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OCTOBER
1890

CANADIAN

CULTIVATOR

AND

Household Magazine.

DEVOTED TO THE INTERESTS OF THE
FARM, GARDEN AND HOUSEHOLD.

ONE DOLLAR A YEAR, INVARIABLY IN ADVANCE.

SHERBROOKE, P. Q. GEO. H. BRADFORD,
Publisher and Proprietor.

VOL. I

VOL. I



GEO. H. BRADFORD
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The Canadian Cultivator.

VOL. I.

SHERBROOKE, P. Q., OCTOBER, 1890.

No. 1

THE CANADIAN CULTIVATOR AND HOUSEHOLD MAGAZINE.

FIRST-CLASS AGRICULTURAL AND HOUSEHOLD JOURNAL.

THE CANADIAN CULTIVATOR a monthly journal—is devoted entirely to the interests of the Farmer and the Household.

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Many of our prominent and enterprising farmers having repeatedly expressed the desire to see a journal established here specially devoted to the conditions of agriculture in the Eastern Townships, we have given the subject a good deal of consideration, and have decided to endeavor to meet the want, and now present as a candidate for public favor, the first number of the CANADIAN CULTIVATOR AND HOUSEHOLD MAGAZINE.

Our aim will be to give such information as will be found practical and useful to farmers and stock-raisers, and to this end we shall be glad to receive articles and items based on experience rather than on theory. We hope our farmer friends will take advantage of the opportunity thus afforded to make free use of our columns in discussing matters relating to the farm, and so add materially to the usefulness of this journal and the advancement of agriculture. We also invite all farmers, clubs to send in reports of their meetings and to remember that we wish them to consider the CULTIVATOR the farmers own paper.

The Household Department will contain a large amount of choice reading for all the members of the family, as well as valuable suggestions and information for the housekeeper, reliable recipes for the kitchen, remedies for the sick, and various other matters of interest to the household.

This number is sent you free, in order that you may judge of its merits. If you should decide to become a subscriber, we shall have pleasure in entering your name on our list on receipt of one dollar, the

subscription price for one year; or the Sherbrooke GAZETTE and the CANADIAN CULTIVATOR will be sent to the same address for \$1.50 paid in advance.

A NEGLECTED POINT IN AGRICULTURAL PRACTICE.

The gradual retrogression of all soils under continued cropping is a fact before every farmer, and the ultimate exhaustion is a certainty which he has hoped to ward off by mixed; stock-raising, and farming; making as much manure as possible, and buying cattle food, rather than sell any hay, clover, or grain off the farm.

This is certainly commendable practice but in spite of all such precautions there are few even of our greatest stock-raisers, who do not see a growing decrease in the average yield per acre as the years pass.

The best that can be done, does not fill the bill, and the land cries out for something more, by refusing to do better, till more is done for it. As experience is gained and our knowledge of scientific facts is increased, the soil shows itself to be the more natural; just making the demands we do: sunshine, food, and drink, and a clean body, which means health.

How beneficial a change of manure is, most have noticed, just as much as rotation in crops, and just as a change of diet is good for the animals on the farm.

The more work tilling the soil and bringing it into fine culture, the better the results, just as a showy horse calls for much grooming and attention.

It pays to closely watch the progress of the crops, to weed and cultivate them in good season with the proper help when it is required, taking advantage of every moment. From the purchasing of the seed till the crop is housed, every bit of attention will be rewarded, and only he who gives it combined with education and experience can be a successful agriculturist.

It is very easy to raise a foal or calf, but how much room there is for a wide edu-

cation, how many sciences may be embraced, all applied with good practical common sense, and even then difficulties present themselves, which have to be overcome. It is the same in every business and profession, an easy matter to stand in the crowd, but to be distinguished or even successful a very different thing; and how few really do as well as their faculties and talents would have permitted.

Now, very few farmers in Canada can be brought forward who have really made a study of their soil and how to treat it, however much attention they may have given to stock raising or dairying. How to feed the soil, how to raise the largest and the best paying crops has not received the attention that is required.

From the time the manure is thrown out on an open uncovered pile—when the first disregard of what must ever be an indispensable fertilizer is shown, till the seed is sown; often in dirty and hastily prepared land, one half supplied with the nourishing elements essential, an utter contempt for nature's reasonable demand is shown. Can surprise under the circumstances be expressed when diminishing average crops are spoken of?

Barn manure is firstly valuable because of the fertilizing elements it contains. The largest and most valuable percentage of these is soluble in water and must be washed out by the rain, when exposed as it is, to all weathers. It is just as utterly foolish to leave the pile uncovered as it would be to put the cheese outside unprotected while it was maturing; both have a value, high or low according to the quality of material used in the manufacture, and both are susceptible to loss when exposed; indeed it is doubtful if one more than another, if value for value be considered.

The manure pile must be looked upon as the home fertilizer factory, and the money put into it, will only pay a dividend if the business is well managed.

The first and most urgent thing wanted on very many of our farms is a good shed to cover the pile. Where wood is as cheap

as it is here, there is little excuse for it not being done.

Something as an absorbent of the excess of liquid should also be used; land plaster, kamit or, a plain Superphosphate are all good, or even earth is better than nothing. Wood ashes liberate the ammonia and are therefore a source of loss if mixed in the pile.

When farmers have done this they will find more plant-food is yet demanded, and then they can consider the question of artificial manures or fertilizers, but the first and most important step is economy with what is on hand.

Manure of course serves a purpose fertilizers never can, affecting the mechanical condition of the soil, improving the tilth, and opening up the soil in a way nothing else can, and for this the treatment of the pile must be considered, as well as time of spreading, etc., but for this few hard and fast rules can be laid down and farmers have had the experience to know whether decomposed or fresh manure gives them best returns.

The Hon. Senator Cochrane will have four train loads of cattle, containing in all over 1000 head, shipped this month from his Calgary ranch via Montreal to Europe. His son will take charge of this large shipment. Parties who have seen the cattle say that they are a magnificent specimen of North-western stock. To Senator Cochrane's energy and pluck may be laid not a little of the benefit now being derived by the large receipts of cattle from the North-west, being one of the first pioneers in this section of the country.

A delegation of British farmers have made a tour through the Northwest and appear to be delighted with that country. They are practical farmers, and the report they will make on their return to England is expected to exert a beneficial effect in sending people to that section. They made many practical suggestions to our Western farmers as to both grain and stock raising.

The yield of wheat in the Northwest is estimated to be fully up to the expectations of the most sanguine. No. 1 and No. 2 are worth 95 cents and 85 cents.

Manitoba is shipping 25 to 30 carloads of potatoes a day to the United States.

AGRICULTURAL JOURNALS.

EDITOR CANADIAN CULTIVATOR.

In welcoming this the introductory number of the CANADIAN CULTIVATOR, I cannot help at the same time expressing my gratitude that through your enterprise we are at last to have a purely Agricultural Journal in the Province of Quebec. Our sister Province of Ontario has many such and the good that they are yearly accomplishing has won for them the confidence and support of many thousands, even outside the limits of our own Dominion. The issue of this the first number of the Canadian Cultivator marks an era in our farm journalism which, for the agriculturist, means more than he probably is aware of, or is at first prepared to admit. Many there be who still scoff at so called book farming and who do not hesitate to express their contempt for books and newspaper articles on any and all agricultural subjects. While I am ready to admit that the purely theoretical farmer is seldom or never financially successful, there is at the same time no doubt that the progressive farmer is now, in nine cases out of ten, not only a reader of farm journals and books on agricultural subjects, but a deep student of them as well; the useful fund of knowledge that is distributed through the medium of these papers is of inestimable value and I know of no means by which the same end can be so readily and so cheaply accomplished.

One frequently hears it said: "I make experiments and so find these things out for myself." This may be well as far as it goes, but are those who thus express themselves right in keeping the experience they may have gained to themselves? What a sad picture of wasted time and energy is that of the man who, spending his life in trying to ascertain for instance the best varieties of apples for general profit and the surest means of growing and caring for the same, finds that by a few minutes perusal of his farm paper he might have learned what has taken a generation to find out. Surely it were folly for each and all of us to hew out a separate path through the wood when a well established one already exists? Time was when experiments formed a part of farmers' yearly work; now through the agency of the Government Experimental Farm this is far better done for him than his time and opportunity would admit of his doing for himself, and yet were it not for the medium of the agricultural press,

this, as well as much other useful information must remain to him as a sealed book. The life of a farmer by reason of his occupation is of necessity more or less an isolated one, both time and opportunity for comparing notes with his fellow men are thus denied him and unless through the channel of his farm paper how else can he expect to keep pace with the advance in other occupations or learn in time to save himself from the many various wily ways in which confidential travelling agents are wont to swindle from him his few surplus hard earned dollars?

I sincerely wish you, not only for your own sake, but for the welfare of the entire farming community as well, a lasting and ever-increasing circulation of the CANADIAN CULTIVATOR. W. A. HALE.

HOW TO HARVEST APPLES.

Hand-picking should always be the rule with winter apples. Varieties that ripen irregularly ought to be gathered accordingly. Generally speaking, the latter sorts should be left on the tree until late, so as to give them opportunity to fully color up. Before-picking is begun, it is well to have a suitable place prepared in the orchard or nearer at hand for the temporary storing of the apples, unless there be two sets of hands for sorting and packing as fast as the fruit is gathered.

Apples keep longest if free from atmospheric moisture when taken from the tree. Small baskets, holding half a bushel each and suspended from a hook on the ladder, are more convenient and less liable to bruise the fruit than bags. Once gathered, the apples should be securely protected from the sun and storms until they are sorted. Many farmers who have fruit-houses, delay sorting over and picking until the approach of cold weather. The best method, however, is to sort the fruit immediately and lay all that is sound carefully into tight barrels, shaking the barrels gently two or three times during the process of filling, to insure the apples packing closely; they may then be tightly headed with the head heavily pressed down and secured to avoid all movement of the apples inside the barrel. The barrels should next be placed in some cool, dry spot. Apples will keep much better and their decay is retarded if they are not stored in cellars until freezing weather. In other words they require to be kept as cool as may be and not freeze. When the cellar is used for storing fruit, it should be well ventilated.

This number of The Canadian Cultivator is sent free. Read it, and if you wish to receive it regularly, send your name and post office address, together with the subscription price, to the publisher. No future number will be sent unless this is done.

SUGGESTIONS ABOUT SOIL ANALYSIS.

By J. H. STOLLER.

A farmer should know what the principal constituents of any soil are, and in what proportions they are present. Such general information may often be helpful to him in judging the suitability of a soil for a particular crop. It will also aid him in determining what fertilizers, if any, are needed to bring the soil up to the required standard.

Different kinds of soils are 'sandy,' 'clayey,' 'loamy' and 'mucky.' A 'sandy' soil is one in which silicon oxide (sand) is the chief constituent. Every soil must contain silica in abundant quantity to be a source of food for the common cultivated plants. As is well known, the straw of the cereal plants consists largely of silica—wheat straw, for example, containing 65 per cent. of this element. In all ordinary soils it is present in the form of fine sand. A sandy soil is not poor because it contains much sand, but because other needed elements are lacking.

A 'clayey' soil is one in which alumina abounds. This also exists as an oxide, consisting of the chemical elements aluminum and oxygen. It is alumina which gives to soil the physical properties of coherency and plasticity and makes it a matrix for holding the elements of plant food. With excess of water soils abounding in alumina become soft and highly plastic, but are not easily washed away. When water is lacking they stiffen into firm clays. But while the value of alumina is thus primarily in the mechanical properties it imparts to the soil, the quantity in which it is present in a given soil has strong indicative value as to its fertility. Alumina is generally associated with other substances, as magnesia potash and iron, needful for the growth of plants. A perfect soil is stated to contain about 6 per cent. of alumina, and when present in this proportion it affords evidence that the minor elements of plant-food are not lacking.

A 'loamy' soil is one which in its physical qualities is intermediate between sandy and clayey soils. When dry it is loose and porous, and when wet, sticky and plastic. In composition, it consists partly of clay and partly of other substances, usually including carbonate of lime. The prevailing soil in sections where limestones is the country rock is a loam, unless geological agencies have operated to remove or cover up the original soil. Usually loamy soils are rich in plant-food,

do, of a mixture of the various soil constituents. An ideal soil, it is said, should contain about 6 per cent. of lime.

By a 'mucky' soil is meant one which contains a good deal of organic matter, derived from vegetable decomposition. The term may include ordinary mold or humus, which forms a thin surface layer on all virgin soils. A true muck is found only in localities which were once swamps. It is of a black or dark color, due to its carbonaceous composition, and, of course, is very rich in food-matter which should be present in a perfect soil and is said to be about 10 per cent. of the whole.

Mention may also be made of 'alluvial' or valley-bottom soils. These have been formed by the accumulation of matter deposited from the water of the river in past ages when the present valley bottom was the bed of the river. Such soils are well known to be very fertile.

We may now consider how soils may be tested for their leading constituents, and how the relative proportions of each to the whole may be estimated.

For silica. Of the soil to be studied weigh a definite quantity, say eight ounces. Put it in a vessel of water, as a glass jar holding two or three quarts, and stir thoroughly. Then allow to stand; the sand will soon settle at the bottom. Then pour off the water and weigh the sediment; its ratio to eight ounces is the approximate percentage of silica in the soil.

For alumina. Allow the muddy water poured off from the sand to stand for a day. The sediment falls to the bottom and when the water, now almost clear, is poured off it will be found that what remains is plastic, showing it to consist largely of alumina. After it has become dry weigh it. Then place it in a vessel, as an iron spoon, and heat till it takes fire; after it ceases to burn weigh what remains. The ratio of this weight to the eight ounces indicates the proportion of alumina in the soil.

