

The FARMER'S ADVOCATE

AND HOME MAGAZINE.

VOL. XIV.

LONDON, ONT., JANUARY, 1879.

NO. 1.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

The Farmer's Advocate

—AND—
HOME MAGAZINE.

PUBLISHED MONTHLY BY.....WILLIAM WELD.
OFFICE:—ADVOCATE BUILDING, LONDON, ONT.

TO SUBSCRIBERS:

TERMS.—\$1 per annum, postage paid; \$1.25 when in arrears.
Single copies 10 cents each.

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Our rates for single insertion are 20c. per line—\$2.40 per inch, space of nonpareil (a line consists on an average of eight words).

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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.

Do not be cast down; bend to the passing wind; hold fast to the ground, and you will be, like the waving wheat-field, improved by the gale that has passed over you. If you take a general view of affairs and look beyond your boundary line, you will see that you have far more to be thankful for than you have yet thought of, and far less to complain about. Therefore cease complaining and put your shoulder to the wheel and do the best you can; if you do, all will be well. We are blessed with a good, kind, just and motherly woman as our Queen. She selects our Governors for us, and we could not make as good selections, even if we had the same material to select from. Whatever our mother (the Queen) deems best for us, her children, will be duly carried out. She is the most powerful person on this orb, and she daily feels and knows that she is only a child in the hands of her Director.

Talks with Farmers.

A subscriber from Byron, Ont., stepped into our office recently, overflowing with tirades of abuse

twenty times as much, and their wares cost nothing to keep or attend.

Jas. Cameron, of Napier, called. He says he is no farmer (he meant not a good farmer; he is a Scotchman), but on enquiry we found he has 350 acres, cultivates 100 and pastures a good portion of the remainder. He now has 200 sheep to sell, or will sell when the market suits. He fattens 15 head of cattle a year; he keeps about 50 head of cattle and 250 sheep. He says he does not like letting his stock live on grass alone. In the fall he gives them a little hay early, and gives them a little grain daily in the spring when he first turns them on the grass. He does not want to turn his fattening stock out till the grass is as long as their horns.

He sells at three years old; his stock then weigh double as much as many that he sees five years old. Mr. C. shakes his head when we mention cheese factories; he says he cannot have as good calves or as good beef cattle, and cannot get them to the size without the milk. He raises no more pork than is sufficient for his own use, and feeds all his coarse grain to stock. Yet he says he is no farmer. What do you think about his management?

Mr. J. C. Pollock, of Forest, Ont., had just been at Colonel Taylor's farm and bought a bred Shorthorn calf for \$150; he bought a Shorthorn bull some years ago from Richard Gibson, Ilderton, Ont., and the stock produced by that bull was worth about double the value of the other stock in his locality. He sold a pair of fat steers for \$150. Those who at first ridiculed pure-bred blood are now anxious to improve their stock; they are only beginning to see where the profit comes from. It is size and quality that tells; scrub stock will not pay.

Mr. L. Gifford, of Meaford, informs us that in 1877 he had 500 bushels of wheat off 16 acres; in 1878 he only had twelve bushels per acre, and many of his neighbors only had seven. He said the Club wheat was a failure there, and the Red Chaff proved the best. In reply to this, Mr. Parsons, of Baltimore, Ont., said the Red Chaff was a failure in his locality and that the China Tea wheat was proven to be the best (the China Tea is the Rio Grande). He considered the Redfern might be the best for heavy clay land.

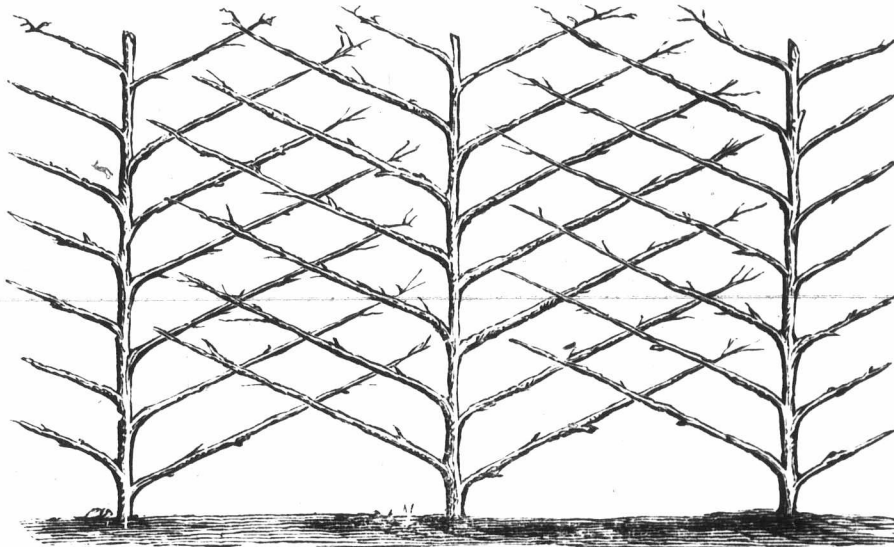
F. W. Stone, of Guelph, Ont., informs us that he has sold all the young Hereford bulls he could spare to a breeder in Colorado, and at prices averaging \$150 per head more than his last year's prices.

(Continued on Page 4.)

Happy New Year.

This sentiment is expressed by every one. No one can express it with stronger feelings than we do to our readers. We have hopes that you may find it a happy one. Contentment is the greatest blessing; health and prosperity tend to contentment. Canada is and always has been a healthy country. When we look to the ravages that diseases unknown to Canada have made in the States—to the millions that have died from famine and disease in other lands during the past year—when we hear the howl for work or bread that is now heard in other climes—when we hear of the political feuds that are tending to wreck other nations, should we not feel happy and blessed that we are spared from such calamities, and feel better satisfied with our lot?

In some sections of our Dominion some of the crops have not been quite as good as usual, chiefly on account of an unusually protracted heated term at the time of ripening. This and the low prices obtained for some of our products are severely felt by some. The general stagnation or depression in business is much felt on this continent and in other countries; this depressing cloud will soon be lifted and we shall have fine sunshine again. Business is like the tide; it ebbs and flows. We believe we are now at low ebb, and that the flowing tide must come again. As the tide only rises slowly and gradually, so you must expect a slow and gradual improvement. Farming is your business.



NEW DESIGNS FOR TRAINING FRUIT TREES.

See ADVOCATE, Vol. XIII, page 224, and next issue.

and condemnation against the management of the Western Fair. His tongue loosened—he waxed warm and hot on his subject. We waited patiently for about fifteen minutes, scarcely being able to get in a word. When he had let off steam enough, we asked him why he did not attend the annual meeting; that would be the place to vent his complaints. Mr. K. is a strong Ayrshireman. He said Mr. G. Thomson, of Bright, Ont., came to the exhibition and gained 50 cents for exhibiting a prize Ayrshire. Mr. K. dilated on the expense of bringing an animal 100 miles, attending and feeding, and only getting 50 cents when awarded a prize. He compared the prize list and showed where city manufacturers, fruit growers, grain growers and others were awarded sometimes

Agricultural Societies.

There are many who complain about the mismanagement of directors, the squandering of money, and the partiality, injustice or ignorance of judges. Sometimes there may be just grounds for such complaints, but in nine cases out of ten the grumblers themselves are to blame. The majority of the directors, and especially the secretaries, perform a great deal of labor and exercise care and patience to maintain and improve their societies, for which too little thanks are given. Judges, if sent from the skies, could not give satisfaction to all poor mortals.

We wish to ask you one question—Have you done your duty? If not, shake off dull sloth; you may be the very man that the country wants to fill the Presidential chair of your Society, and perhaps of the Provincial Board. Perhaps you may bring forward some improved plan that others may follow, or you may see improvement to be made in your Society. If so, be up and doing; be sure you are right, then go ahead. Fear not; if you do not succeed in your first attempt, persevere and succeed. Attend your annual meetings, and do not be afraid to express yourself clearly and courteously. If you are right, you will gain friends and conquer. If you have no suggestions for improvement to make, you should attend the annual meetings and hear what others say. By staying at home you lose the opportunity of gaining some knowledge, and knowledge is power. You may depend that those who attend such gatherings have an advantage over those who stay at home.

It is beneficial to Societies to have some new men in them. If it were made compulsory to change some of the officers every year, we think it would be beneficial, and if some of the old officers were to retire for a year or two, on purpose to get others instructed in the working of the Societies, and encourage those who show a desire to improve, it would also be of benefit.

You should make yourself conversant with the Act governing your agricultural affairs. We quote a few clauses that may bring to your mind the coming duties of this month:

"The said Societies shall hold their annual meetings on the second Thursday in January of each year, and shall elect a President, a Vice-President, and not fewer than three, nor more than nine other Directors, and the officers so elected shall elect, from amongst themselves or otherwise, a Secretary and a Treasurer (or a Secretary-Treasurer); and the said Societies shall also elect two Auditors."

"The annual meeting of every Electoral District Society shall be held on the third Wednesday of January in each year, in a county at one o'clock in the afternoon, and in a city at seven o'clock in the afternoon, of which meeting at least one week's previous notice shall have been given by advertisement in a newspaper published in the Electoral District and by placard."

"1. The Electoral District Agricultural Societies in each Division shall, at their annual meetings provided for by section forty of this Act, each elect a delegate by a majority of the votes of the members of the Society present at such meeting; and the Secretary of each Society shall, within six days after the election, forward to the Commissioner of Agriculture the name of the delegate so elected by the Society.

"2. The Commissioner of Agriculture shall, as soon as practicable after being notified by the Secretaries as aforesaid, appoint a time and place at which the said delegates shall meet and elect a person to represent the Division in the Council of the Association, and name the Society having the greatest number of members for the preceding year.

"3. In case of an equality of votes for two or more persons, the delegate representing the Electoral District Society having the greatest number of members for the preceding year shall have a casting vote."

The Provincial Exhibition vs. the "Side Shows."

BY A HURON FARMER.

At the last meeting of the "Arts and Agricultural Association" I voted to centralize the Exhibition in the city of Toronto, as from my standpoint of a western farmer, I believe it would be most conducive to the best interests of agriculture, as a whole, in Ontario, to fix our Exhibitions in the capital city. Although beaten, 112 to 42, and after listening patiently to the "big wigs" of agriculture on the situation, who were for Ottawa to a man, I am like Goldsmith's Schoolmaster, "unconvinced still." But on another point, upon which I have been for some time suspicious, I was perfectly convinced, viz., that the average farmer of Ontario is a very simple, easily-humbugged person. I have not a doubt that if left to ourselves to judge upon the merits, and looking to our own interests, a respectable majority would have located the next Provincial Exhibition in the city of Toronto. With its central position, its beautiful grounds, its excellent and commodious buildings, its facilities for travel by rail and water—for the purpose of holding an agricultural exhibition, there is nothing to compare with it in the Province. But the rival cities of the "side shows" got alarmed. A Central Fair and a Western Fair are all very good in a way, but what are they compared to the Provincial? And so the tact and talent of Hamilton and London were turned out to assist sister Ottawa to get her turn, and thus perpetuate the ridiculous rotation. And then there was "button-holing," I assure you—jovial-faced landlords, free with a treat—cool-headed, wide-awake store keepers, and glib-tongued, wily lawyers plied their arts right and left, and, as usual, the farmers capitulated; so the Exhibition goes to Ottawa next year, where not one in a hundred of the farmers in the western peninsula will either exhibit or be exhibited. Seeing that the villages, towns and cities beat us, nine times out of every ten, in the race for municipal and political honors, and can befog and bamboozle us as they please about our exhibitions, I for one "throw up the sponge," and will no longer contend for this or that as a right, but rather, humbly, and, as it were, with hat in hand, ask their honors—What will you be pleased to do for us? And this brings me to the objective point of this communication—What are the authorities of the Western Fair going to do about their next Exhibition? I am well aware that the city of London must "catch a whale," so that I am only anxious about the size of the sprat we are to be baited with; for as times go, there will be no disputing the fact that, as the bait is, so will the catch be. As a means to that end, I hope they will pardon me for offering the following bit of advice: As the Provincial goes far from home next year, you have a splendid opportunity of having a "Fair" such as you never had before. But you must broaden out your prize list; especially, you should offer liberal awards for herds of Shorthorn and Ayrshire cattle (you starved the Ayrshires last year), and also for herds of Cotswold, Leicester and Southdown sheep, and put your very best foot forward for all classes of horses. Next, be particularly careful in the selection of judges; avoid local men—get them from a distance if possible. All who have had experience know how difficult a matter it is to get the right men in the right place in the shape of judges; but we expect you to do your very best, knowing as we all do how much success and satisfaction at an Exhibition depend upon having good judges. Do not, I beseech of you, give us a repetition of the dose of judging the Ayrshire cattle and heavy-draught horses experienced last Fair; it was, in many respects, a laughable farce, had it not had a serious side in seriously injuring the reputation of the Western Fair. But more anon, as I am getting lengthy, beyond the bounds I contemplated at the start.

Work and Reward.

BY D. M'K., INVERNESS, QUEBEC.

Everywhere it will be found that most men will work and work hard, provided a good result be obtained by such labor.

And there are few in this country who decry labor as being undignified. Seeing it is so, and knowing that country and city alike are busy human hives, the vital question for every young man to ponder, and ponder well, is what will I be at—what do—what devote my strength and energy to accomplish?

During the critical period—in most cases—of incipient manhood, a youth might be supposed to take stock of himself and prospects somewhat after this fashion:—

"I am young and I am strong and intelligent. The world is before me—my history is not yet traced. Where shall I move? Shall I enter the lists as a competitor at law, where I may have to wait for years, and in misery before I get my first brief? Or shall I turn my attention in the direction of medicine, in the hope that some day I may become a shining light amongst that class of men who kill nearly as often as they cure, and who, moreover, would have little to do if it were not for the ignorance and self-abuse of the common people?" Turning from these, he exclaims: "None of these for me. The professions are even more overcrowded, and, anyhow, life surely presents some nobler calling. When I consider mercantile life, which deals largely in speculation, although sometimes one is successful, yet the competition is so keen that a small capitalist is sure to do a very small trade, which seem to me to mean present trouble and doubtful future success. Then there is the numerous fry of small trades and other occupations, but these are wearing and too monotonous, and most of them afford little chances for intellectual development. I want some business which will allow time for both physical recreation and mental study, and which also by application and economy secure to me and mine a peaceful competency. Such a business, I think, is farming. I can farm, thank fortune, and please heaven, I will."

And who will doubt but this conclusion which has been arrived at is a sensible one, for it is true that there is no one science which is at once more noble and more neglected than the science of agriculture. A much needed improvement in this direction is being brought about to a large extent by papers and books which advocate the husbandman's interest, and teach him what to do and also how to do it. And it is not only when viewed from a sanitary, but also from a purely financial standpoint, that the business of farming presents great and growing inducements in this, our noble Canada.

Let a young man determine to devote himself to this calling, and resolve: If a stock raiser, to keep only the best; if a grain producer, to till thoroughly; if a general farmer—and in any case endeavor to excel—to use all available helps and every improved method to be diligent and deal squarely with all, and we will warrant that with health, and applied common sense, he will become a successful man, and his will prove a useful life.

The impoverished, run-down homesteads in our land, as well as the yet unbroken prairie, call for lusty, ambitious, nineteenth-century men who will renovate and reclaim and build up together the fortunes of themselves and of the nation.

Let good citizens avail themselves of the good chances. When looked at aright, farming is found to be not only paying, but patriotic work, and if he who causes two blades of grass to grow where one only grew before, be accounted a public benefactor, how much greater a benefactor must he be who make ten times ten thousand blades of grass and wheat, of barley and oats, grow where formerly reigned only the primeval wilderness, transforming the drear, barren and fruitless desert, and making it bloom and blossom as the rose.

And yet such is the avocation of the farmer, and such are some of the results achieved by the efforts put forth by his hands.

Economy Upon the Farm.

BY W. H. V.

There is no direction of farm economy more important than economy in fertilizing material; not that it should be spared in its application, but that all should be saved for use. There are so many ways in which loss in this line occurs that many farmers hardly realize it. In case of a family of considerable size, unless proper precautions are taken to prevent, there is considerable loss from a want of care of contents of privies; and while but a part of a load would be made when neglected, if provision is made for the storage and use of a sufficient quantity of dry earth, muck, chip-dirt, or some other efficient absorbent, one or two cart loads of fertilizer of the most excellent quality could be made. The mode of procedure is to use a sufficient quantity of the absorbent to perfectly deodorize the whole and absorb all the liquid portions which would otherwise evaporate, carrying essential salts with the moisture.

In this way a considerable quantity of fertility may be accumulated which is nearly or quite as valuable as guano or superphosphate.

Again, another direction of loss lies in the waste of any animal substance that is contained in animals that sicken and die or are accidentally killed. In all such cases the carcass of the animal should be made to form a compost. Otherwise there is a great loss of nitrogenous matter that should go to form plant structure.

At a meeting of the Columbia, Conn., Farmers' Club, Mr. Royal A. Thompson described his mode of proceeding in such cases: "Having removed some large rocks from his land, he reserved the cavity formed by the removal of one as a sort of pit, and if any animal died or was accidentally killed, the carcass was deposited in the pit, and then covered with earth. If any small animal upon the farm, such as woodchucks, skunks, or any other kind of carcass comes to hand, it is added to the deposit with more earth; during the season the process of putrefaction goes on and all the gases are absorbed by the earth, and by the end of the year everything has decomposed except the bones. The whole is shoveled out, (the bones thrown to one side) and makes an excellent compost material for use upon any crop."

For the further reduction of the bones his practice is to pound them to pieces, and for every one hundred pounds of bone he uses twenty-five pounds of crude potash, putting the bones in an iron kettle and using the potash with water enough to cover the bones; in this way they are so cut and eaten by the potash as to be reduced to the consistency of soft soap, and are dried for use by the use of dry charcoal dust. Mr. Thompson considers the product thus obtained much more valuable than any superphosphate that he can buy in the market.

Every farmer can accumulate more or less bones every year, and by the mode described can make his bone manure by saving the bones which are very generally thrown away.

The cases named are a very few of the many that occur with every farmer, and by the exercise of proper economy may be turned to valuable account in adding to the fertility of the farm and increasing its productiveness.

The invention of self-binding harvesters in the United States has not yet been perfected. It requires improvement before it can be brought into general use. It is found necessary to do away with unannealed wire for tying. It is found that in many instances pieces of the wire bands get eaten by cattle with the straw; nor is this all. Millers complain that small pieces of wire get broken up with the grain. The wire passing through the mill clogs up the stones. In a convention of Illinois millers a resolution was passed recommending the discontinuance of the use of wire binders.

Economy in Feeding Hogs.

The necessity of practising great economy in feeding hogs is shown by the present market price of pork. Farmers complain that there is a dead loss in the sale of every hundred of pork at the ruling prices. The state of the markets is plainly seen in the market note of Chicago, taken from the *Prairie Farmer*, December 7.

HOGS.—Never but once before have the receipts been exceeded in the history of the trade at this point: that was for the week ending Dec. 15, 1877, when the arrivals reached 230,912 head. The total receipts for the past month were about 908,000 head. Business opened actively and continued so throughout the week, with prices showing but slight fluctuations. The weather has been cool and favorable, and packers have stood ready to take the hogs as fast as received; so urgent has been the demand from that source that of the entire receipts barely 15,000 head fell into the hands of shippers. The quality of the hogs was good, showing almost daily improvement.

There is a demand in the market for all the pork offered for sale, though the supply has increased from year to year, till it has become enormous—nearly eight hundred and eighty thousand in Chicago alone in the month of January. For all there has been a demand, but is the price such as to remunerate hog-raisers? There is little prospect of higher prices in the future. The constantly increasing growing of corn in the prairie States is accompanied with an equally great increase in hog-raising, and a glutted market always implies low prices. The State of Iowa alone, it is said, now has four millions of hogs.

With prices so much lower than in former years, and little prospect of higher prices, it is a pertinent question if three dollars, the average price in the pork markets, will pay hog-raisers, and what is the most economical system of hog-raising? Feeding with corn or peas during the whole time of their growth, as well as while fattening, is too expensive.

The hog is an omnivorous animal, and lives and thrives on pasture. In some countries hogs are fed almost wholly on clover during the summer. An acre of clover is equal in feeding capacity to 100 bushels of corn. A field or paddock should be sown with clover as early in spring as the state of the ground will permit, and the young pigs turned into it about the first of June. From that time till October they will require of other food very little, if any. On this pasture they will not merely live, they will thrive well and be in good condition to put into the fattening pen by the first of October, and they can be fattened for the market before the very cold weather sets in. The great economy of this early fattening is known to all hog-raisers.

A hogshead or other large vessel may be sunk in a corner of the hog-pasture and kept partly filled with water, with corn meal mixed, and whey or buttermilk to be supplied daily to the hogs in the troughs. To this let salt be regularly added. Thus liquid food will give the grazers a better appetite, and will add to their growth and good condition. By this means their feeding for five months will cost little.

Not only is clover pasture the best and most economical feeding for store hogs, but there is also another profit in the fertilizing the pasture-lands for succeeding crops. It would be doubly enriched by the hogs' manure and the clover, and if we are to raise very heavy crops of potatoes, it will be on the clover paddock that has been pastured by hogs.

At the present price of pork such a mode of feeding is the only one that would pay any profit. By feeding none but well-bred hogs, that mature early and fatten on little, can Canadian farmers compete in the market with the hog-raisers of the vast prairie lands of the West. Let those who have had no experience of clover for feeding hogs sow a paddock this spring for the purpose. The profit to be reaped from it has been long known in other countries.

Hardy Winter Apples.

That Canada is well adapted for fruit growing has been fully proved by the experience of some years; this is especially so with regard to apples and all hardier varieties of fruit. But we must in selecting fruit trees, bear in mind the extremes of heat and cold to which our country is subject. We are strangers here to the mild, equable temperature of the British Isles; hence the necessity of our selecting the hardier varieties. Fortunately, however, the hardy varieties (ironclad as they are sometimes called) embrace some of the best apples grown. Great efforts are made in the northern United States to procure and introduce for general culture new varieties of hardy winter apples. Professor Budd, of the Iowa Agricultural College, contributes to the college quarterly an interesting article on some of the most promising new varieties of winter apples that are now growing in the experimental nursery there. They are all, he says, free growers; have marked traces of the Russian type of apple in leaf, bud and style of growth, and all of them are well-ripened. Some of the specimens, he adds, have been grown in that State, some of them in Wisconsin, and others in Canada. Such experiments, and the introduction of varieties of fruit trees adapted to a climate so similar to that of Canada, must be of interest to us, scarcely second to that of fruit growers where the experiments are tried. Some apples of Russian origin, and some that have had their origin within our own Dominion, have been favorably known and an addition to them of others as hardy, or perhaps hardier, will be a boon to the growers and purchasers of fruit. Of one Canadian variety Prof. B. says:—

ST. HILAIRE.—This is a Canadian seedling of the Fameuse, and much like it in tree and fruit, except that the fruit is larger and free from tendency to scab. Last winter we kept beautiful specimens until the middle of February. It is certain to prove as hardy as Fameuse.

Notes.

In barley, more than any other grain, there is an extraordinary difference in the prices of the highest and lowest grades. The area adapted to produce barley No. 1 is limited; and not only soil and climate but also a due preparation of the soil, and harvesting when the crop is at the suitable state of maturity are all needed to produce the best sample. In Chicago at a recent date the range for samples on track was from 35c. to 95c. per bushel.

The very great difference in the range of price is on doubt to be attributed partly to the soil on which samples were grown; but still more must be owing to culture and due care. To both these causes the superiority of Canadian barley to that grown in the bordering States must be attributed. In New York, in December, when the trade in barley was reported quiet, two-rowed States was selling at 78c. and ungraded Canadian at \$1.10 per bushel. How much more profitable would it have been for the grower of barley of very low quality to feed it to stock than to sell it for 35c. per bushel.

Talks with Farmers.

(Concluded from Page 1)

He says the demand for them is so great that he could readily sell 500 Hereford bulls at the present time, and the first cross from these bulls is now wanted in Colorado. Hereford bulls from the first cross bring \$70. This is highly encouraging to Hereford breeders; there are too few of this valuable class of stock in Canada.

Mr. Stone considers that there are far too many directors on the Provincial Board of Agriculture, particularly as so few are really farmers, and that the preponderance of power outweighs their influence. A change is wanted.

Mr. Crowell Wilson, of Wingham, Ont., says he noticed that sowing wheat late was commended in the *ADVOCATE*. He sowed a field on the 15th of October. It was not looking as well as some he put in earlier; he felt rather doubtful of the results. He had noticed some fields that were sown very early, and the grain was showing signs of injury. The 15th of October is very late to sow as far north as Brussels; still we should not be surprised if it yielded better than much that was sown in August. We await results.

In an article headed "A Plate of Pork," in this issue, you see what Americans say of their own pork, and that kind of pork is even far superior in quality to much of their mast-fed or their still-fed pork. If our Government were more strict in compelling the proper branding of our Canadian pork, and not allow still or mast-fed pork to be exported without a brand of inferiority stamped on it, we should be able to command a much better price for the pork fed by farmers.

Obituary.

We deem it our duty to say that Canada mourns, or ought to. One of our most prosperous branches of agricultural industry is dairying, and the best man that Canada has ever had to introduce and foster this important interest is now gathered to his fathers. We allude to Mr. H. Farrington, of Norwich, in Oxford. This gentleman was a native of New York State; he came to Canada and embarked in the dairy business.

To him may be attributed the establishment of the Canadian Dairymen's Association more than to any other individual. His example and counsel induced others to enter into cheese-making; he made dairying his study and delight. He was most courteous and gentlemanly in his manners, and always conciliatory in his remarks, yet firm. In imparting his knowledge, which he was always ready and willing to do—we may add, anxious to do—he never insulted or trampled on a speaker who differed with him, and although an American, he never expressed a word derogatory of our country, and was as much at home with us as any gentleman could be. He brought the knowledge of American dairymen to Canada, and implanted it in our midst. We are sure every dairyman that ever attended the Dairymen's Conventions at Ingersoll must feel that Canada has met with a severe loss.

CANADIAN SHEEP AT THE CHICAGO STOCK SHOW.—We cannot be said to have done in Canada all that we may yet do in raising and feeding sheep of the highest excellency. American agriculturists attribute the superior quality of Canadian sheep in part to our dry, bracing climate, and in part to our feeding them in winter on turnips and peas. An American journal says: "Chief among the sheep exhibits at Chicago was a flock from Willow Lodge Farm, Canada. There are 18 Cotswolds, nine ewes of which average 315 pounds apiece. The largest, a two-year-old, weighs 346 pounds, and took the three prizes at the Royal shows of 1877. There are two ewes weighing 241 pounds apiece, and seven last March lambs with wool a foot long, averaging 151 pounds.

Rinderpest—Danger Ahead.

Since issuing our December number we noticed in the *New York Tribune* that this fatal disease is now spreading near Washington. Our Government should take immediate steps to ascertain the fact, and if as stated, action should at once be taken to prevent the possibility of its being transmitted to Canada. Other diseases have long since been known to exist in the States for many years. Pleuro-pneumonia is one that is spreading; the Texan cattle fever is another, hog cholera a third, trichina in pork a fourth; now they have the rinderpest.

