the fly may have no place to lay her eggs. During July and August the vegetable growth on this land should be kept down by shallow cultivation.

The Seed.—It should never in any case be taken from the bin. Seeds of all kinds should be selected in the field. It is there and only there that the farmer can select genuine grain, pure and perfect. He should take the best formed, largest, and that which ripens earliest. For choice seed, to sow on some choice piece of land, by way of experiment, the farmer will find it greatly to his interest and satisfaction to pick by hand every year two or three bushels of the centre heads that come from his largest tillers, or stools, and are earliest ripe. It prevents disease, smut, fly cockle, and cheat from making inroads into his crop. There is much more money, and a vast deal more satisfaction, to the scientific farmer in these methods of treating his seed and soil than there is in cultivating (?) so much land. Good seed properly selected and sowed, and properly put in, in good soil and well prepared, will make remunerative crops nine years out of every ten.—To sum up seed and soil in a few words: It requires clean land to prevent the ravages of the fly; it requires early sowing to insure a good stand; it requires potash in some form to prevent the rust, even on elevated lands; it requires salt to stiffen the straw and perfect the grain, and it requires a well-balanced head to make the wheat crop pay.—*Scientific Farmer.*

Thistles and Red Root.

I notice an article in the *Farmer* of April 9, in regard to Canada thistles and the State law forbidding their growth, even on the roadside, which is all right in my estimation, as they are certainly a pest and a nuisance. But I see nothing written in regard to other noxious plants the farmer has to contend with, such as milk weed, daira and red root, (I give common names, not knowing the scientific ones). Having had over 20 years experience with all kinds of foul stuff, and my boyhood experience with Canada thistles in Wayne Co., N. Y., I must say red root is the worst to get rid of after getting well established on a farm. If it be a lot you cut for hay and then grow a crop of cloverseed, as we often do, it gets largely distributed, and is sure to grow if it gets in the ground. The weed also seems to keep well in the ground; even if buried deep too, and it is brought to the surface and will grow and blossom by the 1st of May, and keep on maturing seed all season. All the seed (there are thousands in one plant) seems to be good, no blasting or shrinkage, no failure to grow on their part. If one knows he has red root in a lot, he can kill by summer fallowing, but if (as I have said) it gets well established on a farm, it takes a long time to get entirely rid of it.

When you think you have got the last of it, you naturally neglect your vigilance, and in a year or two you will come across a few plants in one lot; you pull them; there is another place and so on, there has got to be a constant watchful care, or it will get headway again. I know of a farm that is nearly covered with it, and would take four to six years with energy and perseverance to get rid of it entirely. I got my farm sprinkled with it through hay and clover seed, and the clover straw and chaff. The next year the lot was pastured, and then we found the first that I had seen on the farm, that was five years ago. The first thing was to pull by hand every small plant, and every time we went into the lot we looked for it and kept it out of sight. We find it in other lots one plant in a place. Sold some clover seed to my neighbors; they found a few plants, attended closely, and have got rid of it, so they say. I supposed I had got entirely rid of it two years ago, and rather relaxed my vigilance in looking for it, and last year found some in my wheat. Again this spring I found quite a patch in the wheat lot where it originally started. It has become a fixed habit with me to look for red root. I expect to get rid of it in time, but there must be no let up or it never will be done. I say to farmers, get acquainted with it and watch it, so you can pull the first crop clean, and you will save yourselves much annoyance and trouble.—*Michigan Farmer.*

Fodder Corn.

There is a wide difference between fodder corn and corn fodder; the latter, when grown as forage for cattle, is usually sown broadcast, or in drills, at the rate of from two to four bushels per acre, seeding with some large variety of Western or Southern corn, making a swamp of green foliage, succulent, but not nutritious. Plants of corn grown thus contain ninety-three per cent. and upwards of water, a good substitute for water in time of drought, when some farmers must drive their herds a long distance to slake the cattle thirst.

Such forage will do but little in the milk or beef producing line, a conclusion to which many farmers have arrived, after having tried it green as well as wilted, which latter is some improvement on the former. Farmers have also tried to cure it, but have become disgusted with it in every form. If by chance there is a long time of dry weather, it may be cured by staking up the stooks, or hanging the bundles across the fence. However handled, its value is very small, and is worth but little more than the same weight of swamp flags. Hence many intelligent, observing farmers have turned their attention to a better substitute for green pastures, and a full hay crop.

Instead of the former practice of lavishing from two to four bushels of seed per acre, to produce an almost worthless crop, from six to ten quarts of some large varieties of sweet corn are sown in drills, well manured, and as early as the ground is warm enough to germinate corn. When the corn plant is up sufficiently large to hoe, the cultivator should be run through between the rows as for a field crop. With such treatment it will expand and cover the ground, at the same time caring out quite heavily. When the time arrives that the fodder is needed to supplement the short pasture, commence to cut it, doing the same the day before it is to be used, that it may wilt, thus enhancing very much the nutriment in a given quantity. Continue to cut as wanted for feeding, until the corn is full in milk; then cut it all, and stook as is usual with the field crop. It has sufficient stamina to stand securely for any length of time.

Continue using this fodder corn while it lasts, and the longer the better for the interest of the dairymen, since from this kind of feed butter or cheese can be made as extensively and of as fine quality, during the entire fall, as from the best pastures in June. This practice obviates the necessity of turning the cows upon the meadows, to say the next year's crop, as too many feel obliged to do to keep the cows from failing altogether. This kind of fodder will yield from eight to ten tons of dry feed per acre. Some dairymen think to extend the profits of the crop by plucking off some of the ears for the hogs before feeding the fodder corn to the cows, but it is a reprehensible practice. As an old Quaker once said, in describing the progress of cheese-making, that "some people remove in the morning the yellow scum from the milk which forms through the night, but he always let it remain, and liked the cheese rather the better for it." So with the cows; they prefer the fodder rather as nature has left it.

Now for the reason why fodder of the last de-

scription is far more valuable than the kind described at the head of this article. The corn plant grown in a dense mass, without earing, contains very little starch or sugar; in fact, any barren stalk of corn, grown in the field crop, has but a small amount of sugar as against one that produces corn. The barren stalk is destitute of the constituents which nature has provided to furnish the nutriment required to perfect the ear, of which the stalk partakes liberally at the same time, thus increasing its value over the barren stalk. In northern Vermont and New Hampshire the Sanford white corn is being grown quite extensively for fodder, and this is probably the next best variety to the sweet corn, since cattle eat it quite clean. Dairymen need have no fears that the cattle will reject the butts, however large, if the sweet varieties are grown. No prudent farmer should neglect to provide against a short crop of grass, when he deliberately counts the cost of so doing.—*American Cultivator.*

The Pea Weevil.

A correspondent of one of our foreign exchanges makes the following statements in regard to the pea weevil:

At the meeting of the Ashmolean Society of Oxford recently, I exhibited a number of small weevils which had been sent to me by Rev. J. C. Clutterbuck from Long Whittinham, and which had been found secreting themselves in still standing stubble (having crept heads downward into the tubes of the straw till they reached one of the knots). Mr. Clutterbuck had observed them in this position a couple of months ago, and had sent a short note to the *Oxford Journal* on the subject. It appears that the stubble is usually left standing and the seed of the red clover is sown in drills among the stubble, and that it is often entirely eaten off as soon as it springs up by an insect predator. In those beetles I immediately recognized the small brown weevil, *Sitona lineata*, which is too well known as destructive to pea and bean crops. Lucerne is also attacked by them, whole fields of which have been destroyed even after two or three sowings. A full account of the insect, as far as its habits were then known, is given by Mr. Curtiss in his "Farm Insects," and it is added that "where the eggs are laid or on what the larvae of the weevils feed is not known." It is, however, quite certain that the cereal crops are not touched by the weevils in any state of their existence for the purpose of food; and we thence arrive at the conclusion that the weevils have been bred in the neighborhood of the clover in the preceding summer, and that their instinct leads them to the stubble, the tubes of the straw forming excellent hiding places during the winter months; suggesting further the desirability of burning off the stubble in the cold weather of winter, in preference to leaving it later, when the increasing warmth gives fresh life and activity to the beetles. It is almost impossible to observe them on the ground, as they are just the color of the earth; and, moreover, they have the habit of feigning death when disturbed. Care must therefore be taken that they are not shaken out of the stubble when it is burnt. I am further able to state that the grubs of the weevils inhabit small galls in the summer months on the root stems and rootlets of peas and beans, and I exhibited a drawing made some years ago of a pea root from my garden, infested with these galls and their enclosed grubs. Hence the perfect insects are developed from the grubs at the end of the summer and autumn, ready to attack the newly sown peas, vetches, clover, beans, maize, etc., as soon as they appear above ground.

Extraordinary Yields of Wheat.

The reported yields of wheat in California reminds us of the trite saying, "Hills are green afar off." The report so widely circulated of large fields producing 70 or 80 bushels per acre has induced some Canadian farmers to seek their fortune in the much-talked-of State. The *New York Tribune* makes the following comments on the extraordinary yields of wheat, demonstrating that the averaging produce is not higher than that of Canada, if really as high:—

Averments of extraordinary yields of wheat in Colorado, California, Oregon and Washington Territory, have been frequently made, rarely with sufficient verification. The upper range of such statements usually comes within 60 to 80 bushels per acre. There is no doubt that exceptional crops

have sometimes approached these figures, just as yields of 40 bushels per acre are occasionally found in every good wheat-growing section of the country, while the average for entire areas in a series of years may be but 12 bushels, which in the present average for the country at large—just as John Prout, of England, claims to have obtained from one field 65 bushels per acre, when his whole crop averaged about half as much. Such statements, even if true, lead to utterly erroneous conclusions. The average for five years prior to 1860, according to the reports of the California Agricultural Society, was very nearly 20 bushels; almost exactly 14, which is only one-sixth greater than the general average for the United States. The Department of Agriculture has made independent estimates for nine years, making the average yield 1,366,100; the Assessor's returns for the same period, 1,393,100 bushels. The following table gives the State returns for nine years:—

1868, 17.56; 1869, 15.07; 1870, 11.69; 1871, 9.72; 1872, 14.99; 1873, 13.52; 1874, 14.03; 1875, 13.93; 1876, 15.04; total 13.93.

The year 1877 will reduce this average, but half to two thirds of a full crop having been obtained. As soon as the first freshness or virgin fertility is spent in California, as elsewhere, the rate of yield declines to a common level. And then come insects, blights, and other incidents of decay, which are already beginning to appear on the Pacific coast. As to the preparation for market, the main peculiarity is the very general use of "headers" in cutting, by which the quantity of straw to be stacked is greatly reduced. Horse-power threshers, capable of delivering 1,000 bushels of wheat, and 1,200 or more of barley, are increasingly numerous. They require twelve to fifteen hands, and ten to fourteen horses. The average cost of threshing is six cents in addition to board of threshers, making the real cost about eight cents per bushel. The price of cutting and stacking varies from \$1.28 to \$2.25 per acre—the lower price in the larger countries.

Orchard Grass for Sowing.

The extensive value of orchard grass (Cocksfoot) is indicated by the great attention now paid to it by agriculturists. It was but little known a few years ago in America, though highly prized in Europe for hay, soiling and pasture. Now there is no other variety of grass more highly esteemed. A writer in a recent number of the *Country Gentleman* gives his opinion of it as follows from his own experience:—

The value of rye sown in the fall is, I believe, admitted by all. It is a rich feed, and the earliest, and without great enrichment of the soil produces well. After this would follow orchard grass. That this has not been recommended as a soiling plant is a mystery to me, as it meets all the requirements. It is early; it is a rapid grower; it is rich in all the elements, particularly the principal ones; will grow till late in the season, and endures the drouth excellently. Still more satisfactory it is a grass—one of our pasture grasses, and cannot therefore be objected to as a single feed. It may be used the whole season, or pre-facced a few weeks by rye. It is earlier than clover, a better feed, and richer in general nutriment. Although it may not produce quite as much milk as clover (scarcely any other plant does), yet the quality is better, as it imparts the true grass flavor; and this flavor may be secured through the whole season. Being a rapid grower, it keeps fresh throughout the season, including midsummer with its drouths. This also favors frequent cutting—some four or five times in a season—which further implies an abundance of seed, and this in its turn means a strong soil. It is what is wanted to produce a great deal in a small space, say a ton per acre to each cutting. To try to do this on ordinary good soil with this grass, is to meet with disappointment. Make it as rich as possible, and make it deeply rich. Then the grass will be permanent, if occasional top-dressings of some strong manure are given. Plaster may be used advantageously every spring. The phosphates may be tried. A sure thing is a compost of stable manure with earth, applied when well mixed and decomposed. Fall is the best time for applying.

Here all the advantages of pasturing are fully realized, with the addition of shade for the stock in hot weather and the saving of manure, which, during the season may be put into the compost heap. Nothing can be simpler than this, and nothing secure more benefit. Those who insist on

variety may add a little meal. The seeds of this grass may be sown early in the spring (without grain crop accompanying), and it will afford two cuttings the same season, with sufficient growth after for winter protection, which should never be omitted. The great objection to this grass is, that it requires so rich a soil. But when it is considered that it returns, in the best of material, what has been given to it with a good profit upon it, and the advantage, therefore, of doing it on less land, which the increase in amount of feed and profit implies, it will at once be seen what advantage this grass has over other soiling materials. Besides, it will do well in an orchard, being a grass adapted to shade, as its name implies; and as the ground must be rich, it will not harm the trees. It is a grass also that the frost will not lift. Thus, a little land may be made to go a great ways, and do it permanently. But do not attempt it with a poor or ordinarily rich soil.

To prepare the land, the best way is to turn down sod somewhat early in the fall. If a heavy sod, and if largely composed of clover, all the better. Plow pretty deep, and cover at once with a heavy coat of good manure. Leave till spring, when plow again, cultivate and harrow till the whole surface is well mixed and mellow, and then sow. Do not apply less than 2½ bushels per acre, and be sure to get it on evenly, and then cover at once with roller or, better, smoothing harrow. Finish with a coat plaster. If stubble is turned down instead of sod, double the amount of manure is used, unless the land is rich. Plow it earlier so as to turn down the first coat of manure after it has been well washed out, and then apply the second coat of manure. Heavy and even sowing is required, so as to get a close set, this grass growing in tussocks. If this is accomplished, nothing can be better. It is not expected that this will be the case the first year, though two good crops may be realized. Give a good coat of compost in the fall. Remember that manure is the rough material on which to realize, and the more that can be turned into grass the better. Frequent cutting will give the feed the character of aftermath, a form of fodder the excellence of which is well established. Let me add another word. Orchard grass is somewhat tender—the portion above ground—and should have protection against the cold west winds in winter. An evergreen screen, a wood, or hill, will protect it. This will prevent the snow from drifting away, or if there is no snow, arrest the severe dry winds. See that the seed is fresh as well as sound and clean, and spare no pains to put the crop in well. A good start is indispensable. It will then do well at once, and is a crop that will answer for full soiling. Should the season be moist, favoring the growth of pasture, the grass may be cut and cured for winter feed of cows or growing stock. It should be cut three or four times. It is then tender, which the stock would not be, but hard and unfit for feed, if it is suffered to approach maturity. Always cut it when it bears the appearance of advanced aftermath.

"Does Farming Pay?"

At the present time, as never before, within my remembrance, the question is being discussed in public and private "Does Farming Pay?" In the *Ploughman* of Feb. 16th one writer presented some reasons in his opinion why it does not pay. In the following number, Feb. 23rd, another writer says in his experience "It pays." I am inclined to endorse the latter opinion, provided it is judiciously and understandingly prosecuted. I once heard the Hon. Durfee, now deceased, who established the plant house at Massachusetts State Agricultural College, make the following remark:—"No class of men, neither commercial, mechanical, professional, nor any practical enterprise whatever, entered upon their business so literally blindfold as did farmers." Farming is one of the greatest trades to be learned. We hear the remark made that if one fails in his profession, he can resort to farming for a living. I ask in all candor if a man would not be more likely to achieve success by retiring from farming to a profession, providing he ever had a call to either. "Ever learning but never coming to a knowledge of the truth" will apply equally as well to agriculture as moral training. Books are often resorted to; they may be called an aid, but the question arises whether they do not lead the student astray unless he has practical experience to balance the book theory.

There are those, I doubt not, who will bear me witness that they have learned more the last half of forty years' experience by far than they did the

first half, as regards the principles of cultivating the soil, the application of manures, raising stock, &c. My experience has been little by little, step by step, making experiments and noting the same, much to my benefit and enjoyment as well. Men are daily manifesting a desire to farm. To such there is encouragement. I venture the opinion that in the last forty years there has not been a time when a young man could enlist in farming with brighter prospects of success than the present. "How is that?" some one says; "prices are low." I maintain that prices are more than an average on produce, as a whole, when compared within the above mentioned time (forty years).

Many, very many, have learned to their sorrow that extravagance does not pay in any business, much less in farming. But for extravagance many a young man, with his "confiding, loving companion," to-day might be in possession of the beautiful residence which they have been compelled to surrender. Many of our learned agriculturists are doing much to diffuse information—much to their commendation—in aid of young men who desire to live by farming. Young men, let me remind you that the basis of all successful farming depends largely on the manure heap, animal and vegetable. Beware how you sow your money broadcast. Start right, keep right and you will come out right.—*A Farmer, in Massachusetts Ploughman.*

Salt for the Corn Grub.

The corn crop has several formidable enemies to contend with, and among them is the white grub, which sometimes literally destroys whole fields, or damages the crop seriously. One of the best and most convenient remedies—perhaps the very best ever suggested—is the application of salt as soon as the plant makes its appearance above ground, prepared and used in this way: Take one part common salt and three parts plaster or gypsum, and apply about a tablespoonful around each hill. It will be found to be a sure protection. The mixture should not come in contact with the young plants, as it may destroy them. This method has been tried over and over again by some of the best farmers of Pennsylvania, Delaware and Jersey, and when properly applied has never failed to be perfectly successful. We hope our farmers, who have reason to fear the depredations of the grub, the present season, will try this mixture, leaving a few alternate rows of corn without the salt, and communicate to us the result. The application also acts as a first-rate fertilizer, and will more than pay for itself in benefiting the crop.

Orchard Grass on "Muck Ground."

