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RURAL NOTES.

The scarcity of clover feed during the past winter was a serious loss to breeding ewes. That, with pea straw, is a palatable and healthy food for sheep, and their condition in many parts of the country this year has been far from satisfactory. The percentage of deaths among lambs is considerably higher than the average.

In the northern counties of Ontario during the past winter a considerable area of fall wheat has been destroyed by the snow drifting along the rail fences. It has been wisely suggested that the substitution of wire fences for the rail would obviate drifts, and there are many localities now where wire is cheaper than rails for fence-building.

BEES did not fare well during the past winter. In fact an unusually large number of hives were found to be dead when spring opened. The chief cause doubtless is, the failure of the food supply owing to the long winter; but it is probable also that quite a few perished by being smothered with snow—the result of neglect on the part of their keepers.

FARMERS in York, Grey and some other parts of Ontario are organizing joint stock companies with the object of introducing thoroughbred stock. If these companies are wisely managed they are capable of doing a great deal of good. The high price of first-class cattle and horses makes it difficult for many farmers to go into the business single-handed, but on the company plan it is easily managed.

OHIO and Illinois farmers are this year complaining of their seed corn, as much of it has failed to germinate. The reason is, that they left it exposed to the storms and frosts of winter, instead of selecting it in the fall and keeping it in a dry place until required for planting. The same mistake has not infrequently been made in Ontario. We shall soon hear whether it was made last fall or no.

MARYLAND gardeners find that peas, tomatoes and sweet corn from northern seed mature earlier and have a better flavour than those from home-grown seed. This is found to be true in Ontario as well as in Maryland, and applies to all seeds—whether of grain, fruits or vegetables. The best results are invariably obtained with seed brought from the northerly counties of the Province, and usually better the second year than the first.

According to the May returns to the department at Washington, the condition of wheat was poorer the 1st of that month than on April 1st in New York, Michigan, Ohio, Illinois, and Mis-

souri. With the exception of Indiana and New Jersey, which are unchanged, all the other northern States report an improvement. The statistical agent of the department in London reports an improvement in European wheat prospects during the month.

The sparrow is beginning to be better known in this country now, and he don't improve upon acquaintance. The *Louisville Courier-Journal* sizes him up thus: Steals wheat; eats few moths; makes too much noise; picks off blossoms; eats early lettuce; drives off useful birds; disfigures buildings; befouls gutters; and can't sing. It is a bad reputation, but it is one thing to say the sparrow must go and quite another to get rid of him.

It is not at all unlikely that Ontario farmers will have a short crop of hogs this year. There is a general complaint of pigs having been dropt dead, and with many of our farmers now the practice is to fatten spring pigs for next winter's market. The cause of the mortality does not appear to be well understood, but doubtless the long winter has something to do with it. Hogs are never so healthy as when they can get free access to the ground.

Mr. W. HASKINS, writing to the *Hamilton Times*, says:—"Grape vines have wintered well and none have been killed in this section. There is a good prospect for a crop, though the late spring will shorten the season for growth. Concord, Delaware, and Rogers' hybrids are the favourite varieties. Enough peach buds have escaped injury to give a good crop. The past winter has been a favourable one for the fruit-grower, and the prospects all round are good."

The cultivation of the mistletoe for ornamental purposes is recommended in foreign papers, and young trees with mistletoe growing on them are offered for sale in English nurseries. It is generally found on branches of apple-trees, but it is not very particular in this respect, and takes its habitation also on different other trees. It may be raised from seed placed in the crevices of the bark of young, healthy branches, or it may be propagated by grafting, in which case a portion of the bark of the tree from which it is taken has to be cut with the piece, and firmly secured to the new position.

Persons who are not aware that the first cup of tea poured out is the weakest, and that the tea grows stronger as you proceed, often bestow the poorest cup upon the greatest stranger and give the strongest to the youngest member of the family, who would be better without any. Where

several cups of equal strength are wanted, you should pour a little into each, and then go back, inverting the order as you fill them up, and the strength will be apportioned properly. This is so well understood in England that an experienced pourer of tea waits till all the cups of the company are returned to her before she fills any a second time, that all may share alike.

An instance showing how fruit culture pays when it is properly attended to is given by the *Empire State Agriculturist*. A half acre of orange quinces was planted in 1871, having a protection of low hedges and apple trees, and a barnyard on its upper side. It gets a yearly mulch of twenty loads of stable manure, and the leach of the barnyard, and the trees get a little pruning each year. The trees began bearing in 1877, and the six crops gathered since that time have netted \$1,100. That is pretty good for a half acre orchard; it is more than half the average yearly earnings of a day labourer. The fruit, it may be remarked, was duly thinned, as it always should be when the crop is heavy.

Jersey cattle are fast coming into favour in the United States, and fancy prices are being paid for first-class animals. Several sales have been made recently at \$10,000 and \$12,000 figures. But of course it is only amateur farmers who pay such prices as these. No Jersey in the world is really worth it. Fifteen or twenty years ago Merino sheep were the rage, and rams of a certain strain brought prices ranging from \$7,000 to \$14,000 each. But no man in his senses would dream of paying such prices to-day. The Merino found his proper level in due time, and so will the Jersey; so do corner lots in a boomed town, but only after a dozen or more people have gone into bankruptcy over them.

There is real economy in a coal oil stove in the summer season, if the proper article is obtained. But it should be a good heater, two or three five-inch wicks will usually answer for all purposes, although some stoves are furnished with as many as six. With plenty of heating capacity heavy work can be done when desirable, and the burners are easily regulated to suit any requirement. Two or three cents worth of coal oil per day will run a good sized stove, and one of the great beauties of the concern is that no time is lost in its management. The full heating power may be obtained in less than half a minute, and the moment its work is done the furnace may be extinguished. The coal oil stove has much to commend it to the prudent house-wife, but we think that manufacturers have not yet paid sufficient attention to its construction.

FARM AND FIELD.**A WELL-KEPT KITCHEN.**

Unless your scraps are to be saved for a cow or pig, burn all leavings and pairings, the refuse from tables, and the scrapings as fast as made. Open all the back drafts of the stove, put the leavings on the hot coals and let them dry and burn, which they will do in a few minutes. With the drafts open there will be neither smell nor smoke. If the scraps must be saved, have a waste pail with a tight cover, or a covered firkin large enough to empty a panful of parings into in a hurry, without dropping any on the floor. Never pour slops with the waste, for it sours and ferments sooner. Have the pail emptied twice a day in warm weather and scrubbed with water and a few turns of an old broom, which cleans it without touching your hands to it. But if rinsed, drained and dried in the sun even your waste-pail will be as neat, wholesome and well kept as any of your belongings. Every wash-day all slop pails and barrels should be scrubbed with hot suds and a broom outside and in, scalded and aired, when I think you will not have to shrink from them as disagreeable subjects. Kitchen furnishing shops supply large tight garbage firkins neatly painted with covers, which never need be obnoxious to sight or smell. A sour waste barrel in a corner always foul with droppings is not to be tolerated, for it is enough to cause fever in warm weather. You must not consider it beneath you to look after such details of house and yard, to see that everything in sight or out of sight is wholesome, clean and safe as it is possible to be. You have been taught to despise the slovenliness which wears a good dress and bright ribbons with unwashed skin and careless underclothing; learn also to despise and dread the housekeeping, which is satisfied with pretty parlour and chambers, while the closets are unswept and musty, and the back sheds and cellar full of half-decayed rubbish. Dread it because such neglect causes ill health. Do not rest till the working part of your house is as pleasant as the well-furnished part.

Of all rooms in a house, I delight in a well-kept kitchen, for no other room is so given up to good works and consummate cleanliness, so washed and scoured and polished, till it smells of the sanctity of neatness. When the western sun shone broad and merry over the sparkling window, yellow floor and white tables, when a savour of sweet marjoram and lavender from the window-boxes was in the air, and the shining stove with its bright tea-kettle and simmering pans was a shrine of good cheer, I have taken portfolio and books out in my kitchen to the light stand and little Shaker chair to enjoy the sparkling humour, the warm home radiance, the neatness and seemliness which made the place akin to poetry and clear thoughts.—*The Next Neighbour, in April Wide Awake.*

A WORK-SHOP ON THE FARM.

Every farmer who has any mechanical genius should have some place where, in rough or stormy weather, he can go and make such repairs on his farm implements as his knowledge of mechanics will enable him to do well. If the farm be large and the farmer skilful, it pays to have a small building by itself, where not only carpenter's tools are to be found; but also a blacksmith's forge, with a few of the most important tools.

The farmer who can turn his hand so as to use successfully both the carpenter's plane and the blacksmith's hammer, is truly fortunate, because it enables him not only to mend his farm implements during leisure hours in the winter, but it also enables him to repair a sudden break-down

in the busy season much quicker than he usually could if he had to depend on others living at a distance. It is not, however, good policy for the farmer to turn his attention so much to mechanics as to neglect his farm; there is a point beyond which it is neither profitable nor good policy to go.

On a farm where there is a family of boys the repair-shop is a necessity, if the boys are to receive thorough instruction and the farm is to be made attractive. The boy who is able to make his own sled feels an independence which is unknown to the boy who has never had an opportunity to become acquainted with the use of tools; and when he has a farm of his own, the practice which the repair-shop gave him will enable him to readily make most of the repairs on the farm, and if, he has leisure, make many new improvements. A repair-shop should always be a building by itself, because if in connection with others, it increases the risk of fire, and makes the rate of insurance very much higher.—*Mass. Ploughman.*

ASHES VS. VEGETABLE MATTER.

A suggestive lesson may be derived from the following simple experiment. Upon one acre of land a farmer ploughed in a quantity of cornstalks, while upon another acre he spread the ashes resulting from the burning of an equal quantity of stalks. Both acres were planted with corn. That upon which the stalks were burned gave the best start, but the acre upon which the stalks were ploughed in soon caught up and surpassed the former, and finally matured the better crop.

This experiment illustrates the difference between mineral fertilizers and decayed vegetable matter or humus. The minerals, being in a soluble condition, soon made themselves manifest in the increased growth produced. At first the buried cornstalks had no effect upon vegetation except by increasing the porosity of the soil, and by admitting larger supplies of atmospheric air to act upon the constituents of the soil. When the stalks began to decay, and the minerals were not only liberated from the stalks but also from the soil in contact, then the corn which was planted upon the stalks began to pull ahead of that planted upon the plot fertilized with ashes. The value and efficiency of the ashes would be sooner exhausted than the vegetable matter of the stalks.

Again, where the stalks were used the fertility of the soil would be increased, because in all probability the nitrogen contained in the stalks would remain intact until liberated by their decay. This substance would be in the form of ammonia and its compounds, that would be again decomposed before becoming available plant food. In burning the stalks, although all the minerals would be preserved in the ashes, yet it is quite certain that the nitrogen would be thereby expelled, thus robbing the plants of the fertilizing properties of that valuable agent. We should have many such experiments before establishing a theory, yet these suggestions might easily be followed out on other farms and by other farmers.

THE FARM DIARY.

A correspondent of the *Country Gentleman*, after acknowledging the almost necessary failure of farmers in keeping the daily record of work and events written up promptly as shown in his own experience, recommends a compromise in the form of a weekly record to cover principal affairs. The idea is open to only one serious criticism. The weekly record will be considerably more apt than the daily to be made the work of Sunday morning or afternoon. Better keep no diary at all than to fall into the habit of "catching up" on the

Sabbath. And yet we dislike to give up the diary as a failure. People find time for a few habits regularly year after year without a single interruption. Even the busiest farmer in the land has seldom in his life-time forgotten to take his dinner at noon or to go to bed at night. We all manage somehow to wind the clock on schedule time, to set the hens in the proper season, etc. And there is only a mild form of compulsion behind most of these routine performances; why not implant the habit of writing a few lines at every day's close to preserve the memory of the day?

The family diary should be so framed as to require a minimum of writing, and we should restrict ourselves to one or two leading events or occupations every day. There should be a blank for an entry of weather aspects to be filled in at pleasure and generally only marked weather aspects need be noted. Then occupations, business transactions and miscellaneous memoranda should have places assigned.

In every family some one should be secretary and that one should be held responsible for not only the historical but also for the financial book-keeping. If that secretary be a boy or a girl, this part of daily duty will prove one of the most valuable aids to education.

AN ACRE OF CLOVER.

In two and a half tons of clover hay, or in an acre of clover sod of corresponding quantity, there will be, both for grain and straw, enough phosphoric acid for a crop of thirty-four bushels, of combined nitrogen for seventy-one bushels of potash for 102 bushels, of magnesia for 120 bushels, and of lime for 270 bushels. In other words, the clover hay or sod contains enough phosphoric acid for more than double an average crop enough nitrogen for more than four average crops, and potash for more than six average crops of wheat. With such figures before you, do you wonder that farmers are surprised at the large crops they can raise on clover sod? You see also why lands in rotation with clover can endure the heavy tax of two crops of wheat in succession without a complete exhaustion. But when a body of clover is ploughed in with sod, we reach results that round out that figure of Oriental magnificence: "The pastures are clothed with flocks, the valleys also are covered over with corn; they shout for joy, and they also sing."—*Professor Beal.*

WOOD ASHES AND POULTRY DROPPINGS.

I use thousands of bushels of wood ashes, spreading them on the top of the ground after ploughing, and harrowing them in, and the result is always satisfactory. I also use all the hen manure I can get, having some years as much as seventy-five barrels, nearly all of them either sugar or salt barrels, and, after trying many experiments, have settled down to the following as about the best. A barrel of the manure is emptied out on dry and hard ground and worked over with shovels or six-tined forks until it is fine, and then about three barrels of fine dry earth is mixed with it, and all worked over together until no one would know by scent or handle what it is. The largest crop of potatoes I ever saw was manured with one large single handful of this preparation in each-hill. The land was in a good condition and the crop well cared for; but these alone would not account for the enormous yield—at the rate of 640 bushels per acre. The effect on corn is about equally good. The above may seem like a laborious preparation of this very valuable manure, but I know it pays. Plant-food

must be reduced to either a liquid or gaseous form before it is in proper condition to be appropriated; hence the more finely it is pulverized and the more thoroughly incorporated with the soil, the nearer ready for immediate use, other conditions being equal. I am satisfied that farmers often lose heavily by not having all manure in a good state of preparation for the growing crops. It should be in such a condition that it is readily available, and at such times as the plants most need it.—*J. M. Smith, in The Tribune.*

PLANT TREES ON THE FARM.

There is a great scarcity of shade trees on many farms, and it would be a good thing for the coming generation if an "arbor day" could be set apart, as it is in Michigan, when every man and boy should feel it his pleasure and duty to plant one or more trees. Some States are so alive to this necessity that a reward is offered to the one who will plant the greatest number of forest trees on that day. If towns and villages would interest themselves in this matter, in twenty years there would be a great difference in the appearance of their lawns, streets, and farms.

In the forests still left untouched by the woodman's axe there are plenty of young maples, oaks, and elms, that the owners would willingly give to those who would set them out. After they have become well started, they ask no further care, and in twenty years will give you full return for your labour.—*The Cultivator.*

DEPTH FOR PLANTING CORN.

Professor Lazenby gives in his report as Director of the Ohio Experiment Station, the results of an interesting experiment on this question, in which corn planted on the 2nd of June, at the depths of two and three inches, yielded nearly forty per cent. more grain than that planted one inch deep, and twenty-six per cent. more than that planted four inches deep. It is probable that, if the planting had been done earlier in the season, the very shallow planting would have shown less disadvantage, and the very deep planting more; but the experiment forcibly shows how much may be lost through a little error in management.

In this experiment, the one-inch planting made but 75 per cent. of a stand, while the two-inch planting made 100 per cent., and the three and four inch 90 per cent., thus showing the risk of shallow planting late in the season.

COMMERCIAL FERTILIZERS.

The question whether or not it pays to buy commercial fertilizers is one that many farmers are considering at this season of the year. In the first place, it does not pay to buy them unless you know what your soil needs, and how they should be applied. To buy without knowing what you buy, and to apply it indiscriminately, is not wise. Some farmers purchase a quantity of concentrated fertilizer and sow it in a deep furrow, and so lose much benefit which would be derived therefrom if sown broadcast and near the surface. It does not pay to buy it and let good stable manure go to waste. Use your farm-yard fertilizers first, then buy commercial fertilizers to supplement and fill out, if you wish. A neighbour of mine has a farm-yard situated above the roadway, and every rain that comes washes out into the road great quantities of liquid manure, which ought to be absorbed by throwing straw into the yard, or composting it with muck or course manure. It would not pay this man to buy commercial fertilizer, at \$50 a ton, and let this go to waste. To sum up, we believe it pays a good farmer to

apply potash, ammonia, and phosphoric acid to his land if he knows it needs it, and this can be best ascertained by experimenting on small plots in different fields. It is an important question to decide upon.

FERTILIZING VALUE OF THE SOD.

According to experiments and analysis made in Germany to determine the number of pounds of roots and stubble contained in an acre of clover sod, to the depth of ten inches, it is shown that there were 8,921 pounds, which contained 191 pounds of nitrogen, besides considerable potash and phosphoric acid. Undoubtedly, the acre of sod which contained roots enough to afford such a large amount of nitrogen, was produced on land in a high state of cultivation, but suppose that an acre of sod contained only one-half as much nitrogen, or ninety-five pounds. How could a farmer supply an equal amount of fertilizers to his soil so cheaply and so easily as by clover raising? The clover root is rich in nitrogen, a fertilizer which is the most costly of any element of plant food offered in the market—say from \$20 to \$35 an acre. It is just the fertilizer needed for the growth of wheat and corn. A crop of wheat, yielding twenty-five bushels of grain, is said to contain, in the stem and grain, about sixty pounds of nitrogen, or only about one-third the amount found to be contained in an acre of good clover sod in Germany, furnishing the best evidence that a clover sod is an excellent preparation of the land for a wheat crop.

SALT NECESSARY.

If horses, cattle, and sheep could have salt for them to lick or nibble at all times as they desired, while in stable, yard, or pasture, they would escape various diseases and be more thrifty and useful than when deprived of it, or even given irregularly. Swine and poultry are better for having a little pure brine mixed up with their food. Since we have made this a regular practice, we have never lost an animal from disease of any kind, and only a few fowls, and these latter would not have become sick, had they not unfortunately got at an uncovered sink-hole, where they picked out bits of decomposing bread and vegetables, a small quantity of which had got there from the dish-water. The rock salt that comes in large lumps, and may be bought at low rates by the ton, is excellent for live stock. Boxes for this salt may be arranged by the sides of the mangers and in the pasture. They will need filling at distant intervals.

SATURDAY NIGHT.

The whole length of the busy working week lies between crisp, bustling, important Monday morning, and weary, hurried and hurrying Saturday night. How different is the one from the other. Saturday night is devoted to odds and ends. There are last stitches to be taken, errands to be done, rips to be repaired, and little things to be thought of, that the day of rest may find us ready.

I like the old custom that treats Saturday evening as the vestibule to Sabbath. I do not think the Sabbath is ever so dear and so sacredly helpful when we awaken to its blessed opportunities jaded and unfreshed because we have toiled too long and too late on Saturday.

Nor do I think that an evening of social gaiety is the most fitting preparation for Sabbath. Quietly, reverently, in pleasant converse with the household, or with friends, or over the Bible and the Sabbath-school lesson, let the closing hours of the week glide away till the curtain of sleep falls over the eyes.

HINTS FOR THE HOUSEHOLD.