For organic matter. It was the organic matter of the soil that took fire and burned in the experiment just described. The difference between the weight of the sediment before being burned and the weight of what remained after burning is the weight of organic matter; the proportion to the whole may be determined as before.

For a club of five subscribers to THE CULTIVATOR, we will send a complete set of Dickens works. Any one can get up a club of five with a few hours' canvassing.

Growing Onions.

This crop was formerly regarded as a profitable one, and large quantities were grown in some localities. Within the past few years the onion maggot has proved to be a great pest to the onion, and many fields have been greatly injured or wholly destroyed, so that some farmers have become in a measure discouraged, and do not attempt to grow them as formerly. In some localities a mildew has injured this crop to a considerable extent. Notwithstanding these drawbacks, as a rule a good crop can be secured when all the conditions are favourable. The onion requires a rather light, loamy soil made mellow by plough or spade. Formerly it was the rule to grow them on the same land many years in succession, but many of the best growers have abandoned this practice, and now change about every second or third year.

The land should be heavily manured with well rotted dressing, with wood ashes if it can be had, all of which should be turned under. The land should then be well raked over and made smooth, and as free as possible from lumps. The seed should be sown as early as possible after the soil is suitable to work. Sow in drills about fourteen to sixteen inches apart, and put the seed about half an inch deep. This work can be done with a seed sower, and the seed should be sown quite thickly so as to allow for some loss by insects. If there are too many plants left it will not be difficult to remove them, but if the land has been thoroughly enriched they may be left pretty near together—say an inch apart. No weeds should be allowed to grow. The work of keeping them down can be mostly done with a scuffle hoe, and very rapidly too.

There are many varieties, but one of the best, if not the very best, is the Danvers yellow, a variety that is largely cultivated in Essex county and has sold well in Boston market. The large red and silver skin are sorts that do well and find a ready market, but still we give the preference to the Danvers. These varieties should yield under good cultivation six to eight hundred bushels to the acre, and sell from seventy-five cents to a dollar a bushel. We know of nothing that can be used that will effectually prevent the ravages of the maggot or mildew. One must take the chances. We know of few more profitable crops than the onion.

HOW TO TELL A HORSE'S AGE.—The Southern Planter has the following, which our readers may be interested in verifying: "The other day we met a gentleman from Alabama, who gave us a piece of information about ascertaining the age of a horse after it has passed the ninth year, which was quite new to us, and will be, we are sure, to most of our readers. It is this: After the horse is nine years old a wrinkle comes in the eyelid, at the upper corner of the lower lid, and every year thereafter is added one well defined wrinkle for each year.

MEASURING LAND.

Some Simple Tools with Which It Can Be Easily and Accurately Done.

Certain simple tools, for measuring both garden and farm crops, or the contents of fields, are sometimes a great convenience. For moderate distances, a light pole (Fig. 1) may be used to advantage and with much accuracy. It is eleven feet long, so that three lengths will make thirty-three feet or two rods. It is made of light, stiff wood, or of the material used for making fishing-rods.



FIG. 1.

A small handle of round iron to carry it, may be screwed into it near one end, for convenience in measuring by one person. This handle is easily made and the screw cut by a common blacksmith. When used, small slits of tin are placed against the ends to show its exact position as moved onwards.

Fig. 2 represents a measuring machine which we constructed some twenty years ago, for the rapid measuring of fields, and which has the advantage over the surveyor's chain or tape line, in that it is always used by one person. The spokes of the wheel are a little larger than common lath. These spokes form a wheel of such size that one revolution measures exactly one rod. This will be effected if each one is thirty-two

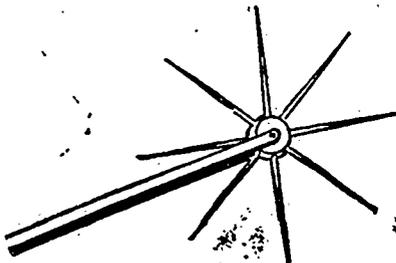


FIG. 2.

and one-half inches long. The hub is made of two circular pieces of inch-board screwed face to face together, holding the spokes firmly in grooves previously cut. There are eight spaces between the points, and if they are just long enough for each space to be twenty-four and three-fourths inches, the implement will measure accurately one rod. The points should not be so sharp as to sink into soft ground.

The axle is an iron rod with a nut on each end, and a sole-leather washer is placed between. A suitable size for the spokes is half an inch thick and one-and-a-half inches wide at the hub, tapering to an inch or less at the point. Sometimes a wagon wheel has been used, but it is too heavy, and the jerks which its weight causes, makes it inaccurate. On a smooth surface we have found the measuring of our wheel not to vary

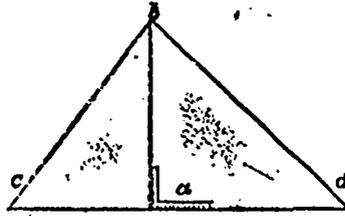


FIG. 3.

more than half an inch in a rod, and on grass land not over an inch in a rod. A common carpenter made the machine.

Fig. 3 shows how a triangular field or piece of ground, b, c, d, may be easily and accurately measured. As a right-angled triangle contains exactly one-half as much as a square or rectangle, divide the three-sided piece into two right-angled triangles, as represented by Fig. 3; the common square, a, being used to form the right angles. Multiply the two shorter sides of the two triangles thus formed together, add the products and, divide the sum by two, and the quotient will be the area. Use feet for small pieces and rods for fields.

Fig. 4 represents the way in which an irregular four-sided field may be meas-

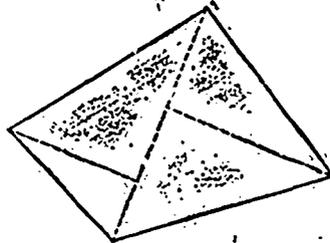


FIG. 4.

ured, by dividing it into four right-angled triangles, and measuring each in the way just described. A few light stakes inserted into the ground at the right places will make the division distinct while the measuring is going on. It will be more convenient to set the square used for finding the right angles, in a stake as shown by Fig. 5.

It becomes desirable sometimes to lay out curved lines on ornamental grounds,

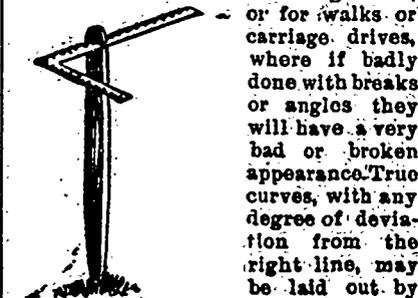


FIG. 5.

or for walks or carriage drives, where if badly done with breaks or angles they will have a very bad or broken appearance. True curves, with any degree of deviation from the right line, may be laid out by using the rod represented by Fig. 6. An iron pin at the middle, A, holds it from sliding on the ground while used, where also is an open socket to receive the marking stake. C is a graduated cross-bar for

varying the curve. Fig. 7 shows how it is used for making the curve, the greater the deviation at each move, the shorter the curve. At each move a peg or stake is inserted and the curve is thus regularly marked. A short curve may be made to run gradually into a longer one, and vice versa, by a regular increase or decrease on the short scale at each measurement with the pole. Such curves as are represented by Fig. 8 are thus accurately laid out.



FIGS. 6 AND 7.

A convenient measure, which the farmer or gardener wants to use



FIG. 8.

oftener perhaps than any other, is the one represented by Fig. 9, which enables

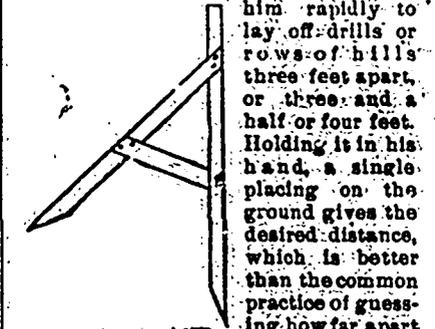


FIG. 9.

him rapidly to lay off drills or rows of hills three feet apart, or three and a half or four feet. Holding it in his hand, a single placing on the ground gives the desired distance, which is better than the common practice of guessing how far apart are the rows of corn, potatoes, etc., or measuring by spreading the feet.

Hauling Fodder.

In autumn, before the sled can be used, the appliances illustrated herewith will commend themselves. For hauling



FIG. 1.

ing fodder on a wagon, the hayrack is best, but to us it would often require shifting from box to rack and back again each day when the farmer has only one wagon and daily hauls some green fodder to help out the pastures. In such case it is better to use the wagon with the bed on, laying the fodder lengthwise in the bed until it is full, and then crosswise,

as the hind wheels project above the bed on the ordinary wagon the arrangement shown in Fig. 1 is necessary. The



FIG. 2.

standard, is brought above the wheel by a stick passed through the rings. Over the top of the stick, and secured to it by a nail, is bent a hoop, the ends passing through cleats driven into the box. This holds the fodder off the wheels. Loading fodder on a wagon, whether on the box or hay-rack, is very difficult, especially after the load is partly on, unless a ladder of some sort is provided. A very good one is shown in Fig. 2. It is simply a wide board, to which are nailed cleats at proper intervals, fastened to the rear of the wagon by two short pieces of ropes or chains. As the wagon is driven along it drag after and is at once ready for use.—American Agriculturist.

HORSE MANGERS.

A Handy and Efficient Plan for Feeding Horses.

I send you a plan of a rack for feeding horses, which we have had in use for over a year, and which has given good satisfaction both for feeding hay and grain. This rack is two and one half feet wide by ten feet long, and feeds four head of horses.

Fig. 1 shows a front view for one horse. It is in sections; each section combines a hay-rack on one side and a trough on the other side. Fig. 2 gives an end view of one section, showing the way the grain-spout comes into the trough, and the way the hay is put into the rack. This rack can be built by any person that can work with tools.

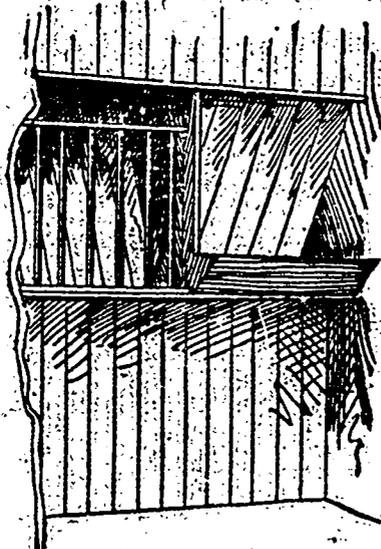


FIG. 1. MANGERS FOR HORSE STABLE.

The bottom of the rack should be three and one half feet from the stable floor.

For the bottom, use two planks 2x14 inches, which leaves a 2-inch space through which to let the lining boards down. Use a 2x4 scantling to nail the upper ends, to, and make the trough eight inches deep. Cut the boards the slant you want the trough to be, and let them run clear through to the other side to make the end of the trough on the other side. Make the grain-spout 7x7 inside and cut it off even with the back of the rack, as shown in Fig. 2, dotted lines. Let the lower end of the spout stand out

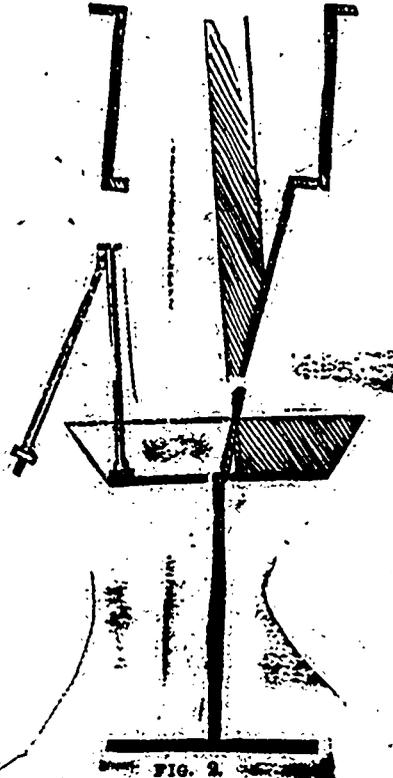


FIG. 2.

on the bottom of the trough to put a board in for the back of the trough, as shown in Fig. 2. Make tight partition between each section. For the rack use two scantlings, 2x3, for top and bottom pieces. The rungs can be either iron or tough wood. Bore a hole through the partition for the top piece to run through, so you can pull the lower end out for cleaning the rack and fasten the lower end with two pins.

These racks can be used to a good advantage in a barn fifty feet long, with a barn floor eighteen feet wide. Divide the stable in four parts, and feed down at each side of the barn floor.—A. G. C. Shoemaker, in Farm and Fireside.

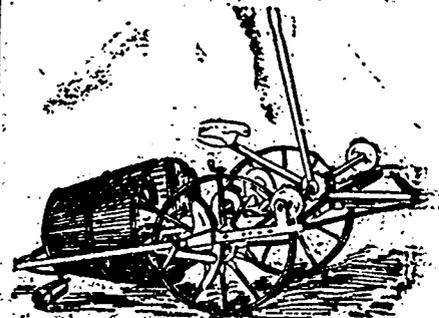
We will send THE CULTIVATOR and the FAMILY HERALD AND WEEKLY STAR one year postpaid, to any address in Canada or U. S., on receipt of one dollar and fifty cents. Try them.

POTATO DIGGER.

An Australian Device Which Is Said to Do the Work.