A correspondent asks if orchard grass would do well sown on mucky ground without plowing—merely dragging in. I have noticed in several different pieces that I have had that where it was most inclined to muck the grass was the rankest, but I think it of just as much importance to have a good seed-bed prepared for it as for any grain crop. In fact, it is quite a delicate seed about getting started properly, but after it once obtains a start it grows the strongest and lasts the longest of any of the grasses. As the middle of August is decidedly the best and safest time of any to sow it, I would advise the inquirer to plow early in the summer, to give time for subduing and making the land (muck) into fine tilth before seeding it down. But I have found it the best practice for me, in seeding orchard grass, to plant the ground in spring to early potatoes, and the tilling and growing and digging of this crop give time and tillage sufficient for the land, and the ground can be cleared of this crop in good season for the seeding to orchard grass.—*H. Ives, in N. Y. Tribune.*

The *Hanoverian Agricultural Gazette* states that the steward of an estate at Wienhausen has communicated a very simple remedy against the destruction of cabbage and other plants by caterpillars, which, if effective, is worth trying. He, it appears, noticed that one bed of cabbages had not been touched by caterpillars, whereas the cabbages on all the other beds had been all but entirely destroyed. On examining into the matter, he found that on the bed where the cabbages had not been eaten up by the caterpillars, the common dill (*Anethum graveolens*) had grown among them. Insects cannot stand the smell of dill, and its seed is poisonous to birds. As dill will grow almost on any soil, and thrives even on light sandy ground, it might be worth while to make some experiments with it.

English Live Stock.

From the annual report of the Veterinary Department of the Privy Council, as reported in the *Mark Lane Express*, we find that the total number of live stock in Great Britain on the 4th of June, 1877, was 36,357,825, namely, 5,697,933 cattle, 28,161,164 sheep, and 2,498,728 pigs; being less in the aggregate than the average of five years—from 1873 to 1877 inclusive—by 1,008,292 animals, but exceeding the total of 1876 by 44,752 animals. The importation of animals into Great Britain was as follows: From European countries 179,236 cattle, 848,315 sheep, and 18,745 pigs; from the United States and Canada 19,187 cattle, 23,395 sheep, and 810 pigs; from the Channel Islands 2,638 cattle and 2 pigs; from "other countries" 5 cattle, 449 sheep, and 17 pigs; and from Ireland 649,441 cattle, 660,774 sheep, and 585,427 pigs—making a total of 2,958,441 animals, against 3,226,948 in the previous year, thus showing a deficiency of 268,507 animals as compared with that year. This falling off in the supply was both from the continent of Europe and from Ireland. From the continent the deficiency was "over 87,000 cattle, above 194,000 sheep, and over 24,000 pigs." The deficiency from Ireland was nearly 17,000 cattle, and over 56,000 sheep, whilst there was an increase of over 72,000 pigs, as compared with last year.

An interesting feature of the statistical part of the report shows the relationship of the foreign cattle trade with the metropolis. Thus in 1877 there were 839,590 foreign animals landed at the different wharves of the port of London, representing 77,015 per cent. of the total importation of foreign animals into the country. Going further into detail, we find that these numbers are made up as follows: 93,852 cattle, or 47.298 per cent. of the total number of foreign cattle; 735,525 sheep, or 84.334 per cent. of the total number of foreign sheep; and 10,213 pigs, or 52.182 per cent. of the total number of foreign pigs. Another table gives the number of cattle, sheep and pigs brought into the metropolitan markets during the year, distinguishing the home from the foreign and showing the proportion per cent. which the latter bear to the total numbers of the markets. Thus we find the total numbers of stock exposed for sale in London, representing the foreign supply, 40.650 per cent. of the cattle, 51.298 per cent. of the sheep, and 85.715 per cent. of the pigs. In each table the numbers and averages are given for the five years from 1873 to 1877 inclusive, and the information is exceedingly interesting and useful, as showing both the large proportion of the foreign supply taken by London, and the insignificant proportion the whole must bear to the total consumption of the country.

The Story of Two Steers.

On the 22nd of last March I sold two steers which weighed 2,275 lbs. gross. One lacked a week of being two years old, and the other two weeks. Their dams were ordinary cows with a sprinkling of Shorthorn blood. The sire of one was a thoroughbred Shorthorn, of the other a half blood ditto. The one from the thoroughbred sire was judged by the buyer to be fifty pounds heavier. These steers were raised, as we call it, by hand. That is, they were not allowed access to the dams, but for the first three weeks were fed warm new milk, then skim milk was gradually added, until at about five weeks they were fed skim milk altogether. When three months old they were weaned, and fed nothing except grass until about the middle of October, when they were fed a little corn in addition, and as cold weather advanced the quantity of corn was increased, and about the 20th of November they were stabled and given hay as well as corn. From this time until the 1st of May they were fed fifteen nubbins, or half ears of corn each, twice every day, and also had what clover-hay they could eat. From the first of May until the 15th of October they ran on pasture without other food; then on stalks from which the corn had been gathered until the 1st of December, when they were stabled and fed as before, except that each was fed thirty half ears of corn twice a day until the 23rd of March, when they were sold. The manure and the advantage to pigs and poultry running after them fully paid for the hay they consumed, and thus for the grazing in summer and eighty-five bushels of corn, we have 2,275 pounds of gross weight. Corn has only brought here, for the last two years, 35 cents per bushel, after being hauled several miles to market; eighty-five bushels at 35 cents amounts to \$29.75; the cattle were sold for \$85.31, leaving \$55.56 for care and pas-

ture. There is nothing remarkable in this account, except in contrasting the weight and profit of these steers with those of ordinary farmers. They weighed as much as the average three-year-old and brought as much per pound, thus making a gain of one year's growth, and this gain was brought about by care, shelter and full feeding all the time. When farmers learn that shelter and attention are worth as much in breeding cattle as feed a great improvement will be made.—*Timothy Wilson, in N. Y. Tribune.*

Profits of Good Feeding.

A correspondent of the *Country Gentleman* gives the following details of his experience on this subject:—

Last fall I had the offer of a cow on an old debt, and hesitated some as to whether I had better lose the debt or take the cow, as she was old and very thin, but finally concluded to try and make something out of her, though the chances looked very small, and the boys made a good deal of sport of her, and said I would get nothing but her hide. She was farrow, and was not giving more than one quart of milk night and morning. I took her to the farm and told my man to do the best he could for her. He commenced feeding her apples, and though she gained steadily in milk, it was some time before she improved much in appearance; but after a while the feed and care began to tell on her, and in three months she was in good condition, and gave twelve quarts of milk daily. One week I brought from there nine pounds of nice butter, which the woman assured me was the product of nine days' milk, and at the same time sold two quarts daily, and used what they needed in the family, consisting of herself and husband. I expected to feed her well, and turn out to grass to fatten, but she proved so good for milk I concluded to keep her another year. She has kept in good order all summer, and given about as much milk as any of the cows, but we shall soon dry her off, as we expect to have her for a new milch cow this winter. I also bought last fall a flock of store sheep, just as it was time to turn in for winter, fed them till the 10th of March on hay and oat screenings, and sold them at an advance of \$2.50 per head.

Contracted Hoofs.

I have frequently observed a certain form of lameness to be more prevalent among mares than geldings. I refer to that condition of the feet where the hoof is hard, dry, and contracted, the frog bony and unyielding, and the sole brittle and inelastic. The animal is uneasy, frequently points first with one foot and then with the other, and is evidently trying to relieve a weary and aching member. The owner takes him to a farrier, who finds it almost impossible to pare the hoof with his buttress, digs down in either quarters for corns, and refits the shoe without relieving the trouble, because the nature of it is not understood. The fore feet alone are affected. Now, why should mares be more prone to suffer than geldings, and why are the hind feet exempt? The reason is readily perceived when we take into consideration that standing on hard, dry floors is the prime factor in producing the above condition of the feet. But be the stable floor primarily ever so dry, the hind feet are constantly on the soft and moist droppings of the animal, and are almost invariably healthy. The urine from a male falls backward, while that of the gelding is ejected forward, and consequently nearer the fore feet. If owners of horses will pay a little attention to these facts they will find that their horses may be kept from acquiring this bad condition of the feet, and those already injured may be in time wholly relieved. If a plank floor must be used, throw every morning sufficient fresh manure under the fore feet to give a good soft and moist standing place; do so not for one morning only, but every day, and never let your horse stand on a hard, dry floor.

The annual yield of potatoes in the United States, according to the returns of the last census, was nearly 150,000,000 bushels. In view of the increasing attention lately given to this crop it will doubtless show at the close of the present decade a large increase in the amount of the yield, as well as in the number and improvement of varieties. In fact, it may safely be assumed that, in spite of the fears of many in regard to the ravages of the beetle, this crop will still show a yield at the next census of over 200,000,000 bushels.

Castrating Lambs.

This operation should not be delayed after the lamb is a week old, as there is risk or danger after that time. The scrotum (in which the testicles are enclosed) has a lining membrane which is a continuation of the membrane that lines the abdomen. If the operation is delayed for several weeks and inflammation should follow castration, it is readily communicated to the abdomen, and serious consequences are likely to follow. At a week old the entire scrotum and testicles may be removed by a pair of sharp shears, with very little loss of blood, and the wound will readily heal. If the operation is not deferred until the lamb is several weeks or months old, greater care in the performance is required. In such cases the animal is held securely by the operator and an assistant; the scrotum is taken in the left hand, and the testicle pressed toward the lower end, rendering the skin tight and smooth. A free incision is then made with a sharp knife at the end of the scrotum, cutting through the lining membranes; the cords and vessels are scraped asunder (not cut) and the testicles removed.—*Western Rural.*

Popularity of the Ayrshires.

As a sign of the returning popularity of the valuable Ayrshire cattle might be cited the fact that at the fair of the New York State Agricultural Society, the Ayrshires outnumbered the heretofore preponderating Jerseys. The Ayrshire, as a butter-making breed, is hardly a rival of the Jerseys; these two should be companions, and not rivals, for each one has invaluable points. A fact of curious significance also, at this fair, was the absence of several of the old successful show herds, and the entry of new exhibitors, who carried off the honors. It is further worthy of remark that, with all our success in breeding excellent animals, our prize-takers are too frequently imported. Would it not be well to keep prizes only for native bred animals?—*Montreal Star.*

Pruning Ornamental Plants.

Pruning is a question now with every one who owns a tree or shrub set out for ornament. The first consideration in regard to these is neat and regular shape. It is best to humor the natural disposition as to form, although many trees, &c., can be grown in shapes entirely different from what they would assume of themselves if the shoots which are to be kept short are checked by frequent nipping of the ends during the growing season. This sends the flow of sap, and consequently the strongest growth, along the branches which are left unchecked. Much knife-pruning is very weakening, but least so if done just before the buds swell. If done long before, the stems are apt to dry; and if done then or soon afterward, sap escapes which should go to support growth, or it is thrown in too sudden a flow into the branches that are left, and they are gorged. There is, in all trees and shrubs of free growth, some thinning of the shoots wanted. Shorten in the sorts of flowering shrubs that bloom late on the same season's young shoots, like altheas, hydrangeas and paniculate spireas. Leave the best shoots of others in full length.

A WORD ON PIGS.—A correspondent of the *Milch Zeitung* insists upon the necessity of letting pigs have access to plenty of moist sand or earth in some form or other, and considers that the system of feeding them almost exclusively on skim milk, meal, and such materials is responsible for many of the ailments of the intestinal canal so frequently met with. He states that ailing pigs are often quickly restored to health by simply putting a trough of wet sand in their sty, and recommends that a supply should always be kept there for the inmates to help themselves *ad libitum*. Pigs roaming about at large consume a considerable proportion of earth with the various acorns, roots, larva, &c., that they grub up, and they should not be deprived of it when in confinement. Any one may convince himself by observation that it is a natural want. If a sucking pig but a fortnight old, that has never left the sty, be turned out into the open, it will at once begin to eat sand greedily if that be accessible, or in its absence will indulge in earth or cinders with almost equal satisfaction.

It is reported that 300,000 Texas cattle are "hoofing it" toward the northern markets, having started somewhat earlier than usual. There are also nearly 100,000 in Southern Kansas, ready for movement in June.

Early Lambs Pay Best.

It is becoming quite common now for the butchers in many of the large cities to go even an hundred miles by rail in quest of early lambs for that market. The price they pay the farmer is quite remunerative. It is a mistaken notion that lambs do not do well if dropped in cold weather. Lambs dropped on the first of February will grow more before the first of April than those dropped on the first of April will grow before the first of June. In order to grow the best ones, good, thrifty ewes of the mutton grades which have been mated with a thoroughbred Cotswold ram will be the best. The latter should have been put in with the flock about the first of October.

Much will depend upon the feed during the winter. As a rule, especially in this branch of sheep husbandry, the better the feed the better the lambs. Full feeding should be commenced early in the winter. Give in addition to good hay, corn, oatmeal and a little bran, and if possible, a daily feed of mangolds or rutabagas. A pint of oats and one of bran should be fed to each ewe previous to and after lambing, until turned out to pasture, and still longer unless the pasture should be very good. Winter rye, sown in the corn fields in August, would serve much of the time in the winter as a substitute for root crops.

Lambs from a flock managed in this way will be ready for market early in May and June, and will command high prices. They should then be sold, as they will bring comparatively more than at any other time. Many shepherds fatten the ewes as soon as the lambs are disposed of, sell them and buy again by the last of September. In buying more ewes it is important that those be purchased that have not been served by an inferior ram. We recommend this branch of business on the ground that we have never known any large market to be overstocked with early lambs. One thing in this line of farming must not be forgotten, and that is that there must be an ample supply of good shedding, dry bedding, dry yards and sunny exposures.

Raising Colts.

There is a crude notion prevailing that hardships make young stock hardy. A colt that is weaned in the fall, as is commonly the case, should not be allowed to become poor in the first winter. It is true that it will often improve so rapidly in spring that its wretched condition in the winter will seem really to have been an advantage to it, but this is a grave mistake. If the same condition were imposed during the whole period of growth the effect would be very perceptible. Although the summer may in some degree remove the effect of winter, no animal so treated ever becomes what it might have been in size, symmetry of form and usefulness, by generous treatment. There is profit in breeding nice carriage and draft horses. As a general rule it costs no more to raise a good colt than a poor one, while the former will bring two or three times as much as the latter. A dark stable is a poor place to keep a colt.

The Nettle a Useful Plant.

Some interesting experiments have recently been made in Germany with the common nettle, which bids fair to make that modest weed an article of considerable importance. They consisted in working it in the same manner as hemp, and the fibres obtained were as fine as silk, while they yielded nothing to hemp fibres as regards durability. A considerable area has now been planted with nettles in that locality.

Remedy for Smut in Grain.

Dissolve from one to two pounds of blue vitriol in water to every ten bushels of wheat, and pour it on the floor, where it can be stirred back and forth for twenty-four hours, until the grain is swelled to one-third more than its natural size and is colored throughout. It will require about one bucketful of water to every hundred pounds. If not wet enough the first time, add more water, until it is wet enough to heat and sweat. We think the above plan better than to soak it in vessels, and is certainly easier to handle in every way. Wherever the above instruction is carried out properly, we will guarantee no smut to be produced from the seed, although we have no doubt there are various causes for its appearance in small quantities.—*Colorado Farmer.*

Diarrhoea in Lambs.

Diarrhoea in lambs is a very common disease, and great numbers perish on account of it. The causes are mainly colds, but sometimes the food induces the disease. Dysentery is apt to take place in a few days after birth if the milk of the ewe is too strong and copious. When attacked, the lamb becomes languid, stands with bent back, or lies down frequently. The excrement is thin, whitish or greenish, and afterwards watery, and finally bloody. If no attention is given to the case the lamb dies, usually in from three to five days. The cure is not easy, and the majority of those attacked die of the disease; hence the attempt to prevent it as much as possible is of special importance. All injurious influences must be avoided, the sheep kept in warm places and given dry food and drinks mixed with flour. When the disease makes its appearance in a fold it is a wise plan to change the food. The following remedies are recommended:—Opium, 10 to 20 grains; rhubarb, one-eighth ounce, mixed with flour and water, given in one dose, two or three times a day.

Unevenness of Wool.

Oregon's wool crop is one of the leading products of the state, and it is rising every year to a position of higher importance. Not only is there a steady increase of the wool product, but a much greater degree of interest is being taken in the selection of varieties of sheep and proper care of them, as to obtain profitable results. Farmers are acting on a knowledge that a great deal depends on these things. They know that when sheep have been allowed to run down at some time during the growth of the fleece the acute and practiced eye of the wool buyer is able to detect the fact. A writer who is an authority on wool says that, as a matter of fact, there is nothing which renders wool so useless for certain kinds of manufacture as unevenness or break in continuity of the thickness of fibre; and there is no defect more common and nothing that year by year touches the sheep-grower more severely on that tender part of his anatomy—the pocket. However good the wool in all other respects, the keen eye of the buyer singles out the defective wool, and down goes the price of it. And it is not mere fancy that regulates the prices, for the uneven wool will break at the weak places during the first process of manufacture. Some persons suppose that this unevenness of fleece is hereditary in certain animals, and perhaps unevenness might be made hereditary by generations of ill-usage and neglect. But as the wool of an entire flock is found to be uneven one year, and not so in another, it shows that the management has more to do with it than descent. If sheep are allowed to get into bad condition, are neglected, under-fed or not sheltered properly, the pores will contract, and the wool that issues will be of very fine fibre. As soon as the animal recovers a vigorous condition the pores again open, and a longer and stronger fibre grows. The wool is thus weaker in one place than in places at each side of it, and breaks at the weak places on the slightest strain. Nothing induces unevenness more easily and surely than want of water. It is a common notion that sheep can do without water or very little. If supplied with roots daily they do not want much water; but it is well, and humane too, that water should be always within their reach. Not only is it important that the fibres should be even, but the fleeces throughout should be even as regards length, softness, density and firmness.—

Requisites for Tree Roses.

The tree dealers over the country are holding out strong inducements to purchasers to plant what they term "tree roses," or, as they are called in the nurseries, "standards." Now I think I speak within bounds when I assert that not more than one-tenth of all these plants in the hands of inexperienced persons will live. Not that under proper culture they are difficult to manage, but there are certain rules which are imperative to make them successful in the United States, although in England they grow as thriftily as the ordinary dwarfs. Our hot summer sun on the long naked stems causes an unhealthy state in the tops just when we desire to see rich dark green foliage and an abundance of perfect flowers. To obviate this those in charge of the horticultural grounds at the Centennial last year wrapped these stems in moss, which was kept damp by frequent syringing, hence

the luxuriant growth and beautiful bloom that followed this course of treatment. The surface of the soil around tree roses must be thoroughly mulched, and in addition to the soil being rich an occasional watering with weak liquid manure should be given them. An excellent plan is to grow them in large pots both winter and summer, and during the summer the pots to be sunk in the soil and mulched over the tops. During winter they must be removed to a cool cellar, when they will be in good condition for next season. In England these standards are used for forcing to produce buds for bouquets, &c., and by some gardeners are preferred to the ordinary plants. When standing in a vinery they succeed well, and really do admirably beneath the partial shade afforded by the vines overhead. In conclusion, I may say they are really charming adornments, but precarious to manage properly.—*[Josiah Hoopes.]*

Eggs as Food.