FASHION item: Pumpkins may be dressed in a sheet, after scooping out the inside, cutting the outlines of a human face in the rind, and putting a candle therein. The effect is very pleasing.—*Exchange.*

GRAVY, which is excellent with boiled fish or with pork steak, is made by browning a sliced onion in a little butter, and adding a little at a time to some beef stock; thicken with flour rubbed smoothed in a little of the cold stock. Add, if you have it, some chopped parsley or Worcestershire sauce. If served with pork, a tablespoonful of tomato catsup is good. Salt and pepper to taste.

A **PLAIN** pincushion of silk, satin or silesia can be kept fresh by having two extra covers to pin over it; for from twelve to twenty-five cents very pretty lace mats can be bought, and they may be put on diagonally, so that the covers of the cushion will show (if of silk or satin), or be put on the usual way. The holes made by the pins in a handsome cushion, and which, after a little while spoil its good looks, are hidden by these lace covers. When one cover is soiled put the other on.—*N.Y. Post.*

With the greatest care the housewife will occasionally spill a little grease on the kitchen floor. When possible, the best thing is immediately to pour over it cold water, to cool the grease and prevent it penetrating the wood. Scrape off all that is possible, rub thickly with soap, and wash off with boiling water. When dry fold three thicknesses of brown wrapping paper, lay over the spot, and place on it a hot smoothing iron; this will draw much of the grease into the paper; then wash again with soap and hot water. This will take out so much of the spot that it will hardly be noticed if daily washed off as it draws out of the wood, for every particle has to come out at the top of the boards, and the more persistently one works at it, the sooner it will disappear.—*Gussie Thomas, in Country Gentleman.*

HOUSEKEEPERS make a great mistake, when they allow their vegetables to be washed at all, until just ready to be put on to cook. Many leave all kinds of vegetables to stand, covered with cold water, for a long time after washing, and by so doing lose a large portion of the natural sweetness and flavour. Many grocers think they cannot sell their vegetables, unless they wash them free from the earth that is on them when dug up, or they insist on the farmer's washing them before they will buy. To make them look fresh and handsome, they sacrifice a large portion of the best part of the root. If farmers should wash their potatoes, carrots, etc., after digging them, before putting them into the cellar, they would be spoiled in a month. The earth about them is absorbent, and a preservative of the less volatile elements of the root, which evaporate quickly after being washed. How often city people speak of the excellent flavour of the vegetables they sometimes eat in country homes; and wonder why they cannot be cooked to taste as well in the city. It is not because the farmer's wife understands the art of cooking vegetables any better than the city dame, but because she leaves the vegetables in the earth that covers them, until she needs to put them on to cook. House-keepers only can cure this evil. The moment the grocer finds that he loses his time and labour, when he washes his vegetables—just for the fancy looks of the thing—and that the house-keepers are becoming sensible, and will not buy them in their fancy dress, but in their natural covering, then city folks can have as nice vegetables on their tables as the farmer is favoured with; certainly they can do so, after the season is too far advanced to gather vegetables fresh every day.

GARDEN AND ORCHARD.

USEFUL GARDEN HERBS.

In every vegetable garden there should be planted a bed of useful herbs which are so often needed in the kitchen, nursery and sick room during the year. Their culture is very simple, after the seeds are planted, the only labour needed being to keep out the weeds and thin out the plants so that they will grow stout and strong. The leaves of some herbs are used for seasoning and dressing for meats, and others for making herb teas, therefore they should be gathered before the plants flower. Unless it is desired to raise seeds from them it is better to cut off the flowering shoots as soon as they appear, and throw all the strength of the roots into the leaves and out two or three crops from them.

Balm is a perennial plant, and its leaves have an agreeable aromatic taste and a lemon-like odour, and are useful for dressings. They are also used for tea to be taken for coughs and colds. Basil is also much used for seasoning; its leaves, when dried and powdered or chopped fine while fresh, having the flavour and odour of cloves. Caraway, a perennial, is valuable for its seeds, which are used in cakes, and an oil is distilled from them for medicinal purposes. Coriander is annual, cultivated chiefly for its seeds, which are used by druggists and distillers, but the young leaves make a highly flavoured salad, and are sometimes used as a seasoning for soups. Lavender is a shrubby plant, valuable for the pleasing perfume of its foliage, from which comes the distilled water that is so popular for the toilette.

Sweet marjoram is an annual; its leaves are very aromatic, and highly esteemed for flavouring soups, dressing and sausages. Sage is also much employed for these purposes. It also makes an excellent febrifuge. A tea made from its dried leaves is considered a specific for colds and coughs. As a hair restorative it is also in repute. A strong decoction of the leaves, with rusty nails added to it to supply iron, will, it is said, prevent the hair from turning grey. Thyme is a species of marjoram, with much smaller leaves. It is used for flavouring. Tansy is useful in the sick room, and many women hold it in high esteem. Rue possesses very bitter properties, and is considered a specific for some complaints. Its leaves are gathered and steeped in alcohol while green, or else dried for winter use. Wormwood is also used in the same way as rue, and it is thought to be highly beneficial to dyspeptics. It is said to be used for making absinthe, a favourite stomachic employed by the French.—*Country Gentleman.*

CELERY AND ONIONS ON MUCK SOIL.

A correspondent of the *Fruit Recorder*, writing from Kinsman, Ohio, says they grow celery there on drained muck land at a cost of less than \$1.50 per thousand, and he gives these useful particulars of his own experience:

"An acre of muck, ditch with sloping sides inward all around, water constant in ditch. The acre sowed to onions in March, omitting every fifth row, and leaving space for a double row of celery, that is, two rows six inches apart. So the cultivation of the onions has prepared the ground. Preparation no expense. April 1st, 1881, sowed seed dry as I walked around on the sloping sides of ditch. Seed cost \$1.25. I had, July 1st, plants from which I selected 20,000. That is six cents per thousand for plants. (A neighbour had 7,000 plants from one-third ounce of seed. Thousands of celery plants are grown for two cents per thousand.) I had a boy take up the plants and distribute them four inches apart in double rows, six inches apart, and set them in

the ground, 4,000 in five hours, and not ten wilted that day. The roots were dipped in paste. Three days, at \$1.50 for two of us, sets out the 20,000, and now the celery has cost 28½ cents per thousand. We bank it twice; each time as rapidly as we sat—once in August, once in September, and at the final covering it has cost 88 cents per thousand. The purchaser agrees to take the celery at the gate, providing his own crates, and, inside of the \$1.50, there remains 52 cents per thousand to dig it from the banked row in November and December, wash it and lay it in the crates, the dealer attending to the bunching. He pays at the gate \$80 per thousand—bunches it, ships it, delivering at the cars for \$52 per thousand. You can see this thing done every year at these figures."

Of his onion crop he gives also some interesting notes, especially as to the way of avoiding the tedious "hand and knee work" generally supposed to be inseparable from the culture of this crop: "Every Monday morning, from May to August, we cultivated the ground—weeds or no weeds; but usually no weeds. I have sowed four pounds salt per acre, in March; this helped to keep out weeds. The weekly cultivation kept up all summer permitted but few weeds to grow, and these were pulled from an upright position. My onions are much earlier for the frequent hoeing. I can have them in market two weeks ahead, and one inch diameter ahead of onions grown among weeds. My neighbour used forty loads barn-yard, well-rotted, manure, last fall. He intends using one ton bone meal this fall on the same acre, and not a weed will be allowed to go to seed on his acre or mine."

ROTATION OF GARDEN CROPS.

Have you not frequently noticed that some men change their garden spots every few years? If you ask them why they do so, they will tell you that vegetables don't seem to do well there after a few years cropping.

In starting a garden on an ordinary piece of ground, which has not before been used for this purpose, two or three years are required to get it pulverized and enriched sufficiently to produce a first class crop, hence the necessity for retaining the same piece of ground for garden purposes. This can be done by adopting a proper system of rotation. It is a good plan to make a diagram of the plot used for a garden, and have it marked off into divisions of suitable proportions for the vegetables required. Each division should be numbered, or, what is just as good, the name of the vegetable raised there written upon it. These diagrams drawn each year should be carefully preserved, so that by referring to them, one could ascertain just what had been raised on each particular division for years back, and by this means keep up a systematic rotation.

For convenience the garden plot should be long and narrow, thus enabling a horse cultivator to be used to advantage. I have noticed that most gardens are nearly square in form, but have never yet been given a good reason for this.

A garden 8x20 rods in size can be cultivated with a horse at less expense, and with less work than a garden 8x4 rods can be worked by hand, as gardens of this size usually are.

Such garden vegetables as rhubarb, asparagus, and others of a like kind, requiring two or more years to reach the proper bearing condition should of course be given a permanent place for several seasons, but they too need removing about once in four years, in order to get the best possible results. They should never be so located as to interfere with the cultivation of other vegetables.

Many gardeners put these plants among their

small fruits, but they are as much in the way there as any where in the vegetable garden. They will not do so well, and are also a heavy drain on the soil, causing an injury to the bushes about them. The best way is to give them one of the long, narrow divisions, above referred to, clear through the length of the garden.—*Farm and Garden.*

VEGETABLE TRANSPLANTING.

Probably fifty per cent. of all the vegetable plants which are transplanted to their place of permanent growth are lost from ignorance in transplanting, through insufficient hardening, or by cut-worms. With the hardier stuff, like lettuce, beets and early cabbages, there is little trouble from anything but severe freezing. The preventive in this case is thorough hardening—that is, exposure to the weather—before transplanting, and deep planting, putting all the stem and the petiole beneath the ground. Frost is the main enemy to transplanting the sets of glass or house-started potatoes, and the only way to do is to plant low in the ground and cover on frosty nights. The later-set plants, such as tomatoes, egg plants, turnips, late cabbage, etc., suffer from two causes—drying winds and hot sunshine—and in the case of the tender kinds, from cold.

This last causes the loss of not only very many tomato and sweet potato plants, but of coleus and other tender bedding plants. A very early garden is desirable; but there is nothing gained in putting semi-tropical plants into cold ground to be nipped by the frost. To avoid the damaging effects of sun and wind on newly transplanted plants, a previous transplanting or "healing in" is a very efficient preventive. When the plants are received take a shallow box to some freshly-ploughed ground, set it up at an angle of 45°, put in a little dirt in the lower end, place a row of plants an inch apart, put on a couple of inches of dirt, and then another row of plants, and so on until the box is full. Then wet them down and set in the cellar until evening, when the box is set on the north side of the house in the open air, and here it is kept for two or three or more days, or until a convenient time for planting. After the second day the plants in the box will have thrown out a multitude of little white feeding roots, which are prepared to support the plant at once, and they can be planted at any time just at evening, with a dead certainty that the next evening will find them fresh and vigorous in spite of wind or sun. The same practise is equally efficient with strawberry plants. As a guard against cut-worms, wrap a piece of paper around each plant.

BUCKWHEAT IN THE ORCHARD.

Prof. J. L. Budd, in the *Iowa Homestead*, says: "For several years past many of our experienced fruit growers have recommended the sowing of buckwheat in orchards, nurseries, etc., with a view to lowering the surface temperature of soil and to produce the friable, moist surface, conditions needed for the healthful growth of trees upon the open prairies. Later, it has been urged by several that many of our noxious insects failed to find on buckwheat covered surfaces the needed conditions for transformation and development. It seems that in Europe the same observations have been made." The following note from the *London Farmer* is, at least, suggestive: "Many years' practical experience has convinced Mr. Largaud that sowing buckwheat in soils infected with white worms, grubs, ants, etc., allowing it to grow until it flowers and then ploughing it in as green manure, effectually frees them from all subterranean parasites. The crop, especially the variety known as Tartarian buckwheat, springs

up rapidly, chokes all the weeds, and abstracts but little nitrogen from the soil, as it draws its principal nutriment from the air. It decomposes very quickly in a good soil, doubtless owing to the spongy nature of the leaves. This decomposition is immediate and the large amount of gas liberated asphyxiates the larvæ of the various insects in the ground. Mr. Lergarde suggests this as a possible remedy for phyloxera, by sowing among the vines and digging in about the roots."

FORK VERSUS SPADE.

We notice that the spade in garden work is still greatly used; and the knowledge that the spade has been in a great measure superseded by the fork has not travelled near as much as it ought to have done. We see many a one "digging garden," and preparing for spring, spade in hand, utterly unconscious that with a modern digging fork a man can do as much work in a day, and with far less fatigue, what with an old-fashioned spade it would take him two days to do. In the use of the fork there is no digging to do. The tine runs into the earth by the downward descent of the fork in the operator's hand alone; and in throwing over and in levelling, a single blow of the tines is enough to pulverize and make a level surface. Some say their land is too light—that the earth passes through and they cannot take up a forkful; but in this case work it when it is wet. Even sandy ground can be dug with a fork, if the proper time is chosen for it. Of course the spade can never be abandoned. There will always be some ground that is very weedy, or full of roots, where a sharp edge like that of a spade will be necessary to sever; and in digging up trees and garden vegetables nothing can replace the spade in handiness; but there are a number of instances in garden work where a digging-fork can come into very great labour-saving.

WASH FOR FRUIT TREES.

The object in applying a wash to trees is not so much to improve the rough and scaly outer bark, as to destroy the parasitic plants and insects which adhere to the surface of the bark, and sap the vitality of the tree by a constant drain upon the circulating current. One form of wash is made by adding one pound of whale oil soap to three gallons of warm water, stirring well, and applying with a stiff broom or brush. The trunk should be rubbed thoroughly and hard to remove as much as possible of loose bark, that the liquid may reach every part of the surface. Another good wash is a weak lye from wood ashes. A third wash is made by adding two quarts of soft water to one gallon of common soft soap. Place these in a vessel over the fire, and when warm the soap and water are readily combined by stirring, and should be applied in the same manner as the whale oil application. The best results are obtained by washing the tree about three times during the season, applying the first in April or May, the second in July, and the last in September. The insects as well as moss will be effectually removed, leaving the bark in a fine, healthy condition.

FRUIT FROM PRIMITIVE FORMS.

The Acme Tomato was not produced from the seeds of the largest and finest specimen, but from the small, hardy Plum Tomato, fertilized by the best-known variety on the score of size and perfection of fruit. So the Rogers' grapes came from the seeds of the wild Sage Grape fertilized by the best foreign sorts. The Hovey Seedling strawberry was from the seed of the native species fertilized by the South American. The

Wealthy apple was from a Astrachanic-crab seed fertilized most likely by the Famous. Hardy new varieties are produced by planting primitive forms, fertilized by sorts with the best in fruit. The grape, also, furnishes an excellent illustration. Dr. Sturtevant says: "It cannot have failed to be observed how a diminution in the size of the seed accompanies an improvement in quality in our native grapes."

MANURES FOR VEGETABLES.

All vegetables that are grown for their leaves or stems require an abundance of nitrogenous manures, and it is useless to attempt vegetable gardening without it. To this class belong cabbage, lettuce, spinach, etc. The other class which is grown principally for its seeds or pods, as beans, peas, etc., does not require much manure of this character; in fact, the plants are injured by it. It causes too great a growth of stem and leaf, and the earliness—a great aim in vegetable growing—is injuriously affected. Mineral manures, as wood ashes, bonedust, etc., are much better for them. For vegetables requiring rich stable manure it is best that they have it well rotted and decayed. Nothing has yet been found so well fitted for the purpose as old hot-bed dung, though to the smell no trace of "ammonia" remains in it. So says *The Gardener's Monthly*, and its hints are timely.

LARGE OR SMALL TREES.

The inexperienced usually prefer large trees. This is a great mistake. Overgrown nursery trees are frequently not worth the cost of transportation, for four out of five will have the roots badly damaged in taking up. An apple-tree one inch in diameter should be taken in preference to one of a larger growth. Our most experienced planters now prefer trees of one and two years' growth. The roots are less injured in transplanting, and they can trim and shape the tree to suit themselves. Besides, experience has proved that they come into full bearing quite as soon as the older ones.

GRUB WORM PREVENTION.

A writer in the *Rural New Yorker* relates the following: One of my neighbours covered his strawberries with very coarse horse manure. In spring he raked it into the paths, where it was trodden quite hard. On examination, after a while, it was found to contain myriads of very small grub worms, which were carefully removed with the manure and destroyed, thereby nearly clearing the grounds, which had been infested badly. Similar results have been obtained in other trials.

CURRENT cuttings, and those of the gooseberry plant, should be eight or nine inches in length. Plant in a shady, moist place, tramping the dirt firmly about the lower ends, leaving the upper end an inch above ground.

WHEN suitable soil is used for potting, plants only require to be kept clean, and to be sufficiently yet carefully watered with pure water, to keep them in health, until the pots become crowded with roots. In this state they speedily extract all the nutriment from the soil, and either liquid manure or top dressings become necessary.

STABLE-KEEPERS are among the healthiest of men, and considered especially free from respiratory affections, although much exposed to cold and damp. Some attribute this to the ammonia evolved from the manure piles, and it is said in corroboration that little breast amulets of carbonate of ammonia, or spraying of the throat with dilute liquid ammonia gives sure relief in bronchial attacks.

CREAM.

A BROILING sun—The Cook's.

WHAT Wiggins deserves—Blows.

DIED in the wool—A defunct sheep.

WOMAN'S dough-main—The kitchen.

ALWAYS out of countenance—The nose.

WHEN the clock strikes there is no legal redress.

SPORTSMEN should never make game of chickens.

THE early-rising husband catches the kindlings.

IF you don't want to lose your gun, never let it go off.

WHEN a dog is like an eagle—When he is out on a scent.

IN-COMPETENCY—Fortunes derived from hotel-keeping.

IT takes the liveliest kind of a lonfer to make a dead beat.

IDENTICAL—Sailors and theatre-goers—They MEN make horse-shoes, but women excel in making hen shoes.

IT is not universally that if you keep a dog the dog will keep the "wolf from the door."

MRS. PARTINGTON, dear old lady says that there are very few people now-a-days who suffer from "suggestion of the brain."

WHEN Ouida asked Charles Reade for a name for her dog he suggested "Tonic," saying: "It is sure to be a mixture of bark, steel and whine."

A TRAVELLING printer, for want of employment at his trade, went to work on a farm. He came one day to ask his employer if a hen should be set solid.

IT sometimes takes a four-horse team to drag a man into virtue, but he will slip into vice as easily as though the whole pathway of life were strewn with bits of orange peel.

"INTELLIGENT!" said the butcher, "that dog o' mine was the most intelligent creatur' that ever travelled on four feet. Why, when he committed suicide he did it by jumping into the sausage machine, so as to save me all the work he could."

AN old coloured preacher in Atlanta, Georgia, was lecturing a youth of his fold about the sin of dancing, when the latter protested that the Bible plainly said:—"There is a time to dance." "Yes, dar am a time to dance," said the dark divine, "and it's when a boy gets a whippin' for going to a ball."

PLANTATION PHILOSOPHY.—It's tryin' ter be interestin' in conversation dat makes a liar outen many a man.—De appetite ob man an' the vanity ob woman is what keeps de world's trade in motion.—It ain't de pusson what bows low dat is really de humblest. De snake is all on de groun', but, Lawd, how pizen he is.

