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# THE ONTARIO FARMER

A MONTHLY JOURNAL OF

Agriculture, Horticulture, Country Life, Emigration, and the Mechanic Arts.

VOL. III.

HAMILTON, JANUARY, 1871.

No. 1.

## The Farm.

### HINTS FOR THE MONTH.

Get together all the manure you can rake and scrape; dig and haul swamp muck; team leached ashes if within reach; buy or exchange for straw all the horse, cow, and pig-dung you can obtain in the adjacent town or village. If a farmer may be forgiven for coveting anything it is MANURE.

Give unremitting attention to Stock; keep them warm; feed them well and with regularity; water them often and sufficiently, clean out stables and ventilate them, suffering no foul odours to linger in or about them; and save fodder by guarding against waste, by using racks, hay and straw cutters, and feeding chopped or ground, instead of whole grain.

Lay plans for the coming season of out-door labour; much may be done by arranging and systematizing labour; as a good packer will get more articles into a box than a careless one, so a good farmer will get more accomplished in a given time than one who goes about things in a helter skelter fashion.

Balance up the affairs of the farm for last year; if you have not kept accurate accounts, make as exact an estimate as you can; and henceforth adopt a system of book-keeping, so as to know with certainty how matters are, and so as to be able to decide on the most profitable courses to take in future.

Help sustain the Farmers Club in your neighbourhood, if there is one; and if no Club exists, make a move among your brother farmers to set one going.

Attend the Annual meeting of your Agricultural Society.

Renew your subscriptions to agricultural and other journals.

Read useful books and papers, ask your friends to subscribe for the ONTARIO FARMER.

### CO-OPERATIVE FARMING.

The principle of co-operation, advantageously brought to bear upon some other pursuit and business, has often been discussed in reference to farming, but has never so far as we are aware, been reduced to any practical, successful application.

We learn from our exchanges, that a number of gentlemen resident in Framingham, Mass., who are organized in a club for the advancement of rural interests, recently devoted an evening to a discussion of "Co-operative Farming, its methods and the extent of its Practicability." Attention was mainly turned to one aspect of the subject by the reading of an essay which is so brief, lucid, and terse that we lay it before our readers without material alteration:—

"The high rate of wages in the country, requires the successful farmer to make the most of labor-saving implements, the cheapness of which is of the first importance to agriculture—because,

1. The profits of the farm are not large.
2. Farms here are usually of small area, and are consequently worked upon a limited scale.
3. Most tools are laid aside each year for long periods, and when brought again into use are seldom worked for more than a few hours at a time.
4. Few farmers have the best facilities for storing farm implements and machinery, which rust and decay rapidly destroy.
5. The wear and tear of farm implements is necessarily great, since agricultural ways are not railroad smooth and free from obstruction.
6. Repairs are costly, and money thus invested is usually soon represented by rubbish.

How much then would cheap tools do for the farmer? The amateur hesitates to purchase a full set of implements. They are efficient *but too costly*. What then can the *average* farmer do? Tools of the most approved construction can, and will at no distant day, be brought within his means. This may be done *now*. We must establish what will be called here, for convenience, a farmer's exchange; a depot in which shall be found every implement useful in agriculture. To this exchange the farmer can go and obtain (by the payment of a small sum proportioned to the time he is to use it, and the cost and durability of the implement) any tool in the building. These implements and machines will be sent to the exchange by their owners to be stored when not in use, kept in good condition, and will be loaned to anyone responsible for their safe keeping, and repair when damaged. The tools can be taken from the exchange by their owner, free of charge. Any tool or machine sent to this exchange will be valued by a committee of superintendence, and a rate of charge established for its use. The institution will be responsible to the owners for any damage the tools may sustain—loss by fire, and ordinary wear and tear only excepted, for which latter the owners must be well paid by the charge

made for use. This sum will be paid each year, less only a small commission taken to sustain the cost of maintaining the exchange. Further details need not here be considered.

The advantage of the exchange to the owner of tools is obvious. He has a machine which he can perhaps use but a few hours out of the 365 days of the year. He is subject to storage, loss of interest, taxes and wear and tear, with the final extinction of the capital invested. Will not what he receives from the use of the implement through the exchange, be a saving? If much used it will be soon paid for; if not, the owner has saved the care and storage.

Suppose a farmer to need a machine not found in the exchange. The implement is expensive, but how much better he can afford to purchase, when, by placing it in the Exchange, he can receive back something from its usefulness to others. Implement manufacturers, like those of pianos and sewing machines, can here loan their tools and obtain a higher price than they can get in other markets, without oppressing agriculture. To the owner of implements, borrowers are always annoying. He can avoid them by recommending the exchange, or sending tools there for their benefit.

But of what surpassing usefulness will the exchange be to the farmer? He will there find every implement and machine useful in agriculture, not on exhibition to tempt a heavy and perhaps perilous investment, but for use at a very moderate sum. He obtains them at no risk which his own prudence cannot reduce. He need not now be distracted or deceived with newly invented implements, the introduction and trial of which is expected to be at his expense, since at the exchange a small sum will test their worthiness. These tools, practically his, are more numerous and costly than can be found in the wealthiest private establishment. To agriculture the exchange will be not less useful. Progress here is necessarily slow and laborious. The high farmer leads where his poorer neighbor cannot follow. Cheap tools will reduce this inequality and render improved methods more common. Farm machinery in this country represents a vast amount of usually idle capital. The farmer of average means can hardly be progressive. Few machines can be purchased at a price upon which, on small holdings, they will pay a profit. Can we not then co-operate, and with little capital use the best implements?"

The suggestions made in the foregoing essay met with very general approval, and a committee was appointed to devise ways and means for giving them effect. It was thought that inventors, manufacturers and dealers in agricultural implements might find it conducive to their interest to place samples occasionally in the exchange for trial and hire; and some were even of the opinion that it would be a profitable use of capital to invest it in farm machinery and tools for loan at moderate rates so that possibly a new branch of business might spring up in this direction, very similar to circulating libraries. The difficulty in regard to some implements, as it strikes us, would be that all the farmers in a neighbourhood would want them at once. It is however, a subject well worthy of

being considered, and having laid it before our readers, we commend it to their best consideration.

### WORK THE LOWER FARM.

Under the above appropriate heading a correspondent of the *Country Gentleman* counsels his brother farmers to get up the soil from below the present working soil, and render it available for tillage. He says there are two ways of doing this, both good; you may bring up part of the under soil and use it for years mixing it with the top of your other soil; or you may bring it up all at one time, burying the other beneath it. The latter is recommended as the best way where there is time and it can be afforded, but since this course would give as the immediate result a raw fallow, atmospheric action and manuring would be required to bring it into good tilth, but ultimately there would be thus obtained a fine, deep, rich seed bed fit for the reception of any seed, and certain to yield a profitable return of any crop desired.

We earnestly echo the advice to *work the lower farm*. Not a few appear to be in blissful ignorance of the fact that they are proprietors of two farms, an upper and a lower one. In all their operations they have had to do with what Mechi calls, "the agricultural pie crust," some five inches deep. This is only the upper crust. All good pies have an under crust also, and in many cases this is the better crust of the two, soft and saturated with valuable juices. It is better to work the lower farm, than to do what many farmers are covetous of doing—*buy a second farm*. The lower farm involves no outlay of fresh capital, will not increase the taxes, and may be made to double the crops just as readily as a second farm might do it.

Beside the methods of working the lower farm suggested by the *Country Gentleman's* correspondent the same result may virtually be secured by using the sub-soil plough. This implement loosens and mellow the lower stratum of soil without throwing it up to the surface. While in the hard pan condition it is impervious to moisture, and uninfluenced by the fertilizers that may be applied to the top soil, but when loosened and mellowed it is accessible to both moisture and manure. By one or other of the methods above described—either by putting the common plough down a little deeper every year, or by boldly throwing up several inches of the lower soil and making it exchange places with the top soil; or by the use of the sub-soil plough. Every farmer should avail himself of the lower farm, which underlies his upper one.

The advantages which are certain to result will be, more room for the plant roots, more nourishment for them, a better condition of the soil owing to its

depth, and consequently a larger yield. A second advantage will be that such a course will be found to be almost as good as drainage for carrying off superfluous moisture. Finally, in a dry time, the upper soil will act the part of a mulch to the soil below, and while crops that have only had shallow tillage will be parched and dried up, those that have had the benefit of deep tillage will be vigorous and flourishing.

### STEAM PLOUGHING.

The New York Farmers' Club appointed a committee to visit Paterson, N. J., to see the operation of a new steam plough. We make the following extract from the committee's report:

We found the engine at the race track, near Paterson, hitched to a gang of seven ploughs, and breaking a tough old sod. It consists of a steel boiler hung between two driving wheels, with a small driving-wheel in front, over which the engineer sits. The cylinder, six by ten inches, as also the cog-work connecting the pistons with the wheels are concealed behind the wheels and below the boiler. The striking feature of the engine is the rubber tires; these are six inches thick, and are riveted to the wheel, but are made a little smaller, and by stretching before going on, the contraction holds them tight. They are made of gutta percha, combined with antimony. The rubber is the best from Para, and the curing with the antimony gives a better and more durable product than any made in this country. The rubber tires are capped or protected from the wear of the road by a steel chain or reticulation so hinged as to yield when the tire yields, and come out when the release of pressure brings the rubber out to a perfect circle. Now for the operation of these remarkable and ingenious wheels. The engine weighs six tons. When running without a load there is a pressure of three tons on each wheel at the point of contact with the earth. This weight flattens out the rubber; so instead of a line of contact an inch in width, as with the iron rim, the pressing surface is nearly a foot. When a load is attached the backward strain compresses the rubber still more, giving a larger and larger friction-surface. In this way the grand problem in traction engines is mastered—the power of the engine is exhausted before the wheels slip on an average firm surface. This elasticity of the wheel enables it to pass over soft places with but little sinking, and it relieves the jolt from stones. Soon after we reached the field the engineer turned his starting-bar, and we saw the amazing and hope-inspiring spectacle of an iron horse moving steadily over the sward and dragging seven ploughs that turned seven as even, regular furrows as fourteen of the best plough horses in the Empire State could turn. The performance we say shows, as we think, this important truth—that we have offered to American farmers a motive power that can pull as hard as 14 horses and on a uniform surface can so continue for a day to move and to plough seven furrows a foot wide and eight inches deep. The cost of this work will be the wages of men, the price of half a ton of coal, and the interest on \$5,000.

### RENOVATING PASTURE LANDS.

Something has to be done for the renovation of old pasture land, for as the country grows older, pastures upon which cows are kept depreciate in productiveness. The dairy farms of Ohio, many of them at least, will not now keep more than two-thirds the stock they would fifteen or twenty years ago. The reason for this is, not much more than half of the products the soil consumed by cows is returned to the land again, the herd being driven from the field at night and not returned until next morning.

Pastures upon which sheep are kept do not lose their productiveness, but generally increases in fertility, and when they do not improve it is owing to being overstocked, the injury then arising from the sheep gnawing so closely that the roots of the grass are exposed and die out.

The question arises, how are pastures upon dairy farms to be renovated? To manure them would require more expense than most farmers would like to incur, and to plow them, in most cases, would be out of the question. On large farms improvements may be had by stocking one-half of the land with sheep and the other half with cows, and alternate changes made every spring; but the cows and sheep should in no case be allowed to run together, and the farm should be lightly stocked.

On the small farms where the husbandman is compelled to use his entire pasture for cows, to make a respectable sized dairy, there is a greater difficulty. It may be done, however, in two or three different ways.

First. By an entire change from cows to sheep, and from sheep to cows again, every few years, retaining, of course, a cow or two for family use. But this is not generally a profitable mode, for when a dairy of well chosen cows is sold, it requires considerable risk and expense to establish it again.

Second. Renovation may be done and the cows kept upon the farm without great expense, but it will require considerable labor and care. Keep the cows upon the pasture night and day as much as possible during the summer season, and in winter fodder hay upon the poorest spot, when the ground and weather will admit of it. It is best to feed in the morning, turning the cows from the stable before giving them anything to eat except grain. This will greatly improve grass land, but we would not advise farmers to practice it except when the weather is clear and the ground frozen so, that no feed may be lost.

Third. And perhaps the best mode is to save all the manure possible by scraping the cowyard, the use of muck, composting, etc., and top-dressing certain portions each year in the fall, and giving them a good harrowing as soon as the ground will do in the spring, at the same time stocking with a few quarts of timothy and white clover seed. Seed from the barn floor, sown in the chaff, is as good as any.—*Ohio Farmer.*

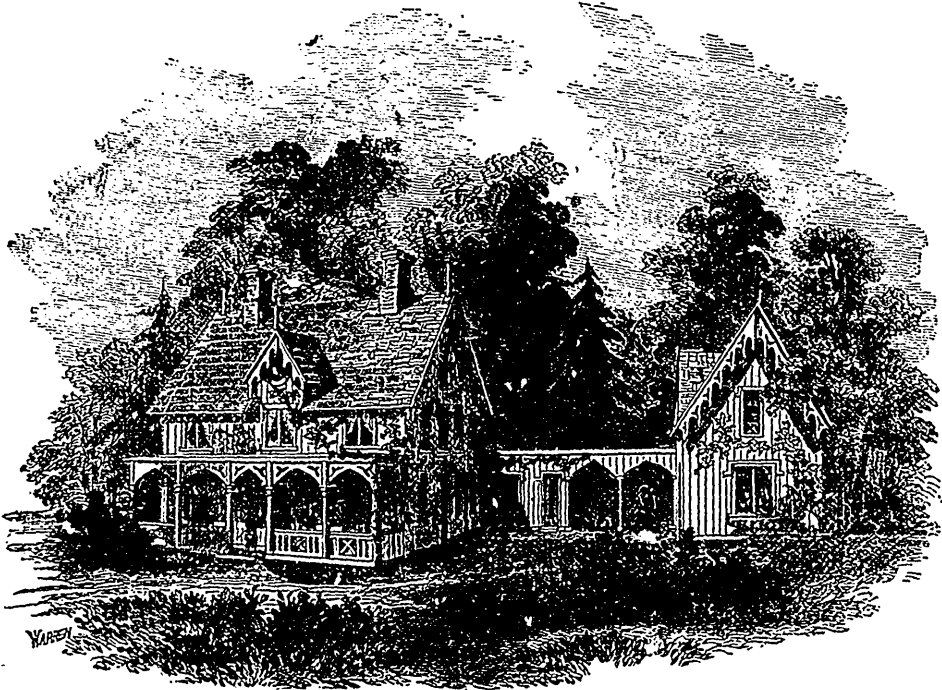
## PLAN OF FARM HOUSE AND HORSE BARN.

We give herewith the picture of a farm-house and horse-barn with accompanying description, for which we are indebted to our contemporary the *North Western Farmer*. It combines, in our view, tastefulness of appearance, amplitude of accommodation, and convenience of arrangement in a very high degree. The connection of the house with the barn and outbuildings is not at all essential to the plan of the house; neither is the porch or the dormer window. We prefer a plain roof, and believe that the garret should be used as a sleeping apartment only from absolute necessity, especially during our hot summer seasons.

No. 1, the veranda, is 8 feet wide, and extends

pantry, filled up with sink and shelves; No. 14, is a dairy 6 feet by 13. From the work-shop a door opens into the wood-house, No. 15; this is 13 feet by 16, and connects with the open carriage-shed, No. 16, 13 feet by 24.

The barn is planned as follows: No. 17, passage leading to the privy and to the covered portion of the pigsty, No. 18. No. 19, is the yard connected; No. 20, is a hen coop, 9 feet by 18, fitted up with a couple of rows of rests, and opening on the hen and stable manure yard, No. 21; No. 22, contains stalls for three horses, with feeding troughs in front; No. 23, is a carriage-shed and harness room, 18 feet square; at No. 24,—in the yard,—is a pump, with a horse-trough attached.



across the whole front of the house; it opens into the main hall, No. 2, which is 11 feet wide and 24 feet long; No. 3, is the parlor, 16 feet square; No. 4, living room, 16 feet by 20, furnished with a large closet, No. 9, under front stairs. Crossing a small passage, No. 8, where is also a door leading to the yard, we reach the kitchen, No. 5, measuring 16 feet by 18, and containing a large oven and fire-place; No. 6, is a large store-room, 8 feet by 9, opening directly into the kitchen; No. 7, is a bed-room, 15 feet by 16. At No. 10, is another entry, 3 feet wide, leading to the yard; here are also stairs to the chambers and cellar; No. 11, is a scullery or wash-room, 8 feet square, with a chimney in the corner; No. 12, is a tool-room and shop, 8 feet by 13; No. 13, is a

The second floor contains six bed-rooms, besides bathing room and closets. The attic may be left unfurnished, and used for storage.

## FARM GLEANINGS.

A farmer in Boon County, Mo., says his oat ground ploughed in the fall produced one-third more than that ploughed in the spring.

The Briggs Brothers, of Marysville, Cal. have cultivated the present season about one hundred and fifty acres of castor beans. Somebody has got to suffer.

A correspondent of the *Maine Farmer*, says, "Were the average product of hay per acre in Maine one ton, we should enjoy a higher state of farming than

we now do. Far too many farmers get from one-fourth to one-half ton per acre."

A correspondent of the *Rural World* says that by placing any of the larger seeds on a hot pan or griddle, if the vitality is perfect, the grain will pop or crack open with more or less noise. Where the vitality is lost, it lies immovable in the vessel.

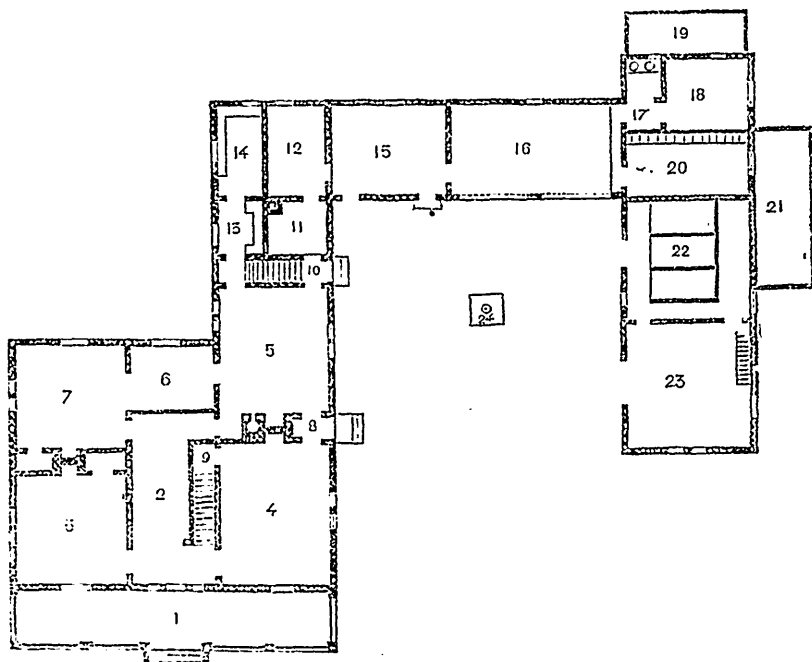
In his late "Walks and Talks," Joseph Harris says he has but very little faith in any improvement in farming until we drain our land and work it thoroughly and repeatedly to kill weeds, and make all the manure we can."