I think eggs, considering the nutriment they contain compared with beef, at least four times cheaper. To cook a pound of pork requires considerable wood and time. To cook a pound of eggs, little of either. The English vegetarians eat no flesh. They are on the average long lived, much longer than other people; they used eggs moderately. The way to cook an egg, according to my notion, is to put it into water of a temperature of 180 degrees and let it stand five minutes. The inside or yolk will be hard and the white of the egg will not be hard, but flocculent like curd, and easy of digestion. A little skill will teach anyone how to do this. The eggs are then delicious. The only dressing needed on an egg is a little good butter—at least I think so. Pepper and salt are only demanded by a morbid taste. Fried eggs, I think, are about nothing. A fresh egg dropped in water about 180° F. and allowed to remain four or five minutes, so as to cook through, and then laid on a nice piece of brown bread that has been toasted and dipped into hot water, is good enough for a king. Custards made from eggs are both nutritious and wholesome. For the feeble they are better than beefsteak and may be used freely.

American Horses for England.

It is less than five years since Admiral Rous, Lord Roseberry and other horse-lovers and horse-breeders of England, expressed apprehensions regarding the scarcity of horseflesh in Great Britain should any unusual exigency arise. The agitation of the subject and the statistical representations that were made caused an awakening to a certain extent, and breeding and importation became standard topics of discussion among the old and young frequenters of the turf and conservators of national interests. Whether the number of available horses was materially increased thereby does not appear, but the signs that England is now making energetic efforts to strengthen this weak spot in her service have extended even to this country. The account published of what a Brighton dealer had done and proposed to do in the exportation of horses indicates the opening of a profitable industry in this country. The experiment of shipping horses to England has been successfully made already, and the only thing to do now is to act upon the knowledge that we have, and make the most of our opportunities. The United States can furnish horses to almost any extent, and horses, too, of blood and bottom sufficient to satisfy even the most fastidious and critical Briton. No horses can be urged against Muscovite battalions with finer effect than those of America, while in the event of retreat—of course remote—they will be found equally serviceable. There are agents of the British Government in the west buying cavalry horses, and the farmers may find it advantageous to go into the raising of this kind of stock more extensively.—*Michigan Farmer.*

Precautions against insects of all kinds should be adopted early in the season, because when they are allowed to be developed to maturity they propagate eggs in such abundance that it is almost impossible to keep them under. The destruction of one early moth is a far better preventive than killing a hundred caterpillars.

Potatoes require a good deal of potash, and farmers cannot make a mistake in applying to the land on which they are grown either ashes or commercial fertilizers that contain a large per centage of potash. It comes cheapest in muriate of potash, being 50 per cent of actual potash.

Veterinary.

Brittle Hoofs.

BY JAMES LAW, F.R.C.V.S., OF CORNELL COLLEGE, ITHACA, N. Y.

Every horse owner learns, sooner or later, that the strength and integrity of the foot is of essential importance to the permanent value of the horse. "No foot no horse," is a hackneyed expression, but it is none the less true to-day than when enunciated by Lafosse or Jeremiah Bridges. The aphorism is especially applicable to England and English speaking nations, where a faulty system of shoeing has crowded the cities and roads with lame horses, and where even the Veterinary Colleges have considered it *infra dignitate* to give any sound and thorough instruction on this pre-eminently important subject. Among the most common failings in the foot, and one which is especially troublesome in the dry season, is that of "brittleness." This may be due to a great variety of causes, some of which are beyond the control of the owner, while others are to a certain extent susceptible of mitigation.

Many horses are born with unnaturally brittle hoofs, which no care can bring into a satisfactory condition. And yet in not a few of these the fault may be traced to improper conditions of life, which have operated on the sire or dam, or on some still more remote ancestor, and the effect of which has been propagated like the form and color. Illustrations of this may be seen on a large scale in the Belgian or Flemish horse, which, though bred in a dryer and more bracing climate, retains for generations the large, flat, soft hoof peculiar to the breed. Also in the Arabian, which retains its narrow but strong, tough and resistant hoof, though it saw the light at the antipodes of the dry, sandy plains of its ancestral race. Many breeders will recall instances in which a sire or dam, the victim of some accidental disease, producing permanent injury to the foot, has afterwards produced foals, a majority of which fail in their feet under the slightest provocation.

In other cases the feet suffer from a generally improved nutrition. A horse in poor health from starvation, abuse, disease or overwork shows this in the dry, unthrifty coat, the lack of lustre and the late shedding, perhaps more than in any other part of the system. The hoof, which is a product of the same material and from the same source as the hair, is equally affected with it in these conditions; and thus is often laid the foundation of thin, imperfect, brittle hoofs, deficient in toughness and in power of resistance to tear and wear.

A third cause of brittle hoofs is to be found in excessively hot localities; and above all wet mucky strawyards, in which the feet are kept continuously soaking day after day. With this may be classed the standing on accumulations of decomposing and reeking manure, from which damp ammoniacal products rise to continually steam the feet. These soak and soften the horny matter, enlarging the horny tubes and expanding the intertubular material, so that the power of resistance to strain or attrition is to a large extent lost, and when the horn is allowed to dry it splits and breaks up under the slightest strain. When to the simple soaking is joined the influence of the ammoniacal vapor the case is still worse; for this, like other alkalis, has the power of dissolving horn, and after a prolonged exposure the disintegration of the hoof is an affair of great simplicity.

A fourth cause may be found in want of care and regularity in feeding and watering. An overfeed of grain is very often followed by severe inflammation of the feet, and still more frequently by a slight irritation, which, impairing the nutrition of

the horn, causes drying, hardness and contraction, while pinching the already irritated structures, serves to increase the fault of nutrition, and thus to go on in an increasingly vitiating circle. Drinks of iced water, or of cold water, when heated and fatigued, are another frequent cause of the same trouble.

A similar state of things is a common result of a severe purgation; the irritation in both cases commencing in the stomach and extending to the skin and feet.

But of all causes of brittle hoofs, perhaps none is more generally operative than faulty shoeing. The blacksmith is too often satisfied when he has attached a rim of iron to the lower border of the hoof, without any too nice consideration as to the perfection of fit or the evenness of pressure. Many, indeed, to secure a tolerable adjustment, apply the iron at a red heat, and, by a somewhat prolonged application, burn down the offensive elevations. In the feet and on soles already well habituated to such applications the heat is transmitted to the deeper, sensitive parts, and irritation being set up, the nourishment and growth of horn is impaired and the foundation laid for permanent weakness and brittleness. In other cases the sole and frog are well pared out, the flakes and powdery horn removed, and the knife carried deeply into the tough, elastic horn below. As a result, the natural moisture is rapidly exhaled from the open ends of the horn tubes, and the horn dries, hardens and compresses the sensitive parts above like a foreign irritant. This paring is especially to be condemned when it implicates unduly the heels and bars. These, with the frog, form the natural supports of the wall, and, if destroyed, allow the latter to curve in beneath the sole and to press most injuriously. Another common fault is to apply the shoe on a foot with a greater depth at the outer side than the inner, or an undue depth at toe or heel. A still worse method is to apply a shoe so as to press very unequally on different parts of the circumference of the foot, thus straining particular points unduly. Still another is the application of the shoe on the lower border of the hoof wall only, without the natural support which should be obtained from the sole rising to the same level, wherever practicable. Some do much damage by setting clips in deeply at the toe or sides, and then paring away the adjacent overhanging horn of the wall. The driving of the nails too high and too close to the gincle, and the drawing of them too tightly in clinching are often very noxious. Finally, the rasping of the front of the hoof is quite as hurtful as the undue paring of the sole. In both alike, the open ends of the horny tubes are exposed, excessive exhalation is induced, the shrinking, underated horn presses inward on the gincle and imperfect nourishment and brittleness are inevitable. I need only further hint at the bad results of having shoes on until they set in on the heels, at the bruises attendant on the accumulation of hardened clay or stones above the shoe or in the sole, and at the jarring attendant on severe or rapid work on hard roads or paved streets.

To the reader must be left the deduction and the application of the various preventions suggested by the above remarks, and in cases of actual brittleness good may be derived from such measures as the following:—When there is undue drying and contraction of the feet, the shoes may be removed, the edges of the hoof rounded and the foot poulticed or placed daily for twelve hours in a wet clay puddle for a week or a fortnight. The skin above the hoof should meanwhile be greatly stimulated by frequent applications of acitum cantharides. When the foot has been sufficiently expanded the soaking must be stopped and the entire hoof daily anointed with a mixture

in equal parts of linseed oil and crude turpentine. The acitum cantharides may still be applied at intervals to keep up a slight heat and irritation around the top of the hoof, and to increase the growth of horn. When shod, the greatest care must be taken to have the shoe perfectly adapted to the foot, and to preserve the latter in every available point, so that each portion may obtain due support from its fellow, and that all may grow increasingly thick, strong and resistant. In many cases a pad of leather below the hoof and shoe will serve to diffuse injurious concussions, while in others missing portions of the lower border of the hoof wall may be advantageously repaired by gutta percha, rendered more adhesive by admixture with gum amoniac.

The Apiary.

How to Become Successful.

In order to become a successful apiarist, three things are absolutely necessary:

1. A location abounding with honey-producing plants, of the different varieties, both early and late. For early—such as willow, elm, soft maple, cherry, plum, apple, currant, gooseberry, raspberry, etc.

For summer—white clover, basswood, mustard, cucumber, squash, poplar, pumpkin, etc.

For fall—buckwheat, golden rod, wild sunflower, and all the many varieties of flowers that bloom in August and September—thus keeping one continual flow of the saccharine juices of nature's laboratory, from early spring until the icy hand of winter prepares all nature for her long slumber.

2. A good hive—not such as our fathers used (the old log gun, nail keg, round straw cap, etc.)—but a hive that permits every comb to be taken out and examined, and all necessary operations performed without killing a single bee, or exciting their anger. It should afford suitable protection against extremes of heat and cold, sudden temperature and the injurious effects of dampness. It should be capable of being adjusted to the wants of either large or small colonies; to allow the combs to be removed without any jarring; and to furnish all needful security against the ravages of the bee moth. The bottom board should be permanently attached to the hive, for convenience in moving it and to prevent the depredation of moths and worms; and it should enable the apiarist, who relies on natural swarming and wishes to multiply his colonies as fast as possible, to make vigorous stocks of all his small after-swarms. Such swarms contain young queens, and if they can be judiciously strengthened, usually make the best stock hives.

3. In order to become a successful apiarist, it is necessary that he should understand the internal economy of the bee-hive, to some degree at least, and unless he is in possession of such knowledge (he may be in possession of the best hive in the world, and be placed in the best locality that the country affords), he will be almost absolutely certain to make a failure.

I know a man that has 200 colonies of bees, and his average amount of surplus honey per hive will not fall short of 50 lbs. He is the right man in the right place, and has the right bees in the right hive. With him it is bees first, and recreation and hunting afterwards. Such a man will succeed in a greater or less degree in any locality where fortune may place him.

The enemies of bees are: Toads, spiders, woodpeckers, king birds or bee martins, as some call them, the moth miller, and man. But the moth miller is the most destructive, if we except man.

Think of the colonies so arranged in the apiary that the young queens fail to enter the right hive, and thus are lost, while the stock has no means of raising another; thus becoming a sure prey to the moth miller or to be robbed by other bees; and if not robbed, the whole inside of the hive becomes one's lid mat of web and worms; and after all, the whole damage lies at the door of the self-styled bee-keeper; with a little knowledge on his part, nine tenths of the damage might have been averted. Look at the increased destruction of bees for the past few years, brought about by the construction of clap-trap hives, by those utterly ignorant of the

first principles of a good hive! Some moth nurseries, some smothering pits, during the winter!

Is it, then, any wonder that man should be called the greatest enemy of the bee?—C. H., in *American Bee Journal*.

The Parasites of the Honey Bee.

I have investigated this subject for two years past, and during the past winter have given it special attention. While examining the dust which is found upon the bottom-board under a swarm when wintering well, I discovered numerous minute insects. I have so far observed six different forms, but have not become sufficiently acquainted with them to determine whether or not they are all distinct. I have studied their habits and the circumstances under which they are found to such an extent that I feel warranted in the belief that much of the uneasiness of bees in winter quarters, and consequent poor success in wintering, is largely due to the presence of these parasites. My observations also indicate that immature young bees, which are often thrown from the hive during spring and summer, sometimes in large numbers, have been destroyed by these insects.

These facts lead us very naturally to an explanation of what has been the greatest mystery and obstacle to bee-keeping, viz., foul brood. I am decidedly of the opinion that both this plague and its almost total eradication are due to the operations of different varieties of parasites. Our experience with cabbage and currant worms, potato beetles and other pests, whose devastations are sensibly checked by their respective parasites, corroborates this view. I find, upon a study of Packard upon "Our Common Insects," that the subject of parasites on honey bees has received considerable attention abroad, and that the cause of foul brood is therein attributed to the feeding of these parasite insects upon the immature bees.

—L. C. R., in *Am. Agriculturist*.

Stock.

Washing and Shearing Sheep.

Indiscriminate washing of sheep previous to shearing, whether they really want it or not, is now going out of fashion. The wool, no matter how cleanly washed, will not be used by the manufacturer without a thorough scouring, and it is now a settled thing with many intelligent farmers that the few cents a pound extra that washed wool will bring will not compensate for the cost of the labor of washing and the danger to the health of the sheep and the men employed to wash them. Only those sheep the fleeces of which are soiled with mud or dung are now washed.

As to where the shears are to be first inserted and how the shearer is to hold his sheep, are points for the shearer to decide. I should insist that the fleece be always taken off as an entirety, with exception, perhaps, of the belly and tags. Also see that the wool is not cut to pieces nor backed by cutting twice in the same place. Each stroke with the shears should be clear and complete, and made close to the body. If a mis-cut be made, let it go at that; for if you do leave a half inch of wool at that spot, you get it next shearing, and if cut now it will be too short to be of any use to the manufacturer, and will only injure in his estimation the parcel of wool in which it is discovered.

In opening up the neck or shearing the belly, when it becomes necessary to open the wool, let the shears be worked in gradually, cutting the wool of an even plane close to the skin until they are in and underneath the wool as far as they will go; then raise them, tearing the fleece open. Thus, commence at the point of the shoulder, working up towards the head. This prevents cutting the staple along the neck and makes a better job. In shearing on the floor a man has better control of his sheep. If shearing on a bench, catch the sheep by the left hind leg, back it towards the bench, and roll it over thereon; set it up on its butt, and then, as you stand with your left foot on the bench, lay the sheep's neck across your left knee, with its right side against your body; now take the two fore legs under your left arm, and begin about the centre of the belly and open the fleece fore and aft. Shear what would be the left side of the belly if the sheep were on his feet; also the left side of the brisket. Now cut off all tags from the inside of the hind legs, and shear the breach as far as you can reach in this position. Return to the point of the shoulder, going up under the wool

with the shears as above described, to the butt of the ear; now shear around, taking off the fleece as an entirety and including the foretop clear around the neck.

You will proceed thus down the left side, taking the left fore leg by the way, and shearing as far around the sheep as practicable while holding it in the position described, which will be two or three inches past the spine. On reaching the hind leg, say about the stifle, you will then insert the shears at the inside of the hocks (wool below that point is commonly tags), and shear around that leg back to where you left off on the stifle joint. Should the sheep persist in kicking at this stage, place the palm of your left hand on the stifle joint, which causes the leg to lie out straight. Shear clear around to the breach or the place shorn when working on the belly taggings, and go clear around past the tail, so that were the sheep standing on his feet, everything on the left side, including one to three inches on the right side from the spine, from head to tail and including the whole tail, shall be shorn.

Now, taking the left hind leg (the one that is shorn) in your left hand, swing the sheep around with its spine directly towards you, being careful that some of the fleece goes under him, for his left hip bone, which is shorn and bare, now comes in contact with the boards, causing him to lie uneasily. Now return with the shears to the head or neck, and go down the right side (the "winning side," as it is called), taking in the two legs and right hand side of the brisket and belly. You may now finish up, trimming off any tags that may have escaped, including that wool on the legs below the knee and hock joints. Now see that the fleece is all clear from the sheep, and let the animal go. Next, gather up all bits of fleece and tags together with the fleece itself, and give them to the man who ties up wool.

If the floor and bench round about be clean, proceed to catch another sheep; if they be not clean and if any excrement has passed, it is to be taken up and thrown out of the pen. It will be seen by this description that the wool all through the operation will hang down and have a tendency to fall apart. This is counteracted in a greater measure if the sheep be shorn on the floor than on a bench, for, though the same manner of opening up and shearing is pursued, still as the shearer goes down each side the sheep lies on the opposite side, and the distance from that point of the fleece whence the wool is hanging to that point on the floor where it is resting is not so great as where the sheep sits "up on end."—*Farmers' Home Journal*.

Roots for Stock.

There are several varieties of ruta bagas good to raise for feeding stock. Two sorts, as good perhaps as any, are Lane's Improved and the Yellow Globe. Both are of good quality and give large yields. A rich loam with a little mixture of sand is the best soil for turnips, and should be made clean and of fine tilth before sowing. The latter part of June in Central New York is generally preferred, though some do not sow till July. One pound of good seed is enough for an acre. Bone meal is a special fertilizer for all plants of the turnip kind, finely ground bone meal is a good thing to drill in with the seed. Sow in drills with a machine, just far enough apart to admit of cultivating with a horse, say thirty inches, and keep the ground clean, especially while the plants are small. They should be thinned out as soon as well established. On good ground, with average care and a fair season, twenty-five to thirty tons to the acre may be reasonably expected. Some claim larger crops. A large, cool cellar is the most convenient place to winter them. They require a low temperature. They can be buried out in heaps safely if the heaps are not made so large as to induce heating. By mixing fine, moist earth among the roots, either in layers or by filling it into all the spaces between them, the dirt will take up the exhalations from the roots, prevent sweating and heating, and admit of putting many more in a pile than could be done without mixing dirt with them. Ruta bagas do not generally yield as largely, with the same ground and care, as mangel wurzels, and the latter is also the surer crop, and gives better flavor to milk.—*Prof. L. B. Arnold*.