These fearful and dangerous diseases are not yet known in Canada. Some of them are now so deeply seated that generations cannot entirely eradicate the disease from the blood. Pleuro-pneumonia remains in the blood, and may sometimes breed out in the third or fourth generation. Stock is never safe from it, although no symptoms of it may have been seen for three generations. Trichina may now be working its way in tens of thousands of individuals who have never heard of the name. Partly through Canadian influence British ports are open to us for our live stock. It is our duty to see that our mother country is not injured by any act of her child, Canada. England will immediately protect her people from harm if she really believes there is danger. Our Government should immediately protect us if danger threatens. It is of no use locking the stable door after the horse is stolen. Now is the time that action should be taken, before any of these diseases are in our country. By taking immediate steps we may enjoy the advantages of the British and foreign markets, and establish a reputation. We feel satisfied that England will close her ports against dangerous importations.

Fattening Cattle.

There is in the present price of beef much to discourage farmers. They may well ask, as they ask daily, what profit is there in fattening animals. Beef is very low-priced—so low that feeders may doubt if there be anything left after first cost to pay for the labor; but, is not every article the farmer has for sale equally low in price. The dairy products, as well as beef and mutton, bring lower prices than they brought for some years, and breadstuffs are as cheap in proportion. The English markets rule our prices, and the prices of English markets are low, and there is little prospect of their being higher, for this season at least.

There is, however, a profit in fattening cattle—not the runts that put on flesh slowly, and even when fattened sell at the lowest figures—but well-bred animals, grades such as pay for their food by putting on flesh in a short time, and, when fed, sell at the highest prices that buyers can afford. To insure profit the farmer ought to turn his attention to the production of manure in connection with the production of beef. The making of manure ought to be one of the chief objects of the farmer in fattening cattle.

The most economical food in fattening cattle is roots. When we can raise of turnips, mangolds and beets, 600 to twice 600 bushels to the acre, and by the labor given to them prepare the land for a succeeding grain crop, we must admit that the cost of roots for feeding is not a great deal. Roots and hay will of themselves fatten animals, but a richer food given in addition to these will improve the quality of the beef and add fully as much to the value of the manure. It should be borne in mind that the most fertilizing manure is produced by rich food. The manure from excretions of animals that are fed on hay or straw, with roots only, is never so strong and fertilizing as that

from animals fed from oil cake, beans, peas or grain. Of these the pea is especially adapted for Canadian stock-feeders. While it is one of the most valuable articles for giving a superior quality to beef, and to manure as well, it is more than others a Canadian product. And it is (not like some other crops) a fertilizer instead of an impoverisher of the soil.

Though beef, as well as other farm produce, brings very low prices in the English markets, there is still a good price for a good article. It is always more or less so. The farmer should always endeavor to attain the highest price. It alone is sure to leave a profit. Let us then feed good stock, and feed well.

Every year and every season brings its quota of experience. The present year with its low prices should, instead of discouraging us, teach us to persevere in improvement of agriculture in all its branches, and to be prepared for the reverses of low prices and failure of crops, which are sometimes inevitable.

Our Long-Wooled Stock.

The price of mutton, as well as of beef, runs very low in the market, and some sheep-owners are asking, Should we not discontinue sheep-feeding as a part of our farming? Our reply is decidedly in the negative. Though mutton is low-priced, it pays better on the whole than beef or pork, and better even than grain, if we take all the expenses into consideration. There is no meat which costs the farmer so little, and he receives three payments, the wool, the lamb, and the fatted sheep. To these we may add the increased fertility of the sheep-pasture. When we view the ease and certainty of returns from sheep-feeding, we cannot see why farmers do not make it one of the leading industries of the farm. The soil and climate of Canada, especially of the Ontario province, are well adapted to it—better, looking at it as a whole, than almost any other part of America. The expense of sheep-feeding is light and the trouble is not great. There is no commodity on the farm more easily converted into money. There is always a ready market for wool and mutton. The demand is not confined to the home market. For good Canadian mutton there is a brisk demand in the States, and still more so in England. Sheep are not only fertilizers of the soil—they confer another great benefit by keeping down, if not in all cases destroying weeds. Weeds that an ox and a horse will not as much as nibble the sheep will eat down to the ground. There are in sheep-pastures no weeds ripening their seeds and scattering them over the farm.

Sheep are easier fed and cared for than any other live stock, but careful feeding is required to make sheep-feeding very profitable. In this case too is the saying true—"Whatever is worth doing is worth doing well." Sheep will pay well for liberal treatment, for careful tending and a liberal supply of food. We have seen flocks of sheep turned out to pick up food and get their living as best they could on roadsides and commons. Even then they brought money to their owner—more than he deserved. But to make sheep-feeding really profitable they should have, in summer, a good pasture of suitable grasses, and in winter shelter, hay in racks and roots, and if more be needed, some sheaf oats.

PRINCE EDWARD ISLAND AS AN AGRICULTURAL COUNTRY.—This island has been well called the garden of the Gulf of St. Lawrence. It is with no little pleasure we in Ontario note every sign of agricultural prosperity in that distant part of the great Dominion. In the week commencing Nov. 21 there was shipped from the ports of the island 73,748 bushels of potatoes, and 15,157 bushels of oats.

Seasonable Hints—January.

BY HORRUS.

Let us begin the new year with a resolution to improve on all our works of the past; with wisdom gained by experience we will avoid the errors and profit by the mistakes of last year.

The failure of the wheat crop in many parts of the Province directs our attention to the importance of growing more variety and not confining ourselves to any one crop year after year.

Those having land suitable, and living near some shipping point (from our many railways who does not now-a-days?) would find it a profitable speculation to try fruit growing. Of course some years there is a glut in the fruit market from large crops, but then the large crops make up for small prices; but in no case is the fruit so cheap but that it does not yield a handsome return to the cultivator. The four most profitable fruits we consider to be apples, plums, currants and raspberries; for these there is always sufficient demand to use up profitably the most abundant supply.

Having determined to plant this coming spring any of the foregoing fruits, now will be a good time to make the necessary inquiries from your nearest nurseryman for stock wanted, guaranteed true to name, and at what price. Now, if it pays to grow fruit at all, it surely must pay best to grow the best varieties, and in planting for market purposes be careful to select them. Purchasers of fruit trees should insist on the nurseryman giving them a guarantee of the genuineness of the trees, so they would have a hold on them if the stock should not turn out as represented; by doing this they would make the dealers more careful as to how they filled orders.

The value of evergreen trees and hedges is more apparent during the winter than summer. How much more cheery and comfortable do farmers' homes appear when surrounded by clumps of evergreens than without. Although this subject is almost written to death, still we cannot resist the desire to again call the attention of the farmer to the importance of improving his place by planting. The man who values the opinions of his neighbors, or even of the stranger passing by, will not weary from planting and improving. Outside of all questions of home attractions, shelter, the modifying effect on the atmosphere, improvement of the artistic beauties of the location, the fact remains in the minds of others that the possessor of a farm or homestead, planted out with care and in good taste with clumps of trees, neat hedges, &c., must be a person of good taste and refinement; this in itself is sufficient inducement to make a man plant trees.

In laying out new grounds it is well to proceed slowly if you wish to make your work permanent, increasing yearly in beauty and utility. Work to a plan, making few or no mistakes, having little or nothing to undo, and thus economizing time, money and labor. If there are trees on the place to be improved, preserve them, adapting your plans to accommodate anything of value now growing on the grounds. By cutting back severely, almost into the main trunk, old trees of oak, elm (in fact, all our forest trees, both deciduous and evergreen, bear cutting with impunity), you will get a new, dense growth that will surprise you with its verdure and luxuriance. The winter season for this work is the best time.

In planting out a new place entirely it is well to have a good border prepared to serve as a nursery for all trees, &c., you may require in the adornment of your place; here trees from the woods or the nursery may be transplanted and kept growing to be planted when ready in the place you have

determined upon, after some careful study. Whereas the customary practice is to wait for the trees to arrive before deciding where they are severally to grow, and the consequence is, if the weather is hot and windy, they get crowded in without much attention to their different requirements or where they should be planted to the best advantage. We suggest these ideas for the particular reason that now you have time to read, think and plan, and so be prepared that when the season arrives for work you will lose no time.

Few people are aware of the value of the Lombardy poplar; though well known from the habit of its growth—tall and stately—it is not put to as much practical use as it deserves. The increasing scarcity of cedar for posts, and the difficulty to get timber for rails, may well cause the careful farmer to look about him for some other substitute, and that substitute is the Lombardy poplar. They may be grown in many ways to serve as fences. Cuttings of them may be planted two feet apart and allowed to grow up; they would in a few years



Fig. 1.

make a solid wall, impenetrable as a fence, and invaluable as a wind-break. If they grow up too high, they can be cut back to any height desired to again grow out in increased beauty. From their tapering, erect growth, they do not shade the ground and spoil the crops like any other tree. A

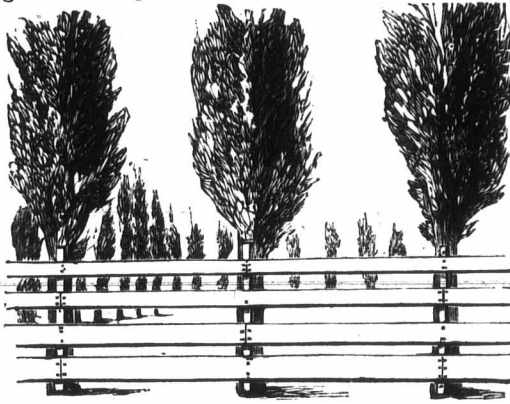


Fig. 2.

few of them growing about the farm-buildings would completely and effectually protect the buildings from being struck by lightning; for this alone they are of great value.

We illustrate one method of using them in fencing.

In Figure 1 the tree is shown with a scantling bolted to it by two bolts, one at the top and the other at the bottom: this serves to nail the boards of the fence to, for if nailed to the tree the nails would soon rust out.

In Figure 2 the trees are shown planted seven feet apart, serving for fence posts. Used in this way, and this method is not patented, the Lombardy poplar will prove of great service in fencing.

Wood of currants and gooseberries gathered and stored in cellars may be made into cuttings about ten inches long any time now; they should be tied in bundles and packed in sand. Trees or bushes for the garden put in cellars to winter over should

be examined for fear of being eaten by mice. Fruit should be carefully gone over, removing any decaying from amongst the sound and whole. Everything is now quiet out-doors, but be always on the alert for procuring manure, ashes, bones, &c., for fertilizing your fruit trees and vines.

House plants will require sprinkling to remove any dust from the leaves. A hot, dry atmosphere will bring off the leaves and destroy the flowers, if not frequently moistened. Remove any pot-bound plants into larger pots and fresh soil. An hour devoted to the window plants every day will be well spent, and your care will be rewarded by the increased growth of foliage and profusion of bloom.

Root Pruning.

When is the best time to root-prune? is a piece of information the villa gardener is sure to ask for. Here we can put forward such high authority as the late Dr. Lindley, who, in his standard work on "The Theory of Horticulture," remarks: If performed at all, root-pruning should take place in the autumn; for at that time the roots, like the other parts of a plant, are comparatively empty of fluid; but if deferred till the spring, then the roots are all distended with the fluid which has been collected in them during winter, and every part taken away, carries with it a portion of that nature which the plant has been laying up as the store upon which to commence its renewed growth. Another passage bearing on this matter is to the following purpose: Its effect (the act of removing a portion of a root) is proportionately to cut off the supply of food, and thus to arrest the rapid growth of the branches; and the connection between this and the production of fruit has already been explained.

November is a good month to root-prune, or even earlier. Advantage should be taken of dry, mild weather; not a time of frost and cold. The earlier it is done, the more time is allowed for the fibrous roots to lay hold on the soil, and this is a matter of some importance when, as sometimes happens, March and April are very warm months. —Exchange.

Cuttings.

A method of striking cuttings is practiced by some European horticulturists which is very successful. The method is based on the idea that the rootlets of the cuttings should be developed before the buds begin to appear, and when the latter develop first they appropriate all the substance of the cutting, and the rootlets do not develop properly. To accomplish the object, the cuttings are put into the ground, in the fall, in light soil, the lower end of the cuttings being upward and slightly inclined. After placing them all properly, they are covered with a layer of soil four to six inches deep, and at the approach of cold weather, more covering is added, with stable litter, etc., to prevent frost from reaching the cuttings. In the spring the extra covering is removed, leaving but four to six inches as at first. The heat of the sun penetrates to the upper end and develops the rootlets while the buds at the lower end (the upper end of the cutting) remain dormant. The cuttings are then taken up and properly set out, right end up, and a healthy, vigorous plant is the result.

Planting Trees.

I have transplanted many hundred forest trees in the last ten years, and I have rarely lost a tree, and most of them were set in the fall. One of the most important rules to be observed is, before taking up a tree mark it in some manner so that you will know which is the north side, so as to be able to reset it in exactly the position it grew in the woods. This may seem to many of no importance, but to those who know that there is in the bark and wood of all trees a radical difference between the north and south sides, the north side being close-grained and tough, while the south side is invariably more open-grained and brash, or soft, the importance will be seen. If this is done, your tree does not have to undergo a complete change in all its parts, and is ready to start off and grow at the proper time as readily as though it had not been moved. —Letter to Prairie Farmer.

Stock.

Early Maturity Again.

BY PROF. MANLY MILES, LANSING, MICH.

The advantages of early maturity and early feeding are strikingly shown in the reports of the premiums awarded at the Fat Stock Show held in Chicago last month.

In exhibitions of this kind it is important that all of the conditions that have an influence upon the profits of feeding should form an essential part of the entry record of each animal, and these facts should be published in full in an official report of the show to insure a wide diffusion of the knowledge that may thus be gained.

The Illinois State Board of Agriculture are entitled to the credit of taking a step in the right direction in the management of this show, and it is to be hoped that they may increase the usefulness of future exhibitions by requiring of exhibitors a more complete history of the animals exhibited.

From the report of the awards published in the *Prairie Farmer*, the following statistics have been compiled:—

In the class of steers, "four-years-old and over," the average gain per day from birth is 1.25 pounds, the lowest being 0.75 pounds, and the highest 1.28 pounds per day.

In this aged class there is of course a greater variation in the ages of animals exhibited than in the younger classes, and this difference in age must have an influence on the results when considered with reference to the average gain per day from birth.

The animal giving the smallest gain per day (0.75 lbs.) was two years and two months older than the animal giving the highest gain per day (1.28 lbs.) These animals were also of different breeds, but the difference in age above noticed would quite overbalance any possible difference in the feeding qualities of the different breeds.

In the class of steers, "three years and under four," the average gain per day was 1.45 lbs., the lowest being 1.16 lbs., and the highest 1.80 lbs. The four animals giving the lowest gains averaged two months older than the four animals giving the highest gain.

In the class of steers, "two years and under three," the average gain per day was 1.67 lbs., the lowest being 1.36 lbs., and the highest 1.96 lbs. The one making the lowest gain being four months older than the one making the highest gain.

In the class of steers, "one year and under two," the average gain per day was 2.18 lbs., the lowest being 1.90 lbs., and the highest 2.38 lbs.

Here, too, we find that the animal giving the greatest gain is two and one-half months' younger than the one giving the smallest gain.

The greater gain per day in the younger animals to which the awards were made, is strictly in accordance with the general law of the organization, to which we have already called the attention of the readers of this journal, that the increase in live weight obtained by full feeding gradually diminishes as the animals grow older.

There is, however, another consideration which we have already noticed in preceding numbers of this paper, that should not be overlooked in this connection. Young animals not only make a more rapid increase in live weight than those that are older, but they also give a greater return for food consumed than older ones, all other conditions being equal.

It is important, then, to secure animals for feeding that mature early—that is, that are capable of being fattened while young, and acquiring that ripe and

firm condition of flesh that pleases the butcher, and brings in the market the highest possible price. The greatest rate of increase, and the largest return for food consumed, can only be obtained by feeding young animals that develop rapidly—and these are the conditions that give the best profits on food consumed, and on the labor expended in fitting the animal for market.

"Small profits and quick returns" may be a good motto in the commercial world, but the farmer who engages in feeding stock will find that the largest possible profits with quick returns may be gained by taking advantage of the desirable quality of early maturity in his feeding stock.

Raising Horses on the Farm.

In a recent address before the Catherine Valley Agricultural Society of Yates County, New York, Mr. Clark Bell made the following remarks on this subject:—

The farmer need not breed horses on a large scale, but every farmer, it seems to me, should breed them on a small scale. The farm team should be good, serviceable, well bred mares. Even in these times of financial depression, well-selected horses are as good an investment as the farmer can make, and they will do all his work, and do it well, whether at the plow, the drag, the machine, the reaper or upon the road, where in this age of steam the farmers as well as other men are obliged to be much more of the time than in past years. The principal heavy work for a team is, as we work land, mainly required in the early spring. It is that which tries the team most, and the want of the use of the team for this work that deters many from raising colts, who otherwise would. To such, and indeed to farmers and small breeders generally, who wish to use their mares in business or upon the farm, I would strongly recommend the raising of fall colts. There is much to be said in favor of it. It does not interfere with a fair and reasonable use of mares in the spring work. The colt should be dropped so as to give a month at grass, and if a little late, it will be found the best for the dam and foal.

A fall colt gets, in the nature of things and from the necessities of the case, a much better chance than a spring colt, as a general rule among small breeders. The mare has to be stabled and the colt gets a handful of grain constantly, from even the most careless of men, when it is housed in the fall or winter with its dam. It is the most universal custom to turn out the spring colt to grass with the dam, and it has to take the chances of poor pasture, a dry August, and to run its gauntlet of flies. The fall colt escapes this risk, and when I allude to the importance of raising a colt the first year, it must be seen how much better is the chance, ordinarily, of the fall colt on the same farm and with the same owner, than the spring, when the latter so rarely gets grain the first year.

With proper care and suitable handling a team of farm mares can as well do the work of a farm and raise a pair of fall colts as not. They are very little trouble and expense to the farmer. I declare it to be my firm conviction that so far as what the colt eats goes, it costs the farmer no more to raise a yearling colt than a yearling steer or a heifer, and with proper barns the care required is about the same in either case.

The number of horses in the United States at the last census was 7,145,370, and this number has undoubtedly increased since that date. We have looked for a few years past to the exportation of a considerable number of our horses to Europe, and especially to England, and the present summer, and I may say the present moment, is witnessing the buyers for the English market paying prices for the common horse that are remunerative to the breeder, not only, but more so than either beef or grain. While the extreme stringency of the times has seriously crippled the breeding and production of American trotting horses as such, all observers must recognize that there is a fair, I may say good, demand, and likely to be, for stylish, serviceable, large-sized carriage horses at as fair prices as could be expected, and higher in proportion than any other product.

I am of the opinion that the English demand is destined to increase largely, dating from this season, and that we shall not be too early for it if we commence now to raise colts for that market.

A Plate of Pork.

A writer in the *N. Y. Tribune* suggests another reason for abstinence, which he says is applicable any year—cholera or no cholera—so far as a good deal of Western pork is concerned. We make room for his statement—which perhaps persons of delicate stomach had better "skip":

"The Western mode of hog production cannot but bring bad results. Cattle feeders—feeding whole corn to their stock—would lose half their corn; but putting hogs into the yard, the latter live and grow fat on the voided, undigested corn, and are sent East to be consumed by the public generally. A more objectionable mode of producing human sustenance could not be put in practice. Whatever vermin may have infested the intestines of the stock is devoured along with the excrement of the cattle. Pork thus fattened ought, by Act of Congress, to be consigned to the dogs, and the feeder and vendor severely punished. The flesh of poultry, as well as of pigs, proclaims, by odor as well as taste, this filthy mode of fattening. Trichina is 'nowhere' beside such beastliness, because that parasite, dangerous as it is, can be killed by intense heat."

There is doubtless too much truth in what "T. P. M." charges, and it may possibly lie at the bottom of the alleged return from Europe of "a large quantity of bacon," which could find no market, and which now goes begging here at 2½ cents a pound. Nevertheless, according to recent statistics, we have sent abroad something like 12,000,000 pounds more bacon and ham this year than last, but the selling price has continued low. On this point a writer in the *London Agricultural Gazette* says:

"As a proof that if we are careful to produce articles of the best possible quality we need not fear being entirely beaten in the market by our American cousins, I may instance bacon, which, with their abundance of cheap corn, they can produce and send to our markets at a far lower price than we can fatten it; still the very best American bacon has been salable in the Liverpool market all this season at from 3d. to 4d. per pound, wholesale, and hams at the latter figure, whilst prime English commands quite double that price."

There is no reason in the world why American farmers cannot raise quite as good products of dairy, cattle yard and swine-herd as those of England. That our hams and bacon do not compete favorably abroad with those of home growth is partly because we have not yet learned how to cure such meats to suit the English taste. Our Canadian neighbors have been more proficient in the study of that taste than we, and some, at least, of their ham and bacon has within the last two or three years sold at the very top of the English market. What Canada has done the States can do. As soon as our farmers learn just what the British appetite demands, English producers cannot continue to hedge themselves behind the "best possible quality," for that will be found as plentiful among "kin beyond sea" as elsewhere. But it will be necessary to remember meanwhile that there is no magic mechanism in the animal economy by which improper food can be transformed into meat of the best flavor.

Hints about Horse-Bits.

A writer in a German contemporary strongly counsels horse-owners who value the health of their cattle to banish from their harness-rooms all bits but straight ones of the simplest possible construction. Through a long series of years he found, from practical experience, that powerful young horses frequently fell off in condition without any appreciable cause, their food being plentiful and of the best quality, and no symptoms of general ill health being apparent. On searching carefully for the cause of this state of affairs, he found in nearly every instance that the horses' tongues had been more or less injured in consequence of the employment of curved, jointed, hinged or otherwise complicated bits. The sore and tender condition of so sensitive an organ as the tongue necessarily prevented the animals doing justice to their food; and short rations, with the usual amount of work, naturally led them to a less of condition. Unfortunately the mischief generally escapes until it is tolerably far advanced.

Feeding Large or Small Animals.

Abundant experience, if such proof were necessary, shows that there is more profit in feeding the larger breeds than there is with the smaller breeds of animals, whether for meat or milk. Of course there are exceptions to this, as in all general rules; the small Jersey cow, for example, which is expected to produce an exceptional product of highly-colored and finely-flavored butter; but this does not affect the rule above stated. It is only necessary to consider that, when we feed two animals of 700 pounds each, we have to supply the demands of two sets of breathing, circulating and muscular apparatus, which are considerably more extensive and expensive than those of one animal of 1,400 pounds.

This is true of every animal that we feed, from the fowl and pig up to the cow and fatted steer. Ten small Merino sheep, weighing 80 pounds each, will cost much more to feed than four Cotswolds of 200 pounds each, or five of 160 pounds each. Besides the grain in feed, we have also a large advantage in the less proportionate amount of offal in the fewer large animals than in the larger number of small ones. Where flesh and milk are the objects in view, this consideration ought to have great weight in the selection of stock to be kept. The choice, of course, will be restricted by the opportunities for keeping the stock, for it will not pay to keep Shorthorn cows upon a pasture where only small, active cattle can pick up a living; but where other things are equal, this consideration should be well weighed.

Just now there is opening up a large opportunity for feeding stock for beef, which many farmers will very soon find a desirable one to seize upon. In choosing animals for feeding, then they will find it to their profit to select such large breeds as the Shorthorn or Hereford, where their locality admits of it; and where it does not, they will certainly labor under the disadvantage of preparing for market an article which can neither sell for the highest price nor can be produced at the lowest cost. Further, there is another advantage in marketing the largest amount of product in one package, so to speak, for animals of 1,500 to 2,000 pounds can be sent to market at less proportional cost than the same weight in the form of animals that are one-half of one third smaller.—*Agriculturist*.

How to Breed the Saddle Horse.

Upon the theory—and no truer one exists—that like produces like, we must first select a sound, well-formed, good-gaited saddle stallion to breed from, for, next to a thoroughbred, a well-bred saddle stallion imparts his action to his colts with more certainty than any other kind of horse; the mare should be at least half-bred, that is, she should be by a thoroughbred horse and out of a mare strongly bred for her saddle qualities, or vice-versa. I lean strongly to the thoroughbred for all purposes, and your trotting-horse men are beginning to find out that their best and gamest racers are those who partake most strongly of thoroughbred blood. In color, I would prefer a bay, or brown, or sorrel, 15 to 15½ hands, the size depending entirely upon the weight he has to carry; he should have an intelligent countenance, carry a moderately high head, but not too high; good, strong, but not heavy shoulders, and sloping back well; his back should be short and strong, with round, hoop-like ribs, that extend close up toward his hips; the latter should be broad with deep and strongly muscled quarter. Above all things, avoid a coarse, heavy-shouldered horse for saddle purposes. It matters not how well they may move in the morning—they will be stumbling before night; and as they grow older, this abominable and dangerous habit increases to such an extent that it is absolutely dangerous to ride one. In a draft horse a heavy shoulder may be desirable, and they may do for a trotter. I have even seen thoroughbreds that were successful racers with big, coarse shoulders; but I have never yet seen a No. 1 saddle horse with a coarse, heavy shoulder. If there is any coarseness, let it be in the hips. His legs should be clean, strong, and set well under him; don't choose a "leggy" horse for serviceable saddle purposes; his hoofs should be of medium size, rather large than otherwise, and of black horn. I think the black horn tougher than the white. In general appearance the saddle horse should look compactly built—light, smooth, sloping shoulders, deep-chested, round-bodied and strong muscular quarters.

Value of Sheep as Manure Makers.

Pasture alone is not sufficient to maintain sheep in profitable thrift, especially in the approaching breeding season; in addition, a daily ration of grain is needed. When the pasture is poor, the quantity of grain should be liberal. With good pastures, a pint of mixed corn and oats, or rye and buckwheat, is little enough; with poor pastures, half as much again would be required to keep full grown sheep or growing lambs in proper condition. In some sections cotton-seed meal is coming into great favor for feeding sheep on poor pastures, a half pint being fed to each one daily. It is a nutritious food, and makes an unexceptionably rich manure; and the quality of the dung of animals as a manure always depends on the quality of their food, for the dung is only the food, changed by the process of digestion, less the portion taken into the system as nutriment. There is a mistaken idea, which has been fostered by writers who know little about sheep, that these animals have the unusual capability of living upon weeds, briars, brush and coarse herbage, and of not only getting fat thereon, but of greatly adding to the fertility of the poor soil. A sheep, however, has no power to make something out of nothing. By reason of its fine mastication, and its vigorous digestion it can, perhaps, exhaust its food on more of its nutriment than any other animal, except the fowl; and its manure, by reason of its finely comminuted condition, rapidly decomposes, and is at once effective as a fertilizer. To make our flocks thrifty—to secure strong lambs, heavy fleeces and good mutton—we need to feed the sheep, and we must do this if we would turn our flock into vehicles for spreading manure and enriching the soil. It is a fact, that sheep supplied with a regularly given ration of one pint of grain per day, besides pasture, made in 80 days, 20 pounds each more weight than a flock on as good pasture without grain; and value of the extra flesh more than paid for the grain. In addition, the fleeces made growth, a large proportion of the ewes conceived twins, and the lambs came stronger and were better supplied with milk. And, as a matter of course, the droppings of these sheep must have been richer in fertilizing value than those poorly fed sheep. The good shepherd careth for his sheep, and he has his reward in the richest return that can be made of any of our farm animals, for the food and care given. Instances of the successful use of sheep as fertilizers of the soil are given so often, but without any reference to the methods of their use, that it has become a general belief that nothing else is needed to make a poor farm rich. But if any novice is led to try it for himself, both he and his flock will come to grief.—*Agriculturist*.

Feeding Bran with Meal.