Hon. Judson Lee, who was raised a farmer's son on the Pelham, Mass., hills, but was afterwards Mayor of the city of New York and member of Congress once remarked, "My father left me an independent fortune—fifty cents in money and industrious habits."

choke. "This tuber contains starch, some saccharine matter, tannin, and perhaps phosphate, and is certainly equal to the turnip. It costs much less to raise it, and the crop is sure."

A New Hampshire farmer is reported to have threshed, with a flail, two bushels of wheat for seed. These two bushels were sown in the same field and with the same conditions as seven bushels of machine threshed seed. They were found to yield one-third more per bushel than the machine threshed. There is a very general opinion that machine threshed wheat is somewhat injured for seed. If such injury is to anything like the extent indicated by this experiment, it becomes a matter of great importance.

STONY FARMS.—I wish to call the attention of farmers on stony farms to the benefit they can meet with by using a scraper and plow. Make a



Don't let the moss gather on the roofs of your buildings. It may be ornamental to some eyes, but not very beneficial to shingles. They will rot fast enough by the moisture it retains; so sprinkle some fine lime upon them just before a rain, and you will be surprised to see how clean it can be taken off.

Horace L. Emery says in the *Country Gentleman*, that any ten average horses, with five ploughs turn over twice as much land for ten hours per day as any ten horse power engine can do in the same time, field and soil, the engine to travel over the field and pull its ploughs after it, as the horses do theirs.

A writer in the *St. Louis Journal of Agriculture* says that the only root that can be recommended for Missouri, Kansas, and other Western States, fully adapted to the climate, never failing, yielding immense crops, requiring little care, and tolerably well liked by all kinds of animals, is the Jerusalem arti-

hole in the centre of the field, or as near as may be (in some low place is best); fill with stones; when filled make another, close to it, cover the first, and so on, as long as you please. No piles in sight or to make, when done—but dry land.—*Cor. Country Gentleman.*

Mr. LAWES, of England, who has been conducting a series of experiments for twenty-seven years in wheat culture, has produced the following results: One piece has had no manure; another has had a plentiful supply of barnyard manure; and the third has had a liberal allowance of ammonia and other artificial manures. Each of these plats has been cultivated in wheat every year. The first piece, with no manure, produced in 1844 fifteen bushels per acre, and this year (1870) the yield was precisely the same. The second piece yielded in 1844 twenty-two bushels per acre, and in 1870 thirty-six and a half bushels per acre. The third plat yielded this

year forty-five and a half bushels per acre—the first yield on this plat not being given. In 1863 (one of the best wheat yields in England) the pieces yielded respectively 17½, 44, and 55½ bushels per acre.

A CORRESPONDENT of the *Agricultural Gazette* says that, as a rule, the sugar beet does not grow as large as the mangel, and therefore to ensure the same weight per acre more must be grown. To make this plain, he presumes that in an ordinary crop of large mangel there will be from sixty to eighty roots to the perch. Now, in sugar beets there should be about two hundred roots to the same area. This increase of the individual roots will compensate for their lightness, and the gross yield of the sugar beet will probably be as great as that of the mangel. Already they are running each other pretty close in the Lavenham district. The heaviest crop of sugar beet this year weighed in the gross thirty-one tons, per acre. The best crop of mangels weighed one ton less, or thirty tons per acre. Weighed without tops the mangels reached twenty-four tons per acre, and the sugar beets twenty-one and a half tons. The number of mangels per perch was one hundred; sugar beets, two hundred.

A farmer in England, who has been for many years using salt extensively as a manure for various crops, says that he applies it as a top-dressing for his grain crops, in the month of April or May, as the season may be, by sowing broadcast three or four cwt. per acre, taking care to do this after sunset. If the young plants should appear sickly an turn yellow, it is a sign that the wire-worms or grubs are making roads upon them, and he has always found the application of salt to exterminate these destructive insects. He says that the yield of wheat per acre is four bushels more from the salted than from the unsalted land, when all other circumstances have been precisely the same; and from the salted land he gets a much bolder, brighter, and heavier sample of wheat, and the crop has been entirely free from rust, blight, or smut. To fallows he applies from 6 to 1,000 pounds per acre, sown broadcast, as much before the time of sowing the seed as circumstances will permit, in order that the salt may, in the different workings of the land, get thoroughly incorporated with the soil; and then he finds that hurtful insects will not generate in it. He applies from 8 to 10 cwt. of salt per acre, in December or January, to land intended for potatoes. In about two months afterward he dresses the land with lime, and in the proper time prepares the soil for the seed by deep plowing, harrowing, and rolling the open drills; and spreading of manure in them after the seed has been deposited, then closing the drills and rolling. He gets excellent crops of potatoes by this management.

#### A MODEL STABLE KEEPER.

An exchange is giving an account of one of the best Livery stables in New York, says the proprietor of the establishment is extremely particular as to the men he employs and the following are among his rules:—

"First—No man will be employed who drinks intoxicating liquor. His men, like his horses, must drink water—cold water only.

"Second—No man must speak loud to any of the horses, or in the stable where they are. Horses of good blood are nervous; and loud, excited conver-

sation is felt by every horse in the stable, who hears it. Excited words addressed to one horse are felt by every other horse who hears them, and keeps them all nervous and uneasy.

"Third—No man may use profane language in the hearing of the horses. They are gentleman's horses, and understand what profane language, and the excited tones which accompany it mean."

The last is no doubt an excellent regulation, though the reason assigned is somewhat ambiguous, and rather hard on the "gentlemen."

## The Live Stock.

### WINTERING BEES.

FROM A PAPER READ BEFORE GRAND CHUTE, WIS.,  
FARMERS' CLUB, BY A. H. HART.

To winter bees successfully it is very essential that they are in good condition for wintering. Practical apairians differ quite considerably in their mode of wintering and the kind of hive to winter in. It is not my province to say which is the nearest right. I only feel at liberty to give you my method, after forty years' experience, and leave you to inform yourselves of the different plans and then judge of their merits.

First, all practical bee-keepers will agree with me that it is essential to have a hive contain a good colony of bees, a good supply of honey, not too much of the latter. A large supply of honey in a hive at this time of year is rather suspicious.

All things being equal I say winter on the summer stand or outside, shielding them from the north and west winds. It may be that some are using hives that they cannot determine the condition of the bees. To such I would say bury them or put them in a dry cellar.

I am often told (and very truly) that the old fashioned straw hive or gum are the hives to winter bees in; and why? because they are warmest, a very essential quality, and that is about all that can be said in their favor. A hive constructed to meet the habits of the bees and the wants of their nature should be warm and well ventilated. They will then winter there just as successfully in good condition for wintering. Let it be remembered that bees consume less honey in the ground or cellar than out. If you wish to winter a small colony or one that has but little honey, do not think of wintering out. But swarms in that condition, by practical bee-keepers, are considered of but little value, though they may get through the winter alive. The great objection to wintering in the ground or cellar, is the liability of the comb to mold, and if so is unhealthy for the bees.

A large amount of ventilation is indispensable, but outside wintering requires much care in the ventilation of the hive. Many fatal mistakes are made. The hive should only be ventilated on the top, or but little at the bottom. If too much at the bottom a current of air is produced detrimental to the health of the bees.

Ventilate the top according to the size of your swarm. In conclusion I would say that bees may be successfully wintered in almost any hive, outside, if you observe the following rules, viz: plenty of bees and honey, upward ventilation and keep

dry. Bees never freeze when the above conditions are complied with. Should they get damp by their own breath or otherwise, they will either freeze or starve. Hence with strong swarms, good hives, properly arranged, you will surely succeed.

#### BEE-KEEPING— OF THE PAST SEASON.

It will be remembered that 1869 was one of the poorest seasons we have known in Canada for many years, so much so that during the winter, over half the bees in the country perished for want of stores; hence the spring of 1870 opened with the number of stocks greatly reduced, and many of them in nearly a starving condition. But as 1869 was one of the poorest, so, on the other hand, 1870 has been one of the best honey seasons for several years. The result is, that bee-keepers find their loss made up in numbers and their stocks in fine condition, while nearly all have taken some surplus honey.

There was, however, in many sections, a drawback experienced in the Spring. The dry weather causing the honey harvest to fail, soon after the drones made their appearance, they in many cases killed off by the workers, though this did not affect the gathering of honey, as drones do not gather honey; yet it retarded swarming, as the rearing of queens will not commence to any considerable extent when such is the case, and swarming is delayed until another set of drones are sure to make their appearance, the queen always laying drone eggs again as the honey harvest improves. In all sections where this was the case, more or less swarms came off too late to gather sufficient stores, except in cases where they were put into hives containing old or empty combs. Fortunately for such swarms, there were a large number of such hives this season, owing to the great loss of bees last winter. It is always to be regretted by every bee-keeper when anything occurs to retard swarming in this country, as there is so little Fall pasturage. In the section of country where I reside we have nothing growing from which bees can gather anything worth mentioning after the end of August. If they hold their own during September we are quite satisfied; but in sections where buck-wheat is grown it is different. The amount of honey gathered this season, I believe, is greater than for several years. The amount taken from single stocks far exceeds anything ever before recorded in Canada. This, however, is partly owing to the introduction of the honey extractor, as by using it more honey may be obtained from a stock that would be stored in boxes under the most favourable circumstances. In order to use them, however, bee-keepers must use frame hives, and become accustomed to handling their bees. The demand for Italian bees is fully equal to any previous year, and the reputation they have gained for being better workers is generally well sustained. Many are Italianizing their entire stock, and will keep no others, while others are satisfied with simply crossing. And it certainly is a great improvement to the stock to cross them with Italians, for the hybrids are fully equal to the pure, as honey gatherers.

The demand for frame hives is gradually on the increase, for several new patterns—new in some features of their construction—have been introduced; and one is led to believe that, ere long, the market will be flooded here, as in the United States, with a "thousand and one" hives, many of

which are not worth the expense of making. As a whole, the interest taken in bee-culture has been as fully maintained as in any preceding year, and the Fall has been exceedingly mild, that the season of 1871 will open under very favourable circumstances.

Though we have had some drawbacks in this country not experienced in many of the United States, yet we are holding our own with our American bee-keeping brothers very well; and though we may not as bee-keepers make quite so loud a buzzing, yet we gather about as much honey. True, they have several journals devoted principally to the interests of bee-culture (for which the *American Bee Journal* is prince), and bee-keepers' associations are organized in several of the States; yet, in point of scientific knowledge, we are as a community of bee-keepers not a whit behind them. We have our yearly meetings known as the "Ontario Bee-keepers' Association," which is held at the time and place of the Provincial Fair. Though we have no journal devoted entirely to the interests of the bee-culture, yet the *Canada Farmer*, in the Dominion, has an apiary department, and several of our leading agricultural and secular papers devote a column to the interests of bee-culture. May we not hope to see the day when Canada shall be the "land that flows with milk and honey?"

J. H. THOMAS.

Brooklyn, Ont.

#### BIRMINGHAM CATTLE AND POULTRY SHOW.

The Birmingham and Midland Counties Show took place during the last week of November. The entries in all the classes were numerous; but, with some few exceptions, the individual excellence of the animals, says the *Mark Lane Express*, was scarcely up to the high standard one looks for at such an exhibition.

The first prize in the Shorthorn class was won by Mr. Pulver, of Kettering, beating the Earl of Aylesford, who gained the highest honours at the Smithfield Club Show of 1869. The Herefords, we are told, were not as good as usual. Mr. P. Turner, of Lean, obtained the first prize for the best steer, and Her Majesty the Queen the third. The Queen also obtained the first prize for the best Hereford Heifer. The Devons were remarkable good, and as usual of very even excellence.

In the polled class Mr. McCombie, of Tillefour, was beaten by Mr. Heart Harris, of Earnshill, near Forres, Morayshire, though he showed the brother of the famous Black Prince, that carried all before him at Smithfield and Birmingham in 1869. The present steer, shown by Mr. McCombie, is equally fat with his celebrated predecessor, and of exactly the same girth—9 feet 10 inches—but has little beyond his size to recommend him, and rightly gave place in the prize list to Mr. Harris' well proportioned and finely built ox. Mr. McCombie was deservedly successful in winning the first prize for the best cow of the same breed, which has so long been a speciality with him.

In the sheep classes, Lord Walsingham's South-downs and Mr. Berners' Leicesters, as usual carried off the honours.

The show of pigs was better than usual in all except the class of large breeding pigs. The best fat pig, which the *Mark Lane Express*, our authority throughout in this report, pronounces almost "per-



fect," was exhibited by Mr. Duckering of Northope, Lincolnshire.

Mr. R. Fowler, of Aylesbury, was winner in the class of Berkshires. The whole of this class was so mysterious that the judges nearly came to the conclusion of commending all the pens. Her Majesty obtained prizes for some excellent pigs of the Windsor (Suffolk) breed.

Of the show of poultry we have not yet only a passing notice. The following are the weights of some of the principle pens:—Ducks, white, Aylesbury, drakes and ducks, first, 18 lbs. 9 oz.; second 18 lbs.; third, 17 lbs. 16 oz.; fourth, 18 lbs 4 oz. Rouen, drake and duck, first, 9 lbs. 4 oz.; second, 10 lbs. 6 oz.; third, 18 lbs. 2 oz.; fourth, 17 lbs. 4 oz. Geese, white, exceeding one year, gander and goose, first, 58 lbs. 12 oz.; second, 56 lbs. 5 oz.; ditto birds of 1870, first, 49 lbs. 4 oz.; second, 49 lbs. 1 oz. Gray and mottled gander and goose, exceeding one year, first, 62 lbs. 6 oz.; second, 54 lbs. 6 oz.; ditto, birds of 1870, first, 53 lbs. 6 oz.; second, 49 lbs. 1 oz. Turkeys, cocks, over one year, first, 36 lbs. 4 oz.; second, 35 lbs. 2 oz.; ditto hatched 1870, first, 24 lbs. 6 oz.; second, 23 lbs. 12 oz.; hens, exceeding one year, first, 31 lbs. 4 oz.; second, 29 lbs.

There was a good show of roots, the display of potatoes being remarkable both for the number of entries and varieties, and the excellence of the samples.—*Globe*.

#### CLIPPING.

Many horses have the very unpleasant habit of striking the toes of the hind shoes against the fore shoes. Most horsemen will agree that it is a fault belonging to some of the best, as well as the worst. It more frequently occurs with young horses, and they often clink on the turf or soft ground, and not on the road. It arises from the too great activity or length of stride of the hind legs; the fore feet are unable to get out of the way in time; therefore anything which detains them, such as a soft or heavy soil, must assist the practice.

The principal point to be remedied is the intolerable noise, from whence the evil derives its name, and this is often effected by making the hind shoes square at the toe, and leaving the toe of the crust somewhat projecting over the shoe, by which plan the crust receives the blow, instead of the shoe, and does not make any noise. It sometimes happens that, from the repetition of these blows, the crust is worn so thin at the toe as to produce or threaten lameness, in which case the plan of shoeing mentioned must be desisted from, and we must put up with the noise to avoid the greater evil.

When a square-toed shoe fails in preventing clicking, it will sometimes happen that a shoe pointed at the toe will succeed, which no doubt arises from the circumstances of the shoe, having so small a surface to come in contact, it may therefore fail to strike the fore shoe, but may go within, or by side of it.—*Practic Farmer*.

#### WORKING BULLS.

A correspondent of the *Carolina Farmer* writes that paper strongly favoring the plan of breaking bulls to work. He says;

I find my bull and cart of the greatest service—doing in part almost the work of an odd horse.

While the horses are plowing or hauling, the bull and dump cart and a boy that could not manage a horse, can do the milling, hauling to and from the depot, and all the hacking about, which has to be done, and is generally done at the expense of regular farm work.

The same bull and dump do the shifting of manure in composting about the barn lot, haul all the litter—carry articles to market—carry the children to ride—haul dry wood and chips from the woods for the cooking stove, and in short are useful generally—and the bull costs but little when at work and next to nothing when not at work; while a horse that would do the same work and be the same convenience about the farm would cost four to five times as much to begin on and could not be kept on less than five times the money it takes to keep the bull. And if one does not wish to keep a bull, a steer or milch cow will do very well. I am sure that whoever finds how convenient a thing and cheap a thing a steer and dump cart in about a plantation, will not be without them.

#### CLIPPED HORSES.

Having had some experience in using clipped horses, I would say in answer to an inquiry that, should good treatment prevail in the stable, it is just the thing.

I had a pair of sound mares, heavy coated, that could not be driven more than five miles an hour without sweating and remaining wet all through the next night; and I could not get them to carry enough flesh to look well. I had them clipped—took good care to have them well blanketed, both in and out the stable—saved one-third the quantity of the feed that I had previously given them, and they got in fine condition—never got any cold, and I could let them travel eight or nine miles an hour without fatigue.

I believe that no man can do better than to have his driving horses clipped, provided he uses them as horses should be used, which excludes the owner from carrying "steam" in his hat, and leaving them out, tied to posts, at night.—*Cor. County Gentleman*.

#### COLIC IN HORSES.

A writer in the *Turf, Field and Farm*, says: "There are of course various forms of colic, and a protracted attack will often produce complication, which require skillful treatment, and the presence of a veterinary surgeon. The remedies here offered are for the most frequent and easily distinguished cases of flatulent colic.

"One simple remedy frequently very effectual, is two ounces or four table-spoonfuls of saleratus in a pint of strong ginger tea; another, a pint of warm salt water, with an enema of the same; the injections will often bring away large volumes of wind; another, one ounce of camphorated spirits in a pint of sweetened water. These may be obtained in town or country at almost every house, when other prescriptions requiring preparation may not, be easily got. I add all these drenches, all of which I have used with good result.

1. Sulphuric ether, one ounce; laudanum, two ounces; compound decoction of aloes, five ounces. Mix and give every hour until relieved.