A German priest was walking in the head of his parishioners over cultivated fields, in order to procure a blessing upon the crops. When he came to one of unpromising appearance, he would pass on, saying: "Here prayers and singing will avail nothing—this must have manure."



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Lucerne.

SIR,—Last year I put down a piece of ground to Lucerne, sowing in the early spring, broadcast. The land is a dry knoll, with a light clay, loamy soil, and was tilled carefully in roots for two years previous. The season turned out to be the driest one we have had for many years. I was quite disappointed at the great growth of weeds with the Lucerne, and cut it all down at about ten inches in height. The next growth overcame the weeds, and I had another cutting, but almost free from weeds and with longer stem, and a consequent heavier crop. We had little snow during winter, and I have been anxiously waiting to see what effect the cold has had; and to my gratification, I have to-day a strong, heavy growth of eighteen inches long, and we begin to cut it to-morrow for the horses. Two acres and a half should feed four horses all summer. This may be interesting to some of my brother farmers in Ontario. We are having wet weather continuously, occasioning great delay in getting in the crops. We will be nearly two weeks later than last year.

HABITANT.

St. Lambert, 6th May, 1878.

Weather Reports, Frost, etc.

SIR,—In October last Mr. Vennor came out with his forecast of the winter as follows: "Autumn marked by a fine warm Indian summer, after a rather early cold turn, and ending wet. Winter short, warm, wet and open, with one or two severe turns of short duration. Altogether gloomy and not healthy. Spring very wet up to the middle of June. Summer intensely hot and oppressive. The winter will be favorable to the increase of throat diseases and fevers; also cattle diseases. I agree with Professor Mansell in anticipating the approach of Asiatic Cholera towards northern latitudes." Still later he anticipated snow in May. As far as regards this part of the country, his anticipations have been fully realized. Since the 18th April we have had twelve days with more or less rain, and on the 11th inst. a sprinkling of snow followed by sharp frost on the 13th and 14th inst., which has severely checked the fall wheat, although as yet no injury has been done to the fruit blossoms. These remarks respecting the fruit blossoms apply only to the lake shore. I have just been informed that in the back concessions, where the soil is gravelly, and consequently the fruit blossoms earlier than here, the plum and pear blossoms are destroyed—17th May, 1878.

Should Mr. Vennor's forecast of the summer weather prove correct, we may expect a harvest similar to that of 1876, which appeared very promising until near the end of July, when frequent and heavy thunder showers, with excessive heat, caused the grain to ripen prematurely and the straw to rust. As for the Asiatic Cholera, the medical men in Armenia—where so many thousands of the victims of war are left unburied, or at the most, with a few inches of earth over them—fully anticipate an attack either of Asiatic Cholera, or, what is even worse, the Plague, as soon as the summer is fairly set in, and we can hardly expect to escape the visitation.

I notice that the Board of Trade in Toronto complain of the deterioration of the wheat of late years; they find it difficult to get No. 1 white wheat, whilst the No. 2 is full of smut, and they recommend that application should be made to the Provincial Assembly at its next session to pass some measure to enforce the Canada Thistle Act, which was passed several years ago. What is principally wanted is a public prosecutor to enforce the law whenever complaints are made to him. The County Crown Attorneys might act as such within their respective limits.

SARAWAK.

Turnip Ground.

SIR,—I plowed down my pasture field in the fall of '77 with a gang plow, and this month I gave it a good coat of barn-yard manure and plowed it again. The soil is very well rotted. Please inform me through the June number of the *Advocate* which way I had better sow, on the flat or in the drill; also, what time to sow, and what you think of my plan, as it is something new in this vicinity.

T. W. M., Hamilton Tp.

[In your communication you wholly omit an important factor—what is the natural quality of the soil. If this be at all adapted for turnip growing, your preparation of it should be repaid by a good return. If the ground be not too much inclined to wet, open the drills on the flat surface, not raising drills at all. We take it for granted that you will have the soil friable and well pulverized. The best crops are generally obtained by sowing early in this month (June).]

Ants in the Strawberry Bed.

SIR,—I have a nice lot of strawberries, but a large number of small ants have begun working among them. Can you inform me through the *Advocate* what will destroy the ants without injuring the plants?

M. W. P., Nova Scotia.

[It said ants will be driven from their haunts by onions thrown over the ground. The effectual remedy is to turn up the land after the strawberries are all used. You can then transplant them in fresh soil.]

Estimate of Wheat Crop.

SIR,—Can you inform me through the *Advocate* the proper way to value fall wheat by the acre in plowing, sowing, harrowing and seeding—also the best way to raise turnips.]

T. S., Wallaceburg.

[It is impossible to give you the information you ask for. The value of the wheat crop cannot be ascertained unless by being examined carefully by a judge of growing crops. You can yourself form the best estimate of the expense of the crop. Some land costs much more than other land for plowing and other labour, and some require more seed. Heavy land especially is hard to work, and the cost of labour is proportionally heavy. Some crops are worth twice, and some ten times as much as others.]

Wm. J. McK., of Selby, P. O., asks, are ducks and geese profitable.

[The profit of ducks and geese depends pretty much on the care taken of them. In the vicinity of a track of commons, or other land of little value for goose pasture, geese will, if well cared for, pay well for the trouble. Ducks are a profitable stock with care, and they are, besides, very useful for destroying injurious insects in a garden.]

SIR,—Please inform me in your June issue how many days in a year a man is entitled to for himself if hired by the year. Is a hired man entitled to the Queen's Birthday? Legally, can his employer compel him to work on that day; and if he does not work on that day can he be charged with it as a last day.

W. V. B., Trenton, P. Q.

[A man hired by the month or year can claim Christmas Day, Good Friday, the Queen's Birthday, Dominion Day and any other holiday that may be proclaimed by the Governor-General of this Dominion. He cannot be charged for leaving work on any of the above-named days, unless at the time of his engagement it had been stipulated that he was to work on such days.]

What the Canadian Agricultural Emporium is Doing.

SIR,—Three years ago I purchased one pound of Red Fern Wheat from the Canadian Agricultural Emporium, and the next year had one-half bushel, which I divided with a friend. I sowed 20 lbs that year and had four bushels and three pecks, making about 14 bushels to 1. That winter I kept it in a barrel, and it mustered so as to be green with rust. I thought it would not grow at all, and I felt as if I had lost something consisting of gold coin. I saved it, and have for seed this year over twenty bushels of superior wheat. I can recommend the Red Fern to all Nova Scotian farmers to be one of the best wheats for the climate yet introduced, and it will be to their advantage to get it as soon as possible. It yields larger and better grain than any other wheat I have ever sown.

W. R. H., Cumberland, N. S.

SIR,—Having removed from Muskoka, Canada, to this State, we gave up your valuable paper, thinking the information in it would not be suitable for this State, but we have missed it so much lately that we are desirous to take it again, as we now think that much in it will be applicable to this place as well as to the north. I therefore enclose you one dollar for my subscription, and request you to mail me the back numbers from January last. Corn and cotton have been the principal crops raised here, but many are now turning their attention to the raising of small grain. The fall wheat crop, I am sorry to say, is nearly a failure, owing to an unusually mild winter and wet spring. Others claim that the Hessian fly is one great cause. Perhaps you could inform me who the maker of a plow I had in Canada, called the "Victor," is—a wooden beam one and very strongly made.

G. B. P., Charleston, Ark., U. S.

[Some of our implement manufacturers would do well to reply to the enquiry, as the inhabitants of that state import by rail from New York, and the prices are such that our manufacturers could find a probable opening there for some of their wares.]

SIR,—I write you concerning the prosperity of my new colony near Thunder Bay. I beg to say that all things are working favorable for a good settlement. The men for whom I have located lands are pouring in and commencing to improve them, and there has not been a man up here this spring to examine his land who has not given me the greatest praise for what I have done for him. I am sure they have the best encouragements—such good land so easily cleared with the prospects of such a good market for all kinds of produce. The mining interests are looming up better than ever before, and the farmer has a chance to be greatly benefited. This will be a great country for stock raising and all kinds of produce. I will be permanently settled in June, and will send you the names of many new subscribers this fall.

L. J., Thunder Bay.

**The Family Circle.**

"Home, Sweet Home."

A Centennial Ball.

"DEAR LILL,—We are to have a Centennial ball in Stockton next Wednesday. Do come and trip on the fantastic, and wear your great-grandmother's best bib and tucker. A mask ball too. Such larks! Yours forever, SUE AMORY."

Lill folded the note and sighed. What was a ball without Roger Roanoke! And what was Roger to her, or she to Roger that she should sigh, but a lover who had amused himself with her for a long summer at the mountain house where they had been stranded together, and then left her without a word? Why had he preferred her society to that of all the other and fairer women in the neighborhood? Why had he given up a trip to the Adirondacks, if not to linger by her side? Why had he spent hours of leisure reading Browning and Tennyson to her, looking into her eyes as often as upon the printed page, when he might have joined the shooting expeditions or the trouting parties? Why those bouquets and bonbons? Why had he been jealous when she danced with another at the hops? when Conrad Amory sent her a perfumed note with the last book out?

"Why those words a thought too tender
For the commonplace spoken
If the love was never meant?"

Above all, why had he kissed her hand at parting, and told her that she would hear from him? And why had he kept an obstinate silence ever since? These were questions which Lill asked herself over and over, till there seemed but one answer possible—he had been playing with her; only it had seemed so very like earnest that she was slow to believe it. He had even been in town, even passed the house where Lill moved and had her being, without knocking at the door. What more did she need to convince her? If he had written the letter and it had gone astray, would he not have received it again from the dead letter office, and would he not have hastened to explain? Perhaps it was quite as well that the flames which destroyed the Silver Creek House, only three days after Roger's departure from the mountains had swept away all the mementos of their sentimental acquaintance. How well she remembered that dreadful night, when she had gone to bed with a headache, requesting Aunt Delia, if any letter arrived for her in the evening mail, to tuck it under her door! how she had waked in the "dead middle of the night," with the flames lapping her bed hangings, and had only time to slip into a wrapper and run for her life, half suffocated with the smoke! But the loss of her summer

wardrobe, which she could ill afford, was half forgotten in the happy anticipation of Roger's letter, which never came. What should she do at a ball with a broken heart? Yet why should she deny herself the pleasures Providence had sent her, because a happiness had been withheld? She ought to forget Roger. Why not make a beginning now? She could never believe in any one as she believed in Roger, perhaps; but would it not be pleasant to show him that others appreciated the one he had spurned?

But the question of sentiment aside, that dreadful riddle which perplexes half the women in the world presented itself to her—what should she wear? Nothing less than a toilette a hundred years old at least would answer; and though most of Lill's clothes were old enough, yet they hardly reached that figure. There had been splendid brocades, that would stand alone, in the family wardrobe, but previous generations had worn them threadbare at dance and festival, while to borrow Lill was ashamed. Now that there was a lion in the way, she began to feel eager to go; she heard the twanging of the violins in her mind's ear, and her heart fell a-beating to the measure.

Up in the attic, in the camphor-wood trunk which her ever-so-great-grandfather had brought from India, ages nearer the beginning, there was an old-fashioned gown to be sure, carefully folded away from the light and the moth. And such a gown! a marvel of glistening white brocaded satin, with generous garniture of old lace and white lilac blossoms, so perfect and perfumed that one might fancy they had but just been plucked from the bush growing in the sunshine—a bridal gown that had never been worn by bride, which had lain year in and year out in the antique chest, with its carved brazen clasps, folded in tissue paper. Not one of all the gay and giddy girls among the first owner's descendants had dared to lift it from its hiding place and deck herself in its glorious sheen. Lill remembered to have it once, when Aunt Delia was in the spirit to exhibit relics, and had vouchsafed, "This is a sacred heir-loom of yours, Elizabeth"—Aunt Delia never indulged in abbreviations, and "Lill" savored of slang in her ears—"the bridal dress of your great-grandmother, when she was going to marry St. Regis Raymond; they had a quarrel, however, or some foolish misunderstanding, and that was the end of it. My great aunt used to tell us girls that grand-mother never loved grand-father—which was very wrong of her indeed—but she never would look on this gown again, which came straight from London, but hid it away in this chest, and locked it up, and threw the key into the mill pond; but one of us girls took off the hinges one day when she was dust and ashes, and brought the beautiful thing to light, but none of us dared to put it on."

"Oh, I should like to!" cried Lill.

"Elizabeth, I am shocked!" said Aunt Delia. "It would be sacrilege to put it on to gratify your foolish vanity."

"I wonder what St. Regis Redmond was like?" mused Lill.

"A gay deceiver, like most men, I suppose," replied Aunt Delia, with some asperity.

Lill had made up her mind to wear that gown to the ball, wickered as it would seem in Aunt Delia's eyes, and though the wraiths of all her grandmothers since Eve should appear and protest. Was it not her own? Would her great ancestor grudge it her? Wouldn't she understand that a girl whose heart had been wronged by a gay deceiver needed some distraction and recreation? Wouldn't she say, "Take it, my dear descendant, and be happy in it, as I expected to be?" In this belief Lill uncerthed it from the antique camphor-wood chest, and packed it away in her own modern Saratoga.

"What are you going to wear, Elizabeth?" asked Aunt Delia.

"Oh, some old dud."

"There's your blue tarlatan; but it has a bad rent in the flounce."

"I'll try and make myself presentable, and not disgrace the family."

"Your Tessa silk wouldn't look amiss."

"No, indeed, nor my seeded muslin—only they both fell victims to the flames last summer."

"Wouldn't my Pina muslin fit you at a pinch?"

"Not unless I put on pantaloons, thanks."

"Well, you can cover the rent in your tarlatan with flowers; it never having occurred to Aunt Delia that a Centennial costume was in demand. You'd better let me pack your trunk, Elizabeth; you'll be so hurried in the morning," continued Aunt Delia.

"It is all packed and locked and shipped, thank you," Lill replied, shuddering at her narrow escape.

Sue Amory knocked at Lill's door while she was dressing for the ball.

"Shall I come in? Oh, how gorgeous! You look as if you were clothed in snow-flakes. It has the real sheen of frost upon it."

"The frost of time," said Lill.

"Dear, dear! you'll put me all in the shade. Was it a wedding dress, Lill?"

"A wedding gown that nobody was ever wedded in. Oh, it's awfully romantic. I'll tell you about it some time. There! does my mask conceal my identity effectually?—not that any one knows me here without it."

"White satin mask and thread lace curtain! Well, you have bloomed out, Lill. Have you found the purse of Fortunatus?"

"But show when I remove the mask
A face that's anything but gay,"

misquoted Lill.

"And I meant to have dressed you up in grandma's yellow damask, with the black lace flounces."

"You thought I hadn't any grandmothers, eh?"

"Heavens! Conrad will fall fathomers deeper in love than ever."

"Pshaw! men have died, and worms have eaten them, but not for love. Is the carriage waiting, Sue?"

"The carriage and Conrad."

Lill discovered, directly the violins began to vibrate, that blighted affections had not robbed her of a desire to shine and waltz. Partners were plenty as buttercups in June; life was beginning to look warm and sunny again. If Roger slighted her, here were those who were eager to console her. She was wishing, with a sort of bitterness, that Roger might see her card; and just as that moment her last partner brought to her side a gentleman attired in a masquerade as antique and splendid as her own, who said,

"We seem to belong to the same generation. We ought to lead the minuet together, for the sake of auld lang syne. Have you a dance to spare me?"

There was but one dance, the very last, left unclaimed upon Lill's Tablet. "Last, but not least," said she, as he wrote against it the name of Mr. St. Regis.

Lill glanced at the name and turned cold. Then she bent her gaze upon Mr. St. Regis himself, who returned it quietly, impenetrable as the Sphinx.

"Are you cold?" he asked. "Perhaps we are in a draught."

"No; only there is something uncanny about all this. Of course you are not really Mr. St. Regis, and I was wondering—"

"Who I really am? I don't believe you would be any wiser if I told you."

"No, not that; I was wondering how you happened with that name, because—because— Excuse me, here is my partner," and she was flashing through space like a meteor.

"And now I am wondering why my appropriation of St. Regis should startle you," he resumed, when they encountered each other the second time. "St. Regis is a family name of ours; this very costume in which I am tripping on the fantastic toe, regardless of the woes of my ancestors, comprises the wedding garments of my revered great-grandfather, St. Regis Raymond—or rather the garments in which he was to have married his first love, but for some lovers' quarrel. To tell the truth, I am the first person who ever wore them. My great-grandfather was a somewhat sentimental youth, I suppose, since he refused to marry his second love in this suit; perhaps he thought it unlucky; but was it not a pity to let such fine clothes out to the moths? Romantic, is it not? You are surely shivering; let me fetch you a wrap."

"No, thank you. I am clothed and in my right mind, I believe. And St. Regis Raymond's first love was one Elizabeth Langdone, was she not?" gasped Lill.

"So the gossips say. But how happened you to know so much of my family affairs, may I ask? Are you Elizabeth Langdone, revisiting the glimpses of the moon?"

"She was my great-grandmother," said Lill, "and I am capering here in the very gown in which she was to have married your great-grandfather but for that same foolish quarrel."

"Bless me, what a coincidence! We are some sort of relation, are we not? Allow me to say that I feel proud of my great-grandfather's first love's wedding gown!"

"And I feel almost wicked in it. Aunt Delia could never forgive, if she knew—"

"Aunt Delia?" repeated St. Regis.

"Oh, I forgot we were masquerading, and I must not give you a clue. But you'll be no wiser: you may read the Stockton Directory through without discovering Aunt Delia."

"She would object to this appropriation?"

"She would call it sacrilege. But I am Elizabeth Langdon's only great-grandchild and her namesake, and all this splendor is my own—only it has never seen daylight before, so to speak. I can't say but Aunt Delia had it insured with the silver last summer when we went to the mountains and left it behind us. It was lucky, however, that we didn't take it with us to the Silver Creek House, because it was burned to a cinder, and all our dry goods with it, and had this been among them, I should not have been here to-night."

"For which we may thank our stars. May I ask among what mountains you encamped?"

"The Franconia. Don't you love mountains?"

"Absolutely dote upon them," laughed St. Regis. "And so you were at the Silver Creek House when it burned down? I remember reading in the Times that the guests barely escaped with their lives. And Aunt Delia was with you, eh? Isn't she a kind of aunt of mine? Did you have a pleasant summer?"

"Yes and no," answered Lill. "One must take the bitter with the sweet, you know."

"Spiced with flirtations and conquests, I dare say?"

"No; with neither."

"I was thinking to-day how few seasons there were in our lives which we would willingly live over."

"Oh, I would like to live over last summer, above all things," cried Lill, impulsively.

"I wonder in what its peculiar charm consisted? Perhaps you had an affair, if I may guess."