For winter feeding, where cattle are kept in stalls and heavily fed, there is no better divisor for corn meal than wheat bran. It is also cheap, and furnishes what the corn meal lacks. When cattle are fed on corn meal as the principal food for feeding, it is apt to cloy if fed in too large quantities, hence our best feeders are in the habit of using bran as the cheapest and best means for rendering the meal fed more digestible. In this each feeder must use discretion as to the proper quantity to be used. One-quarter of the bulk of feed in bran to three-quarters of corn meal may be taken as a good general rule, to be varied according to circumstances. For working-horses fed on cut-feed, this proportion will also be found to be nearly right. For horses doing fast work, oats fed whole are of course the best possible feed. In winter, for driving horses, about one-quarter the weight of the feed may be good sound corn, mixed with the oats. Where bran is cheap, and it usually is so in the West, it will be found a valuable adjunct for dairy cows in the winter, in connection with corn meal. These will be found as among the most valuable of any used, in proportion to the cost, for making milk in winter.

KEEPING SHEEP.—In a pasture of not more than twelve acres on the farm, I keep an average of five head of cattle, four head of horses, and sixty to seventy head of sheep. The reason for keeping sheep in cattle and horse pastures is that a great many weeds grow which only sheep will eat. Any patches of weeds or briars may be eradicated in a short time by introducing sheep. In dry seasons, if pastures are short, sheep will clean out corn fields, doing very little damage; and the corn the sheep may eat will not hurt them any.

Maize as Food for Horses.

The official report has been published on the results of the experiments undertaken by the Austro-Hungarian government for the purpose of determining the advisability of the partial or total substitution of maize for oats in feeding horses. The general conclusions arrived at are almost identical with those drawn from a similar series of experiments in the French cavalry, which we mentioned a few weeks ago.

By desire of the Minister for War, the experiments were made upon an extensive scale, and continued for a considerable time, no less than 4,000 horses in the cavalry, and 1,200 in the artillery having been subjected to them under different climatic conditions in different parts of the monarchy for a period of six months. The report, which was drawn up by Professor Bruckmuller, of Vienna, states that in the majority of cases the horses readily accustomed themselves to the new food, whether it was given whole and dry, or wetted or softened. The increase in weight and bulk, and the brilliancy of the coat, bore witness to the nutritive properties of the maize, but the power of resisting fatigue was less than on ordinary food.

A large proportion of the individual reports sent in by the veterinary surgeons and officers under whose supervision the trials were made, maintain that the animals fed on oats were distinguished for their liveliness and spirit, were less readily tired, and sweated far less, and that they lost a great part of their energy as soon as they were put upon maize. Generally speaking the introduction of maize in the rations gave better results in the southern than in the northern provinces of the monarchy—an observation completely in accord with established facts, for in the Banat, and in the south of Hungary, heavy draught horses have long been fed upon maize without any inconvenience being experienced.

It is added that the Vienna Tramway Company made a similar endeavor to introduce maize-feeding in the stables, with the result of finding that the saving in the cost of food was more than compensated by the loss of energy and pace in their cattle. From these facts Professor Bruckmuller arrives at the conclusion that maize may do fairly well for horses of whom slow, continuous work is demanded, but that it is not to be depended on where anything like a quick pace is required of them.—*London (Eng.) Farmer*.

Prices in Fancy Shorthorns.

The recent sale of the Duke of Devonshire's Shorthorns, it would appear from the *North British Agriculturist*, furnished matter for one of the most sensational chapters in Shorthorn history. The top figures both for a cow and for a bull were considerably higher than hitherto paid for representatives of the Oxford tribe.

"The average, £664 1s. 9d. a head for thirty, is the highest on record, except the Dunmore sale in 1875, when thirty-nine averaged £672 each. The average for females, however, at Holker is the highest. The pair of Duchess bulls at Dunmore sold respectively at 3,000 and 4,500 guineas, greatly helping the general average.

"Last week's was the fifth sale that has taken place of animals from His Grace's herd, and the advance in price during the last quarter of a century has been all but incredible. The first sale was held in 1856, when the average was only £25 2s. 6d. In 1864 thirty animals were sold at the average price of £66 3s. In 1871 there was a great advance, viz., £240 13s. 10d. for forty-three head; while at the last sale, in 1874, the same number reached the then remarkable average of £383 13s. 5d. These figures should encourage breeders to persevere on straight lines and generally recognized sound principles."

The Toronto Cattle Exporting Company have shipped to Liverpool during the past fortnight three cargoes of cattle and sheep; and latest advices state that purchasers from the various commercial cities of Great Britain awaited the arrival of the Canadian vessel with great interest. There appears to be an unlimited demand in Great Britain for the best Canadian cattle and sheep at good prices. Negotiations are now pending between a large firm in London, Eng., and Toronto exporters, for 20,000 head of cattle and 50,000 sheep, of first class quality and grade, to be delivered by the end of June, 1879.

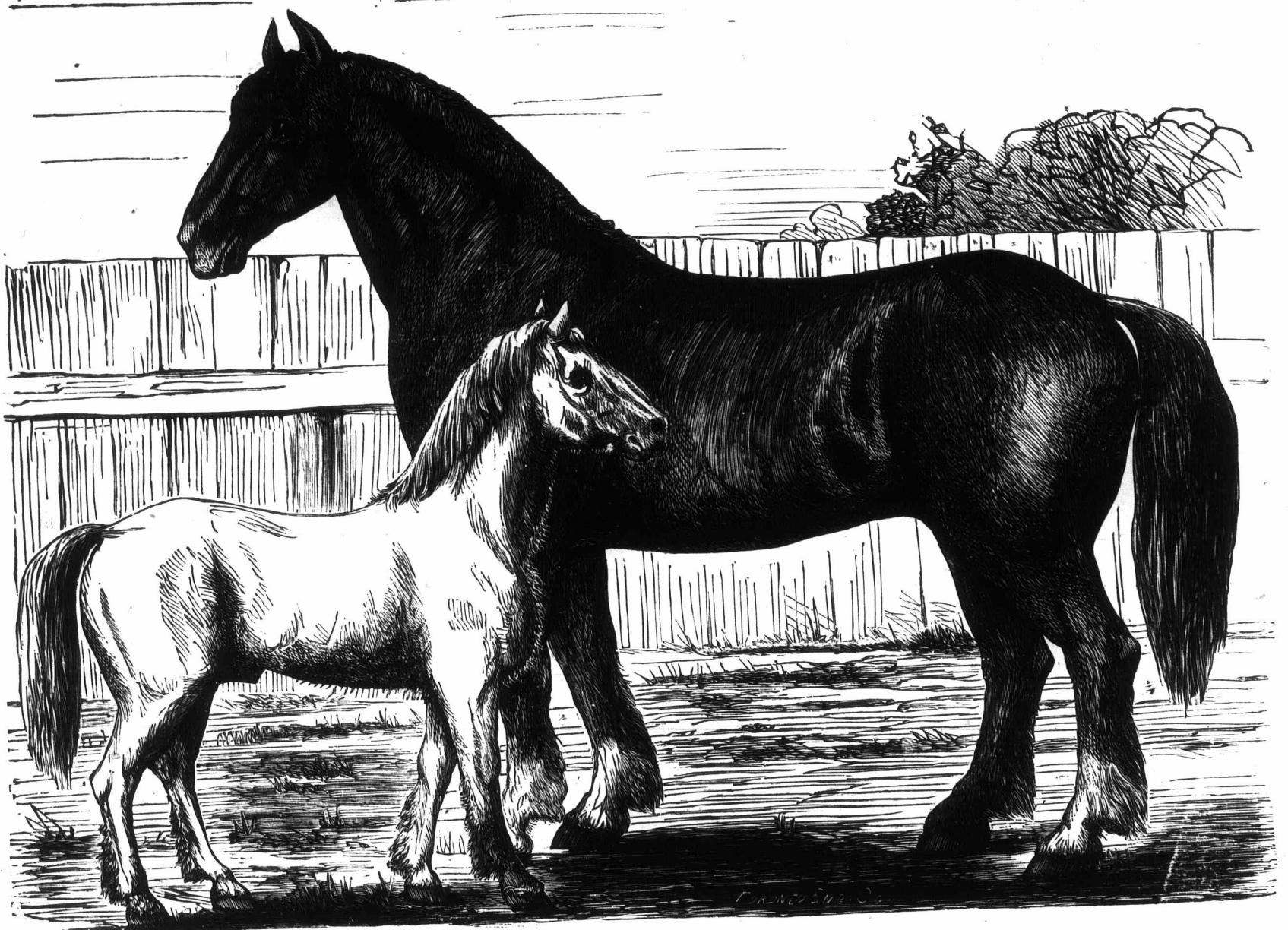
Description and Pedigree of "Bonnie Jean."

This mare was imported by H. Love, Sr., of Hay and Stanley, County of Huron. She was bred by William Love, Esq., of the Scoup Farm, in the Parish of Beeth, Ayrshire, Scotland, a cousin of the present owner of the mare, who was raised on the same farm. The mare was imported in 1873, when she was one year old. She was exhibited when two years old at the Provincial Exhibition, but was only awarded 3rd prize, as she had not recovered from damage received on board ship during a three days storm on the Atlantic Ocean. Three times she has been awarded 1st prize at the Western Fair, London, and always carried off 1st prize at County and Township shows wherever shown. Her first foal, now two

Canada 33 years ago; settled in the County of Huron, on the Townline between the Township of Hay and Stanley, three miles west from Kippen, 24 years ago; took up 100 acres of land, at \$2 per acre, and came right into the bush. Had just got married, and was worth about \$400. He bought another 100 acres, a cleared up farm, six years ago. Has now a family of nine children. He went to the Old Country in 1871, and brought out a lot of Leicester and Cotswold sheep, and was very successful with them; he has some of them yet. He went back again in 1873, and brought out the black mare "Bonnie Jean," and two two-year-old heavy draught stallions, named "Wellington" and "Glenlee." After running them both very successfully for three years, he sold "Wellington" for \$2,000 and "Glenlee" for \$810.

Giving a Horse Medicine.

Frequently medicines are given to a horse in the form of a ball, because the administration of a drench is a much more troublesome affair; and, in almost all cases, more or less of the dose is wasted. Sometimes, however, a liquid medicine is to be preferred, as in colic or belly-ache, when the urgent nature of the symptoms demand an active acting remedy, which a ball, from its requiring time to dissolve, is not; and besides this, a ball cannot contain any of the spirituous cordia's. The best instrument for giving a horse a drench is the horn of an ox, cut obliquely, so as to form a spout. Bottles are frequently used, but their fragile nature always renders them dangerous. On giving a drench the tongue is held the same as for the delivery of a ball, not pulling it out to its full extent, which is dangerous on account of choking; the head should be elevated, but only horizontally. The drench is then poured into the mouth in small draughts, after which the tongue



CLYDESDALE MARE "BONNIE JEAN," AND COLT—The property of MR. H. LOVE, Hills Green, Huron County, Ont.

years old, gained the 1st prize as a year-old, at the Provincial Exhibition, in London, a year ago; and was sold last September for \$1,400. The next, and only foal she had, has just been weaned, and is allowed by judges to be a first-class H. D. foal, for which \$600 has been refused. The mare is black, with white stripe in face, and white fetlocks behind; is long and rangy; stands 17 hands high; and, when in good showing order, weighs 2,000 lbs. The foal is a light bay; spot of white on forehead; white hind feet to the fetlocks, and weighs now, at seven months' old, about 700 lbs.

PARTICULARS ABOUT H. LOVE, SR.

Mr. Love was raised in the Parish of Beeth, Ayrshire, Scotland; is 50 years of age; came to

He also, in 1873, brought out five Cotswold rams—bought by him in Gloucestershire, England, out of the best flocks on the Cotswold Hills. They were also a success. He has now a good stock of half and three-quarter-breed H. D. working horses, some pure Ayrshire cattle, and a few pure-bred Leicester and Cotswold sheep. The two farms are well worth \$14,000, and the stock, &c., on both places, \$6,000. The village of Hill's Green is just one lot from his farm. It stands where he "blazed" a path through the bush. It has made a fair start for fame in the future.

N. B.—We have now the bound volume of the FARMER'S ADVOCATE for 1878. Price, \$1.50; mailed to any address in the Dominion.

is let go, but the head still kept up till it is all swallowed. The horse cannot swallow while the tongue is held out, neither can it swallow if the head is held too high up, and the fluid is apt to enter the windpipe and the lungs. Allowance should be made for some waste in giving a drench.

Scratches.

Wash the sores thoroughly with warm soft water and Castile soap; then rinse them off with clear water, after which rub dry with a cloth. Now grate up some carrots (about a pint after grating) and bind them on the sores. The best way to bind them is to take a cloth and wrap it around the sores, letting the lower edge come close down to the hoof; then tie a cord around this lower end, after which put the grated carrot into the opening at the top of the cloth, a little above the fetlock.

On the Wing, and Off it Too.

Last year we gave you some accounts of our trip to Arkansas in May last, and left you in expectancy of more. On that occasion we traveled from St. Louis to Little Rock by the Iron Mountain R. R. It is well named, for this Iron Mountain is of immense length; in fact it appears an iron country from the extent of land under which that metal is to be found, extending about one hundred miles long and perhaps an equal distance wide. The land under which the iron is found is of very little value; it will not pay any one in this generation to attempt to cultivate it. A scrubby, bushy wood, not deserving the name of timber, grows on it.

Leaving this uninviting looking district we proceeded to Poplar Bluff (about 200 miles from St. Louis and about the same distant from Little Rock) which is the main station between these two points. Rich-looking bottom land lies on one side of the station and handsomely rolling high land on the other. We alight from the train and mount a conveyance drawn by mules, and proceed to the hotel. A magnificent profusion of roses, honey-suckles, and other flowers, fill the eye with delight, whilst the fragrance from them is delightful. We wished to make arrangements for a tour of inspection, to commence in the morning, but no vehicle could be procured, and our mode of procedure was necessarily on a mustang or Shank's Pony. We choose the former, which was kindly offered us by Mr. Smith, the manager of the cattle yards at this place. This is where most of the cattle are unshipped and reshipped *en route* from Texas to the east. We walked to the cattle yard where Mr. Smith with two mustangs were waiting for us. Having been employed at office work since commencing this journal, and not having been on a horse's back for twelve years, we were pleased with the idea of having a ride again. The mustang allotted to us was a grey, having a short back, short neck, well proportioned body and a capital set of short strong legs; a little shaggy on the limbs, but carrying a good mane and tail; the eye was docile but quick. This was Mr. Smith's favorite animal, and was trained to go by a touch on the neck with the bridle or by word. The mustangs in the Western States are guided in this manner, the bit not being used for this purpose. This animal was trained to hunt deer and to drive Texan cattle. Some of the cattle will turn and chase a horse, and as they are extremely quick in turning no English or Arabian horse can get out of their way, and are consequently killed. The mustang, however, being short and quick in sight and action as kitten, whirls around instantly and is at the top of its speed at the first bound, running away from the steers. These runs are only short, but sharp. The herdsman, as soon as out of danger, immediately turns after the steer, and with a short handled and very heavy thonged whip punishes the steer right smart, as the saying goes.

We then mounted our mustang. The stirrups, which are of wood, were so long that we could only keep our feet in them by extending our feet and legs to the fullest extent. Mr. S. tried to

shorten them and found it impossible, but as Mr. S.'s legs were much shorter than ours, and these being what he was accustomed to, we determined to use them also. The saddle had a large knob or horn standing on the top of the pommel. This



THE MOUNT.

is used when lassoing cattle or other animals. We must now inform you that we are not so young as we used to be; neither are we so thin, spare or pliable, but, John Bull like, we have



FULL FLY.

become quite corpulent. The head of our animal was let loose by the herdsman, and jump, jump, jump goes the mustang. Every jump brought our body in contact with the lasso knob on the saddle, but fortunate for us we had taken no breakfast, as it was yet very early morn. We tried to stop the beast but on it would go with a short kind of a jump. Mr. Smith and another horseman were close behind. After awhile the



THE FALL.

leap turned into a gallop, despite of our endeavors, but it was very short, and then jump, jump, jump, again. Messrs. S. & Co. now came to our side and gave us some instructions how to manage the animal. We were to touch its neck with the bridle on either side we wished it to go, which it

obeyed very well, and to hold up the reins and say "Whoa," to stop. We do not like to be conquered, and onward we go to "Victory or Death," and it very nearly proved being the latter.

We now come to where a lot of horses are running wild in a place part opening and part woods. Our mustang seized the bit in its teeth and with the other horses carried us like the wind over logs, through brush, and across a creek, in spite of our endeavors to hold it up. Our foot was knocked from the stirrup, so we then stuck our knees and heels close to the animal, which made it go faster. From the effects of the jumps over wood and water, and knocks from trees and bushes we were soon lying with our head against a tree; hat smashed, clothes damaged, blood flowing, and terribly shaken up.

(To be continued.)

Garden, Orchard and Forest.

Canned Fruit.

Every day brings us additional instances of the perseverance of our American neighbors in increasing the value of the raw products of their fields, and the addition to their commercial value by the employment of skilled labor. The preparation of canned fruit is no trifling item in their ever active industries. The home and foreign demand for canned fruits and vegetables is said to be on the increase in America, and there is a constant endeavoring to supply the demand and to furnish new delicacies to bring in the much coveted dollars. Last year a Delaware firm undertook to put up a small quantity of blackberries and huckleberries, and the experiment has proved in every sense successful.

Canned apples, cherries, strawberries, whortleberries, grapes, peaches and pine apples are largely exported to England. Nor are the preserving and exporting confined to fruit. There are also exported to the same market, asparagus, corn, peas, and tomatoes. Specimens of the products of American canners were exhibited at the Paris Exhibition, and the result has been orders for samples from several places on the Continent.

What interest is this to us Canadians? Let us see. This little branch of industry gives profitable employment to the cultivator of the soil; to the manufacturer of the cans; to the packer; the carrier; the shipper, and, in a word, to all the intermediate employees. It promotes the circulation of money among the workingmen, and it serves to increase the national wealth and industry, and consequently promotes emigration to the country in proportion to the employment given. Is there not in this a lesson for us Canadians? Every good employer of labor is a benefactor to the country. As lovers of our country—this Canada of ours—we have always advocated the employment of her industries. Even when a branch of industry is looked upon as a very small matter, we do not

ignore the fact that farthings heaped together make pounds, and that millions are composed of units. The wealth of nations is formed by the industry of individuals. The raw products of the farms may be increased very much in value before they be exported, and thereby the field of labor enlarged.

The Yellows in the Peach.

This disease is making great ravages in some of the first fruit-growing regions of the States, nor is it wholly unknown here. Its origin and any effectual remedy have so far baffled the skill of horticulturists. The loss from this one disease has been great. Endeavors are made to stamp it out by legislative enactments. In the region bordering on the lake shore, this pestilential disease has been a great destroyer of valuable property.

The following item we abridge from Colman's *Rural World*:

The subject of regulating the yellow in the peach by-law, and making the attempt to quarantine it, is one that deserves the hearty support of all fruit growers. This disease in the peach has been found by observation to be contagious, and like the potato disease, very difficult to overcome where it has once got a foothold, from the variety and the insidiousness of its methods of propagation. It can hardly be said yet what it is—whether a development of fungoid origin, or a disease which is organic, and is so interfused into flower and fruit, leaf, branch, stem and root, that it seems almost impossible to overcome its destructive energy, without extermination wherever it has appeared. Even a tree that may seem to be cured, it is observed, may produce pits and seed that will transmit the disease to the nursery produce, where they are used to raise seedlings. This at least seems to be the conclusions which the most observant of peach growers have come to after having given the disease itself much attention. The South Haven Pomological Society have had a special law passed to provide for the prevention of this dread peach disease being spread outside of the orchards and localities where it has been developed, but it has not been found in practice as well adapted to the work as it was hoped it would prove. The task of changing this law, and rendering it more effective, was lately committed to a joint committee of South Haven, Saugatuck and Ganges Pomological Societies, and the chairman, T. T. Lyon, at the late meeting of the South Haven Pomological Society, reported the amendments which were supposed to be necessary. There is little doubt that without a very general action under any law which may be passed, the peach yellows will be fully as difficult to eradicate as the Canada thistle; but still the thoughtful and sagacious fruit growers who see the necessity of legislative support in their efforts to promote and develop a profitable industry in the State, and in a locality adapted to such purpose by soil, climate and skill of the people, should be heartily seconded by the press and the public, and by such legislation as may be required, and that may be found in agreement with the provisions of the constitution.

Asparagus and Rhubarb.

W. T. Philbrick, writing in the *American Cultivator*, says: After the frost has killed the leaves of the rhubarb and the stems of asparagus, it is a good plan to clean up the bed and give it a good dressing of manure. To be sure, this can be done in the spring, but the spring is usually a very busy season in the garden, and time as well as manure is more in demand than for other things. Moreover, the manure applied now becomes thoroughly incorporated with the soil by the winter rains, and is all ready for the early stalks of these vegetables in the spring.

The method I generally follow is to clear off the stems and other rubbish from the bed and then run a small plow on each side the rows lightly, so as to disturb the roots as little as may be; the manure, which may be rather coarse, is then spread along the furrows and covered by turning the loam back with the plow. A liberal dressing of ten cords or more per acre is needed by these vegetables to insure a good crop. If it is desired to plant a new bed of rhubarb, it may be done in the fall, though the spring is preferable.

The rows are usually made three and a half feet apart, and a good dressing of manure applied in the furrow. The old roots are cut up so as to have one or two eyes to each piece or set, and these are planted about three feet apart in the rows. A few may be expected to fail, and will need replanting in May, when the missing places can be seen. If planted in spring it is a little less likely to miss growing evenly. The Victoria rhubarb is the kind generally used for market, and is probably the best kind. Asparagus is always planted in spring.

Utilizing the White Thorn.

From a report on forestry planting received from Cherokee County, we extract the following:—

"In 1875, I think, I attended a meeting of the State Horticultural Society held in Des Moines, and listened to the discussion on growing the pear on thorn roots. I gave it little attention at the time, but since I have seen a tree in Carroll County, Ill., top-worked on a seedling thorn coming up in a garden, loaded with luscious pears. The same fall I gathered a bushel of thorn apples and planted in my garden, hoping to get some seedlings to graft the pear on and also to try for hedge. But not a solitary plant has yet appeared. How do you raise the seedlings? Is it best to graft or bud the thorn? I have one plant alive out of several I took up on the creek bottom and planted."

This is a more important list of questions than, at first thought, would be apparent. In this State, as well as in Wisconsin, Illinois and Indiana, we have many vigorous pear trees, bearing beautiful crops which are worked on thorn stocks. In some cases the trees were crown-grafted on small plants; but the majority of the successful trees have been top-grafted entirely above the ground. In all cases, however, when the stock has united perfectly with the graft and kept very nearly even pace in growth, the stock has been a thrifty seedling, springing up where grafted, or else the seedling thorns have been grafted or budded in nursery and transplanted when of small size. All attempts at grafting or budding trees transplanted from the forest, have resulted in imperfect uniting of graft, and feeble growth. Practical tree-growers would expect precisely this result.

Thorn apples planted whole in garden soil will never germinate the first season, and rarely will one appear the second or third year. If the apples be mashed, mixed with meal, and fed to cattle or sheep, and the droppings be planted, about every seed will germinate as readily as corn. Four or five years since, the writer had a wagon load of thorn apples gathered by shaking down on canvass. They were run through the mill for pulping cider apples, and the seeds washed from the pomace and kept over one night in a warm solution of sulphuric acid. As to the limit of strength of solution which the hard-shelled seed will bear, we are not yet advised. One quart of the acid in twelve gallons of water, seemed to soften the seed covering, with destruction of very few of the seeds. After the soaking, the seeds were mixed with sand in boxes and placed in cellar until cold weather, when they were put out on the north side of a fence to freeze and thaw as it happened. Planted early in the spring, nearly all grew. Plant several seeds at every point where a pear tree is wanted. If several grow, save the most vigorous specimen. Top-graft the second or third year, not more than three feet above the ground. Graft very early in spring, making diagonal cut to receive scion precisely as successful fruit-growers graft the cherry and plum.

In starting a hedge, we also advise putting out the thorn seeds where wanted, sowing thickly, thinning as found necessary at end of first season's growth. The thorn is much checked in growth and lowered in vitality by transplanting at any age. For pear stocks, the free-growing thorns of our river and creek bottoms—with sharply serrate leaves and edible fruit—should be selected. For hedging, the species growing in our prairie groves, with crenate leaves and small, acid fruit, is preferable. The season for gathering the fruit and preparing the seed will soon approach.—*College Quarterly*.

THE CHINESE PRIMROSE.—When it was first introduced, nearly sixty years ago, its flowers were not larger than a five-cent piece, and now we have flowers larger than a trade dollar, with the edge elegantly fringed and in color varying from pure white to the most brilliant crimson. No matter whether it is seen in the conservatories of the wealthy or the windows of the poor, it is always a source of pleasure, being in the winter what the Geranium is in summer time—everybody's plant. There is no plant so grateful for a little extra attention as the Chinese Primrose. Being a plant with fine roots, it must have a light soil. I find a good mixture for them to grow in is half leaf mold or soil from the woods, and the other half rich sandy loam. Let the soil be rich, light and porous.

Pasturing Orchards.

In England almost every orchard lies in permanent grass, and those that are annually grazed with sheep or only some calves lying with them—and the animals well fed in the winter—will give more fruit and cause the trees to prosper better than if cultivated with the plow. The droppings and urine from the live stock, when an orchard is grazed, mature the trees quite as well as the application of manure by hauling it thereto. There is much less pruning in the farmers' orchard of apple trees, and they last longer, which is partly attributable to the climate, as the wood grows slower; but the cutting away of so much wood increases the growth of numerous shoots, and renders constant thinning a necessity. When an orchard is grazed, the stock naturally lie in the shade during hot weather, and of course the trees benefit from the constant evasions, being thicker where the roots gain nourishment.

I have the present summer some yearling heifers lying in the orchard, and they have done most extraordinarily well; for, although the pasture is very bare, many people suppose that meal or other food is given in addition to the grass; at the same time the apples compare favorably with another orchard not grazed, and are better than in a third one which has been mowed.

Although an experience of over twenty years in England proves grazing decidedly preferable, yet nearly the same length of observation on this continent has failed to allow of writing confidently, because there have not been opportunities for proving the good effects of continued grazing, as the American farmers are so given to use the plow on old grass to what the English farmers are. It would be well for farmers to state their experience in this respect for crops of any kind; besides, grass is apt to fail in returning much for growing in the shade, and the work of cultivation and harvesting is greater.

A Hardy Single Rose (*Rosa rugosa*).

This is a most beautiful and striking rose, albeit it would find little favor at the hands of the National Rose Society. Says the *Gardener's Chronicle*:

It is a Japanese shrub of moderate size, 3-4 feet in height, the branches very densely beset with straight prickles of unequal size, the leaflets elliptical, obtuse, serrate, deep green, and rugose above, villous beneath. The flowers are solitary, 3½-4 inches in diameter, rose-colored or pure white. The sepals are lanceolate acuminate, sometimes slightly dilated at the tip. When the flower has fallen the fruit ripens into sub-globose, berry-like haws, which are glabrous or with a few short bristles, and of a lovely coral-red color. Out of flower this rose is effective and striking, with its bristly stems and bold rugose foliage; in flower few roses surpass it for beauty and continuity of bloom. In fruit it has scarcely a rival in its large glossy berries, if we may so call them familiarly. In Japan we are told it grows wild in sandy places by the coast, and we are further told that it has been cultivated in China as well as Japan from time immemorial, and that numerous varieties occur as to color, but no double one, on which account our rosarians, we fear, would have but a poor opinion of its merits. Our specimen was procured from Mr. Ware's nursery at Tottenham. On his rockery this rose in its red and white varieties has been in flower all the summer, while at the present time the fruits are exceedingly striking. We believe this rose to be so perfectly hardy that even the timid ones who dread—and not altogether unreasonably—the effects of the next severe winter, may plant it and sleep in peace.