"Gaba," said the governor to an old coloured man, "I understand that you have been ousted from your position of Sunday school superintendent." "Yes, sah, da figgered aroun' till da got me out. It was all a piece ob political work though, an' I doan see why de law ob de lan' doan prevent de Sunday schools an' churches from takin' up political matter." "How did politics get you out?" "Yer see, some time ago, when I was a candidate for justice ob de peace, I-gin' a barbecue ter some ob my fren's. De udder day da brung up de sack an' roused me." "I don't see why the fact that you gave a barbecue to your friends should have caused any trouble." "Neider does myself, boss, but yer see da said dat I stole de hogs what I barbecued. De proof wan't good, and I think dat da, done wrong in aokin' upon sech slim testimony. Da said dat I catch de hogs in a corn fiel'. I know dat wan't true, case it was a wheat fiel' whar I catch 'em."

HORSES AND CATTLE.

BIG ISLAND STOCK FARM.

Another addition has been made to this now celebrated Stock Farm, through the purchase by Mr. Mossom Boyd, of four more Polled Angus, three females and a bull. They were the pick of a herd of a hundred head, imported last January by the Geary Bros., of London. For two of the animals which are heifers coming three years old, Mr. Boyd paid \$2,700. A few weeks ago ten head of the same breed were received, nine females and a bull, and the Big Island Herd of Thoroughbred Cattle at present consists of thirty head of Polled Angus, twenty of Hereford, and a few Durhams. This herd is supplemented with a large number of half-breeds, many of which show the characteristics of the father to a surprising degree. One calf from a common red scrub cow, is perfectly black, and shows every feature of its Angus sire, even to the absence of horns. Many of the Angus cattle were imported direct from Sir Geo. Macpherson Grant, of Ballindalloch, Scotland, who possesses in his herd the oldest families and purest blood in existence. For the sire of one of the bulls now in the Big Island Herd, Sir Geo. refused an offer of 5,000 Guineas. It is now over two years since the establishment of the herd of thoroughbreds in Bobcaygeon, and its effect will soon be observable in the district. The perfect thoroughbred will, of course, command a much higher figure than most of the farmers in the neighbourhood will care to pay, but a number of partly bred, good serviceable animals will be raised, which will no doubt be purchasable at moderate prices. It appears to be a fact well-settled by breeders that instances frequently occur of calves "throwing back," that is they will bear little or no resemblance to their parents, but be an exact counterpart of an ancestor some generations back. It is this that gives in a great measure the value of thoroughbreds, by reason that an animal of ancient lineage, noble birth, and tip-top rank, must necessarily, when a "throw back" occurs, throw back into pure blood and families of the highest respectability. For all practical purposes of beef and milk, a fairly bred animal will answer sufficiently well. It is only in the "throwing back" that the difference is most marked, for from the partly bred animal, though a large percentage of its progeny will take closely after the sire, yet a certain percentage will throw back, and take the characteristics of some great, great grandsire of dreadfully plobeian birth, who was a notorious rake, rone, and thorough scrub. One of the advantages of an improved breed is a greater power of making beef, and it is to the raising of beef that this district possesses such unbounded facilities, and to which the farmers should give their attention. One of Mr. Boyd's Polled Angus at eighteen months old weighed 1,040 lbs. The stable in which the herd is housed, will be over 200 feet in length when completed, and of two stories. The upper deck cattle have sloping gangways to reach their stalls, and the stable is fitted with every modern improvement and convenience. Mr. Mossom Boyd is taking a deep interest in his herd, and as no pains or expense are being spared, the Big Island thoroughbred cattle of Bobcaygeon may yet be noted both in the old country and throughout the continent of America.

IMPROVE THE BREED.

Many of our readers on sending to the breeders whose advertisements appear in the columns of the *Farmers' Review* and other agricultural papers, for their catalogues and price lists, are discouraged when they find at what a figure these breeders hold their stock. They compare these prices

with those of native stock, and many of them think that it is absurd to believe that there can be such a difference in favour of a blooded animal and that their alleged value is largely fictitious. It is true that there is such a thing as a fictitious value to certain strains of live stock, just as much as to pictures or statuary, and any other objects whose rarity, or reputation enhances their price beyond their real practical value. Cases are not infrequent where purchasers have allowed themselves to be blinded to actual merit by the brilliancy of an unquestionable pedigree; but this the practical farmer can not, must not, do; he must leave that for the wealthy amateur, who does not know a good animal when he sees it, and who fortunately for himself, can afford to pay handsomely for experience. For a good animal, that super-adds to his own unquestionable merits that of belonging to a family of meritorious animals, the farmer must expect to pay a good price and for, say, a beef or dairy animal of this class, he must be ready to pay from \$100 to \$350, according to age and merit. If a farmer's means are too limited to enable him to make an investment of \$200 or \$300 for a good bull, he should induce one or two neighbours to join him in the purchase. Why not own a bull in common as well as a threshing machine or a ditcher? Such an animal's services will very soon pay the original price paid for him, and his owners will have the use of him for their own cows besides. As to the value of such an investment whether made individually or in partnership it needs but little calculation to prove it. A visit to the Chicago Stock Yards will soon remove any possible doubt on that score, when we find Tom Forward, who has been improving his stock for the past few years, selling his two and three-year-old steers, weighing 1,600 to 2,000 lbs., and getting a cent more a pound for them than Dick Backward does for his five and six-years-olds, weighing 900 to 1,100 pounds! So with dairy stock. While much can be done by every farmer in the careful selection of calves for his own herd, from those of his best milkers (by the way we have known farmers keeping a dozen or more cows who did not know the milk and butter yield of each animal), still the infusion of a good milk strain into the herd would bring about results so satisfactory that they would speedily repay the first outlay, for the cost of keeping a cow that will give a good account of herself in the dairy is but little more, if any, than that of the poorest milker in the herd. With the farmer it is the many littles that "make the muckle" more perhaps than in any other business under the sun. Figure out an extra yield of 100 lbs. of butter yearly at 25c. (it might just as well be 25 or 30 as 15 cents) on each cow in a herd of ten cows and you have, as your ten-year-old boy will tell you, \$250 besides the improvement in the get of your cows, which makes every calf more valuable. Send for catalogues to reliable breeders, none others appear in our columns, and if you find the animal you want will cost you \$200 to \$300 or more don't be alarmed, but if it is more than you can afford get a neighbour or two to join you in the purchase, and your neighbourhood will soon be grateful for your enterprise. We may have more to say on this subject of prices.—*The Farmers' Review.*

FINE BEEF STOCK.

Certainly, if the results of recent sales are any criterion, our live stock interest is in a very flourishing condition. The principal sales so far have been of Polle and Shorthorns, and, with the exception, perhaps, of the sale from the Bow Park herd, at Waukegan, last Thursday, prices have been eminently satisfactory. Of course only very wealthy breeders can afford to invest from \$1,000

to \$6,000 in a single animal, but the diffusion of such stock as has been offered so far this spring throughout the country, in the hands of wealthy and intelligent breeders, will have a marked effect upon every section tributary, so to speak, to a breeder of that class. Taking the improvements resulting from high breeding throughout the country, and, as regards beef animals, noting the gain derived from three qualities of precocity, quality and weight, and it is not too much to say that the result if figured out in dollars and cents, would be almost incredible. We have no figures at hand showing the amount of meat consumed per capita in this country, but we are great meat-eating, as well as meat-wasting people, and we know that England imports forty pounds of meat yearly per head of its population to supplement its home supply and should doubtless be within the mark in estimating our own home consumption of meat at 200 pounds per capita, or five millica tons yearly. Add to this the European demand in excess of its own supplies, and we get a faint idea of the demand to be supplied by our American beef producers. As to quality the experience of both producer and consumer is the same as in dairy and other products, namely, always the greatest demand for the best quality. When the results of our great breeders' work are fully accomplished, and the maturity of the beef advanced say two years, its average weight doubled, and its value increased by one to two cents a pound, the total gain to the agricultural wealth of the country is slightly hinted at, but could hardly, without much more extensive calculation, be even approximately arrived at.—*Farmers' Review.*

STOCK RAISING.

We are glad that we have twice referred to the unprofitableness of the general winter feeding of cattle, for it has set farmers to thinking and will do good. If it is a fact that the majority of our cattle actually lose in winter—and there is no chance to harbour a doubt of it—the reason is to be found in the lack of judicial care. The food and fodder we give our cattle are good. They contain the elements to insure profit, if they are rightly fed and the animal properly cared for. But is it not a fact that many of us simply aim to get our cattle through the winter alive and nothing more? When the pastures fail in the fall, do we not virtually say: Now we must keep life in the animal somehow until pasture comes again? It would seem so. There are numbers of men who never think of buying any feed to keep their cattle up. But the farmer who does not realize the absolute necessity of bringing his cattle out in the spring in good condition, even if he has to buy feed to do it, had better sell his cattle when winter begins. A poor, weakened animal in spring will have hard work to "catch up" during the summer, and that fact ought to be fully understood by every cattle breeder. But it is useless to expect the best results from even the highest feeding, if there is no care in other respects. Good care is one-half the battle. It is because it is a saving of feed, and consequently a saving of money, that has been one reason for our frequent urging of the necessity of securing help that will treat cattle—and in fact all stock—kindly. A rough, careless man about the cow-yard will cost more than his head is worth, either in winter or summer. Feed must be furnished to supply what his roughness and carelessness in the care of the stock wastes, and it will not make good the waste either. Every cruel blow that is given an animal means loss to the owner; all the boisterous language that is used to confuse and excite cattle or other stock must be paid for, and the owner pays it. Especially is this true of

milk cows. Whenever a man is harsh with a cow, and whenever a man is employed who is never in a hurry, except when he is driving the cows, he is taking money right out of the pocket of the man that employs him; and whenever the owner of the cows is guilty of such things, he is taking money out of his own pocket and throwing it away. The first thing that a stock owner needs to insure is good treatment of his stock, and then he should see to it that a judicious system of feeding supplies what may be necessary to keep his stock in condition at any time of year. Thus winter feeding will prove profitable.

It is useless to expect good results from stock-raising unless we can keep it in good condition from the start to the end. Young stock is frequently ruinously neglected in this respect. From one cause or another the mother has not always a sufficient supply of milk for her young. In such case the utmost care must be taken to supply it from other sources. The young animal that is half starved will never make the animal that it would if kept growing from its birth, even if it should live at all. It is often expensive to raise a young animal by artificial feeding, but that has nothing to do with the question of raising it right. If the expense is too much, don't raise it. When the milk of the mother is insufficient for the young—and that is quite frequently the trouble with young ewes—it will be found best and much the cheaper to feed the mother liberally on such things as roots, ground oats, etc., which will produce milk.—*Western Rural*.

BREED OF CATTLE.

The Jerseys and Guernseys excel in richness of milk and fine butter qualities. The latter are larger than the former. Herefords are not large milkers, but the milk is rich. The bulls make good crosses on native cows, and the steers fatten rapidly. The Ayrshires are good milkers and will do well on short pastures. Their milk is better for cheese than for butter. Shorthorns are eminently the beef breed, being of large size and early maturity. Besides being profitable for either butter or cheese making, the cows, when dried off, fatten remarkably easy, and make beef of prime quality. The bulls are handsome, and excellent to grade up native stock. The Devons are quite similar to the Herefords in respect to milking qualities, but smaller in size, and of a deep red colour. As working oxen, they are celebrated, being muscular and active. They are thrifty growers and mature early; their beef is of prime quality. The polled cattle are profitable for beef, especially in the prairies of the West, and their meat is superior in quality. The cow's milk is rich, but is not produced in very great quantities. The Holsteins, or Dutch cattle are noted for excellent milking qualities, coupled with the capabilities of making good beef. Their peculiar markings make them attractive to the eye.

DECENCY TO HORSES.

A horse cannot be screamed at and cursed without becoming less valuable in every particular. To reach the highest degree of value the animal should be perfectly gentle and always reliable: but if it expects every moment it is in harness to be "jawed" at and struck, it will be in a constant state of nervousness, and in its excitement is as liable, through fear, to do something that is not expected, as to go along doing what you started it to do. It is possible to train a horse to be governed by a word of mouth almost as easily as it is to train a child, and in such training a horse reaches its highest value. When a horse is southered by the words of its driver—and we have seen him calmed down from

great excitement by no other means—it may be fairly concluded that he is a valuable horse for practical purposes, and it may be certainly concluded that the man who has such power over him is a humane man and a sensible one.

All this simply means that the man must secure the confidence of the animal. Only in exceptional instances is a horse stubborn and vicious. If he understands his surroundings and what is expected of him he will give no trouble. As almost every reader must know, if the animal, when frightened, can be brought to the object he will become calm. The reason is that he understands there is nothing to fear. So he must be taught to have confidence in the man who handles him, and then this powerful animal, which usually a man could not handle if it were disposed to be vicious, will cause no trouble. The very best rule, therefore, which we would lay down for the management of a horse is gentleness and good sense on the part of the driver. "Bad drivers make bad horses."

THE ROAD HORSE.

Nothing more directly contributes to the nerve and courage, to the cheerful willingness, to the muscular condition and general healthfulness of the road horse, than careful, patient, thorough grooming, as conscientiously executed as he is fed bedded and exercised. The ordinary driver, whose horse reflects his indifference, contends that all these preliminary attentions belong to the groom and attendants, that they in no wise form an essential part of the education of the model roadite. But if the road driver is ignorant or indifferent of these things, the chances are they will often be neglected, and the horse will be more frequently led to the hospital, and more often fail to respond gallantly to the call for rushes of speed, than if his owner carefully watched the performance of these needed attentions. The road horse is a delicate piece of animated mechanism. He is very easily fed, or watered, or groomed, or driven, out of condition; and he approaches nearer to the standard of a model road driver, who personally superintends all these important requirements. The road driver is now ready to have his horse harnessed for the pleasure ride. He must see that the bridled is furnished with blinders, or not, as the temperament of the horse requires. If he is high strung, full of nervous excitement, inclined to be flighty, indulging in shying, or timid starts, he should be trained to drive in an open bridle. Nothing inspires confidence, nothing overcomes fear in the horse like a knowledge that the senses of sight and of smelling bring to him that there is no real danger. If the horse can see and smell the object of his fright, his timidity rapidly disappears. Many flighty, nervous horses have been reassured by the use of the open bridles.

BETTER HORSES AND BETTER PRICES.

Never in the history of fine stock interests has such rapid improvement in any branch of stock raising been made as has characterized the American draft horse. Americans have crossed the Atlantic and obtained the very best specimens of French and English draft horses, the progeny of which are scattered throughout the country; yet farmers are slow to improve the opportunity of using them, but will continue to use mongrels because they are cheaper. There is not a more profitable business connected with the farm than raising half and three-quarter blood draft horses. We will suppose the reader is a farmer and possesses four or five work horses; we will also suppose that three out of the five are mares, or can be exchanged for mares. You breed these three mares to one of the many little stallions of the

country and you produce a colt useless until it is three years old, and his cash value is then from \$60 to \$100. Take the same three mares and breed them to a thoroughbred draft horse of any kind of the popular breeds, Norman, Clydesdale, English Draft, Suffolk Punch or Cleveland Bay, and the offspring will be colts that can be put to work at two years old. We have known yearlings to be used for light work, but do not recommend that. After working the colts two summers, thereby receiving satisfactory returns for feed and trouble, at four years old you will find a ready sale for them at \$125 to \$250 per head. We know of a farmer who pursues this course turning off a team of four-year-olds each year at prices that were never lower than \$400 per team.—*Iowa Homestead*.

CORN OR OATS FOR HORSES.

The comparative value of corn and oats for horses may be briefly stated as follows: The former is deficient in many of the elements of nutrition so necessary for recuperating the constant wear and tear which necessarily takes place in the body of a living animal. On this account, horses which are exclusively fed on corn and hay do not receive that kind of nourishment which appears necessary for the due support and maintenance of the animal fabric. Hence, we must not be surprised that corn-fed horses show evidence of being languid, by sweating profusely while being worked, lack of vitality, etc.

Oats, on the contrary, contain more of the essential elements of nutrition than any other article of food which can be fed with impunity to horses. Oats are not only the most natural food for horses, but are decidedly the most nutritious. They are the cheapest, because there is less risk in feeding them, and experience has proved that horses properly fed with oats and timothy hay can, with regular exercise, good grooming, and proper sanitary regulations, be brought to the highest state of physical culture, and can perform more work with less evidence of fatigue than when fed on any other article of food.—*National Live Stock Journal, Chicago*.

OIL-CAKE MEAL FOR HORSES.

The *Live Stock Journal* says: But very few know anything of the value of oil-cake meal for horses. Its use in fitting fine bred cattle has long been common and its value fully appreciated. The same can be said of swine, for no food will cause a pig to gain and put him in show condition so speedily as oil-cake meal, giving him a glossiness of coat not obtainable so well in any other way. What oil cake will do for cattle and pigs, it will do equally well for horses. A horse appearing to be bound up, as this term is understood in the stable, can, by the use of this feed, be relieved of this condition as promptly as by turning out to grass, involving none of the contingencies which attend the latter, the full strength and vigour being maintained in the meantime. Nothing so quickly improves the coat of a horse, as the use of a little oil-cake incorporated with his feed; while turning out to grass in sun and rain fades and roughens the hair in a week's time. In addition to this, oil-cake loosens the bowels, the degree to which this is done being entirely under control while the effect from a run on grass is entirely a matter of chance.—*Indiana Farmer*.

FARMERS in the county of Durham have found that the soaking of seed peas in coal oil is death to the bug. The same experiment is being tried this year in other parts of the Province, and the result will be watched with interest. If it is a satisfactory one, the pea-bug pest ought to be speedily exterminated.

SHEEP AND SWINE.

PIG PENS AND YARDS.

The pigs have never had the credit as manure makers that they are entitled to, and yet they are capable of producing far more manure, and of most excellent quality, than any other kind of farm stock, where they are kept in comfortable and roomy pens and are liberally supplied with material to work over and convert into manure. From a herd of ten porkers we have annually taken ten large loads, on an average, and of course we had to keep them penned almost constantly, the entire season to secure this, but it paid us well to do so. It may cost less, in cash and labour to run the pigs in a good clover pasture during the summer, and in many cases it pays to do so, as far as healthfulness is concerned; but the manure is a very important item on many farms. When the pens and yards are substantially constructed and are roomy, there need be no fear of unhealthfulness amongst the porkers. In the construction of the pens we have found it to be desirable to raise them up about two feet above the level of the yards and the surface of the ground underneath the pens, so as to insure freedom from dampness, which adds much to the cleanliness and healthfulness of the animals. By raising them from eighteen inches to two feet, there is no danger of rats finding a safe harbour underneath, as the cats or the dogs can soon dislodge them. The face or front of the pens should be towards the south or south-east, and should be well-covered to protect from wind and weather, made of rough inch pine boards, the troughs made of two-inch pine plank, rimmed with iron to protect them from the teeth of the swine. The floors should be made of two inch pine or oak and about three-fourths of an inch should be left between each plank, to secure drainage, or else the floor can be made tight and inch auger holes bored in different places along the floor, to secure the same end. The floor should slope from the trough to the yard at the rear, while immediately under the trough there should be a narrow space, running lengthwise of the trough, to drain off any surplus moisture which would otherwise collect there, to rot the floor. Eight feet by eight feet make very good sized pens, and two or three such pens (or more if needed) can be arranged in a row. To facilitate cleaning the pens, we only roofed over about six feet of the pens, from back to front, sloping the roof to the rear and yards. The height of the pens depend very much on circumstances, though we found four feet to be a very good height, and three feet high frequently sufficing, the front of the roof being about two feet or eighteen inches higher at the highest point, and boarded down in front to the level with the top of the pens, to keep out the wind and weather. For bedding, in the pens, we consider cornstalks much the best that can be used, as it is soon crushed by the porkers, so as to make a good bed, but does not mat down and become so filthy in a little while as does straw. The yards should be made very substantially, and sliding doors should be made between each pen, to facilitate the removal of pigs from one yard to another. There should also be sliding doors made at the end of each yard, so the pigs can be taken out or put in quickly and with but little trouble. We have found it a decided advantage to have the yards open into the barn-yard. Not only does this make it handy to fill up the pig yard with litter, straw, etc., but the pens can then be more easily and quickly cleaned, the manure being thrown into the barn-yard. A yard eight feet wide by eight or ten feet long is of very good size, and if two or three good sized pigs are kept in each pen (they will hold more), and plenty of leaves, straw,

cornstalks, and trash from the place is kept constantly supplied to the yard, there will be a large lot of manure to take from the pig yard each season, and it is frequently removed only once or twice each year. To make the porkers work over the manure better, it is a good plan to throw a full handful of shelled corn in the yards, when the pigs will soon turn over the entire mass in their eager search for the covered grains.—*Farm and Garden.*

ABOUT SHEEP.