"That depends upon what you call an affair."

"Why somebody fell in love with you, and you fell in love with somebody—unless that kind of thing has gone out of fashion, with our present toilettes."

"Oh, indeed! I believe you're a story-writer."

"Then I guessed happily? How impudent one grows behind a mask!"

"And what did you guess, Sir Impudence?"

"That somebody fell in love with you."

"I never heard of it before."

"Then why, pray tell me, would you care to live over that summer?"

"Perhaps to break a country heart
For pasture ere I went to town,"

laughed Lill.

"Don't you think this is odd conversation for the descendants of our ancestors?"

"Rather," said Lill. "I wonder what they quarrelled about?" meditatively.

"Perhaps he wrote her a love-letter, and she took no notice of it."

"Perhaps he promised to write her one, and broke his promise—with a suppressed sigh."

"However, poetic justice demands that I should make a favorable impression upon you."

"Perhaps you have done so already," laughed Lill. "The violins are twanging. This is Mr. Amory's dance"—looking at her tablet—"a redowa. I hate redowas; but, all the same, au revoir. Certainly Mr. St. Regis was rather nice, and had a way not unlike Roger; and, besides, it was a bit romantic, and—well, she wished Roger could have known."

"Nice fellow!" said Conrad, breathlessly, echoing her thoughts. "Seems devoted—came down to Stockton from Bradford—chums at college. Bradford says he's suffering from an attack of unrequited love."

"Nonsense," smiled Lill.

"Yes; you'd think most any girl would give her ribbons for such a catch as Roger Roanoke."

"Roger—Roanoke?"

"Yes, that's his name. Didn't he tell you?"

"Roger Roanoke?"

"Yes, why not? Any objections, Lill? Sounds romantic; that takes the girls."

"Girls are not such fools as you men think, Conrad"—with a great effort. "My head is all in a whirl. I've danced too long. Take me out, please. I believe I'm going to faint."

"The room is deuced warm," and Conrad took her out, borrowed a smelling bottle, brought her a glass of wine, and fanned her as if she were a smouldering brand.

"Please order the carriage, Conrad, and send me home. These round dances always give me a headache. I'm just fit to go to bed, and nothing else."

To return to the ball-room, where Roger Roanoke waited for his promised dance, and to unmask at supper, were things beyond her powers of self-control: Perhaps, if she slipped quietly away, he would never remember to enquire for her.

And had she not confessed to him that she could live over the days when he amused himself at her cost, that he had made the summer both sweet and bitter to her? How odd that their ancestors had loved and quarrelled before them! Surely "history repeats itself," thought Lill, waiting in an anteroom, her face hidden in her hand—waiting for Conrad to bring her wraps. Presently some one carefully adjusted the burnous upon her shoulders.

"Thanks, Conrad," she said. "Sue won't mind my leaving?"

"I begged Mr. Amory to allow me to take you home, Miss Elizabeth," said Roger's voice. "I wanted to ask you why you never answered my letter."

"Why I never answered your letter? Oh, Roger, because you never wrote it."

"I wrote you a love-letter which might have melted an iceberg."

"I never saw it. I expected it; I—yes, I longed for it. Perhaps somebody else got it; perhaps—oh, it may have been burned that night at the Silver Creek House!" with a sudden illumination.

"Perhaps it kindled the fire with its warmth," he laughed.

"Shall I write you its counterpart to-morrow?"

"Letters are not to be relied upon; all sorts of accidents happen to them."

"Perhaps I had better come and repeat the contents."

"If you can remember."

"The spirit remains, if the letter is lost. Here already? Well, if our ancestors hadn't quarrelled, we should have been cousins, Lill; and then I could have kissed you good-night without offense."

"I suppose so."

"And what's to prevent me from doing so now?"

"Is there anything?"

"I should think not. Cousins! I would sooner be a nearer one yet and a dearer one, an it please you, Lill!"

"Modest to the last."

"Yes," said Aunt Delia, at the wedding breakfast, "I always thought there was something between you two sly kittens. The letter which I slipped under your door, Lill, after you'd gone to bed with one of your headaches, the night the Silver Creek House burned up like a rocket, I was sure it was Roger's handwriting, for I had seen it with some very sweet verses in your album, Lill. No, you can't deceive old eyes, if they do wear spectacles."

BODY AND BRAIN.—Motion is the exercise of the body, thought is the exercise of the brain. Motion at length exhausts the body, thought at length exhausts the brain. Cessation of motion allows the body to be invigorated, cessation of thought invigorates the brain. The body must have rest, the brain must have sleep. When the body cannot rest, as in convulsive diseases, it dies; when the brain cannot rest, when a man cannot sleep, every hour is a step nearer to the mad-house. Some men work themselves to death; some men think themselves to death. Too little rest for the body, too little sleep for the brain, are false economies of time, and multitudes unwittingly bring on wasting and fatal diseases by practising these economies. Omnipotence rested and commanded man to do the same. Sleep a plenty, rest a plenty—these are the foundations of all great, safe and efficient activities of body or brain. We once heard a man say that no time should be lost, that a book should be always at hand, so that in waiting for dinner or a friend, we might read, even if it were but a line. He practised this. He was accounted one of the greatest minds in the nation; his writings will live when the names of kings will be repeated but once in an age. He lost his mind and died in his prime! The truly wise will, therefore, yield themselves to nature's apportionment.

WHAT A PLANT CAN DO.—A little plant was given to a sick girl. In trying to take care of it the family made changes in their way of living. First they cleaned the window, that more light might come to its leaves, then, when not too cold, they would open the window that fresh air might help the plant to grow. Next, the clean window made the rest of the room look so untidy that they used to wash the floors and walls and arrange the furniture more neatly. This led the father of the family to mend a broken chair or two, which kept him home several evenings. After the work was done he stayed at home instead of spending his leisure hours at a tavern, and the money thus saved went to buy comforts for them all. And then, as the home grew attractive, the whole family loved it better than ever before, and grew happier and healthier with the flowers. Thus the little plant brought a moral as well as a physical lesson.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—This month I want to talk a little to you about saving pennies, for you know the old saying is, a penny saved is a penny gained. I remember when quite a little boy my great-grandfather placed his trembling hand upon my shoulder and handed me a penny, saying:—There Tommy my child is a penny for you, keep it, and whenever you get another put with it and keep adding so that when you become a man you can buy something useful. This good advice I want to impress upon all my nephews and nieces, "never forget it," then you will always have money of your own, and soon save dollars. Farmer's children generally have money in their pockets, made by doing little chores on the farm, and in nine cases out of ten, as soon as they get inside of a village their money goes for trifles which they would be better without. How many pennies are foolishly spent by young boys in tobacco and cigars. I have seen boys with rags hanging around them who seemingly felt as proud as Lucifer if they could have a cigar to smoke and some to offer to their comrades. Were those boys to think for a moment before spending their money and remember they might as well throw it in the gutter—and what their about to buy will only last a short time—when money and it are both gone. Whereas, were they to resolve to deny themselves it would not only give them strength to resist greater temptations, but they would have money saved to purchase some useful luxury.

We have much pleasure in sending the chromos to our nephews—W. S. Mercier, (he having answered the greater number of puzzles correctly,)—and Royal Grafton, he being the successful competitor for puzzles. Very great credit is due you all for the many excellent puzzles you have sent, some of which are published in this volume, and others will be inserted in after numbers.

If Maggie C. Burns would send answers to her puzzles we might insert them. **UNCLE TOM.**

PUZZLES.

41—NUMERICAL ENIGMA.

I am composed of 22 letters :
My 4, 8, 20, 2, 16 is great.
My 15, 5, 21, 22 is an abode.
My 18, 3, 11, 6, 1, 5 is a river.
My 10, 14, 19, 13 is close.
My 17, 7, 12, 9, 20 is to urge.
My whole may be seen in the FARMER'S ADVOCATE.

42—ANAGRAM.

Read smiter thiew,
Ew shiw ouy dogo higtgn;
Ew rea rosry cw nacton tyas gloren.
Ew evah naket nettwy-noc esage
Ta a nepyn a-cieep,
Dan felt het noumat hiwt eth ragend.
T. M. TAYLOR.

43—Whole I am a part of the human frame; curtailed I change the form of a natural production; behead and I am a sharp instrument; behead again and I am a preposition; curtailed I am a pronoun.
ROYAL GRAFTON.

44—PUZZLE.

My first is in wieter, but is not in spring,
My second in wisdom and wise;
My third you will find very easy in cling,
My fourth is in silence and noise.
My fifth is in king, but is not in queen,
My sixth is in powder and pill;
My seventh is in every day to be seen,
My eighth is in gallon and gill.
My whole is a city in Canada.
MARY MAYFLOWER.

45—My first is a kind of grain; my second is a pronoun; my third is a body of water; my fourth is a beverage; my whole is a town in Canada.
ROYAL GRAFTON.

46—ENIGMA.

The careful farmer, could he have his will,
Every individual of my race would kill;
But others (and in this they show good sense)
Make me 'gainst waves and and bullets their de-
fence.

And, what seems strange, I'm oft in close connec-
tion

With ladies of the loveliest complexion;
The old and wrinkled, too, I patronize—
Now tell my name, if you are riddle-wise.

W. FENNELL.

47—RIDDLE.

Twice name a creature formed for use,
Man's too much slighted friend;
Myself I next must introduce,
And with my country end.
My cruel total then appears,
A stain on history's page;
Sad source of many a mourner's tears
In every clime and age.

EMMA T. TURNER.

48—ENIGMA.

One hundred, when written in the shortest degree,
Two-thirds of the strongest of wood you can see;
Add fifty to that and make it appear
A thing that is useful throughout the whole year.

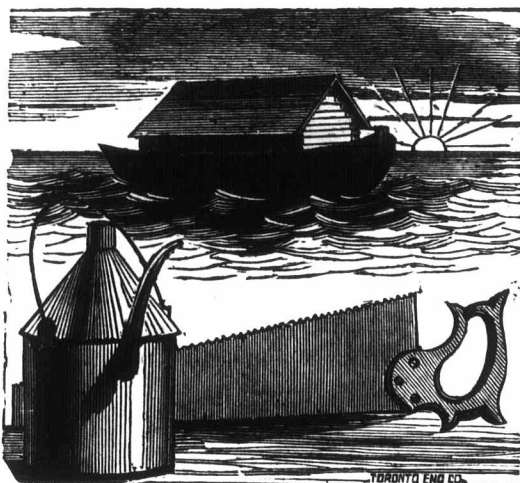
MARY A. ANDREWS.

49—DECAPITATIONS AND CURTAILMENTS.

Whole I am a lead worker; beheaded I am hewn
timber; again and I am ore of iron; curtail my
whole of two letters, and I am perpendicular;
again of one letter, and I am a fruit.

JAS. H. CROSS.

50—GEOGRAPHICAL REBUS.



51—PUZZLE.

Fill in the above squares with figures from 1 to 16 inclusive, no two to be alike, but to be placed in such a position that, when added, will make 34 every way that four figures appear in line.

ROYAL GRAFTON.

52—ENIGMA.

I am composed of 33 letters :
My 10, 14, 20 is a male child.
" 17, 23, 32 is twenty hundred weight.
" 10, 14, 26, 3 is a part.
" 20, 23, 24, 18 is not any.
" 12, 14, 10, 1 is second person of the verb do.
" 12, 23, 20, 33 is finished.
" 15, 14, 30, 8, 33 is to cheat.
" 1, 23, 14 is over much.
" 9, 23, 14, 1 is a part of a plant.
" 6, 14, 23, 21 is a quarter of an acre
" 6, 23, 5, 26 is to wander.
" 9, 14, 24, 18 is a name of a city.
" 6, 23, 27, 21 is a way.
" 7, 14, 19, 17 is a ditch.
" 2, 23, 24, 3 is one's dwelling.

My 28, 6, 23, 16, 32 is to sigh deeply.
" 1, 31, 7, 3 is season.

" 17, 11, 13, 25, 9, 32 is an inn.

" 4, 31, 26, 21 is to discover.

" 22, 31, 33 is to make haste.

My whole is a paper that cheers many a home.

ALICE MAUD MARY NICHOLSON.

53—SQUARE WORDS.

A river in Holland, a girl's name, a Biblical per-
sonage, part of the earth's surface.

54—DIAMOND PUZZLE.

1. A consonant. 2. A unit. 3. To hate. 4. Institutes of learning. 5. A beautiful fish. 6. Not well. 7. A consonant.

Answers to May Puzzles.

- 32—Marquis of Lorne and Princess Louise.
- 33—Glass, Lass, Ass, As, S.
- 34—Wheel, Heel, Eel, Ec, E.
- 35—The patriot's and the poet's flame
Must share the common tomb of all;
Their glory will not sleep the same
That will arise though empires fall.
- 36—Connecticut; 2, Bear; 3, Footstep; 4, Matice.
- 37—Salt, Amoy, Loam, Tyne. 2—Dame, Aden, Mead, Ends.
- 38—A little word in kindness spoken,
A motion or a tear.
Has often healed the heart that's broken
And made a friend sincere.
- 39—Stone.
- 40—Grain; 2, Soft.

Names of Those Who Sent Correct Answers to May Puzzles.

Mary A. Andrews, Amos Hawkins, J. C. Fritch, Maggie Blair, W. N. Winett, Z. M. Taylor, Minnie Barber, Harry W. Husband, W. B. Kennell, Wilhelm A. Mercer, 10; Maggie Blair, Alice Jones, Fred Graham, Alice Maud Mary Mabelson, Mary Jane Bowman, W. H. Groaty, Bessie A. Britton, Royal Grafton, Emily Tye, Elizabeth Simpson, M. A. Tackner, Mary Jane Clarke, James W. Jackson, Maggie C. Barnes, Elizabeth A. Flammore, Mary Mayflower, J. W. Thomas, James H. Cross, H. J. Fry, Charles Leach, Maria Summers, James Sutherland, D. Scott, John McArthur, M. North, Emily McPherson, James West, Frank McNaughton, Eva Woltzer, John Cruickshank, Peter McIntosh, Geo. Webster, Jenny Westland, Fred Chambers, Aaron Jacobs, Anna Williams, Jonathan Naim, Stephen Franklin, Lizzie Tompson, Thomas Hall, Henry Cross.

Montezuma's Lessons.

Master Montezuma had two teachers, the priest and the military professor. They gave him enough to study. There was arithmetic—he learned to make figures. A round, blue dot stands for one. Five of them make five, and 00000-0 (five and one) is six, and in that way it runs up to ten. If he wanted to say "twenty" he made a flag, and for forty he made two flags.

Just imagine such a multiplication table as this: Five times four is one flag. Flag times flag is one plume. Flag times plume is one purse! Let's see; a purse, then, would equal 8,000. Yes, and if he wanted to write 4,000 he would draw only half a purse. All the examples in their arithmetic were worked by such tables as these.

Then there were lessons in time. He had to learn that five days make a week, four weeks make a month, and eighteen months make a year; and as all that footed up only three hundred and sixty days, they threw in what they called the five unlucky days that belonged to no month, to fill up before they commenced a new year. And then he found another arrangement for doing what we do with our leap-year, for, once in fifty-two years they put in twelve and one-half extra days, which is something like setting the clock ahead when you find it is too slow by the town bell or the fire alarm.

He learned that this kind of calendar had been in use a long time, and was the result of careful study and calculation by the wise priests of the olden time; and, when he wanted to know how long he counted up the bundles of reeds which represented centuries, and found that it had been in use over four hundred years. And all this, you must remember, was before San Salvador was discovered by Columbus.—C. C. H., in St. Nicholas.

Mrs. Spilkins came home from the photographer's the other day with her picture. "See here, Leander," said she, "isn't it a splendid likeness?" Spilkins glanced at it for a moment, and a look of disappointment stole over his face. "No," said he, shaking his head musingly; "no, it does not give your expression." "Why not?" asked Mrs. S. "I thought it was perfect." "No repeated Leander, sadly; 'it looks too quiet about the—about the mouth. It isn't a 'speaking' likeness, you know."

HUMOROUS

A coffin-maker at D— was asked for whom he was making a coffin, and replied, "Mr. Swift."
"Why man," replied the other, "he is not dead yet."

"Don't trouble yourself," replied the worker in wood. "Doctor Coe told me to make his coffin, and I guess he knows what he gave him."

"LOVE WILL FIND OUT THE WAY"—(Old Song).
—Mistress (who does not allow "followers" in the house): "Who is that you were talking to in the kitchen, Mary? O, but I certainly did hear you talking to some one—and I thought I heard, indistinctly, I admit, a man's—" Mary (making a clean breast of it); "Well you see, mu'm, me and my young man have started a tallyphone, mu'm—but he never comes nearer than round the corner of the next street, mu'm."

"He was a koind maister, he was. He thought of me afore he died, and in his will he said: 'I leave to my son William both them sheep wot was lost last week, if they gets found, and in case they dosen't I leave 'em to my faithful servant Joseph.' I hopes they won't get found."

A clergyman in ore of the Hudson River towns united a German couple in marriage. When the knot was tied, the bridegroom said. "Dominie, I've got no monish, but I'll send you von leetle pig." It was done, and the circumstance was forgotten by the clergyman. Two years afterward he met the German in another town, for the first time since the marriage ceremony was performed. "Dominie," said the German you remembers you married me, and I gave you von leetle pig?" "Yes." "Vell, if you'll unmarry me I'll give you two little pigs."

William L. Dayton while at college could not pronounce his R's. One day he told his professor that the students on the campus were having a wot, "A what?" asked the professor. "A wot," said Dayton. "A what?" said the professor. "Oh, a wumpus," exclaimed Dayton, as he stalked away.

A REFLECTION ON THE SEX.—Jones was always complaining of his wife's memory. "She never can remember anything," said poor Jones; "it's awful!" "My wife was just as bad," said Brown, "till I found out a capital recipe." "What is it?" said Jones eagerly. "Why," said Brown, "whenever there's anything particular I want the missus to remember, I write it down on a slip of paper and gum it on the looking glass. See?" Jones is now a contented man.

"Did you attend church to-day, as I charged you?" inquired an old planter, in the old time, of one of his slaves, as he returned to his dwelling. "Sartin, massa," was Cudjo's reply; "an' what two mighty big stories dat preacher did tell!" "Hush! Cudjo, you musn't talk that way; what stories were they?" "Why, he tells de people no man can serve two massas—now dis is de fust story, 'cause you see old Cudjo sarves you my ole massa, and also young massa John. Den the preacher says, 'he will lub one and hate oder,' while the Lord knows I hate you boff!"