2. Spirits of turpentine, two ounce; laudanum, one and a half ounces; one pint of sweetened water. Mix and give every hour.

3. Aromatic spirits of ammonia, one and a half ounces; laudanum, two ounces; tincture of ginger, one and half ounces; one pint of warm ale. Mix and give every hour.

The above are what might properly be termed allopathic remedies. The usual homœopathic treatment for colic is two or three doses of aconite; followed by arsenicum. After attacks of colic, great care should always be taken of the horse, in order that a relapse does not occur; proper attention being given to the food and water; warm bran mashes and water from which the chill has been taken, only being allowed."

### HOUSING STOCK IN WINTER.

The *Canada Farmer*, in an article on this subject, truly says:

The young cattle need a separate yard and need sheds with racks to themselves, where they will have room to move about, and not be kept in continual fear of the old cows and oxen, which should be kept separately in their stalls. Sheep should never be among other stock, but have large yards, with good sheds open to the south, if open at all. In any case, buildings that are used for young stock or sheep must be constructed as to allow of good ventilation at all times when necessary.

Another point often neglected, is the supplying light to animals that are kept in close confinement most of the time. We have frequently observed that horses kept in dark stables are always more liable to shying when they are driven out than those that have well-lighted stables. One can easily conceive that a horse brought out from a dark stable into the bright glare of a winter sunshine is partially blinded, and in fact, we believe much of the blindness common among horses is caused by constant sudden exposure to light every time they are taken out of their stables.

Nature has given light as one of her blessings conducive to health, all creatures having the organ of sight largely developed, and to deprive any of them of the means of exercising that faculty is sure to result disastrously in some form or other. It is noticeable how much less shying there is among horses in the summer than in the winter, which is probably due to their being more out of their stables during that season; and even when in their stalls, the doors are left open during the day time.

Still another point is that of constant cleanliness, both inside and out of their shelters. We believe much of the diseases prevalent amongst stock in winter can be traced to the want of cleanliness and pure air. Every yard and shed should be kept well covered with clean straw, and every stable and byre so arranged that the stalls and floors can be readily cleaned out, and the animals kept from accumulating filth on their bodies. What else could be expected than a general unhealthiness and want of thrift in animals that are living in an atmosphere that is constantly impregnated with bad odors and impurities.

**GRAIN FOR SHEEP.**—The best shepherds are generally in the habit of giving sheep extra attentions, in the shape of grain or roots at this season of the

year. If corn is fed, one gill per day is about the right quality; but just previous to lambing, oats are recommended as less heating. Half a pint will be none to much, and if feeding "mutton" sheep, for the purpose of raising lambs for early market, the quantity may be increased after a few weeks. Roots are an excellent addition or substitute, and of course, good hay should be supplied.

### HENS.

Hens are the forlornest of all created animals when it rains. Who can help laughing at sight of a flock of them huddled up under the lee of a barn, limp, draggled, spiritless, shifting from one leg to the other, with their silly heads hanging inert to right or left, looking as if they would die for want of a yawn?

One sees just such looking groups of other two-legged creatures in parlors, under similar circumstances. But the truth is, a hen's life at best seems poorer than that of any other animal. Except when she is sitting, I cannot help having a contempt for her. This also has been recognized by that common instinct of people which goes to the making of proverbs. "Hens' time ain't worth much," is a common saying among farmers' wives. How she dawdles about all day, with her eyes not an inch above the ground, forever scratching and feeding in the dirtiest places—a sort of animated muck-rake, with a mouth and alimentary canal! No wonder such an inane creature is wretched when it rains and her soulless business is interrupted. She is, I think, likest of all human beings, men and women, who do not know what to do with themselves on rainy days.

### SUCCESSFUL EGG CULTURE.

Aired Countryman of this place, Starkville N. Y. obtained from ten hens 95 dozen eggs the past year. This year from the same number (a young brood, the old ones killed off) 101 dozen, a fraction over in each case. The hens are a grade of the Black Spanish and Brahma, the non-sitting quality of the latter exhibiting itself in 6, and the hatching propensities in 4. The feed was buckwheat and corn, equal parts, given separately, and always before them. There was nothing unusual done otherwise; the hens have the common quarters of an outhouse, where, however, they were undisturbed.

The operation is a paying one as well as an accommodation of fresh eggs the year round. The trouble is mainly to get the eggs, which, in winter, have to be attended to on account of the frost. There are no children or dogs, or other prowlers, to worry the hens. The house and buildings are retired from the village.—*Cor. Country Gentleman.*

**BLIND STAGGERS IN PIGS.**—The question is asked, "What will cure hogs that are taken with blindness and that go around in circles for a time and then die? The disease is doubtless the blind staggers. Having had much to do in the raising of swine and the fattening of pork, I have ascertained, to my satisfaction, that too high feeding is the cause of the disease. As a preventive, withhold their food for a day or two, and feed them with sulphur and charcoal. Also bleed them a little in the ear.—*Joel Draper.*

## LIVE STOCK GLEANINGS.

Here's a novel cure for a balky horse: Fill his mouth with dry, loose dirt, take hold of his bit, and he will go if there is any go in him.

The *Ohio Farmer* names one-third as the amount of food saved by protecting animals from cold storms, compared with the amount necessary to keep them in the same condition when exposed.

At a late Exhibition of fancy pigeons and singing birds in New York City, a pair of Black Carrier pigeons was sold for \$210 cash. Another pair was valued at \$250. A single Pouter was valued at \$200.

A correspondent of the *Country Gentleman* strongly recommends Guenou's work on Milch Cows, and says that young stock, bought by him for dairy purposes according to the rules laid down by that writer, have invariably proved good milkers.

The *London Field* gives a list of stallions, famous as winners of running races, but who proved failures, or, at the most, only moderately successful in the stud. It says no one of the double winners of the Derby and St. Leger, has ever produced a winner of either race.

An Ohio Farmer says that the experiment with Ayrshire cattle was tried in the north part of that State 20 years ago and failed. The only popular blood stock for our dairies is grade Short Horns, and the most profitable of all are selected natives purchased in the Spring and turned over to the butcher in the Fall.

A correspondent of the *Country Gentleman* thinks he has found out that oats, although good feed for horses, should not be their only grain feed—that corn or corn meal had better be given half the time, or a mixture of oats and corn. He also advises feeding horses "twice a week, a mess of potatoes as a medicine."

In a "Letter from Moreton Farm" in *Heath and Home*, it is stated that a half dozen horses had died within a few days in one neighborhood near Rochester, N. Y. The deaths were attributed to eating new corn on the ear. The writer thinks corn not dry enough to grind is not dry enough to feed.

An Ohio hog-grower says that the following treatment will make the biggest hog out of a pig in 12 months. Take two parts of barley, two of corn, and one of oats. Grind them together; then cook and feed cold. He says it is the cheapest food, and that any pig of good improved breed can be made to gain a pound a day until a year old.

The *Country Gentleman* of Dec. 15th, says:—A recent note from Mr. Cochrane informs us that Star of the Realm is sold to A. J. Alexander, Woodford County, Ky., where we have no doubt he will be appreciated and do good service. Mr. Cochrane used Star freely last season, and is pleased with his get; so we presume it took a long price to remove him from Compton. Although a light roan himself, Star gets red roans and reds, and no light colors as yet.

Mr. C. L. Flint, who has imported one or two lots of the little Brittany cattle into Massachusetts, in speaking of them recently said: "Nothing is superior to the butter from Jerseys, so far as looks and texture are concerned; but is probably well known that it lacks flavor. The distinguishing

characteristic of the butter from the Brittany cow is a certain sweet, delicate, nutty flavor, which it is as much ahead of any Jersey cattle I ever saw, as the Jersey butter is ahead of any other in looks."

The *Poultry Bulletin*, remarking that a sheltered run for chickens is one of the secrets of success, says: "All that is needed is a simple roof along the outside of a tight fence facing the south. If the roof be three feet above the ground, it should be three feet wide. A fall of six inches or less is abundant. Such a roof affords shelter from all rains, except driving southeasters, and from sunshine in the day. It does not interfere with tending to the hens and coops; it keeps the earth dry beneath it, so that if ashes and sulphur be scattered in cavities here and there, the chicks will keep free from lice.

A Correspondent of the *Missouri Farmer* advises an inquirer for a remedy for garget, to "give the cow one teaspoonful of the tincture of arnica in bran or shorts three times a day, and bathe the bag thoroughly with it as often. Reduce the arnica for bathing one half in warm water, and bathe with the hand. I have a cow that has been troubled with the garget for more than four years. In that time I have given her over five pounds of saltpetre, without much effect. Last spring I tried arnica as above directed, and the cow has not had a sign of garget since."

The *New England Farmer* believes that an egg-hatching machine has at last been invented, which will do the work of a large number of sitting hens, better than the live animals themselves can do it. This incubator is in actual operation at 26, North Market Street, Boston, and our contemporary claims that it is "self-regulating" as to heat, moisture, and ventilation, and consequently will produce healthy, spry, and lively chickens. "So mote it be," say all poultry breeders.

FOWLS.—A writer in one of our Agricultural exchanges says:

"There is no trouble in getting from two to three hundred eggs every year from every hen, if one knows how."

Whereupon the *Rural American* says:

There is trouble in getting over one hundred eggs from any breed of fowls "every year." Our experience of 40 years, with 20 different breeds; and the experience of the whole world is, that no breed of fowls will lay, taking a series of years together, over about 100 eggs each annually. If one keeps 20 hens, and gets 2,000 eggs during the year he goes well. Frequently a single hen will lay more than 100 eggs in a year; but the average of a flock is as we here state.

A correspondent of the San Joaquin Valley (Cal.) *Argus*, gives the following new method of making butter, practiced at a rancho in Mendocino County: "While stopping at the farm, I witnessed a most novel and to me new method of making butter. While giving directions how to do it, my hostess detected my thoughts in my face—seeing is believing. 'Come,' said she; 'I will give you convincing proof.' I followed her to the milk-room; I saw her place a quantity of cream in a thick linen sack, then roll the sack in a large cloth, and place it in a hole which had been dug in the sand for the purpose. It was then covered up with sand and a board placed over it. The next morning, when removed, it came out as fine a roll of butter

as ever I saw taken from a churn. It required but little working, as the earth absorbed nearly every particle of milk. It is now five days old as I write, and just as sweet and solid as butter can be."

**SHOEING HORSES.**—Two gentlemen connected with the British army, Mr. George Fleming, veterinary surgeon, and Col. Fitzwygram, have recently published works on the treatment of the horse, and both energetically protest against the paring and cutting away of the sole and frog which often accompanies the operation of shoeing a horse. Nothing can be more barbarous than the carving and cutting of a horse's foot before shoeing, though on his skill in this many a farrier prides himself. The idea that the frog must not be allowed to bear on the ground—that the sole must be thinned till it "springs on the thumb," is a most pernicious one. On this subject Mr. Fleming's precept is: "The sole, frog and bars must on no account; or under any conditions, except those of a pathological nature be interfered with in any way with a knife or rasp." At each shoeing, the hoof must be shortened to its natural proportions, beyond which it has grown the proportions, beyond which it has grown the protecting shoe; it is this which forms the chief-difficulty of the work, and is the criterion of the good workman.

## The Garden.

### HYACINTHS.

Hyacinths may be classed among the most beautiful and interesting flowers we have. They may be cultivated in the garden, or in glasses, pots and vases, in the house, with equal success.

When cultivated in the garden, the bulbs should be set in October and November. The soil should be light, rich, and well drained, for if planted in heavy, wet ground, the bulbs will have a tendency to rot. The bulbs should be set about six inches apart and four deep. As cold weather approaches, the bulbs should be covered with leaves, straw, or any coarse litter that may be handy, to the depth of five or six inches, in order that the severe frost may not penetrate the roots. The covering should be removed as soon as the shoots begin to show in Spring, and the earth should then be gently loosened around the plants. In about a month the garden will be made beautiful with their blooms.

When Hyacinths are planted in pots, there should be a good drainage placed at the bottom. The soil should then be filled up to within an inch of the top of the pot, the bulb placed in the center, and nearly covered with earth, leaving only the crown visible. After pressing the earth rather firmly down around the bulb, it should be thoroughly watered, the top of the pot covered with moss, or some light material, and set away in a cool, dark cellar. They should be watered often enough to keep the earth moist. In this condition they

should remain for several weeks, the roots will then be well formed, and the pots may be brought to the light and heat by degrees, and water applied more freely. When in full bloom, water should be kept in saucers under the pots, but when the leaves begin to wither, the supply should be diminished, until the bulb is dry and fit to be removed from the earth.

Hyacinths succeed well in glasses. They should be placed so that the roots will just touch the water, not allowing the bulb to be immersed. Set them in a dark, cool place,—the cellar is best,—letting them remain two or three weeks; the roots will then be formed, and the plants may be removed to a light and moderately warm room. They should not, however, be placed in the sun until the leaves have become a dark green. If the water becomes impure, it should be changed. This should not be done too often, as the roots must be disturbed as little as possible—once in two or three weeks will answer every purpose.

When in bloom, hyacinths will last much longer if kept in a cool, light room, than in one where the atmosphere is dry and overheated. The bulbs of those that are grown in water are worthless after one flowering, but those raised in pots may be planted the following year in the garden, and make a very pretty display, though by no means equal to that made at the first blooming.

### THE VERBENA.

At this day there is no class of plants that excels the verbena as a bedding plant for masses and fanciful beds; and on lawns its brilliant flowers of many colors form a fine contrast with the green grass. No class of plants is more generally cultivated or more eagerly sought after than this beautiful family. It is the pride of the green-house during the spring months, and acknowledged by all as the reigning beauty of the flower garden during the summer and fall months, and is certainly worthy of a place in every flower garden, however small it may be.

The verbena is a native of Buenos Ayers, and was introduced into England about 1825, and imported into this country in 1835, creating quite a sensation amongst the florists of that day, and it has ever since maintained its position in the front rank as a florist flower. Great improvements have been made in the last few years in the size of its flowers, and in the form of its truss; much improvement has been made in the great variety of its brilliant colors: crimson, scarlet, white, lilac, blueish-purple, and purple, in all their intermediate shades, with eyes of crimson, rose, purple, white,

and light-yellow, although no good yellow has yet been produced. In some varieties there are some fine striped and spotted colors.

It readily adapts itself to all kinds of soil, enduring our hottest sun without injury; is of the easiest possible culture; it may be grown from seed, or propagated readily from cuttings. When grown from seed, they may be sown in the open air during the latter part of April or the first of May, in a

shoots, which may be rooted readily in light, sandy soil, kept moist, with a light bottom heat, in a hot-bed frame, they also readily rooted in shallow pans or saucers, with just sufficient sand to keep the cutting erect. When rooted according to the latter method, they should be flooded with water to the depth of half an inch above the sand, and kept in sixty to seventy degrees of heat; they will be rooted sufficient to pot off in three or four days.



well prepared bed, and transplanted to the flower border as soon as large enough; or sown thickly in shallow boxes of light soil, in March, and kept moist and warm until of sufficient size to transplant to the open ground, as soon as warm weather sets in. They will commence to bloom by the latter part of July. For a continued bloom during the entire season, they give the best satisfaction when grown from cuttings of the young

The reason why many fail to keep them over winter is, they attempt to keep the old plants. Layers, or old plants are kept through winter with difficulty not even keeping well in a warm cellar. Plants rooted from the young points may be kept readily in a green-house or warm room, near the light where they may be kept growing during the winter.

For amateur growers, the most economical way is to purchase a few dozen plants from a florist each spring; such plants are to be had, usually, at a low cost. Small young plants turned out of the pots into the flower border in May or June, soon make fine plants, two or three feet in diameter, and continue to bloom long after frost has set in. For the benefit of beginners and those unacquainted with their culture, I will describe the mode which has given me the most favorable result. I endeavour, if possible, not to plant in soil where they have been grown the year previous. If the soil is not naturally rich, I manure with well rotted manure, mixing thoroughly with the soil, and planting young, thrifty plants as soon as the danger of frost is past. Plant them about three feet apart, and keep the soil loose and free from weeds. They soon occupy the ground, and afford a fine show of bloom. About the first of September, I cut back such plants as are wanted for propagating, manuring and loosening the soil thoroughly around them; this will cause them to make a new and vigorous growth. Pinch off the blossoms as they appear. Each plant will, by the middle of October afford a fine lot of young cuttings for propagation. These cuttings, I endeavour to have rooted and footed off in two inch pots by the first of November, using a clayed loam, prepared by taking the top sods from a pasture and composting, having them rotted and mixed with well rotted manure; I pinch the cuttings back occasionally, to make them stocky, and give attention to airing, keeping the temperature during the winter at from 40° to 50° at night, and not above 60° in the day time; fumigating not less than twice a week with attention to watering, such plants will afford from twenty to thirty fine cuttings, each for spring propagating. If the old plants are wanted for spring sales they would be benefited by shaking or washing the soil from their roots and repotting in fresh soil, as described above, placing them in a hotted or green-house, with a little bottom heat, airing them on warm days, which will cause them to make a new and vigorous growth, and bloom more profusely than if left in the soil they were grown in during the winter.

Ex. Cor.

#### WINDOW GARDENING IN WINTER.

The following practical suggestions from an article in the *Country Gentleman*, will be found to be timely and useful by such of our fair readers as have the good sense and excellent taste to grow house plants:

"We own seventy five pots of house plants, and flatter ourselves that we know a little about the treatment they require. There are some few plants which will grow and blossom with but little care or

attention—but with others constant care is needful. Among the former class, the Chinese Primrose takes front rank. It will continue in bloom from nine to ten months out of the twelve; and its pure white or rich pink and crimson flowers are a great ornament. So tenacious of life and health is the root, that if planted in cotton wool soaked with water and not allowed to wither for want of moisture, it will put forth its tender blossoms for months. It can be thus planted in a china vase or saucer, or in a glass dish, making a lovely ornament for a parlor or boudoir table. The cost of it is small; twenty-five cents will procure a fine plant, and its flowers are a certainty.

The Czar Violet blossoms all winter, and perfumes the air with its wondrous fragrance. The flower is single, its colour a light blue, but its sweetness is unsurpassed by its sister flowers.

The Double English Violets are of a deep, rich purplish blue, and will bloom for several weeks in a shady situation.

Bouvardias adorn a window garden for many months with a quick succession of buds and flowers of a rich coral hue. Bouvardia elegans, a new variety, possesses larger flowers, of a trumpet shape, and ripe red hue. Ours is just bursting into bloom, and is very beautiful.