Jason, the hero of the Argonaut expedition not only obtained the golden fleece, but won a fair lady also. The sheep figures prominently in history, and the story of Jason, whether true or not, has given rise to many poetical reflections. Nephelo, queen of Thebes, provided her children, Phryxus and Helle a ram with a golden fleece, with which to escape from those who sought their lives. The rapid motion of the ram in his aerial flight caused the head of Helle to swim, and she fell from his back into the Hellespont and was drowned. Phryxus arrived at Colchis, but was murdered by his father-in-law who envied him his treasure. To recover this valuable fleece, Jason encountered many dangers in the Argo, said to be the first ship which ever ventured on the sea. Not only have the sheep given a great impulse to navigation and commerce, but shepherds, as a class have been noted for astronomical calculations and poetical reflections. And the reason is plain. The flockmaster had leisure both by day and by night, which was favourable to study and the contemplation of the heavens.

Shepherds on the plains of Bethlehem first beheld that wonderful star which betokened the advent of Christ into our world. There is no animal which gives rise to so many interesting figures of speech, or which is so frequently used by the inspired penman as the sheep. When God's people had wandered into forbidden paths, what were they in the view of the sacred writers, but the lost sheep of Israel. David, the greatest warrior and poet of the Hebrews, was a shepherd boy, and it was in defence of the "gentle animal" that he slew the lion and the bear, and from the experience thus gained, he was able in after years to overcome the boasting Philistines, and like Jason, obtain the hand of a king's daughter. But for the aid of the fair princess Media, the hero of the Argonaut expedition would have failed in his magnificent enterprise, and David without Michal, Saul's daughter, could not have been the founder of a long line of kings. Had David also not been faithful, as the guardian of his father's sheep, rescuing the tender lambs from the jaws of the beasts of the forest, he could never have attained to that prominence that distinguished him as a poet and a ruler, and which paved the way for all that wealth and grandeur enjoyed by Solomon, his son and successor.

Job, who was known as the most patient man on record, was the most successful wool grower of ancient times. Though he lost all his possessions by a series of calamities, and was attacked by such a dire disease that his wife called on him to curse God and die, yet he did not complain, but was able by his skill in sheep husbandry to retrieve his fortune, so that it was said of him that his last days were better than the first. Though reduced to poverty at an age when most men would have given up in despair, he continued at his old occupation, and not only recovered the wealth he had possessed, but doubled it, having in his last days 14,000 sheep and 1,000 yoke of oxen, as the result of his patience and perseverance. Job owed his success mostly to sheep, which give both the wool and the increase. By no other animal could he have so soon regained

his lost wealth and power. If he had relied upon cattle he might have died poor and unknown to fame. Had he invested in horses, his sons might have all been ruined, and spent their time at the races or in lager beer saloons. As it was, they were steady going fellows, became experienced flock masters, and helped their father to speedily regain all his former property and glory.—*Correspondent in Rural Home.*

BERKSHIRES AND POLAND-CHINAS.

For some years past I have been breeding both Berkshires and Poland-Chinas, and have often felt at a loss to decide which I preferred. I have just been asked this question, and it has set me to thinking over the matter once again. Of course much depends upon the comparative excellence of the specimens of each breed. One may have good pigs of one breed and poor of the other. We have, I think, good specimens of each. Our Berkshires are of middle size, maturing to 400 or 450 pounds. They are neat, smooth, and weigh well for their looks. The best looking hogs we have are yearling Berkshire sows. On the other hand, the Poland-China pigs, almost without exception, out-grow, out-fatten, and look much better than the Berkshire pigs. We have more "runts" among the Berkshires, and the litters are not usually large. Fully matured, I must give my preference to the Berkshire; but I come round to the conclusion that with us the Poland-China is the more profitable general-purpose hog. I have not noticed perceptible difference in vitality, except that the Berkshire pigs do not seem to thrive as well after weaning, and they are clearly more active and energetic; perhaps too much so. Either breed is good, but if compelled to choose, I would take the Poland-China on an average.—*Correspondent in Breeders' Gazette.*

A SICK SHEEP.

A sheep is peculiar in respect of eating well and retaining the brightness of the eyes while it is gradually wasting by sickness until it dies at the feed-trough. When a sheep loses flesh and becomes very thin without exhibiting any other marked symptoms of disease it is probable that it is suffering from tuberculosis of the intestines. If the skin is pale and the eyes unusually bright, this is still more probable. If the eyes are yellowish and the skin of a yellow cast, the disease is in the liver. If the dung is soft and of a fetid odour, the digestive organs are involved. If the urine is thick or of an unusual appearance or odour, disease of the kidneys or of the liver may be suspected. All these disorders would be accompanied with loss of flesh and gradual wasting, but it is impossible to advise any treatment without knowing precisely what is the matter.

HOG CHOLERA.

A Kansas Farmer says: "When the cholera got among my hogs I put corn on a brush heap and burned it. The hogs ate the ashes and the charred corn. Then I put coal-oil in milk, a few spoonfuls to every hog and fed that to them. I have not lost a hog." The hogs were sick with the cholera, and recovered under that treatment.

Acuteness of the sheep's ear, says the Ettrick Shepherd, surpasses all things in nature that I know of. A ewe will distinguish her own lamb's bleat among a thousand, all braying at the same time. The distinguishment of voice is perfectly reciprocal between the ewe and the lamb, who, amid the deafening sound, run to meet one another.

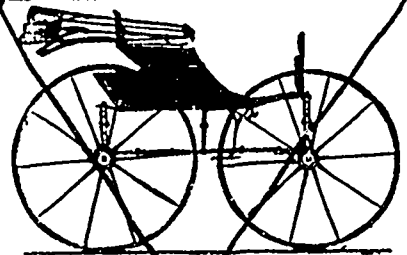
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Special Rates to Commercial Travellers.

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Accelerated Endowments.—Whenever the reserve upon the policy and the dividend addition thereto amount to the sum insured, the policy becomes payable at once as a matured endowment. Death Claims paid at once without discount. The Company has been established over a third of a Century. Total payments to Policy-holders about \$19,000,000. Paid Policy-holders 1882—\$755,555.02. It is a purely Mutual Company, having no shareholders to whom heavy dividends are paid, all the surplus belongs to the assured, giving insurance at net cost. Over \$4,000,000 paid in dividends to Policy-holders. Paid in dividends 1882—\$56,417.88. Policies suited to the needs of every class. Ample deposit at Ottawa for the security of Canadian Policy-holders.

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MY ILLUSTRATED CATALOGUE FOR 1885 containing descriptions and prices of the choicest kinds of Field, Garden, and Flower Seeds mailed free to all intending purchasers upon application. It is the handsomest and largest published in the world, and is desirable to all who wish to buy Farm, Garden, or Flower Seeds. Special attention given to preparing Hybrid Guano for **PERMANENT PASTURE.** Prices and all particulars will be found in Catalogue. **W.M. BENNIE Seedman, TORONTO**

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The Rural Canadian.

TORONTO, JUNE, 1883.

TOO MUCH LAND.

One of the common mistakes of farmers is the cultivation of too much land. The farms are too large for the work put on them. One man, with a servant for three or four months of the year, will undertake to crop, say, eighty acres. But with what results? The ground is imperfectly prepared. Perhaps the only system of drainage is the running of furrow drains with the plough. There is a lack of manure, and the seed is sown on a lumpy soil. The whole business is rushed. Oats and barley and peas being got in, the ground for potatoes and corn is broken, and by the time these are planted sheep-washing and sheep-shearing are upon him. Then comes the summer-fallowing and the cultivating of planted crops, and before this work is half done the clover meadow is ready for the mower, to be followed in its turn with the grain harvest. And before the grain is secured it is time to get ready for sowing the fall wheat. So it goes on. The farmer works hard, and late, and early, but he can't overtake his work. There is always more to do than can be done with the means at his disposal, and much is neglected. The corn and potato fields are overgrown with weeds, and the summer fallow is foul and baked like a brick. What profit is there in this style of farming? None whatever. It is unsatisfying in every way, and the land so worked becomes a nuisance to every good farmer in its neighbourhood, for it is a propagator of noxious weeds. This is a kind of cultivation that calls loudly for reform. Far better to work a farm half its size and work it well; for one acre properly drained and cultivated will often yield as much as two or three acres with slovenly tillage. It is an easy matter to keep down weeds if one has time and inclination to attend to the work. The harrow and the cultivator can accomplish it speedily, and the oftener the ground is stirred with these implements the better the crop will be. A big farm can't be run without capital. The farmer must have teams and implements and men to use them. And well equipped in this way he need not fear failure, just as without them he can not hope for success. Let weeds gain the day and they will speedily impoverish both farm and farmer.

THE WAY TO "GO WEST."

It is all very well to echo Greeley's advice and tell the young man to "go west;" but there is a wise way as well as a foolish way both to give and to take the advice. We think, indeed, that there are far too many Ontario farmers acting on the advice themselves. For, why should a man who has lived forty, or fifty or sixty years on a good farm sell out and move with his whole family into the woods of Michigan, or out to the prairies of Dakota or Manitoba? Those who have done so are to be numbered by the thousand and the ten thousand. The number of native Canadians in the United States is enormously large. Are they more comfortable or better off than they might be had they remained in Ontario? Some are, perhaps, and many are not. For grain-growing our Province ranks ahead of any State in the Union. Our land is easily cultivated, and a good crop is generally sure. Then our live

stock is better than the average on American farms. The fact is, indeed, that a most profitable business is done in Ontario in breeding horses, cattle, sheep and pigs for American farmers. Our soil and climate are admirably adapted for producing vigorous and well developed animals. We have a school system, too, unsurpassed by any country or State in the old world or the new; and well sustained churches, in an atmosphere of toleration and religious liberty; and political institutions that nourish a manly race. Added to all these things, our farmers have all the comforts which civilization can confer. Lumber is cheap, and they can build dwelling houses and outbuildings at little cost, such as would arouse an old country farmer to envy and jealousy. Fuel, too, is to be had for the gathering. Why, we ask, should the Ontario farmer sell his good farm, leaving it and his comfortable buildings and breaking up the associations of a life-time, to become in middle age or old age a pioneer and adventurer on the western or north-western prairies? We think that such a step should not be taken without weighing well all the pros and cons. But if migration is a necessity in the interest of the young men, why should the old men think it a necessity too? We think that our friends on the south side of the lakes understand these things better. Consider the practice in Ohio, for instance. Four or five neighbours have more sons than they can provide farms for around home. They take counsel together and conclude that it is desirable the young men should go west. Two of the old men, or perhaps three, go on a prospecting tour in the fall. They find suitable locations and secure claims, and next spring the colony of young men is sent forth to settle upon the lands thus secured for them and to make homes for themselves. They know each other, and trust each other, and help each other; they have been companions from boyhood; and the old associations continue unbroken through life. But the heads of the families remain on the homestead, and enjoy in their old age the comforts they have earned so well. This, in our opinion, is the wise way to "go west," if west our men must go.

BOOK NOTICES.

THE CANADIAN FARMER'S MANUAL OF AGRICULTURE. P. Charles Edward Whitcombe. (Toronto: Willing & Williamson.)—Like every class in the community farmers are proffered any quantity of advice, good bad and indifferent. Being, however, gifted with shrewdness in what pertains to their occupation, they are as a general rule able to estimate advice tendered at its proper value. There are theorists who write on agricultural matters, who would miserably fail in a competitive examination in practical farming, and there are practical farmers who would be decided gainers by a larger acquaintance with the principles of scientific farming. The work named in this notice has many striking merits. Its author is a graduate of the Royal Agricultural College, Cirencester, England, and a practical farmer in Ontario. It obtains a hearty endorsement from Professor Johnston, M.A., late President of the Ontario Agricultural College, Guelph, who writes an introduction to the work. This Manual will be of great use to the farmer as it contains a vast amount of valuable information, well arranged for ready reference, on all subjects pertaining to Canadian Agriculture. Several subjects are illustrated by serviceable cuts. To immigrants, intending to follow farming, the book is indispensable.

INSECTS INJURIOUS TO FRUITS. By William Saunders, F.R.S.C. (Philadelphia: J. B. Lippincott & Co.)—Many parts of Canada are peculiarly adapted for fruit growing. Much intelligent attention is now devoted to this pleasing and profitable department of culture. This great branch is only yet in its infancy. Ontario is now the leading fruit growing Province of the Dominion. This enterprise is capable of great expansion. The fruit grower has many things to contend against. The insect pests that single out the plants on which they prey are very numerous and very destructive. The successful fruit culturist must fight them perseveringly and intelligently. To help them in this contest Mr. William Saunders, one of the most accomplished of our Canadian practical scientists, has written an excellent work on "Insects Injurious to Fruits." This is a most valuable book. In its preparation Mr. Saunders has taken the greatest possible pains to make it thoroughly accurate and reliable. It is written in a very clear and intelligible style, and illustrated by over four hundred engravings. These cuts are not of the rough description usually met with in popular books on farming. The objects are accurately drawn and the engraving has great beauty of finish, making these illustrations thoroughly serviceable to the reader. To all interested in fruit growing, this work will prove a valuable help.

FACTS FOR FARMERS.

The importance of correct information pertaining to the agricultural resources of Ontario is fully appreciated by the Farmers of the Province. From the following circular issued by the Secretary of the Bureau of Industries, it will be seen that every effort is made to procure a complete and reliable presentation of facts for the benefit of the Agricultural community:

The object of the circular is to procure information for the second Annual Report of the Bureau of Industries. Last year the Schedules were sent to farmers through the schools; and, when filled and returned to the teachers, school section reports were made up for the Bureau. There were some objections to this system, and there is reason to believe that fuller returns can be obtained by distributing and receiving the Schedules direct, as in England. The return for each farm will by this plan be known only to the Bureau, and it will be treated strictly as confidential information, to be published in bulk form with all other returns for the County. I need hardly add that it has nothing to do with assessment, with taxes, or with party politics. The main object of the Bureau is to benefit the farmers themselves, by collecting and publishing useful facts about farms and farm-work, crops, live stock, etc. This benefit is chiefly two-fold.

(1) By knowing whether there is a likelihood of abundance or scarcity of crops or stock, farmers have a good guide to prices. It often happens, for instance, that some kinds of crops are excellent in one part of the country and a failure in another part. Much depends on the rainfall, on local storms and drouths, and on weather effects generally. So, too, with the supply of fat and store animals. Farmers may have large numbers on hand, or they may have none to sell. Dealers know pretty well the state of the country in these respects, for it is a part of their business to keep posted and they have correspondents to supply them promptly with information. And so informed they may, and often do, buy up the surplus grain, fruit, roots or live stock of a neighbourhood before farmers know that there is either scarcity or abundance elsewhere to have any effect on prices. The Bureau, in collecting such information from all parts of the country and publishing it in special reports and through the newspapers, enables farmers to judge for themselves as to the course of prices, instead of selling or holding on in the dark.

(2) By comparing results in their own and other countries farmers are better able to judge of the value of their property, and less likely to part with it too cheaply in the hope of getting

richer lands and making fortunes easier elsewhere. Large numbers of Ontario farmers have sold out and gone to the North-West and to the western States, no doubt believing that they were going to improve their circumstances by growing better crops. But it is more than doubtful if their expectations have been realized. Last year was a good year for grain crops in the United States, wheat yielding a bushel and a half above the average. Yet the best States in the Union are found to be far behind Ontario in the staple grains. In Ohio the average of fall wheat last year was 16.7 bushels per acre; in Michigan, 17.8; in Illinois, 16; in Indiana, 15.7; in Missouri, 14.6; and in Kansas, 19.5. In Ontario, as shown by the report of the Bureau, the average was 26.3 bushels per acre. The figures for spring wheat, barley, oats and rye are almost equally favourable, thus showing that grain-growing in Ontario must be considerably more profitable than it is in those States.

The knowledge of such facts as these must lead Ontario farmers to set a higher value on their lands, and make them less ready to leave comfortable homes here for a life of hardship on the prairies, where every stick for fuel and every board for farm-house or stable has often to be drawn a distance of ten or fifteen miles, and sometimes a great deal farther. Neither can it fail to draw the attention of British farmers who mean to emigrate, for the information gathered by the Bureau last year has already been extensively published throughout the British Islands. Farmers with means are likely to come to Ontario in larger numbers than ever before, and not only will farms fetch better prices, but Crown lands and lands held by speculators will be settled upon, waste lands will be brought under cultivation, and the agricultural wealth of the country will be greatly increased.

Some of the statistics of Ontario gathered by the Bureau last year will no doubt be interesting to farmers. The total area of land in farms was 19,622,429 acres, of which 10,218,681 acres were cleared. The value of farm land was \$692,342,500; of buildings, \$132,712,575; of implements, \$97,029,815; and of live stock, \$80,540,720; making the total value of farm property, \$882,625,610. The area and yield of crops were as follows: Fall wheat, 1,188,520 acres, 81,255,202 bushels; spring wheat, 586,817 acres, 9,665,999 bushels; barley, 848,617 acres, 24,284,407 bushels; Oats, 1,975,415 acres, 50,097,997 bushels; rye, 189,081 acres, 9,549,898 bushels; Peas, 557,157 acres, 10,943,955 bushels; Corn, 206,924 acres, 13,420,984 bushels; buckwheat, 49,586 acres, 1,249,948 bushels; beans, 19,787 acres, 409,910 bushels; hay and clover, 1,825,890 acres, 2,090,626 tons; potatoes, 160,700 acres, 13,492,145 bushels; mangolds, carrots and turnips, 104,569 acres, 47,080,726 bushels, flax, 6,157 acres; hops, 2,051 acres; orchard and garden, 218,846 acres. Of live stock, there were 503,604 horses; 23,629 thoroughbred cattle (15,395 Durham, 1,438 Devon, 841 Hereford, 270 Aberdeen Poll, 1,189 Calloway and 4,496 Ayrshire); 1,562,683 grade and native cattle; 993,149 coarse-wooled sheep over one year, and 676,962 under; 178,209 fine-wooled sheep over one year, and 127,499 under; 252,415 pigs over one year, and 597,811 under. There were also 310,058 turkeys, 593,957 geese, and 4,509,705 other fowls. The coarse-wooled sheep sheared 4,842,078 pounds of wool, and the fine-wooled 904,107 pounds. There were 471 cheese factories in the Province last year, and returns from 306 of these show that 25,562,491 pounds of cheese were made, worth \$2,767,085. The extent to which underdraining is carried on is shown by the fact that one third of the tile-yards in the Province, from which returns were received, made enough tiles last year to lay more than one thousand miles of drain-works.