As we have mentioned before now, the Victoria Government has offered a prize of one thousand two hundred and fifty dollars for improved potato diggers. In a recent issue the Australian Ironmonger illustrates the various classes of machines entered for this prize. The Farm Implement News finds only one of these implements which is new or particularly different from those now in use. A picture of this will be found herewith, with the description found in the Ironmonger: "The machine consists essentially of a rectangular bar-iron frame, the front portion of which carries the gearing, driver's seat and draft attachment, the rear portion carrying the rotary sifting cone. The driving-wheel axle is journaled in the segmental-shaped front ends of levers, the rear ends of which are pivoted to the inside of the frame, the segments being connected by chains, to pulleys on a shaft in front, which is controlled by a hand-lever and ratchet-wheel with a foot catch, thus enabling the driver to raise or depress the frame at will.

On the driving axle is a loose-sprocket wheel, which may be engaged at will by a feathered clutch, engagement being effected by a spiral spring coiled upon the axle, and disengagement by a shifting arrangement con-



AUSTRALIAN POTATO DIGGER.

trolled by a crank near the driver's seat. Motion is given to the sifting cage by a chain over the sprocket wheel, driving a smaller one on a rear shaft, which has a miter wheel gearing to another miter wheel on the cage shaft. In front of the cage is the share which lifts the potatoes, soil and all, and throws them in a cage. The rear end of the latter is carried by a caster. The cage is conical, and consists of a number of open bars or wires secured by rings, and has internal Archimedean screw blades, two of them running through, and two of them extending only a short distance from the front. The front of the cage has an adjustable shield, by which the opening may be made larger or smaller, and which pro-

vents the contents falling out in front, while the potatoes, or other roots, thoroughly separated from all soil, are discharged in a row at the rear, or may be gathered in a special receptacle. A side shield prevents loose soil being thrown over lifted potatoes or standing rows."

Plant Native Trees.

The season of the year when trees are planted has again returned. Nearly every one who possesses a plot of ground should set out a few trees. What shall these be? We strongly urge the planting of our native trees. They are beautiful, healthful, enduring and valuable. These trees can be secured with little trouble in our forests, and, if taken up with care, and good fibrous roots, will grow as well as the trees secured at the nursery, with this advantage, that they will probably be more hardy. Care should be taken to select strong, vigorous trees, not stunted old trees, which can be commonly told by the unthrifty condition of the bark. These one should not be dug until the leaves have fallen, though it is a good plan to make a trip to the forests before the leaves fall, as the trees can then be more easily recognized. Trees grow more readily when planted in the autumn than when planted in the spring. Plant currants, gooseberries, and the red raspberries in the autumn, as they start very early in the spring. Evergreen trees should be transplanted in the spring at the time when they form new rootlets rapidly.

HOW TO PLANT.

After the tree is dug, the roots and rootlets should never become dry. Dig with as many roots as possible and plant as soon as possible after digging. Make a thin mud of rich earth, into which dip the roots before planting, and trees will generally grow. Do not put manure in the hole, but throw the surface earth back into the hole first. Fill the hole so that the earth comes into close contact with the roots. Leave no air spaces about the roots. Do not plant a tree much deeper than it stood in the nursery. For fruit trees, throw a lot of bones into the hole.

WHERE TO PLANT.

Along all the highways, a row on each side. Everywhere about house and barn, but not so close to the buildings as to produce a hurtful dampness. Plant in every field on the farm to produce needed shade for the stock. Plant all the "waste places" on the farm and make them to "blossom." Plant "wind-breaks" about the house and where they are needed on the farm.

Neglected Poultry.

There is no rural industry so much neglected in this country as the raising of poultry. Fowls are left to roost in trees, in cattle sheds, barns and every place where they can get a foothold. No separate place is thought necessary as they are looked upon as freebooters, or a sort

of necessary evil only fit for women and children to attend to. They therefore defile the feed, and destroy more than they are worth, and it is not uncommon to see machinery, wagons, buggies, etc., so foul that they have to be cleaned whenever they are used. The kinds generally kept are the "dung hill," made up of all grades, shades and sizes, the average weight being from three to four pounds, and having no distinctive qualities as good table fowls or prolific layers. From continual in-breeding on the same stock, and from starvation and exposure, they become no better than wild fowls and not worth raising. In the winter they are often found in a most pitiable plight, with feet frozen to stumps, and combs and wattles dropping off with frost. The consequence is that in winter, when eggs sell readily for twenty-five cents a dozen, the hens don't lay. I saw a farmer lately sell a wagon load of this stock for thirty five cents a pair, and it was all that they were worth. Yet this man honestly believed in the old barnyard stock, and would keep no other because they were "so hardy and would live where a thorough-bred would starve." Where the hens lay is half the time never known, and the eggs are brought in, in every stage of incubation, and sent to the store as sound, from under the barn, in the horse-manger, behind the hog-pen, in the fanning mill and every conceivable place. The majority of chickens hatched, therefore, come by chance; hens steal away and bring forth broods which, as a rule, have to scratch their own living, and but a small proportion live. I have known large farmers who did not raise a single bird during the year and then complained of bad luck. A portion of the chickens had died through want of proper coops, and another large part had fallen a prey to rats, which, in the summer months, when there is no grain in the barn, become fearfully destructive to young poultry. A rat will then attack and kill goslings in broad daylight, and carry off a chicken with the ease with which a fox will carry off a hen.

There is no use trying to raise poultry without proper houses for laying and hatching, sufficient food, care and attendance, in fact systematic rearing and feeding. With this, poultry is one of the best paying investments on the farm.—*Kil's Journal.*

Exports of live stock and dairy produce continue in the aggregate ahead of previous seasons, especially is this so in the case of cheese, the exports of which so far are close on five million dollars, a substantial increase over last year. Butter shipments are unimportant. The cattle trade has been disastrous as a whole to those engaged in shipping, but prices are now looking up and our shippers may yet recover some of their losses. The contradiction of the pleuro pneumonia rumors are a relief to all concerned. Such a disaster as that cabled would be quite as damaging to our exports as the McKinley tariff.

Agricultural Notes.

There is as much in planning as in doing farm work.

Nothing on a farm pays better than a good garden.

Hungarian grass or millet is the best crop to sow in the poultry yard.

The farmer who has advanced to the point of knowing what he is feeding to each animal will not long be satisfied with wasting good feed on inferior stock.

Always give an abundance of room for the storage of surplus honey. When bees fill all available space with honey they will make preparations to swarm.

From recent observations it is stated that there is reason for believing that fresh dirt thrown upon potato leaves when wet starts the mildew on the leaf, which later in the season results in blight.

Earth-worms, in dry weather, sometimes work their way through the soil to the well and fall in, thus contaminating the water to a certain extent. If possible the curbing of all wells should be cemented.

Wherever weeds grow luxuriantly the ground is usually fertile, and such ground should be made to produce some kind of crop. At this season millet or Hungarian grass should be sown on such land.

Education does more for a poor farmer than fertilizers. It grows better crops and breeds better stock. What many a poor farm, with its scrawny cattle and foul acres, wants is a heavy application of brains.

If you must, or think you must, feed corn to the horses during the winter, do not do it on the practice in summer. Feeding a horse corn in summer is a good deal like building a fire in the parlor stove on the first of July.

There is never too much good butter on the market, but there is always a large supply of inferior butter. The prices are not regulated by the quantity so much as by the quality. Good butter sells at high prices at all seasons of the year.

BREACH OF PROMISE.—For nearly six hours had the Court been convulsed with the evidence given in a sensational action for breach of promise. The many ridiculous love-letters had been read, commented upon and heartily laughed at; counsel had spoken, the judge had summed up, and the jury had retired to consider their verdict. Well, gentlemen, said the foreman, how much shall we give this young man? "Look here," said one of the jurymen, "if I understand right, the plaintiff doesn't ask damages for blighted affections, or anything of that sort, but only wants to get back what he spent on presents, holiday trips, etc." "That is so," agreed the foreman. "Well, then, I vote we don't give him a penny," said the other, hastily. "If all the fun he had with that girl didn't cover the amount he expended it must have been his own fault. Gentlemen, I courted that girl once myself." Verdict for defendant.

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Money in the Hog.

It would pay our farmers to give particular attention to the raising of hogs. There's money in it. It is a branch of agriculture which has been unwisely neglected in Canada, and concerning which too little has been said. If the indirect effect of the McKinley bill is to be a general awakening, and an earnest looking about for new and profitable developments of trade, this is one of the items which should not be overlooked. Let us look at the trade figures for a few moments and learn from them the enormous demand which exists in other countries for the products of the hog. Take, in the first place, the imports by Great Britain in 1889, and see, at the same time, how much of that demand was met by the United States and how little by Canada. The figures are as follows:—

	Total lbs	From Canada.	From U. S.
Pork	43,310,400	80,840	2,563,352
Bacon and hams. 105,221,096	33,296,144	384,190,096	
Lard	138,577,248	4,108,721	153,821,840

Total..... 679,107,744 23,210,704 531,458,298
But that is not all. Not only does Canada supply a small proportion of the British demand for the products of the hog, but she has imported a considerable quantity from the United States. Last year these imports were: Pork, 15,205,972 lbs.; bacon and ham; 3,653,758 lbs., and lard, 8,287,761 lbs. Thus it will be seen that we imported almost as many pounds of pork, bacon, ham and lard as we exported to Great Britain. The Hon. Mr. Carling has already called attention to this fact, and is now doing all he can to induce our farmers to take up hog raising on an extensive scale. As we said a moment ago, there is a very wide market. For the purpose of illustrating this point, we take, for convenience, the figures of the United States exports. Last year shipments abroad were:

	Number of lbs.	Value.
Lard	318,242,960	\$27,389,178
Bacon	367,378,399	29,872,281
Hams	42,847,247	4,779,661
Fresh pork	21,794	1,666
Salted pork	64,110,845	4,733,415

Total..... 782,631,375 \$66,716,101
These figures show the magnitude of the trade; but it is of equal importance to notice the distribution of this class of exports. Leaving out the smaller sales, the countries which made the purchases of bacon alone were as follows:

	Lbs.
Belgium.....	17,461,04
Brazil	1,066,714
Denmark.....	908,250
England.....	288,679,781
Scotland.....	11,116,675
Germany.....	661,697
Canada.....	28,97,296
B. W. Indies.....	186,640
Netherlands.....	846,781
Dutch Guiana.....	104,065
Cuba.....	3,819,966
Porto Rico.....	640,186
Sweden and Norway.....	3,632,824

We have selected bacon for the purpose of this illustration, because it is the chief item of export in this regard. Here, then, is a wide distribution; and if the

smaller sales had been included it would have been seen that the West Indies and the South American States are large consumers of the products of the hog. To all these markets Canada has easy access. That is important. No barriers lie in the way, so far as the avenues of trade are concerned. Nor does the United States enjoy any peculiar advantage which would operate against Canada in a fair competition. On the contrary, Prof. Robertson, Dominion Dairy Commissioner, has shown that Canadian bacon sells for one cent more per pound in the British market during the summer season, because it is firmer and sweeter than the United States article. The advantage of quality is on our side, which is a point of considerable importance.

There remains one point to be considered in this relation. Can our farmers raise hogs for export at a fair profit? They can, if they will but observe the proper methods of feeding. In the Empire of the 23rd ult., Mr. Shaw gives the result of his experiments at Guelph, and shows very clearly that there is more money in hogs than cattle. In 77 days he managed to make a profit of 23 1/2 per cent. on hogs, while he had made but 9 per cent. with cattle in a longer period. The chief item of fodder was a meal made of one part of oats, one of barley, one of wheat middlings and two of peas. These are all grains which our farmers can raise to advantage, and had the 1,982,853 bushels of peas which were exported from Canada last year been kept in the country and fed to hogs it would have been better for our producers. There is also the item of care. At the Ottawa Central Experimental Farm Prof. Robertson is having a model piggery built, for the purpose of showing that hogs will give ample return in their flesh for kindly care bestowed upon them. It is to be hoped that this matter will be taken up in earnest, both in farming communities and in the press. We are all interested in the development of any paying branch of industry, and if lard, bacon, hams and pork may be produced at a direct gain to the farmer, there is also the indirect gain to labor in the making of packages, the handling of the product and all that is related thereto. The Government has done a wise thing in affording a fair measure of protection on hog products, and we happen to know that one of the direct results of this legislation has been the establishment of a large lard factory in Montreal—a branch of one of the extensive Chicago concerns. It remains only for our farmers to take hold of the matter in an intelligent and enterprising spirit.—[The Empire.]

Unleached Ashes.

When used in drills, from 600 to 1,000 pounds of unleached ashes can be used to good advantage per acre, but in making a thorough application, from two to five tons should be used. When used in quantities over two tons per acre, they should be

spread on top of the ground in the fall or early spring, when the ground is not frozen, so that the moisture and rains of these seasons of the year will aid in dissolving the potash, phosphoric acid, lime silica, and enable them to amalgamate with the soil before the planting of seed. Otherwise the strong alkalies coming in contact with the seeds might spoil the crop for that year. After sowing broadcast it would be well to harrow in the ashes a little. Should it so happen that good results did not follow the first year's application, by reason of a failure of sufficient rains to dissolve all the chemicals in the ashes before hot, dry weather comes on, let them alone; that is, make no application of other fertilizers to the ground, for nothing will be lost by their lying in the soil, and their influence will surely be felt in the next year's crops. When once thoroughly leached into the soil they are invaluable in a drought. It would be well for farmers who have not heretofore used ashes to experiment for themselves by using side by side with stable manure and other fertilizers, a like quantity in cost of unleached wood ashes, and then in another field apply in cost half each of stable manure, well mixed with the soil, and as a top-dressing unleached ashes well harrowed in.

Grapes After a Wet Spring.