Pruning Grapevines.

Strong-growing vines in strong soil must have room to extend in order to fruit properly. If the crop sets too full it should be thinned. If vines which are making a rank growth are trimmed too close, they fruit insufficiently, and make a surplus growth of spongy wood. When the vines get some age, having fruited five or six years, they make less growth, and should then be gradually cut back, so as to get canes sufficiently strong for fruiting purposes. During a succession of dry seasons, especially if largely fruited at the same time, the vines at pruning season must be thoroughly shortened in. Of course the folly of exclusive systems of short or long pruning is obvious. If the vineyard is on stiff clay, it is quite safe to prune even Concord short, but if it is on a rich black soil, or a deep sandy loam, strong-growing sorts must have length of vine to be healthy and bear properly.

Coal Ashes.

We reprint underneath an item from the *American Cultivator* on the value of coal ashes applied to land. We have for some years proved its efficacy as a fertilizer, especially for fruit. Applied as a mulch over the roots of fruit trees, they are of great service. As a top-dressing to gooseberries and currants they have proved a good remedy for the mildew, to which the gooseberries especially are so subject, and they are a check to our insect enemies.

"One great want of the old soils of New England generally, and Massachusetts particularly, is potash. Coal ashes certainly contain a trifle of this, the result of wood used in kindling. Again, careful observers claim that all heavy soils need ventilation, or "lightening up," to permit the free action of air. A Nantasket man, who had land so poor it would not spindle corn, applied coal ashes two or three inches deep, mixed with a little yellow loam, then plowed and harrowed, and in three years the soil was so much renovated that he cut a ton and a half to the acre of the best clover. A compost of three parts of muck to one of coal ashes was used in alternate strips on another field, by way of experiment, and sown with clover, rolled, but not harrowed. Wherever the compost was spread the clover germinated and developed handsomely, while the strips without the compost were barren. In Cambridge, a gardener, last year, covered his very sandy land with fine coal ashes, and on this he put a layer of loam, all of which he spaded in. This month of June he had the finest-looking garden he ever had.

Roses in Pots.

The ever blooming roses are best for house culture in pots, because they bloom quicker and more continuously than any of the others, and besides this, their style and habit of growth is more bushy and better adapted to the purpose. They can be kept nicely with other growing plants, and with proper attention to their requirements, will bloom freely.

Do not use too large pots—if possible, not more than three or four inches. The rule is, one size larger than the plants have been grown in. The smaller the pot—provided, of course, it is large enough to contain the plant—the quicker and stronger the plant will start. It is very difficult to get a small plant to live and grow in a large pot. A rose will not bloom much till the pot is well filled with roots; therefore, small pots facilitate quick bloom. If the pots are old, they should first be thoroughly washed. If new, they should first be soaked in water, otherwise they will absorb the moisture from the plant.

Have good rich soil—mellow and friable. That made from old decomposed sods is best. If manure is used, it should be old and thoroughly composted; fresh manure is injurious.

Put some bits of broken crockery, charcoal or other similar material, in the bottom of each pot to facilitate drainage, then enough fine earth to raise the plant to a proper height. It should not be much deeper than it was before. Next put in the plant and spread out the roots as near their natural position as possible; then fill in fine earth and press firmly down with the hand. When done the pot should not be quite full; a little space is needed for water.

When well potted, water thoroughly, and, if the sun is strong, shade for a few days; then give full light and air. Though the plant should not be allowed to wither for want of water, the earth should get moderately dry before watering again. Too much water is worse than not enough. Very little water is needed until the plant starts to grow.—*Guide to Rose Culture.*

PRUNING IN WINTER.—The *Gardeners' Monthly* of December says: If you want a branch to push strongly at the point where you cut a part away, prune in winter. If your tree has branches crossing each other, or has half dead branches, or any tending to spoil the form or symmetry of your tree, prune in winter; but, as a rule, the less pruning that is done the healthier will be your trees, for it may be accepted as a rule in gardening that all pruning, whether in winter or summer, is a blow struck at the vitality of the plant.

The Guernsey Lily (*Amaryllis Belladonna*.)

Lilies in October are a treat, and that is really what this fine old plant places within reach of all who have a yard or two of ground to spare. The bulbs are cheap to purchase, and may readily be had from any nurseryman. October is, perhaps, the best season for planting this fine bulb. The situation should be warm and dry; in fact, no better one can be found than in a border immediately under the parlor windows with a southerly or warm western aspect. See that the bottom is dry; if not, whip out the soil bodily to the depth of a yard, and fill up a foot or more of the space with broken brickbats or other porous material. Then return the soil, if suitable, or fill to the surface level with a compost consisting of equal parts loam, sand and leaf-mould or peat, for the plant delights in a rich sandy loose soil. It often, however, does remarkably well in light sandy loam; it will, in fact, thrive in most soils, if not too adhesive, providing the site is warm and dry.

This beautiful lily flowers without any leaves somewhat in the way of a gigantic autumn Crocus. Some have complained of this as a fault; it seems to us to add to its charm. To see the huge stalk raising up alone, unsupported by a single leaf, for the latter generally lie down in August, and unfolding such a cluster of glorious blossoms, while all other plants are hastening to decay or already fast asleep, is one of the most unique and inspiring pleasures of the garden. The flowers are not only beautiful in the garden, but invaluable for cutting, and form welcome additions of floral decorations either cut and used in whole trusses or stems, or as separate or individual flowers. Soon after the flowers fade the leaves begin to grow, and the precocity of growth constitutes one of the chief dangers and weaknesses of the *Belladonna Lily* in our climate, for in consequence of this early growth they are above ground during the severities of our winter and early spring. The covering of a few branches of shrubs, a mat, or a piece of canvass, is most useful during these stages of early growth, and will mostly carry the plants safely through the danger period. The leaves should also be carefully preserved during summer, and not encroached upon in any way by other or stronger growing plants. Neither should they be cut away, but allowed to die down and decay of themselves. The succession bulbs of this plant form on the crowns of the old ones or nearly so, and thus rise year by year nearer to the surface, till in the end patches of *Belladonna Lilies* have a tendency to throw themselves out of the earth. There are two obvious modes of meeting and mastering this tendency—frequent takings up and replanting in fresh ground or deeper down in the old sites. This, however, tends to check the flowering, so that a better and more successful means of counteracting any injuries that might arise from cold through the bulbs getting up too close to the surface, is to apply about two or three inches of light rich dressing to the bulbs every autumn, just before the plants come into bloom. This will at once conserve the surface roots from the frost, strengthen the plants, and encourage the bulbs.—*Agr. Economist (Eng.)*

Twig Blight.

There have been many enquirers for any information regarding this prevalent disease. Its appearance in our fruit gardens has been attributed to many causes, and many remedies have been suggested. The following remedy we copy from the correspondence of a New York paper:—

Dr. Frankenberger writes as follows: "I desire to call attention to a disease commonly called twig blight. When this disease overtakes a fruit tree, the leaves first begin to wither, and finally the whole tree slowly dies. Whatever may be the true cause of this disease, it is sometimes ascribed to a borer. My experience, however, refers more to the remedy than the cause. I know by experience that there is a simple remedy that will not fail to restore every tree afflicted with this disease, if applied in time. It consists simply in boring with a small auger or bit into the tree, filling the cavity with sulphur, and plugging it in. The sap will carry the sulphur to every part of the tree, and he will 'git up and git.' The cause of the disease being removed, the tree will soon begin to put forth fresh and tender leaves, the withered foliage will slowly drop off, and the tree in time will be restored to its natural growth."

Pear Blight Remedy.

I have had a little experience in pear blight, and believe I have used a means that will secure the desired end. My experience is limited, but thus far it is entirely satisfactory and an entire success in my hands, not a single failure occurring.

Two years ago about twenty of my pear trees (or more) were attacked with blight in June and July, and very severely, and so rapid was the disease that I gave the trees up as lost, but at the same time determined to experiment with them by first cutting a gash deep in the tree from the roots of the tree to the tips of the branches. Every limb of one-half inch or more in diameter I slit full length, gashed deep, and continued those gashes from all the larger branches down the body to the roots; many of the larger branches I gave two of those long gashes. I immediately covered all parts of the tree with linseed oil. Not a tree died after the oiling. Some had died before treatment.

Those trees are healthy up to the present time. About August 1, 1878 (this is September 3, 1878), one large dwarf pear tree, loaded with fruit, began to blight, and in a week the disease showed itself in all parts of the tree; I gashed and oiled it after the disease had thus spread over the tree, and it checked the disease at once, there being no further spreading of it. I think the fruit was caused to drop from the tree by the oiling a little more than they would in a normal state.

One of my neighbors used the same treatment one year ago on his pear trees and saved them. The same party tried it on one fruiting tree this season and saved the tree. I believe it an efficient remedy if used in time.—[J. V. Anderson in the *Farmer's Home Journal*.]

Garden Fertilizers.

If I had the choice of one fertilizer only, I should select genuine guano, and if my garden soil were heavy I should require nothing to mix with it; but if light and hot in its nature I should covet some common salt. Guano alone, or mixed with one-third of salt for dry soils, and spread over the surface during damp weather at the rate of, say, two ounces per square yard, will increase the value of any crop to which it is applied. To destroy slugs, half the quantity, or less in dry weather, will be found highly beneficial. Superphosphate of lime is a safe and valuable fertilizer, and is suitable for sprinkling among small seedling crops of flowers and vegetables which guano might injure. These two mixed together are excellent for potatoes, being quick in their action and lasting in their effects. But the most prompt of all the fertilizers is nitrate of soda. It will, if spread at the rate of two hundred pounds per acre, change the appearance of a grass or a wheat crop in a few days, as it will that of any garden crop, especially of the Brassica family; it is a valuable stimulant for early cabbages and cauliflower, also for celery lettuce, etc.; half an ounce, or less, to the square yard is sufficient for these crops. Soot is a real gardener's friend if he is not afraid of using it. It consists of finely-divided charcoal, and contains salts of ammonia. It must not be mixed with quicklime, or those salts will become decomposed, but it may be mixed with a small quantity of salt with advantage for dry soil. I know of no crops to which a liberal dressing is applied that are not benefited thereby. It is excellent for onions. Salt alone is very useful for dry soils on account of its great affinity for moisture. The soil of asparagus beds, where it has been used freely, is often cool and moist in summer when the surrounding ground is hot and dry—even dusty. If a gardener has at his command any or all of the fertilizers named, and uses them judiciously, he will not only be able to increase the productiveness of the garden in his charge, but will not require such large supplies of stable manure as would otherwise be necessary to sustain the fertility of heavily-cropped ground. An important advantage in the case of guano and soot is their value for making liquid manure of the best quality.—[Letter to *Journal of Horticulture*.]

The easiest and most simple way of protecting young fruit trees from mice, is to carefully remove from about the stem all sods or litter that may be there, then mound up with fine dirt about them to the height of one foot. Half this height will do, if the land is clean. The ground should be made level about the stems of the trees in spring.

Dairy.

The International Dairy Fair.

The great International Dairy Exhibition began Monday, Dec. 2, and continued during the entire week, ending Saturday, Dec. 7. As the term "International" implies, the exhibitors were not limited to the United States. There were exhibitors from Canada and the different nations of Europe. On Monday evening there were fully twelve hundred visitors, among whom were many ladies, and the members of the arrangements and visitors' committees were kept busy.

THE HALL OF THE AMERICAN INSTITUTE.

On every side were packages of butter and cheese, in many cases arranged with a tasteful regard for the picturesque, while lining the walls around the apartment were exhibits of every kind of dairy appliances imaginable. Churns of every variety, butter tubs, pails, patent packages, milking machines, milk pails, and all conceivable, and not infrequently inconceivable implements suitable for dairy purposes, were displayed, and, when possible, practical evidences were given of their use. Most conspicuous among the exhibits was an ornamental pyramid of cheese surmounted by the figure of a Jersey cow. This structure is a portion of the exhibit of Messrs. Thurber. The display of thoroughbred milch cows was also a particular fine feature of the exhibition.

Mr. Folsom introduced Mr. Edson, who welcomed all dairymen present to the opening of a Fair of which the result must be so beneficial to them. He told them that last year the exports of cheese from the United States was 123,784,000 pounds, of which 93 out of every 100 pounds went to Great Britain, where the best cheese in the world was supposed to be made. Last year the butter product of this country reached the enormous quantity of 1,500,000,000 pounds.

MR. SEYMOUR'S ADDRESS.

Mr. Seymour, in the course of his address, said: We have gained our foothold in British and other markets by better methods of making, and by availing ourselves of the natural advantages of cheap and fertile lands. When we look over the list of our exports, we see that we have turned the balance of trade in our favor by the use of what we have beyond other people—rich soils and varied climates and productions. We now turn our thoughts to honest industry, and we begin to respect the kind of law that we must earn our bread by the sweat of our brow. Our statistics show how much of our vast exports come from the soil, and how, from their nature, they meet the first great wants of humanity. Some years since, Mr. Williams, a skillful farmer, who got high prices for what he made, found that he could buy the milk of his neighbors and make it into cheese and sell it for more than they could get. In this way he built up a large factory, and showed economies of his methods. His example was followed, and it has led to the establishment of thousands of such factories in the United States and Canada.

On Tuesday the success of the Exhibition fairly manifested itself. All the exhibits were in their places, and there was a supply of milk for the manufacture of cheese. The attendance, especially in the evening, was large. At 10 p.m. the registering turnstile showed that about 2,700 had entered the building during the day.

The milch cows on exhibition attracted great attention. They are said to be the finest specimens of their several varieties which can be produced in New York, and are certainly very beautiful animals. H. K. and F. B. Thurber's exhibits of foreign cheese, each of which is labelled with its name and place of manufacture, also proved to be centres of interest. There is an old Italian cheese covered with mould, and another shaped like a Bologna sausage, the string still around it by which it was first hung up. This firm also exhibits an assortment of butter packed and hermetically sealed in tin canisters, so as to keep fresh for years. Twenty thousand of these packages were sold to the United States Government last year for use in the Army and Navy.

The cheese factory, designed to show the process of making cheese by machinery, Jones, Faulkner & Co., of Utica, N. Y., began operations at 2:30 p.m. Three hundred gallons of milk were used,

and four cheeses, weighing about 50 lbs. each, were put to press at 8:30 o'clock. George Merry, of Vernon, is in charge. He has three factories in Oneida County, and manufactures 650,000 pounds of cheese annually, which always commands the highest price in the market. The factory in which the machinery of Whiteman & Burrell, of Little Falls, N. Y., is used, is in charge of Miss Meeker, a noted dairywoman of Broome County. She used 250 gallons of milk, beginning at 8:30, and putting her cheese to press at about 9 o'clock.

A large pyramid of cheese on the right near the music stand, is the exhibit of Smith & Underhill, of New York. It contains 400 cheeses, or in all about 20,000 pounds, all domestic made, and mostly from Wisconsin. All sizes are represented, from a pineapple up to one weighing 70 pounds. The collection represents the cheese factories of every State in the Union, and presents a fine appearance.

GENERAL BUTLER'S ADDRESS.

The coming together of our International Dairy Fair in this, the metropolitan city of the United States, would but a few years ago have been deemed by the observer to be a meeting of those representing a smaller class of agricultural industries.

IMPORTANCE OF THE DAIRY INTEREST.

We start with amazement to learn the fact that nearly \$350,000,000 worth of butter and cheese have been produced in this country within the past year, or one-seventh more than the value of the wheat crop of the country, and one-third more than the cotton crop, and that it takes one milch cow to every five inhabitants to supply the demand for these articles, to say nothing of the myriads that run at large over the plains of Texas, Colorado, New Mexico and Arizona.

PRODUCE OF FRANCE.

We speak flippantly of our capability of supplying all the world with breadstuffs. True, we have the capability so to do; but it is equally lamentably true that we do not do it. The boastful Western man upon his prairies, or the Californian upon his ranche, will not be a little astonished to learn the fact that the Republic of France, with not so much area as the State of Texas, raises more wheat in quantity than the United States of America all told, reckoning from Alaska to Florida and from Texas to Maine, the area of France being only 207,480 square miles, or 138,000,000 acres, while Texas contains 237,231 square miles, 154,000,000 acres. And yet the product of wheat in France, in the year 1868, was 350,000,000 bushels; the total product of wheat in the United States for the same year was only about 240,000,000.

So far from supplying the markets of the world with wheat, in the year 1867 we sent to England only 4,000,000 hundred weight of wheat, or about nine million of dollars in value, while France exported to England eleven million dollars' worth of butter alone to spread on the bread made from our wheat, or, to speak less lightly, France sent more value in butter to England than we did all kinds of breadstuffs.

As an example of what may be the profits of the smaller industries of farming, which by the farmers of the United States are reckoned almost valueless, it is an astonishing fact that in the year 1866 France exported as much in value of eggs to England alone as we exported of bacon and hams, one of our chief exports of provisions in 1868, to all the world—that is to say, in round numbers, raising five millions of dollars, while we exported eggs to the paltry number of 412 dozen.

The attendance at the Fair on Wednesday was very large, the hall presenting a more crowded appearance than is usually seen in the day time during the fairs of the American Institute.

SCALE OF POINTS.

In deciding upon the merits of both butter and cheese the judges adopted a standard of excellence as follows:—

BUTTER.		CHEESE.	
Flavor.....	10	Make.....	10
Keeping Properties..	10	Flavor.....	10
Texture.....	10	Texture.....	10
Color.....	10	Color.....	10
Make.....	10	Keeping Properties..	10
Total.....	50	Total.....	50

MR. BROOK'S ADDRESS.

Canada, exporting to England 80,000,000 pounds of cheese annually, has become a competitor with us in the English market.

At home \$1,300,000,000 are invested in pasture lands, and 13,900,000 milch cows. Besides the many thousands of our domestic dairies, which delight the palates of millions of our home people, are 3,000 manufactories of cheese. And yet, of the thirty-seven States, only about seven really supply their own consumption of cheese and butter, even with the tens of thousands of private dairies in the country.

Of butter the make is 1,500,000,000 pounds, and of cheese 350,000,000 pounds, and the export of cheese this year will be 25,000,000 pounds, and of butter at least 130,000,000 pounds. Here is a value to the country of \$350,000,000.

How New York State is enriched by these great dairy interests is best shown by the record. Here were produced in 1877-8, 111,087,486 pounds of butter, and 107,873,391 made in families. Here are 1,339,816 milch cows, and 41,511,599 gallons of milk sold in the market, besides the whole consumption on the farm. Here, in 1874—and the increase has been enormous in the four years past—98,725,172 pounds of cheese were made in the factories, and 7,778,413 pounds in families. More than one-fourth of all the dairies of the country, also, are in the State of New York.

Full Milk vs. Skim Cheese.

At the meeting of the Farmers' Club, Tuesday afternoon, in Cooper Union Building, New York, Robt. J. Dodge said that cheese, being valued highly by all nations, the mode of its manufacture has been subjected to many alterations and some improvements with the view to making a superior article, as in the Brie, Vashrein and Neuchatel cheeses of France, Germany and Switzerland respectively, which are made of cream only. Occasionally, however, some of our American farmers, to make a cheaper product, carefully remove the cream to turn it into butter and make of the skimmed milk a tough, low-priced cheese. He did not know whether any of them make cream cheese as well as skim-milk cheese; if not, he advised the trial, and if the two qualities do not do well let them go back to first principles and make the cheese of all the milk in the old way. Our people consume about four pounds of cheese each annually, and an Englishman disposes of about eight pounds in the same length of time. Mr. Dodge urged that cheese should be eaten not only as a relish but as a real food, taking the place of meat, inasmuch as a cheese presents in portable and lasting form the essential food properties of milk.

Professor Arnold, in a speech before the International Dairy Fair, explained that the reason why more cheese is not eaten in the United States is simply because Americans do not like the hard acid cheese so largely produced by American dairymen; and furthermore, if they did relish it, they cannot eat it with impunity. In his opinion, the acid system, or allowing the curd to lie in the whey until it has received the taint of the whey, must be abandoned before there is any great increase of home consumption. The English Cheddar cheese, which can be made here as well as in England, was suggested as the sort of article Americans want for their own table.

Cheddar cheese, which is in high repute for its richness, commands a high price in all markets. It is made of new milk only. The milk is set with rennet while yet warm and allowed to stand about two hours. The whey first taken off is heated and poured back upon the curd, and after turning off the remainder, that is also heated and poured back in the same manner, where it stands about an hour. The curd is then put into the press and treated very much as the Cheshire up to the time of ripeness.

Charles Baltz, of Chicago, presented his views upon the kind of cheese the American market demands, at a convention held in Chicago. "It is," said he, "full stock, and nothing less, that is wanted." The demand for full-cream cheese, in his opinion, never was at a discount; it can always be sold at a fair price, and finds its buyers in foreign as well as domestic markets, while skim cheese, offered at one cent per pound, often goes begging for purchasers. The highest price paid for butter does not, in his opinion, make up the difference in the price of skim and full cheese. A fine, close-made, full cream cheese not only answers the demand and commands fair prices, but insures both factorymen and dealers a good reputation to their customers.

A Plague at Washington.

Mr. W. P. Graves, at Washington, D. C., asks the *Tribune* about a disease that is killing the cows that, owned by poor people, run together, to the number of 100 or 200, in the open grounds around that city. The symptoms are intelligently described at length, and the remark is made that "some people call it the Rhinderpest." This is undoubtedly a rhinderpest (cattle plague) but not the Rhinderpest (Russian cattle plague). That it is the common Bovine Lung-plague of Europe there can be no doubt. Its slow but steady spread among the cows herding together on the commons; its slow progress, killing only after a week or a month's illness, the dry cough, catching breathing and high fever, and finally the congested lungs, speak with one voice as to its true nature. Were it the genuine Rhinderpest we would not despair of seeing it speedily extirpated. A fatal, contagious malady that develops itself in four days after the poison enters the system, and kills in as many more, commands attention. In such a case, the stock-owners and the nation must decide quickly whether they will submit to a speedy destruction of half their cattle, or kill a few scores or hundreds in a well-directed effort to extinguish the complaint.

But with the lung plague there is no such solid ground for hope. The poison may lurk in the system unsuspected for weeks and months, even while the disease may prevail in the same animal for an equal length of time before ending in death or recovery. As the successive cases occur at longer intervals, and as the fatal result is longer deferred, this malady fails to strike the average mind with the idea of swift destruction, or to censure up visions of empty stalls or useless or deserted pastures. On this account lung fever is far more to be dreaded than even the Rhinderpest. In proof of this is the fact that this disease has been devastating Great Britain for forty years, at a cost of hundreds of millions, while in the same country a succession of invasions of rhinderpest have been promptly stamped out at a comparatively small expense.

If there is any ground for hope in our present situation it is in the proximity of the plague to the National Capitol, coupled with the fact that the British Government shows some disposition to make the continuance of our exportations of live stock to that country contingent on the existence of efficient veterinary sanitary measures in our States. Our difficulty lies in the entire ignorance of this disease apart from a narrow strip of our Eastern slope, but if Congressmen and Senators from all the States can be brought to feel the effects on their own tables, and at the same time to realize that a great and increasing source of national wealth threatens to be set off by our neglect of this matter, it seems not altogether preposterous to expect that something may be done to banish this foreign malady once more to the shores of the Old World.

Until the United States Government can interfere, the people should stir up the municipal or county authorities to hold the disease in check. They must interdict the movement of all cattle excepting under license and from sound herds, in which the disease has not existed for three months. All animals suffering from the fever must be destroyed and deeply buried, and everything with which they have come in contact, as well as the buildings in which they have stood, must be disinfected by cleansing and thorough washing with a strong solution of chloride of lime, and fumigation with chlorine gas. No visiting of infected premises must be allowed, excepting by inspectors, and these must disinfect themselves on every occasion when they leave.

Dogs, and all other stray animals likely to carry the poison, must be shut up, and all recently infected herds should be examined daily, so that any sickness may be detected and the victims safely disposed of at the earliest possible moment. A persistence in this course for three months after the last sick animal has been destroyed, should give a fair guarantee that the plague has been extirpated; but a register of cattle should be kept for some time longer, the system of movement by license only should be continued, and a professional examination should be made every week or fortnight of all horned cattle on the formerly infected places, until all traces of the pest have long disappeared.

Agriculture.**A Theory about Red Clover, to Account for its Enriching Effects.**

BY H. IVES, BATAVIA, N. Y.

I detest the word "theory" when applied to anything about agriculture, and believe the many theories which have been advanced by learned men, but which would not prove good in practice, have caused a good many farmers to reject agricultural books and papers, calling it "book-farming," and not worth reading, and thus failing to obtain much valuable and practical information from others relating to their own occupation. But as to the way that clover acts upon the soil to produce such wonderfully enriching effects, we see that the Doctors disagree, and as I give a farmer's philosophy to account for it, I suppose I must call it theory.

All this region of country was originally covered by nature with a dense forest, and its usual fall of leaves caused a complete mulching of the soil, and, as one writer says, "mulching is nature's mode of producing plant food and of protecting vegetation from the destructive influence of drouth and adverse extremes of temperature." Now, after this soil has been worked and mown for years, I believe it will rest and recuperate better and faster under any similar mulching than in any other way. A neighbor says that years ago a barn-door blew off into the field, lying there two or three years, and that spot has been richer ever since; and everybody knows that where a pile of rails, or stone, or lumber covers a piece of ground for a year or two, its enriching effects are seen for years afterwards, although the spot received no fertilizing matter from the covering itself. The good effect on the land is due solely to the fact of its having been covered or mulched. In growing clover, I believe that all are agreed that it receives its nutriment from the air and from deep in the ground by its tap-roots, and after a good crop of clover the stubble and roots left in the ground would help a good deal to enrich the land. But I believe the principal enriching qualities for the land derived from growing clover are obtained by the mulching which a good crop of clover left for mowing is sure to give. A noted English author (though I cannot now give his name) says that, although it was contrary to philosophy, and he could not account for it, still it was a fact that land received more benefit from a crop of clover, when it was mowed even twice in a year and taken off the land, than if the same clover had been pastured. Now, the theorist would say that to let the cattle pasture off the clover and leave their droppings on the ground would do it the most good. But I agree with the former statement, and account for it by the fact that a full growth of clover for mowing covers and mulches the ground more than any other crop, for its foliage is so thick near the ground that very often the lower leaves are smothered and the clover stalk near the ground becomes black and shiny from the soil under it; while by pasturing it is so much eaten off and thinned out that it seldom gives any mulching to the ground. Now, if this clover land is as good after mowing as after pasturing, then it is most profitable to mow, and by feeding the hay out on the place it helps to enrich the rest of the farm, and the second mowing for seed often pays as well as a crop of wheat.

I have become convinced, after years of practice, that this theory is correct, for about sixteen years ago I commenced farming on a three years' course of crops, the first year a hoed crop, the second some kind of grain—so as to seed down to clover, and the third year I called it resting to clover, which I sometimes pastured, some years mowed, and a few times let it stand to go down on the land. I called this land rather poor when I commenced this course, and for a few of the first years I was often told that I would run my land out by

such constant cropping; but instead of that it improved quite fast (without manuring or plowing any crop of clover under to enrich it), so that after five or six years it produced crops quite above the average, and has ever since. This system also gives good, clean culture and easy tillage of the land. I should say, however, that having farmed with the same system on lighter soil, I found that it needs manuring once in three years to keep it up good.

Industrial Openings for Canadian Farmers.