In filling the Schedule it is scarcely necessary to give any explanations. The acreage of fall wheat and of orchard and garden has already been collected by the assessors, but in case any portion of the wheat crop has been ploughed up or re-sown with other grain it will be necessary to say how much. *Be careful to give your name, county, township and post office in the blanks for these, and answer all the other questions to the best of your knowledge. The value of property should be its real value, not the assessable. As to thorough-*

bred cattle, a word of caution may be necessary. None should be entered as such unless they are entitled to Herd Book Registry. Where a farm is leased, the return should be made by the tenant. The rent value of leased farms should only be given by the owners or tenants of such.

Toronto, June 1st, 1888.

A. BLUE,
Secretary.

BUREAU OF INDUSTRIES' REPORT FOR MAY.

Following is a summary of the May Report issued by Mr. Blue, Secretary of the Ontario Bureau of Industries:—

In the ordinary course of our Ontario seasons vegetation is at this date well advanced. Not infrequently the forest trees are out in leaf, and the fruit trees are in blossom. But the present is one of the exceptional years. Hard frosts, raw winds and chilling rains have prevailed, and few signs of active vegetation are apparent in forest, field or garden. Consequently it is difficult to deal with the real condition of our staple cereal, the Fall Wheat. It is too early to form an accurate opinion. Neither is there much of an encouraging character to report on the progress of spring work on the farm.

Fully eighty per cent. of the total area of Fall Wheat in Ontario lies west of the meridian of Toronto, and unfortunately the most discouraging accounts of the crop are received from that part of the Province. There is indeed a singular contrast in the reports for the eastern and western sections; for, while those for the one agree in saying that the prospect has not often been worse, those for the other are not less unanimous in saying that it was never better.

This marked difference seems to be due largely to conditions of weather. In the east the winter was unbroken from first to last. Consequently the snow lay on the ground as it fell; and, while it formed a warm covering for the wheat plant in the coldest weather, the air was not excluded. But in the west there were alternations of warm waves and cold waves, and occasional storms of rain as well as of snow. The result was, that where the snow-fall was heavy, as in the northern counties, it packed and crusted; and where the fall was light, as in the southern counties, the ground was sometimes bare and sometimes covered with ice.

The great rain storm that was central over the Ohio valley in the latter part of January extended into Ontario (either as rain or sleet), northward as far as Georgian Bay and eastward as far as Toronto. In the Lake Erie counties, and in portions of Middlesex, Oxford and Brant, nearly the whole of the snow was carried off at this time; and a cold spell following, the fields were left coated over with sleet and ice. In those counties the general verdict of correspondents is, that the wheat was "frozen to death;" whereas in the northern counties the verdict is, "smothered to death." A correspondent in Huron county observes that six successive crusts formed on the snow during the winter, two of which were strong enough to bear up a horse.

A noticeable peculiarity in the effects of winter throughout the western section of the Province is, that in the southern counties the wheat has been injured most on gravel and sandy lands, and least on the level clay and loamy lands; but in the northern counties this condition is reversed, the wheat having had adequate protection on even the highest lands. It is remarked, however, that where high ground in the south was sheltered from winds the wheat is well preserved, and the importance of planting the borders of farms with trees is urged by many correspondents.

But the appearance of the crop this spring is no doubt due in some degree to the condition of the ground at seed-time. In the east it was favourable, and the young plant made a good start in the fall. In the west the heavy rains of July and August and the season of drought that followed interfered with the proper cultivation of fallows, and especially of pea and stubble lands, so that the soil was in very poor tilth. The seed was sown late, and it neither rooted well nor tillered well. This circumstance will account in a measure for the bad reports now received; and

it is reasonable to hope that, where the plant has survived the snow and ice and exposure of winter, the outlook will brighten with warm and growing weather. It is unfortunately true, however, that a large extent of wheat-land is already doomed, and has been ploughed up or re-sown with spring grains.

The only cheerful reports from the western part of the Province refer to the northern half of Essex, the lake shore townships of Huron and Bruce, the county of Wellington, the northern parts of York and Peel, and the southern half of Simcoe; and even in these districts the crop has been seriously damaged by the frosts and winds of April. Elsewhere the area sown will probably be reduced by twenty per cent., a portion of which will be put under spring wheat and the rest under barley, oats and peas. The eastern section of the Province is confidently expected to produce a full crop.

Winter rye is not grown to any extent outside of the St. Lawrence and Ottawa counties, but all the reports on its condition are favourable. It is much hardier than wheat, and appears to have come through the winter in a healthy and vigorous state—notably in the county of Norfolk, where the wheat suffered severely. Clover has also wintered well on the whole; but in some localities it has been partially destroyed by winter exposure. In others, as in the counties of Lambton, Haldimand and Welland, it has been injured by the clover midge or weevil. As there was little frost in the ground, there are no complaints of "heaving" this year.

Live stock are generally reported to be healthy and in good condition. The winter was favourable to animal life, and fodder being abundant the farmers fed with a liberal hand. Horses were attacked in a few localities with "pinkeye" and mild forms of distemper, but the mortality among them was much less than in the winter of 1882. Cattle have a thrifty appearance, and will go to the pasture fields in good heart. The spring weather was hard on lambs; and young pigs have died in large numbers.

The quantity of wheat in farmers' hands is above the average for this time of year, although the bulk of last year's crop has been marketed. There is a large surplus of hay, but the supply of oats is not more than is required for home consumption. The number of fat and store cattle is not large, and the demand for them continues active.

The preparation of the ground for spring crops was not commenced as early as usual this year as, in the absence of hard frost, it remained water-soaked for some time after the snow had disappeared. For the same reason it was not in a good tillable condition, being tough and sodden instead of mellow and friable. On high and well-drained lands farmers started ploughing about the 15th of April, and in some portions of the Lake Erie and west midland counties a week earlier; but in the northern and eastern portions of the Province little was done before the 25th. Sowing commenced about a week later, and not more than twenty-five per cent. of it was finished at the date of the returns. Farmers fully appreciate the necessity of changing their seed grain frequently and introducing new varieties of recognized merits, but proper attention to this requires systematic effort. The Grangers, with their widespread organization, are rendering valuable service by establishing seed fairs and by a method of exchanges, as also are some of the Agricultural Associations. But the present great need of farmers is an adequate supply of farm labour. The demand for men is active in all parts of the Province, and liberal wages are offered for employment by the year or the season.

Fruit trees appear to have come safely through the winter, and there is generally a good show of fruit buds. In some localities, however, as in the west midland counties, fears are entertained that the trees have not fully recovered from the effects of last summer's blight.

The ninth Provincial Exhibition of Manitoba will be held at Portage la Prairie, under the auspices of the Board of Agriculture, from October 1st to 6th next. Entries must be in the hands of Mr. Acton Burrows, Secretary-Treasurer, by September 10th.

THE DAIRY.

BUTTER-MAKING FOR THE COMMON FARMER.

Dairying is firmly established as a leading and profitable branch of our American agriculture. But outside the number of the special dairymen there are thousands of farmers to whom their dairying is one of the most annoying and least profitable parts of their farm work. The average general farmer makes little money from the manufacture and sale of dairy products. Usually he makes his choice between butter-making and allowing the calves to suckle their dams. The latter is often chosen, but we more and more clearly see that this can not be the most profitable practice in the larger part of the country. The farmer must needs keep a few cows, to supply his own family with milk and butter, and to rear a few calves. The usual practice in the West is to have the cows calve in spring; oftentimes in the late spring. The great mass of the butter made on farms is made between the middle of May and the first of November. This is during the time of greatest pressure of farm work. During much of it, the weather is uncomfortably warm, flies are troublesome, the pastures may be cut short by drouth, the milk is cared for with greater difficulty; an unsatisfactory grade of butter is made, and sold at the lowest prices current during the year. It is no wonder that the farmer decides that he sees little profit or pleasure in dairying. Is there not a better way? We believe there is.

As a first step in the way of improvement, we suggest winter dairying. There are many "theoretical" arguments in favour of this, but more convincing than these is the testimony of many who have thoroughly tested the system. It seems to us decidedly better, in very many cases, to have the cows calve in the early fall—say September. The weather is cooler. For two months or more the pastures may be good. If well cared for and well fed in winter the cows will do better in milk giving than in heat of midsummer. In the spring, when turned on grass, they will do well through May and June, and then can be dried off for the hottest and least desirable part of the year for milk making. During autumn and winter there is less pressure of farm work; the milk and butter can be handled better, with easily-arranged facilities, than they can in midsummer; and, finally, there is almost invariably good prices for butter during all the winter. In many Western towns, in rich farming regions, where butter is sold at ten or fifteen cents in the summer, it is scarce in winter at thirty or thirty-five cents. There is some extra cost in keeping a milk-giving cow in winter over the cost in summer. But the cow must be kept in winter in any event, and the increase in cost is less than is often supposed, provided there be comfortable shelter provided.

As a second step in making dairying on the average farm more profitable, we suggest giving more attention to it; increasing the number of cows. "All the motions have to be gone through with," whether there be three or a dozen cows. Oftentimes it is really less inconvenience to handle the larger than it is the smaller quantity, as the amount of butter made will permit of the purchase of suitable apparatus. It is often easier to sell the larger than the smaller quantity at good prices. In many of the smaller towns of the West, and in all the larger ones, there are at least a few families or hotels to which butter can be sold at a fair price, if there be reasonable security of a steady supply of good quality

As we have frequently stated, it is quite possible to rear calves well on skimmed milk, with the addition of oil or cotton seed meal and grains, and that there are some advantages for thus rearing

them in the winter. (The writer recently, May 1st, weighed three grade short horn heifer calves just past six months old, and reared on skimmed milk, which averaged 890 pounds. This does not seem a large weight; but he has reason to know that some calves near a year old would not weigh a hundred pounds more.) Increased attention to butter making need not mean less, but more, attention to cattle rearing.

Without attempting, at this time, anything like full instructions for the care of the milk, let us emphasize the fact that there need be no costly nor complicated arrangements. In a large majority of cases, deep setting will be much better than the old system of using shallow pans. Any one of half a dozen patent "creameries" will do good service. In default of any of these, a plain wooden tank, set conveniently near the well, in which to place ordinary tin cans, six inches in diameter and twenty inches deep, will give all the apparatus absolutely required for successful cream raising. Skimming at twelve or twenty-four hours, the milk will be sweet and in good condition for feeding when warmed. Any one of a dozen patent churns will do good work—if care be taken to avoid all for which it is claimed that three to five minutes is all the time needed for churning. In default of any of these, a plain box or barrel churn will do admirably. There is difficulty in making good butter, but there is no "mystery" or secret about it. There is no reason why butter every way satisfactory may not be made in farmers' houses. Such butter is made in many such houses, and may be in many more.

Of course, there are many farmers who will find it practicable to furnish milk to a cheese or butter factory. Others can sell milk to advantage. We have written for the many who are so situated that they cannot conveniently practise either of these modes of disposing of their milk, and who wish to rear calves as well as to make butter.—*The Breeder's Gazette.*

BUTTER PACKING.

Mr. Wm. Cluxton of Peterboro' has written the following practical letter on the subject of packing butter for export. His suggestions are valuable and will no doubt be generally followed:—*Sir,*—Will you kindly permit me to caution farmers against using tinnets or tubs made from maple wood, for packing butter in. This wood injures the butter that comes in contact with it and renders it undesirable for shipping to Europe.

Tinnets of any kind of wood should be used as little as possible. *The best package is an ash firkin with a slip cover.* Butter is worth more in firkins than in tubs. I would recommend butter makers to use Liverpool fine dairy salt, and be careful not to over salt. They have plenty of salt air in England, and consequently do not relish salt butter.

DEVONS GOOD DAIRY COWS.

The *American Agriculturist* says: We have been looking over reports of what Devon cows have just been doing in the butter line among us, and find that nineteen of the cows have been producing from 15 to 20 lbs. 5 ozs. each of best quality of butter per week. Considering their medium size and economy of keep these are great yields, but in years gone by, there are records of still larger yields nearly equalling those of the most famous Jerseys of the present day. The Devons, however, not only excel in the dairy but in several other respects. They are very superior as working oxen, have a quicker step and greater endurance than any other breed, and are the most powerful of all for their size. When fattened they turn out a choice quality of beef.

Thus we see that they are a most excellent, general purpose breed, good in the dairy, for work and for the shambles. The only other cattle that can be compared to them are the Red Polled Norfolk and Suffolk, which in fact are hornless Devons.

The Devons have been much neglected by the public for twenty years or so past, both in England and in America; but attention is now awakening to their great merits, and we have no doubt they will soon come into as high favour again as formerly; for aside from their polled congeners, no cattle are so profitably bred and raised on light pastures and hilly, rocky districts.

At a public sale of eighty-six lots of Devons the past year in England, they averaged \$180 each. One cow of these sold for \$625 and a bull for \$875, while a calf brought 50 guineas (\$950). These are about 25 per cent. higher prices than the average of any herd of either Guernsey, Jersey or Ayrshire cattle sold in England in the year 1882. We can learn from this the appreciation of Devons in their own native land.

MAKING BUTTER.

The cream, if churned sweet, should be stirred several times before churning to thoroughly incorporate and secure an even age, which the air can better do than by any other plan. Churn in revolving churns at a temperature not greater than 58 degrees. At the point of separation, cold brine should be introduced to produce granulation, and subsequent washings with weak brine to remove every trace of the buttermilk. The butter should be salted, but anything like working it into a solid mass should be avoided. When this butter has been allowed to "sweet" for a few hours it should be worked over enough to expel the surplus moisture and packed into packages away from the air.—*Exchange.*

The Danish system of making butter promises to become general; this consists in creaming the milk by centrifugal force, and churning about fifty gallons at a time, by special machinery worked by an ordinary engine. Not a drop of water is employed in the whole operation, and the hand never touches the butter. The latter brings at Paris, twenty per cent. higher price than the other prepared butters; it has no porosity, no milk. Ice is not employed. The cream is heated to fifty-seven degrees, and the butter is made in forty-five minutes. Cleanliness is perfect.

B. F. P., of East Bethany, N. Y., communicates to the *Country Gentleman* his way of treating a kicking cow, as follows: "Take a snap ring, attach a half inch cord about a dozen feet in length, put the snap in the kicker's nose, draw the cord around her, letting it rest on her gambrel joints or below. Let a person stand at her shoulder and hold the cord just tight enough, so that it shall not slip down to the floor. Any one can then proceed to milk her without trouble. This course of treatment pursued for one week has never failed to cure the most obstinate kicker, and without any struggles or harshness."

The *Pittsburgh Stockman* says: "Did you ever stop to think that outside of the labour and care devoted to the preparation of the two kinds for market, it costs just as much to produce bad butter as good. It takes just as much, and often more 'cow,' just as much food, just as much milking, and just as much carrying to market, for an inferior as for a superior article. On the other side, it requires much more labour to sell it, and brings a much less return. This is the whole matter in a nutshell, and furnishes more argument for first-class dairy production than can be found in whole columns of dairy orations."

BEES AND POULTRY.**DARK BRAHMAS.**

Of all the Asiatic varieties there are none superior to the Dark Brahmas. Aside from their intrinsic qualities, they are most beautiful fowls to look upon. It is a matter of taste in choosing between them and the Light breed, and as the Light ranks first among Asiatics, the Dark must rank next in merit, though fully equal in all that goes to make a handsome and profitable variety of fowls.

The Dark Brahmas are large and come to maturity perhaps a little earlier than the Lights. Their plumage does not fade, soil or show the same mussiness of feather, and holds its gloss and colour from one month to another without its growing rusty or dingy. As chicks they are remarkably quick growers and hardy, and when three or four months old they make capital broilers. As they develop they take on their adult plumage and quickly drop the awkwardness of chickens.

Pullets of this variety hatched early in spring will, with good care, commence to lay in fall or early part of winter, and if comfortably housed and judiciously fed on a varied diet of grain, green and animal food, will continue to lay during cold weather. They are good sitters and mothers, kind and affectionate to their offspring. There is no better fowl for the farmer, suburbaner or villager to breed purely, or to cross upon his common fowls. They are easily raised and restrained; those who have given them a fair trial claim for them superior qualities. As a fancy breed their fascinating beauty, quiet disposition and adaptability to confinement or restricted runs fit them eminently for general and useful purposes.

MARKETABLE HONEY.

Of late years the tendency among bee-keepers has been to neglect comb-honey, and work almost exclusively for extracted. The latter is more rapidly secured, and it requires less skill to succeed in obtaining a good return in extracted honey. The experience of practical men, however, may well induce bee-keepers to consider the advisability of working for comb-honey. This always, if properly secured, finds ready sale at the highest prices.

One man in Illinois, with 174 colonies by the spring count, and 206 in the fall, secured over 16,000 pounds of honey, which sold for \$8,000.

At present the market demands honey in sections. Even the so-called prize section, which is 5½ by 6½ inches, is found too large, and our wide-awake apiarists have used generally the one-pound section, which is 4½ inches square. This season, the experience in the Boston and Chicago markets show that even a smaller—a half-pound section—is to take the lead. It will be advisable for bee-keepers to arrange to secure this year's honey, in part at least, in sections of this size.

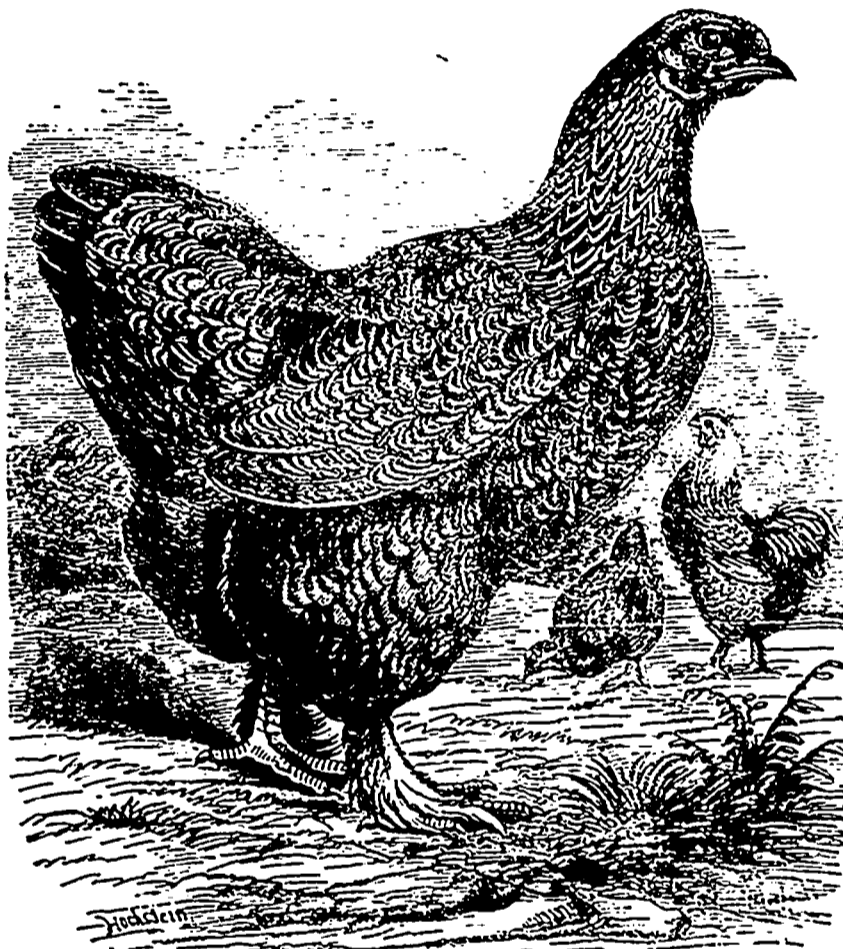
Tin or wooden separators, which have been used between the sections to secure straight combs, that could be shipped easily, are expensive. Some of our best apiarists find their use unnecessary. The secret of this seems to rest with the depth of the section. The usual depth has been two inches. By making the sections from 1½ to 1½

inch deep, so that the comb shall not be so thick, the even combs are secured without separators, especially if use is made of comb foundation.