A weaver took to his employer the first cloth woven since his arrival in this country. Upon examination his employer detected two holes within half an inch of each other, and told him he must pay a fine of a quarter for each hole. "An' plaze yer honor," said Pat, "is it the number of holes or the size uv 'em that yez put the fine on us?" "By the number of holes, to be sure, sir." "And a big hole and a little hole is the same price?" "Yes, a quarter for every hole, big or little." "Thin give me holduv the piece," said Pat. It was handed to him, when with his fingers he deliberately tore the two small holes into one, triumphantly exclaiming: "By the pipes o' Moses, and that'll save me twenty-five cints." The good-natured employer laughed heartily at the odd experiment, and forgave Pat the fine.

"Jenny, said a lively Paisley spinster to her sister, "we must get to-saut water, for my face is as pale as milk, and so were Betty Tamson's, but she gaed to Gourock three weeks ago, and cam' hame as red's a rose, and was marr.ed four days after." "But how can we drink the nasty saut water, Kate?" replied Jenny. "Hoots, lassie! saut or fresh, sweet or sour, I'll drink onything for a laddie!" "Faith, and sae wad I, Kate; sae let's off to Gourock the morn, for everybody's there already, and they'll leave nae a drap that drink able."

PHYSIC-ALL PAIN.—Doctor: "What, your mother worse! Well, I can't understand it. Hasn't she used that large blister I sent?" Child: "Oh yus, sir; but it took her a rare long time fur to eat it all, and she says it don't seem to get no furdere than her chest."

"John," said a doting parent to her gormandizing son, "do you really think you can eat the whole of that pudding with impunity?" "I don't know ma," replied young hopeful, "but I guess I can with a spoon."

A gentleman traveling upon horse-back came upon an Irishman who was fencing in a barren and desolate piece of land. "What are you fencing in that lot for, Pat?" said he. "A herd of cows would starve to death on that land." "And shure, your honor, was not I fencing it to kape the poor bastes out of it?"

NOT QUITE THE SAME THING.—Small Child (whose favorite Aunt is "engaged.") "Grandma, where is Auntie May?" Grandmamma.—"She is sitting in the Library with Captain Herbert, my dear." Small Child (after a mome's thought).—"Grandma, couldn't you go and sit in the Library with Captain Herbert, and Auntie May come and play with me?"

"Gentlemen, I introduce to you my friend, who isn't as stupid as he appears to be." Introduced friend, with vivacity: "That's precisely the difference between my friend and myself."

Husband—Was the Ladies' Club lively to-night, dear? Wife—No; awfully dull. Every member was present, and of course one can't speak of people before their faces. So, we had nothing to speak about.

Scene.—Teacher with reading class. Boy (reading): "And as she sailed down the river—" Teacher: "Why are ships called 'she'?" Boy (precociously alive to the responsibilities of his sex): "Because they need men to manage them."

"What is the meaning of a back-biter?" asked a gentleman at a Sunday-school examination. This was a puzzler. It went down the class until it came to a simple urchin, who said, "Perhaps it is a flea."

Bridget—"Wot's the most genteel thing for a lady as is a lady, to carry in the street, Nora?" Cook—"Sure, then, some prefers a three-volume book; but I prefers a roll of music meself—quite careless and aisy like."

A bright boy wants to know if by eating dates enough he will become an almanac.

A handkerchief flirtation is a very simple affair. It only requires two fools and two handkerchiefs.

"I say," said a rough fellow to a fop with conspicuous bow legs—"I say, don't you have to have your pantaloons cut with a circular saw?"

No wonder a ship is called "she." She has shifts, stays, an apron, hooks and eyes, pins, caps and ribbons, hoods, poppets and a husband.

MATRIMONY.—"Tom, what in the world put matrimony into your head?" "Well, the fact is, Joe, I was getting short of shirts."

I notiss one thing. The man who rides on the kars every day is satisfied with one seat; but the one who rides once a year wants at least four.—*Josh Billings.*

Cats in Spain.

Cats have a nice time in Spain, I hear. No dismal moonlight prowlings over fences and back sheds for them! They have the roofs of the whole country for their walks, and need never touch the ground unless they choose. I'll tell you why. Grain is stored in the attics of Spain, because they are too hot for anything else. But rats and mice delight in attics, as well as in grain. So each owner cuts a small door from the roof, big enough for puss, and any homeless cat is welcome to her warm home, in return for which she keeps away rats. In a sudden rain it must be funny to see dozens of cats scampering over the roofs to their homes among the grain bags.

"Jack-in-the-Pulpit," *St. Nicholas for May.*

Like dew drops falling on a flower,
A teacher's word should be,
But never like the hailstone shower
That blights the blooming tree.
If nature has not made the thread
Of intellect refined,
In vain we hammer at the head
To cultivate the mind. |

Miss Edith Helps Things Along.

"My sister'll be down in a minute, and says you're to wait, if you please. And says I might stay 'till she came, if I'd promise her never to tease, Nor speak 'till you spoke to me first. But that's nonsense, for how would you know What she told me to say, if I didn't? Don't you really and truly think so?"

And then you'd feel strange here alone! And you wouldn't know just where to sit; For that chair isn't strong on its legs, and we never use it a bit. We keep it to match with the sofa. But Jack says it would be just like you To flop yourself right down upon it and knock out the very last screw.

S'pose you try? I won't tell. You're afraid to! Oh! you're afraid they would think it was mean! Well, then, there's the album—that's pretty, if you're sure that your fingers are clean. For sister says sometimes I daub it; but she only says that when she's cross. There's her picture. You know it? It's like her; but she ain't as good looking, of course!

"This is me. It's the best of 'em all. Now, tell me, you'd never have thought That once I was little as that? It's the only one that could be bought— For that was the message to Pa from the photograph man where I sat— That he wouldn't print off any more till he first got his money for that.

"What? Maybe you're tired of waiting. Why, often she's longer than this. There's all her back hair to do up and all of her front curls to friz. But it's nice to be sitting here talking like grown people, just you and me. Do you thing you'll be coming here often? Oh, do! But don't come like Tom Lee.

"Tom Lee. Her last beau. Why, my goodness! He used to be here day and night, Till the folks thought he'd be her husband; and Jack says that gave him a fright. You won't run away, then, as he did? for you're not a rich man, they say. Pa says you are poor as a church mouse. Now, are you? And how poor are they?"

"Ain't you glad that you met me? Well, I am; for I know now your hair isn't red. But what there is left of it's mousy, and not what that naughty Jack said. But there! I must go. Sister's coming. But I wish I could wait, just to see If she ran up to you and kissed you in the way that she used to kiss Lee."

[BRET HARTE in the Independent.]

To-Day and To-Morrow.

LINES FOR MUSIC.

From Good Words.

When thou art by,
I know not why,
I love thee, but I love thee not so deeply
But when thou'rt gone,
And I'm alone,
I marvel that I held thee then so cheaply.

Thy smile and talk,
Thy glance, thy walk,
In vain regret I picture and remember;
As well I might
Recall the light
Of June amid the darkness of December.

Ah, cruel fate!
That all too late
We learn the golden value of our pleasure—
That it must go
Before we know
How passing sweet it was to have our treasure.

Perverse are we,
Too blind to see
That idle memories only lead to sorrow.
Enjoy to-day,
While yet you may:
Why wait until to-day becomes to-morrow?

EDMUND WHITEHEAD HOWSON.

A CHINESE DISH.—When our party of six had seated themselves at the centre-table my attention was attracted by a covered dish, something unusual at a Chinese meal. On a certain signal the cover was removed, and presently the face of the table was covered with juvenile crabs, which made their exodus from the dish with all possible rapidity. The crablets had been thrown into a plate of vinegar just as the company sat down—such an immersion making them more brisk and lively than usual. But the sprightly sport of the infant crabs were soon checked by each guest seizing which he could, dashing it into his mouth, crushing it between his teeth and swallowing the whole morsel without ceremony. Determined to do as the Chinese did, I tried this novelty also with one—with two. I succeeded, finding the shell soft and gelatinous, for they were tiny creatures, not more than a day or two old. But I was compelled to give in to the third, which had resolved to take vengeance, and gave my lower lip a nip so severe as to make me relinquish my hold, and likewise desist from any further experiments of this nature.

An Engaging Manner.

Politeness is to a man what beauty is to a woman. It creates an instantaneous impression on his behalf, while the opposite quality exercises as quick a prejudice against him. The politician who has this advantage easily distances all the rival candidates, for every voter he speaks with becomes instantly his friend. Polished manners have often made scoundrels successful, while the best of men, by their hardness and coldness, have done themselves incalculable injury—the shell being so rough that the world could not believe there was a precious kernel within it. Had Raleigh never flung down his coat in the mud for the proud Elizabeth to walk on, his career in life would scarcely have been worth recording. Scores of men have been successful in life by pleasing manners alone. A pleasing trait of character is well worth cultivating, lads. Never forget the value of true civility.

CORRECTING CHILDREN IN ANGER.—There is another common error, which may need to be noticed—that of correcting a child hastily and harshly, and then, feeling that injustice had been done to compensate him by some soothing sugar-plum or honied apology. It is not easy to conceive of anything more likely to degrade the parent in the eyes of his offspring than such inconsiderate folly; nothing more sure to destroy his influence over the mind, to harden the young heart in rebellion, and make it grow bold in sin. In proportion as the parent sinks in his esteem, self conceit grows up in the mind of the undutiful child. Young people as well as old, pay great respect to consistency, and, on the contrary, despise those whose conduct is marked with caprice. The sacred relation of parent is no protection against this contempt. Those, therefore, who would preserve their influence over their children, who would keep hold of the reins that they may guide them in periods of danger, and save them from probable ruin, must take care not to exhibit themselves as governed by passion or whim, rather than fixed principles of justice and duty.

THE USES OF THE LEMON.—A piece of Lemon bound upon a corn will relieve it in a day or so. It should be renewed night and morning. The free use of lemon juice and sugar will relieve a cough. A lemon eaten before breakfast every morning for a week or two will entirely prevent that feeling of lassitude peculiar to the approach of spring. Perhaps its most valuable property is its absolute power of detecting any of the injurious and even dangerous ingredients entering into the composition of so very many of the cosmetics and face powders in the Market. Every lady should subject her toilet powder to this test. Place a teaspoonful of the suspected powder in a glass and add the juice of a lemon. If effervescence takes place it is an infallible proof that the powder is dangerous, and its use should be avoided, as it will ultimately injure the skin and destroy the beauty of the complexion.

Hold Hingland for Hever.

If a hache hand ha hoe hand ha hor hand ha hes hand ha he don't spell Orse, my name haint Arry Omes.

Minnie May's Department.

MY DEAR NIECES,—I purpose to have a chat with you upon house keeping and matters in general this month. How much easier household duties can be made when entered into heartily. To see a girl washing dishes or dressing vegetables for dinner in an indifferent manner, with a look of disgust, does not by any means give one an agreeable impression of her temper or good sense. Of course there is much to be done in domestic labor that is not agreeable, but so there is in every department of labor, and the wisest and easiest way is to dispatch all our duties with neatness and cheerfulness, giving more satisfaction to those we labor for and ourselves. We should study system, order and punctuality in our every-day arrangements to save time, strength and worry. It is a good plan to allot certain days for certain duties, such as sweeping, cleaning cupboards, silver-ware, etc.; thus, by doing regularly, you keep in good order, and do not feel as fatigued as you would by leaving all for one special day.

A sensible girl will not hesitate to put her hands to anything that may be needed, but I do not blame you, dear nieces, who try to preserve your beauty and neatness. A little Indian or oat meal rubbed on the hands when washing, will do much towards keeping them nice.

How much better it would be for those unfortunate girls whose parents do not urge their assistance, if they would only take a part in doing something, such as keeping the drawing-room in order or to help their patient mother with sewing, to lighten her burden, or perhaps save the expense of an additional girl to an already overburdened father. This might make them sing while they work, besides it would be training themselves to usefulness. Remember it is wicked to waste time, and nothing gives such an impression of vanity and absolute idleness as a habit of idling and having nothing to do.

Farmers' daughters are expected to understand housekeeping thoroughly, but sometimes hard toil begets in them a disgust which leads to carelessness in the nicer parts of home duties. But do not be discouraged, dear nieces; try and cultivate your tastes for arranging and doing your many duties tastefully, and prepare yourselves, if need be, for better homes.

RECIPES.

TO CLEAN KID GLOVES.

Five cents worth sunlight fluid, poured into a saucer; place a soiled glove on one hand, moisten a piece of old linen (shirt bosom) with the fluid, and rub over the glove until clean. Allow to dry on the hand, then remove and clean the other. This, if well done, will make gloves look clean and new.

CUP PUDDING.

Four egg, four teacupfuls of milk, four heaping tablespoonfuls of flour, a handful of dried currants. Beat the eggs, add the flour, and pour in a little of the milk; stir it well together, put the remainder of the milk in a vessel and let it come to a boil; then add the mixture and let it boil a few minutes, stirring it all the time. Now grease four teacups and fill them with this and let it get cold. Turn the teacup upside down and shake it gently. You will find the pudding nicely moulded. Eat with sugar and cream.

FARINA BLANC MANGE.

Put three teacupfuls of fresh milk in a double boiler, to heat. Mix three tablespoonfuls of farina and a pinch of salt with a little cold milk, and when the milk in the boiler is almost boiling, add the farina, and stir constantly until it forms a thick batter. Wet moulds with cold water, and pour the farina in; when cold, turn out, and serve with cream, which should be sweetened, and flavored with vanilla, then whipped until a thick froth stands on it. If the mould is a plain one, the blanc mange may be turned into a good-sized

dish, the cream poured around it, and a few spoonfuls of jelly may be placed on the top; or, the jelly may be laid around the base and the cream served separately.

A WAY TO COOK VEAL.

In England everybody goes to the races, and great preparations are made for the lunch on those occasions. Veal prepared in this manner is a favorite at the race lunch, but will be found useful at other times. Butter a good sized bowl, and line it with thin slices of hard-boiled eggs. Have veal and ham both in very thin slices; place in the bowl a layer of veal, with pepper and salt, then a layer of ham, omitting the salt; then a layer of veal, and so on alternating with veal and ham until the bowl is filled. Make a paste of flour and water, as stiff as it can be rolled out; cover the contents of the bowl with the paste, and over this tie a double cotton cloth. Put the bowl into a saucepan, or other vessel, with water just up to the rim of the bowl, and boil three hours; then take it from the fire, remove the cloth and paste, and let it stand until the next day, when it may be turned out and served in very thin slices.

GOOD SPRING BEER.

Boil one-half hour in two gallons of water, one ounce each of spruce, hemlock and sarsaparilla bark, dandelion, yellow-dock and burdock; strain and add ten drops each of oil of spruce and sassafras; when cold, add one-half pound of light brown sugar and a half cup of yeast; let it stand over night in a jar, cover tight, and in the morning bottle. This makes a very refreshing drink when iced, and with all being healthy, purifies the blood and prevents billiousness.

ALMOND RICE PUDDING.

Wash twelve ounces of rice and put into a stewpan with little more than one quart of milk; eight ounces of sugar; four ounces of butter; four ounces of almonds blanched and pounded; add a little salt and boil very gently on the back of the range until the milk has become absorbed by the rice; remove from the fire and when cool mix in the yolks and whites—beaten separately—of four eggs; blanch and split into halves four pounds more of almonds and strew equally over the inside of a mold previously buttered; pour in the rice and bake for one hour and a half. Turn out and serve with any kind of preserve around the base.

BELL-PEPPER CATSUP.

Take twelve ripe bell-peppers, seven tumblers of vinegar, four large onions, one tablespoon each of mace, powdered cloves, powdered cinnamon, sugar. Boil two hours in a tin vessel (an iron one will turn it black) in a pot of water and strain through a sieve.

The green pepper can be prepared in the same way. As I do not appreciate the heat, I cut out the cores and seeds of the peppers, which leaves it still as hot as I can relish. Our Southern people, as you are aware, are great lovers of Cayenne pepper, but I do not relish the great heat. The above catsup I find good for almost every dish of either meat or fish.

CURE FOR ASTHMA.

Thinking that some of your readers might be troubled with that most dreadful of diseases, asthma, and as I have a recipe which cured me perfectly about 25 years ago, and a great many others since, who were almost at the point of death, I thought perhaps, for the sake of some poor sufferers you would be good enough to publish it.

Scda subcarbonate, 1½ drachms; mistura ammoniacum, 4 ozs.; syrup of squills, 1 oz.; paragonic, 6 drachms; sweet spirits of nitre, 2 drachms; spirits of sulphuric ether, 2 drachms; ipecac wine, 3 drachms; peppermint water, 2 ozs. Dose, one tablespoonful 3 times in 24 hours.

BLACK OILS.

As I have not noticed a recipe for making black oils, I thought you might give this one space in your valuable paper:

One qt. raw linseed oil; 1 pt. spirits of turpentine; ½ lb. saltpetre, pulverized; 3 ozs. oil of vitriol. Put all as written, and be sure to use the vitriol last. Mix in an open crock out of doors, and stir with a green rod, as there is danger of taking fire. We have used this for about thirty years for horses and cattle, for fresh cuts and old sores, and consider it better than gargling oil and not one-quarter as expensive. It is equally as good on human flesh. I hope some farmers will try this valuable recipe.

SUBSCRIBER.

EGG CRACKERS.

Eight eggs; sixteen tablespoonfuls of sweet milk; eight tablespoonfuls of melted butter; mould with flour twenty minutes, roll thin.

ROUND CRACKERS.

One cup of sweet cream; one cup of water; a teaspoonful of salt, and flour enough to make a stiff batter; pound and roll one-fourth inch thick.

VALUE OF HOP TEA.

If strong hop tea be applied with the palm the hand to any surface afflicted with pain, the pain in most cases will instantly disappear. Have the tea milk-warm; dip your hand in the tea, and then rub briskly up and down several times. If the pain is chronic, it will require more rubbing to banish it. This treatment cures rheumatism, neuralgia, disease of the spine, congestion, pleurisy, kidney disease, disease of the heart, and a great many other diseases. Persons who are weak and debilitated can be put on their feet in a few days by this treatment. The rubbing must be done by a person of nervous temperament to insure success.

NEURALGIA AND RHEUMATISM.

A very simple relief for neuralgia is to boil a small handful of lobelia in half a pint of water till the strength is out of the herb; then strain it off and add a teaspoonful of fine salt. Wring cloths out of the liquid as hot as possible and spread over the part affected. It acts like a charm. Change the cloths as soon as cold till the pain is all gone; then cover till perspiration is over, so as to prevent taking cold. Rheumatism can often be relieved by application to the painful parts of cloths wet in a weak solution of sal-soda in water. If there is inflammation in the joints, the cure is very quick; the wash needs to be luke-warm.