We have not the least doubt that sugar can and will be manufactured from the products of our Canadian fields, at least in sufficient quantity to meet our own demands, and that its culture and manufacture will be a profitable source of national industry. There is no insuperable obstacle to us of the Dominion, more than to the people of Maine or Minnesota, having our own good, bright beet-root sugar or amber cane or sorghum cane on our own breakfast tables. Maine has now its beet-root sugar, and the successful cultivation of early amber cane, and the manufacture from it of sugar, has been brought to a practical test in Minnesota, the result being the production of "fine, dense syrup" and sugar equal to the best coffee sugar from the South. The annexed extracts from agricultural papers bear testimony to the value of the Early Amber Sugar Cane:—

"Another year's experience and tests add to the credit of this new variety of sorghum. And the various triumphs in the successful and profitable manufacture of sugar from it, create an increased demand for the seed. In Minnesota this fall there has been the best success in working up the amber cane. This is a variety of the Imphee, and has been principally raised in Minnesota, where the soil, or the emergencies of the people, seem to induce its most perfect development. Its history is not without interest. It originated in a single seed among sorghum raised in Indiana. One season one stalk ripened several weeks in advance of the others. The juice of the stalk was of an amber color, hence the name "early amber." From this early amber seed came the cane which is now engrossing so much interest in Minnesota. The characteristics marking it as a superior cane to other kinds for sugar, are, that the stalks contain more juice, and that the juice granulates more rapidly. Numerous correspondents agree in stating that thus far, all sugar made from the amber cane in Minnesota, has been manufactured without the use of dry chemicals. A number of samples of sugar have been sent to the Department at Washington, made from this amber cane, which are said to have the appearance and taste of the best refined sugar. Kenny and Miller, successful producers, claim that they are able to realize from \$50 to \$100 per acre in the new kind of amber sorghum for sugar. They have been manufacturing sugar for two years, and have succeeded in obtaining 13½ pounds of dense syrup to the gallon, and from this thirteen and a half pounds, a yield of granulated sugar of seven pounds is gained, the residue being fine syrup."

"In answer to a number of correspondents it may be stated that the past year's experience in the new variety of sorghum known as amber cane has strengthened the previous expectation that this plant will prove of value to the Northern portions of the country. In the State of Minnesota, where it has been tested for several years, the greatest success has been attained in working up this amber cane. Cane planted the latter part of May on new land has been reported as having fully matured before any frosts. When planted between the first and middle of May, the seed, which all kinds of farm stock relish, almost invariably ripens, thereby giving the advantage of a double crop in one year, and from one planting some twenty or twenty-five bushels of seed and one hundred and fifty or more gallons of fine syrup per acre, if properly handled; at least so say successful growers. A Minnesota cultivator, writing to the State Commissioner, says of the seed, that when ground and mixed with bran it makes a heavy feed for horses; hens like it, and it causes them to produce eggs more abundantly than almost any other kind of grain. B. K. Bliss, of New York, says of Kenney's early amber sugar-cane, that in this variety the farmers have a plant destined to be of immense value to the Northern States. The seed, which has hitherto been somewhat difficult to obtain, is now in stock at most of the leading seed-stores in large cities. At the East it is selling for about 75 cents per pound in small quantities, special terms being made with large buyers."

Fertilizers from Bones.

In a former number of the *ADVOCATE* we described our method, a very easily practised and efficacious one, of making this very valuable fertilizer. In compliance with the request of a subscriber we give another article on the subject from the *Montreal Star* :—

By putting bones, coarse or fine, even whole ones, into a compost heap of stable-manure or muck, the decomposing action of the organic matter will work upon the bones, and in three to six months' time thoroughly reduce them to a fine mechanical condition. The acids set free in the decomposition also act in a manner similar to the sulphuric acid of the manufacturer—uniting with a portion of the lime, and thus bringing the phosphoric acid into a more available form, as well as converting the organic portion of the bone—or, rather, its nitrogen—into the proper condition for plant-food. The operation, as successfully practised by the writer, and others, is to take all the bones obtainable, or it is thought best to use—either whole or ground—and place them in layers with three or four times as much stable-manure—first a layer of manure, then one of bone, and so on. The whole is thoroughly mixed by shoveling, covered with a few inches of fine loam to absorb any ammonia that may possibly be set free, and moistened occasionally with water, or best with liquid manure. In from six weeks to six months an excellent fertilizer will result, similar in all essential particulars to commercial superphosphates, with the addition of the dung, and may be used with like effect, and on the same crops—reckoning, of course, on the quantity of bone put into the combination, not on the amount of the compost itself. The time occupied by the operation depends on the fineness of the material used—ranging from "ground bone," to a whole skeleton of an ox or horse—and on the care taken in its management. The heap should be forked over often enough to prevent undue heating or "fire-fanging," while the moistening keeps up a rapid decomposition. The cost of this will be the price paid for the bones, if anything, added to the labor—in all, not more than one-half to two-thirds the cost of the purchased superphosphates. And in the home-made product we have the security of a pure article. Of course this method cannot replace entirely the use of the phosphate of the market; but for the saving of the waste bones, dead animals, etc., about the farm, is worthy of trial by the economical husbandman. As it is usually desirable to have this bone compost in a condition to apply to the land as soon as possible, if the bones can be cheaply broken into small pieces, they are to be preferred to whole ones. Many farmers know how difficult a job it is by the ordinary means of maul and stone. A large flat stone is sunk about a foot or so in the ground, and a half-barrel, with the head knocked out, inverted upon it, and the earth is then solidly packed around the barrel. This will serve as a mortar; the pestal may be any convenient heavy piece of iron, fastened to a stout rod, the upper end of which is to be attached by a strap to a spring-pole, which is secured to two posts at the proper height. By this simple contrivance, which is a modification of the druggist's mortar and pestal, the labor is greatly facilitated, as the spring helps to lift the weight, and is but a slight obstruction to its descent. This will serve to effectually smash up the bones, and prevent waste from the pieces flying about.

Beet Sugar in Maine.

The Maine Beet Sugar Company have turned out 12,000 pounds of granulated sugar, the quality of which is very highly spoken of. The percentage of sugar in the roots was found to be, as in Canada, larger than it is in France or Germany. The farmers, though totally inexperienced in root-growing, raised good crops of beets for the company. In Aroostook Co., several yields of twenty tons to the acre are mentioned, and this, while not great according to Canadian notions as a root-crop, is probably as large as would be profitable with sugar beets, where the greatest percentage of sugar is in roots weighing from one to two pounds each. One lot of beets yielded eleven and a half per cent. of sugar against the seven per cent. usually obtained in France. The process used in Maine is that the beets are dried near their place of growth, then stored or transmitted to the sugar factory, where the sugar is extracted by maceration, and the water of the product evaporated.

Profits from Underdraining and from Saving the Aftermath.

In a series of articles on Connecticut farming we have the results of draining and saving the aftermath as follows :—

Underdraining has received a good deal of attention, and has been an important factor in reclaiming the land. It pays better than anything else that has been done upon the farm. The first portion of the farm taken in hand was a field of eleven acres, a part of it swale, and the rest very much needing this improvement. It all lay sloping to the swale, and there was fall enough to give complete and rapid drainage, with a good delivery into a covered ditch in the adjoining field.

The main drain was put down four feet in the lowest part of the swale, and laid with six-inch tile. The laterals were laid two and a half feet deep, of two-inch tile, twenty-five feet apart. The whole cost of draining this lot was about \$550, or \$50 per acre, including tile, freight, labor and superintendence. The land originally was not worth \$5 per acre, and drained would only represent a capital of \$55. It was manured with 350 loads of barnyard and stable manure the second year, and sowed with timothy in the fall. The following season it yielded two tons of hay per acre. The underdraining was done seven years ago, and from the first crop to the present there has been a steady increase of hay without any additional application of manure, except upon small patches where the grass needed re-seeding. The yield of hay this year from the whole lot was 39 tons, or 3½ tons to the acre. The hay was weighed upon the platform scales when it was put in the barn, so that there might be no conjecture about the crop.

Mr. Goodhue practices a somewhat rare treatment of aftermath, on which he has very positive convictions. Good farmers maintain different opinions upon this subject. The great majority feed the aftermath, where there is any. A few cut it for fodder if the second growth is stout enough to turn a good swath. It is the rare exception that a farmer leaves it upon the ground as a mulch and manure for the next season's crop. Mr. G.'s idea is that soils well drained and manured at the start will maintain their fertility for a long term of years, if we mow seasonably and leave the aftermath. He attributes the increased fertility for these seven years to the persistent refusal to cut or feed the second crop. In this case he has the facts in his favor. The process certainly is very much like that which goes on upon the prairies, which show no diminution of fertility under the grazing of the buffalo and the antelope. With all the cropping there, there is plenty of aftermath for the winter covering of the roots. There is this advantage in Mr. Goodhue's experiment, that after the grass is mown there is no pulling up of roots in grazing, and no tramping of the land—two sources of peril to the grass crop that are greatly underestimated.

If we estimate the value of this grass crop as worth \$10 a ton standing, we have \$35 as the interest upon an investment of \$55 in the land and its drainage. Litchfield admitted that this looked a good deal like economical farming, and there was no dissenting voice to this opinion. Mr. Goodhue was so well pleased with this experiment that he has put drains into twenty acres more, and the last part of the field was stocked with grass seed this fall. This has only cost \$35 an acre for drainage. The five acres that were stocked last season yielded thirteen and a half tons last summer. The whole promises quite as well as the first lot drained. With such successful examples of drainage before us, we are led to ask if there cannot be some well devised plan, or banking association, organized to loan money to enterprising farmers of small capital for this purpose.

Feed the hogs a liberal quantity of corn if you wish to have them in prime condition for the smoke-house. Do not expect large results from their own efforts to fatten themselves, for, even if they find suitable food, they race about so much that little fat is accumulated. The best results are obtained by confining hogs in a very moderate sized enclosure, giving them plenty of pure water and all the food they can stuff into themselves, including corn in liberal quantities. See that a sufficient shelter is provided, and let them have a good, soft, warm bed of forest leaves.

Agricultural Products and their Prices.

It is not conceivable that anything should more interest our patrons, subscribers and readers, than the great problem of values and prices of all agricultural products. In America these are the great wealth of the country. This is true of every country in some measure, but more largely in this country than any other with which we have great dealings, as with Great Britain and France. France is a great agricultural country, but she mainly consumes all of her agricultural products, except wine, eggs and butter. In favorable years she exports some wheat, but on the balance she imports in favorable years about as much as she exports in favorable ones. In the nature of things a dense population will export but small quantities, if any, of food, but will of manufactured goods, where labor constitutes the great mass of value.

America is a large exporter of agricultural produce, and her great productive class is the agricultural one. The patrons and readers of the *Record* are of this class largely, or of a class that largely consumes agricultural products. A horse is as much a product as a bushel of wheat. And he who does not breed a horse, but uses him up in service, is as much a consumer of agricultural produce in that as he is in eating the flour of his bread. The great value of both is in the land and farm labor that produces them, in the general view of all horses and of all wheat. It is true that some horses are exceptions in selling value, for extraordinary speed, while wheat is never exceptional in its grades, and has no variation of price, in view of actual value. Thus one bushel of wheat will sell for \$1.25 and another bushel for \$1.00, but the higher price is in the greater yield of flour and the higher quality of the flour. In the main horses follow the same rule, the high priced ones being exceptional, arising from fancy in some special particular. Thus as a rule a farmer's products are to take general prices, based on general useful purposes.

Now what is the outlook for farmer's products? In all our history no year has ever given so beautiful a yield in the aggregate. Our wheat crop has never been so great, and there is every indication that the largest crop of cotton ever grown in the country is the one now being gathered. And these are but the types of the general production of the whole range of agricultural crops. Never was the country so rich in the actual amount of agricultural products.

Again, never was the country so abounding in money. On long time and in New York, money for the last two years on short periods has not ruled above 3 per cent. Thus, both in money and in agricultural material the country is rich; indeed, never so rich before. Yet every agricultural product is low in price. In the seaboard cities wheat does not reach in price more than about \$1.10, and corn not 50c per bushel. Cotton follows at an equally low rate, bringing no more than 7½ to 11c per pound. These prices are so low that the great crops of each will not produce a sum equal to their real value if the world were in a condition to consume them. The wheat crop of 1878 reaches nearly 400,000,000 (four hundred millions) of bushels; the corn crop exceeds 1,300,000,000 (one thousand three hundred millions) of bushels, and the cotton crop will exceed 5,000,000 (five millions) of bales, this latter the largest ever produced.

When the country was poor and the world less wealthy, prices were in the nature of things low. But now the world is overflowing with money, and America's granaries and warehouses are overflowing with agricultural products. Yet the country is poor in that prices are low for everything. Land is low in price; its products of every nature are low. Money is cheap—that is low in price of interest; labor abounds unemployed and is badly fed and poorly paid where employed.

Now is not this an extraordinary state of things? The world is filled with products and with money, yet trade is stagnant, labor unemployed in a large degree, and ill remunerated where employed.

Farmers who know the value of compost, and know how to make it, increase their manure pile. In this way hundreds of loads are made annually, the material being gathered on the premises, such as forest leaves, cornstalks, (including the roots), weeds, vines, loam from fence corners, muck from ponds and ditches, occasional sprinkling of lime through the mass, layers of barn-yard manure, and thus build up oblong squares and let them remain over winter.



NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per ½ ounce.

Draining.

SIR,—I am always interested in your articles on tile-draining, for I have made many thousands of rods. Having done very little else for eight or nine years, and, therefore, have a pretty good share of practice and experience in it.

We hear a great deal about the depth that tiles should be laid. I find it is altogether in accordance with the soil to be drained. I find in some soils that two or two and a half feet is as good as five feet in others. Some soils are very open and porous, while others are the very opposite, for instance: Springy land has, generally speaking, a gravel subsoil, between which and the surface is generally to be found a strata of hard-pan, which varies in depth from two to four feet. Now it is imperative in laying a drain that it should be deeper, or below, the hard-pan, as directly under the hard-pan is to be found either a fine gravel or coarse sand, and water will draw to almost any distance. And if not laid so deep, or in the hard-pan, they will do very little good, because the hard-pan is too tight to let the water through to any extent. I find that when properly drained that the hard-pan nearly disappears, and what was previously almost no land at all is afterwards No. 1.

G. M., Berlin, Ont.

Antidote for Poisons.

SIR,—I often read of cases of poisoning, and though it may not be exactly in your line, the following antidote for poisoning is very useful, and may, by the circulation of your paper, be a means of saving the life of one or more:—

If a person swallows any poison whatever, or has fallen into convulsions from having overloaded the stomach, an instantaneous and very efficient remedy is a heaping teaspoonful of common salt, and as much ground mustard, stirred rapidly in a teacup of water, warm or cold, and swallowed instantly. It is scarcely down before it begins to come up, bringing with it the remaining contents of the stomach; and, lest there be any remnant of a poison, however small, let the white of an egg and sweet oil, or butter, or lard—several spoonfuls—be swallowed immediately after vomiting; because these very common articles nullify a larger number of virulent poisons than any medicines in the shop.

M. D., Elgin Co.

Spring-Harrowing Fall Wheat.

The benefits to be derived from reading an agricultural paper, and putting to trial the advice thereby received, is exemplified in the following communication from one of our lady subscribers:—

SIR,—I find a great deal of useful information in the paper, and would not like to give it up while I remain on the farm.

I had my fall wheat harrowed last spring, as you recommended, and it seemed to give it a wonderful start, as much as a hoeing would do corn.

Mrs. C. W., Binbrook.

SIR,—I was much amused by your account of Paris in a late number of your paper. I see by the *New York World* that there are five million and a half of farms in France; more than five millions of the farms are less than six acres. I wish to know how the people live on them, how much wages, and what kind of food, clothes, etc.? How do they keep up their farms with manure; as I see an account of their selling bones to the Scotch to raise turnips. The French sell great

quantities of eggs to England. The English, who buy them, cannot be in the poverty of the French, who sell them. I think the landed proprietors of France cannot be representatives in Parliament; that class must be newspaper editors, doctors and lawyers from the towns and villages.

A FRIEND.

[It is only by practicing the greatest economy that the farmers of France can live on their few acres. In everything—their food, their clothing, their general outlay—their economy is such as would be called in England and America parsimony. Every particle, no matter how insignificant, is put to the best account. The soil of France, taken on the whole, is of superior quality, and of the productive portion fifty per cent. is arable land and gardens. The climate is temperate. Although the soil and climate are favorable, yet agriculture is far from being in an advanced state of progress. The slowness of the increase of population and the recent positive decrease are remarkable. For this various causes have been assigned; the one most generally received is that the law, which abolishes the freedom for persons to bequeath their property and obliges parents to an equal division of their property among their children, has increased the sterility of marriages. To this law the backward state of agriculture and the decrease in population are attributed.]

The Care of Stock.

SIR,—As the demand for first-class stock of all kinds is increasing for shipping purposes, on the other hand those of inferior quality are hard to get rid of at a reasonable price; facts like these should make our intelligent farmers, who feel at a loss to know what to do these hard times, to consider their position. If they have not stock that will pay for feeding, they had better sell them at a sacrifice and purchase others that will feed at a profit.

And I believe a great many farmers are intending to pay more attention to this profitable branch of husbandry in the future; if such be the case, many will begin with little experience, while others may have had experience, but of a wrong system. Now I think it would not be out of place for persons so situated to have the experience of those who have found it a pleasant as well as a profitable employment. I have been raised among good stock, and have had the care of such since quite a small boy. For years my father fed stock for the market, and seeing the great difference between a scrub and a well-bred bullock for feeding, led him to enlist among the breeders of short-horns, which he did with a profit to himself and a pleasure to the family. For the benefit of your many readers I will give what I presume is a few of the many things that should be taken into consideration with the care of farm stock, either for breeding or fattening purposes:—

1st. Under all circumstances they should have warm, comfortable stabling, with plenty of light and good ventilation.

2nd. Feed and water. They should be fed as regular as possible three times a day. If they get roots watering once a day will do; if no roots they require it twice a day. The food of course depends on what you have. Any kind of meal is good for fattening purposes, but if you want to make it profitable never give more strong feed than they eat up clean. For breeding stock you have to be careful and not over-feed. I remember one year we were feeding barley meal to our cattle, and we had to stop as we could not get our cows and heifers with calf. For breeding I like something cooler, such as bran and meal mixed with a few roots. I would here call your attention to the fact that you have no need to feed hay if you have good straw and chaff; if you have no chaff, cut your straw. We seldom feed hay until toward the spring, then the cows and calves get a regular allowance of clover hay.

3rd. Care; that is, cleaning of stables, grooming, and kindness, with regularity. I should be very sorry to pass over this part, as I consider it a very important one. The stable should be cleaned twice a day, and something used as an absorbent in the gutters to keep it dry and cause no foul smell. Cattle should be groomed once a day, especially breeding cattle; and above all, they should be treated kindly, not abused in any way. If you feed your stock regular, with kindness, you will find them waiting if you happen to be behind time, and you will find it profitable in the end.

Now, some may imagine this may take up too much time, but to prove and put in practice this on paper may make it much plainer for many, so I will simply give what I did one winter in a stable, and let your readers judge for themselves:—

I had charge of all the farm stock but two span of working horses, viz.:—18 head of breeding cattle, 10 sheep, a few pigs, and a driving team. The care came as follows: In the morning I fed chaff to all, with a half bushel of meal divided according to age and condition; half a bushel of cut turnips to every three head, and filled their racks with straw. I cleaned the stable early, and turned the cattle out about ten o'clock to water. Then I put feed in ready for noon, same as morning, but omitting the straw. I put the cattle in after twelve o'clock, cleaned them all down, and turned them out again till night, when they received the same care as in the morning. This work I generally done in daylight, as I prefer not disturbing stock before or after daylight; and I enjoyed myself that winter profitably. I had plenty of time in the evenings to read and improve myself, as I had a good number of stock papers to hand, with other literature.

J. L., Carville, Ont.

Cost of Norman Horses.

SIR,—Can you inform me what it would cost for a first-class Norman stallion delivered in New York? Also, give me the names of a few breeders in France.

F. McCALLUM.

December 12th, 1878.

The following reply to Mr. McCallum we have received from Mr. M. W. Dunham, breeder and importer of Percheron-Norman horses, Dupage Co., Illinois. It is our impression that the cost of importing to Canada might be lower than quoted below, especially as to go to Mr. Dunham's residence would require nearly 1,000 miles more travel than if brought to Canada.

SIR,—Your favor, containing letter from Mr. McCallum, came to hand to-day. Monsieur Margot Periot, Champeau Eure et Loire, France, is one of the most reliable breeders I know. He keeps as choice horses as can be found in France. I bought a stallion last year called "Favora" from M. Periot, for which I gave 8,000 fr. (\$1,600); from his brother I bought "Grey Hawk," owned by Snider Bros., Berlin, Canada, for a trifle less. I know of six stallions bought from these two gentlemen and a neighbor, M. Fardouette, for 6,000 fr. (\$1,200) and over (aside from the ones named above), last year; it is therefore safe to say that a good to choice stallion will be worth from \$1,200 to \$1,600 on the farm there. I was unable to buy one this year at 12,000 fr. (\$2,400); this is an outside price. The cost of importation, of course, depends largely upon the number brought. A man's expenses going and coming are just the same for one or two as for twenty-five or thirty; for a large number \$350 to \$400 will cover all expenses on each horse. In 1874 I imported twenty head that averaged me a little over \$500 expenses on each horse; but freight and everything else now is lower. In 1876 W. T. Curran, of Elgin, Ill., went with me to buy two horses for himself; his expenses were over \$700 on each horse. No man can go and bring two horses for less than \$500 to \$600 each in expenses, even if he goes "steerage." So you can easily figure about the cost of a first-class horse put down in this country at from \$1,700 to \$2,400, according to the price paid there, and whether a few or many are bought. One thing is certain, that no man can afford to import one or two horses, for they can be bought here cheaper than they can be imported in such numbers. This has been thoroughly demonstrated during the past few years. You will see by the Percheron-Norman Stud Book that something over 700 have been imported by over 100 individuals and companies under the impression that large profits could be realized. Almost all have been satisfied with a single importation, and only two gentlemen have imported any this year besides myself. I am engaged largely and have imported one-fourth of all the horses of this breed ever brought from France to the United States.

M. W. DUNHAM.

December 18th, 1878.

SIR,—Would you please tell me in your next issue what essay on bee-keeping is best for a beginner?

H. C., St. George P. O.

[We know of no better work than "Quimby on Bees." It is advertised in the book list in this journal.]

SIR.—In the December number of the *Advocate* I notice a remark about "Insurance for Farmers." I think it would be interesting to hear the views of some of the fraternity on the subject. I give my opinion, and shall be glad to see the following and other remarks appear in your pages. The idea of insurance—life, fire, live stock, &c.—is very plausible, but when closely investigated is found not to hold water. Want of security is where the leakage occurs, for mankind suspects mankind all the world over. If this were not so, why are bolts and bars, and strongly and skillfully constructed locks and safes made and sold. Moreover, all men are fallible and liable to err, and no body of men, however high their positions or respectable their characters, can offer the public, in the real sense of the term, as some, or rather all insurance companies profess to offer—"undoubted security!" Did not the shareholders and depositors of that most unfortunate concern, the City of Glasgow Bank, imagine and believe that they had "undoubted security" for their money, and that those in charge of it were high in position—which they were—and respectable in character—which they certainly were not. Want of business care, to speak mildly, has for years been undermining their bank, and yet none of the outside public suspected anything till the fearful crash came. In view of the seemingly sudden and the utter overthrow of such an institution as this bank, and the fact that similar failures have before occurred, it is, I think, a fair inference that others may again occur, and that, consequently, the guarantee of such companies cannot be looked upon as "undoubted security." At all events, it is plain that it would not be wise, as is sometimes done, to risk the wellbeing of a family on any such guarantee. Nor would it be wise for a man to imagine his property "undoubtedly secure," as far as pecuniary loss is concerned, because covered by an insurance policy. Of course, my arguments will tell as much against undeniable security of any kind as against the "undoubted security" so freely offered by the insurance companies. The point is, "What is the best plan for a man to guard himself or his dependents from pecuniary loss arising from depreciation or loss of property, or from his own death? Here, of course, opinions will differ. But I have no hesitation in saying that the exercise of due and constant care, and the periodical laying past of a certain portion of one's income to meet any untoward circumstances is the most satisfactory way. Some firms have pursued this course for years, and the result is that they have on hand a sum more than equal to meet any ordinary emergency, and equal to the amount of an insurance policy, to support which he might have paid away their money during all these years. When this course is adopted there is no danger of being told that "in justice to the other policyholders your claim cannot be recognized," &c., or that a "claim" will not meet prompt attention. In some rural parts the idea is that insurance and similar companies are got up by moneyed men in the cities simply to make money and to afford respectable employment to idle and needy sons and nephews, &c., and that, these excusable ends being attained, they are little short of swindlers. This may be an extreme view, but I am sure that were every farmer in the land to pursue the course recommended there would be much less need for such institutions, and that fewer lily-fingered, white-vested "young gentlemen" would find paying employment at the ledger. I am well aware that there are some laborious men at the head of some of these institutions—men who firmly believe in the thing, and who work hard for their companies. But, in view of their four or five thousand a year, they may well be expected to be laborious; and in view, also, of the immense pressure such an annual sum has on the minds of most men, their firm belief in the principle of insurance will not go far in creating a similar belief in the minds of others. Now, where do these four or five thousands, and other four or five thousands necessary to support an institution, come from? Why, from the savings of as hardworking but poorer men. In other words, these companies are mediums through which richer men prey upon poorer. If this be so, and if insurance be wanted, the self-insurance plan recommended will be found to give the greatest amount of security and satisfaction.

R. R.
Parry Sound District, Ont., Jan. 1879.

SIR.—Where is the best place to get a few black Spanish hens' eggs for hatching?
R. L. S.
Rama P. O., Ont.
[Address to G. Simpson, Falkland P. O.; or Wright & Butterfield, Sandwich.]

SIR.—I have lost a valuable young Shorthorn cow, Maggie 3rd (No. 64, vol. 4). When I noticed the cow sick I gave her one pound salts and a little sugar and ginger. After twenty-four hours, when the medicine did not operate, and the cow was, apparently, getting worse, I employed a veterinary surgeon, who said it was inflammation of the bowels. He gave the cow three half pints of linseed oil and some aconite, with instructions to repeat the aconite every six hours, and if this brought no relief in twelve hours to apply hot blankets over the back for half an hour. I did as directed, but the cow got much worse after the hot blankets were applied, and died in two hours' time after. When I first noticed the cow sick she refused to eat or drink anything. Her nose was very dry and cold from the first, and her body was much swollen, but she did not seem to suffer much pain. Please let me know what you think of the treatment given to the cow, or what are the best remedies to apply in such cases. I know of no cause for the cow's sickness. She calved some six weeks before, was let out to grass in the daytime, and stabled at night, fed hay night and morning, with mash of chopped peas and oats. You will oblige if you can give any information on the above.

W. B.

Otherly, Dec. 12, 1878.

[We think the treatment given by your veterinary surgeon was very good, so far as it went; still, in your case, I think there was more necessary than merely following up the physic with doses of aconite. The aconite was quite right if the circulation was impaired and the pulse quickened. You say that she was swollen or bloated, which would generate gas, more or less. I think, in this case, it would have been well for your veterinary surgeon to prescribe some of the carbonates, as carbonate of soda or carbonate of ammonia, to try to relieve the bloating. If this did not succeed, it might have been well to give some of the strong liquid ammonia, with some oil; and, in this case, it was quite necessary to give enemata (or injections) of warm water with a little soap rubbed into it, which would assist greatly in emptying the back part of the bowels, often relieving the bloating.]