The year 1887 was quite similar in some localities to the present season, in the abundant rains through the first half. In the Report of the University of Illinois for that year, Prof. J. J. Burrill states that the results were the most marked on grapes. They ceased to grow early, during the dry midsummer, and then started again after the September rains, this month continuing warm with not enough frost to kill the leaves and stop the growth. But the latter half of October had some quite cold weather, in one instant as low as 10 degrees, and all the young wood of unprotected vines was killed, doing more damage than is usually done in winter. Before this time the grapes had ripened well. Should the vines in future be threatened under similar conditions, especially those which are particularly tender, it might be well on the approach of such a cold snap to lay down the vines.—Country Gentleman.

LIVE STOCK NOTES.

THERE is pork in grass as well as beef and mutton.
THERE are but few horses that are not tractable and docile if they are treated properly.
DO NOT expect any farm animal to "pick up" its living and put much meat upon its bones.
HOLSTEIN-FRIESIAN transfers for the week ending July 26 included eleven bulls and fifty-four cows.
IF the pastures in which the colts are kept get short this dry weather use bran and oats to make up the shortage.

SELECTING SEED CORN.

There is Only One Proper Way to Do It and That Is to Select It in the Field. I presume, says a writer in the Breeder's Gazette, that no class of farmers are better prepared to appreciate the importance of seed-breeding than are stock-breeders. From seeds spring all important organic life on the farm. They, therefore, in their development become the measure of the cost of animal growth and in a large degree of its character. However successfully a farmer may breed his steers, he is doomed to failure if his crops are of low capacity. The pounds of beef per acre is measured not mainly by his skill as a stock-breeder, but more by his skill as a plant-grower. It follows that our genius of farmers should expend its first or chief force upon the plant rather than upon the animal. Few men possessed of one absorbing purpose but what fail to give proper attention to other important factors in life. This general truth is not without its illustration in the ranks of stock-breeders, although no class should appreciate potent seed more. Very nearly the round of the laws of heredity in animal life are found with analogous relations in plant life. I need not review them to the readers of the Gazette nor marshal supporting evidence, for assertion of these laws is the equivalent of evidence to a breeder who has familiarized himself with the laws that govern succession of organic life.

Hereditary qualities may be fixed in corn by selection, or may be produced by crossing and fixed by selection. I shall confine my statements to selection as a means of improvement, and mainly to those phases of the question that will be suggestive and of value at the coming harvest.

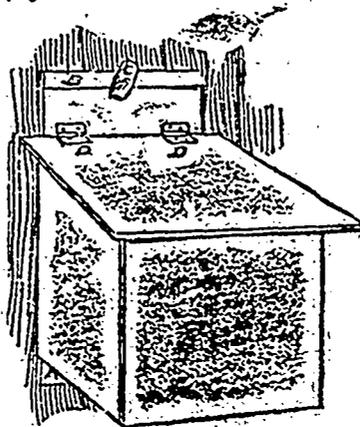
One right way exists for corn selection, and only one right way; and that way is to select the corn in the field and from the plant at a date early enough to determine the character of the whole plant. The Western practice, though wrong, measures the value of the corn crop almost wholly by the ears produced. This demands a plant that gives the maximum amount of ear and the minimum amount of stalk. By selecting the ear from the stalk, and by no other method, can this result be secured. The ratio of seed to stem is as variable for corn as it is for other plants. The seed is but a fraction—a part of the whole life—and the ratio of the parts vary in the plant as in the animal, and are as susceptible of being fixed as are the parts of an animal. I have carried out trials in selection of seed corn for several years. I will not in all these cases prolong articles with tables of results, and in accordance with this design state that by weight I find that the ratio of ear to stalk is very

variable; that the largest ear is not necessarily found on the largest stalk, and is not usually so found (I am considering plants within a given variety); that an ear from a tall stalk reproduces a tall stalk and from a short stalk is reproduced a short stalk, and that ears selected from short stalks produce more corn per acre than do ears selected from tall stalks. The yield of stalks is on the reverse order. The total crop is quite as large from the seed of the tall stalks as it is from the seed of the short stalks—really larger. When corn is grown for ensilage a different policy in seed selection should be pursued from that advisable when selection is made for corn grown for its ear alone.

IMPROVED NEST-BOX.

This Is Certainly a Good Device and Worth Trying.

Mr. James E. Riddle, Greersville, O., sends to Farm and Fireside a plan of a nest-box, which is easily constructed and very convenient for cleaning out and collecting the eggs. In describing it he says: "There is no patent on this nest-box, so I will give it to your readers. It can be attached to any poultry-house by sawing a hole in the side of the building large enough to let the hens go through. The bottom of the nest-box is one foot square. Nail two pieces of lath to the side of your building, one at the bottom to support the nest, marked (A) in the illustration, and one at the top (B) just the thickness of the board



NEST-BOX.

that the nest-box is made of, to attach a button (C) for holding the box in position. Nail a board extending upward from the bottom, five inches wide, next to the building. The board at the top where the hinges (DD) are attached, is 6 inches wide, and extends 3 inches down each side of the box. The lid is 18 inches square, and the box is 12 inches high in front and 10 inches next to building. Having finished the box, all that is necessary is to turn the button at the top, and the box can be

lifted from its support and cleaned, fresh nest material put in, and you can walk along the side of your building and gather the eggs from the outside, as these boxes are attached to the building from the outside."

STERILITY IN MARES.

Conditions That Tend to Produce It—Treatment For.

One of the very hard questions that are often asked us is what causes and what will cure sterility in mares. We can not answer such questions except in a general way. A writer has recently gone into the subject very fully, and we compile the chief points that he makes for the benefit of our readers. All practical horse-breeders are impressed with the fact that a proper management of brood mares undoubtedly influences their regularity of breeding. High feeding and the use of stimulating food will quickly induce sterility. Fat and plethora of system lead to fatty deposits about the ovaries, degenerative processes or clogging up the fallopian tubes with fatty particles. Likewise the opposite condition of reduced vitality from old age, poverty, over-work or bad feeding is equally as conducive to sterility.

The lesson to be drawn from these facts is to avoid both the obese and the impoverished state; keep your brood mares thin in flesh yet in good heart and spirits to ensure regular pregnancy and the production of healthy progeny. Many animals, from peculiar idiosyncrasy of constitution, will accumulate fat under a system of starvation; such require to be carefully watched. Debilitated mares require good feeding and careful treatment to regain tonicity of the generative apparatus. Exercise is an absolute necessity to procreation. The idle mare, with no range of pasture, or one that is housed, is apt soon to become sterile. Many animals will only breed when regularly worked or placed under such condition as ensures strong exercise. Inferior foods are apt to arrest the breeding function; if not actually preventing conception, by their influence on the generative organs, they intend to abortion at an early period of gestation. Moldy hay, smutty corn fodder, musty grain or corn, or ergotized grasses, must be carefully avoided. Making brood mares in winter the scavengers of all the rough food of the farm, considered unsuitable for other stock, is a system that can not be too highly depreciated.

If you have any old sheep—scrub hogs or unprofitable cows—get them ready for the butcher as soon as possible.

As soon as an animal is matured it ceases to be profitable to keep, unless it is a work animal and possibly sheep.

FARM AND GARDEN.

INTERESTING ITEMS FOR FARMER'S AND HORTICULTURISTS.

Fifty Paragraphs Containing Sound Advice on Agricultural, and Live Stock Subjects—The Best Kinds of Manure—Notes on Orchard and Garden.

Those who have used the arsenical remedies to eradicate the canker worm say that they have also largely assisted to destroy the codling moth.

Milk will absorb enough odor from foul gases in ten minutes to affect its quality, and the colder the milk the more rapidly it absorbs odors.

Two crops of potatoes have been grown on the same ground in one year, with the Early Rose variety, and the use of plenty of manure.

Rats will keep out of the way of pine tar. Pour it into their holes, and daub the posts of the granaries with it.

As much as 600 pounds of hops have been grown on one acre of land, but such yields are far above the average.

Now is the time when a watch must be made for the white butterfly, the parent of the cabbage-worm.

The nest egg gourd is a novelty now grown as a substitute for porcelain or glass nest eggs.

If you mean to raise early lambs for next spring's trade, it's time you had your breeding stock in shape.

A large scarlet comb indicates that the hen is laying. All healthy fowls should have bright red combs.

It is money thrown away to invest in the better classes of stock, unless you are prepared to give them good care.

Keep the stock where you can get the manure. It does not pay to turn your stock in the woods and buy fertilizers. Do not let your farm run down.

The wool of the merino sheep is very fine, as many as 40,000 fibres having been counted on a single square inch on a full-grown ram, and the half-bred merinos give nearly as fine wool as the pure bred.

On warm days and nights corn grows very rapidly, experiments made for that purpose showing that in twenty-four hours as much as five inches of growth has been made by some stalks.

A Missouri gardener secures early potatoes by planting the tubers in boxes, keeping the boxes near a stove, and when the sprouts are three inches in height they are removed and set out.

Lay aside some pure manure, free from litter, for the asparagus beds. Late in the fall clean off the bed and apply the manure, allowing it to remain on the ground the whole winter.

To keep more stock than you can feed liberally is to simply starve the whole gradually. It does not pay to attempt to do more than your limit allows to be done well.

Plenty of fresh-burnt charcoal is excellent in the pig pen, especially during this season, when green food is plentiful, and they will eat it readily.

Utilize all bones, even if you have no

means whereby they can be pounded or ground. The smaller the pieces of bone the better; they are excellent for all kinds of fruit trees, and if applied around grape vines the effects of the application will be noticed for years.

Those who have tried feeding grain and hay to horses claim that if a full feed of hay follows the grain the grain will be crowded out of the stomach before digestion is accomplished, and a waste of nutrition ensues—hence the hay should be given first.

Cucumbers should be picked off the vines every day, if they are intended for pickling, as they grow rapidly and the vines will bear more when they are not compelled to mature the cucumbers. The smaller they are when picked off for pickling the better.

Rye is recommended as a green manure for peach orchards. The rye should be sown thickly about the 1st of September and plowed under in the spring. It is also mulch for protecting the roots.

Pick all apples without bruising them before barreling, and do not allow a single overripe or injured apple to get into the barrel. Keep them as cool as possible, the nearer the freezing point without allowing them to become frozen the better. If apples are grown in large quantities for winter sale a special place should be arranged for storing them.

Cottonseed meal and bran are the cheapest of all foods for stock, considering their nutritive value as compared with other materials. These foods are cheap simply brought on the farm for their value as manure alone, and especially on lands deficient in nitrogen and phosphates.

Russian apples have not fulfilled the expectations of those who claimed they were better adapted to our northern sections than American varieties. The trees produced from American varieties have demonstrated that they were hardier and more productive than the Russian trees.

We have already in this country several breeds of polled (hornless) cattle, and they are among our best beef-producing breeds. There should now be introduced hornless sheep where the sheep are huddled and kept near the barn, as rams often fight and injure each other.

All classes of stock do more or less damage to a pasture by trampling it. The use of hurdles or changing the stock frequently, by dividing the pasture into several fields, will afford a better supply of food, by allowing the grass on the unoccupied portions to grow, and less injury will result. A scanty pasture, which compels animals to be always moving in order to secure food, is of but little value compared to a well-kept sod.

If our farms are "running out" such should not be the case. In England, where the soil has been cultivated for centuries, the land is richer to-day than ever before. This is due to the farms being small and well-manured. Every square foot of land in England is made to yield something, if used for farming, and the aim is always to add more plant food than the crop removes.

There is a large growth of leaves to cets and turnips, and they take a large proportion of plant food from the soil. These leaves should be fed to cattle, sheep or hogs, as they are valuable for that purpose. At this season the top and roots may be fed. When storing the roots away for winter all tops that cannot be

utilized by feeding should be added to the manure heap.

ON FRUITS.

The Value of the Good and the Danger of the Bad.

Some one once said: "It will beggar a doctor to live where orchards thrive." Fruits are a well known enemy to a torpid liver, to many forms of indigestion, and hence to general derangement of the bodily functions. The author of "Eating for Strength" says: Writers on dietetics, because they are guided by the chemist, do not rank fruits as highly as they deserve. From the standpoint of the chemist, who finds but little solid matter in them, fruits rank low as food; but they possess precious qualities hardly yet known to the chemist. "Their juices distilled pure in nature's laboratory" need no boiling or filtering to destroy or remove the germs of disease; while they go easily through the tissues of the body "leaving their valuable salts, and taking up and carrying off" the waste products. "Their acids, how refreshing; their salts, how stimulating; their delicious flavors, how they play on the nervous system." The aroma of good ripe fruit is believed to have an animating, exhilarating "inspiring" effect on the human body, when they are eaten. And while it appears that the "Fruit of the tree" was the special food of man in his earliest purified or glorified condition, it appears that more special attention is now given to the cultivation of fruits than to almost any other product of the earth.

But while we would thus highly exalt pure-ripe seasonable fruits, we would as strongly condemn any in any way damaged, and all unripe fruits. It appears that in nature it is very common that the best—the finest and the most elegant, things are the most perishable, the most easily injured and destroyed. Fruits being given to man in such great variety "come in" ripe at all seasons; but being so especially perishable, they can be eaten with safety only in their season, only as they ripen, unless most scientifically, well and carefully preserved, and even then they are not nearly so valuable. Probably the only evil effects ever arising from eating fruit, when not eaten in glutinous quantities, arise from damaged or unripe fruit.

No particle of anything that has commenced to decay or decompose should ever be used as food by any one having regard for bodily cleanliness, purity and health.

Even moulds will not grow on fruit until a certain amount of decay has commenced in it, forming a suitable soil for the new growth. The heat of cooking checks the decay, but the fruit has lost much of its value, more in proportion than most people would suppose, while it is not nearly so wholesome and is more likely to disturb digestion than pure sound cooked fruit. Unsound fruit in an uncooked state is of course still much more objectionable. While it is always best,—most economical of both life and money, to buy and use only the best purest foods of their kind, this is especially so with regard to fruits. It is very much better to buy only a small quantity of that which is good and sound, than much more that is deteriorated and sold at a low price.