Corn Bread.

Two cups Indian meal, one cup wheat, One cup sour milk, one cup sweet; One good egg that you will beat. Half a cup molasses too, Half a cup sugar add thereto; With one spoon of butter new. Salt and soda each a spoon; Mix up quickly and bake it soon; Then you'll have cornbread complete, Best of all cornbread you meet. It will make your boy's eyes shine, If he is like that boy of mine; If you have a dozen boys, To increase your household joys, Double then this rule I should, And you'll have two corncakes good. When you've nothing nice for tea, This the very thing will be. All the men that I have seen Say it is, of all cakes, queen; Good enough for any king That a husband home can bring; Warming up the human stove, Ceasing up the hearts you love; And only Tyndall can explain The links between corn bread and brain. Get a husband what he likes, And save a hundred household strifes.

LYDIA M. MILLARD.

PRESERVING FLOWERS FRESH.—The *Worcester Spy* says:—"A friend of ours received a day or two ago through the post office, from Olympia, Washington Territory, a roundish, irregular package, which on examination proved to contain a large potato. Further investigation showed that the potato had been cut in two and the inside scooped out, and in the cavity were found flowers and leaves, which, as he learned by a note previously received, had been picked in a garden in the open air on the 26th day of December. The flowers—pansies, geraniums and others—were as fresh and bright as if they had been gathered within an hour, though their journey across the continent had occupied fifteen days.

DO EVERYTHING WELL.—If you have something to attend to, go about it coolly and thoughtfully, and do it just as well as you can. Do it as though it were the only thing you had ever to do in your life, and as if everything depended upon it; then your work will be well done, and it will afford you genuine satisfaction. Often much more does depend upon the manner in which things, seemingly trivial, are performed than one would suppose, or than it is possible to foresee. Do everything well, and you will find it conducive to your happiness, and that of those with whom you come in contact.

A Glimpse of Holland Life.

The morning sun had mounted high enough in the sky to send his rays into Greta's room, when she was awakened by a noise. She listened. It was the sound of a boat grating against the side of the canal. Who could be coming to their back door so early? She sprang out of bed, and ran quickly to the open window. A disappointment awaited her. It was only her father's boat, which the maid-servant, Charlotte, was pushing along, slowly making her way to the landing-stairs.

"Where have you been so early, Charlotte?" called out Greta.

"Are you there, youngsters?" said Charlotte, looking up at the two bright faces at the window; for the little Amelia had been roused by her sister's wild jump from the bed, and had also run to the window.

"Bad Charlotte, to wake us so early!" cried Amelia.

Charlotte laughed. "You wouldn't think me bad, Minchen, if you knew all the good things I've been buying at market. Have you forgotten your cousins are coming to-day, all the way from over the sea? I'm sure they'll be hungry enough."

It was not necessary for Charlotte to remind these little girls of the cousins who lived in the city of New York, in the far-off land of America. For the last month little else had been talked of in the Van Schaick mansion besides the expected visit of the Chester family. Mr. Van Schaick and Mrs. Chester were sisters, and this was but the second visit the latter had paid her old Holland home since her marriage. On the first visit her children were not with her; but now Mr. Chester was coming and the two boys. Many were the wild speculations the girls indulged in with regard to Americans—what they would look like, and what they would say and do.

Great, then, was their surprise when the travelers arrived, to find that their Aunt Chester was very like their mother in appearance and dress. Mr. Chester did not in the least resemble their father, but he was not unlike many other men they had seen, and he did not dress in wild-beast skins. As for the boys, Greta poured her tale of woe into the ears of the sympathizing Charlotte. "They are just like English boys!" she said, contemptuously. Greta had often seen English boys, and there was nothing uncommon about them.

This was soon forgotten, however, when Greta discovered what pleasant companions the boys were, and that they could put the Dutch words together almost as correctly as Greta herself. Will Chester, who had reached the dignified age of thirteen, had felt much troubled at the thought that he would have "only girls" to play with at Zaandam, especially as Greta was a year younger than himself.

Within an hour, Martin said, "Let us take a walk. I want to look at this queer place."

The Van Schaicks lived in Zaandam, and it is indeed a queer place to American eyes. It is a large town, with but two streets, one on each side of the Zaan River; but these two extend for a long distance, and are crossed at frequent intervals by canals, so that Martin soon got tired counting the little bridges the children passed over in their walk. Will was not quite sure whether the brick-paved street was all roadway or all sidewalk.

"I don't see any carriages," he said, after studying this matter for some time.

"People don't ride much here," said Greta.

"There are plenty of carriages in Amsterdam."

"How do they get about, then?"

"On our feet and in boats. Look at our fine river, and there are ever so many canals! What do we want with carriages?"

"It must be jolly going everywhere in boats," said Will. "I should like that."

"We have some very pretty boats," said Greta, much pleased. "Oh! wouldn't you like to go fishing? I'll ask father to take us some day soon."

"Well, if that isn't funny!" cried Martin, with a burst of laughter, not having heard what Greta had been saying. Will joined in the laugh, and Greta looked around in vain to discover the cause of their merriment.

"Looking-glasses on the outside of the houses!" explained Martin, pointing to one opposite. "I guess they're put there for the girls to look in as they walk along," he added, mischievously. "They can't wait to get home to admire themselves."

"Why, they are on all the houses!" said Will.

"To be sure, said Greta. "What is there funny in that? And the girls don't look in them any more than the boys, Mr. Martin. Don't you see that they are placed so that folks can see down the street without leaning out of windows?"

"What lots of flowers!" was his next comment.

"They are everywhere, except in this brick pavement, and nothing could grow here, it is so clean."

"And such pretty houses in the gardens!" said Will.

"But they are so small," said Martin. "It would take a dozen of them to make a New York house."

"My goodness!" said Greta, turning her head back as far as she could, and looking up at the sky. "How do you ever see up to their roofs?"

"Divide Martin's twelve by four and you will come nearer the truth," said Will, laughing. "But, at any rate, the houses are pretty—painted green and yellow, with red-tiled roofs."—From *St. Nicholas for June*.

Hints on Bouquet Making.

BY MRS. J. B. ROOT.

A bouquet seems an easy thing to make when all the flowers are so beautiful separately. Surely just to pick them and put them in a vase is simple enough, but, alas! Nature possesses a subtle secret for blending colors which we poor mortals cannot wrest from her. The moment we transfer them from their garden home to our drawing room the charm is gone. Then experience comes to our aid and gives us the following hints:—

Don't Crowd Your Flowers—Flowers have their individualities and affinities which we must recognize and respect. For example: A spike of brilliant scarlet gladiolus, with a feathery bunch of asparagus, and a gleam of white feverfew here and there, will light a shady corner like a torch; but smother your stately blossoms with phlox, verbenas, and a host of floral beauties, you will see at a glance how the effect is weakened. Again, petunias with their stiff, sprangly stems and delicate blossoms are very difficult to combine with any other flower, but give them a wide mouth vase and no rivals and they are positively graceful, while their delicate perfume fills the room with its fragrance.

Mass Your Colors—This is of great importance. Put your scarlets and crimsons and purples in separate bunches, use white to blend them, and you cannot fail of a good effect. Yellow is the sunshine of a bouquet, but it must be used sparingly or it will produce a glare. A wise choice of this color always lends cheerfulness.

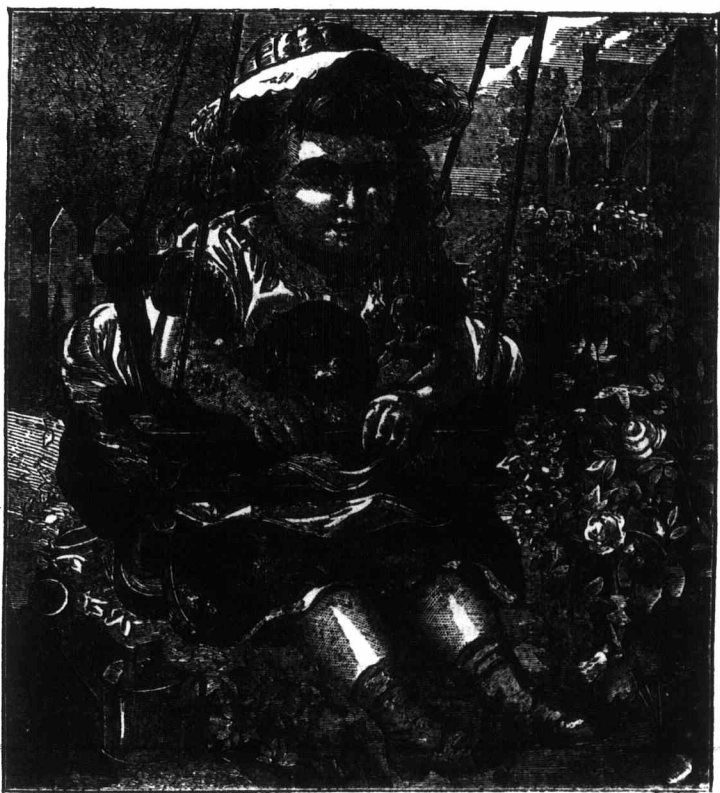
It should be remembered that green is a proper color to be used to contrast with any flowers. In colors, yellow and red are not admissible. The contrast is bad so, blue and red is in bad taste. Blue contrasts well with orange; yellow sets off violet nicely. Strong colors are not admissible with tender ones. They will destroy the tone however elegant they may be in themselves; white should not be used against them, but white relieves all colors except pale pink and lavender. Thus all strong colors may be toned with white and green. Ferns are admirable for toning colors, and few are prettier than the well-known variety, maiden-hair. Mignonette is admirable almost anywhere. Sprigs of lobelia are also elegant. In fact, when once the taste begins to be exercised in the arrangement of flowers, it opens a world of beauty that will be an ever-increasing pleasure and delight. It is naturally an attractive employment for ladies, and one in which they are quite apt to excel. — *Prairie Farmer*.

Cooking for Health.

There is no more important branch of "preventive medicine" than cooking. Bad cooking may cause a dwindling of the race, ruination of temper, and deterioration of the morals. Good cooking, on the other hand, is accompanied by national prosperity and domestic bliss. So say the promoters of the national training school of cookery, who are undoubtedly right in the main, and are deserving of all imaginable success. Now, cooking is both an art and a science. For its progress as an art we are not greatly concerned, although our profession would undoubtedly suffer in pocket should fine art cookery go out of fashion. "Elegant" dishes are generally whited sepulchers, and the forerunners of blue pills and other disagreeable correctives. The bulk of people live in big cities, and if we were asked to name the most predominating characteristic of our urban population, we should say "dyspepsia." Those who spend their days in dark offices, chambers, or consulting rooms, and keeping their noses everlastingly upon their respective grindstones, seldom know that digestion which should wait on appetite.

Hitherto their dinners have not been so skillfully prepared as to demand the least possible effort from a jaded stomach; but let us hope that the national disgrace of indigestibility will no longer dim the brightness of our hospitality, and the number of patent medicines which are sold so largely in this country as aids to digestion will undergo a rapid diminution.

The three degrees in medical treatment.—Positive, ill; comparative, pill; superlative, bill.



SUMMER IS HERE.

This is the Way.

BY EUDORA MAY STONE.

This is the way the Spring appears:
Cold March winds and April tears,
Zephyrs gay, buds of May,
Birds that sing the live-long day,
Fickle wind that whirls and veers;
This is the way the Spring appears.

This the way the Summer stays:
Starry nights and sunny days,
Roses bright red and white,
Idle clouds all feather-light,
Idle wind that roams and strays;
This is the way the Summer stays.

This is the way the Fall returns:
Sorrowing wind that sighs and mourns,
Skies cloud-crossed, gems of frost,
Summer birds and blossoms lost,
Maple grove that glows and burns;
This is the way the Fall returns.

This is the way the Winter comes:
Santa Claus and sugar plums,
Wind that blows, drifting snows,
Aching feet and tingling nose,
Rosy cheeks and frosty thumbs;
This is the way the Winter comes.

How They Marry in France.

The young girls and young men in France are sedulously kept apart, and that wooing and winning are unnecessary preliminaries to a French marriage are facts that have been much commented upon; but how they marry in France, and the etiquette of that formal and business-like ceremonial, and the preliminaries considered necessary thereto are, we believe, but little understood on our side of the water.

The first thing to be done is to go through that time-honored formality called popping the question. But a French aspirant for matrimonial honors is not allowed to make his proposals in person to the young lady. That would be a sad breach of *les convenances*, and would probably horrify the *jeune personne* out of her seven senses. A friend is charged with the delicate office of asking her parents, not if they will accept M. So-and-so for a son-in-law, but if it would be agreeable to them to consider him in that possible light. Should the answer prove favorable, the gentleman may desire an interview with the young lady's parents or guardians, at which interview the young lady must not be present. In this first interview all business questions, including the important one of the young man's fortune, expectations, etc., are settled. Should all these preliminaries be favorably arranged, a second interview is decided upon, and the day and hour rigorously settled beforehand. Exactly at a specified time, the future bridegroom must present himself, careful but not too carefully dressed—that point is essential. His betrothed, in elegant but simple attire, awaits his coming, surrounded by her parents and relatives. After this first visit he is entitled to be received as a *pretendu*, but must request this privilege either by writing or through one of his near relatives. Permission once accorded, he is then for the first time presented to his lady-love as her future husband, and may afterwards visit the house on an intimate but not a familiar footing. He must always come in full dress, nor can his *fiancée* receive him in other but a very careful toilet. A morning-dress, no matter how fresh and tasteful, is completely inadmissible. The gentleman must invariably send his *fiancée* a bouquet on the day he intends to call. The engaged pair must never be permitted to indulge in a *le-ta-tere*, no can they call each other by their first names without using the prefixes of *monsieur* and *mademoiselle*. An engagement ought to be kept secret, and should be officially announced only a few days before the signing of the contract. Of course, French engagements are usually very brief, such a life of constraint and formality being agreeable to neither party.

These preliminary formalities having been scrupulously gone through with, next comes the question of the wedding, or rather weddings, for our French couple must be married twice over, once at the mayoralty, in accordance with the law, and once at church to satisfy religious scruples. This latter ceremony is by no means essential to the legality of the marriage; but not to be married in church is considered a proof of irreligion and republicanism of the most ultra type. Now comes an amount of bother which, to our extremely simple ideas as regards marriage, appears to be at once stupid and unnecessary. As a necessary preliminary to the civil marriage, the bride and groom must arm themselves with half a dozen documents each. First comes the *acte de naissance*, or birth-certificate; then the consent in writing of both parents, or, if either or both of them be dead, the proofs of their decease, and the consent of grandparents or guardians in their stead. If you are sixty years of age, and have parents still living, this written consent is still indispensable, unless, indeed, you go through the formality of the *trois sommations respectueuses*, which consists in "respectfully summoning" your recalcitrant parents three times to show cause why you should not espouse the beloved of your heart, after which you can do as you please. But such a proceeding is looked upon with so much disfavor by French society that it is only resorted to in very extreme cases. If you are an officer in the army you must get the permission of the Minister of War to your nuptials, and he will not grant it unless the bride possesses either a dowry of 30,000 francs, or a settled income of 1,200 francs a year. All these consents obtained, next comes the publication of the bans, which takes place not only in the church, but also at the mayoralty. The signing of the contract is the next formality to be fulfilled. Usually, in Paris, this ceremonial is made the occasion of a family festival, and a special dress is prepared for the bride, very often a fac-simile of

the wedding-dress, only in some delicate evening-dress tint instead of white. The notary reads aloud the contract, after which the bridegroom rises, bows to the bride, and signs his name, afterward passing the pen to her. She signs in her turn, and must then hand the pen to the mother of the groom, who must give it in turn to the mother of the bride. These little points of etiquette are strictly observed. All the other relations then sign in turn, according to age or station. It is considered a great honor to obtain some high personage as a witness to the contract. If there is a *fete* given on the occasion, the *corbeille* or wedding presents of the bridegroom, and the *trousseau* as well, are exhibited to the guests. The *corbeille* comprises shawls, jewels, gloves, laces, furs, etc., together with a purse containing a sum of money in gold, the whole enclosed in a large and elegant box, or in a handsome work-table. The value of this present is usually supposed to represent one per cent. of the young lady's dowry.—*Appleton's Journal*.

Kissing the Children.

Kisses in the morning
Make the day seem bright,
Filling every corner
With a gleam of light;
And what happiness he misses,
Who, affection's impulse scorning,
Departs, and gives no kisses
To the children in the morning.

Many think it folly;
Many say it's bliss;
Very much depending
On whose lips you kiss!
But the truth I am confessing,
And I'd have you all take warning,
If you covet any blessing
Kiss the children in the morning.

Kisses in the evening,
When the lights are low,
Set two hearts a-flaming
With affection's glow.
And the angels swarm in numbers
Round the pillow they are pressing,
Who are wooed to peaceful slumbers
By a dear one's fond caressing.

Kisses in the morning
Are not out of place;
Kisses in the evening
Have a special grace;
And it seems to me that this is
For indulgence lawful reason;
Sweetest tulips—I mean kisses!
You are never out of season!

My Wish.

(Original.)

Oh! speak not of this world so fair
Its charms are not for me;
The joyous birds float through the air,
But there you know they're free.
Oh! I would live in the golden age,
When all is peace and love,
Where the innocent child and the thoughtful sage
In one charmed circle move.

Oh! I would dwell in sylvan bowers,
In Elysium pure and sweet,
'Mong myrtle vines and fairest flowers,
With Cupid at my feet.
Oh! I would bathe in the waters of Lethe,
And happiness sweet would be mine;—
And yet, 'mid forget-me-nots, I would wreath
The ivy and wild eglantine.

And Eolian harps, with sweetest strains,
My morning hours would cheer,
For naught that this wide, wide world contains
Can so delight my ear.
And on Zephyrus wings would the even appear,
In that dear, enchanted spot,
And filled would be the balmy air
With the sweet-scented Bergamot.

And rapture sweet, in that Eden of bliss,
My weary soul would fill,
Like the joy, so pure, of an angel's kiss,
That leaves a transporting thrill.
Oh! let me muse on the days to come,
(Of their brightness I now see a gleam),
When I shall dwell in the palace home
Of whose beauties I now fondly dream.
Covey Hill.

H. E. C.

Household and Personal Cleanliness.