The Begonias are also very desirable, as they push forth clusters of waxen details during all the gloomy winter season. Their glossy foliage is handsome, and they are rarely troubled with the pest of insects, which are so pernicious to all window culture of plants.

Belgium Daisies are very pretty dwarf plants, and additions to every collection.

The different variety of Cyclamens are particularly beautiful. The winged flowers hover like birds over the dark rich foliage of the plant.

All the above named plants will rarely fail to produce a good supply of flowers without much coaxing, and if we add a few of the variegated foliaged plants—some sweet geraniums and several varieties of the Zonale tribe—they will form a very respectable window garden, and not only give great satisfaction to their owner, but attract the lingering gaze of every passer-by, and give pleasant thoughts to a large number of people.

Flowers blooming in windows are far more attractive than either gorgeous upholstery or filmy lace. They possess a charm that cannot be estimated with the productions of man's hand.

The greatest difficulty which the amateur cultivator experiences in making her pets blossom, is in the dryness of the atmosphere. A moist air cannot be procured without a conservatory or greenhouse, and the leaves cannot be sprinkled daily, on account of spotting the windows, but we can sponge them over with a damp cloth or sponge. The leaves are the lungs of a plant; if they are not kept clear of dust, and the breathing pores well open, the plant dies of suffocation. Without a large amount of air light and perfect cleanliness our plants will not flourish but must wither away and die. Excepting in the coldest weather, fresh air must be given them every day, not letting it blow directly upon them, but by opening either windows or doors so that fresh, pure air can be freely admitted for at least half an hour. The best time to do this is in the warmest part of the day from 12 to 2 p. m. While

the family are at lunch or dinner the air of the room can be entirely changed. It is well to open the window both at the top and bottom, for the bad air rises. This supply of pure air is quite as essential for human life as for plant life. Impure air kills more of our children than any other disease—in truth it breeds it, is the chief cause of diphtheria, fevers, &c., &c. to the end of the sad catalogue of aches and ills. So let the windows stand open, daily, fair friends, and increase the vigour and health of your family, as well as of your flowers. There is an art in watering plants to which few amateur florists attain. Unless they are really thirsty they do not require water; and to keep the roots in a soak is not healthy. A large hair pin will stir up the soil, and you can easily determine whether water is needed. Give it liberally, but do not let it stand in the saucers, excepting for the Calla Lily and Lobelias; they require moisture to thrive on; and if the former is set in a large pan of water, and it is kept filled, it will flower profusely all winter. This really beautiful lily is of the easiest culture, and our Southern sisters could make it grow rapidly in a little fountain or vase of water. It is by nature a water bulb. Plants which are in full bud and flower require more water than those not in such vigorous growth. Never apply one drop of water which is not warm to the hand—cold water chills the life out of many a fair flower.

The rain in summer is always warm to the hand; so must the water be which is given in winter. All plants kept in windows should receive a bath at least once a fortnight during the whole season. A bathing tub or a "tin hat," answers our purpose well. Set in the pots and shower through a fine watering pot. Scrub off the pots, wash out the saucers, and have a thorough cleaning, and set them in the kitchen to drain. If Bridget or Dinah is mistress there, this may be a source of trouble, but if not, why it is done easily. If a newspaper is thrown over a stand of plants whenever the carpet is swept, it is a great help to the plants; but minute dust will settle upon them, and a good washing is its only remedy. Newspapers play an important part in our window gardens. When the cold, frosty nights come, we use them to protect the branches from the chilling night air, and insert several thicknesses of them between the pots and the sashes."

#### THE PROFITS OF GRAPE CULTURE.

We find in *Heart and Home* an account of the cost of growing and selling the grapes from 2 73-100 acres of vineyard, which we transcribe for the benefit of those who are interested in grape culture. The cultivator puts down the cost of cultivation from the time of gathering the grapes the previous autumn to the commencement of picking this year at \$223 51. This includes cultivating, hoeing and pruning, and 800 pounds of ammoniated superphosphate of lime applied to parts of the vineyard. The cost of picking, packing, and marketing, including freight and commissions and wear and tear of crates, he gives at \$227 88, making total cost for the year, \$461 39. His crop of grapes was 14 500 lbs., for which he received \$635 37 profits. In this he does not make any charge for rent of land nor taxes, nor for taking the grapes from the vineyard to the railway station. His vineyard contained 2,000 vines in bearing and 250 younger vines. They are mostly Concords, a few, about one-tenth, Delawares, and

some Hartford Prolific, Diana, &c. His first Delawares sold at 20c. per pound, his first Concords at 10c., his Delaware's falling to 10c., and his Concords to 6c., before the close of the season. He had about 12,000 pounds of Concords and 1,200 pounds of Delawares, the remainder being divided by some eight or nine other sorts. By this it would seem that it cost him about 3 1-5 cents to grow and market a pound of grapes; that the average gross receipts were about 7½ cents per pound; and the net proceeds about 4 1-3 cents per pound, or \$232 per acre.

These grapes were marketed in the city of New York. We wish some of our readers who marketed their grapes here would give us the results. We are frequently asked if grape-growing will pay, and only those who have had experience can satisfactorily answer the inquiry.—*Globe*.

#### NEW SYSTEM OF ROSE CULTURE.

Some French and English horticulturists have been experimenting for three or four years on a new system of rose culture, which may be briefly stated thus: "First, prune out all the old wood; second, shorten the new wood a very little, peg the new wood down flat to the earth." The rose is thus allowed to bloom as the raspberry bears—only on the new wood, and that slightly pruned.

As unlike the common way as this is, the effect is said to be very fine. The young shoots pegged to the ground produce a greater abundance of bloom, although, perhaps, diminished in size. When a rose stalk stands upright, the stronger upward tendency of the sap has the effect to multiply the roses near the top; while, when trained upon the earth, the sap works more evenly throughout the length of the stalk. This is shown both in the bloom and in the multitudinous upward shooting of stems from the main stalk. The effect of this new mode of training, would no doubt be very fine in covering sloping banks and mounds, and also in the more rapid production of small roses for bouquets, &c. Its novelty will, no doubt commend it to all amateurs who have time and inclination to experiment.

No plant requires closer pruning than the rose and the finest blooms are always found upon the stalks which shoot from the root, showing the importance of a severe cutting away of the old wood. The bush should always be trimmed so as to open its branches as much as possible, for it likes the sun. The more sunlight the rose receives, the more rapid the growth and the more numerous and beautiful its flowers.—*Journal of the Farm*.

#### KEEPING PLANTS IN THE CELLAR.

A lady correspondent, from Elizabeth, N. J., writes to the *Cottage Gardener* as follows, about protecting tender plants during the winter:

"It may interest some of our lady readers to know how those who cannot afford the luxury of a greenhouse can keep their tender plants all winter. My cellar is dry, cool and dark. About the first of November, I have the orange, lemon, petersporum, and oleanders, carried into the cellar. These are all in large tubs, except the latter, which I have placed in one when taken in, and then the roots covered up with soil. These plants are watered once a week

while they are in the cellar, with tepid water, and they keep in fine order. In the spring the foliage looks fresh and green. The scarlet geraniums we have taken up with a spade, the earth shaken from the roots, and the geraniums tied in bundles of five or six together, and then fastened to the beams of the cellar without further protection. In April they looked wilted, but when transplanted into the open air, they soon recover and grow luxuriantly. I have been very successful in growing the scarlet salvia from seed sown in pots in February, and then placed in a room facing east, where the temperature is even, but low. They are transplanted in beds in the garden in May, and with me they always grow and blossom luxuriantly until frost. The climbing cobeia I have taken up in the fall, and transplanted into a large eight inch pot, and then placed in this room. I water it freely when first taken up. Last winter this vine grew finely, covering one side of the room with its beautiful and delicate foliage."

#### SMALL ANIMALS GNAWING TREES.

Every winter the agricultural journals contain inquiries as to a remedy to prevent mice and rabbits gnawing trees, and we have nearly annually answered them. Our remedy, which we have tried with success, has proved effectual in every instance in which it has been properly applied. It is to bandage the trees with any old cotton or woollen cloth, or very stiff paper will do—for mice eight or ten inches high will answer; for rabbits not less than two feet. The latter standing upright will reach up nearly two feet, and as far as they can reach they will gnaw. The same cloth, if put away, will last for several years. Of course the bandaging must be well done and tied to the tree securely.

In gardens, where rabbits are sure to be found if they are in the vicinity, a good protection is to feed them with cabbage-stalks, or decayed heads of cabbage, offals of ruta-bagas, carrots, etc., a supply of which is to be found on every farm. A "dead trap," baited with apple, will also clear a garden; but if in a starving condition a half a dozen rabbits will destroy fifty young trees in a single night. One winter they not only injured several young pear trees for us, but nipped off the tender ends of certain shrubs as cleanly as if done with pruning shears. But, as we say, they are driven to this by starvation, when the ground is covered with snow.—*Germantown Tel.*

#### THE BLACKBERRY CROP.

It cannot be denied that we possess many advantages for making money that other countries cannot have. Many fruits that can hardly be grown in other sections, with all the care that may be given them, with us are indigenous.

We will only mention now the Blackberry. There is scarcely a farm in our whole country that will not yield from one to five hundred bushels of blackberries. They are everywhere—along our highways and byways—in our fence corners where they ought not to be—in our fields, &c., &c.

Now, here is a fortune for some enterprising, energetic man. Gather those berries, and either dry them or make into wine; a ready market can be found for either.

Last year about \$80,000 worth of dried blackber-

ries were shipped from one town in North Carolina. This year we notice that heavy contracts have been made for them in that State and Georgia, to be shipped to California. Who will be the first to try them in Mississippi?—*Model Farmer, Corinth, Miss.*

#### FLOWER SEED IN POTS.

A few general rules are, applicable to all seeds sown in pots:

1. All pots and pans used for seed sowing should be well drained in the ordinary way, and as fine soil is much employed in seed sowing, a layer of dry moss or of roughish soil should separate the drainage and the fine soil above.

2. The soil on the top surface of all pots, pans, &c., used for seed sowing, should be finely pulverized by sifting.

3. Good sandy loam may be taken as the basis of all soils used for seed growing, but it should always have at least half its bulk of finely pulverized leaf mould, peat, or some vegetable soil in it, and fully one-fourth of the whole should be sand.

4. The soil should be made perfectly fine and firm in the pots, particularly in the case of small seeds.

5. All seeds sown in pots, frames or houses require shading during sunshine, and it is particularly necessary for the smaller seeds on the surface.

#### GARDENING IN THE EVENING OF LIFE.

I would recommend to every man especially in the autumn of his life, to take to gardening, if he has not already experienced its pleasures. Of all occupations in the world, it is the one which best combines repose and activity. It is rest in work and work in rest. It is not idleness: it is not stagnation; and yet it is perfect quietude. Like all things mortal it has its failures and disappointments, and there are some things hard to understand. But it is never without its rewards, and perhaps, if there were nothing but successful cultivation, the aggregate enjoyment would be less. It is better for the occasional shadows that come over the scene. The discipline, too, is most salutary. It tries our patience and it tries our faith. But even in the worst of seasons, there is far more to reward and encourage than to dishearten and disappoint. There is no day of the year without something on which the mind may rest—rest with profit and delight.—*Cornhill Magazine.*

#### THE GRUB IN STRAWBERRY BEDS.

This formidable enemy to the growth of the strawberry in new lands, the larva of dor-bug, or May-beetle, has been successfully destroyed by means of coarse salt applied to the beds in the month of April, at the rate of one bushel and a quarter to the one fourth acre of land, distributed evenly for the same. A few of the plants where the salt rested immediately upon the leaves, were a little blackened, but not at all damaged to prevent fruiting and a vigorous growth. But, lo! the grub evidently was not accustomed to salt victuals—they all disappeared. A few weeks later the same amount of salt was spread broadcast over a piece of land that was to receive plants, before they were set, and was equally successful.—*Rural World.*



## THE ASPEN.

Every country place should have that very coquette among trees, the aspen. It seems never to sleep. Its twingling fingers are playing in the air at some arch fantasy almost without pause. If you sit at the window with a book, it will wink, and blink, and beckon, and coax, till you cannot help speaking to it. That must be a still day that does not see the aspen quiver. A single leaf will sometimes begin to wag and not another on the whole tree will move. Sometimes a hidden breath will catch at a lower branch, then shifting will leave these still, while it shakes the topmost twig. Though the air may move so gently that your cheek does not feel it, this sensitive tree will seem all of a shudder, and turn its leaves upward as with shuddering chill. It is the daintiest fairy of all the trees. I have seen such fair sprites, too, in human form. But one does not get off so easily if he takes too much sport with them. The aspen leaf makes no wounds. Its frolics spin no silken threads which one cannot follow and will not break.—*Henry Ward Beecher.*

## LOW-HEADED STANDARD PEAR TREES.

The advantages obtained by heading standard pear trees low are the following:—

Protection to the body of the tree.

Shading the ground and keeping it cool.

Light is admitted into the centre of the tree.

The fruit colours better and grows larger.

The trees come earlier into bearing.

Closer planting can be practised, and thus the trees protect each other.

Pruning and thinning out of fruit can be more conveniently and expeditiously done.

## GARDEN GLEANINGS:

The common garden hydranges, says *Harpers Magazine*, will produce pale blue instead of pink flowers if the soil in which it is grown be mixed with one-sixth part of iron filings.

A subscriber to the *Rural New Yorker* is reported in that journal to have raised a Northern Spy apple during the past season that weighed nineteen ounces.

The "Lord Raleigh" Scuppernong grape vine, on Roanoke Island, North Carolina, was three inches in diameter in 1610, when his colony landed there. It now covers one acre and a half of ground, and produced last season forty-six barrels of wine. Another vine in Terrell County is mentioned which produced sixty-three barrels the same season.

A Port Huron, Mich., dealer has just returned from Liverpool, where he made a contract to deliver 10,000 barrels of apples at five dollars per barrel. He realised a net profit on the transaction of one dollar and seventy-five cents per barrel.

The berberry is a pleasing ornamental shrub, and answers well as a fancy hedge or screen; the bright yellow flowers in spring, and the scarlet or purple fruit in fall, which often hangs on nearly or quite all winter, producing a very pretty effect. A deep, rich loam suits it best, but it will grow well in any dry soil.

The apples of this season are not keeping as well as usual. The warmth of the past summer ripened them so thoroughly that late keeping winter apples are coming to maturity in the beginning of winter. And there is a great probability that by the first of March good apples will be scarce.

THE KILMARNOCK WILLOW has been planted in nearly every part of the Province, and we believe it has been quite hardy everywhere. Its graceful, pendant habit makes it a very ornamental tree, when planted around our dwellings. It is grown by grafting it at the desired height upon the black willow stock, from which point the branches grow downwards.

California is by far the best grape region in the United States and perhaps in the world. The pure air and equable climate prevent rot. The vines are planted five by six and eight feet apart and produce, with but little cultivation, five hundred to one thousand gallons of wine to the acre. I saw grapes selling at a cent a pound to the wine houses in Sacramento, and twelve pounds made a gallon of wine. Their fruit trees are planted closer together than with us, and trained low to prevent sun-scald of the bark.—*Robert Buchanan in Journal of Horticulture.*

THE GLADIOLUS IN POOR SOIL.—Being a great admirer of that beautiful flower, the gladiolus, I beg to state in support of the opinion of some growers, that this flower does exceedingly well with me in very poor soil, very little better than brick rubbish, and the atmosphere is not very good, the place being only one mile from London Bridge. I mention these facts for the encouragement of those who may think soil and situation may not suit this flower. I have had spikes equal to those I saw this season at the Crystal Palace; they have been admired by experienced gardeners.—*William Edwards, Bermondsey, London, Eng.*

*Tilton's Journal of Horticulture* tells the following pleasant little story: "Our friend, General O, of Salem, a very earnest lover of flowers, as well as occasionally flowery in his speech, and not averse either to receiving or giving a witty repartee, was a few days since passing down the street upon which he resides, with an attractive bouquet of roses in his mouth. A fair neighbour whom he met, after admiring the floral display, asked him, in a rallying tone, if he had not room for a few more flowers between his lips. "O yes," quickly replied the general, "I can make room for your tulips." (two lips.)

"The fair one blushed and turned away,  
And wishing yes, yet acted nay."

In grafting large trees commence at the top and leave the side branches for another year. The higher branches draw the sap more than lower branches, and if first grafted the result is more likely to be successful. Never graft all the branches in one season. It is dangerous to the health of the tree to make the leaves disproportionate to the roots.

There is a young apple merchant in Boston, not yet eleven years of age, who is laying a good foundation for the future. He employs four other boys younger than himself, apportioning them their districts for selling, and reaps a daily revenue of from four to ten dollars. All but one attend school and all are of native birth.

## Editorial.

### NORTH AMERICA BEE-KEEPERS' ASSOCIATION.

An interesting and important convention of bee-keepers, was held in the city of Indianapolis, December 21st and 22nd, 1870, which resulted in the formation of a Society, bearing the name at the head of this article. As we had the pleasure of being present at the meeting, we are glad to be able to lay before our readers a somewhat full account of the proceedings.

The convention was organized by the appointment of A. F. Moore, of Michigan, as temporary President, and M. M. Baldrige, of Illinois, as temporary Secretary. It was found that representatives were present from fourteen States, and from the Dominion of Canada, and a committee of one from each State, and one from Canada, was chosen to report upon permanent organization. A committee was also appointed to draft a programme of business. While these committees were putting things into shape, the President, *pro tem.* addressed the meeting on the object of the convention, and on a number of points connected with practical bee-keeping. Miscellaneous questions, answers, and remarks from several parties present followed. In due time the committee on business reported an order of procedure, as follows:—

1. Opening address by Dr. G. Bohrer of Alexander, Madison county, Indiana.
2. Remarks on the general management of the apiary in the spring, summer and winter, by D. R. Allen, of Syracuse, New York.
3. Remarks on foul brood and other bee maladies, by R. Bickford, of Seneca Falls, New York.
4. Remarks on the Italian bee, by Aaron Benedict, of Bennington, Ohio.
5. Remarks on natural and artificial swarming, and on the increase of stocks, by E. Gallup, of Orchard, Iowa.
6. Remarks on Queen raising, by Dr. T. B. Hamlin, Edgefield Junction, Tennessee.
7. Remarks on Bee Forage, by Rev. W. F. Clark, President of the Ontario Bee-Keepers' Association, Ontario, Canada.
8. Remarks on transferring, by Dr. G. Bohrer.
9. Remarks on the best methods of securing surplus honey, and of marketing the same, by A. Grimm, of Jefferson, Wisconsin.