During hot weather the digestive tract, in a measure, like the entire body, is

FOUL BROOD AMONG BEES.

Its Cause And Cure By William M'Evoy, of Woodburn.

Foul brood is a disease that is caused by the rotting of un-cured for brood. It usually originates in spring in weak colonies that have spring-dwindled so badly that they have not bees enough left to cover or care for all the brood, and if the spring keeps raw and backward the bees will crowd together to keep each other warm, leaving the uncared for brood to die and rot in the cells. The brood covered by the bees in time hatches, which so increases the force of the colony that a wider circle of comb is covered by the bees taking in the space occupied by the decaying brood. Then the brood that is fed in these cells where brood lately rotted down will have to consume their food mixed with the remains of decayed brood; and that is the real and only cause of foul brood.

Some will say that many a time they have put combs with decayed brood in colonies and never saw any bad results. Very true, but they do such things in the honey season and put them in the strongest colonies, where the bees will clean them out at once. If we want our colonies to keep in a healthy state we must keep all decayed brood out of them.

Foul brood will almost be a thing of the past when every bee-keeper knows the real cause of it, looks well after his bees in the spring and sees that the brood is well cared for in every hive; and those that are not real strong must be crowded up on a few combs by using division boards. The young bee destroyed by foul brood first turns yellow; as it decays further it becomes brown, rotten, rosy matter, and many of the capped cells will be sunken a little in the capping, with a small hole in each. The disease is spread by the bees robbing foul brood colonies, and they carry the disease just in proportion to the amount of diseased honey they convey to their own hives.

In the honey season, when the bees are gathering honey freely, remove the combs and shake the bees into their own hives in the evening, give them comb foundation starters and let them build comb for four days. In the evening of the fourth day remove the comb and give them foundation to work out, and then the cure will be complete. Fill an empty two-story hive with the combs of foul brood that have been removed from two or more diseased colonies; close them up for two days; after that open the entrance and when most of the sound brood is hatched, remove those combs and give the bees starters of foundation in single bive and let them build combs for four days. Then in the evening of the fourth day take out those new combs and give them foundation to work on.

Let it be remembered that all of those operations should be performed in the honey season and done in the evenings, so that bees will become settled down nicely before morning. Before extraction from the diseased combs, all the combs that were not sealed must be cut out of the frames or some of the decayed brood will be thrown out with the honey. Then after cutting out the unsealed comb, uncap the sealed honey, extract it, and bring it to a boil. All the foul combs and the new combs that were built in the four days must be made into wax, and the dross from the wax extractor must be buried, because what runs out with the wax would not

relaxed condition and is then much more easily irritated and disturbed by improper food, and at this season great care should be exercised in selecting fruit, and all should be very carefully looked over, in a good light, and every bad spot or part cut away and rejected. Mouldy fruit remember is decayed fruit.

A system of careful inspection, and with a small magnifying glass, should be carried out wherever fruits are marketed. This point is sadly neglected.

Some plan too is much needed by which consumers could obtain fruits more directly from the producers, by which the fruits would be not only fresher but cheaper.—Canada Health Journal.

A Decay Preventive.

A Belgian chemist has discovered a means for rendering fabrics, no matter how delicate in texture or color, proof against the ravages of decay. The wonderful state of preservation which the head-bands of Egyptian mummies exhibit is due to their having been impregnated with a kind of resin. This led the inventor to make certain experiments with the substance extracted from birch bark, to which the peculiar aroma of Russian leather is due, and he found out that the green tar which was left over after the oil used in tanning had been extracted from the birch tree yields neither acid nor alkaloid, and that in solution with alcohol it forms a liquid of remarkable fluidity, with the power of resisting, when once dried, even the action of alcohol itself. This substance will, it is said, unite with the most delicate and brilliant colors and render them imperishable.

Berkshire Pig Points.

The Berkshire is a favorite breed of the genus *Lus* not only with John Bull but with Brother Jonathan, and hence what follows will prove of interest to many of our readers. According to an English live-stock authority the Berkshire is not only a pig of color, but of marking; and to obtain color and marking, he says that breeders and judges are alike willing to insist upon the production of this point in preference to the cultivation of utility and economy. There is much prejudice to be overcome if this state of things is to be counteracted, for there are few judges who would be bold enough to award prizes to a lean but first-rate animal of the right type in preference to a fat boar, got up for show, and looking as perfect as pigs can be made. Let the white marking upon the face, the tail and the feet be retained by all means; but a first-rate pig should not be disqualified by reason of the partial absence of these markings, or because they are a little in excess.

FOWLS AND EGGS FOR MARKET.

Advice That May Prove Useful to Beginners.

In raising fowls for market flesh is the first consideration. Select therefore a breed which will make the greatest growth in the shortest time and be good quality for the table. Select according to the requirement of your own special market and your fancy—Langshans, Brahmas, Plymouth Rocks, Wyandottes, Javas or Dorkings. These varieties, with their crosses, are hardy and, if intelligently fed, attain a large size at an early age. The Wyandotte just now is a popular fowl, the

silvers, goldens and blacks all having enthusiastic admirers; the white Wyandottes are also receiving high praise from their advocates. It is claimed that they are not only ornamental in the yards and toothsome of flesh, but good layers as well. The dark Brahmas are classed by many breeders as the best of the Brahma varieties.

With careful management there is none of our small industries that is more profitable than raising eggs for our city markets. When eggs alone are desired the fowls selected should be Leghorns, white faced black Spanish, Minorcas or other laying breeds. Avoid the common mistake of giving too much stimulating food. Bear in mind the elements that enter into the composition of an egg and feed accordingly. Oats, wheat and barley are all good for eggs, with just enough corn to supply the proper degree of heat. A sudden change from one kind of grain to another will often stop hens from laying for a short time, as will sudden change of any feed. Whole corn, being hard to digest, should be given very sparingly to laying pullets. Supplement the food of laying hens with an occasional relish of ground bone, chopped meat and charcoal.

Feed the Cow.

Bran and grain are cheap as well as milk. Store them in the cow now, that she may be in good shape to produce milk when better prices rule—we don't mean fat her, but grass alone, and such watery grass as some parts of the country are producing this season, is very poor stuff to build up the system of a cow that is a good milker. Give some bran or grain, or both, to help out—we feed bran and a little cornmeal each day.

The Manure Heap.

Whenever manure is handled it is so much added to the cost; hence any labor required in preparing the food, or reducing the litter before adding it to the heap, is saved when the manure is to be handled. The most disagreeable work on the farm is the handling of manure that is full of cornstalks, straw and other long litter. Manure should be decomposed, and the finer the material that is added to it the quicker its reduction by decomposition.

Right Kind of Food.

Economy in feeding does not refer to reducing the food required, but to regulate it in quality that nothing may be wasted. Much of the food given is simply converted into manure. It does not pay to feed woody fibre and water when more nutritious material is required in order to produce the salable product from an animal.

Salt for Cows.

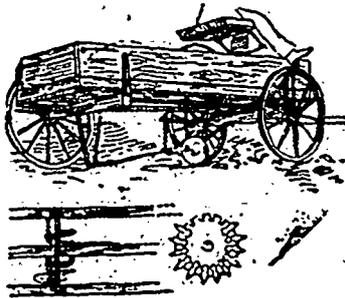
A dairyman claims that two ounces of salt per day to each cow increased the butter product one-fifth, which indicates that a loss may occur by the failure to supply some inexpensive essential, though the farmer may be feeding liberally and giving his animals the best of care otherwise.

Catching Chickens.

When chickens are to be caught it is best to do it after they have gone to roost. The chasing liable to ensue if one attempts to catch them during the day not only annoys the person in pursuit, but is highly injurious to the fowl. Besides all the other poultry is generally frightened, and more or less injury results from this.

An Improved Wagon Brake.

The brake shown in the illustration does not operate upon the wheel tires, and is designed to effectually stop a vehicle in the middle of the steepest hill. It has been patented by Mr. Nathan A. Wheeler, of Alpowa, Washington. Suspended beneath the wagon body is a friction disk of metal, fixed to an axle which turns in stirrups pivotally attached at their upper ends to cranks projecting from a transverse shaft, which turns in boxes supported by main longitudinal girders, one of the small figures being an inverted plan view showing the manner in which the friction disk is suspended from the wagon body. The stirrups may be attached to the cranks at different points, thus changing the length of the connection between the friction disk and the transverse shaft. The disk and its axle are braced by a bar extending forward to a connection with the lower side of the front axle, but such connection does not interfere with the vertical movement of the disk, which is raised and lowered by a connecting rod and brake lever. The connecting rod is pivotally attached at its rear end to a projecting crank of the transverse shaft, and at its forward end to a crank of the brake lever, which at one end is bent up at the side of the wagon body to be easily reached by the foot of the driver, a spring on the brake lever normally holding the disk out of contact with the ground. Attached to the disk axle is a chain connected to a rearwardly extending brake rod, the brake shoe of which is suspended by rods pivotally attached to the rear axle, a spring normally holding this brake shoe in elevated position. As the driver moves the brake lever forward and downward, pressing his foot down upon the treadle, the friction disk strikes the ground, and the motion of its axle winds the chain to pull the rear brake rod forward, and cause its shoe to swing downwardly to the ground, where it will act as a drag. By increasing the pressure, the friction disk is forced more firmly upon the ground, when the rear brake shoe may be brought forward sufficiently to lift the rear wheels of the wagon. In one of the small

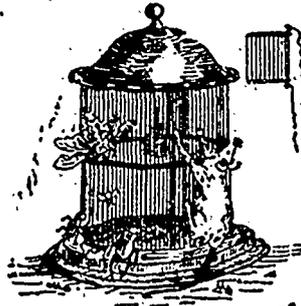


WHEELER'S WAGON BRAKE.
views is shown a toothed disk, which may be substituted for the friction disk when the roads are frozen and icy.

An Electric Trap.

Our illustration shows a novel application of the idea of execution by electricity, by means of which it is designed to put a speedy end to rodents and all manner of noxious crawling and flying creatures. This electric trap forms the subject of an American patent recently issued to Mr. F. Scherer, a resident of Paris, France. Any

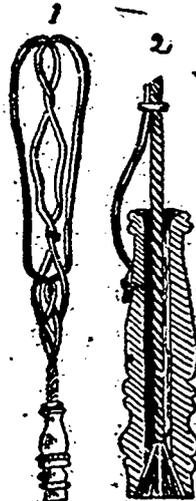
suitable lure or bait is located within the cage, behind a grid composed of metal rods



or wires, arranged side by side to form the positive and negative wires of the circuit. When the rat or other foredoomed victim, seeking the bait, comes in contact with the wires of the grid, the circuit is thereby closed. Of course, the current must be strong enough to produce a fatal shock, or the invention would not succeed as an electric trap.

A Neat and Effective Clothes Beater.

The illustration represents a light and simple device for switching or beating clothes, carpets, etc., which has been patented by Mr. Matthew Fitzpatrick, of Omaha, Neb. The beating portion of the implement is composed of two spring metal wires, bent and intertwined to form loops, as shown in Fig. 1. Near the handle portion the wires are twisted or braided to form a single body sufficiently long for insertion into the handle, shown in section, Fig. 2, and having a longitudinal aperture of diameter greater than the twisted portion of the wires. The rear portion of the handle aperture is made flaring, whereby a plug



may be inserted and driven to place between the separated inner ends of the wires to firmly fasten the beater portion to the handle. To assist in holding the wires in place and impart to them additional elasticity, a flat spring is held at one end by a screw or rivet to the handle and is attached to all the wires at its other end near the point where the loop portion of the beater commences.

Mulch for Orchards—Ornamenting Old Stumps—Feed the Cow—The Manure Heap—Right Kind of Food—Salt for Cows—Catching Chickens—General Notes.

It is absolutely necessary to supply to the soil such plant food as is lacking. The only question to be decided is how to supply it most economically.

Lime is recommended for use in case of mildew in cucumbers and diseases among potatoes. Powder the lime and shake it through a sieve, being careful to distribute it thoroughly.

It is easy, says Galen Wilson, to prevent cabbage worms from injuring the plants. Just keep the crowns filled with soil. The heads grow up from the bottom and throw off the earth.

Sugar beets should stand from seven to nine inches apart according to the fertility of the soil. Cultivate them flat, give them plenty of sun, stir the ground thoroughly and aim to produce beets weighing about a pound when topped and cleaned.

One man last year used on 20,000 currant bushes 40 pounds of hellebore. This is at the rate of about an ounce to 30 bushes. Every bush had a little hellebore, but if there was no sign of worms only the slightest shake of the box was given in passing.

Small, knotty fruit of any kind is a non-paying article. It is better to grow a dozen berries to make a pint than to grow fifty. With grapes remember that ten bunches weighing fifty pounds will sell better than twenty bunches making the same weight.

Those lands which in Continental Europe are devoted to the grape and produce the best and most costly wines are remarkable for the great amount of phosphoric acid they contain. The soil of the renowned Clos Vougeot vineyard in France contains 4 per cent.

A fifteen-mile journey is an average day's work for a horse. How far does the cow travel in a poor pasture, nipping a penny-weight of grass here and there, to get her daily ration? Then she is expected to pay for it through the milkpail, says the Mirror and Farmer.

While butter is cheap use all the cream and milk in cooking and upon the table that you wish. For vegetables, pie-crust and many other uses in the culinary art cream is far ahead of butter or lard, and should be indulged in by every farmer's and dairyman's family.

Mulch for Orchards.