SIR.—I am not a farmer, but I am a subscriber to the *Advocate* for two reasons; the first is I like the paper, and the second that I am seeking information.

I want to know if there is any place in Upper Canada where an opening presents itself for a first-class set of steam threshing machinery, to work for hire—to thresh by the bushel. The engine would be the best of its kind, and the machine similar to the one which took the first prize of £40 at the Royal Show, at Cardiff, England.

I am a threshing machine maker. I came to Canada on purpose to start one of these machines, which cannot be excelled for quantity or quality of work, and shall be glad to open a correspondence with any of your clients on the above subject. I would build the machine and straw elevator myself near where I proposed to make a start, and would run it myself. Would traction engines be allowed to run on public roads in this country.

G. W. M.

Sherbrooke, P. Q.

[There is no doubt but the implement you speak of is an excellent one, but you would find it difficult to introduce, as our implement manufacturers in Western Ontario immediately adopt every improvement, and construct such as are most suitable for our country. In some localities a traction engine might be used in summer, but many bridges are not strong enough for them. I would suggest that you should take a trip into the counties of Huron and Kent. Both the traction engine and thresher might be as quickly introduced in these counties as any, large wheat crops being raised in both.]

SIR.—Two years ago I received four pounds of Champion Amber wheat from Pennsylvania, from which, last fall, I got 120 lbs., but should have had about half a bushel more, but the cattle and hogs got at it and damaged a quantity. No wheat turned out so well in this part of the country. I have sown the two bushels, and will report results again after harvest.

W. P., Hill's Green.

A. Galloway, Bensfort, would be happy to correspond with "Enquirer," in the *FARMERS' ADVOCATE* for December, concerning the transmission of hogs from Canada to Britain.

SIR.—Can you inform me through your December issue what are the principles for managing a creamery, and about what capital would be required to start one on a moderate scale? Can you direct me to any one now in operation, in order that I may correspond with them? I am a new subscriber to the *Advocate*, and, judging from the manner of answering correspondents, have reason to expect the desired information through its columns. A kind compliance will greatly oblige

A SUBSCRIBER.

[In managing a creamery, the leading points are to secure pure air and to control its temperature as desired, to maintain perfect cleanliness, and to arrange for doing the work with the least possible labor. To this end the milk should be set in large vessels (vats like those for cheese making are best), which should be placed in a separate room and elevated enough to admit of operating the milk from them to the make vats. A large supply of cold, running water is a *sine qua non*. Creameries generally close about the 1st of November, and, of course, are not open now. The cost of fitting up and running a creamery is about twenty-five per cent. greater than a cheese factory of corresponding size. There is one in operation in Teeswater, in the County of Huron.]

N. P.—This got overlooked last month, for which please excuse.—L. B. A.

SIR.—Will you be kind enough to let me know through your paper what remedy I am to take to relieve a bull that is bloated. His appetite is good, drinks a good deal of water, chews his cud, dung all right. I have made a band of hay with tar on it and put it into his mouth, but with no effect; and in feeding, I have tried wet feed with chop and bran, sometimes dry, cut turnips and hay. It does not make any difference what he gets. The bull is four years old, thoroughbred. I would like to fatten him, but I cannot the way he is now.

D. R., Waterloo, Ont.

[According to your description of the case, your bull may either be troubled with indigestion or with tumors on some part of the bowels.

It might be well to treat for indigestion. Give a dose of Epsom salts, $\frac{1}{2}$ lb.; caraway seeds, a tablespoonful, and a tablespoonful of ginger dissolved in a quart of warm water, once a week. Give a tablespoonful of salt in his feed every night. Feed him light for a week or two; give him bran and hay, but not roots.

If tumors are found on the bowels they are incurable.]

SIR.—I have a piece of rather sandy loam, gravel subsoil, in Clawson wheat. I wish to seed it down with clover and some other grass in spring (not timothy). What clover and grass will I sow? How to sow it? I wish to top-dress the wheat with artificial manure, what is the best? Nitrate of soda, I think, for wheat.

Have, also, a damp piece of pretty good lowland, not fit to cultivate till the middle or end of May. Last year's crop was part oats and part Hungarian. I wish to seed it permanently with redtop and Kentucky blue, but, as I should lose the crop this year, I should like to seed down with something, Query, what with? and what artificial to use, as my barnyard manure is needed for other purposes. What dealer in artificials do you recommend in Toronto? An answer in January number will oblige.

A. J. W., Lakefield, P. O.

[1. The grass seed to be sown with clover—Orchard grass (*Dactylus glomera*) and Kentucky blue grass, from three to six pounds of each grass per acre. Orchard grass, if sown alone, about 30 pounds would be needed.

2. As a top-dressing for the wheat you have sown, use nitrate of soda and superphosphate of lime, of each equal parts—say 100 pounds of each. For the lowland to be sown in May, would recommend oats. For lowland so wet that it cannot be thoroughly prepared early in the season, would not recommend barley. Artificial manures as above.

Dealers in artificial manures in Toronto, Peter Lamb & Co.]

SIR.—I have taken the *Advocate* for thirteen years. It was a very small thing at that time. It has increased in size and usefulness every year. I could not do without it now. It should be taken by every farmer.

R. Y.

Mayfield P. O., County of Peel.



The Family Circle.

"Home, Sweet Home."

Helen.

(Continued from December No.)

She walked up and down the room once or twice, and at last stopped before a large picture that rested on an easel. It was a beautiful engraving of the head of the Angel Gabriel, by Delaroche. The exquisite outline, the wonderful meekness and purity of the bent head, moved her as they had never done before. The saintliness that encompassed it touched her life with a feeling of comfort. She returned to it several times during the long lonely evening, and after she fell asleep, had a curious dream concerning it.

She thought she was walking along a very rough stony road, carrying a little child in her arms. A thick darkness was around her, so that she continually stumbled and fell. As she went on some one came softly up behind, and she looked round and saw the Angel Gabriel by the faint light which shone around his head. He held in his hand a trumpet which he raised to his lips, but instead of sound blew from it light—a broad and brilliant radiance that illumined the whole landscape. Below in her sleep without fear of him, she asked, "Do you light my path because I have this child in my arms?" "Yes," he answered. "As long as you carry that child, you shall have light wherever you go."

After that the dream grew indistinct, and gradually faded away in deeper sleep.

The next day was clear and pleasant, with a light snow only an inch or two deep covering the ground. About noon she remembered Harry, and began to wonder whether he would make her a Christmas call or not.

That was the precise point which Master Harry himself, perched on an old stone wall not many rods away, was anxious to settle; for he was strictly forbidden to go to Aunt Agnes' house that morning, Mrs. Gaston, knowing his propensity to demand presents, having proved obdurate to his most pathetic coaxings. As far as the turn in the road where the stone wall ended he might go, and no farther. Was ever such a Tantalus restriction devised before? For there in sight were the very chimneys down which he was sure Santa Claus had swooped the night before. He was not quite sure that it was not his solemn duty to go and divide the spoils, on the principle of a law of nature superseding an artificial one; but as his conscience was uncomfortably active, he compromised the matter by resolving to stay where he was—as long as the snow lasted.

The snow was rapidly disappearing, but delightful hoards of it still lurked in the cool crannies of the wall. While he was down on his knees busily unearthing a specially fine deposit, two hands suddenly appeared over the top of the wall, and a little girl miraculously dropped into the road at his side. She was muffled up in coarse wrappings, and came down on her feet like a gigantic snow-ball.

Harry stared at her a moment or two, and then he got up and stared at the wall. But it was a very thick and high one, far above his head, and he could see nothing at all; only he fancied he heard a faint rustling, as if a snake were slipping away among the dead leaves of the other side. When the sound died away he turned his attention to his new comrade. She was a tiny little creature, shivering with the cold, and half sobbing with fright and sleepiness. When Harry touched her she stopped crying, and looked at him out of a pair of big blue eyes.

"You is not as pretty as my little sister," said Harry, after a critical inspection of her eyes, nose, and mouth. "Who's your mamma?" he demanded, receiving no answer to this remark. "Is you Santa Claus's little girl, and did he drop you here for a Christmas present?"

Still no answer, but the same wondering look.

"It's perlitte to answer when people speaks to you, mamma says."

Finding that this hint was not taken, he offered to initiate her into the mystery of making snow-balls, in the hope that this might loosen her tongue. The child seemed to understand this language, for she laughed gleefully, and the two soon established a very satisfactory copartnership in mud and snow.

But by-and-by prudence suggested to Harry that he should beat a retreat in one direction or the other, for very soon mamma would be sending to look for him. He looked at his companion, and seeing what a little creature she was, a dim sense of masculine responsibility concerning her began to enter his mind.

"Are you a-coming to visit my mamma?" he asked, doubtfully. Then a bright thought popped into his head, a delightful reconciliation of duty and interest. "You's a-going to see Aunt Agnes," he proclaimed, decisively. "I'll go and show you the way, 'cause you's too little to go alone. Mamma will be very glad if I doesn't let you go alone."

The child stood still, looking at him with the same questioning blue eyes.

"Mamma will be very glad," repeated Harry, with dignity, holding out his hand.

She put her little fat one into it, and he led her toward the house with sparkling eyes.

"I will tell Aunt Agnes you's a present from Santa Claus, and then p'raps—p'raps she'll say he left a present for me too."

But though the house was in sight, they did not get over

the road very fast; the tiny feet of Harry's little Christmas present were hardly used to walking on smooth floors; they stumbled very uncertainly through the clinging mud left by the melting of the snow. He had fairly to drag her up the broad front steps at last. This accomplished with some difficulty, he marched straight to the library to find Aunt Agnes, still pulling her along by the hand, and pushed open the door without ceremony.

Seldom had two dirtier children invaded a well-ordered room than the two who met Miss Laureston's astonished eyes as she looked up from her book. Harry dropped the child's hand and ran up to her.

"Aunt Agnes, you said you did want a little boy one time when I come to see you. I couldn't find any little boy, 'cause they all have mamma's; but I found a little girl, and she's a Christmas present for you, auntie, from Santa Claus."

Miss Laureston looked in bewilderment from her nephew as he calmly appropriated and presented his treasure-trove to the little stranger he had left standing near the door. Such a baby as she looked, and so forlorn, standing there all alone in that great room, with both tiny hands clinging to a chair, and her eyes half closing from sheer weariness. Something woke up in Miss Laureston's heart that had never been there before, and she hastily crossed the room and lifted the child in her arms, muddy dress and all. As she did so, her eyes rested upon the picture of the Angel Gabriel, and a sudden thrill went through her at the remembrance of her dream. The child went quietly to sleep without even looking to see who held her, and Miss Laureston studied the baby face so close to her own with a curious mixture of uncertainty and satisfaction.

"Harry," she said, "come here and tell me who this little girl is."

But Harry having caught a glimpse of nurse in the hall, had already stolen out of the room, with a prophetic inkling of the things to be revealed in the closet.

Miss Laureston waited patiently for an hour, still holding the sleeping child in her arms, till her nephew again made his appearance, with sundry hoops, steam-engines, and carts bouncing after him. Then she repeated her inquiry. "Who is this little girl?"

"I don't know," said Harry. "She come over the wall all of a sudden; two hands dropped her down in the road. I guess it was Santa Claus."

When Miss Laureston came fully to understand the facts of Harry's marvellous story there was a commotion in the great house. Servants were sent right and left to discover the child, her nephew had abducted. The stone wall, the neighboring woods, all the country round, were searched, but all to no purpose. The little girl wore coarse clothes, not unlike those of the children of poor families, and tied around her neck was a handkerchief of somewhat finer quality, having on it the name of Camilla E. Beckwith.

The old nurse was the first to discover the name, and showed it to her mistress, with some hesitation, remembering the other Camilla, who was Milly Gessner now, and never Milly Laureston again.

Miss Laureston just glanced at it, and turned away her head.

"Take it away, nurse," she said, wearily. "And ask Mr. Adams to call here as soon as he can make it convenient. I want to consult him about the best way of advertising for the child's friends. This name will be of some help."

Mr. Adams was her lawyer; he made his appearance that afternoon, and was soon put in possession of the whole story, as far as any body knew it. But when she came to the name a sudden look of intelligence flashed over his face.

"Camilla Beckwith, you said? There was no other mark found upon any of her clothing?"

"None that we could discover."

"And the clothes were coarse like those worn by poor people?"

"All except the handkerchief, which was of fine quality."

"Then I suppose I can tell you her parentage, Miss Laureston; but I fear it will not be of much use in solving the question what is to be done with her." To his surprise something like pleasure came into the eyes of his companion at this last remark. He waited a moment, but as she gave no explanation of it, he went on; "You doubtless are acquainted with the fact that suicides are unfortunately not uncommon among the poor at this time of the year, when the cold weather causes increased destitution?"

Miss Laureston started, and then asked, "Are the child's parents dead? Did either of them—"

Mr. Adams answered the question as if she had finished it. "Yes; the woman I believe to be the mother of the child was found drowned in the river last night. Her body was taken to the morgue, and on it were several articles of clothing marked with that same name—Camilla Beckwith. She was, moreover, identified with a woman who has been lurking around this neighborhood for several days, having with her a child like the one you describe. Doubtless with some notion of providing for its safety, she dropped it down beside your nephew in the curious manner he reported before going away to carry out her desperate plan."

"Drowned! On Christmas night!" repeated Miss Laureston, in a low, oppressed voice. "The very night of all others that the world is full of happiness!"

"It was very sad. If she had made her poverty known, help would have been given her without doubt."

Miss Laureston was silent. Across her decorous, quiet, well-ordered life flashed the vision of this suffering woman, to whom no help was so welcome as the help that came from the dark river. She felt almost suffocated, as if from a bodily feeling of the pressure of human suffering. It was the first time any pain but her own had ever come so near to her. It was first time she, whose whole ideal of life was proud strength, had ever felt pity for despairing weakness. In the midst of her confused thoughts a conviction crept through her that this new anguish of pity, this strong yearning over the motherless child, was the first ray of visionary light that should lighten her path.

"My Helen—my Light!" she repeated, softly, to herself, with a sudden resolve to call the baby Helen, because of its beautiful meaning. She did not even say to herself that she would adopt her, so completely did she seem to belong to her and to no other in all the world.

"May I not see the little girl?" asked Mr. Adams, breaking in upon her reflections. "I should like to see if she resembles her mother."

Miss Laureston colored, hesitated, and at last ordered the child to be brought in. The reason of her hesitation became manifest a minute later. The gentleman, who was expecting to see a little waif wrapped in coarse clothes, or at best the cast-off garments of charity, almost rubbed his eyes with amazement when the nurse came, bringing in her arms a tiny dimpled maiden arrayed in the whitest of white dresses, delicate sash, and bronze shoes, and set her down by the side of the mistress. Most wonderful of all, there was Miss Laureston herself, the strictest and most unbending of dignified ladies, actually stooping over the child to caress its short silky curls as it clung to her knees, with a look as if she had forgotten every one else in the room but the baby whose face she had never seen till two short days ago.

Mr. Adams put on a resigned look, and tried to remember that he was dealing with a woman. Miss Laureston presently remembered that she was dealing with a man, and tried to give her mind to business. A sudden doubt chilled her whether, after all, she was free to keep her treasure.

"Is it not possible that the child may have other friends—besides the mother?" she asked, hesitatingly.

"It is possible, of course. But I think in that case the woman would have left it with them, since she evidently did not wish it to perish with herself. Besides, judging by what we know of the mother's history, it would hardly be a benefit to the little girl to give her over to such relatives, if they exist, nor is it likely that they would have any desire or ability to take care of her. She will be much better off in some orphan asylum."

Miss Laureston looked up indignantly, but was appeased by the twinkle in the lawyer's eyes that accompanied these last words.

"No orphan asylum will ever have her," she said, taking up the child, who commenced to tug at her bracelet. The deluded woman immediately took it off, and surrendered the costly plaything into the baby's hands, to be mauled as it might suit them.

"She's welcome to everything already, I see," remarked Mr. Adams, with another twinkle.

"She is welcome to everything I have in the world," said Miss Laureston, with such evident sincerity that his politeness hardly kept him from a surprised whistle.

"Wonder what they'll think of this over at Gaston's," he thought; "those two children might have come in for the property if this one hadn't turned up." Then, aloud, and with all deference, he inquired, "What is the name of the little lady? I presume you have already had her christened."

"Not christened yet," said Miss Laureston, laughing, "but named. Her name is Helen."

This she said with as much assurance as if the name had been a fact of ten years' standing, instead of ten minutes, in her thoughts.

"Then, little Miss Helen, will you shake hands with a new friend, who's an old friend of your—"

"Of her aunt's," said Miss Laureston, composedly. "Shake hands with the gentleman, Helen."

As if she understood, the child stretched out a tiny hand; but when he offered to take her in his arms, she pulled away with a little cooing laugh, and hid her face on her new aunt's shoulder.

The color flushed all over Miss Laureston's face with delight, while she pretended to scold Helen for her shyness. Long years afterward, she used to say that Helen would never once leave her of her own free-will to go to any one else all the days of her baby-hood, and that she believed it would almost have broken her heart if she had done so. The child was happy and contented with many other people as long as Aunt Agnes was not in the room, but when she was, nobody would answer but this same Aunt Agnes. If any body else offered to take her, she always had refuge in the same pretty trick of turning her back on the suppliant, and peering out at him from behind Miss Laureston's head.

Mr. Adams was mistaken in one of his surmises. Kind, generous Mrs. Gaston never troubled herself about the possible disposition of her cousin's money, but she did feel a little astonished, and not a little hurt, to think that her own baby girl had always been unnoticed, while Miss Laureston was so ready to take this stranger to her home and heart.

But then there was Harry; he had found the mysterious way to Aunt Agnes's heart—a fact which nobody knew better than the young gentleman himself. Mrs. Gaston thought of Harry, and thought of the lonely life her cousin had led, and she was not able to keep any harsher resentment than a slight coldness of manner toward the tiny princess who had so suddenly come to her kingdom.

Meanwhile Miss Laureston gave herself over wholly to the strong affection that colored her sober, elderly life with something of the lost grace of youth. She certainly loved Harry, but she almost idolized Helen. The very faults of the child were beautiful in her sight, and no purple and fine linen was too costly to be lavished upon her.

Helen soon learned to talk plainly, to run about easily, and to get into mischief more easily. It took the whole corps of servants to watch her, and there were not many nooks in the dark stately house out of which her dimpled face, with its flushed cheeks and soft rings of shining hair, did not peep sooner or later.

When night came Miss Laureston would carry her to the library, where the fire light shown on the head of the Angel Gabriel, and rock her softly to sleep, while all the flickering light of the room seemed to gather and rest tenderly upon the baby form.

(To be continued.)

In a mixed train of luggage and passengers from Glasgow were a lady and her son, a youth of goodly dimensions, the latter traveling on a "half-ticket." After innumerable stoppages and delays, by which the patience of the passengers was exhausted long before they reached their destination, the collector made his appearance for tickets. Glancing at the pasteboard received from the boy, he looked first at him, then at his mother, and then at the ticket, and remarked that he was "a large boy to be riding at half-fare."—"I know he is, sir," said the lady; but he has grown a good deal since we started."

Minnie May's Department.

MY DEAR NIECES,—I am going to tell you of a crusty, selfish father, who refuses his family any company or pleasure.

"Father, can't I go to Nellie Webb's party?" asked Maud Edwards, with a hesitating air, as her father settled himself before a comfortable fire after tea was over. Maud had taken especial pains that night to have tea ready the moment her father came in from work. The buckwheat cakes were as light as a feather, the cup of maple molasses filled to the brim, the fried potatoes crisp and brown, just as father liked them.

Surely it must be a hard heart that could not melt before such attractions. But Farmer Edwards received it all as just his due. He considered himself the great benefactor, to whom every one should be infinitely obliged who had any dealings with him.

He raised his shaggy eyebrows a moment in surprise at this request of his daughter. "Go to a party, girl. I guess if your mother is out of work for you, you'd better take in some."

"But, father, I never go any where to see anybody," said Maud, her heart rising in rebellion against the unfeeling manner in which her request had been received.

"So much the better; I am thankful for it. I just want company to keep away from my house. I've enough to do to feed my own folks without making tea and cake and plum sauce for a whole lot of company. Folks know my sentiments and keep clear of me, that's a satisfaction;" and the old fellow chuckled to himself.

"But, father, can't I go just this once?" pleaded Maud.

"No, Maud," said the father, stamping his cowhide boots on the hearth. "If you go now you will want to go again, and there'll be no end to the new clothes you will be wanting. Then the girls will be paying back your visit, and I am not going to have my house turned upside down by a parcel of romping boys and girls. No, you just stay at home and knit your stockings and patch your clothes, that'll be enough party for you."

Poor Maud turned away with a smothered volcano in her breast. It was a little thing to him, that "hard hearted man," who hated society, but it was the blighting of a sweet dream to her which she had cherished for many days. But now, the bright picture which had gladdened her heart was dashed to the ground. Nothing but bitterness, and darkness, and hatred for the hand that had so marred her day dream. There was one thought that gave her a little joy, however, and that was, "next year I shall be eighteen!" She had no thought of submitting to the home despot a day longer than the law required. Such was the natural result of such a father's policy. He cut himself and family from all enjoyment and improvement which spring from pleasant and social intercourse, and was unloved and unhonored by his own family and neighbors.

MINNIE MAY.

RECIPES.

DEAR MINNIE MAY,—I thought I would send you a recipe for a cheap pudding, nearly as good as a plum pudding:—One teacup of sugar, half a pound of suet chopped fine, one pound of stoned raisins, one small cup of buttermilk, or sour cream is better, one small teaspoon of bi-carbonate of soda, one small tablespoonful of salt, spice to taste (cinnamon and nutmeg), enough of flour to thicken as stiff as you can stir with a spoon; give room to rise in the cloth, and boil about two hours.

Mrs. C. W.

COOKING FROGS.

Only the hind quarters are eaten. After skinning them boil about seven minutes, then throw them into cold water, drain them, sprinkle a little flour over them, and fry them a light brown. Serve very hot.

CANNED SALMON.

Prepare thin slices of buttered toast; on these spread the salmon after heating it and seasoning it with pepper and salt; place a pint of milk over the fire, and when hot thicken it with flour and butter stirred together and cooked; pour this over the salmon, and serve.

KEEPING MEATS FRESH.

Game of all kinds, birds, rabbit, or deer, can be kept sweet a long time by putting finely pulverized charcoal in a thin muslin bag and placing it inside the game. Change the charcoal every day. It is excellent to keep any meat, fish or fowl, pure and sweet. Wash clean before cooking.

SWALLOWING A PIN.

Once upon a time I was so careless as to swallow a pin. It lodged in my throat and was very painful. Not knowing what to do, I asked advice of the nearest lady. She told me to bend my head and thrust the handle of a teaspoon down to the pin if possible. I did so, and the pin immediately fell out.

CRANBERRY SAUCE.

Pour hot water on the berries and let stand until cold, then to one quart of them add a pint of sugar, one pint of water; after adding the water, let boil 20 minutes, then add sugar and boil 15 minutes more; stir the berries often and mash evenly. When done the sauce may be strained in a bowl. When cold, serve in slices.

CARBOLIC SOAP.

Four pounds of mutton tallow, four pounds of sal soda, two pounds of fine salt, two ounces of crystallized carboric acid, and two ounces of beef's gall. Stir well while boiling, and boil gently half an hour. Wet teacups in cold water and dip the hot soap into them, and set away till cold. For sores, chapped hands, or hurts and bruises, this is excellent.

TOILET SOAP.

Take two pounds of pure beef tallow, two pounds of sal soda, one pound of salt, one ounce of gum camphor, one ounce of oil of bergamot, one ounce of borax; boil slowly an hour; stir often; let it stand till cold; then warm it over, so it will run easily, and turn into cups or moulds, dipped in cold water. This is very nice for all toilet purposes, and is greatly improved by age.

BOILED CUSTARD.

Take six eggs; beat the whites separately; have one quart of milk boiling; add four tablespoonfuls of powdered sugar, one teaspoonful of vanilla; put the whites in tablespoonfuls to boil; let them boil one minute, then turn them over and boil one minute more; remove them to a dish; stir the beaten yolks in the milk, and boil three minutes, as more will curdle them; remove to another dish; when cold, place the whites on the top, and serve with jelly.

STEAMSHIP DISH.

One pint of grated cheese, one pint bread crumbs, two well-beaten eggs, half a grated nutmeg, one teaspoonful salt. Heat a pint of milk boiling hot, with a large teaspoonful of butter; pour this over the other ingredients, and mix well. Cover and set back on the range for three or four hours, stirring occasionally. Half an hour before supper butter a pie plate, pour the mixture into it, set in the oven and brown. It should not cook while standing on the range, but merely dissolve. Send to the table hot.

CODFISH BALLS.

After cutting the codfish in pieces, soak it an hour in lukewarm water. Remove all the skin and bones, pull into shreds, and put over the fire in cold water. When it boils change the water; repeat this process a second time, but do not boil the fish, as boiling only toughens it. Boil potatoes tender, mash while still hot, add a little butter, and mix the two—having half as much codfish as potato—before either has had time to cool. This is the important element in having them good—that they be mixed together while hot. Form into balls and fry them in boiling lard, or saute them in hot butter. They may be made the night before serving, but are better if fried as soon as made. Garnish with parsley.

ROAST FOWL—THE GERMAN WAY.

Truss the fowl for roasting, stuff the breast with veal stuffing, and fill the body with chestnuts boiled tender, peeled and roasted; spit it, and put it to roast at a brisk fire; have a dozen more roasted chestnuts peeled, stew them in a pint of gravy, season it with pepper and salt, and thicken it with a piece of butter rolled in flour; boil until it is smooth; fry half a dozen sausages, pour the sauce into the dish, place the fowl in it, and the sausages around the fowl; garnish with slices of lemon.

OYSTER PIE.

Cover a well-buttered, deep plate or tin—a soup-plate answers perfectly—with puff-paste; lay an extra layer round the edge of the plate; and bake it very nearly enough. That done, fill the pie with oysters, season with nutmeg, pepper, salt, and butter; dust in a little flour amongst them, and cover all with a thin puff-paste. Bake quickly; when the top crust is done the oysters will be done also. If it be eaten hot, serve as soon as baked, as the top crust quickly absorbs the gravy. If it be eaten cold, let it cool, untouched, in the plate or pan. It is quite as good in this way as hot, and is excellent for picnics or for traveling.

A ROSEWOOD STAIN.

Take one gallon of alcohol, one and one-half pounds of red sanders, one pound of extract of logwood, two ounces of aquafortis. When dissolved it is ready for use. This makes a very bright ground. It should be applied in three coats over the whole surface. When it is dry, sand-paper down to a very smooth surface, using for the purpose a very fine paper. The graining is then to be done with iron rust, and the shading with asphaltum, thinned with spirits of turpentine. When the shading is dry, apply one thin coat of shellac, and when this is dry, sandpaper down as before, with fine paper. The work is then ready for varnishing. This makes a very brilliant shade for woodwork.

THE PREVENTION OF SMALLPOX MARKS.

Dr. Bernard recommends the following method of preventing disfiguration after confluent smallpox, and affirms that he has recently applied it with success during a severe epidemic of that complaint. The method is so simple that the constant supervision of the medical attendant may be dispensed with. It consists in opening the pustules with a fine needle as soon as they have acquired a certain size, and washing them repeatedly with tepid water. The object is to prevent any collection of variolous matter in the interior of the pustules. The work requires patience, but will reward those who persevere.