The committee on permanent organization, reported the following constitution and list of officers:—

#### CONSTITUTION.

Article 1. Name, "North American Bee-Keepers' Association."

Art. 2. Its object shall be to promote the interests of bee-keeping throughout the North American Continent.

Art. 3. The officers shall be a President, two Vice-Presidents, a Secretary, an Assistant Secretary, a Treasurer, and an Executive Committee, to comprise the President, Vice-Presidents, Secretary, and Treasurer, all to be elected annually by ballot.

Art. 4. The condition of membership in this Association, shall be the annual payment of one dollar to its funds.

Art. 5. The Association shall meet annually..

The Committee would recommend the following officers to be elected to hold the offices for and during this meeting:

President—A. F. Moon, of Michigan.

Vice-Presidents—E. Gallup, of Iowa, and G. Bohrer, of Indiana.

Secretary—M. M. Baldrige, of Illinois.

Assistant-Secretary—W. F. Clarke, of Canada.

Treasurer—N. C. Mitchell, of Indiana.

Both reports were adopted, and at a subsequent stage of the proceedings, the constitution was amended by fixing the number of Vice-Presidents at five instead of two, by empowering the Association to alter the constitution by a two-thirds vote of the members present at a regular annual meeting, and by making provision for the election, from time to time, of suitable persons as honorary members. Prior to the adoption of the report on permanent organization; a communication was read from Mr. H. A. King, of New York, relative to a similar convention to be held at Cincinnati, on the 8th and 9th of February next expressing a desire for united action, and requesting a reply from the convention. After the Association had organized itself, Mr. King's communication was referred to a committee of three, who subsequently reported recommending the adoption of the following resolution, which was carried:—

*Resolved,* That inasmuch as we have been unable to find anything in the conduct of parties concerned in the call of this national convention which has been calculated to prevent a bond of perfect union among the bee-keepers of America, a cordial invitation be and is hereby extended to Mr. King, and to all others to attend the next meeting of this Association and identify themselves with its history and operations.

A delegation was also appointed to attend the Cincinnati convention, and endeavour to secure united action. This delegation at first consisted of three persons appointed by the chair; but was afterwards made to embrace all members of the Association who might attend the Cincinnati convention. This matter occasioned considerable discussion, in the course of which, strong things were said by prominent members of the Association, in regard to the decisive, sectional, and self-interested course which they considered had been taken by Mr. King. A very general desire was, however, expressed for conciliation and union, and the idea of two rival organizations coming into being was

earnestly depreciated. On a call being made for enrolment of members, about seventy-five persons gave in their names and paid their annual fee of one dollar each.

The order of the day having been called for, Dr. G. Bohrer, of Indiana, proceeded to deliver the opening address, in the course of which, he discussed the profitableness of bee-keeping; recommended it emphatically as a paying business when well managed; answered objections; insisted on a thorough mastery of the science of bee-keeping; referred only in general terms to the subject of hives; and concluded by urging intelligence, energy, and perseverance, as essential to success in bee-keeping. The thanks of the Association were voted for the address, and it was requested to be put into the hands of the executive committee to be published in the proceeding of the Association at their discretion.

Professor Allen, of Syracuse, N. Y., then addressed the Association on the general management of the apiary in spring, summer, autumn and winter. Very sound, sensible remarks were made, but it would protract this article too much to attempt even a synopsis of them.

The subject of foul brood introduced by R. Bickford, of Seneca Falls, N. Y., and discussed at length by several members of the Association, awakened much interest. Messrs. Burbank, of Kentucky, and Rood, of Michigan, had suffered severely from this disease: the latter gentleman had lost 100 hives from this cause. They explained the symptoms and general appearance of foul brood in substance, as follows: First, a slightly raised shape of the capped cell, and a slight discoloration, sometimes hardly perceptible; next, an unmistakably dark color, and more or less putrid condition of the cell when uncapped; and finally, a bad smell, approaching more nearly to that of rotten cabbage than anything else, though not precisely like it. Sometimes a single cell would be found affected, at other times a cluster of cells, and then again, larger surface of brood comb. Mr. Burbank thought he had got rid of the disease by transferring the bees to new, clean hives, and burning the entire contents of the foul broody hives, scalding, fumigating, and venting the old hives. Mr. Rood had tried chlorine gas, carbolic acid, and Mr. Burbank's method without success; and believed that until a more effectual cure was discovered foul brood might be set down as ineradicable, and his earnest advice to all except veteran bee-keepers, who wanted to experiment, was to bury foul broody stocks, hives and all, beyond the possibility of resurrection. He was not satisfied with burning them, as particles of honey might be left sticking to half consumed brands, which for-

ging bees might gather and so diffuse and perpetuate the infection.

Mr. Benedict, of Bennington, Ohio, addressed the Association in reference to the Italian bee, and was afterwards questioned and cross-questioned on various points, especially in reference to the marks or signs of purity in Italian bees. Mr. Benedict thought it difficult to establish a standard of purity; was of opinion that the Italian bee was a cross-bred insect, probably the result of an intermingling of the common bee and the Egyptian, or some other distinct variety of bee; considered the hybrid stocks we obtain by crossing what are called the Italian bees with the common black bees as good as any, and in some cases better; he bred, for the most part, light-colored queens, because they were preferred by customers, but in his own apiary dark-banded queens had proved as prolific, and had produced as fine and useful progeny as the lighter ones. He endeavoured to breed from queens that yielded a progeny of uniform marking, and also from stocks that were of quiet disposition. In the latter respect he found a considerable difference among stocks, and believed that we could to some extent control the disposition of our bees by breeding from such as were of a mild and pacific temper.

Mr. Gallup was called on to speak in reference to natural and artificial swarming and increase of stocks. He desired that his remarks might be confined to answering questions propounded by members of the Association, and accordingly was subjected to a running fire of interrogations bearing upon various phrases of the topic assigned him, and it is needless to say that his replies gave evidence of that thorough mastery of his business for which Mr. Gallup is noted among apianairs.

Dr. D. B. Hamlin, of Tennessee, then addressed the Association, on queen raising, respecting which he gave a clear and instructive account.

Mr. Dunlop moved to take up the subject of artificial combs, which, he said, the business committee had failed to place on the programme. The motion prevailed, and Mr. Bickford, of Seneca Falls, exhibited in connection with general remarks on the subject, sheets of newly patented foundation for comb, consisting of paper thinly coated with wax, upon which was stamped in facsimile what might be called the ground plan of the honey comb. This foundation, he stated, the bees were found willing to adopt and build up.

D. L. Adair, of Hawkesville, Ky., gave an interesting account of a contrivance invented by himself for the purpose of reducing wax into a shape in which the bees would take it and construct comb with it. The difficulty was in getting it fine enough. He mixed granulated sugar with the wax in the

proportions of three pounds and a half of sugar to one pound of wax. Placing this mixture in the hive, while one set of bees were extracting the fine particles of sugar the wax was set free in such a shape that it was at once taken up by another set of bees and converted into comb. These inventions led to an interesting discussion, the result of which seemed to be a general impression that we are on the eve of the discovery of a method or methods by which artificial comb can be furnished for the bees, leaving them nothing to do but gather and store the honey. Should this impression prove correct, a glorious revolution in bee-keeping is not far distant.

A large number of hives and other articles having been brought for exhibition by members of the Association, it was resolved to allow five minutes to each person who had anything useful to bee-keepers which he was desirous of bringing to the notice of the meeting. The various exhibitors deserve much praise for the prompt, business-like manner in which they performed their task. Scarcely any of them occupied the full term of five minutes, and a large number of hives and other "bee fixings" were thus brought before the Association, in a comparatively short space of time, as the following list will testify!—

- 1 The "Buckeye Bee Hive," patented Feb. 18, 1868, by N. C. Michell. Exhibited by M. T. Gibson.
- 2 The "Home of the Honey Bee," patented Dec. 7, 1868; manufactured by T. R. Allen, of Syracuse, New York. Exhibited by Dr. Bohrer.
- 3 The "Eureka Hive," patented by J. L. Smith, Sep. 27, 1870. Exhibited by the patentee.
- 4 An unpatented hive. Exhibited by Aaron Benedict.
- 5 A hive without a name. Exhibited by A Salisbury.
- 6 The "Diamond Frame Bee Hive," patented by A. V. Conklin, Oct. 20, 1868. Exhibited by the inventor.
- 7 The "Hicks Bee Hive," patented by J. H. Hicks, of Indianapolis, Sep. 6, 1870. Exhibited by the patentee.
- 8 The "Hoosier Bee Hive." Exhibited by A. Wilkinson, the patentee.
9. J. Wheelton's Hive. Exhibited by the patentee, of Greensburg, Indiana.
10. The "Farmers' Bee Hive. Exhibited by W. T. Gibson, of Indianapolis.
11. The "Davis Hive." Patented by Enos Davis of Noblesville, Indiana, Sep. 6, 1870. Exhibited by the patentee.
- 12 The "Novelty Hive." Exhibited by Edward Walker, of Indianapolis, the patentee.
- 13 The "Queen Bee Hive" Patented Aug. 10, 1870, by Thomas Atkinson, of Indianapolis. Exhibited by the inventor.
- 14 The "Section Hive" and "Pivot Hive." Exhibited by D. L. Adair, of Kentucky.
- 15 The "Langstroth Hive." Exhibited by P. W. McFatrige, and its merits were explained by R. C. Otis, of Kenosha, Wis.
- 16 The "Triumph Hive." Exhibited by W. R. King.
- 17 The "Excelsior" Hive, patented by himself, Aug. 13, 1867. Exhibited by A. Hart, of Wisconsin, who showed in connection with his hive the mechanical contrivances used by him in queen-breeding.
18. The "Queen City, Movable Frame, Side-opening Moth Trap Bee Hive," patented by himself, May 31, 1870. Exhibited by J. W. Winter.
- 19 "Queen Cage and Nursery Fertilizing Cage, and Queen and Drone Trap." Exhibited by D. L. Adair.
- 20 A "Fertilizing Cage." Exhibited by J. M. Hicks.
- 21 A "Fertilizing Cage and Bee-feeder." Shown by W. R. King.
- 22 A "Bee-Feeder and Mel-extractor." Shown by D. L. Adair.
- 23, 24, 25 "Mel-extractors." Exhibited by T. Atkinson, J. W. Winder, and Mr. McFatrige.
- 26 A "Queen Nursery," patented by himself, Nov. 24, 1869. Exhibited by Dr. Davis.
- 27 A contrivance, invented and patented in Switzerland, but not yet patented in the United States, for extracting bees-wax from refuse comb. Shown by Mr. Gray.

In reference to the above-named articles, as "comparisons are odious," it may perhaps, be well to say, but little still, we cannot quite pass them "without note or comment." All the hives were movable frame ones, and there was not one shown that is not immeasurably superior to the old fashioned box or straw hive. Among them were some that seemed to us unnecessarily complicated; others that were open to objection as too expensive for ordinary practical bee-keeping; others on the book leaf plan that can hardly be used without danger of crushing not only common bees but mayhap the queen; and others that were needlessly encumbered humbugs as "moth-traps." We have no interest in any hive under the sun, and are free to say, that we saw no hive among all the array that, take it for all in all, we should prefer, for our own use, to the "Thomas" hive, and we regretted exceedingly that it was not on exhibition among the rest. There were two hives, each of which had, in our view, one feature of advantage over that just named—the "Buckeye Bee-hive," which has short movable slide frames for surplus honey, at the top of the frames composing the body of the hive; and the "Diamond Hive," which brings the surplus boxes or frames into the central part of the hive. If, as it seems to us, the short slide frames for surplus honey are an advantage, they could be easily adopted by those who use the "Thomas" hives, but it is possible this plan may be open to the objection that the bees will put brood comb into them. The

plan by which the "Diamond Hive" brings the surplus honey boxes or frames into the central part of the hive could only work in connection with a hive of that particular shape, and whether that advantage may not be counterbalanced by some equal or greater disadvantage, we do not pretend to say. Hive men are generally sensitive about their pet improvements and inventions, but we have the idea that it is very much with beehives as with dwelling houses for human beings, if there be only room enough and generally convenient arrangements, niceties are not of much account. A bee-hive on the movable frame principle, that is spacious enough and easy of excess and management, will answer every purpose quite as well as one upon which a vast amount of ingenuity has been expended in little contrivances that will take the eye of a beginner perhaps, but will pass for little or nothing with an experienced beekeeper. But we must report and not discuss at present. A fertilizing cage exhibited by W. R. King, pleased exceedingly, as did a "Mel-extractor" shown by D. L. Adair. It is necessary to inform our readers that "Mel-extractor" is the genteel, stylish name for "honey emptying machine."

The election of officers for the ensuing year was made the order of the day at four o'clock of the second day of the meeting. At the appointed time this business was proceeded with by ballot as required by the Constitution. Mr. Otis, of Wisconsin, moved that Rev. L. L. Langstroth, of Oxford, Ohio, be made the first honorary member of the Association, and that the president of the meeting instructed to cast the one entire ballot of the Association, appointing him President for the ensuing year, which was carried with acclamation. The result of the balloting when completed was the appointment of the following persons as officers:—

## PRESIDENT.

Rev. Lorenzo L. Langstroth of Oxford, Ohio.

## VICE-PRESIDENTS.

Rev. W. F. Clarke of Canada; R. Bickford of N. Y., E. Gallup of Iowa; T. B. Hamlin of Tennessee; and A. F. Moon of Michigan.

## SECRETARY.

M. M. Baldrige of Illinois.

## ASSISTANT SECRETARY.

D. L. Adair, of Kentucky.

## TREASURER.

N. C. Mitchell of Indiana.

The following honorary members were elected in addition to Mr. Langstroth—M. Quinby of St. Johnsville, N. Y.; S. Magner, editor of the *Bee Journal*, Washington, D. C.; Mr. Schmidt, editor of *Beenzestung*, a German apianian periodical; Rev. John Dgierzon of Lower Silesia; Dr. L. Gertsner of Berne, Switzerland; T. W. Woodbury, Devonshire,

England, ("the Devonshire Bee-keeper;") and Mrs. Ellen S. Tupper of Iowa, U. S.

It was resolved that the Association memorialize the Congress of the United States, and the Legislature of Canada for an appropriation in aid of its operations, and that the officers of the Association be instructed to sign such memorials in their official capacity.

The President stated that he had received a telegram addressed to him as President of the Convention, which he would read. It was as follows:—

New York, Dec. 22, 11 a. m.

*To the President of the National Bee-Keepers Convention, Howe of Representatives, Indianapolis:—*

Otis, of Wisconsin, is publicly making false statements to defeat the union at Cincinnati. He is not a true friend to Mr. Langstroth. You are invited to join your brethren in union at Cincinnati, Feb. 7. I pledge my sacred word and honor that no one will regret his vote. Please answer by telegraph. Charges will be paid here.

H. A. King,

241, Broadway, N. Y.

Mr. Conkin moved that the telegram be received and placed on file, and that it be replied to in terms to the effect that Mr. Otis had made no statements of the kind charged, so far as the knowledge of this Association goes, and further, that Mr. Langstroth was elected President on Mr. Otis' nomination.

The motion was adopted unanimously.

Mr. Otis repelled the charges made against him by Mr. King, and promised to show the motive that prompted them fully at the Cincinnati Convention.

The regular order of unfinished business being called for it fell to our lot to introduce the subject of "Bee-forage." After enumerating the various sources of honey supply, we made reference to the fact so well known to bee-keepers, that buckwheat varies greatly in its honey yielding qualities, and raised the question whether there were two varieties of buckwheat—one yielding and the other deficient in honey; or whether the variation was to be accounted for by quality of soil, character of season, state of the atmosphere, etc.. Considerable discussion arose on this point. Some thought the variation inexplicable, others thought buckwheat would always yield honey when sown on low, rich, dry land, while Mr. Gallup of Iowa, contended that buckwheat would always yield a good supply of bee-forage if sown on well-manured and well-drained land.

His Excellency, Governor Baker, Governor of Indiana, was introduced to the Association, and invited to sit with it which he did for an hour or more.

Arrangements were made for the publication of the minutes of the proceedings of the Association, and supplying the members with copies.

By request of the Association, Mr. Roberts, the delegate from Utah, gave an account of the Austria-

lian bee, lately introduced into that territory, and also of the honey producing plants of Utah. It was the purpose to secure the Italian bee for Utah, and then to exclude the black bee from the territory by legislative enactments so as to keep the stock pure. There were to be no individual interests in hive patents there, but there was to be a selection made, and all was to be common property throughout the territory so far as bee culture was concerned. He was much gratified with his kind reception here; the class he represented were seldom treated abroad with so much kindness.

It was resolved to hold the next meeting of the Association at Cleveland Ohio, at 9 a. m., on the first Wednesday in Dec. 1871.

Resolutions of thanks were tendered to the Governor, State Librarian and Secretary of State Board of Agriculture, for the use of the State House and and to the several railroads that favored the delegates with half-fare passes.

After the transaction of some further business of little general interest, the Association adjourned.

#### WHEN TO MARKET FARM PRODUCE.

The Little Falls, N. Y., Farmers' Club consists of some of the best farmers in the State. At a late meeting an essay was read on "When to Market Farm Produce," in which the writer said:—

With many farmers this perhaps is the most perplexing question. The season for gathering fruits and vegetables, as a rule, is the best time to market them; then will be the greatest quantity of them, and their quality will at that time be the best. Yet we hear farmers say that potatoes will be higher. He hears of rot in some sections, and he puts his potatoes in the cellar to await higher prices. But rot and sprout, and rats and mice, and labor and sorting, and in many instances exposure to frost, lessens day by day the quantity and quality of this product, and he holds; and then the market is flooded by men who thought as he did, and with 10 per cent. of loss he finds himself compelled to take 25 per cent. less in price or not sell at all. Apples will be higher, another says, and he holds his to meet decay and trouble.

Hops, too, are too cheap, and the grower piles up his bales to wait the moving of the market, and thus we might say of grains, butter, cheese, and of nearly all of the products of the farm, hay perhaps excepted.

The most successful farmer (as a rule), and he who can show the best balance sheet at the end of the year, markets his produce when it is ready for the market. After having prepared your articles for the market as has been advised, take the market price and pocket the money. Your neighbors may, in some instances, sell for a higher price by holding, but in the experience of ten years you will be far ahead. Produce, marketed, is done with, and all waste, shrinkage, and care of it ceases; and then again you have the use of your money, and can apply it where it will be of use. One more reason for this time of marketing is, that dealers are in the market, and have made their arrangements for buying.