In arranging to change the form of sections, if any thus decide, let it be remembered that the square form is not essential. Even the prize section is not square. Many contend that a rectangular section, longer up and down, is worked in better by the bees, and more quickly capped over, and filled to the edge, than is one that is square. It is worth while to think of this as we plan for the next harvest. It is hardly necessary to say that sections cannot be too neat and clean.—*American Agriculturist for February.*

TURKEY BREEDING.

It is a notably established fact among experienced cultivators of this kind of fowl, that young hen turkeys are not so good as are their elders for



DARK BRAHMA HEN.

reproduction. They will not lay a very large number of eggs in a season, but what they do yield when set will produce larger poults at hatching, and their eggs are also always more certain to be fertile.

The best place for a turkey's nest is on the bare ground, taking care to raise it above the danger of flooding during rain, and to shelter it above, locating it in some quiet place. The turkey loves privacy in these matters rather more than the common hen, and she is an excellent and very patient sitter. Indeed she sticks to her business so well that it is often recommended to hatch more than one brood by one turkey hen, removing the first brood as soon as out.

While the sitting is going on you will need to pay particular attention to see that the sitters are off their nests as often as is proper. Turkeys stay on their nests very faithfully. The process lasts a month, but if the eggs are fresh they will hatch a day or two earlier. It is not necessary, however, to be very careful about watching them. The egg yolk comes in part with them into the world and serves as nourishment for somewhat more than a day after hatching. When you come to feed them, it would seem important to

imitate this food as nearly as possible, and with this idea eggs in some form, boiled hard or made into a custard with milk, skimmed and clabbered milk, cottage cheese, and curds should form their principal food in the beginning. Bread crumbs soaked in milk, fine barley meal or oatmeal and hard boiled eggs, chopped fine with curd and onions, is an excellent diet for them until they can partake of coarser food.—*Poultry Monthly.*

HEALTHFULNESS OF HONEY.

American people are lovers of sweet, and consume an average of forty pounds or more of sugar for every man, woman and child of our population, says an exchange. To meet this demand, millions of dollars' worth of sugar is imported annually, and millions of dollars' worth of honey is allowed to go to waste from want of bees to collect it and put it in proper shape for the use of man. It is not generally known, as it should be, that honey may be employed for sweetening purposes instead of sugar for most of the purposes for which the latter is used. But could we supply it to the extent of diminishing our imports of sugar to one-half their present proportions, millions of dollars would be saved for the purposes of business in our own country. But far above all money considerations would be the use of a pure sweet upon the health of the people instead of the vile compounds now sold as sugar and syrups. The healthfulness of honey has been admitted from the earliest writers down through the centuries to the present time. Hence we have nothing to fear from the use of honey, while recent developments show that we have much to fear as to health in the use of adulterated sugars and syrups. But the price of honey in the past has had much to do in keeping it from the tables of men of limited means who did not possess the workers to collect and store it for them. Honey is a vegetable production, appearing in greater or less quantities in every flower that nods to the breeze or kisses the bright sunlight in all this heaven-

favoured land of ours. It is secreted in the flower for the purpose of attracting insects, thus securing the complete fertilization of the female blossoms. Hence it follows that all the honey we can secure in the hour of its presence in the nectaries of flowers is clear gain from the domain of nature.—*Iowa Homestead.*

A missionary in Michigan, whose salary was short of his needs, was presented by a friend with a few Brown Leghorns. He realized \$300 from them the year after, and so rejoices, not only in purse, but in fuller veins, brains, spirits and strength for his parochial duties.

SUBSCRIBER. Fowls that are constantly confined should have forty-eight square yards to each one of the flock; 100 then requires one acre. This would need a fence of 840 feet to inclose it. The cheapest fence would be one of boards, woven steel wire having a five-inch mesh and four feet four inches high, with heavy steel wire at the top and bottom, costs about ten cents a foot, or about \$80 for an acre. A very cheap fence can be made of brush poles nailed to bars or woven in a rail fence.

HOME CIRCLE.

BE COURTEOUS.

BY MARY M. RYAN.

As Annie Hale sat by her open window, she heard a boyish voice exclaim in pettish tones, "You, Hat! Why isn't dinner ready? Hurry up, and don't keep a fellow waiting a week."

The voice belonged to the very individual of whom she had been thinking with loving pride. She knew how clearly the brown eyes shone; what a bright smile could light up the happy, boyish face; she felt glad to know her favourite cousin was so strong and healthy, and possessed such a quick, fine intellect; she was sure that if God spared his life he would make a true, good man, for Will had given his heart to God, and only the day before she had seen him stand in the little country church, and, with earnest face, promise before God and men to live a Christian life.

But one serious fault marred the otherwise noble character. Like too many other boys of his own age Will seemed to think politeness at home was a very unnecessary observance.

He ordered his mother and sisters to give him this, or do that; when dressing, he would stand at the top of the stairs and rudely call for any article of dress he might want, and failed to find in his room; at the table he helped himself first, quite forgetful of the wants of others. He threw his hat or gloves anywhere on entering the house, and found great fault if they were not in their appointed place when he wanted them again.

When away from home, Will was very polite, so Annie knew it was not ignorance, but thoughtlessness, and the mistaken idea, that "sweet, small courtesies" had nothing to do with home life.

Cousin Annie knew so well the terrible power of habit, and feared that if Will's eyes were not opened it would be too late; so with a silent, but very earnest prayer for help and wisdom, she resolved to have a talk with him.

An opportunity came that very evening, as Will asked his cousin to ride with him to town after the weekly papers, and Annie gladly accepted.

"What a beautiful night it is," exclaimed Will, as they rode slowly along in the moonlight. "Every thing seems brighter to me since yesterday."

"Yesterday was a most precious day to me, dear Will. I cannot begin to tell you of all the solemn joy that filled my heart when I saw you publicly professing Christ, and promising to keep his commandments."

"I do hope I shall be strong enough to keep that promise."

"God will give you strength if you ask Him. I know you will try, but Will, there is one command you forget, almost altogether. You must let me speak plainly, dear cousin, for I only do it because I love you, and want to see your Christian character without a flaw."

"I cannot imagine what you mean, Annie; for I have so carefully studied my Bible, with Mr. Milton's help, the last few months, to find out and understand Christ's commandments, before I dared promise to keep them in that solemn way."

"You will find this one in the third chapter of First Peter, and eighth verse; and it is given in two words—'Be courteous.'"

Will was silent for a moment, and then said: "Please tell me how I break it?"

"You fail to keep it when you order your mother or sisters, or the servants, to wait upon you, without a quietly spoken 'please;' when you tease the younger children, and make unnecessary trouble by your own carelessness. It seems to me that Christians should be particularly careful

about these little things, for they have so great an influence. I know you want to set a good example to your younger brothers, who all look up to you, and watch you so closely; and if your example teaches them to be gentlemanly, thoughtful and kind at home, you will accomplish much good. The truest politeness is forgetting one's self, and thinking of others' comfort. No matter how gracefully a boy lifts his hat on the street, or proffers to his lady friends polite attentions, if he constantly disregards the feelings of mothers, sisters and brothers, he is not a true gentleman; he has not learned the meaning of the Bible command, 'Be courteous.' Not one of your young lady friends can appreciate your considerate kindness, as will your mother and sisters. We have Christ's own example as we read of His loving thoughtfulness toward His mother, and all these acts of courtesy will help your Christian influence."

"Thank you, cousin Annie, for your plain speaking, I know I have not been courteous, but I will watch more closely, and pray for help to conquer what I know is wrong."

So Annie knew that her silent prayer had been answered, and that her words had fallen on good ground.

CORUNNA'S LONE SHORE.

Do you weep for the woes of poor wandering Nellie,
I love you for that but can't love you for more;
All the love that I had lies entombed with my Willie
Whose grave rises green on Corunna's lone shore.

On that night Willie died, as I leaned on my pillow,
Thrice was I alarmed by a knock at my door,
Thrice my name was then called in a voice soft and mel-
low,
And thrice did I dream of Corunna's lone shore.

I thought Willie stood on the beach, where the billow
Dashed over his head and so wildly did roar;
In his hand he was waving a flag of green willow;
"Oh, save me!" he cried, on Corunna's lone shore.

They tell me my Willie looked lovely while dying;
His features were calm, though all clothed with gore;
The boldest in battle around him stood crying,
While night's gloom stole over Corunna's lone shore.

They tell me my blue eyes have lost all their splendour,
My locks once so yellow now wave thin and hoar,
They say it's because I'm so restless, and wander
My thoughts ever dwell on Corunna's lone shore.

But tell me, O, where shall I go to forget him;
While here in my home my heart bleeds to the core,
For this sofa—alas—where I used oft to seat him,
Cries think, Nellie, think of Corunna's lone shore.

Here oft in my dreams my arms seem to enfold him,
For here he has kissed me a thousand times o'er;
My brain gets bewildered, as I think I behold him
All bloody and pale on Corunna's lone shore.

Hark! What do I hear. 'Tis the voice of my Willie—
"Come loved one," he says, "now for me weep no more,
For I've gone to those realms of bright glory, dear Nellie,
Far removed from the woes of Corunna's lone shore."

"Come, Nellie, prepare, for the Saviour is calling;
Here soon we shall meet and will never part more;
No sorrow nor sighing, no briny tears falling,
You'll never weep here for Corunna's lone shore."

CARLITO AND LUZITA.

In the city of Mexico there is a great number of little Indians. They are very busy little people and run about the streets or sit at the corners all day long, selling fruit, sweetmeats, little baskets and brooms which they make themselves, funny little brown jars and plates just large enough for toy kitchen furniture, and many other interesting things. But among them all there are few so intelligent and pretty as Carlito and Luzita.

These two little children had kind parents, who, although they could neither read nor write, knew the importance of knowledge, and sent Carlito and Luzita to school. They were very studious, and had learned to read their little primer and to make big letters on their slates, when one sad morning their papa lay sick and quiet with closed eyes, and before night he was dead.

They lived in a tiny cottage on the banks of

one of the old canals which lead from the city of Mexico to the large lake lying miles away at the foot of the mountains. It was not a pretty white cottage like the small farmhouses in the United States, but a low building containing only two rooms. Its walls were of rough stones fastened together with coarse mortar, and the roof was only a thatching of dried plaitain leaves; but it was home to this simple indian family, and now the kind, strong father was gone. Carlito, although only ten years old, was the man of the house, and must do a man's work. There was the mother, Luzita (two years older than Carlito), and a baby brother, who lay all day in a basket, fighting the air with his little brown fists. There was the garden full of fresh vegetables planted by the father, which must be harvested by other hands than his; and in the canal in front of the cottage was the rude, empty canoe, tied fast to an old tree stump.

Somehow the garden and the canoe must be made to continue their work of bringing bread for the desolate family.

In those first days of sorrow little Carlito sat and thought very earnestly. His head was weary with the care thrown upon him, but his courage grew larger and larger as plans for the future opened before him. His mother could take care of the garden, he was sure of that for he had seen her digging and hoeing many long sunny days, while the father was away in the city selling vegetables. And he and Luzita could sell things, of course they could. He knew lots of boys and girls who did it who could not reckon and count as well as he could.

Besides the vegetable garden, there were pear trees, pomegranates and quince bushes, all loaded with ripe fruit. And great numbers of *tunas* grew all about the cottage.

The *tuna* is a very large cactus, with great round prickly leaves. Its fruits, which is green, and shaped something like a small plump cucumber, has a thick skin, which encloses a pale green pulp, as delicious and refreshing as a glass of cool water. The fruit grows in a very curious manner. It has no stem but springs directly from the top and sides of the great leaf, first appearing as a little green knob, which, after the yellow blossom falls, swells and swells until it attains its full size.

The pomegranate you will perhaps remember is one of the fruits brought back by the men sent by Moses to spy out the land of Canaan. It is a very beautiful fruit, containing hundreds of juicy seed vessels of the richest crimson. It flourishes all over the American tropics as plentifully as in the Promised Land in olden time.

It was a very proud moment for Carlito when, for the first time, he loaded his canoe with great bunches of juicy carrots, baskets of fresh peas and beans and tomatoes and peppers, and rich ripe fruit from his own trees, and taking his seat among his treasures, with Luzita at his side, paddled down the canal toward the great city in the early morning. And he was prouder and happier still when, late in the afternoon, he and Luzita paddled home again with an empty canoe, but with their pockets filled with little shining silver pieces.

Hard work and keeping at it brought success to these two little Indians. The mother, with Carlito's help, tilled the little garden, and on days when the load of vegetables was very abundant she would strap the baby on her back, wrapped in her blue and white cotton mantle, and come herself to the city to sell them in the great marketplace, while the two children sat at the street corner with their fruits. Carlito was soon able to buy a large, square piece of straw matting, of which he made an awning, that Luzita might not suffer from the hot rays of the sun.

If you come to the city of Mexico, and go to a

certain corner of the street near the great square in front of the Cathedral, you will be sure to find Carlito and Luzita sitting under their awning selling fruit; and, if you can talk with them, you will learn that every word of this story of two hard-working little Indians is true.—*Harper's Young People.*

WATER.

There are few things endowed with more marvellous properties, or which are less studied and understood, than water. The artist, indeed, appreciates its value in one respect, as an element of the picturesque, capable of giving life and splendour to the landscape. The lover of rural life is also sensible of its charms, whether it murmurs in a brook, rolls in a foaming cataract, or expands into the silvery mirror of a lake. Hence the painter and the poet have vied with each other, to celebrate these emanations of creative kindness. But higher and deeper thoughts than any which external beauty can suggest, fill the mind that contemplates the internal constitution of this Protean liquid. Though in mass it is incompressible, and able to burst a passage through the strongest metal or rock, yet its particles form a fluid assemblage, softer than ermine, and yielding to the lightest touch. Obedient to the laws of gravitation, it enjoys singular prerogatives. Each invisible atom presses solely for itself, neither giving nor receiving aid from its associates. It weighs not only, like solids, from above downwards, but laterally and upwards with equivalent gravity. Possessed of perfect mobility, it never wearies in its journey, till it reaches the level plane of repose. Without shape, it is susceptible of every figure, and the parent of myriads of crystalline forms. Capable of being aggregated in an ocean mass, yet renouncing its cohesive attraction before the feeblest power, it becomes divisible into the rarest exhalation. It exerts at one time an impulsive force, nearly irresistible, before which even the mountain bows its head, and crumbles into dust; and at another, it gives way to the light canoe. Just dense enough to float the pine, and afford a buoyant highway for ships, it is rare enough to permit the fleetest motions of its finny tribes. Had it been more attenuated, it would not have served the navigator; and if either denser or rarer, in a very slight degree, fish could not have swum in it.

This water, by its mysterious tenuity, loosens the indurated soil, enters the invisible pores of plants, passes freely through all their vessels, expands in the filmy blossom, and is an element of the fleeting aroma. But these fluid particles can be chained together in the firmest cohesion; in which state it may exhibit either the hardness of rock, or the softness of eider-down. Enormous blocks of water thus stand in immovable columns, surmounting the loftiest pinnacles of our globe. How different are these from the soft, insinuating liquid, which is the circulating medium of all organic life!—*Ure.*

AFTER MARRIAGE.

One frequent cause of trouble in married life is a want of openness in business matters. A husband marries a pretty, thoughtless girl who has been used to taking no more thought as to how she should be clothed than the lilies of the field. He begins by not liking to refuse any of her requests. He will not hint so long as he can help it at care in trifling expenses—he does not like to associate himself in her mind with disappointments and self-denials. And she who would have been willing enough in the sweet eagerness to please her girlish love, to give up any whims or fancies of her own whatever, falls into habits of careless extravagance, and feels herself injured

when at last a remonstrance comes. How much wiser would have been perfect openness in the beginning! "We have just so much money to spend this summer. Now, shall we arrange matters thus or thus?" was the question I heard a very young husband ask his still younger bride not long ago! and all the womanhood in her answered to this demand upon it, and her help at planning and counselling proved not a thing to be despised, though hitherto she had "fed upon the roses and lain upon the lilies of life." I am speaking not of marriages that are no marriages—when Venus has wedded Vulcan, because Vulcan prospered at his forge—but marriages where two true hearts have set out together for love's sake to learn the lesson of life and to live together until death shall part them. And one of the first lessons for them to learn is to trust each other entirely. The most frivolous girl of all "the rosebud garden of girls," if she truly loves, acquires something of womanliness from her love, and is ready to plan and help and make her small sacrifices for the general good. Try her and you will see.—*Our Continent.*

WHAT IS LIFE?

Life is not living
Just for to-day;
Life is not dreaming
All the short way.

To live is to do
What must be done;
To work and be true,
For work is soon done.

'Tis living for others,
To lighten their load;
'Tis helping your brothers
And trusting in God.

FALSIFICATION OF BRANDY.

A lamentable picture has been drawn in a recent report of the American Consul at Rochelle, of the falsifications of brandy which, it appears, in the last three years has undergone a complete transformation, and is no longer brandy, the greater portion being prepared from alcohol, of grain, potatoes, or beet. The most unsatisfactory circumstance is that even the merchants who desire to purchase a pure cognac cannot be certain that they do so, for the proprietors of the vineyards, all of whom are distillers, have become so clever in the manipulation of alcohol and the accompanying drugs that they deliberately make a brandy of any required year or quality. The mention of the year 1840 or 1876, for instance in an invoice, or on a label, means simply that the article is presumed to have the taste or colour of the brandies of those years.

It is, moreover, becoming a custom to sell the brandy in twelve bottle cases, marked with one, two, or three stars, according to the presumed quality, thus avoiding any compromising mention of year or place of production. Some of the manufacturers import the small raisins from the East and make what they call brandy from the juice, there being at least one such establishment in operation at Cognac. Apart from the unsatisfactory purchase of a brandy which is not a brandy, drinkers should seriously consider what are the properties of the liquid which they are so complacently imbibing. It is simply an active poison, the imported alcohol, which is known to trade as *trois six*, being of 90° strength, and sold at a little less than three francs a gallon. Its characteristic effect is to produce an intoxication in which the patient is especially inclined to rage and physical violence, while insensibility of an obstinate and almost hopeless form, is the inevitable consequence of a prolonged use of it. It is said that the great increase of violent and brutish crimes in France may be traced to the drinking of this brandy and absinthe. The slang term for a

glass of Cognac is *petrole*, and for coffee with cognac, *un grand deuil*. Not only in France but in other countries, and even in the United States, these liquors are producing a condition of national alcoholism of the worst kind, far beyond the ordinary drunkenness arising from unadulterated intoxicating drinks.

NO MORE WEeping.