Mr. Samuel B. Green, in a late letter to the Farm and Fireside, replying to a subscriber's question whether it would be best to keep his orchard completely mulched, and if so with what material, said: "The best mulch for an orchard is a loose top soil. If an orchard is heavily mulched the roots are very liable to come to the surface and be injured if the mulch is removed. Then, it is very apt to stimulate a late fall growth, which is not advantageous."

Gloomy London.

During the year 1884, 89,051 persons died in London, or 223 a day. This gloomy record is made darker still by a statement that during the same year in London the sun shone brightly on only about sixty-five days.

The Household.

OCTOBER.

What joy is this which thrills us
With unspeakable delight?
What benison which fills us
To forgetfulness of pain?
What stimulus is nerving us to battle for the
Right,
As when in hopeful spring-time we tracked its
beacon light?
Whence do our wasted energies a new-born
force attain:
October, blest of all the gods and well-beloved
of men,
Is ruling with a royal right the willing world
again!

What though November's sleeping breath
May stir the quickening gale;
What though a whispering North-wind saith
"Your streams I will enchain,"
What though some far-off tufts of snow may
chilling life exhale;
While splendor, wealth and beauty, with radi-
ance fill the vale,
We dare not by prophetic woe our heritage pro-
fane,
But yield to glad October, who garlands hill and
glen,
Crowned with a gay Bacchant's crown, and
throned for us again!

Who calls these "melancholy days,
The saddest of the year?"
Who sings in minor tones of praise
For Autumn a refrain?
Who disenthralled from Summer, her wan face
loitering near,
But triumphs o'er his late divorce in joyance all
sincere,
And springs, with heart unburdened, on the
richly loaded wain
Of her who wields the "golden-rod," and sways
the hearts of men,
Wreathed in Iridian splendor, magnificent
again!

Her gracious hand extended,
She bids us cease from care,
And feast, love's labor ended,
On golden-dropping grain,
Our souls have but to open wide to charms so
debonair,
And drink the ruddy wine of life from lips 'tis
ours to share;
Ay! revel in the joyousness of glowing mount
and plain,
Aflame with bright October's smile: brighter
and dearer when,
Turning her crimsoned cheek to go, the pale
months come again.

JANET.

BY MRS. L. B. WALFORD.

"There came a day
As still as Heaven."

"So Janet is not to go, is she not?"
said Sir Thomas Greythorpe, knitting a
pair of bushy eyebrows. "Well I don't
suppose she will much mind, and certainly
it lessens the expense. The way the
money flies in these parts is positively
diabolical. It's pay me here, and pay me
there, till I am afraid of taking so much as
a walk along the shore, or setting foot on
the deck of a steamboat to see a friend off!
Heigho! The Highlands may be all very fine
in August and September, but they make
a desperate hole in one's pocket—that's
what I know. As for this Staffa and Iona
business, we might have left it alone, I
thought. We could have put it on the
weather or something—but here the

speaker, who was sitting in a front room
of one of the great hotels at Oban, cast
his eye up the Sound of Kerrara, and then
round upon the Island of Lismore, and
beheld on either side nothing but a stretch
of glorious blue water and sunlit promon-
tories, while overhead there was an abso-
lutely cloudless sky, and Sir Thomas felt
that a feint of "putting it on the weather"
would hardly take in the veriest babe.
"All the same, it's a nuisance," he mut-
tered.

"We could not be here and not go,"
said his wife.

"Humph! I don't see that; we have
been to a lot of places; I don't see that it
would signify if only we had a decent ex-
cuse."

"But we have really no excuse, and
Isabella has set her heart upon it. She has
been talking with young Stronachan, and
he has set her on. He says Fingal's Cave
is the one thing in Scotland to see. I
fancy we should feel rather foolish if we
were to go back to Worcestershire without
seeing it, when we should have been so
near."

"Well, it is an expensive trip, I warn
you. You, and I, and Isabella"—reckon-
ing on his fingers—"then there's Florry
what about her? Is she to go, or to stay
with Janet?"

"Oh, she can go," said Lady Greythorpe,
indifferently. "She pays for herself,
so it makes no matter. And Janet can
look after her aunt while we are away."

"It is rather hard upon Janet, tho,"
and Sir Thomas' face softened as he turned
and looked at his youngest daughter.
"Eh, Janet? I dare say you would like to
go as well as the rest of us."

"Nonsense!" interposed Janet's moth-
er, with some asperity. "Janet knows
she cannot have everything and it was a
very great treat indeed for her to come to
Scotland at all. Considering that we had
all the trouble—for it is trouble, if no-
thing else—of bringing your sister and
her girl with us, and having to engage
their rooms as well as our own on ahead
where-ever we go, Janet may think her-
self exceedingly well off to be here at all;
and if she cannot spend a happy day on
this delightful shore—or I dare say your
aunt will take you for a drive along the
Gallinach road, and you can look for our
steamboat coming home," turning to her
daughter likewise "why—what—what in
the world, child—what do you mean what
is this about!" exclaimed she the next
moment. "What! Crying? Oh, for shame
Janet! You must indeed be spoiled by
all the pleasure you have had, if it makes
you behave like this. Oh, dear me, this is
disgraceful! Really—I—I"—turning over
the books on the table in obvious discom-
fiture, while her husband again wheeled
round his chair to the window as tho to
gaze upon a pleasanter prospect than was
afforded by the room within.

Poor Janet! She had listened to the
above discussion from the first with a
swelling heart. So much depended upon
it.

The proposition of leaving her out of

the party being formed for the next day's
excursion had only just been made when
she entered the room wherein her parents
sat, and the first words that fell upon her
ear were those with which our little story
opens.

She instantly realized that they fixed
her doom. Once her father was started
on the track of his special grievance for
the moment, namely, the dearness of
Scotch hotels and the exorbitant charges
demanded for every species of transit dur-
ing the Highland "season," he was ready
to make all considerations give way,
if by any means he might save something
out of the fire.

She had understood that he had been
startled by the amount by which a short
trip—a trip, nevertheless, which had been
one of the principal projected items of the
Scotch tour—would run up; and a cold
thrill had shot through her veins lest it
should be abandoned in consequence.
This would have been dreadful enough.

To behold with her own young enthu-
siastic eyes the great pillars of the famous
Fingal's Cave, to tread the sacred shores
of holy Iona, and gather a flower or a
weed from the graves of the Scottish
kings who rest beneath the shade of its
ruined cathedral, had been Janet's dream
ever since the whole expedition was ar-
ranged.

Janet was half Scotch by blood, more
than half by every other mode of reckon-
ing.

Ever since she had been a summer, at
an early and impressionable age, with
her maternal relatives at their West
Highland home, she had onshrined the
country, the people, the language, togeth-
er with every tradition and association,
in her heart of hearts.

That her own name was a Highland
girl's name was delightful. That she
might if she chose wear tartan—her moth-
er's Campbell tartan—was insisted upon.

That no place was like the Campbells'
place, and no people like the Campbells'
themselves, was a part of her creed; and
to have called the young head of the
house anything but "Stronachan"—he
was of course, styled only by the latter
name in his native place—would have
been impossible.

Lady Greythorpe had no objection to all
this. For her own part she was not enthu-
siastic; but if Janet chose to remember
that her mother had a pedigree, and to
break out into extravagant descriptions of
her mother's native place, well and good.
Janet was a foolish girl; but there was no
harm in this particular folly.

Isabella was her mother's child, how-
ever. Isabella cared a thousand times
more for riding on the Row on a bright
May day, for dancing in great London
drawing rooms, and shopping in Leaden
shops, than for the purple moors and
rocky fells of bold Argyle.

Stronachan itself she liked well enough.
It was a comfortable place, snugly situa-
ted, and not too far out of the way.

As for Stronachan, the man?

"I really think Isabella might do worse, my dear? There had been a little confidence between the parents a few weeks before, and perhaps it may not be too much to say that the confidence had partly brought about the trip which followed.

"He is a fine, handsome fellow," proceeded Lady Greythorpe, "and he certainly is very attentive. This has been Bella's third season; and she paused suggestively.

"You told me she was such a beauty she was sure to marry at once," Sir Thomas had retorted. "You would never have let me in for all those expensive London seasons but for that."

"You know very well she might have married had she chosen."

"Humph! That affair? That was a very poor do. Surely she can do better"—

"Precisely what I say. Let us take her to Scotland and see what comes of it."

Accordingly to Scotland the Greythorpes, accompanied also by Sir Thomas's brother's widow and her only daughter, had betaken themselves, and so far all had gone well.

They had, on the plea of the weather which on some occasions had been accommodating—cut short divers rounds and troublesome *détours*, and had arrived at Oban, which was to be their headquarters after only a week or two frittered away, according to Sir Thomas, on the top of coaches and steamboats. At Oban young Stronachan had made his appearance, and thenceforth the whole scene had changed its aspect for one member of the party.

That member was, only insignificant Janet—Janet, the school-girl—Janet, who had been tacked on at the last moment because no one knew what else to do with her, and because scarlatina had broken out at the house to which she ought to have been sent for her holidays.

Janet had lain awake all night from bliss, when the change in her program had first been announced.

She had been so happy, so gleeful, so perfectly content with her everything, and agreeable to everything throughout the tour hitherto, that it was with some reason that her mother now contended she must have been spoiled by pleasure when she could allow a single deprivation to bring tears to her eyes.

Lady Greythorpe did not understand that the tears were compounded of various ingredients.

First of all, there was the keen disappointment of not seeing the great sight of the Hebrides, and of not realizing for herself the majesty and the grandeur of the scene with whose outline she was so familiar—for a little engraving, presented in her childhood by the very boy cousin who was now again to the front, was one of Janet's most treasured possessions.

Secondly, there was the bitterness of finding that she alone was to be left out of the project; that the project was not to be given up, as she had erst dreaded; but that while all the rest (with one exception) were to start by an early boat—

and oh, how infinitely less they cared about it than she did!—she only was to remain behind.

And, thirdly—but we will not pry into the third and deepest trouble of all. Enough that over the prospect of a merry day there had of late been cast a new and unforeseen glamour. That the early start, the sail, the traversing of sparkling water, the gazing upon the mountain sides and ocean cliffs, the plunging into echoing cavities and scaling bold ascents, the embarking, the disembarking—every point and circumstance of the long September day, in short—had been dwelt upon in visions of the night, and traced out with a pen dipped in sunbeams.

The very night before, Stronachan had been prognosticating a rare day, and had added something besides which had not been for the ear of everybody.

"We'll go and sit on the gangway, Janet," he had murmured, lying on the heather by her side. "I know the captain of the Staffa boat, and he will let me go where other people may not. It will be glorious. We are in for a spell of this dead calm weather. It comes in September sometimes," he had added aloud. The reader may guess at what particular point in the above the young laird had lifted his face and spoken for the benefit of all.

"What was he saying?" inquired Lady Greythorpe of her elder daughter, aside.

"Only something about the weather," replied Isabella, indifferently.

This had taken place while all the party were seated on one of the heathery heights above the bay, during which encampment young Stronachan had demanded the carrying out of the proposed Staffa and Iona expedition, and had been responded to with seeming alacrity and cheerfulness.

"I suppose you go with us?" his aunt had merely added, as an apparent afterthought.

"Oh, of course," the young man rejoined; and he had turned to draw Janet's attention to the double peak of Ben Cruachan, darkly purple against the clear heavens beyond, and had looked upon the affair as settled. He had been fishing with some friends during the whole of the next day, the day on which Janet, coming into the hotel sitting-room, found her father and mother holding their discussion, and, as he was not to return until late, she knew that he would never hear of her sentence until it had been actually carried into effect. He was to meet the rest of the party on board the boat in the morning.

Would not he be disappointed, as she was!

Yet not a word could Janet say.

"Yes," it is an excellent plan," assented Mrs. Greythorpe, the semi-invalid, who had always to do less than other people could, and who, truth to tell, had had a good many solitary days of late. "Janet dislikes the sea."

"Oh, I don't" irrepressibly burst from Janet.

"Then I suppose there is some other reason. But we shall be very comfortable together at home. We can hire an open carriage and drive up to the Sound of Kerrara, and watch for the boat on its return."

"Just what I said," observed her sister-in-law. "We shall be wending our way down the Sound sometime between six and seven o'clock. I understand that tomorrow the steamboat makes the circuit in that manner. We go by the Sound of Mull and return by the Sound of Kerrara. To-day, you see, she is coming back the other way. Stronachan says there is only one route, but on alternate days the steamboat takes it differently. It is a very long excursion, but I dare say we shall enjoy it. Florry goes, I suppose?"

"Oh, dear me, I should know it if Florry did not," replied Mrs. Greythorpe, laughing. "Florry always likes to go everywhere. But Janet is a good girl to stay behind."

It was too much! No hope from any quarter! And Stronachan out of the way!

Janet's lips quivered, her chin shook, and she was just able to get to the other side of the parlor door, and anon to gain the seclusion of her own little room on the landing above, ere the torrent which had been pent up before, was let loose in floods over her cheeks.

Long and loud she sobbed passionately. Oh, how cruel, how cruel it was!

Her day—it was to have been her day—to be thus foully dealt with! Her summer night dream to be thus rudely shattered.

She took out the little tuft of heather-bell wherewith her cousin had endowed her, and wept over it. She wetted through her pocket-handkerchief; and, then, afraid of tell-tale flushes, leaned through the open casement, and strove to cool her burning eyelids.

It seemed to her as if everybody must divine why she so greatly longed to go on the morrow, why she so beat against the bars that held her back from the morrow's happiness.