We may as certainly gauge the mortality of a country by the condition of the women and children, by the beauty or disorder of the homes, and the respect or disdain for personal cleanliness and adornment—all of which depend solely on woman's will and perception—as we learn by the existence of railroads or the frequency of telegraphs where a country stands in relation to the more advanced conditions of civilization. The women who disregard the charm of what we may call the luxury, the elegance of household and personal cleanliness; whose eyes are not open to dirt; to whom rags are not shame, personal unloveliness no disgrace, home disorder no neglect of natural duty, are mainly responsible for the corruption surely to result from this uncared-for condition of home life. With personal disregard comes personal degradation; with indifference to home comfort, neglect of property; and neglect of property brings loss, which is poverty, which is mendicancy—than which no agent is more powerful in the destruction of all self-respect.

See the rates the Americans charge us for Protection.—Mr. J. Labatt, of the London Brewery, has an order from Colorado for a car load of bottled ale. The duty on this will be over \$400; the carriage will be only \$360.

In the province of Nassau, Prussia, the common nettle has been treated like hemp, and is found to yield fibre quite as durable and as fine as silk. Factories have consequently been started for its manufacture.

Commercial.

FARMERS' ADVOCATE OFFICE,
London, June 1, 1878.

With the present peaceful aspect of the eastern question, and the very promising appearance of the growing crops, there is a quiet but steady decline in prices, both here and in England.

WHEAT.—The deliveries the past month have been more than the previous one, although the wet weather and bad roads have to a large extent lessened the deliveries. There is no doubt there is a good deal of wheat (especially spring) still in the hands of the farmers. The heavy decline the past ten days will, we think, have the tendency to make the farmers market their wheat at once. The very favorable crop reports from all parts are having a very serious effect upon the markets of England, and should these reports continue as favorable for some time we may look for a still further decline. New wheat has made its appearance in St. Louis from Texas, and at Savannah, Ga.; and, we shall probably see samples of new wheat on this market in June. True there are some reports of injury by rust, frost and fly, but these are more than counterbalanced by the increased average.

PEAS.—Are somewhat easier, and are being picked up as fast as they come in by shippers for the English markets. They have ruled unusually steady the whole season through, and the new crop will find our market very bare.

CLOVER SEED.—Nothing doing and prices nominal. There is some disposition on the part of English seedsmen to buy for holding over, but they have not been able to get hold of much, as there is nothing held here except in first hands.

BUTTER.—Market dull, and the tendency has been downward. The business done so far has been confined to the local trade. There seems to be no disposition on the part of shippers to commence operations. As we said in a previous article the sooner there is a change in the make, mode of treatment, and handling of Canadian butter, the better it will be for the dairymen themselves; and we can see no better way out of the dilemma than by adopting the factory system at once. Matters have come to this, that if you do not make a good article you had better not make any at all.

CHEESE.—The season for this article is now fairly upon us, with a make of May cheese as heavy as we usually have in June. This, with the increase of cows and factories, is telling severely on the price.

At our market on Saturday last there was a good attendance of both buyers and sellers. There were some 3,000 boxes registered besides at least as much more being represented, but not put on the board. The transactions were few, and these, as near as we could learn, at 8 cents for the first 15 to 18 days of May. Factory men seem unwilling to take this price, although they may take less before getting more. When we take into consideration the enormous heavy make of May cheese, and that a month earlier than usual—with the very low price of butter and all kinds of bacon and cured meats—the natural conclusion is that we may see much lower prices for this article. There is one thing that dairymen should keep in mind, and that is this:—If prices are low you are getting an unusually heavy yield, and can, therefore, as well afford to sell cheap as to be getting a long price with half the yield.

London Markets.

Deihl wheat.....	\$1 70 to	\$1 80
Treadwell.....	1 65 to	1 70
Red.....	1 60 to	1 65
Spring.....	1 30 to	1 60
Barley.....	75 to	90
Peas.....	95 to	1 00
Oats.....	90 to	91
Rye.....	85 to	85

PRODUCE.

Eggs, per dozen.....	10 to	11
Roll Butter, fresh.....	12½ to	15
Tub Butter.....	10 to	15
Potatoes, per bag.....	40 to	50
Turnips.....	25 to	30
Carrots.....	25 to	30
Onions.....	60 to	70
Cheese, per lb.....	11½ to	12½
Wool.....	20 to	22
Hay, per ton.....	9 00	
Cordwood.....	3 00 to	4 00

Liverpool Markets.

Liverpool, June 1, 1878.
Flour, 25s 6d; Wheat, 10s 3d to 11s 2d; Corn, 24s 9d to 27s; Oats, 3s 2d; Peas, 33s 6d to 35s; Barley, 3s 8d; Pork, 42s 6d; Cheese, 52s 6d to 57s 6d.

Montreal Markets.

Montreal, June 1, 1878.
Receipts, 1,700 barrels; market quiet and weak, and nominally 5c lower to sell. Wheat dull, No 1 Canada spring offered at \$1.11 to \$1.12; Provisions unchanged.

Toronto Markets.

Toronto, June 1, 1878.
Barley, 45c to 53c; Spring Wheat, \$1.00 to \$1.03; Red Winter, \$1.02 to \$1.05; Treadwell, \$1.08 to \$1.18; Deihl, \$1.10 to \$1.12; Oats, 26c to 28c; Peas, 63c to 65c; Flour, ship, \$3.50; Superior, \$5.25; Butter, 14c to 18c.

New York Markets.

New York, June 1, 1878.
—Flour unchanged; No. 1 Spring, \$1.07½ to \$1.08; Oats, 26½c to 34c; Barley, a limited demand for small lots of choice from city brewers at 90c to \$1.15 for Canadian.

Buffalo Live Stock Market.

Buffalo, June 1, 1878.
CATTLE.—The market is dull. Sales of shippers' steers, medium to choice, at \$4.45 to \$5.05.
HOGS.—The market is demoralized. Sales of Yorkers at \$3.10 to \$3.15; heavy at \$3.15 to \$3.25. About eight cars unsold.

Chicago Hog Market.

Chicago, June 1.
Receipts, 11,000 head. Light grades at \$2.95 to \$3.05; heavy mixed at \$2.95 to \$3.15; heavy shipping at \$3.10 to \$3.25; extra heavy at \$3.35.

Arrival in the Mersey of Canadian Live Stock.

The *Liverpool Post* says:—The Dominion Line steamer, Ontario, arrived in the Mersey on the 14th of May with 285 head of cattle, 130 sheep, and 31 superior carriage horses and hunters for Mr. W. R. Miles, Berkenhead. The whole were shipped from the Province of Ontario, and arrived in excellent condition.

Stock Notes.

There is a movement on foot to establish regular periodical sales of stock in this city. Ex-Mayor Mr. Andrew McCormick and Mr. Samuel Grigg, of the American Hotel, are the principal movers in this matter; their names should be sufficient to guarantee good faith in the undertaking, as they are both men of good standing and good repute in this city. Many other places have their regular stock sales. Why London has not had one ere this is, we think, because of previous mismanagement. It is necessary that fees should be charged to cover expenses. The present mode of selling in a bar-room should be abandoned, and regular markets established as in England. We think it would be much better for both buyer and vendor. It takes time to bring about any change, and sometimes wrong means or wrong plans destroy the utility of a good design. Messrs. Grigg and McCormick will also have a stock book opened for the registering of stock for sale in the county. This we deem another good feature, as sometimes a person requires an animal of a certain sire or kind, and by applying to the registry office, he would know where to go. See the advertisement in this issue.

Mr. M. J. Corkery, of Thornhill, will have a public sale of Shorthorns, Cotswolds and Berkshires on the 19th of June. The cow, Katinka, which rivalled the Centennial Exhibition prize cow, and other choice stock, will be sold. Send for a catalogue.

A new experiment is said to be under way on the European continent, to wit, the importation of lean cattle from America for the purpose of fattening them on the rich pastures of Schleswig-Holstein. The steamer *Schleswig*, it is stated, had brought out from New York 322 beasts, 15 horses and 46 swine. "All were well grown, strongly built, and contrasted well with many that have been brought over of late years as fat cattle for the English market. The horses, too, were strong and in good condition. The pigs were small and active, and seemed well fed and fat." They were submitted on arrival to a rigorous quarantine, which was to continue a fortnight, notwithstanding the fact that veterinary examination failed to discover any symptoms of disease among them.

General sympathy and regret will be felt that the very large and valuable Shorthorn herd of Mr. B. B. Groom, together with his magnificent farm of Vinewood, near Winchester, Ky., comprising about twelve hundred acres of land, with elegant improvements, must be brought under the hammer, as is announced by his assignees, Messrs. W. M. Irvine and A. H. Hampton, for the 19th and 20th of June next.

SHORTHORN PURCHASES.—Mr. Richard Gibson, the well-known stock breeder, has purchased from the Hon. S. Campbell, of New York Mills, the Seventh Lord of Oxford, 4 year old bull. Its sire, the Second Duke of Oneida, sold at Campbell's recent sale for \$10,000, and its dam, the Second Maid of Oxford, for \$7,000. Mr. Gibson paid a large price for the animal. Mr. C. S. Simmons, of Lobo, sold his Shorthorn bull Young Stewart a short time ago to Mr. James Graham, of McGillivray, and another to Mr. Wm. Lewis, of Lobo.

There are some 250 new butter and cheese factories being started in the States of Iowa, Wisconsin and Minnesota, besides a large increase in Illinois. The butter made in these States on the factory system is very fine.

Twelve butter factories are, according to the *Guelph Herald*, to be set in operation this spring in the country to the north of Wellington. We wish them every success.

We are glad to notice that some of our cheese and butter dealers are laying a good deal of stress on the kind of salt to be used in the manufacture of these articles, in every case pointing to the Liverpool factory salt, filled as the only reliable brands. Each brand has its friends and advocates, to a great extent influenced by the interest each one has in the agency or sale of such.

T. B. Snider, of German Mills, Berlin, Ont., has sold to Mr. John Kraft, Marion Centre, Kansas, Shorthorn Bull, Lord Barrington, got by 2nd Duke of Kent; dam, Duchess of Kent, Centennial medal cow, and heifer calf, Lady Aileen 2nd, got by Young Armour-Bearer (2884), dam, Lady Aileen. And also sold one cow, Queen of the West, and a heifer calf, Red Rose 2nd, to Mr. John Seibert, who is taking them to Kansas.

Mr. J. B. Snider, Waterloo, Ont., has purchased a young bull, Crown Prince of the West, got by Young Scotland (4,098), dam, Queen of the West, which weighed, at the age of 15 months, 1,320 pounds.

A new Anglo-Canadian Company, under the title of "The British Empire Horse Supply Association," has been formed in England. The capital is to be £200,000 in 45 shares, of which 10,000 are to be first issued. It is proposed to import horses in the Company's own steamers from Canada and the United States, and it is estimated that a profitable business may be transacted.

The prices obtained at the Howden horse show in England will furnish an index of the value of the several classes of horses there:—Strong agricultural and dray horses brought from \$250 to \$300 each; harness horses from \$300 to \$350; high steppers, suitable for carriages, in pairs, from \$350 to \$500 each; hunters, at all rates, from \$250 to \$750 each.

Jardine's Ayrshires.

Mr. Joseph Jardine, of Hamilton, lately received the prize awarded him at the New York State Fair, held at Rochester in the fall of 1877. It consists of a silver water pitcher, two goblets, sugar bowl and massive tray, beautiful in design and of the most exquisite workmanship. The pitcher bears the following inscription: "The New York State Agricultural Society to Joseph Jardine, Herd Prize for Ayrshires, Rochester, 1877. We are sure the stock breeders throughout Ontario, to whom this veteran cattle breeder's name is as familiar as household words," will be pleased to hear of the substantial memorial gained by him of his many successes on the show ground. He certainly deserves the highest credit for the energy and skill displayed in bringing his splendid herd of Ayrshires to its present almost perfect condition.

The following sales have recently been made: Bull calf to J. Wilson, Ohio; heifer to M. A. Abbey, Waterloo; bull calf to Geo. Thomson, Oxford; heifer to A. McKay, Oxford, and bull calf to W. Truesdale, Grimsby, leaving but little stock on hand for disposal. Also, one heifer, April 11th, sold to A. Gervie to go to Red River Settlement, to be shipped on 19th inst.

Patrons of Husbandry.

A Large Grange Gathering.

The Patrons of Husbandry of the Counties of Oxford, Norfolk, Simcoe, Elgin, East, North and West Middlesex will celebrate the anniversary of the Order in Canada on the 4th of June. The different railways have made arrangements to accommodate 10,000, as arranged by the different local committees. The railway authorities have made such favorable terms that the excursion will be within the reach of every farmer and his family. The various farmers' societies celebrate on the same day.

New Subordinate Granges.

654. Woodland—M. Sinclair, M., Mount Forest; Francis Doupe, S., Mount Forest. 655. Latona—Wm. Cranston, M., Latona; James Skeene, S., Latona. 656. Winthrop—Thomas Miller, M., Winthrop; Jno. Cuthill, S., Winthrop. 657. Warburton—Jno. Cook, M., Warburton; Wm. Snider, S., Warburton. 658. Albion—Allen McLean, M., Kuopdale; Robt. McDonald, S., Newbury. 659. Burnside—F. A. Brydan, M., Portage La Prairie, Manitoba; Wm. Kitson, S., Burnside, Manitoba. 660. Dufferin—Geo. J. Dimock, M., Scotch Village, N. S.; J. J. Dimock, S., Scotch Village, N. S. 661. Farmers' Refuge—Jno. McDiarmid, M., Tayside; R. C. McGregor, S., Athol. 662. Toledo—Wm. Hanton, M., Frankville; Sam'l Edgar, S., Toledo. 663. Valentia—Wm. Stewart, M., Valentia; James Moffatt, S., Valentia. 664. Lake Charles—Jno. Brown, M., North Keppel; Jas. Davidson, S., North Keppel. 665. Headingly—W. B. Hall, M., Headingly, Manitoba; Wm. L. Lonsdale, S., Headingly, Manitoba. 666. Lakehurst—David Brodie, M., Lakehurst; Jno. Smith, S., Lakehurst. 667. Auburn—Wm. King, M., Auburn; E. S. Ervo, S., Auburn. 668. Rideau—R. E. Rutherford, M., Smith's Falls; R. B. Goodfellow, S., Smith's Falls. 669. Morning Glory—Alex. Wigle, M., Ruthven; E. Rogers, S., Kingsville. 670. Mallorytown—Wm. Hagerman, M., Mallorytown; Vincent Buell, S., Mallorytown. 671. Rockfield—H. O. Webster, M., Lansdowne; Jno. Franklin, S., Mallorytown. 672. North Verulam—Jno. Braydin, M., Bobcaygeon; Alex. Rose, S., Bobcaygeon. 673. Courtland—James Bellwood, M., Courtland; Nicholas Fisdale, S., Courtland. 674. Havelock—Wm. Burgess, M., Norwood; Wm. Mathison, S., Havelock. 675. Assiniboine—Geo. Hunt, M., Poplar Point, Manitoba; David Taylor, S., Poplar Point, Manitoba. 676. Union—Ezra S. Becker, M., Dunbar; Matt. Carlyle, S., Dunbar. 677. Dufferin—Jno. Troop, M., Hiawatha; Jno. Moncrieff, S., Lang. 678. Pioneer—W. A. Hurd, M., Hurdville, Parry Sound District; W. H. Thompson, S., Hurdville, Parry Sound District. 679. Good Hope—Jno. Blakley, M., North Bruce; Robt. Scallan, S., North Bruce. 680. Forest—Levi P. Dean, M., Scotstown, Que.; R. McDonald, S., Scotstown, Que. 681. Wellington—Wm. Clinton, M., Wellington; Richard Willson, S., Wellington. 682. Avon—Jno. Taylor, M., Windsor, N. S.; Edward Smith, S., Windsor, N. S. 683. Pioneer—E. C. West, M., Middle Porcaux, N. S.; Walter M. Sandford, S., Canning, N. S.

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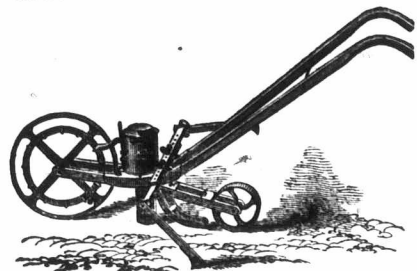
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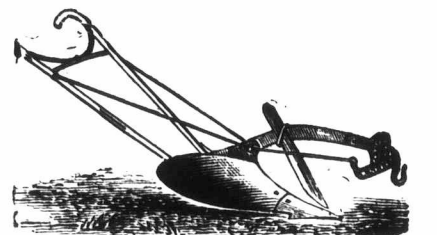
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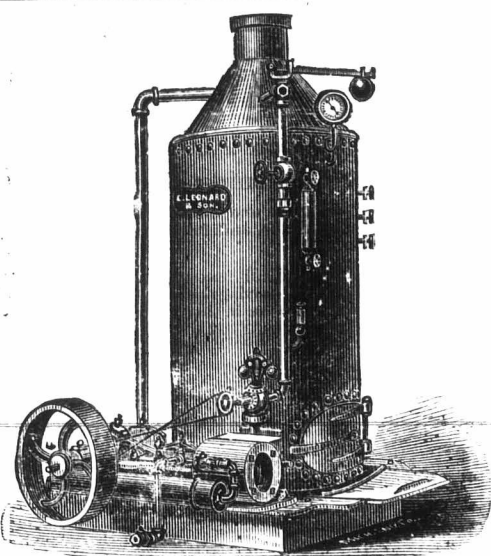
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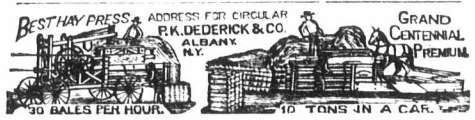


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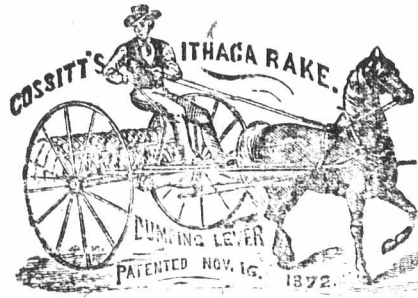
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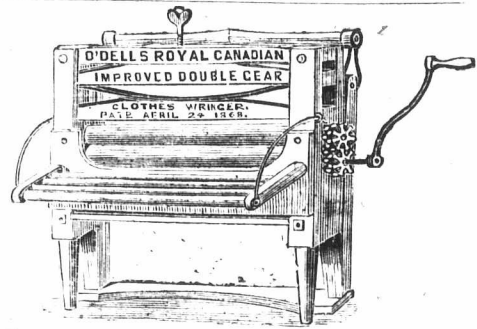
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