The glorified weep no more, for all outward causes of grief are gone. There are no broken friendships nor blighted prospects in heaven. Poverty, famine, peril, persecution and slander are unknown there. No pain distresses; no thought of death or bereavement saddens. They weep no more, for they are perfectly sanctified. No "evil heart of unbelief" prompts them to depart from the living God; they are without fault before his throne, and are fully conformed to His image. Well may they cease to mourn who have ceased to sin. They weep no more, because all fear of change is past. They know that they are eternally secure. Sin is shut out and they are shut in. They dwell within a city which shall never be stormed; they bask in a sun which shall never set; they drink of a river which shall never dry; they pluck fruit from a tree which shall never wither. Countless cycles may revolve, but eternity shall not be exhausted; and while eternity endures, their immortality and blessedness shall co-exist with it. They are forever with the Lord.

They weep no more, because every desire is fulfilled. They cannot wish for anything which they have not in possession. Eye and ear, heart and hand, judgment, imagination, hope, desire, will, all the faculties are completely satisfied. And imperfect as our present ideas are of the things which God hath prepared for them that love him, yet we know enough, by the revelation of the Spirit, that the saints above are supremely blessed. The joy of Christ, which is an infinite fulness of delight, is in them. They bathe themselves in the bottomless, shoreless sea of infinite beatitude. That same joyful rest remains for us. It may not be far distant. Ere long the weeping willow shall be exchanged for the palm branch of victory, and sorrow's dew-drops will be transformed into pearls of everlasting bliss. "Wherefore comfort one another with these words." Can we not exclaim with Dr. Watts:

"Sin, my worst enemy before,
Shall vex my eyes and ears no more.
My inward foes shall all be slain,
Nor Satan break my peace again."

C. H. Spurgeon.

THE GORILLA.

The gorillas are the terror of Africa. In the gorilla country no lion will live. They are man-haters, and kill them for the love of it, leaving the body, never eating it. When they spy a negro they come down from a tree, hit him on the head with a club, which they wield with their hind claw, or carry him up into the tree, there to murder him. Their strength is so great that they will bend the barrel of a rifle. Only one live one was ever brought to England, and that soon died. Several have been shot, but they are tough customers, and the natives dread them more than any animal of the African forests. The gorilla makes a bed like a hammock, and swings in the trees. The gorilla is the sworn enemy of the elephant, because each derives subsistence from the same source. When he sees an elephant pulling down and wrenching of the branches of a favourite tree, the gorilla steals along the boughs, strikes the sensitive proboscis of the elephant a terrible blow with his club, and drives off the clumsy and startled giant, shrilly trumpeting his pain and rage through the jungles of the forest.

YOUNG CANADA.

IMITATING PAPA.

He was a bright-eyed, rosy-cheeked little fellow, and just as brimful of fun as a boy of five summers could well be, and when I tell you that his mamma, that morning, for the first time, had dressed him in a pair of pantaloons and a little coat, you can very well imagine what his feelings were. He was so proud of the change and felt very grand indeed as he sat in his little chair with his legs crossed like his papa, and surveyed himself with much satisfaction. But his little sister Mamie did not like the change at all. She had tried to get him to play with her several times, but had been treated so coldly that she had at last retired to one corner of the room with her doll; but she felt so lonely without her little brother and many a wistful glance did she cast at him, but to no effect. He knew very well what she wanted, and would really have liked to have a big play, but thought it would never do, so he marched out of the room with great dignity, followed by his dog Rover. In the hall he espied a hat of his father's and also a cigar stump that had been left on the table. Putting the cigar in his mouth and the hat on his head, he went out into the yard, lighting the cigar as he went, still followed by his faithful dog Rover.

"What are you about, Robby?" said a young man as he passed by, stopping to look at the child in much amusement.

"Oh, I'm pretending I'm papa," said he as he took the cigar out of his mouth and gave the new-comer a very critical look.

"You'd better let that stuff alone," was the laughing rejoinder, "or you'll rue it soon." And he did rue it soon, for he got so sick he was compelled to lie down on the grass for a while; and he threw the cigar away in disgust, concluding to himself that it was not so nice to do like papa after all.

"Hoop, but ain't you fine!"

"Yes, ain't I though," said the little fellow as he jumped up and displayed himself before the speaker, a neighbour boy, about two years older than himself.

"I say, Jim, let's play?"

"Well, what will we play?"

"Why, you keep bar, and I'll be papa, and come in and get a glass of brandy, like he does down at the hotel. He always acts so funny after he's been there, and it makes mamma cry."

Bob and Jimmy soon fixed up a bar by laying planks across the corner of the fence, and furnished it in a few minutes with some old bottles and two broken glasses, and then getting the cook to give them an old jug that had once been used for molasses, and filling it with water, they were ready to begin business.

"Good morning, Mr. Glidden," said Rob as he marched up to the bar where his little playmate was stationed.

"Good morning, good morning, glad to see you out such a fine morning. What will you have to-day?"

"A glass of your fine brandy to cheer me up a little," was the reply; and, being helped to half a glass of molasses water, Robby soon disposed of it and called for more; and after spinking several times he staggered away in such perfect imitation of his father that the little barkeeper roared with laughter.

There was one, though, who witnessed the scene that did not laugh, and would you believe it, it was Robby's own father. He had been in the very same fix the night before, that his little son had imitated so well, and of course was not in a condition to attend to business, and so he had been in the summer-house for several hours trying to entertain himself with the morning paper and had heard every word that had passed between the little playmates. It set him to thinking, and the result was he signed the "pledge" that very day. "I could not bear to have my son grow up in that way," he said to his wife that night, "and with the help of God, I'm going to set him a better example," and he did.

JOHNNY ON GRANDMOTHERS.

Grandmothers are very nice folks;
They beat all the aunts in creation,
They let a chap do as he likes,
And don't worry about education.

I'm sure I can't see it at all
What a poor fellow ever could do
For apples, and pennies, and cake,
Without a grandmother or two.

Grandmothers speak softly to "ma,"
To let a boy have a good time;
Sometimes they will whisper 'tis true,
T'other way, when a boy wants to climb.

Grandmothers have muffins for tea,
And pies, a whole row in the cellar,
And they're apt (if they know it in time)
To make chickeu-pie for a "feller."

And if he is bad now and then,
And makes a great racketing noise,
They only look over their specs,
And say, "Ah, these boys will be boys;

"Life is only short at the best;
Let the children be happy to-day,"—
Then look for a while at the sky,
And the hills that are far, far away.

Quite often, as twilight comes on,
Grandmothers sing hymns very low,
To themselves, as they rock by the fire,
About heaven, and when they shall go.

And then a boy stopping to think,
Will find a hot tear in his eye,
To know what will come at the last;
For grandmothers all have to die.

I wish they could stay her and pray,
For a boy needs their prayers every night;
Some boys more than others, I s'pose,
Such as I need a wonderful sight.

THE MOTHER.

There is no human love like a mother's love. There is no human tenderness like a mother's tenderness. And there is no such time for a mother's first displaying her love and tenderness towards her child, as in the child's earliest years of life. That time neglected, and no future can make good the loss to either mother or child. That time well improved, and all the years that follow it can profit by its improvement. Even God himself measures his fatherly love by a motherly standard. "As one whom his *mother* comforteth, so will I comfort you," He says; and what more than this *could* He say? And many a strong man who was first comforted by his mother's loving and tender words and ways while he was a helpless child, has never lost his grateful, trusting dependence on that mother's ministry of affection and sympathy.

When gruff old Dr. Johnson was fifty years old, he wrote to his aged mother as if he were still her wayward but loving boy: "You have been the best mother, and I believe the best woman in the world. I thank you for all your indulgence to me, and beg forgiveness for all that I have done ill, and of all that I

omitted to do well." John Quincy Adams did not part with his mother until he was nearly or quite as old as this; yet his cry even then was: "O God, could she have been spared yet a little longer. . . . Without her the world feels to me like a solitude." When President Nott, of Union College, was more than ninety years old and had been for half a century a college president, as strength and sense failed him in his dying hours, the memory of his mother's tenderness was fresh and potent; and he could be hushed to needed sleep by a gentle patting on the shoulder, and the singing to him of the old time lullabies; as if his mother were still sitting by his bedside in loving ministry as she had been well-nigh a century before. The true son never grows old to a true mother.

NUMBER AND ORDER OF THE STARS.

If we raise our eyes to heaven on a clear moonless night, we shall see myriads of twinkling stars thickly studding the sky. It seems impossible to count them, but such is not the case. It is found that the total number of stars in the celestial sphere, visible to the average naked eye, is about five thousand, the number varying according to the perfection and training of the eye and the condition of the atmosphere. When the sky is cloudless, and the air free from moisture, and unstirred by the slightest breeze, several hundred more may be seen, swelling the number to nearly six thousand. As only one-half of the stars are above the horizon at a time, it follows that the number to be seen at once varies from twenty-five hundred to three thousand. The stars visible to the naked eye bear no comparison to those brought to view in the telescope. No less than twenty million stars were visible in Hershel's twenty-foot telescope. The great telescopes of modern times show a much larger number, and though no reliable estimate has yet been made, the number will probably reach fifty millions.

The difference in the size and brightness of the stars is no less striking than their number. At a very early age in the history of astronomy, they were divided into classes on this account. The twenty brightest stars are said to be of the first magnitude. The fifty stars next in brightness are of the second magnitude, and so on, until we reach the stars of the sixth magnitude, which include the faintest stars visible to the naked eye. The telescope greatly increases the number of classes as well as the number of stars, so that the smallest stars visible in the largest telescopes are of the sixteenth magnitude. No limit to the increase has yet been found. Every improvement in the far-seeing power of the telescope reveals the existence of myriad stars never seen before until it seems as if the stars that people space are as nearly countless as the sands on the seashore, or the flowers that bloom in the primeval forests.

What an inconceivable number of suns, of many orders of size and brightness, belong to the grand universe of space in which our sun and his family of worlds find place! For these myriad stars that sparkle in the canopy of night are all suns like our sun, masses of matter at a white heat, but at such an immense distance that they look like shining points, just as our sun would look if he were as far away.



SAVED AND LOST.

HOW ANIMALS PRACTISE MEDICINE.

M. Delaunay, in a recent communication to the Biological Society, observed that medicine, as practised by animals, is thoroughly empirical, but that the same may be said of that practised by inferior human races, or in other words, by the majority of the human species. Animals instinctively choose such food as is best suited to them. M. Delaunay maintains that the human race also shows this instinct, and blames medical men for not paying sufficient respect to the likes and dislikes of the patients, which he believes to be a guide that may be depended on. Women are more often hungry than men, and they do not like the same kind of food, nevertheless, in asylums for aged poor, men and women are put on precisely the same regimen. Infants scarcely weaned are given a diet suitable to adults, meat and wine, which they dislike, and which disagree with them. People who like salt vinegar, etc., ought to be allowed to satisfy their tastes. Loran always taught that with regard to food, peoples likings are the best guide. A large number of animals wash themselves and bathe, as elephants, stags, birds, and ants. If we turn our attention to the question of reproduction, we shall see that all mammals suckle their young, keep them clean, wean them at the proper time, and educate them; but the maternal instincts are frequently rudimentary in women of civilized nations. In fact, men may take a lesson in hygiene from the lower animals. Animals get rid of their parasites by using dust, mud, clay, etc. Those suffering from fever restrict their diet, keep quiet, seek darkness and airy places, drink water, and sometimes even plunge into it. When a dog has lost his appetite it eats that species of grass known as dog's grass (chicadent), which acts as an emetic and purgative. Cats also eat grass. Sheep and cows, when ill, seek out certain herbs. When dogs are constipated, they eat fatty substances, such as oil and butter with avidity, until they are purged. The same thing is observed in horses. An animal suffering from chronic rheumatism always keeps as far as possible in the sun. The warrior ants have regularly organized ambulances. Latreille cut the antennae of an ant, and other ants came and covered the wounded part with a transparent fluid secreted from their mouths. If a chimpanzee be wounded, it stops the bleeding by placing its hand on the wound, or dressing it with leaves and grass. When an animal has a wounded leg or arm hanging on, it completes the amputation by means of its teeth.

A dog on being stung in the muzzle by a viper was observed to plunge its head repeatedly for several days into running water. This animal eventually recovered. A sporting dog was run over by a carriage. During three weeks in winter it remained lying in a brook, where its food was taken to it; the animal recovered. A terrier dog hurt its right eye; it remained lying under a counter, avoiding light and heat, although habitually it kept close to the fire. It adopted a general treatment, rest and abstinence from food. The local treatment consisted in licking the upper surface of the paw, which it applied to the wounded eye, again licking the paw when it became dry. Cats also, when hurt, treat themselves by this simple method of continuous irrigation. M. Delaunay cites the case of a cat which remained for some time lying on the bank of a river; also that of another cat which had the singular fortitude to remain for forty-eight hours under a jet of cold water. Animals suffering from traumatic fever treat themselves by the continued application of cold, which M. Delaunay considers to be more certain than any of the other methods. In view of these interesting facts, we are, he thinks, forced to admit that hygiene and therapeutics, as practised by animals, may, in the interests of psychology, be studied with advantage. He could go even further, and say that veterinary medicine, and perhaps human medicine, could gather from them some useful indications, precisely because they are prompted by instinct, which are efficacious in the preservation or the restoration of health.—*The British Medical Journal*.

GOOD MANNERS.

Good manners imply more than mere ceremony—mere attention to established forms. The habitual observance of certain conventional rules and usages does not make a lady or a gentleman. Some degree of formality is necessary in conducting our relations and intercourse one with another, but there must be with it some heart, some genuine love for our kind; otherwise we can neither be the instruments or recipients of enjoyments in the midst of the social circle. To impart or receive pleasure in society there must be at least "the flow of soul," if not the "feast of reason." We may admire this or that person for special accomplishments of manner, style, and conversation; but if these are seen and felt to be merely artificial, not at all involving the affections, we can never love the same. No gifts of mind, nor elegance of person, nor propriety of personal bearing can compensate for the want of heart in company. It is only the heart that can touch and impress the heart. A warm, confiding soul is the element of all enjoyment and pleasure in the social world, and where this is there can be no stiffness, no studied formalism of manner or language. In his intense loathing of empty, heartless forms in society the great bard has not untruthfully said:

"Ceremony
Was devised at first to set a gloss
On faint deeds, hollow welcomes,
But where is true friendship there needs none."

Good manners originate in good sense and good nature. The one perceives the obligations we owe to society, while the other heartily accords and enforces them. Formed for society by the very conditions of our nature, our interests and happiness are necessarily in what we contribute to its aggregate good; hence it is our interest, as it should be our pleasure, to do all in our power to promote the social well-being of our fellows. No one is independent of society in the matter of his happiness and comfort. All rational enjoyment is contingent on the due observance of the social law of our being, for

"Man in society is like a flower
Blown in its native bed. 'Tis there alone
His faculties, expanded in full bloom,
Shine out, there only reach their proper use."

Those who shun society or who fail to bear themselves in it with reference to its entertainment and pleasure, do so by default of either good sense or good nature, or both, because they thus cut themselves off from the chief source of human enjoyment, not to speak of the wrong they thereby do to others. The soul that feels the genial touch of nature, the stirring of noble sentiments and feelings within, acts in the social world for the joy and comfort of its fellow souls as well as for its own; hence the true lady or gentleman is always courteous and pleasant, affable and kind. Good sense and good nature both unite to make them so.

"Good manners," says Swift, "is the art of making those people easy with whom we converse. Whoever makes the fewest people uneasy, is the best bred in company." "Hail, ye small, sweet courtesies of life!" exclaims Sterne, "for smooth do ye make the road of it, like grace and beauty, which begat inclinations to love at first sight; 'tis ye who open the door and let the stranger in." Thompson, in speaking of social obligations and the bearing of their observance on our happiness, sums up nearly all the philosophy of life in the following beautiful lines:

"Hail, social life! into thy pleasing bounds
Again I come, to pay the common stock
My share of service and in glad return,
To taste thy comforts, thy protecting joys."

Good manners constitute the most valuable of earthly possessions. All may have them by the cultivation of the affections and none without it.

LOST CHORD.

Seated one day at the organ,
I was weary and ill at ease,
And my fingers wandered idly
Over the ivory keys;
I know not what I was playing,
Or what I was dreaming then,
But I struck one chord of music,
Like the sound of a great Amen.

It flooded the crimson twilight,
Like the close of an Angel's Psalm,
And it lay on my fevered spirit
With a touch of infinite calm.
It quieted pain and sorrow,
Like Love overcoming strife;
It seemed the harmonious echo
From our discordant life.

It linked all perplexed meanings
Into one perfect peace,
And trembled away into silence
As if it were loth to cease.
I have sought, but I seek it vainly,
That one lost chord divine
Which came from the seal of the organ,
And entered into mine.

It may be that Death's bright Angel
Will speak in that chord again;
It may be that only in heaven
I shall hear that grand Amen.

UNBELIEF.

There is no unbelief;
Whoever plants a seed beneath the sod,
And waits to see it push away the clod,
Trusts he in God.

Whoever says, when clouds are in the sky,
"Be patient, heart! light breaketh by and by,"
Trusts the Most High.

Whoever sees, 'neath winter's field of snow,
The silent harvest of the future grow,
God's power must know.

Whoever lies down on his couch to sleep,
Content to lock each sense in slumber deep,
Knows God will keep.

Whoever says, "To-morrow," "The Unknown,"
"The Future," trusts that power alone
He dares disown.

The heart that looks on when the eyelids close,
And dares to live when life has only woes,
God's comfort knows.

There is no unbelief;
And day by day, and night, unconsciously,
The heart lives by that faith the lips deny;
God knoweth why.

PULPIT HUMOURS.

The Drawer has never had so good a metaphor, complete in all its parts, as the following, which is cut from a recent article in a prominent religious newspaper. We feel sure that the metaphor is all right, because the author of it is a Doctor of Divinity. "These seeds of pride are bursting with flame which might lay the foundations of a deluge that would with its fangs envenom my soul."

It was a much less highly cultivated minister who recently made this contribution to eloquence in a sermon on the "Beatitudes." "My friends," said the preacher, "before proceeding to unfold our subject it is necessary to give a definition of the word I have just used. Beatitude is composed of two words, 'be' and 'attitude.' Be means to live, to

exist; and when a man lives, when he really lives, he always strikes an attitude. Hence we view," etc.

This is hardly a fair illustration of the value of preaching. A much better one comes from one of the pleasantest cities in Connecticut. A distinguished clergyman in the leading church had one morning finished his sermon, when one of his much-impressed hearers came forward to thank him for it, and this dialogue followed:

"It is fifteen years since I heard you last. In this very place, fifteen years ago, I heard you preach a sermon that I have never forgotten. It did me more good than any sermon I ever heard. It stuck by me, and I have always wanted to thank you for it."

"Ah, indeed!" replied the pleased preacher. "Such evidence of my poor labour is very grateful. I should like to know what sermon it was. Do you remember the text?"

"Well, no, I can't tell what the text was now, but it was the greatest sermon I ever heard. It just lifted me. I never forgot that sermon."

"I should really like to know what sermon it was," replied the clergyman, much interested in so decided a case of the power of the pulpit. "If you cannot recall the text, what was the subject of the sermon?"

"Well, now, doctor, it's gone from me; I forget what the text was, and I can't rake up the subject now; but I tell you it was a great sermon. It did me more good—it was the most powerful discourse I ever heard. I shan't forget it if I live to be eighty."

"But can't you recall anything in it? You excite my curiosity. Can't you give me a clue that will identify it?"