It is important to the farmer, in disposing of his produce, that he should meet a good demand. This he will be most likely to find when the article is

yielded from his farm, and is ready for the market. Dealers have then arranged with banks for funds, and are anxious to buy. You will always meet a poor market when buyers have closed their accounts and gone home. You will be considered out of season, and if you sell at all it must be at sacrificing concessions in price.

Monday is our market day for butter and cheese here, and he who would sell well must be here then, as buyers are here then, and on Thursday his load will go begging about the streets for a buyer.

Prepare your articles in the best manner for market. Represent them honestly and fairly in the market, and then sell at the best price the market offers. Let your motto be "keep selling," and your cash account will be largely in your favor.

#### WHAT AN AGRICULTURAL EDUCATION SHOULD BE.

A vast variety of opinions have been expressed as to what our agricultural colleges should teach; what education is best for farmers, etc. Hon. W. C. Flagg, one of the trustees of the Illinois Industrial University, gives his ideas on the subject in the *Herth and Home*, as follows:

My own theory of agricultural education would be, so far as possible, to liberalize its teachings so as to bring all learning that bears even remotely upon it to our aid. The best educated farmer who can and will afford it will desire to learn as large an amount of pure and applied mathematics, and nearly as advanced, as our ordinary colleges now give; he needs to know a good deal of organic science, chemistry, mineralogy, and geology; he should have a still larger amount of general physiology, botany, and zoology; he should know the history and present condition of his pursuit; its bearing upon social questions as found in agricultural economy, rural law, and the like; and he should by no means be ignorant of the arts that adorn rural life, such as landscape-gardening, rural architecture, rural literature, and the like. In short, the farmer who is educated at every point will be a many-sided man by virtue of his calling as well as by his proper preparation for it.

#### BOYS ON THE FARM.

The *Prairie Farmer*, in speaking of a "boy's rights on the farm," talks in this truthful way:

"We are strongly inclined to the opinion that there are no offices so poorly appreciated as those performed by boys on a farm. They seldom get any credit when things go well, and ordinarily incur all the blame when the contrary is the case. If anything is lost, it is always the boy that has been neglectful. If the gate was left open, or the bars down, it is the boy who was to blame. If the hens don't lay, it is because the boy hasn't fed them. If dinner is late, it is for the reason that the boy did not prepare the wood in season. If the cow gives bloody milk it is because the boy threw a stone at her, killed a toad in her path in driving her home. Cattle break in fields because boys break down the fences in climbing over them. Roofs are leaky for the reason that they have been running on them. If a pitcher is broken by some older member of the

family, the cause is traced to a crack made by the boy the last time he used it."

All of which is sadly true. The most uninteresting work, sorting potatoes rainy days, setting out cabbage after a shower, turning a grindstone by the hour to grind dull scythes, and old, worn out hoes, manure forks with two tines, and like treatment with reference to almost everything, is too often the lot with boys who are expected to love farming and grow up to be farmers.

#### A WORD FITLY SPOKEN.

There is the soundest of common sense in the following paragraph from the *Manufacturer and Builder* :—

Why is it that there is such a repugnance on the part of parents to putting their sons to a trade? A skilled mechanic is an independent man. Go where he will, his craft will bring him support. He need ask favors of none. He has literally his fortune in his own hands. Yet foolish parents—ambitious that their sons should "rise in the world," as they say—are more willing that they should study for a profession, with the chances of even moderate success heavily against them, or run the risk of spending their manhood in the ignoble task of retailing dry goods, or of toiling laboriously at the accountant's desk, than learn a trade which would bring them manly health, strength, and independence. In point of fact, the method they choose is the one least likely to achieve the advancement aimed at, for the supply of candidates for positions as "errand boys," dry goods clerks, and kindred occupations, is notoriously overstocked; while, on the other hand, the demand for really skilled mechanics of every description, is as notoriously beyond the supply. The crying need of this country to-day is for skilled labor; and that father who neglects to provide his son with a useful trade, and to see that he thoroughly masters it, does him a grievous wrong, and runs the risk of helping, by so much, to increase the stock of idle and dependent, if not vicious, members of society. It is stated in the report of the Prison Association, lately issued, that of fourteen thousand five hundred and ninety-six prisoners confined in the penitentiaries of thirty States, in 1867, seventy-seven per cent., or over ten thousand of the number, had never learned a trade. The fact conveys a lesson of profound interest to those who have in charge the training of boys, and girls too, for the active duties of life.

#### AMERICAN DAIRYMEN'S ASSOCIATION.

The above-named body is to hold its annual meeting in Utica, Jan. 10, 11 and 12, 1871. Donald G. Mitchell (Ike Marvel) of New Haven, Conn., Prof. Caldwell of Cornell University, and Joseph Harris of Rochester, are engaged to deliver set addresses on topics of special interest to dairymen, while a list of subjects, each of which is assigned to a practical dairyman, forms a most attractive programme. The meeting is expected to be one of more than ordinary interest, and such of our Canadian dairymen as can spare the time and money would do well to attend.

#### DAIRY FARMING IN MICHIGAN.

The following abstract of a statement made to the U. S. Department of Agriculture, by M. L. Frazier of Hudson, Mich., presents a noteworthy instance of good farming on a moderate scale in the west. His farm consists of eighty-two acres, of which sixty-two acres are improved, being chiefly devoted to dairy purposes.

During the season of 1869 he kept fifteen cows, from the milk of which he manufactured and sold over 5,000 pounds of cheese, for which he received \$720, besides 450 pounds of butter, amounting to \$135. The whey and buttermilk were fed to his pigs. Eighty dollars were received for manufacturing cheese for a neighbor, at two cts. per pound; 130 bushels of wheat were sold for \$189; 200 bush. of apples, \$86; pork, \$260; and live stock of different kinds, \$282; the total sales amounting to \$1,751. This was independent of supplies for the family.

The farm work was done by Mr. Frazier and his boys, with the exception of some transient labor, for which he paid in work with his mowing machine. At the close of the season, the condition of the farm was quite as good as at the commencement of 1869.

#### EDITORIAL GLEANINGS.

The census takers have found a little paradise on an island in Narragansett Bay. All the men and all the women work; the climate is good, the soil grateful, and there is not a criminal, a pauper, or a house-servant on the island.

Miss Ellen Townshend of Newport, R. I., only sister of Christopher Townshend, the founder of the People's Free Library, has offered to give that city a fine farm of 100 acres in Portsmouth, eight miles from Newport, for an agricultural home for boys.

A big stout man came into the sanctum last night, says a Texan editor, carrying what we first took to be a kit of mackerel or a keg of molasses, but we found out afterwards that it was a great potato weighing 13 pounds.

The import of beet root sugar into England from the Continent is far more considerable than is generally supposed, and has averaged during the last three years something like 50,000 tons—an amount equal to that which she draws from the Mauritius.

The winters meeting of the Fruit Growers' Association of Ontario will be held in the Court House, in the City of Hamilton, on Tuesday, the seventh of February, 1871, commencing at 10 o'clock, a. m., and continuing throughout the evening.

The tenth volume of the American Short-horn Herd Book is now in press. The ninth volume was issued in February last, yet this contains the pedigrees of about 1,800 bulls and 2,500 cows. The volume will probably be ready for the public in February next.

There are 65,000 acres devoted to hops in England according to late estimates. In 1859 the acreage had fallen to 43,729, but there had been a gradual increase since that year until the present time. Of the total area, the county of Kent has about 33,000 acres, and Sussex 14,500.

A movement is on foot at Elora for the establish-

ment of a beet sugar manufactory. Several meetings have been held, and the conviction is that the soil of that section of Wellington is favourable to the growth of the sugar beet root. An establishment is also being formed in the adjoining county of Waterloo.

The State of Iowa planted last year about 15,000,000 trees, and will set out a still larger number this year. Two farmers, in one township, have set out this spring 25,000 trees. This is at the rate of about five trees annually for each inhabitant—none too many to meet the demand for fruit, commerce, fuel, and timber.

In 1869 a law was passed by the legislature of New York, which provides that, where there is any low, wet land belonging to several persons that needs draining for the sake of the public health, or the benefit of agriculture, any freeholder interested can petition the County Judge to have the land drained, and have the expense assessed on the property benefited. The County Judge appoints three Commissioners, one of whom shall be a civil engineer, and none of whom shall be personally interested in the work. These Commissioners shall examine the land, and, if in their judgment the work is necessary, they have power to borrow money and commence operations at once.

The Massachusetts Society for promoting Agriculture has awarded to Major Ben. Perley Poore of Indian Hall Farm, near Newburyport, the premium of *one thousand dollars*, which it offered in 1858 for the best plantation of forest trees, planted before 1860 and growing in 1870. The first premium for forest trees offered on this continent was by the Massachusetts Society for Promoting Agriculture, in 1797—a gold medal worth two hundred dollars. It was awarded to Col. Robert Dodge, of Hamilton, who was Major Poore's grandfather, on the mother's side, and this promoted the Major to compete for the premium last offered by the same society.

The *Kansas Farmer*, urges its readers to keep out of debt. It says that in a new country, where merchants many times give unlimited credit to the settlers, no matter whether their crops are good or otherwise, they continue their careless and sometimes reckless expenditures, until confronted by a store-bill that they know they cannot pay. They grow dispirited and sometimes dissipated, and, losing heart, lose industry, and in not a few cases lose their farms; whereas, if they had been obliged to adopt the "pay-as-you-go" principle, they would have succeeded.

Horace Greeley's Essay, "What I Know of Farming," which have been published in *The Tribune* every week during 1870, are to be printed in book form, and a copy will be sent, post-paid, to each subscriber who sends \$10 for the Daily, \$4 for the Semi-Weekly, or \$2 for the Weekly *Tribune*, and requests the book at the time of subscribing. This will enable old subscribers to secure the Essays for preservation, on renewing their subscriptions, and new subscribers will, of course, be glad to obtain them, free of cost.

The third annual convention of the Milk Producers' Association of Massachusetts and New Hampshire was held in Boston, Dec. 8. It is said nearly every town supplying milk to Boston was represented. Dr. Geo. B. Loring, of Salem, Mass., President of Board of Directors made an interesting opening address. There was considerable discussion.

It was claimed by most speakers that the Milk produced was unfairly dealt with, that the contractors made exorbitant profits, etc. One gentleman said the milk he sold for 43 cents per can was liberally watered, and then sold for 75 cents a can. A committee, of which Judge French, of Concord, Mass., is chairman, was appointed to investigate the subject and endeavour to make some more desirable arrangements.

The *Prairie Farmer* notices the fact that there is a general demand for seed for forest tree planting on the prairies. It seems that the efforts of the agricultural press to encourage tree-planting are now crowned with success. Farmers have the idea that they ameliorate the climate, and they also find that, if they are willing to wait a few years, there is no crop from the soil able to pay a better profit than a fine grove of marketable trees. It would be well for all who possess land not used for cultivation to plant out the seeds of any assorted variety of timber-trees and they will be astonished to see how great a growth will be made in five years.

Wolverines, those ferocious animals so greatly dreaded by farmers, seem to be very numerous in the county of Dundas at present, and ought to afford good sport for hunters who aim at bold game. At a recent session of the Williamsburg Township Council, Mr. David Bradley brought into the Council-room the dead bodies of three of them—a full grown one and two cubs, half grown—which he had captured while the Council was in session. The bodies were still warm, the animals having been killed but a short distance from where the Council sat. Mr. Bradley claimed the bounty, \$4 each, which was at once paid over by the Council.

The *Chicago Evening Post* says that during the past harvest season in Wisconsin there was not less than 20,000 women at work in the field. They are not only Germans, Irish, and Scandinavians, but Yankees; not only the poor, but thousands of the fair and intelligent classes. When the pinch comes, it is common for girls to hang up the rolling-pin, shut up the piano, and go to the fields and help their fathers. They ride a reaper as skillful as any man; they direct the cultivator; they run the threshing-machine; they pitch bundles; in extreme need they even give their arms and ingenuity to that bucolic architecture, building the load and stack. A blue-eyed girl in Central Wisconsin last year sheared forty sheep in a day, and received four dollars for it. It was not so uncommon as to excite any special interest in the neighborhood.

#### EDITOR'S BOOK TABLE.

ANNALS OF BEE CULTURE FOR 1870.—A bee-keeper's year book, D. L. Adair, Editor, Hawesville, Ky. We made Mr. Adair's acquaintance at the recent Convention of Bee-keepers, in Indianapolis, and received from him a specimen copy of his book, which we have since examined, and can, without hesitation, commend it to the apiarian fraternity as containing a great deal of useful information. We do not observe any statement of its cost, but from its appearance and size, (an octavo pamphlet of 64 pages,) we judge the price to be about 25 cents. Every bee-keeper in Canada should send for a copy.



VICK'S ILLUSTRATED CATALOGUE AND FLORAL GUIDE FOR 1871. When Mr. Vick's last year's catalogue came to hand we thought it impossible for a nicer thing of the kind to be got up, but we were mistaken. Having in previous catalogues outdone everybody else, he has now outdone himself. No description of ours can do justice to his beautiful publication. Enclose a ten cent. U. S. scrip in a letter to James Vick, Rochester, N. Y., and get it, everybody.

TILTON'S JOURNAL OF HORTICULTURE.—The January number of this excellent monthly reaches us early enough to admit of notice. Good as ever as to contents, it is now, to our great regret, reduced in size one-half, to enable the publishers to furnish it at a cheaper price. Cheap literature is the order of the day, and a 62 page horticultural journal, however beautifully got up, is deemed by too many an expensive luxury at \$3.00 a year. It has, therefore, been cut down to \$1.50 for single copies, \$1.00 per copy in clubs of ten and upwards. J. C. Tilton & Co: Boston, Publishers.

THE MANUFACTURER AND BUILDER.—Two years have passed since two young men, bearing jointly the auspicious name of "Western" introduced the generous spirit of American enterprise into the department of journalism devoted to arts and engineering. They launched an illustrated periodical rivalling its strongest English contemporaries, in costly bulk, originality, and elegance at the start. They offered it at a price which, even in America, excited misgivings by its cheapness; and they treated agents and canvassers with a generosity which any body but an "advanced" American publisher would call stark madness. That they knew what they were about, however, and had the necessary means and ability to follow up their audacious plan to success, is proved by the still progressive career of their journal. Its programme for 1871, its third year, eclipses anything ever before offered to the public in richness and variety of premiums. In fact, the enterprising rival who may propose to go one better hereafter, will have to invent new articles to offer; for Messrs. Western & Co. literally offer every thing there is now. And, in point of liberality, it is hard to guess what the next step can be; for they give the canvasser, in premiums, nearly all he can collect, while their subscription price is only \$1.50 per annum for a periodical of 96 broad imperial columns, equal to as many magazine pages, per month, besides cover. Send to Western & Co., 37 Park Row, New York, for descriptive Premium List. Circulars and illustrated posters for agents.—*New Haven Journal and Courier.*

Mr. T. J. Day, of Guelph, has laid on our table specimens of the following well-known and useful annuals:—

THE BRITISH WORKMAN FOR 1870.—Sent by mail to any address for 45 cents, postage free.

THE BAND OF HOPE REVIEW FOR 1870.—Sent by mail, postpaid, to any address for 35 cents.

## Agricultural Intelligence.

### AGRICULTURAL ASSOCIATION.

The Council of the Provincial Agricultural and Arts Association met yesterday morning in the Agricultural Hall. The following gentlemen were present:—Hon. D. Christie, President; Hon. James Skead; Messrs. James Young, M. P., Rykert, M. P. P., Cowan, Graham, Macdonald, White, Shipley, Gibbons, Wilson, Walton, Farley; Rev. Mr. Burnett, and Prof. Buckland.

Mr. Young brought up the question of examining the public accounts before they were adopted, and on the motion of Hon. James Skead, seconded by Mr. White, they were referred to a special committee, consisting of Messrs. Burnett, Macdonald, and Cowan. A number of communications respecting the award of prizes were taken up and disposed of. The Council having a previous meeting decided upon publishing a volume of transactions covering the last seven years, the secretary was instructed to advertise for tenders for the printing of the volume, and a committee, consisting of Messrs. Rykert, Young, and the President, appointed to supervise the publication. The printing of diplomas was referred to the same committee. A communication was received from the President of the Young Men's Association, asking if the Council would sell the Agricultural Hall, if so, for how much? On motion, it was decided to reply that the hall was not in the market.

### IRREGULAR VOTING.

Hon. Mr. SKEAD presented a report from the committee appointed at a previous meeting to inquire into alleged irregular voting at the general meeting of the Association. The following is the report:—

*To the Council of the Agricultural and Arts Association:*

The Committee appointed under the resolution of the 8th of October last, to investigate and report upon the circumstances attending the vote taken at the meeting of the Directors of the Association, on the 6th October, in reference to the appointment of a place for holding the next exhibition of the Association, beg leave to report.—

That having carefully examined the minutes of the meeting of the Directors on the occasion in question, as recorded by your Secretary, and availed itself on all the means of information within its reach, they find that there were in all 128 votes recorded. Of these, several were by individuals who voted as delegates or appointees of different societies, and claiming to vote as such in the absence of their President or Vice-President, but exhibited no satisfactory evidence of such appointment. That several individuals of such alleged appointees assumed to vote without the authority of the society which they pretend to represent. That several of the votes so given and recorded

where spurious, and given by parties not legally qualified to vote as Directors of the Association, and therefore that the result obtained by the voting as aforesaid, was not a lawful and just decision of the question then submitted. That your Committee, with the view of giving additional prespicuity to this report, annex hereto and embody herewith a schedule, exhibiting in detail a statement of the votes recorded and the particular facts as found by your Committee affecting their validity. That your Committee would respectfully urge upon the Council the expediency of passing a by-law regulating the voting upon similar occasions, and prescribing the precise form of credentials which a voter shall be required to produce before recording his vote, as to ensure more regularity in these particulars for the future.

Your Committee respectfully suggest that your Secretary be admonished to keep the books containing the minutes of the different meetings of the Association with scrupulous exactitude, and that he to be held responsible that the same are not to be tampered with or defaced. That your Committee, advertng to the schedule appended hereto, would draw the attention of the Council to the fact of their being forty-two votes recorded at the said meeting as having been given by parties who have produced no credentials, whatever of qualification, the Committee in consequence having no ready means of estimating the validity of such votes; and it is further noticed by your Committee that even in those cases where credentials have been produced by the voters, such credentials for the most part afford no evidence of the parties therein named having been appointed as delegates by their respective societies according to the Statute—such credentials only go to show that the parties therein named had been nominated or appointed by particular members or office-holders of their respective societies. Also in reference to certain Horticultural and Mechanics' Institute Societies, represented at the said meeting, your Committee are uninformed as to whether the requisite formalities have been complied with in order to entitle them to such representations and report in the premises, assuming all such societies to have been legally constituted.