TO WASH LACE CURTAINS.

Pour into enough warm water to cover the curtains a tablespoonful of ammonia to two gallons of water. Shake the dust out of the curtains, put them into the water and let them lie a few minutes, then wash them carefully through several waters until they are perfectly clean; rinse in water well blueed, and starch with blueed starch, patting the starch well into the lace. Pin some sheets to a carpet in some airy room, then pin the curtains to the sheets, stretched to the size they were before being wet. Have the pins very close together. In a few hours the curtains will be dry and ready to be put up. As lace shrinks more than any other cotton goods when long wet, the whole process of cleansing should occupy as short a time as possible. The curtains should be measured before being wet, and stretched to that size when pinned down to dry. Curtain cleansers have frames made on purpose for stretching and drying lace similar to quilting frames.

TREES THAT HAVE BEEN FROZEN.—Advice in regard to the treatment of trees that have been frozen in the packages or received from a nursery during frosty weather comes very opportunely from Ellwanger & Barry. The package should be placed unopened in a cellar or similar place where it is cool but free from frost until perfectly thawed, when they can be unpacked and either planted or placed in a trench until convenient to set them out. Thus treated they will not be injured by the freezing. Trees procured in the fall for spring planting should be laid in trenches in a slanting position to avoid the winds; the situation should also be sheltered and the soil dry. A mulching on the roots and a few evergreen boughs over the tops will afford ample protection.

A New Year's Greeting

To H. R. H. Princess Louise—Marchioness of Lorne.

BY CHARLOTTE J. BARCLAY.

Unto thy Royal Highness a happy New Year;
 May kind Heaven's rich blessings descend,
 To dwell in thy heart and to cover thy pathway;
 And upon thy devotions attend—
 To the Marquis of Lorne, too, a happy New Year;
 Also many returns may you spend.

Unto His Excellency a most happy New Year,
 Who so recently sail'd o'er the sea;
 May the motives that govern Her Majesty's heart,
 Now and ever his principles be—
 So a happy New Year to the Marquis of Lorne,
 To the choice of thy heart and to thee.

As Her Most Excellent Majesty governs by love,
 And the secret of greatness is plain;
 That in serving her Lord, in her Saviour she rules
 Loyal subjects, who love her dear name—
 So may the young Marquis, thus in serving his
 Lord,
 In kind loyalty rule the Domain.

May he prove a bright star in Her Majesty's reign—
 To the Campbells a glory as well—
 Also hold the Canadian's loyal regards,
 In true peace with his subjects to dwell—
 Yes, a happy New Year to the Marquis of Lorne,
 And the Princess Louise as well.

And to thy Royal Highness, what say we to thee,
 Thou fair daughter of England's dear Queen;
 Thou choice of the Marquis, the dear joy of his
 heart,
 And the pride of his life, too, I we'en;
 Be a happy New Year unto thee and to him,
 As the children of England's fair Queen.

Thy virtue and beauty, like unto roses in bloom,
 Which diffuse their sweet odors in spring;
 As a queen wilt thou sway by thy sweetness all
 hearts,

While we tributes of homage will bring.
 And a happy New Year to thy consort and thee,
 In castle, in farmhouse, and in cottage we sing.
 Evendale Farm, Dec. 14.

Happy Every Day.

When we rise in the morning we should form a
 resolution to be the means of making one person,
 at least, happy for a time during the day. This
 can very easily be done if we pay a little less
 attention to our own selfish selves; for we must
 all admit that we are all more or less selfish.

Look around and you will find plenty opportu-
 nities to fulfil your determination.

Help mamma to perform one of her many duties
 you are not in the habit of doing.

Lend brother or sister your skates, or anything
 else you are the happy possessor of, that will
 give them a little pleasure and you no pain.

Assist the little ones with their lessons.
 Find some nice piece to read in the evening to
 the family.

Keep father's books for him.

Be ever ready to perform a kind act for a neigh-
 bor or friend, and you will get your reward.

Keep your eyes open and be always on the
 alert, and, take my word for it, you will never be
 sorry that you exerted yourself in order to make
 any person happy. A. I. D., Kingston.

"Are you the saleswoman of whom I bought
 this handkerchief yesterday?" asked a purchaser
 at one of our dry-goods stores. "I am the sales-
 lady who served you, madam," responded the re-
 duced empress in banged hair, long watch-chain
 and ringed fingers, who presided at the counter.
 "Well," said the customer, "I will take a dozen
 more, and as I wish to get them to my washer-
 lady at once I will get you to send them to my
 carriage around the corner. My coach-gentleman
 cannot get to the door just now, for the cart of
 the ash-gentleman."

THE TENDER POINT.—They are taking evidence
 in a divorce case for cruelty; the husband is under
 examination; his wife, prostrated with grief, is
 weeping bitterly, covering her face with her
 handkerchief. "Now," says the judge, "are you
 not ashamed to have thus brutally treated your
 wife, a tender young woman of twenty-five?"
 The wife suddenly raised her head. "I beg your
 pardon," she sobs; "twenty-four only," and she
 again gives way to her grief.

Joe.

BY ALICE ROBBINS.

We don't take vagrants in, sir;
 And I'm alone to-day;
 Leastwise, I could call the good-man,
 He's not so far away.

You are welcome to a breakfast—
 I'll bring you some bread and tea;
 You might sit on the old stone yonder,
 Under the chestnut tree.

You're traveling, stranger? maybe
 You've got some notions to sell?
 We hev a sight of peddlers,
 But we always treat them well!

For they, poor souls, are trying,
 Like the rest of us, to live;
 And it's not like tramping the country,
 And calling on folks to give.

Not that I meant a word, sir—
 No offence in the world to you;
 I think, now I look at it closer,
 Your coat is an army-blue.

Don't say! Under Sherman, where you?
 That was—how many years' ago?
 I had a boy at Shiloh,
 Kearney—a sergeant—Joe!

Joe Kearney, you mightn't a'met him?
 But in course you were miles apart;
 He was a tall, straight boy, sir,
 The pride of his mother's heart.

We were off to Kittery, then, sir!
 Small farmers in dear old Maine;
 It's a long stretch from there to Kansas,
 But I couldn't go back again.

He was all we had, was Joseph;
 He and my old man and me,
 Had sort o'grewed together,
 And were as happy as we could be.

I wasn't a lookin' for trouble
 When the terrible war begun,
 And I wrestled for grace to be able
 To give up our only son.

Well, well, 'taint no use o' talkin';
 My old man said, said he:
 "The Lord loves a willing giver;"
 And that's what I tried to be.

Well, the heart and the flesh are rebels,
 And hev to be fought with grace;
 But I'd give my life—yes willin'—
 To look on my dead boy's face.

Take care, you are spillin' your tea, sir!
 Poor soul! don't cry; I'm sure
 You've had a good mother, sometime.
 Your wounds, were they hard to cure?

Andersonville! God help you!
 Hunted by dogs, did you say?
 Hospital! crazy seven years', sir!
 I wonder you're living to-day!

I'm thankful my Joe was shot, sir.
 "How do you know that he died?"
 'Twas certified, sir, by the surgeon;
 Here's the letter, and—"maybe he lied."

Well, I never! you shake like the age;
 My Joe! there's the name and the date;
 "Joe Kearney, 7th Maine, sir, a sergeant,
 Lies here in a critical state—"

"Just died—will be buried to-morrow—
 Can't wait for his parents to come."
 Well, I thought God had left us that hour.
 As for John, my poor man, he was dumb.

Didnt speak for a moment to the neighbors,
 Scarce spoke in a week, sir, to me;
 Never's been the same man, since that Monday
 They brought us the letter you see.

And you were from Maine! from old Kittery;
 What time in the year did you go?
 I just disremember the fellows
 That marched out of town with our Joe.

Lord love ye, come into the house, sir,
 It's gettin' too warm out o'door;
 If I'd known you'd been gone for a sojer,
 I'd taken you in here a'fore.

Now make yourself easy. We're humble,
 We Kansas folks don't go for show.
 Set here—it's Joe's chair—take your hat off.
 "Call father?" My God! you are Joe!

The Song of the Skater.

With many a curve the ice I fret,
 With many a clean-cut figure;
 The keen north-easter I forget,
 And laugh at winter's rigor.

I turn, I twist, I wheel about,
 The "outside edge" I dote on;
 I rush on with a merry shout,
 Then like a swallow float on.

I clatter, clatter as I skate,
 My keel of steel loud ringing;
 The lake I circumnavigate,
 Some wintry carol singing.

I fold my arms, throw back my head,
 And o'er the ice I'm flying;
 My pulses throb, my cheeks are red
 I seem Old Time defying.

I slip, I slide, I rush, I glide,
 I dash along like lightning;
 I see—and that but feeds my pride—
 Some timid ones I'm fright'ning.

But on and on, till in a glow,
 I think 'twould tire me never,
 That men might come and men might go,
 But I'd skate on for ever!

Liberty and Health.

Who can adequately appreciate these invaluable
 blessings, save those who have been for a time
 deprived of them. What a thrill of joy must pre-
 vade the bosom of the slave when he feels for the
 first time that he is free; when he hears the magic
 word pronounced which assures him that his days
 of servitude are over, or to the lone wretch who
 has been pining away for years in the dreary soli-
 tude of a convict's cell; how gladdening to his heart
 must be the voice of liberty! But to the hapless
 victim of disease, deprived of both liberty and
 health, with hope like a dark colum turned against
 him, and the certainty of death staring him in
 the face, with what remorse must he reflect upon
 his past career, when the conviction is forced upon
 him that the yawning grave, into which he is
 about to plunge, is the summary punishment of
 his own false indulgence, and of his own reckless
 violation of nature's laws. To maintain health, it
 is only necessary that we should live in accordance
 with the immutable laws which the Creator of the
 universe has established. Let every one take a
 sufficiency of exercise, practice cleanliness, and
 breathe the pure air alone, and they will be well and
 happy.

SUPERSTITIONS REGARDING FRIDAY. — It is
 strange enough that Friday is regarded, in all
 countries, as a peculiar day. In England it is
 generally considered unlucky; and many people
 will not commence any undertaking on that day;
 and most sailors believe that the vessel is sure to
 be wrecked that sails on a Friday. If a marriage
 takes place on that day, the old wives shake their
 heads, and predict all kinds of misfortunes to the
 bride and bridegroom. Nay, they even pity all
 children who are so unlucky as to be born on a
 Friday. In Germany, on the contrary, Friday is
 considered a lucky day for weddings, commencing
 new undertakings, or other memorable events;
 and the reason of this superstition is said to be the
 ancient belief, that the witches and sorcerers held
 their weekly meetings on this day; and, of course,
 while they were amusing themselves with dancing,
 and riding on broomsticks round the Blocksberg,
 they could have no time to work any evil.

TURNING THE TABLES.—A young lady, a native
 of Sydney, in the penal colonies, being asked if
 she would like to go to Britain, answered that
 "she should like to see it." On being pressed for
 her reason, she replied, that "from the great num-
 ber of bad people sent out from thence, it must
 surely be a very wicked place to live in."

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—“A happy New Year” to you all, young friends. May the gladdest of all glad times make your lives pleasant where ever you are! What could a kind old uncle wish you more? Will not the gladdest time for each be full of what each most wants; the good things of many kinds which have most charm for little folks, and which makes them happiest? Have you ever thought of one very useful lesson which [the New Year always brings? It can be summed up in two words: “Beginning again!” It is a lesson young people especially should learn. They have more occasion than older persons to begin again. They are beginning to do many things, and may not always do them well; but at every failure, partial or complete, they must begin over, and repeated trying will bring its reward.

The seasons begin again, only to go through the same round of days they have gone through for ages. Our lives are just like them—they must start anew often, and repeated experiences then have become an old, old song. It is the same work, perhaps, day after day, and year after year. Are our lives so patient? Do we not often get weary, and feel that we would gladly take up some other labor? Yes, to the last question. We need to learn so much patience, that though we spend years even doing the same thing over and over again, we may try with each repetition to do it more perfectly.

Perfection is what every boy and girl, and man and woman, should strive for. Very likely it will never be attained here on earth in any thing, but we shall come nearer it by striving for it.

UNCLE TOM.

Puzzles.

1.—ENIGMA.

My first is in death, but not in life;
My second is in peace, and also in strife;
My third is in merry, but not in sad;
My fourth is in boy, but not in lad;
My fifth is in Italy, but not in Finland;
My whole is a town in England.

2.—CHARADES.

- 1.—My first is a fish,
My second is a couch,
My whole is sullen.
- 2.—My first is the name of a pet,
My second is a sea fish,
My whole is the young of my first.
- 3.—My first is a color,
My second is to rouse,
My whole is a bird.

3.—SQUARE-WORDS.

Part of the body;	Part of the head;
An Eastern tree.	An action.
A vessel;	A body;
Within.	Animal substance.

4.—ENIGMA.

I am composed of 14 letters:
My 5, 12, 6 is a river.
My 10, 5, 3, 4, 3 is a girl's name.
My 7, 2, 3, 8 is a kind of fish.
My 13, 6, 9, 5 is a boy's name.
My 14, 9, 5, 11 is a kind of cloth.
My 4, 12, 1, 11 is to mind.
My whole is a distinguished novelist.

MAGGIE BLAIR.

5.—TRANSPOSITION.

In each of the following sentences, fill the blank or blanks in the first part with words, whose letters when transposed will suitably fill the remaining blank or blanks:—

1. ——— words with a man in a ———.
2. Did you see the tiger ——— on me with his eyes.
3. McDonald said ——— ragged ——— remind you of Scotland.
4. The knots may be ——— more easily than ———.
5. ——— told me an ——— which amused all in his tent.
6. I bring the ——— on the ——— round of the rack.
7. The witness is of small value is he can ——— information which is more ——— than this.
8. The ——— as they look over the ——— precipice in their sleep.

6.—LETTER CHARADE.

First's in cap, but not in hat;
Second's in mouse, but not in rat;
Third's in lamb, but not in sheep;
Fourth's in slumber, not in sleep;
Fifth's in rum, but not in gin;
Sixth's in iron, but not in tin;
Seventh's in coke, but not in coal;
Eight's in mare, but not in foal;
And my whole is a town in Wales.

K. G.

10.—BIRDS ENIGMATICALLY EXPRESSED.

1. Equal, and to decompose. 2. A portion and a hillock. 3. A piece of wood, and a riot. 4. A luminous body, and a fish. 5. A European country. 6. A forest and a flower.

G. J. BELL, JR.

11.—CHARADE.

My first is an animal very well known,
In every grade from the cot to the throne;
Though strange it may seem, deny it who can,
My second is just the third part of a man;
My third, I give you to understand,
Is an elevated portion of land;
My whole, when these parts are rightly combin'd,
Is a savage animal's name, you will find. S. H.

12.—CHARADE.

My first may be a roguish race,
Or strollers tramping through a place;
Or else a ribbon it may be
An ornament to you or me.

My second with the coachman goes,
Or brings a pleasure to the nose;
Not always, for it causes pain,
And is not good to catch again.

My whole is known to ladies fair,
When dressing for the church with care;
Too often it is very frail,
Yet takes a lengthen'd tour by rail.

G. J. BELL, JR.

13.—HIDDEN FEMALE NAMES.

I'll mount my Pegasus, another ride
Upon my barb, a rapid flight
I'll take;
I am audacious him to thus bestride;
As I've began, now list, in pity's sake.

'Tis of a maid I sing, alackaday!
How can I charm a belle so passing fair?
I still am yielding to her powerful sway,
The while she sees me vanquish'd by despair.

I look at ev'ry beauty in her face,
Mark what prim art hath added to her charms;
A lovely diadem I think should grace
Her brow, with brightest gem man's bosom warms.

Ah, well! endearing words I'll softly press;
A smile—a heav'nly smile—
I'll seek to gain;
And if she lends an ear, and answers “Yes,”
A license then I quickly will obtain.

WORKMAN.

14.—CHARADE.

My first oft makes my second;
My first a nickname is reckoned;
My whole is a bird well known,
In England I must own.

T. M. TAYLOR.

15.—REVERSIONS.

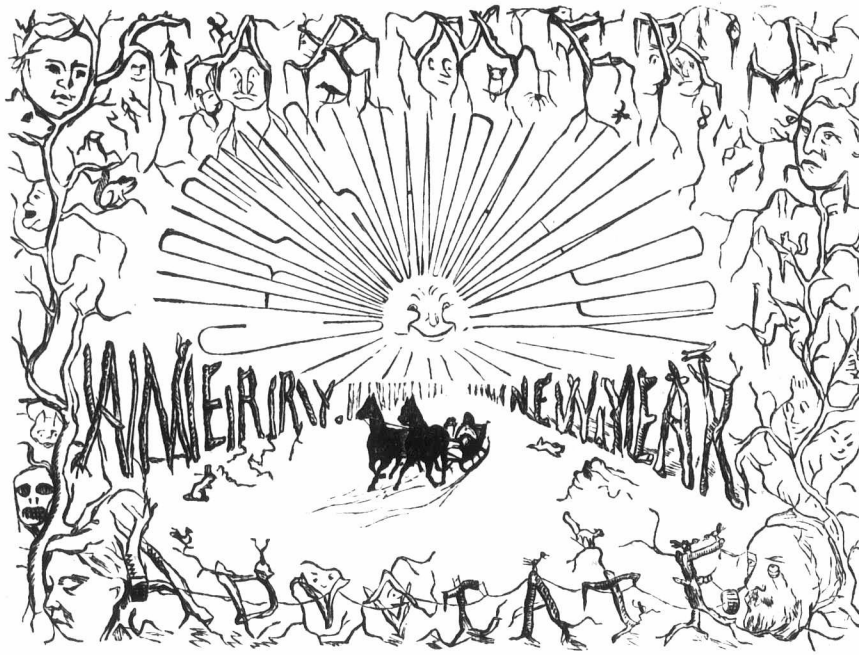
Is heard in the streets to rattle,
Reversed is a place for cattle.
Upon the trees it lurks,
Reversed is dignity among the Turks.
Is you and me to share,
Reversed is to ensnare.
Is heard when the bell rings,
Reversed is an insect that stings.

T. M. TAYLOR.

16.—RIDDLE.

Two prepositions find,
A pronoun in the middle;
Put them together, and you will find
An answer to my riddle.

P. S. McLAREN.



7.—PICTORIAL REBUS.

8.—SQUARE WORDS.

- 1.—First's always seen wherever there's land;
Second's to worship—this you'll understand;
Third is to wander, both far and near;
Fourth will often the thirsty man cheer;
Fifth is a country in our beloved isle.
When you have squared these perhaps you'll smile.
- 2.—First is a prominent part of a man;
Second's a sin which magistrates scan;
Third's to ascend like the lark in the air;
Fourth's flowers worn on ladies' fifth, I declare.
- 3.—First is a treat that children like well;
Second's a tree (how old I can't tell);
Third's adoration in the highest degree;
Whilst fourth is thought menial, and this you will see;
My fifth was much used for our old wooden walls,
But ironclad ships best stop cannon balls.

J. G. PENNY.

9.—DIAMOND PUZZLE.

A consonant; a liquor; a bird; a State of Germany; a town; a pastime; a multitude of people; an animal; a consonant.
The centrals, read downwards and across, name of a town in England.

Answers to December Puzzles.

- 105.—May-basket.
 116.— "Yet do not think I doubt thee;
 I know thy truth remains;
 I would not live without thee,
 For all the world contains!"
 107.—Ague, lark, hart, mouse, pastor, Fred, clock, shovel,
 chair, scorn.
 108.—Uncle Tom's Department.
 109.—Nelson.
 110.—Sir John A. Macdonald.
 111.—Backgammon.
 112.— W H A T S T A R
 R A R E N A M E
 E V E N O M E N
 N E A T M E N D
 113.—Continue in well doing.
 114.—1. Tea. 2. Beef. 3. Butter. 4. Ham. 5. Egg. 6.
 Meat. 7. Pie. 8. Fish. 9. Shad. 10. Salad. 11. Peas.
 12. Hash.
 115.—Liverpool. 1. Liffey. 2. Irrawaddy. 3. Vienna.
 4. Euphrates. 5. Rhone. 6. Po. 7. Oder. 8. Ohio. 9.
 Lena.
 116.—Tempus Fugit (time flies).

Names of Those Who Sent Correct Answers to December Puzzles.

Minnie Hyde, Alida Hamilton, Fred. W. Lamphier, Royal Grafton, Maggie Blair, And. Wm. Lowry, Harry W. Husband, A. E. Grass, James M. Jackson, Peter J. McLaren, William J. Drope, Charles M. Stewart, And. Lewis, Annie Walker, Ella Walker, Carrie Gray, Thos. M. Taylor, Maggie W. Porteous, W. H. Groat, Nellie Austin, Mrs. Hepworth, Sam. G. Stephenson, Edith H. Cutten, Chas. Broughten, H. Howell, John H. Stephenson, Mrs. S. W. Day, Martha W. Ayen, Edith Wilkinson, Lizzie M. Dow, Fred. Pease, Arthur Smith, Maude Adams, Mary J. Collett, A. Webb, Josie Warren, Hannah Emery, Anna Stratton, John Williams, Frank Richardson.

We are pleased to state that our niece, Minnie Hyde, answered all December puzzles correctly. Great credit is due her. Many others answered all save one or two. Persevere, dear nephews and nieces, and let us have the pleasure of publishing a long list of the clever ones.

HUMOROUS.

The cabman's "rest"—When he gets over and above his regular fare.

When you keep a man waiting it gives him a chance to count up your faults.

Bashfulness is often like the plating on spoons—when it wears off it shows the brass.

"Great talkers are common liars." And we know of some who are uncommon liars.

Sprightly Young Lady: "I am afraid I have a very large foot!" Polite Shopman: "Large, miss! Oh, dear, no, miss! We have lots o' gent—that is, customers with much larger, miss!"

A newly-married man complains of the high price of "ducks." He says his wife recently paid for three of them—a duck of a bonnet, a duck of a dress, and a duck of a parasol.

A bare-headed, bare-footed little boy astonished a worshipping congregation in a Massachusetts town, on a recent Sunday, by rushing into church and exclaiming: "Where's my papa? The pigs are out."

HIS QUIETUS.—An old gentleman put the quietus upon a young man who chaffed him upon his bald head, in these words: "Young man, when my head gets as soft as yours, I can raise hair to sell."

A FEARFUL SUGGESTION.—Fred (to chum): "I dreamt about you last night, Bob!" Bob: "I hope it was pleasant?" Fred: "O, yes, very pleasant while it lasted. I dreamt that you paid the ten dollars you owe me."

ON DANGEROUS GROUND.—Archie: "Auntie, what's a torpedo?" Auntie: "Something that blows something up, my love." Archie: "Then are you a torpedo, auntie?" Auntie: "No, my dear. Why?" Archie: "Because I heard uncle telling pa you were always blowing him up."

The late Mrs. W— was equally remarkable for kindness of heart and absence of mind. One day she was accosted by a beggar, whose stout and healthy appearance startled her. "Why," exclaimed the good old lady, "you look able to work." "Yes," replied the applicant, "but I have been deaf and dumb these seven years." "Poor man, what a heavy affliction!" exclaimed Mrs. W—, at the same time giving him relief with a liberal hand. On returning home she mentioned the fact, remarking, "What a dreadful thing it is to be deprived of such precious faculties!" "But how," asked her sister, "did you know the poor man had been deaf and dumb for seven years?" "Why," was the quite unconscious answer, "he told me so."

Father's Dinner.

Ada Burrows lived with her father and mother in one of the pretty cottages of Laneton village. She was a little girl with brown eyes, rosy cheeks, and light, wavy hair. She was a good little girl, as little girls go; she felt a shade of discontent now and then, and her small duties sometimes seemed to her rather tiresome; but these bad feelings were soon over. To-day she was busily tying up the mignonette in the corner of the little garden which she called her own, when she heard her mother call.

"Ada!" cried Mrs. Burrows, putting her head out of a side-window of the kitchen, and which opened towards the garden.

"Yes, mother," Ada answered as she ran in, and found her mother tying a cloth over a yellow and black basin, covered with a soup-plate.

"Here now, Ada," said her mother, "you run over to father with his dinner. Put your hand here under the knots of the cloth. Here's the cold tea. Oh, dear! I forgot the dumpling! That's a surprise for father."

Mrs. Burrows untied the bundle again, and going to the fireplace, she returned with a splendid apple-dumpling, which was added to 'father's dinner,' and Ada started on her way.

Her father was a gardener, but had not of late been in regular employ at any one place. He was now putting the garden at the Vicarage in order. The vicar and his family were absent at the seaside, or I dare say Ada's father would have had his dinner in the kitchen. But they were expected home in a day or two, and Burrows had plenty to do. So he would not come home at noon for his dinner, and his little daughter had to bring it to him.

The sun was high and hot, and the road dusty. Ada had been working long in her garden, and she was hot too. 'She was very hungry—much more hungry, it seemed to her, since she had seen that glorious dumpling than she was before. She walked along the road, holding the dinner carefully by its cloth, when who should she meet but Bessy Dixon!

Bessy was not half so pretty as Ada. She might, however, have been prettier to look at than she was now if she had tried, for a clean face is prettier than a dirty one, any day. "Wherever are you going?" said Bessy.

"Up to father with his dinner," said Ada, and walked on. She answered quite civilly, but without showing any strong desire for Bessy's company, as she knew that her mother did not wish them to be friends, for Mrs. Burrows was a good and careful mother.

"All that way!" said Bessy. (Ada thought that it really was a good way to go, but said nothing.) "What has he got for dinner?" asked Bessy, putting her face near the bundle, and sniffing.

"Beef and vegetables," answered Ada, "and bread; and, oh! such a splendid apple-dumpling!"

"Apple-dumpling?" cried Bessy. And then, sinking her voice, she added, "Oh, Ada! I am hungry, and I do like apple-dumpling."

Ada thought within her that both these statements were extremely true about herself also; but she said nothing about this. But she did say, "It's a surprise for father. Mother told me he didn't expect it."

Bessy was walking on beside her. "Oh, Ada!" she said in a low voice, "I just am hungry. Are not you? I say, your father doesn't know there's any apple-dumpling?"

Here she hesitated and looked wistfully in Ada's face. Ada was much more hungry than Bessy, who indeed had had her dinner already; but she only looked in Bessy's face as if she could not understand her.

"I say," repeated Bessy in an excited whisper, "he doesn't know of it. He'd never miss it." Then looking hard in Ada's eyes, and touching her arm, she whispered, "I say, let's eat it. He won't know."

They had reached the corner of the quiet lane leading from the high road to the gate of the Vicarage garden. It was narrow and shady, and very retired. High banks and thick hedges were on each side, the boughs of the trees met overhead, the sides were grassy; there was no sound but the twitter of the birds and sometimes the hum of a wandering bee. Bessy had not ill chosen the scene of her temptation.

The two girls had paused, and were standing at the entrance of the lane, looking at each other; and as Ada put her one disengaged hand to the bundle, Bessy thought for a moment that she had prevailed.

But nothing was farther from Ada's thoughts. She was only changing hands for the safer carrying of 'father's dinner.' Not for one moment did the idea of yielding to Bessy's suggestion enter her mind. Indeed, what Bessy wished was scarcely plain to her for a moment. Then, as the baseness of the temptation broke upon her, "Oh, Bessy!" she said: no more, but the tone was enough. "Good-bye!" she hastily added, and ran up the lane to the Vicarage gate, making the basin and soup-plate rattle as she went, and arriving at the place where her father was at work much hotter than if she had not met Bessy Dixon.