"No, I can't tell what was in it exactly, the subject has slipped out of my mind. I don't know exactly what you said, but it was a magnificent sermon. It did me more good than all the preaching I ever heard. It has just staid by me for fifteen years."

"And you cannot recall a word that will help me to identify it?"

"Well, I can't now bring up what it was about, but I remember how it wound up. You said, 'Theology ain't religion—not by a—sight!'"—*Editor's Drawer, in Harper's Magazine for June.*

DIVORCES.

Judge Jameson, in his "North American Review" article on "Divorce," makes some statements that should carry weight against the great legalized evil of the day. He does not seem to favour the strict New Testament law, but his generalization from the Chicago suits seems to contain an argument in favour of that law: "In far the greater number of cases, no court, listening to the narratives of the parties, can doubt that had they been held together by an iron bond, making divorce impossible for any cause, they would, at an early stage of their marital differences, have effected a reconciliation; the fatal step of revealing to gossiping friends their real or fancied wrongs would not have been taken, and so their mutual wounds would have healed 'by first intention.'" And again: "It is our firm conviction that, if the truth could be ascertained, at least two-thirds, perhaps four-fifths, of the 714 cases of divorce during the past year either were fraudulent in fact, or with a reasonably conciliatory temper on the part of the couples divorced, and under sufficiently stringent legal conditions were avoidable or preventable." He also adds: "The more uneducated and inconspicuous the married persons, the more numerous are their divorces." From which, we think, two inferences should be drawn: (1) The law should be strict and inexorable, making divorces possible only for New Testament cause; but (2) back of that, and under it, only moral and religious training and elevation can check the evil that is working such domestic and social ruin.—*St. Louis Evangelist.*

A HEBREW THERMOPYLÆ.

The story of this is told in Josephus. Founded by the last of the Maccabees, a century and a half before Christ, Masada had ever been one of the impregnable forts of Judea, where her kings were safe even from Roman invasion. When Jerusalem fell, 70 A.D., before the victorious arms of Titus, an undaunted few of the Jews fled to this stronghold, and under Eleazar, the Galilean, made it their last refuge against Roman rule and oppression, taking with them their wives and children.

But the Roman eagle was not to balked of any part of his prey, and the complete submission of all of Judea alone could satisfy the Caesar. Masada was besieged, and the devoted garrison, after heroic resistance, long protracted against overwhelming numbers, were driven to desperation. Josephus records the terrible appeal made by Eleazar to the remnant of his garrison never to fall alive into the hands of their fell foe, but sooner to sacrifice themselves and escape insult and impiety by a voluntary martyrdom, thus insuring for themselves and those they loved escape from dishonour here, and bliss hereafter.

Inspired by his terrible eloquence, every man and woman there hailed his words. Each man with his own hand slew those dearest to him, and selecting ten by lot to act as executioners, died under their hands without a struggle; then, as a funeral pyre, the last survivor set fire to the palace, and consummated the sacrifice by suicide. On the morning of Easter Day, 73 A.D., the Romans, ignorant of this tragedy, made their final assault, and finding none to oppose them, rushed triumphantly in, with barbaric shouts, to slay and plunder, to rob and ravish. But even those grim war-machines, as hard as the iron of their own corselets, whose humanity was so subordinate to their discipline that even the fiery shower of Pompeii could not drive them from their posts—even these must have stood appalled at the sight that met them in that city of the dead, where they found only the corpses of the men and women who had thus baffled their triumph. From a cistern steps two women, whose hearts had failed them, and from these they learned and handed down to posterity this tale of more than Spartan self-sacrifice, of more than Roman fortitude and patriotism.—*Edwin de Leon, in Frank Leslie's Sunday Magazine.*

Scientific and Useful.

GLOSS TO-SHIRT BOSOMS.—To ordinary starch, for each quart, one ounce of silicate of soda solution is added and thoroughly mixed.

STOVE POLISH.—Finely-powdered black lead, mixed to a paste with water, in which a small amount of glue has been dissolved.

GLASS VARNISH may be made of pulverized gum arabic, dissolved in the white of eggs well-beaten. Apply with brush carefully.

THE ROCK ON WHICH MANY a constitution goes to pieces in Dyspepsia, The loss of vigour which this disease involves, the maladies which accompany it, or which are aggravated by it, the mental despondency which it entails, are terribly relieved by the use of vital stimulant. Its true specific is Lyman's and Lyman's Vegetable Discovery and Dyspeptic Cure, which likewise overcomes bilious maladies, female ailments, and those coupled with impurity of the blood.

WHEN you have a little pie-crust, do not throw it away; roll it thin, cut in small squares, and bake. Just before tea put a put a spoonful of raspberry jelly on each square.

THE Scarlet, Cardinal, Red, Old Gold, Navy Blue, Seal Brown Diamond Dyes give perfect results. Any fashionable colour, 10 cents.

TO CURE HOARSENESS.—At this season of the year it may be useful to know that hoarseness can often be relieved by using the white of an egg thoroughly beaten, mixed with lemon juice and sugar. A teaspoonful taken occasionally is the dose.

Women that have been bedridden for years have been completely cured by the use of Lydia E. Pinkham's Vegetable Compound.

FURNITURE polish, for cleaning, polishing and filling old furniture. Rub a coat of shellac varnish into it, and smooth off with fine sand paper; then apply a coat of polish, made by mixing a half pint of fine shellac varnish with a quart of boiled linseed oil.

SALAD DRESSING.—Take the yolk of one hard-boiled egg, and, after mashing well with a spoon, stir in five teaspoonfuls of water, to make it a rich creamy thickness, add a heaping saltspoon of salt, and half a saltspoon of red pepper. Have ready one heaping teaspoonful of raw mustard, mixed with five teaspoonfuls of water; stir this into the egg; then with a fork, stir in four table-spoonfuls of oil and one of vinegar.

Advertising Cheats!!!

"It has become so common to write the beginning of an article, in an elegant, interesting manner.

"Then run it into some advertisement that we avoid all such.

"And simply call attention to the merits of Hop Bitters in as plain, honest, terms as possible.

"To induce people to give them one trial, which so proves their value that they will never use anything else."

"THE REMEDY so favourably noticed in all the papers,

"Religious and secular, is Having a large sale, and is supplanting all other medicines.

"There is no denying the virtues of the Hop plant, and the proprietors of Hop Bitters have shown great shrewdness.

"And ability.

"In compounding a medicine whose virtues are so palpable to every one's observation."

Did She Die?

"No! She lingered and suffered along, pining away all the time for years."

"The doctors doing her no good; " And at last was cured by this Hop Bitters the papers say so much about."

"Indeed! Indeed!" "How thankful we should be for that medicine."

A Daughter's Misery.

"Eleven years our daughter suffered on a bed of misery.

"From a complication of kidney, liver, rheumatic trouble and Nervous debility, Under the care of the best physicians, Who gave her disease various names, But no relief, And now she is restored to us in good health by as simple a remedy as Hop Bitters, that we had shunned for years before using it."—THE PARENTS.

Father is Getting Well.

"My daughters say 'How much better father is since he used Hop Bitters.' He is getting well after his long suffering from a disease declared incurable. And we are so glad that he used your Bitters."—A LADY OF UTAH, N.Y.

THEY WILL TAKE BOTH and show cause why. Holloway's Corn Cure is the article to use.

WELLS' ROUGH ON CORNS

Ask for Wells' 'Rough on Corns.' Quick, complete, permanent cure. Corns, warts, bunions.

Dr. W. ARMSTRONG, Toronto, writes: "I have been using Northrop & Lyman's Emulsion of God Liver Oil and Hypophosphite of Lime and Soda for Chronic Bronchitis with the results I believe it is the best Emulsion in the market. Having tested the different kinds, I unhesitatingly give it the preference when prescribing for my consumptive patients, or for Throat or Lung affections."

THAT HUSBAND OF MINE

is three times the man he was before he began using 'Well's Health Renewer.' Dr. Druggists.

EVERY PERSON TO BE A REAL SUCCESS in this life must have a speciality; that is, must concentrate the abilities of body and mind on some one pursuit. Burdock Blood Bitters has its speciality as a complete and radical cure for dyspepsia, liver and kidney complaints, and all impurities of the blood.

MOTHER SWAN'S WORMS EXP.

Infallible, tasteless, harmless, cathartic for feverishness, restlessness, worms, constipation. 25c.

Mr. G. W. MACULLY, Pavilion B. C. writes: "Dr. Thomas' Electric Oil is the best medicine I ever used for Rheumatism. Nearly every winter I am laid up with Rheumatism, and have tried nearly every kind of medicine without getting any benefit, until I used Dr. Thomas' Electric Oil. It has worked wonders for me, and I want another supply for my friends, etc."

"GRUNT IT OUT."—The above is an old saw as savage as it is senseless. You can't "grunt out" dyspepsia nor liver complaint, nor nervousness if they once get a good hold. They don't remove themselves in that way. The taking a few doses of Burdock Blood Bitters is better than "grunting it out." What we can cure let's not endure.

If your children are troubled with worms, give them 'Mother Graves' Worm Expeller; safe, sure, and effectual.

FLIES AND BUGS.

Flies, roaches, ants, bed-bugs, rats, mice, gophers, chipmunks, cleared out by 'Rough on Rats.' 15c.

JOSEPH RUSAN, Percy, writes: "I was induced to try Dr. Thomas' Electric Oil for a lameness which troubled me for three or four years, and I found it the best article I ever used. It has been a great blessing to me." Friends may imitate Dr. Thomas' Electric Oil in appearance and name, but in everything else they are dead failures.

A NOTED BUT UNTITLED WOMAN.

(From the Boston Globe.)



Mrs. Lydia E. Pinkham, who above all other human beings may be truthfully called the "Dear Friend of Woman," as some of her correspondents love to call her. She is usually devoted to her work, which is the outcome of a life-study, and is obliged to keep six lady assistants, to help her answer the large correspondence which daily pours in upon her, each bearing its special burden of suffering, or joy at release from it. Her Vegetable Compound is a medicine for good and not evil purpose. I have personally investigated it and am satisfied of the truth of this.

On account of its proven merits, it is recommended and prescribed by the best physicians in the country. One says: "It works like a charm and saves much pain. It will cure entirely the worst form of falling of the uterus, Leucorrhoea, irregular and painful Menstruation, all Ovarian Troubles, Inflammation and Ulceration, Floodings, all Displacements and the consequent spinal weakness, and is especially adapted to the Change of Life."

It permeates every portion of the system, and gives new life and vigor. It removes fatigues, stimulates, destroys all craving for stimulants, and relieves weakness of the stomach. It cures Bloating, Headaches, Nervous Prostration, General Debility, Sleeplessness, Depression and Indigestion. That feeling of bearing down, causing pain, weight and backache, is always permanently cured by its use. It will do all this, and under all circumstances, act in harmony with the law that governs the female system.

It costs only \$1 per bottle or six for \$5, and is sold by druggists. Any advice required as to special cases, and the names of many who have been restored to perfect health by the use of the Vegetable Compound, can be obtained by addressing Mrs. P., with stamp for reply, at her home in Lynn, Mass.

For Kidney Complaint of either sex this compound is unsurpassed as abundant testimonials show.

"Mrs. Pinkham's Liver Pills," says one writer, "are the best in the world for the cure of Constipation, Biliousness and Torpidity of the Liver. Her Blood Purifier works wonders in its special line, and has led to equal the Compound in its popularity."

All must respect her as an angel of Mercy whose sole ambition is to do good to others. Philadelphia, Pa. Mrs. L. E. P.

Spangles.

DEAD men tell no tales. It is not necessary. The obituary writers do that service for them.

Nor all kings have palaces to live in. The King of Coomassie, for example, lives in Ashantee.

As long as some fellow doesn't ask if the dog-star of the star-route trials is a Ker, the case will not be so Sirius.

DONE IN THE DARKNESS.

We parted in silence, we parted by night, On the bank of a beautiful river; No sound but a gurgle, as out of my sight Swift, she sank with scarcely a shiver. The nightingales warbled, the stars sweetly shone,

And, though she will rise again never, No sorrow was shown for the life that had flown— For that cat is silent forever.

EVERYTHING seems to move in a circle. While, for instance, the lawyers are looking up the authorities, the authorities are looking up the criminal, and the criminal, in his turn, has to look up the lawyer.

SAY a student of one college to a friend who was attending a rival institution. "You will never turn out gentlemen." "No," was the reply, "our college allows gentlemen to go right on and graduate."

THEY were boasting about ancestry. "My forefathers," said John, "came over from England on the 'Mayflower.'" "And my ancestry," said Pat, "kim over from Quanes-town on the 'Sunflower.' It's a sthetic I am."

A BOOK just published is entitled, "How to make \$1000 Yearly Profit with Twelve Hens." We have not read the book, but we suppose the author's recipe is to sell the corn they would annually eat, and then kill the hens.

"Pat, wud yuz luk at 'em now?" Mike was gazing intently at a procession honoring St. Patrick's day in the march. "See, now, the fellows phat urinks the whiskey all on fat, and the fellows phat sell it all a' roidin'." Mike grasped a pregnant fact.

"WELL, Andrew," a gentleman remarked to a Scotchman, who, with his brother, was the only remnant of a narrow sect. "I suppose you and Sandy are the only bodies who will get to heaven now?" "Deed, sir," replied Andrew, shaking his head, "an' I'm no' sure about Sandy."

IT is told of an American millionaire who bought him a castle on the Rhine; that one cold day his daughter found him warming his hands at a fire which he had kindled in a suit of plate armor. "Oh, papa, what have you been doing," she cried. "The feller that patented that stove," replied the lord of the castle, "must have been crazy; but I've made the old thing heat up at last."

WE read in the "Church Union" that a gentleman had his boots blacked by one of two boys, and gave the shiner a \$2 bill to get changed. After waiting some time, he said to the other boy, "Where's your partner?" "Oh," said the youth, with a grin, "he's bust up, and I'm his assignee."

"WHY so gloomy this morning, Jacob?" "Ab, my poor little Benjamin Levi—he is dead!" "Dead! You surprise me. How did it happen?" "Well, you see, my little Benjamin he was at ter synagogue to say his brayers, and a boy put in his bet at the door, and gries 'Job Lot!' and little Benjamin—he was gilt in der grush."

JANET was not comely, but an excellent servant, and especially devout. One Sunday afternoon, on returning from the kirk, she mentioned to the ladies of the family how much she had enjoyed the service. Shortly afterward they heard her scolding at a great rate, and one of the ladies remonstrated with her. "Why, Janet, I'm afraid the service did you very little good, after all, as you seem to have lost your temper." "Ah, weel," said Janet, "I left William to look after things, and every thing's so upset it's enough to tak the taste o' prayer out o' ones' mouth."

MR. T. C. WELLS, Chemist and Druggist, Port Colborne, Ont., writes: "Northrop and Lyman's Vegetable Discovery and Dyspeptic Cure sells well, and gives the best of results for all diseases of the blood." It never fails to root out all diseases from the system, cures Dyspepsia, Liver Complaint, etc., purifies the blood, and will make you look the picture of health and happiness.

THOUSANDS UPON THOUSANDS of dollars have been spent in advertising the celebrated Burdock Blood Bitters, but this fact accounts only in part for its enormous sale. Its merit has been made in what is the best blood medicine ever discovered by man.

IN THE SPRING TIME

EVERYBODY IS TROUBLED WITH ANNOYING DISEASES OF THE LIVER

IN SOME FORM,

Biliousness, Jaundice, Constipation, or Headache.

The disorders which always follow the failure of the Liver and Bowels to perform their proper functions, can be conquered at once by the use of Kidney-Wort. Any derangement of the bile at once manifests itself in great bodily discomfort, in loss of appetite and in despondency.

SYMPTOMS.

Pain in the right side which is very sensitive to pressure. The pain will sometimes appear to be located under the shoulder blade. There is also irregular appetite, flatulency, a sense of fullness in the region of the stomach, and sooner or later the skin and whites of the eyes become yellow, the face yellow-coloured and the urine yellow, depositing a copious sediment. There is generally a fullness of the bowels, and at times diarrhoea, and at others obstinate constipation, in short, disordered functions of the stomach and entire tract of the bowels.

These symptoms, if not speedily grappled with, will result in the most serious consequences to the whole system, prostrating it and destroying all its vitality and energies. When the liver becomes torpid or gives evidence of undue activity, a few doses of Kidney-Wort and a little caution in relation to a diet, will restore the patient to health and vigour as if by enchantment.

Most remedies used for disorders of the liver and bile act on the wrong principle, as they are simply cathartics, and merely carry off the accumulated secretions.

Kidney-Wort on the contrary goes to the very root of the evil, as it acts on the Liver and Kidneys at the same time, and by its mild but efficient cathartic action moves the bowels freely. The morbid poisons that have been the cause of all this disease and suffering will be thrown off, new life will be infused into every organ, and the health-giving forces will again exert their power.

It is well known that the kidneys are nature's sluiceway to wash away the debris and impurities that are being constantly developed in every human system. If they fail to act freely, health will soon suffer. But the kidneys cannot perform their own proper office, and at the same time eliminate those impurities that should pass off by free action of the bowels. How important it is then, to have a remedy that will have the power to keep up the natural action of both these important functions.

THIS REMEDY IS KIDNEY-WORT.

Have we indicated the trouble that has harassed you? Then use a package of this medicine and be cured.

READ A SAMPLE TESTIMONIAL.

"I prayed God to deliver me by death." Headquarters Veteran Corps 6th Regiment, At-Armory, Tompkins Market, New York, May 8th, 1882.

Gentlemen: I have just commenced on my second bottle of "Kidney-Wort." I have but little faith in either doctors or medicine, more particularly in medicines extensively advertised. However, I have suffered perhaps as no other man has suffered, from liver disease—brought on by malaria. I suffered for years, till it became chronic, simply from neglect. I have taken quinine till my head swam, and my nerves were totally unstrung. Last year I went to Europe to try and better it; but came back worse. In reading many of your advertisements I came to the conclusion, as a dernier resort, to try the "Kidney-Wort," and did so. After the fourth day I got an attack of the old malady. I prayed God to relieve me by death, but kept to the medicine as ordered, and I want to tell you to-day, and all sufferers from liver disease, that the last three weeks I have enjoyed such good health as I have not had in many, many years. I simply write you this that other sufferers may benefit by it. Very truly yours,

HENRY WARD, Late Col. 6th Reg., N. G., S. N. Y., 173 West Side Ave., Jersey City Heights, N. J.

MARRIAGE CERTIFICATES.

Available for any Province, and may be used by the clergyman of any denomination, beautifully printed on fine heavy paper, in carmine, blue and gold, constantly on hand, 50 cents per dozen. Twenty-five copies mailed to any address, free of postage, for ONE DOLLAR.

G. BLACKETT ROBINSON, Drawer 2003, Toronto. OFFICE: Jordan Street.

A BOON TO MEN

All those who from indolence, excesses, or other causes are weak, nervous, low spirited, and unable to perform their duties properly, and who are generally cured, without exception, by the use of Dr. Williams' Pink Pills for Pale People. Endorsed by doctors, ministers and the press. The following is a true and reliable plan of treating Nervous Debility, Headaches, etc., which is wholly unobscured by THE WASHINGTON BULLETIN. From a special case treated at our dispensary in Toronto, we have had many successful results. It is a safe, reliable, and pleasant plan for treatment. Consultation free. WASHINGTON BULLETIN CO., 75 Yonge St., Toronto, Ont.