All of which is respectfully submitted.

J. SKEAD, Chairman.  
S. WHITE,  
JOHN WALTON  
ANDREW WILSON,  
JAMES J. FARLEY.

Mr. RYKERT said the Act did not provide that presidents or vice-presidents must bring certificates.

Prof. BUCKLAND remarked that a blank circular would be sent this year to all the associations for the purpose of securing a list of their officers.

Mr. MACDONALD thought that according to the Act the delegates should be required to bring certificates.

Mr. RYKERT suggested that the Department of Agricultural be requested to furnish the Council with a list of the officers of the branch associations.

Hon. Mr. SKEAD pointed out a number of irregularities and illegalities in many of the credentials that had been sent in previous to the annual meeting of directors. He alleged that the list of delegates had been tampered with, as he had carefully examined it at five o'clock on the evening of the day of the annual meeting, and found only 91 votes

on it, and yet no less than 128 votes were recorded when the vote was taken

Mr. RYKERT contended that the Council had no legal right to pass a by-law regulating the voting at the meetings of the Association. That matter belonged to the Association. However, to bring the matter properly before them he would move the adoption of the report.

Mr. MACDONALD seconded the motion. Considerable discussion followed. It was unanimously conceded that some more stringent regulations respecting the manner of voting were needed, but it was held that was a matter for a meeting of the whole Association.

Mr. RYKERT withdrew his motion, and the committee agreed to amend that clause of their report by striking out the reference to the passing of a by-law and recommending that some steps be taken to regulate the voting at the annual meetings, and that a precise form of credentials be prescribed for voters.

The report was then adopted.

Mr. RYKERT moved, seconded by Mr. Young, that the Secretary be instructed to apply to the Minister of Agriculture for a list of the officers of the branch associations, and that he be further instructed to write to the several agricultural societies requesting that all delegates to the annual meeting be furnished with proper credentials, at the same time furnishing them with the blank forms. Carried.

The Council then adjourned till four o'clock.

The Council re-assembled at 4 o'clock

The SECRETARY read a communication from Mr. Weld, asking the Council to petition the Legislature for assistance to enable him to carry out his emporium plan or to accommodate him for the same purpose. The Council decided that, while appertaining Mr. Weld's exertions, they did not feel themselves at liberty to advise the Legislature in the matter.

In answer to the President,

Mr. GRAHAM, the Treasurer, said the Denison case was not yet decided by the Courts.

The Committee on Accounts reported, recommending the payment of certain accounts. Other accounts from newspapers for advertisements not ordered where referred to the Council. On motion it was resolved not to pay these accounts,

The report of the Committee was adopted.

The TREASURER, Mr. Graham, presented the following abstract of accounts up to the 1st December:—

|  |            |                    |
|--|------------|--------------------|
| Balance on hand 1st Jan, 1870.....     | \$1,649 97 |                    |
| Receipts since that date—              |            |                    |
| Miscellaneous Accounts.....            | 771 54     |                    |
| Prize Account.....                     | 112 00     |                    |
| Rents.....                             | 1,000 00   |                    |
| Government Grant.....                  | 10,000 00  |                    |
| Exhibition Receipts—                   |            |                    |
| Secy. on account of subscriptions..... | \$900 00   |                    |
| Do, on account of booths.....          | 1,510 00   |                    |
| Entrance Fees at Gates.....            | 17,454 81  |                    |
| Forage sold.....                       | 464 65     |                    |
| Other Items.....                       | 52 00      | 20,381 46          |
| On account of Denison.....             |            | 250 00             |
|  |            | <u>\$34,164 67</u> |

|                              |            |
|------------------------------|------------|
| Payments—                    |            |
| Miscellaneous Accounts.....  | \$1,905 11 |
| Prizes.....                  | 11,594 00  |
| Council Expenses.....        | 1,206 75   |
| Veterinary School.....       | 550 00     |
| Salaries.....                | 1,689 98   |
| Printing and Stationery..... | 895 84     |
| Legal Expenses.....          | 410 72     |
| Exhibition Expenses.....     | 6,944 55   |

\$25,196 95

Balance on hand 1st Dec, 1870.....\$ 8,968 02

Mr. GRAHAM added that there was about \$500 yet to come in on Exhibition account.

## Our Country.

### A FEW FIGURES.

The amazing strides our country is making toward wealth and greatness may be estimated after perusal of an article contributed to the *Year Book* by James Young, Esq., M. P. The paper consists of a view of the position of the country, and its facts and figures are gratifying in the extreme.

Notwithstanding that a large part of our territory is a barren and inhospitable wilderness, there remains, says Mr. Young an area of fertile territory capable of supporting a population of a hundred million souls. He estimates that nearly three hundred thousand miles are covered by pine forests and thinks the placing of our annual production of lumber at \$30,000,000 entirely too low, as the amount exported in the year 1868-9 was \$19,838,963.

Of course our chief wealth and chief source of wealth are in our agriculture. The value of the farms in the Dominion Mr. Young estimates at \$672,000; live stock \$250,000,000; agricultural implements \$31,000,000; and the yearly yield of agricultural produce at \$196,789,000. "When it is remembered," he says, "that in 1861 there were only 13,000,000 of acres under cultivation, and that this comprises but a small portion of the arable lands of the four provinces, to say nothing of the millions of acres of rich lands in Manitoba and the Northwest, some idea may be formed of the wealth of our undeveloped agricultural resources.

The annual produce of our fisheries is about \$12,000,000, one-fourth of which is consumed at home, and the rest is exported. Fifty thousand men and fifteen thousand vessels and fishing boats are engaged in this branch of industry.

Our mineral resources have been but little developed, and the present yield does not exceed \$2,500,000 a year; but there are immense deposits awaiting the miner of coal, iron and gold in the Maritime Provinces; iron, copper, silver and gold in Ontario and Quebec; and of gold and coal in the Northwest.

The total realized wealth of the country Mr. Young places at \$400 a head, or \$1,713,241,000. In

the United States, Mr. Wells, late special commissioner of revenue, estimates the realized wealth at \$600, but it must be borne in mind that most property there is estimated at an inflated and often fictitious rate, owing to the disturbance of values, and the altogether conventional worth of the currency. In England the rate per capita is about \$1,000. In savings banks and other moneyed institutions our people have invested about \$65,000,000. Ten years ago the sum so invested did not exceed \$20,000,000.

As great progress has been made in our commerce. In 1850 our total trade was \$30,000,000; in 1860 it had increased to \$65,000,000; the latest returns show a business of more than \$119,000,000; and Mr. Young is of the opinion that during the year now closed it exceeded \$130,000,000.

In the canals we have expended \$20,000,000, and the improvements now in contemplation will involve the outlay of other large sums. In railways we have completed 2,950 miles which cost \$155,000,000; and 1,388 miles more are under construction, which will cost \$40,000,000.

In tonnage we rank fourth among the nations, being surpassed only by Great Britain France and the United States.

The debt of the Dominion is \$88,870,937, representing an annual per capita interest of 98 cents; that of Great Britain costs her people \$4.28 each; and of the United States \$3.75. To pay the national debt of England would require \$122 per head; of France 73; of the United States \$64; but about \$22 a head would pay our debt. Our annual taxation for all purposes of Dominion and Provincial revenue amounts to about \$2.75 a head; in England \$14; in France 10; and in the United States 9.50. But in the latter country there is a state tax to be added, so that the people of the State of New York pay each \$11.10 annually. We commend this latter fact to the attention of those philosophers who are endeavoring to persuade us that we would be much better off in the Union than as we are. When they can convince us that \$11.10 is a much less sum than \$3.75 we will probably be in a good mood to listen further to their arguments.

### 'THE GASPE FISHERIES.

To the Editor.

GASPE BASIN, 26th Dec., 1870.

SIR,—As I have no doubt it would be interesting to your readers in Ontario to hear from this part of the Dominion, I now send you a few remarks in reference to the Fisheries this season.

#### THE SALMON

have been much more plentiful than for many years past, and the prices for fresh fish have ranged very high, being for the first catch 15 cents per lb., down to 7 cents. Upwards of one hundred thousand

pounds was shipped from this place to Quebec during the summer, some of the fishermen making upwards of \$400 during the fishery, which commences about the 15th of May and ends the 1st of August. There has been a great number of fish also taken by anglers from different parts of the Dominion in the rivers York, St. John and Dartmouth. The latter not being leased, is open to fishermen during the season by making application to the Overseer of Fisheries at this place, by paying a small fee per day for the privilege.

#### THE CODFISHERY.

has been much better than in former years, and the prices for the fish ready for shipment much higher, \$4 being the prices paid per quintal of 112 pounds. The average catch for each boat along the coast has been 100 quintals, but on the north shore much more, some fishermen having at the close of the fishing season \$400 coming to them. Some codfish have been caught in the bay as late as the 12th instant.

#### THE MACKERAL FISHERY.

has also been good, but the fish not so fat as the two last seasons. Some boats caught upwards of thirty barrels and the prices ranged high in consequence of the Americans coming in to purchase for their market. As high as \$9 per barrel has been paid. There is no doubt that the protection afforded by the presence of the Dominion fleet in our waters has been the cause of the fish being so plentiful, Jonathan not being allowed to come inshore and entice the fish off with the great quantity of bait thrown over. There is one thing sure, if the Yankees are not allowed to interfere with the inshore fisheries for a few years more, the mackeral will be caught in abundance. It is to be hoped that the Ministers of Marine and Fisheries will appoint the same officers to protect the fisheries that he has this season as a more efficient and gentlemanly set could not be found.

#### WHALING

has not been so good as the last two seasons, the average for each vessel not exceeding 130 barrels, so that after the shoremen receive their quantity, not much is left for the owners of the vessels, and the price not as high as the two former years, being about 50 cents per gallon.

Farming has been good in this part of the country. The wheat is splendid, and other grain crops ripened first rate. Potatoes also are good and turnips in abundance, so that with the good fishing and an abundant crop, there will be no want along the coast, thanks to a bountiful Providence.

There is not much snow on the ground yet, scarcely enough to make sleighing good. Jack Frost has made his appearance the last two nights, and has formed a bridge in the outer harbor, but up to the last two days we have had delightful winter weather.

J. E.

#### LABOR MARKET IN MANITOBA.

With reference to emigration from this country to Manitoba, it will be important to know what chances there are for employment there for those who have not the means to enter at once upon land or go into business on their own account. There is no doubt that the new Province offers a tempting

field for young, men of energy who have a little money and are not afraid to "rough it" for a few years, but the greater proportion of immigrants to any new country must necessarily be those whose means will be nigh, if not altogether expended by the effort to reach their destination, and who must depend, for a time at least, upon obtaining employment. Touching this question as it relates to Manitoba, the following remarks in the editorial columns of the *Manitoban*, of the 27th inst. will be interesting:

"That there is a great scarcity of labor in this Province, everyone who has any thing to do with the employment of hands knows right well. Everybody complains. Boys can't be got, nor girls, and mechanics of all kinds are at a premium. Now this shows very distinctly one thing and suggests another. In the first place it indicated that the Province has taken a start in its onward progress, and the labor hitherto sufficient to implement all its requirements in this respect, is now altogether insufficient. This is certainly a very satisfactory state of affairs in one respect, but then the work must be done, and the question arises who are to do it? And this leads to the suggestion. *We must have some well-organized system of immigration in the first place, to supply the actual poverty of the labor market.* We observe that boys are being imported into Ontario and Quebec, where there are plenty of poor boys already, but here we have no poor boys, and a couple of hundreds of them sent here would not only be a vast boon to the Province, but the lads would grow up to find themselves in a country where plenty and prosperity was their sure portion. Miss Rye, we observe, is still at her good work; will she be good to look over Ontario for once, and come over and help us in Manitoba? A hundred of her girls could find employment within twenty-four hours, and receive higher wages than in any Province of the Dominion. And tradesmen of every class, especially those who can bring along with them some little material, are sure to start here with more work than they can overtake, and may lay the foundation of great future prosperity.

"We would suggest that the employers of labor in the Province should at once organize and endeavor, through the agency of the Emigration Bureau, to secure, early in spring, a supply of labor commensurate with their wants."

### Arts and Manufactures.

#### PRINCIPAL DAWSON ON SCIENTIFIC EDUCATION.

When wars and rumors of war are absorbing so large a share of public attention and sympathy, it is a reasonable relief to have our minds turned to a subject of such practical importance as education, ably and clearly handled by one highly gifted as a practical educator. Principal Dawson's annual lecture for the present session of McGill University is now before us, and we at once recognize it as coming from one who is thoroughly qualified to discuss the great question in its practical bearing on the education of our own country.

We cannot help remarking the use of the word science as an adjective, both in the title page and throughout the lecture is a serious blemish. "Science education," "science teaching," "science school," "science workers," and "science study," are expressions which, to say the least of them, savor of pedantry. They do not however seriously detract from the value of the lecture, and we only allude to them by way of protest against the introduction of expressions of this kind into our Canadian literature.

Dr. Dawson confines his attention to physical or natural science, which is susceptible of experiment, and is therefore founded on experimental evidence. He protests against the idea of science being taught simply from class books, and insists on the necessity of bringing the students into actual contact with the objects of study, and training them to the modes of obtaining the practical results of observation and experiment. After giving an account of the efforts put forth in Great Britain and other countries to promote education in the sciences, Dr. Dawson devoted the close of his lecture to the consideration of the necessity of schools of practical science in Canada. With mining resources of great value, there is no school where a young Canadian can obtain a competent knowledge of metallurgy and mining. With immense public works and enormous surveys of new territories, very little is done for the training of civil engineers and surveyors. We are equally defective in the means and appliances for teaching mechanical engineering, practical chemistry and the art of design. Our young men are practically shut out from the opportunity of attaining a professional education except in the schools of theology, medicine and law.

In order to meet the necessities of the country, it is necessary that the study of physical and practical science should form an essential part of all our liberal education, and that provision should be made in connection with our present colleges and universities for special duties designed to qualify students for particular scientific professions. From the time of his entrance on his duties as Principal of the McGill University, Dr. Dawson has set before him as his great life work the application of the educational institutions of Canada to the training of our young men in scientific methods necessary to qualify them for the applications of science to art. In his efforts to promote education in science we heartily bid him God speed.

We call special attention to the value of education in the elements of natural and physical science in our common schools. Even where children do not pursue these studies with a view to a professional life, the habits of observation and experiment, and the knowledge of causes and effects which such

an education will develop, would open up a thousand sources of gratification, which tend alike to the strengthening of the intellectual powers and to the cultivation and regulation of the moral affections. Ours is a world full of beauty, yet how few of the multitudes who spend a life among its beauties recognize them, or realise how much they minister to human happiness? One man walks abroad in the fields and tramples unconsciously upon flowers, the beauty and fragrance of which fill another with delight. These have the organs of sense alike, but they have not alike the power to enjoy. To teach our youth, to relish a beautiful object in nature, to train them in the observation of the simple and common phenomena of the outer world, will not only open up to them an unfailing source of pleasure, but will tend to enlighten the understanding, to correct the temper, to form the manners and habits of our youth, and so fit them for usefulness in their future station; and it may, in not a few cases, develop that special aptitude for observation and perception and method which fit men to pursue original investigations, and which according to the bent of mind in each, will enable some to add to our scientific knowledge and others to utilize our natural resources and improve our arts and manufactures.

#### ART GLEANINGS.

The Egyptians 2,000 years ago made as fine linen cloth as any that is made now.

In France they are building two-story railroad cars.

Chloride of aluminum is now regarded as a much more efficient disinfectant than even carbolic acid.

The iron resources of Russia exceeds those of any other country in the world: the iron is of every variety, and is always near the surface.

In the up-river countries of Maine, old-fashioned spinning wheels are still so much used that Bangor does a large wholesale business in them.

An exchange tells us that pulverized borax is the best cockroach exterminator yet discovered. It is easy to test the matter, if you have the roaches to experiment on.

The Japanese manufacture a paper which closely resembles leather. The surface is an imitation of a finished skin, and the paper has firmness and elasticity, and can be washed without injury.

A new arrangement of boiler and flues has been successfully tested at Barnsley, England, for preventing the formation of smoke and for burning gases; the saving in fuel was one-third.

Almost any kind of cotton cloth, tweed, etc., it is said can be made water-proof by saturating it in a solution of equal parts of sugar of lead and alum—dissolved in soft water. For many purposes, like farmers' overalls, summer coats, etc., it is a useful expedient.

At the Norfolk Works, Sheffield, a casting has been made of a single piece of steel, for the beam

of a steamer, weighing over 65 tons! In half an hour, 544 crucibles, of 64 lbs. each, were poured into the enormous mould, which was 14 feet in length and 3 feet in diameter.

The new war invention, called the fish-torpedo, is propelled under water by compressed air acting on a screw propeller. On trial at Sheerness, one thus sent a distance of 140 yards, against an old hulk, with a charge of 67 lbs. of gun cotton, struck it, exploded, tore a hole 20 feet by 10, and sank the hulk at once.

Soluble glass or liquid quartz may be made of 35 lbs quartz, 30 lbs potash, 3 lbs charcoal, the whole being fused, pulverized and digested in water. It is used to cover woodware for preservation and to make it fire-proof, also to cement glass and pottery.

Two French chemists have succeeded in producing hydrogen gas very cheaply, by mixing moistened alkaline and earthy alkaline hydrates (such as the hydrates of potash, soda, chalk, &c.) with coal, coke, peat or other fuel, and heating to a red heat, when they decompose into hydrogen and carbonic acid. The hydrates can be moistened anew, and used over again indefinitely.

The *Journal of Chemistry* says that a razor strop does not sharpen the razor edge so much by wearing away the hard steel as by adjusting the edge so that it can act directly upon the beard. The fine edge of a razor, when examined by a microscope of high power, resembles a saw, the teeth of which are jagged and irregular. The strop adjusts these thin bits of steel, so that they stand in line, and they then can saw off the beard with greater facility. And this explains why with a drawing stroke the razor cuts so much better than if pulled in a direct stroke.