It should have been such a happy day. She would have worn her pretty tweed dress and close-fitting hat—Stronachan had told her what to wear—and she had meant to make sure that she had on her neatest of laced boots, with a view to the stepping ashore and afloat, and her prettiest of little kid gloves, with an eye to the hand that should have guided her where to sit and were to stand. Stronachan had laughed at her enthusiasm; had vowed he would maneuver for her to be left behind on the lonely isle; had threatened dangers and hardships. She had laughed at him back.

What did he know? What right had he to talk?

"I do think Janet should not be allowed to usurp Stronachan as she does," Isabella had remarked with more asperity in her voice than was usual with her, after one of the passages of arms.

She had tried to "usurp" Stronachan more or less herself and had hardly suc-

ceeded. She had forecast terrors, difficulties, contingencies; and he had in return, so far from carrying on the phantasmagoria, merely assured her in a brief and business-like manner that all would be right.

It was after this that she had found cause of complaint against her sister.

Janet could make Stronachan talk, whatever she said. He had always a reply, a jest, an argument, a something, which necessitated bringing his laughing eyes to bear upon the limpid orbs of his girl cousin; and if Isabella, as she sometimes did, sought to enter into the jest or the argument, it fell flat.

Nevertheless, Miss Greythorpe told herself it was not Stronachan but Janet who was to blame, and assured her cousin Florence that she really did not like to annoy her parents, or she should certainly have pointed out to them that Janet was growing much to free-and-easy in her manner toward young men.

"I suppose it is all *her*," Janet now wept and wailed. "I know by her face yesterday she was up to something, and she has got Papa and Mamma to say I am not to go, because Stronachan always comes to my side when we walk out, and because he would sit by me in the boat last night."

In which conclusion the young diviner was not far wrong. Isabella had not, indeed, outwardly suggested her condemnation, but she had insinuated the idea, and that skillfully. "I really think Janet would be just as well at home," she had told her mother. "She is not a very good sailor—though she declares she is—and there is no need for her to be taken everywhere just because she is allowed to be with us in her holidays. It makes her rather forward, going about this, don't you know?"

And Lady Greythorpe had instantly perceived to what the fowardness referred. She too had been annoyed to perceive her nephew linger behind when Janet had plunged into the wood after blackberries, and finally clamber over the loose, moss-grown wall, and disappear into the woods himself. She had spoken somewhat sharply to Janet, and had not been appeased by Stronachan's offering of a bunch of berries with the bloom on.

When Janet had come down to dinner that evening with a cluster of scarlet rowans at her breast, there had been an uneasy suspicion in the mother's bosom that she had seen a sunburnt hand pluck those very rowans from a mountain ash upon their ramble; and she had noted that Bella had no floral ornament.

It was absurd to suppose that there could be anything real or tangible between the young laird and her chit of seventeen; but there might be some silly sentiment which would hinder sentiment of a more earnest and practical kind on his part.

It would be well to nip this cousinly nonsense in the bud; and the very first opportunity for nipping it, fell out as has been recited above.

It seemed to the luckless Janet that she heard every clock strike and every bell ring that broke the stillness of Oban Bay throughout the long, light summer night which followed. Several times she rose up and went to her little window. Happily she had a room to herself, for Isabella and Florence preferred each other's company; and never had this isolation been more welcome.

Leaning out and drinking in the solemn scene—the motionless vessels, the weird buildings, the deep, still waters shrouded by the still more deeply shadowed heights—poor Janet's eyes burned.

How she did love this spot! How she loved the beauteous Hebrides! How she loved—A leap of the veins, a catch of the breath, a hot blush, and no syllable framed even in the maiden's heart of hearts.

But what a night it was! And what a day it was going to be!

Already the pale light was spreading over the eastern horizon, when for the last time the watcher sought her fevered couch and tried to think no more.

She could not sleep—of course she could not sleep; but she would lie still and—and now, what is this? She is on board the gayly crowding boat. She is on her way to the far famed islets of the west; the ropes of the vessel are loosened, the paddle-wheels have begun to turn when a shout is raised. A name is being called—yelled—shrieked—passed from one to another. Whose name? Her own. Everyone is calling "Janet!" the air is full of "Janet—Janet!"

Janet is found, and, oh, despair! Janet is found too soon. She is not to go, after all, with the departing travellers; she has been sent for to return to land; she is being hurried off the boat, when her foot slips; the gangway has no protecting arms; she falls down—down: Stronachan seizes her—falls after her—they both plunge into the abyss—

"Good gracious, Janet! What a noise you are making! Florence and I could not think what it was. We heard such a scream. I suppose you had the nightmare; but I never heard any one make such a din. Are you awake now? Will you promise not to drop off to sleep on your back again? That is what is at the bottom of it. You are lying on your back. You should never do that!"

"Oh, do be quiet!" groaned Janet.

"Well, shut your eyes and go to sleep quietly then. We are off; but there is no need for you to rise yet. It is six o'clock, and the boat starts in half an hour. Such a glorious morning! Good-by!" And the door closed.

At the first the speaker might have fancied that her advice was to be followed, and that the curly head which pressed the pillow would soon be again wrapped in slumber; but had Isabella waited a few minutes more she would have heard sounds and seen a sight would have altered her opinion.

Janet was sitting up in bed. Her eyes were dry now—dry and hot as live coals. It seemed to her that even in her

sleep she had never lost sight of the dreadful sentence under which she lay, and that the dream from which she had awakened screaming, had been but little worse than the sorrowful reality. Through her open casement she could behold the bright fruition of the dawn's early promise.

It was a day of days

Not a cloud the size of a man's hand flecked the pale blue sky. Not a ripple broke the glistening sheet of glassy sea beneath. A pearly mist just hung over the distance.

In the bay itself every spar and sheet of the innumerable craft collected there was mirrored with a reflection so truthful as to make it uncertain at what point bow and stern touched the water.

In the midst of Nature's stillness, however, every other kind of world was the full swing of activity.

The deck of every steamer, yacht, launch, herring-skow was alive; the thud of oars in their row-locks resounded from plying open boats; the clang of sharp, brisk, inspiring bells announced the speedy departure of one excursion boat and another on their various routes. Passengers were crowding their gangways. Vehicles were every moment arriving on the pier, and discharging their hurrying freights. It appeared as if every one had suddenly started up with the conviction that it would be a crime to waste such a day on any ordinary occupation, and that there had been a simultaneous awakening to a resolve to cast all aside, and sail away hither and thither over the gleaming water.

Fullest of all and, gayest with bunting was the Staffa boat.

None was so great a favorite. A continued stream poured in upon her deck, as her bell again and again sharply sounded, warning of departure. It was past the stated time; it was ten minutes, quarter of an hour past. There seemed scarce any cessation in the arrivals.

Five minutes to seven o'clock.

"Oh, why does she not go?" cried poor Janet, at last in an agony, and threw herself back upon her pillow, with sobs and tears breaking out afresh.

She only raised herself once again for a long time after that.

This was when the bells ceased, and, holding her breath to listen, she could catch the sound of paddle-wheels, and knew that the boat was loosed from her moorings, and was slowly getting up her steam as she wheeled round into the center of the harbor, in order to obtain a clearer passage through the crowd of vessel at anchor.

Then Janet looked.

In another second or two, full into view came the jauntily decorated prow, and the fullest Staffa boat of the year, teeming from stem to stern with a rainbow-like assemblage of joyous sightseers, fluttering with parasols and telescopes, with crowds overhanging every rail and ledge, and paddle-boxes, cut her way through the glassy water and made for the entrance of the bay.

And they were all there!

And up to the very last she had—yes, now she knows he had—hoped against hope that something, something, would happen to let her, even her, be there too.

Her father had looked uneasy—had that meant anything? her mother made an inquiry or two—did they refer to this point? Last of all, her aunt Susan had privately interrogated herself as to the real reason of her remaining behind?

Janet had responded breathlessly with what she believed to be the truth.

It was, she had said, an expensive day's pleasure, and she fancied her father thought he had spent a good deal already. Then her lips had parted in her eagerness, and she had fixed a pair of hungry eyes upon her aunt, the while her heart had beat in an ecstasy of anticipation.

Mrs. Greybrooke had said nothing.

"Perhaps she will go quietly to Papa," Janet had whispered to herself. "Papa would not mind if she did offer to pay for me. She is better off than we are; and she is such a near relation that he could not be affronted."

And almost immediately afterward her father had come in, and with simple will the poor child had offered him her seat in the window beside her aunt, and had stolen out of sight and hearing, not to be any hindrance in case of a private word being desired. This had happened late in the evening of the night before.

It had been a second blow, but little inferior to the first, when bed-time had come and there had not been a word said to reverse to stern decree of fate.

All was now over; hopes and fears were alike at an end; and for more than an hour after the thin smoke of the departing steamer, had disappeared, the forlorn Janet lay like one stunned, staring with wide-open eyes into vacancy. She felt so sorry for herself. She had a kind of strange pity for her poor self. Nothing could ever give her back this butterfly day that was to have been. No after-joys could make up for the loss.

Some-how she knew that through all years to come she would grieve for this poor girl who was lying here, and whom no one else seemed to compassionate at all. She would know what this poor girl had suffered. She would never think of it as nothing, as a mere trifle which would soon pass out of memory. She would remember how the poor little heart had wrung, and how the eyes had poured forth and how the hot cheeks had been glazed with tears. Would it not seem wonderful that no other soul had cared whether Janet cried or not?

At length Janet rose.

The sun was shining more and more brightly, and so full of stir and bustle was the merry world below, that there would have been no chance of further repose even had such been desired.

"I will go out-of-doors and sit on one of the garden seats," murmured Janet, to herself. "Aunt Susan never comes down till half-past nine, but I cannot stay an-

other whole hour in bed. It is only eight o'clock now. Eight o'clock, and they have been gone more than an hour! Oh, dear! Oh, dear!

But in spite of sighs and sadness, she rose up and dressed herself. Some fancy induced her to put on the tweed dress—Stronachan's dress. Afterward she often wondered what had ever made her think of doing so. The tweed was too hot for so warm a day on shore, and only the inevitable ocean breeze would have made it acceptable on board of a steamer.

But the frock became Janet, and she took it down from its peg in the wardrobe and then donned the hat to match. Also, she laced on the boots that should have trod the Staffa shore, and smiled a little melancholy smile to herself as she did so. "I will carry out the make-believe all through," she said.

When fully equipped, it was a relief to leave behind the small bare chamber with its plaintive associations, and step downstairs to see what others were doing. Not that she cared what others were doing—there were no "others" there whose doings were worth the thinking about; but still she found herself noting this and that.

She noted that the hotel seemed very empty, while the bay, on the other hand, appeared to be unusually full. She noted that the large, beautifully appointed steam-yacht which had come to anchor late the previous night, had sent out a trim gig, which was just approaching the shore; and she noticed that in it was a kilted Highlander, at sight of whom her heart gave a throb, for he reminded her of her cousin Stronachan.

Then she turned away, and found a seat under shade of one of the few trees; where, looking out in the other direction, she fell to thinking and musing once more.

A voice broke in upon her reverie. A voice! Whose voice? Who hailed her in familiar tones as "Janet"? Whose step approached from behind? And whose hand caught hers as a swift torrent of words fell upon her ear?

A few moments before she had been reminded of her cousin—was it then, could it have been, Stronachan himself whom she had seen, and—and—

"I say Janet, what luck that you did not go in that boat! I—hum—missed it myself somehow. But there was a beastly crowd, and we should not have enjoyed it at all. "And now, what do you think?" (eagerly). Such fun! My uncle Stewart's yacht—that one over there—came in late last night, and I have just been on board her; and she is off to Staffa in half an hour, and he wants us both to go. Your aunt can give you leave—or, better still, I dare say she will go with us. I am commissioned to invite you both."

"But—but how did you know I had not gone with the rest?"

"Oh, I—well, fact is. I was down at the boat," allowed Stronachan, somewhat shamefacedly. "I thought if you were going, I would not break faith with you;

but as soon as I found you were not there."

Janet turned away her head. "I did not seem to care," added the speaker.

There was an awkward pause. "We must not wait now," cried he, however, in another minute. "I promised my uncle to be back in half an hour."

"But Aunt Susan could never be ready in half an hour."

"Oh, if she will go, I could just run back and explain. He is with the gig now. I am sure he would wait for your aunt. Of course half an hour was a figure of speech. But do you think she could be ready in an hour? We should breakfast on board, you know."

"Oh, yes," cried Janet, starting, to her feet.

"And you think she will go?"

"I really think she will. She almost went with the rest. It was only the crowds, and the fear of its being a bad day which prevented her. Now that she sees what a day it is—"

"Yes, a dead calm. She need not to be afraid even of a swell."

"And in a yacht?"

"And such a jolly yacht, Janet! Everything is splendid from top to stern, and only a few old fogies on board—my aunt Stewart, who is a benevolent old soul, and some elderly Glasgow men, rather vulgar, but quite inoffensive—oh, it will be first-rate? Do run and hurry your aunt. Tell her I'll be back here in exactly an hour."

"But are you sure they can wait?"

"I am sure they will wait. They will be rather pleased, don't you know. Mrs. Greythorpe is a fine lady, and my uncle will be awfully flattered if she goes in his yacht, when she would not trust herself on the Staffa boat."

"Yes—yes."

"Fly then!" But still he detained her, "I say, Janet, were you—weren't you—it was not your doing, was it, that you did not go with the rest?"

"Oh Stronachan!" Open eyed, reproachful amazement.

"All right," said he cheerfully. "I thought not; but I wanted to be quite sure. Nobody said anything, you know."

"And—and—what did you say to them?" She was longing to hear this; and as the two were now on the move toward the house, time was not being wasted over the inquiry.

CONCLUDED NEXT MONTH.

It's a fool hoss that don't know who's boss.

A colt'll frolic in the mornin'; an old hoss at night.