When John Burrows, seated on his tilted-wheelbarrow, had finished his bread and meat, and had begun upon his dumpling, his little daughter, who was leaning on his knee, surprised him with a chuckling laugh. He looked up, and saw her face full of merriment, but a queer look in her brown eyes.

"What's the matter, little maid?" he asked. "I was thinking, father," said Ada, "suppose I had stopped on the way and eaten up your dinner, what would you have said?"

"I should have said it was not my little maid that did that," said John Burrows, as he put the last piece of his dumpling with much content into his mouth.

There was a dumpling waiting at home for Ada also, though I think it rather spoils the perfume of the story to tell you so.

During a dense fog a Mississippi steamboat took landing. A traveler, anxious to go ahead, came to the unperturbed manager of the wheel and asked why they stopped. "Too much fog; can't see the river." "But you can see the stars overhead." "Yes," replied the urbane pilot, "but until the boiler bursts we aint going that way." The passenger went to bed.

SOMETHING OUT OF IT.—Old Mr. D. was a prominent lawyer in Tuolumne. He was employed to defend a client for stealing a hog. The man was acquitted. He was grateful, but had no money. "How can I ever repay you, Mr. D.? Accept my thanks." "Thanks," cried the lawyer. "Send me a side of the pork!"

Biddy (to old gent): "Please to help a poor woman with seven small children, all to—" Good-natured old gent (who knows her): "Yes, but I say, don't you think your family increases rather too rapidly? Last week it was only five." Biddy (not a bit abashed): "Sure and isn't it all the more reason why 'yer honor should help me agin?"

"Yes," observed a friend the other evening, "she certainly is very highly cultivated. She is very stylish, plays well, sings well, talks well, dances well and rides well, and succeeds well in private theatricals. In fact," he added, "she's just the kind of a girl you'd like one of your friends to marry." "Then you wouldn't care to marry her?" suggested Causeur. "By no means, my dear fellow. What I'm looking for is a real nice girl!"

IT DIDN'T FIT.—They were walking arm-in-arm up the street, and just ahead of them was a woman in a new princess dress. The setting sun was gilding the western heavens, and throwing a beautiful crimson glow all over the earth. He said, in a subdued tone, "Isn't it lovely?" "Well, I don't know," was the reply of his fair companion: "I don't think the trimming matches very well, and it doesn't fit her a bit." He shuddered.

CLERICAL WIT.—A clergyman was annoyed, during the delivery of his sermon, by some young persons whispering and laughing. Quite out of patience at last, he said: "I dislike very much to rebuke anyone for improper conduct or irreverence in the sanctuary, for I once made a great blunder. A young man in front of me kept giggling, making up faces, and otherwise disregarding the solemnity of the day and place. At the close of the service one of the deacons told me that the young man was an idiot, and not responsible for his conduct. Since then I never reprove anyone from the pulpit, lest I should, by mistake, address another idiot." He was not interrupted again.

Additional Correspondence.

SIR,—I have a cellar under my driving house, and I find that moisture in it by reason of steam from the roots (occasionally) is injurious to the ceiling and timbers overhead, and will have a tendency to rot them, if not prevented in some way; and as I cannot keep it cool enough at all times without exposing it to some frost, I therefore wish to know if I could apply anything to the ceiling and timbers that would stick to them and preserve them from rotting. If you can inform me, through the *ADVOCATE*, of a remedy, it would be thankfully received by me. D.K.

Wilfrid, Ont.

[Give the woodwork a good washing with petroleum.]

SIR,—I will give you a short account of the crops in this section. Spring wheat has been a failure to a considerable extent, averaging from five to fourteen bushels per acre. Fall wheat was very good, but not much sown. The Clawson variety appears to have done best, averaging from thirty-five to fifty bushels per acre. We have no Hessian fly here yet. Peas and oats were not as good as last year. Barley very little sown and badly discolored. The fruit crop was excellent; apples, an immense crop; plums, very good; turnips are below the average; potatoes, almost an entire failure. W. G.

Sydenham, Dec. 23rd, 1878.

SIR,—My calves are troubled with lice. What is the best way to destroy them.

SUBSCRIBER, Perth.

[Some use dry dust, and rub it away; others use tobacco; whilst others use arnica mixtures. A recent plan has been found efficient. Card and clean the calves with a card and a rough brush dipped in kerosene oil, having the oil well shaken out of the brush. But prevention is best. Feed well, and give occasionally a teaspoonful of sulphur to the calves should any be discovered.]

Jottings Around Markham.

As we pass from the village above named to the east we soon arrive at Mr. Rolph's farm. Mr. R. is the principal breeder of Jersey cattle in Canada. He recently sold his herd to Mr. Bradshaw, of Whitevale, and has lately returned from Connecticut with another herd. In appearance they do not fill the eye like shorthorns, but they are said to fill the pail better. Almost within view from his place can be seen Mr. David Ressor's fine farm and residence, which is quite an ornament to this section of country. The grounds are beautifully planted between the house and road, the house being on a rising elevation, a short distance from the road, giving a passer-by a treat. Mr. R. has purchased some 800 or 900 sheep, which he is now fattening, either to sell shippers or ship direct to European markets. This business he intends giving a thorough trial. We notice here a number of Shetland ponies, which he imports largely, and uses altogether for his summer driving. Mr. R. talks of starting a large sheep farm in Manitoba.

Our famed Shorthorn breeders of this and Pickering township, the Messrs. Millers and others, we find lying on their oars, very quietly awaiting the turn of the tide for demand and prices to spring up.

The millers are not patronized as largely as usual for chop feed, as the oft-repeated words, "hard times," has affected this line of business materially, as well as many others.

The Cotswold sheep have been selling about as well as usual. The Americans require them largely to cross with their sheep, to increase the size and generally improve them for mutton and wool.

VIATOR.

Markham P. O., December, 1878.

The leading inhabitants of New Hamburg and Wellesley met a few days ago and decided to establish a beet root sugar manufactory in the former place, and \$26,000 were subscribed for that purpose. Messrs. Samuel and Fred. Merner, and J. G. Reimer were appointed to interview the Ontario Government with reference to the securing of a grant of money. A firm in Boston, it is stated, has offered the sum of \$50,000 to assist in establishing this manufactory.

Stock Notes.

The following officers and directors of the Huron Live Stock Association were appointed at a recent meeting of that corporation:—Wharton Hodgins, Exeter, President; M. Y. McLean, Seaford, Secretary and Treasurer; Directors—John Washington, Wawanosh; John Mason, H. Snell, T. Moon, and John Cumming, Hullett; James Oke, Exeter; L. Hunter, S. Hunter, Osborne; M. McTaggart and E. Holmes, Clinton; Hugh Love, sr., Hay; James Biggins and William Dixon, Stanley; Thomas J. Bell, Londesborough; Charles Mason and George M. Chesney, Tuckersmith; Thomas Evans, St. Mary's; David McNaught, Seaford; A. Med. Allan, Goderich; W. L. Ferguson and Wm. Young, Colborne; John Beacom, Goderich Township. Your attention is drawn to the annual sale of the above Association at Exeter, on Wednesday, 12th of February next. See advertisement.

BIG PRICE FOR CATTLE.—The shorthorn sales of the season just past are summarized according to the English papers. The figures show that in 1878, 2,811 head changed hands at public auction in Great Britain. The total price realized was \$805,210, and the average per head \$286. The highest price obtained for a single animal was \$13,500. The average for the year is \$15 per head higher than the average reached in 1877, and \$35 higher than the average of 1876. The number of animals sold shows an increase of 356 over last year. These figures show conclusively that the depression existing among the breeders of Great Britain, in which latter country, as well as in Canada, Australia, New Zealand, France, and elsewhere, prices of really desirable tribes of shorthorns continue to rise.

The prize animal of the Cattle Show at London, England, held last month, was a Shorthorn heifer, the property of Mr. Stratton, who, besides winning many other valuable prizes, thus takes the £100 champion plate given by the Agricultural Hall Company to the owner of the best animal in the exhibition. Directly the award was made the rather high price of £150 was placed on the animal. No Canadian cattle were exhibited in the show itself, but four oxen in capital condition were stalled outside the main building, the property of Messrs. Reeves & Frankland, of Toronto, Ont., arrived too late for competition. Considering the voyage they had had, they were wonderfully well, and appeared very useful animals.

Another shipment of live stock, comprising 1,500 sheep and 1,200 head of cattle, all in prime condition, will leave Toronto, Ont., for Liverpool in a day or so. The cattle are chiefly Shorthorn breeds, and the sheep are of the Leicester and Cotswold breeds. A Toronto exporting company is at present entering into negotiations with the British Government for supplying the army corps stationed at Gibraltar and Cyprus with beef and mutton after next spring.

The "Cambria Prince" sailed from London for Melbourne, on the 7th of Dec., and took out the first portion of the valuable collection of fashionable Bates Shorthorns which Mr. Wm. McCulloch has made in this country during the past sale season, and which amounts to over forty altogether.

Wm. Morton, of Rose Lea Farm, Greenwood, Manitoba, recently imported eight Clydesdale mares and two stallions, all prize-taking stock at the Ontario Exhibition, and some blooded stock. One yearling stallion cost over \$500. This importation is quite an acquisition to the stock of that Province.

A Scottish paper states that a Canadian farmer near Montreal, desiring to visit his native home, took out with him 100 sheep as an experiment, on which he netted about \$100, or enough to pay the expenses of the journey. Next year he means to go again with a lot of cattle.

Messrs. Snyder Bros., of Berlin, have imported a Norman filly. We believe this is the first importation of this sex into Canada. More will follow the example set by our German stock-raisers. It may be a pattern for other stockmen, and perhaps for our Government.

John H. Holden, Belleville, Ont., has sold to the Michigan Military Academy, at Orchard Lake, Mich., seven Ayrshire cows and bull Roderick Dhu.

Canada will in all probability soon have a formidable rival in the breeding of high class stock in her fellow-colony Australia. Mr. W. McCulloch, from Melbourne, has attended most of the principal sales of pedigree cattle during the last season, and has got a splendid lot of cattle together, each animal he purchased being of a first-class pedigree, form, and constitution.

The experiment is to be made of running three or four steamers between Liverpool and Montreal, to carry only perishable goods—Canadian meat, poultry, eggs, fish, and other such produce—and it is stated that three iron steamers have been bought for a new steamship line to engage in the St. Lawrence grain and cattle trade next season.

The *Michigan Farmer* calls attention to a Shorthorn bull, pure white, bred by Mr. Hamley, of Detroit, on his farm near the town of Goderich, Ont. His exact age, when weighed on the 30th of November, was 19 months and 13 days. It will be seen that in his average gain, as well as in his weight, he has a handsome percentage.

CLYDESDALE HERD BOOK.—The Earl of Dunmore has been recently organizing a Clydesdale Association for the further development of that class of horses, as they are gradually increasing in favor.

Mr. Richard Gibson, of Ilderton, London township, has purchased 7th Lord of Oxford from Mr. Campbell. He is by the 2nd Duke of Oneida (sold for \$12,000), out of 2nd Maid of Oxford (sold for \$6,000, N. Y. Mills sale).

The Wisconsin Dairymen's Association will hold their seventh annual meeting in Kenosha, Wis., on Wednesday and Thursday, Jan. 22nd and 23rd. Valuable prizes are offered to competitors, and addresses will be delivered on subjects important to all interested in dairying.

The Live Stock Export Trade.

A special train left Montreal last week for Liverpool, loaded with 1,000 head of cattle and 3,000 head of sheep, shipped by the Toronto Exporting Company. The leading exporters state that they have orders ahead for double the number of choice animals at present obtainable. During the past six months there have been only two losses by shipments of cattle to Great Britain—the first of \$30,000 (which was covered by insurance), caused by the steamer running ashore in a fog; and the second of \$6,000, on which there was no insurance, the company sustaining the loss caused by that great hurricane of November. As there are about 250,000 head of cattle and 500,000 sheep now stall-feeding for spring shipment, it is the intention of the exporting companies in Toronto to freight one ship per day with cattle and sheep at Montreal and Quebec for the next opening of navigation. We learn on good authority that the receipts from shipments of cattle and sheep from this port are likely to aggregate about \$15,000,000 during the first six months of 1879.—*Monetary Times*.

The Patrons of Husbandry.

The Dominion Grange held their fifth annual meeting in Albert Hall, Toronto, Dec. 17th. The W. M., S. W. Hill, presided. An address to the Marquis of Lorne was adopted, and ordered to be forwarded at once. We are pleased to see that St. Andrews' and several other societies have forwarded addresses of congratulation.

BLOCKED ROADS.—There are great complaints in many localities of the impassable state of the roads. Would it not be well for wide-awake countrymen to enact laws, where not now in force, to have fences thrown down during the winter where drifts occur, and to take care that such a law was carried into effect. By this means traffic would not be suspended. The drifts are sure to take place where the fences are standing.

Reports of crops are received from two subscribers, for which receive our thanks. Had they been sent on two or three months' earlier we should have been pleased to publish them. They are now too late to be of interest.

There is continued excitement over mining for phosphates in Frontenac and Addington. Many deposits have been found, which provides profitable occupation to many hands. This product is now selling from \$8 to \$9 per ton.

Commercial.

FARMER'S ADVOCATE OFFICE,
London, Jan. 1, 1879.

While there is little change to note in the state of trade, still the feeling among the business community is less "blue" than for the previous weeks. Snow and good sleighing has taken the place of the mud, and, in some sections, almost impassible roads, so that the business circles throughout the country have taken fresh heart and courage. We hope to see good roads and steady weather for the next three months, as such will add very much to the volume of trade and the delivery of various kinds of produce.

WHEAT.

The very light deliveries, coupled with the low and depressed state of the markets, has resulted in very little being done in wheat. The shipments from the Western States continue heavy, and there seems to be no limit to the quantity they have to dispose of. English millers are not disposed to increase their stocks. Trade in England is very bad. The commercial atmosphere of that country is clouded by the ruinous state of trade in the manufacturing districts, and the distrust occasioned by the heavy financial failures is having a very bad effect upon the entire trade of the country. The shipments from Russia being now practically ended, and the California supplies still in the distance, the attention of the trade will be directed toward the Atlantic coast for some little time. It must be admitted, taking a general view of the situation, any marked advance in the price of wheat is difficult to foresee. Especially is this the case from the fact that there is so little unemployed capital in the English markets available for speculative purposes. The latest phase of the "Keene corner" in wheat is that the tactics to be employed by Mr. Keene are to use his influence over the management of one or two of the trunk lines connecting Chicago with the seaboard. This influence is to be used to bring about a quarrel between the roads, and a natural result would be the cutting of rates. By taking advantage of this cutting in rates, it will be easy to see how he could market his wheat either in New York or Liverpool at a handsome profit without any rise in prices and without attempting a corner. He is reported to have made engagements for 1,500 car loads of wheat to New York from Chicago for January at a discount of over 50 per cent.

PEAS.

With free deliveries the past ten days, together with free sellers and low freights, a good many have gone forward on Liverpool and Glasgow account. In the counties north of London, and on Lake Huron and Georgian Bay, the crop is good but the acreage is not large.

BUTTER.

Little change to note. We hear of small selected lots changing hands at 8c. to 11c., and some choice at 12c. This seems low when we see the price that is charged in some of our towns and cities for crock and roll butter, and we are led to wonder why our Canadian butter makers are so slow to find out the wants and requirements of the trade. Any one visiting the late International Dairy Fair held in New York city, could not have been but struck with the 101 different apparatuses for manipulating butter, for packing, for carrying, and conveying the same to the best markets. We say to every butter maker in the land get the very best tools and appliances. Study the wants and tastes of the home trade. Get up something nice, and tasty, and attractive, as well as good, and we venture to say you will have little trouble

in finding a market and getting a good price as well.

CHEESE.

Instead of improving, which it usually does at this season of the year, it is quietly settling down lower and lower, as if the bottom was completely out; but the bottom being small, and the quantity having to pass through large, the settling down process is very gradual. It is the opinion of some that we have not yet seen the worst in cheese. The quantities of early summer makes, especially July and August, are still large. The writer, when in New York a short time ago, saw a quantity of July cheese that had been stored in refrigerator cellars. There is a large quantity of this cheese still there.

CLOVER SEED.

Little or nothing has been done as yet. From what we can learn the yield will not be nearly as good as last season, although we think the sample will be about as good or perhaps better. In some sections there is not more than half the acreage and in others about the same. English advices report their crop as being very fine and abundant, and the opinion is expressed that they may not require much, if any, of our seed this season.

PORK.

keeps about the same figure. The present weather is very favorable for the marketing of dressed hogs, and we are of the opinion that farmers will be quite as well off by disposing of their hogs as soon as they are fit to kill.

Little Falls Cheese and Butter Market.

Reported for the FARMERS' ADVOCATE by PROF. X. A. WILLARD.

LITTLE FALLS, N. Y., Dec. 30, 1878.

The cheese market here for the past month has been very unsatisfactory.

Contrary to all expectations and to the usual course of the fall trade, prices declined instead of advancing, and sales generally have been slow with a close discrimination among buyers as to quality. "Farm-dairies," when well made and of meaty quality, have sold equally well in price with good factory; the demand for this sort of goods being for the home trade. Prices during the early part of the month ranged firm; 5c. to 8c. for farm-dairies, and 6½c. to 7½c. for factories. The farm-dairies bringing 8c. were very fine, and specially made for the home trade to fill certain orders for this description of goods.

The cheese offered during the month has, as a whole, fallen off in quality, but prices on all grades have grown weaker and weaker until the range for factory has run down to 6½c. for best descriptions, while skimmed and inferior sorts, both of farms and factories, have touched 4c. to 4½c. Large quantities of cheese have been sent forward weekly to be sold on commission, the views of salesmen being above those of buyers.

Our last advices from abroad are that "fancy September American" are in small compass and an advance is expected, the quotations for the second week in September being for "faultless American," 54s. to 56s. per cwt.; fine, 50s. to 52s.; good, 40s. to 46s. and low grades, 25s. to 38s. per cwt.

Butter is coming forward very freely at the Little Falls market. Prices during the early part of the month ranged from 17c. to 20c. for fair to extra lots; but rates have now declined, so that the range to-day is from 15c. to 18c.

There is considerable cheese back in the country, and some of our factories are still open—cheese being made at intervals of a few days.

The weather is now cold, with a light fall of snow.

Live Stock Markets.

Toronto, 30th Dec., '78.

BEEVES.—The sum total of receipts has been small, and the few offering have come forward in small lots only. There has been a ready sale for the few offered, and at steady prices. Export cattle have been wanted; the few in the market have been readily taken at \$4.62 to \$4.75; and really choice could have found buyers at \$5.

SHEEP.—Have been neither offered nor wanted, save for export; such lots as are suited for shipment would probably bring \$3.

There has been nothing doing in lambs, and calves have been purely nominal.

Buffalo, 30th Dec., '78.

Sales of best shippers at \$4.75 to \$5.50; medium at \$4 to \$4.20; a few common butchers' at \$2.50 to \$3; bulls, \$2 to \$2.50. Sheep moderately active for ordinary fair to good. Demand for hogs light and confined to early arrivals.

London Markets.

London, Jan. 2, 1879.

GRAIN.

Per 100 lbs		Per 100 lbs	
Deihl Wheat	\$1 40 to 1 48	Peas	75 to 80
Treadwell	1 40 to 1 48	Oats	80 to 85
Clawson	1 40 to 1 45	Rye	80 to 85
Red	1 40 to 1 44	Buckwheat	75 to 85
Spring	1 10 to 1 25	Corn	75 to 80
Barley	90 to 1 45	Beans	00 to 00

PRODUCE.

Eggs, retail	22 to 25	Tallow, rnd.	6 to 4½
" wholesale	00 to 00	" rough	4 to 4
Roll butter	18 to 19	Lard, per lb.	10 to 10
Tub butter	8 to 10	Wool	22 to 23½
Cordwood	3 50 to 4 50	Cheese, lb.	7½ to 8
Straw, load	2 00 to 4 50	Clover seed	" per bush. 3 50 to 4 00
Turnips	25 to 25	Timothy	1 35 to 1 50
Carrots	25 to 30	seed	1 35 to 1 50
Potatoes, bag	80 to 1 00	Hay	8 00 to 10 00
Onions, bu.	65 to 75		

POULTRY.

Chickens, pair	25 to 40	Ducks, pair	40 to 60
Geese	35 to 60	Turkeys	60 to 1 50

FRUIT.

Apples, bu.	40 to 70	Appes, bbl.	1 50 to 00
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FLOUR AND MILL FEED.

	Retail.	Wholesale.
Fall Wheat Flour	\$2 75	2 50
Mixed "	2 50	2 25
Spring "	2 25	2 00
Bran, per 100	60	40
Cornmeal	1 75	1 50
Fine Oatmeal	2 75	2 50
Coarse "	3 00	2 75

MEATS.

Beef, per qu	3 00 to 5 00	Dressed hogs	3 50 to 4 00
Lamb, lb.	6 to 7	Ordinary	
Mutton, lb.	5 to 6	mixed pork-	
		ers l. w. per	
		100 lbs	2 50 to 2 70

Toronto Markets.

Toronto, Jan. 2.

Barley	\$55 to 90	Hogs	3 00 to 3 50
Spring wheat	70 to 82	Flour, sup.	3 20 to 0 00
R. Winter	80 to 83	Spring, extra	3 00 to 0 00
Treadwell	80 to 85	Extra	3 90 to 0 00
Deihl	75 to 90	Superior	4 05 to 0 00
Oats	28 to 30		
Peas	55 to 60		
Wool	00 to 00		

Montreal Markets.

Montreal, Dec. 27.

Superiors, \$4.40 to \$4.45; extras, \$4.22½ to \$4.25; fancy, \$4 to \$4.10; superfine, \$3.70 to \$3.75; strong bakers', \$4.15 to \$4.20; fine, \$3.10 to \$3.15.

Liverpool Markets.

Liverpool, Dec. 30, 5.00 p.m.

s d s d		s d s d	
Flour	18 0 to 22 0	Barley	3 2 to 0 0
Wheat, spring	7 0 to 9 4	Pork	40 0 to 0 0
R. Winter	8 8 to 9 0	Lard	30 9 to 0 0
White	9 0 to 9 4	Bacon	24 3 to 24 6
Club	9 4 to 9 9	Cheese	45 0 to 0 0
Corn	22 9 to 23 9	Tallow	36 6 to 00 0
Oats	2 6 to 00 0	Beef	00 0 to 00 0
Peas	31 9 to 00 0		

New York Markets.

New York, Jan. 2.

Flour—\$3.00 to \$3.55 for superfine State and Western; \$3.50 to \$3.70 for common to choice extra State; \$3.50 to \$4 for Western. Rye flour steady, and unchanged. Wheat, dull at \$1.00½. Rye, dull, at 56c. to 58c. Corn, less firm. Oats, 29c. to 31c. Barley, nominal. Butter, 6c. to 30c. per lb. Cheese, 3c. to 9c.

Chicago Markets.

Chicago, Jan. 2.

Wheat, \$2½c. to 90c. Corn, 30c. to 34c. Barley, 50c. to 95½c. Oats, 30c. to 30½c. Pork, per brl., \$7.40. Dressed hogs, per 100 lbs., \$2.93. Pork on hand in Chicago, 145,000,000; last year, 66,000,000.

Short-Horn Sale.

JOHN S. ARMSTRONG, ESQ., SPEEDSIDE
P.O., near Guelph, has instructed G. T. Strick-
land, Auctioneer, to

SELL BY AUCTION,

On Tuesday, Feb'y 4th,
a number of

BULLS, COWS, AND HEIFERS,

From his valuable herd, including the show bull
"British Heir."

Catalogues and all information in regard to the
stock furnished on application. da-1

HURON LIVE STOCK ASSOCIATION.

ANNUAL SALE.

THE Second Annual Sale, under the auspices
of the Huron Live Stock Association, for the
disposal of

Thoro-bred & Improved Stock

Such as STALLIONS, BREEDING MARES,
BULLS, COWS, SHEEP and SWINE, will be held
in the

Town of Exeter,

COUNTY OF HURON, on

Wednesday, February 12, 1879

Commencing at 12 o'clock, sharp.

If sufficient stock is offered the sale will be
continued the second day.

All entries for the sale must be made with the
Secretary, not later than January 1st, 1879.
Only such entries as are then made will appear
in the sale catalogue.

ENTRANCE FEES.—For each Stallion, \$2;
for each Mare, Bull or Cow, \$1; for each Sheep
or Pig, 25 cents. The entrance fee in all cases
to accompany the entry.

TERMS OF SALE.—Nine months' credit will
be given on furnishing security satisfactory to
the owner of the animal sold. A discount at the
rate of 8 per cent. per annum will be allowed for
cash.

All parties entering animals for sale must con-
sider themselves bound by these terms.

One per cent. will be charged by the association
on all animals sold.

M. Y. McLEAN, Seaforth, Secretary.
W. HODGSON, Exeter, President.

WANTED.

A pure-bred young Clydesdale Stallion
in exchange for a fine high-bred Ham-
bletonian Stallion; also a pure-bred
young Clydesdale Mare in exchange for
a very highly bred Hambletonian Mare.
Correspondence solicited.

WING R. SMITH,
Syracuse, N. Y.

d-12

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AN UNRIVALLED LIST!

Chickering & Sons,
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Easy terms and monthly or quarterly payments taken.
Second-hand Pianos and Melodeons in great variety from Fifty Dollars upwards. For Illustrated
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Or to our Branch Houses in Ottawa, London, Kingston or St. Catharines. da-1f

Great Devonshire Cattle Food.

May be relied on as containing no copperas or other metallic substance, and is unquestionably
the only scientific combination to produce healthy, saleable and working condition in horses,
and fattening cattle to a degree produced by no other feeder, shown by the successful exporta-
tion of cattle to Eng and fed with the Great Devonshire Food.

ASK FOR THE DEVONSHIRE AND TAKE NO OTHER,
Beware of WORTHLESS IMITATIONS. \$1.00 per Box. Book sent free on application.

JOHN LUMBERS,

Sole Manufacturer, 101 Adelaide-st., East, Toronto.

dj-7



My annual Catalogue of Vegetable and
Flower Seed for 1879, rich in engravings, from
original photographs will be sent FREE, to all
who apply. Customers of last season need not write
for it. I offer one of the largest collections of
vegetable seed ever sent out by any seed house in
America, a large portion of which were grown on
my six seed farms. Printed directions for culti-
vation on each package. All seed warranted to
be both fresh and true to name; so far, that
should it prove otherwise, I will refill the order
gratis. The original introducer of the Hubbard
Squash, Phinney's Melon, Marblehead Cabbages,
Mexican Corn, and scores of other vegetables, I
invite the patronage of all who are anxious to
have their seed directly from the grower, fresh,
true, and of the very best strain. New Vegeta-
bles a specialty.

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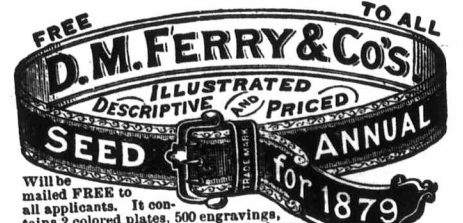
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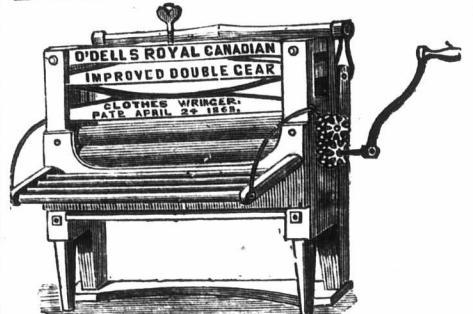
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