## Hearth and Home.

### TAKING THINGS WITHOUT ASKING.

Boys seldom like to hear much about prayer. I never did when I was a boy. I had an idea that it was not manly to pray much, and so I said my prayers when I was obliged to and never uttered a real prayer till I was driven to it by a sense that it was certainly very unmanly not to pray. Boys have a great idea of being manly, and I honor them for it; but they often make sad mistakes in the way which they take of showing manliness. But one thing you will admit is manly and noble, and that is, to ask for what you really wish to receive. It is wrong to take without asking and very shabby not to say "thank you" after receiving a gift; yet this is just what a person does who does not pray. I once had that lesson impressed upon my mind in rather a peculiar manner, and I must tell you about it. When I was a boy, I was playing out in the street one winter's day, catching rides on sleighs, and it was great fun. Boys would rather catch rides any day than go out regularly and properly to take a drive. As I was catching on to one sleigh and another, sometimes having a nice time, and oftimes getting a cut from a big black whip, I at last fastened like a barnacle to the side of a countryman's cutter. An old gentleman sat alone on the seat, and he looked at me rather benignantly, as I thought, and neither said anything nor swung his old whip over me; so I ven-

tured to climb up on the side of his cutter. Another benignant look from the countryman, but not a word. Emboldened by his supposed goodness, I ventured to tumble into the cutter and take a seat under his warm buffalo-robe beside him, and he then spoke. The colloquy was as follows:

"Young man, do you like to ride?"

"Yes, sir."

"Do you own this cutter, young man?"

"No, sir."

"It's a pretty nice cutter, isn't it?"

"Yes, sir, it is, and a nice horse drawing it."

"Did I ask you to get in?"

"No, sir."

"Did you ask if you might get in?"

"No, sir."

"Well, then, why did you get in?"

Well, sir, I—I thought you looked good and kind and that you would have no objection."

"And so, young man, because you thought I was good and kind, you took advantage of that kindness, and took a favor without asking for it?"

"Yes, sir."

"Is this ride worth having?"

"Yes, sir."

"Well, now, young man, I want to tell you two things. You should never take advantage of the kindness of others; and what is worth having is worth at least asking for. Now as you tumbled into this sleigh without asking me, I shall tumble you into that snow-drift without asking you."

And out I went like shot off a shovel, and he didn't make much fuss about it, either. I picked myself up in a slightly bewildered state, but I never forgot that lesson.

God is good, and kind, and benevolent, but He wishes us to ask for what we want, and to thank Him for what we receive; and there is no true manliness in taking the best of Heaven's gifts and making no acknowledgment for them; is there, boys?—*Churchman.*

### HOW TO BE HANDSOME.

Most people like to be handsome. Nobody denies the great power any person may have who has a good face, and who attracts you by good looks, eved before a word has been spoken. And we see all sorts of devices in men and women to improve their good looks—paints and washes, and all kinds of cosmetics, including a plentiful anointing with dirty hair oil.

Now not every one can have good features. They are as God made them; but almost any one can look well, especially with good health. It is hard to give rules in a very short space, but in brief these will do:

Keep clean—wash freely and universally with cold water. All the skin wants, is leave to act freely, and it will take care of itself. Its thousands of air holes must not be plugged up.

Eat regularly and simply. The stomach can no more work all the time, night and day, than a horse; it must have regular work, and regular rest.

Good teeth are a help to good looks. Brush them with a soft brush, especially at night. Go to bed with the teeth clean. Of course, to have white teeth, it is needful to let tobacco alone. Any powder or wash for the teeth should be very simple.

Acids may whiten the teeth, but they take off the enamel or injure it.

Sleep in a cool room, in pure air. No one can have a clean skin who breathes bad air. But more than all, in order to look well, wake up the mind and soul.

When the mind is awake, the dull, sleepy look passes away from the eyes. I do not know that the brain expands, but it seems to. Think, read—not trashy novels, but books that have something in them. Talk with people who know something; hear lectures, and learn by them.

This is one good of preaching. A man thinks and works, and tells us the result. And if we listen, and hear, and understand, the mind and soul are worked. If the spiritual nature is aroused, so much the better. We have seen a plain face really glorified by the love of God and man which shone through it. Let us grow handsome. Men say they cannot afford books, and sometimes they do not even pay for their newspaper. In that case, it does them little good, they must feel so mean while reading it. But men can afford what they really choose. If all the money spent in self-indulgence, in hurtful indulgence, were spent in books and self-improvement, we could see a change. Men would grow handsomer, and women too. The soul would shine out through the eyes. We were not meant to be mere animals. Let us have books, and read them, and lectures and hear them, and sermons and heed them.—*Health Reformer.*

#### THE OLD FASHIONED MOTHER.

Thank God, some of us have had an old fashioned mother. Not a woman of the period, enameled and painted, with her great chignon, her curls and bustle; whose white jeweled hand never felt the clasp of baby fingers; but a dear, old fashioned, sweet voiced mother, with eyes in whose clear depths the love light shone; and brown hair, just threaded with silver, lying smooth upon her faded cheek. Those dear hands, worn with toil, gently guided our tottering steps in childhood, and smoothed our pillow in sickness; even reaching out to us in yearning tenderness, when her sweet spirit was baptised in the pearly spray of the beautiful river. Blessed is the memory of an old fashioned mother. It floats to us now, like the beautiful perfume from some woodland blossoms. The music of other voices may be lost, but the entrancing melody of hers will echo in our souls for ever. Other faces may fade away and be forgotten, but hers will shine on until the light from Heaven's portals will glorify our own. When in the fitful pauses of busy life our feet wander back to the old homestead, and crossing the well worn threshold, stand once more in the low, quaint room, so hallowed by her presence, how the feeling of childish innocence and dependence comes over us, and we kneel down in the molten sunshine, streaming through the western window—just where long years ago, we knelt by our mother's knee, lisping "Our Father." How many times, when the tempter lures us on, has the memory of those sacred hours, that mother's words, her faith and prayers, saved us from plunging into the deep abyss of sin. Years have filled great drifts between her and us, but they have not hidden from our sight the glory of her pure, unselfish love.—*Heath and Home.*

#### STAMPING OUT SCARLET FEVER.

Ninety thousand persons died of scarlet fever in the years 1863, 1864 and 1869, in England and Wales. This is a higher rate of mortality than was ever recorded for cholera. And yet no public anxiety was, or has been yet manifested concerning this scourge, and no efforts have been made to diminish its prevalence. The same remarks apply to this country. A disease, more deadly than cholera, yet as positively under our control as small-pox, is suffered as a necessary evil, without a murmur. Of course these 90,000 deaths represent only a small proportion of the cases of the disease; and it is an open question whether death is not preferable to the condition of many of those who recover.

Scarlet fever may be "stamped out" as effectually as the small-pox, or as the cholera. But to do this it is necessary that the public should know something of the nature of the "poison germs" of the disease. This knowledge the physician should supply; but a sufficient reason for his failure to do so is, that neither his text books nor lecturers give him any information on the subject at all; and he neglects to seek information from other sources, because public health or preventative medicine is not his province, but rather public sickness or curative medicine. Prevention, though is better than cure; and if the public will learn and understand that the scarlet fever poison will lie dormant in woollen clothing for years, without losing its terrible power of communicating disease; and that not until the scaling off of the skin of the patient is complete, no matter how strong and well he may seem, is he safe from giving fever to others, then the public will be in the direct road of prevention, rather than relying on the doctors to cure.

Isolation of the patient, more sedulously than if it were the small pox, is the first step toward preventing its spread. The free use of such disinfectants as will destroy the "poison germs" is the next; carbolic acid is the most important of these, and should be used unsparingly in the sick room—all the excretions of the patient should be brought in contact with it, and all clothing or linen worn or used by him should be steeped in a solution of it, and no nurse or physician should leave his room without washing his hands in such solution. For woollen cloth, exposure to a temperature 212 degrees will destroy these germs. And finally by preventing the patient coming in contact with the others until the skin has ceased to scale off, the spread of this disgrace to our civilization may be effectually checked.—*Health Lift.*

#### BEER, BRICKS, AND BUILDINGS.

Mr. Taylor, of Birmingham the founder of freehold land societies, says:—

I persuade a man to keep sober. I tell him that with every quart he consumes twenty-five bricks. I show him how, in the course of two years, at one quart a day he swallows as many bricks as would make a nice cottage. My old grandfather died when nearly a hundred years old. He lived in one house nearly eighty years, and at the time of his death, he had not so much as a brick or a chimney pot, although he paid rent all his life. Now had he belonged to a building society, his grandson might have been better off than he is.

I have said that a quart of ale is equal to twenty-five bricks, and a paper of tobacco is the mortar to lay them with. There they are, the twenty five bricks and the mortar, going from many a man's pocket over the public house counter every day. Such men will never be freeholders. In Birmingham we have bought freehold land at the rate of 1s. 6d. per yard—two quarts of ale and a paper of tobacco exacty.

I remember sometime ago telling the coalheavers and the limestone quarrymen, in a meeting at Dudley, that every quart of ale was equal to half-a-yard of freehold land. One man got up at the far end of the room and said, 'What is that you say, mister?' I replied, 'Why my dear fellow, with every quart of ale you drink you swallow half-a-yard of land.' 'Well, then,' said he, 'I have swallowed many a field in my time.'

Upon a calculation, we find that the loss of money alone to a man spending 6d. a day in drink (a pint of ale for instance) amounts at the end of twenty-seven years (with compound interest at five per cent.) to the large and handsome sum of five hundred and nine pounds, sufficient to buy half-a-million of bricks, which would build, say twenty-five houses; or at one shilling and a penny per square yard, it would purchase an estate of two acres of building ground, or land enough for forty respectable houses and gardens; or it would purchase three good houses all complete.

Workingmen! is there not some inducement here to leave off this drinking? Remember that in the above calculation there is nothing whatever put down for loss of time and health; this would amount to far more than the actual cost of the drink.

#### THE DOT GAME.

A correspondent of *Hearth and Home* describes the following simple amusement, which will train the attention as well as afford attention.

Each player must be provided with pencil and paper, or slate and pencil. Let one of the party read aloud—distinctly and not very fast, and as he or she reads, let the rest each make a dot for every word read. "Easy enough to do that"—is it? Try. Probably at the first trial not one of the party of ten boys or girls will succeed in following a moderate reader accurately, even for a single page. When the page is read, count the words, and then let each player count his dots, and see who has been accurately "up to time."

**DON'T BE TOO CERTAIN.**—Boys, don't be too certain. Remember that nothing is easier than to be mistaken. And if you permit yourself to be mistaken a great many times, everybody will lose confidence in what you say.

"John, where's the hammer?"

"It is in the corn-house."

"No, it is not there; I have just been looking there."

"Well, I know it is: I saw it there not half an hour ago."

"If you say it is there it must be there of course. But suppose you go and fetch it."

John goes to the corn-house, and presently returns with a small axe in his hand:

"Oh, it was the axe I saw. The handle was sticking out from a half-bushel measure. I thought it was the hammer."

"But you said positively that you *did* see it, not that you *thought* you saw it. There is a great difference between the two answers. Do not permit yourself to make a positive statement, even about small matters, unless you are quite sure; for if you do, you will find the habit growing upon you, and by-and-by you will begin to make loose replies to questions of great importance. *Don't be to certain!*"  
—*Young Pilgrim.*

#### SOME PUZZLES.

Our sharp-witted young readers will enjoy cracking these nuts, which we find in an exchange. Some of them have thick shells, but some will crack easily.

I.

Dreaming of apples on a wall,  
And dreaming often dear,  
I dreamed that if I counted all,  
How many would appear?

II.

A stick I found, that weighed two pound:  
I sawed it up one day  
In pieces, eight, of equal weight,  
How much did each piece weigh?

[Everybody says "a quarter of a pound," which is wrong.]

III.

John gave his brother James a box:  
About it there were many locks.

James woke, and said it gave him pain:  
So gave it back to John again.

This box was not with lid supplied,  
Yet caused two lids to open wide:

And all these locks had never a key—  
What kind of box, then, could it be?

IV.

What is most like a bee in May?  
"Well, let me think; perhaps—" you say.  
Bravo! you're guessing well to-day!

V.

Three sisters at breakfast were feeding the cat.  
The first gave it sole—Puss was grateful for that;  
The next gave it salmon—which Puss thought a treat;  
The third gave it herring—which puss wouldn't eat.

[Explain the conduct of the cat.]

VI.

Said the Moon to the Sun,  
"Is the daylight begun?"  
Said the Sun to the Moon,  
"Not a minute too soon."

"You're a full moon," said he.  
She replied, with a frown,  
"Well! I never *did* see  
So uncivil a clown!"

[Query: Why was the moon so angry?]

VII.

When the King found that his money was nearly all gone, and that he really *must* live more economically, he decided on sending away most of his Wise Men. There were some hundreds of them—very fine old men, and magnificently dressed in green velvet gowns with gold buttons: if they had a fault, it was that they always contradicted one another when he asked for their advice—and they certainly ate and drank *enormously*. So, on the whole, he was rather glad to get rid of them. But there was an old law, which he did not care to disobey, which said that there must always be

"Seven blind of both eyes;  
Ten blind of one eye;  
Five that see with both eyes;  
Nine that see with one eye."

[Query: How many did he keep?]

—*Hearth and Home.*



A FOUR-YEAR-OLD'S PRAYER.—One dark, stormy night, mother woke up. Hark! who is talking? Mother did not speak; she kept still to hear what her little girl said. Alice was not fretting; she was not worrying. She was not afraid of the dark or the wind. How do you know? I will tell you what she was saying—saying all to herself in her snug little bed by mother's bed, "God, take care papa, mamma, I. Good God, take care papa, mamma, I. Dear, grand God, take care birdies. Dear God up in the sky, I love you, I do, do; and with that her voice died away, and she fell asleep again.—Selected.

### HEARTH AND HOME GLEANINGS.

In cases of fainting the *Herald of Health* recommends that the person be placed in a horizontal position on the back with the head lower rather than higher than the rest of the body, and where he can have fresh air. Loosen all the clothing about the throat, chest, waist, and abdomen. Sprinkle cold water on the head and face. If that does not effect the desired result, pour a stream of cold water from a height of several feet on the head. When the patient can swallow, a drink of cold water should be given. Rub briskly and slap sharply the palms of the hand and the soles of the feet, and in obstinate cases, do the same to the whole surface of the body. In most cases the horizontal position and pure air are sufficient to restore the patient. When a person feels the premonitory symptoms of fainting as many do, he should at once place himself flat on his back. This alone will usually prevent the fits.

The *Health Lift* does not think so badly of corsets as some do, but holds that, since the Lord made woman to breathe with the upper portion of the chest, whilst in man the respiratory motion is mainly in the middle and lower portions, a properly fitting corset may be a very comfortable, and in no wise injurious article of dress. But it urges with great emphasis that undergarments be suspended from the shoulders and claims that the common practice of suspending them from the waist is responsible for that muscular weakness of the abdomen which in these latter days makes the labors of childhood such a season of pain and peril.

On this question of eating, Dr. W.W. Hall says that it is not wise to eat by rules made in the chemical laboratory, or in the study of the philosopher. "Eat what you feel like—that is partake in moderation of what is most palatable to you; but if, in rare cases, it is found that what you are most fond of is followed by disagreeable results, gracefully yield to nature, avoid it for a while at least, and you will find that what does not agree with you to-day, may be actually beneficial next month or next year."

There is great danger to health when privy vaults and cess pools are allowed to stand but a little distance from wells. The soil between will at first filter whatever escapes from them, but in time loses that power by being clogged with the foreign matter, and the well is poisoned by the ammonia and nitrous matter that find their way into it.

The attacks of the ordinary hiccup can be driven off—according to an exchange—by holding the arms straight above the head and taking "long breaths," keeping the air in the lungs as long as possible.

Cases multiply of poisoning from the use of pop-

ular hair restorers and the effects of the lead that almost or quite all of them contain. Paralysis and blindness are two of the most common and most dreadful results.

Childhood is like a mirror, catching and reflecting images all around it. Remember that an impious or profane thought uttered by a parent's lips may operate upon a young heart like a careless spray of water thrown upon a polished steel, staining it with rust, which no after-scouring can efface.

### Poetry.

#### PRIDE.

BY JOHN G. Saxe.

'Tis a curious fact as ever was known—  
But often in human nature shown,  
Alike in castle and cottage—  
'That pride, like pigs of a certain brood,  
Will manage to live and thrive on food  
As poor as a pauper's pottage!

Of all the notable things of earth,  
The queerest thing is the pride of birth  
Among our "fierce Democracy!"  
A bridge across a hundred years,  
Without a prop to save it from sneers—  
Not even a couple of rotten piers—  
"A thing of laughter, flings, and jeers—  
Is American aristocracy!"

Depend upon it, your snobbish friend,  
Your family thread you can not ascend,  
Without good reason to apprehend  
You may find it waxed at the other end  
By some plebeian vocation;  
Or, worse than that, your boasted line  
May end in a loop of stronger twine,  
That plagued some worthy relation.

Because you flourish in worldly affairs,  
Don't be laughty and put on airs,  
With insolent pride of station;  
Don't be proud and turn up your nose  
At poorer people in plainer clothes;  
But learn for the sake of your mind's repose  
That all proud flesh, wherever it goes,  
Is subject to irritation.

#### THE BIRD'S-REGENT'S MEETING.

What birds pecked the cherries on Barnaby's tree?  
"I pecked them for one," said a bold Chickadee;  
"And so did I peck them," said a Robin Redbreast,  
"And, what's more, the cherries I pecked were his best.

"Didn't he have some red flannel, one day,  
Put up in the tree just to scare me away?  
But I'm not afraid of red flannel a bit."  
"And I'm not afraid," said a little Tomtit.

"Didn't he aim with an old rusty gun  
At me?" said a Sparrow; "oh, wasn't it fun?  
He meant to fright me; but I didn't care;  
I just chirruped out to him, 'shoot if you dare!'"

"Hear me, my brave birds," said a solemn old crow,  
"This Barnaby I have good reason to know;  
His insults for many a year I have borne,  
When peacefully trying to harvest my corn.

"My treatment of him has been civil and fair  
I've always been willing to give him a share;  
I never have grudged him my corn or my beans,  
But nothing can teach him what gratitude means.

"My friends, I shall soon lay before you a plan  
To put down this insolent creature called 'man,'  
A creature that has neither feathers nor wings;  
Yet sets himself up to be very great things.

"I hereby proclaim in the plainest of words,  
That henceforth mankind must succumb to the birds.  
I'm glad that this Barnaby's cherries you pecked;  
The man has no rights that a bird should respect."

The speech was received with a round of applause:  
"Your cheers," said the Crow, "argue well for the cause;  
When next we assemble, my plan you shall learn;  
There's Barnaby coming—'tis time to adjourn."