Tain't allus the purtiest girl that kin make the best flapjacks.

A feller that's honest with himself'll be honest with his nabors.

You wanter watch the feller that's allus keen fer a hoss trade.

A balky hoss an' a kickin' cow make ots o' trouble on the place.

THE EXCLUSIVE CLUB.

"Edward, your election to the noble brotherhood of which I am a member took place last evening. Will you accept my best congratulation?"

Henry Ellersley entered my chambers one afternoon with the above announcement. Languidly reclining upon my lounge, I half rose from the recumbent position.

"Thank you for coming to tell me, my dear fellow," I drawled, lazily, in reply to my friend's most welcome announcement. "It's quite a surprise, really. Clotwynde mentioned my having been proposed the other day, but I had completely forgotten the matter, I assure you."

Ellersley smiled a little oddly. Perhaps he was keen enough to penetrate my mask of indifference; but he only remarked, walking towards the door: "And now that message is delivered, Edward, I must leave you for an engagement elsewhere. By the way," he continued, "Holmes, and Erskine, and Morland, and half a dozen other men, want you to be round at the Club to night, if you can spare an hour or so. At about 11, they said. Can you manage it?"

"I think so," was my reply. "Yes, they can depend on me. Will you be there?"

"Yes. Au revoir."

"Au revoir."

At 11 o'clock precisely I entered the elegant club house in Pall Mall, with a feeling of delightful triumph that I cannot recall in these advanced years of mine without a smile at the foolish ambitions I used then to cherish so fondly. The one social distinction which I had so long coveted, was, I thought, mine at last.

Out of the many who would have sacrificed so much for the honor of calling themselves members of the Exclusive Club I had enjoyed the compliment of being chosen. It was a very pleasant and flattering truth to reflect upon. But I had little time for consideration just then. George Erskine, one of the friends who had been most zealous in obtaining my election, met me as I entered the large and handsome hall of the building.

"Ah, Sternforth," he said, advancing and taking my hand cordially in his. "I am delighted to find you have so soon assumed the rights of membership. Come into the card-room; you will meet a host of old friends there."

I found most of those assembled in the card-room men with whom I had long been on various terms of intimacy or acquaintance. They all appeared glad to see me—all treated me with a mixture of cordiality and courtesy which was very flattering to my self-love and to my now sense of importance.

While I stood among a knot of friends, and shared in the conversation that engaged them, George Erskine touched me on the shoulder, saying, "I have secured a vacant card-table, Sternforth. Will you be my partner in a game of whist against Holmes and Rivers?"

"Willingly," I said. Erskine, I well knew, was accounted one of the best whist-players in his circle, and I could not but appreciate the compliment conveyed by his request. "But you must not forget," I added, "to introduce me to Mr. Rivers. We are not acquainted."

A few minutes later the introduction took place and a lively and interesting game was

entered upon. The stakes were high, and although I was a practised player, my luck seemed quite marvellous. Weakly assisted by Erskine, I easily won the first three games.

As the deal was made by Rivers at the beginning of the fourth game I happened carelessly to glance at him. His features were of that mobile kind on which the passions or emotions of the "inner man" are easily portrayed. I read in them, of my intense surprise, the profoundest contempt, mixed with an apparently almost ungovernable anger. He returned my glance with a fierce expression in his deep-black, Spanish sort of eyes, that was far from pleasing to me. It was the kind of look which no gentleman cares about receiving from another.

My blood rose on the instant. Was it possible that he suspected me of foul play? What could I have done to merit this most singular indignation, tacitly expressed, it is true, but none the less evident.

"Oblige me by explaining," I said, in a voice that thoroughly controlled the annoyance I felt, "the cause of your somewhat peculiar demeanor towards me, Mr. Rivers. I am reluctant to believe that any misunderstanding should have occurred between us but—"

To my consternation, he interrupted me with a sneer and a contemptuous wave of the hand in my direction.

"Sternforth need not assume with me the manners of an injured party. I have played whist too often not to detect swindling, especially when so palpable and open as his. The manners of low gambling houses have been up to the present time, I believe, wholly foreign to the card-tables of the Exclusive Club. I regret that one whom I believed to be a gentleman should have introduced them this evening."

I was on my feet now with clenched hands, and a face that must have been ghastly with half-mothered rage.

"Do you dare to assert?" I began, but passion checked me, and the cold, sneering tones of Rivers continued:

"I dare to assert, Edward Sternforth, that you are a swindling card-sharper!"

I answered him with a blow this time; not a damaging blow, however, for the quick hand of Erskine thrust mine aside before it had time to more than graze the cheek of my insulter. Then there was a great noise of rushing feet; and before I could well realize my position fully fifty men stood between Rivers and myself.

"It was an outrageous insult!" said the voice of Erskine, who stood close at my side amid the throng: "and you returned it bravely, or would have done so, had I not prevented you."

"Which I greatly regret, Erskine." My coolness was beginning to return now.

"Why regret it?" continued Erskine. "Gentlemen should find other weapons than their fists, Sternforth. A blow is a blow, however, no matter how lightly dealt. I suppose Rivers will challenge you?"

He had hardly finished speaking before Holmes, the gentleman who had been Rivers' partner at whist, made his way towards the throng.

"I am requested by Mr. Rivers," he said, "to demand immediate satisfaction from you for the insult you have inflicted."

"Immediate satisfaction!" I said, coolly. "How is that possible? Although the age of duelling is past—"

"Ah, ah, you hesitate!" exclaimed twenty voices.

I looked about me. It seemed as if the eyes of every man present were fixed intently upon me.

"You are mistaken, gentlemen," I said, with the greatest calmness of manner I could assume. "I do not hesitate, I merely desire to know what is expected of me in this matter."

"Fight!" answered the twenty voices. "I do not refuse Mr. Rivers' challenge, I am skillful at no weapon but the pistol; and as I have, I believe, the choice of weapons"—addressing myself now exclusively to Holmes—"I shall of course choose that. Any further charge, in the matter of time and place, will, I trust, be assumed by my friend, Mr. Erskine."

Erskine bowed assent.

A few moments of conversation took place between himself and Holmes, when, turning to me, he at length said: "I have decided upon both place and time—here and now. Does the arrangement meet with your approval? There is no necessity of making this affair—provided it does not result in very serious consequences unduly public. Rivers has expressed a wish that the duel, if you accept his challenge, take place at once. The weapons also are in the building."

"Very well," I said, with a voice that shook a little, in spite of my efforts to control it: "I consent to your proposition."

"It is not the first time that matters of this sort have been settled here in the Club upon the evening of their occurrence," Erskine went on. "So far, I am glad to state that nothing more serious than flesh wounds have been the result. Will you remain here while Holmes and I measure the paces in another portion of the room? All will be prepared in a very few moments."

With these words, Erskine left me among the crowd of gentlemen by whom I was surrounded. I had not long to wait. He returned presently saying; "Everything is in readiness. The distance is to be twelve paces. Will you follow me, if you please. Rivers is already waiting for you to appear."

We passed arm-in-arm to the lower end of the large apartment. Rivers, as he had said, was there waiting my appearance. I confess to a very miserable feeling when the pistol was put in my hand by Erskine. The suddenness of the whole matter had scarcely left room for thought until now. Visions of one I loved better than all else in the world haunted me in a hundred pleading ways during the next three minutes. I thought of the agony, too, that my family would feel on the morrow, if the news of my death were to reach them in their quiet country home. My death! Was I to die like this?—shot down for the mere obedience to a tyrannous social code that in my heart I had always despised and hated?

Well, hope of life was strong within me to the last. I thought of her.

"One!"

Erskine's voice had spoken the first word of signal. And somehow that monosyllable wrought a change in my feelings—added force to my arm and a courage to my heart that I had wholly despaired of experiencing.

"Two!"

I wheeled half round towards my opponent. The pistol was clutched in my hand, now, with a grasp of steel. I was no inferior marksman at ordinary times. I felt that my aim would be deadly.

"Turoo!"

I stood face to face with my opponent.

"Fire!"

Both pistols, discharged simultaneously, made one sharp report.

"Was I unhurt? I moved my limbs slightly, feeling no pain in any of them.

My opponent, seen fairly through a cloud of smoke, was standing erect—uninjured perhaps, like myself. And yet my aim had been sure; or, at least, I fancied so.

Suddenly George Erskine's voice sounded at my side, raised to a tone of the most extraordinary loudness. "Three cheers for Sternforth! He has stood the test bravely!"

I looked about me in utter bewilderment, while the cheers were given clamorously from every side.

I turned towards Erskine and asked, "What does that singular behavior mean on the part of yourself and the other members. What have I done to deserve this enthusiasm? Oblige me by explaining."

"That task is mine," said the voice of Rivers, as he approached to where I stood. "I have been acting a part to-night, Mr. Sternforth, which I assure you was a most disgraceful one. This evening's entire performance may be summed up in two words—your initiation. Perhaps you can now understand why it is that the Exclusive Club is so difficult to enter. The men who fail to stand the test put up on you this evening fail in becoming members. The secrecy of our initiation system is nothing remarkable. Those who have experienced it without afterwards becoming members are not the ones to inform society of the inability to stand fire. Mortification usually keeps them silent. And now," continued Rivers, extending his hand, "I trust that an apology for the ridiculous insults I hurled at you this evening will be fully accepted. Let the whole matter, like the charge of these bulletless pistols we fought with, end in smoke."

He offered me a cigar. I accepted it and his extended hand likewise, and so ended my first evening at the Exclusive Club.—N. Y. World.

Somebody Was Surprised.

Funniman—"Now turoo's your husband coming, Mrs. Candor. Let's make a little surprise for him. Mrs. Funniman and I will hide behind the curtains here, and you tell him that your expected guests haven't come. Then we'll step out and surprise him."

Enter Mr. Candor.

Mrs. Candor (obeying orders)—"Well, John, our expected guests have disappointed us, Mr. and Mrs. Funniman haven't come."

Mr. Candor (heartily)—"I'm d— glad of it."—Somerville Journal.

Water leaking through a hole just large enough to pass a needle through, during twenty-four hours, at a fourteen-pound pressure, would be sufficient to supply a house for the day. The waste through a one-inch pipe under the same conditions would be 1140 gallons.

The latest experiments made with carrier pigeons in connection with various European armies show that the normal velocity of the carrier in calm weather and for a short distance is about 1210 yards a minute. With a very strong wind in the direction of the flight a bird has reached 1985 yards a minute.

POPULAR SCIENCE.

The highest meteorological station in Europe is on the top of the Sonnblick, in Austria, 10,168 feet above the level of the sea.

A German scientist finds the human eye more sensitive to light of medium wave length, being more affected by green rays than by red, and red more than by blue.

An army officer who had his arm amputated while perfectly conscious, says that it does not hurt except where the first cut around the limb is made, through the skin.

The largest crane in the world is at Chatham (England) dockyard. It lifts 240 tons, and stands 125 feet high and has a radius of 75 feet 8 inches.

The Local Government Board in London has collected a mass of testimony proving that cats catch diphtheria from human patients, and carry the disease to healthy persons.

A petrified tree nearly four feet through with roots extending over about fifteen square feet, was found recently in a coal mine at Osnabruck, Germany, and has been set up in the Berlin School of Mines.

A new red glass has recently been produced in Germany. Besides its use for the manufacture of bottles, goblets and vases of various kinds, it is applicable in photography and chemists and opticians laboratories.

PROFESSOR Forbes declares that the only types of underground cables apparently suitable for permanent work are either bare copper supported on insulators or else vulcanized india rubber, or perhaps okonite.

It has recently been shown by a series of experiments on dogs that while the alternating current is distinctly more deadly than the continuous, its fatal superiority is far less than some former experiments would lead us to think.

The use of the phonograph among certain Indian tribes leads to the conclusion that the main characteristics of their language can be recorded and permanently preserved either for study or demonstration with this instrument.

The piece of crown glass, forty inches in diameter and two and a half inches thick, made in Paris for the object glass of a telescope for the Univeasity of Southern California, will require two years' labor to turn into finished lens.

By means of a Mangin projector and the electric arc light on the summit of the Eiffel tower, in Paris, observers at a distance of 2000 meters from the illuminated area were able to distinguish objects the size of a human being six and a half miles from the tower.

CHEMICAL experts who have been analyzing lager beer say that but comparatively little malted barley is now used in

its manufacture, and that its ingredients are provocative of kidney disease and other fatal maladies when a person drinks much of the beer.

An apparatus of iron and glass, in which a pressure of 1000 atmospheres can be developed for the purpose of studying the influence of great pressure on animal life, has been exhibited to biologists in France. With it, deep-sea animals can be observed under their natural compression.

The result of the investigations of Dr. Donaldson, of the brain of a famous deaf and dumb pupil of Dr. Howe, is to substantiate several theories which medical experts have advanced about the functions of the brain as organ of thought. Conclusive evidence is adduced to prove that the brain is an intricate phonographic medium, which registers all that sight, hearing, taste, smell and feeling bring to it.

At Bahrin, which is about the hottest part of earth, no water can be obtained from digging wells to a depth of 500 feet in many cases, but, thanks to copious springs which break forth in the waters of the Persian Gulf, over a mile from shore fresh water is obtained by divers, who fill goatskin bags with the cooling liquid and sell it to the inhabitants.

CARTRIDGE TO OIL THE WAVES.—A cartridge has been invented by Mr. H. Walker, which, when filled with oil and discharged, will pacify the stormiest of seas. The receptacle is of ordinary cartridge size, but is made of heavy paper, and weighted at the further end with a small piece of lead. It will hold about two ounces of oil. It is fitted in an ordinary cartridge shell, and fastened to it by means of cotton shreds. The cartridge is put into a breechloader, and the trigger is pulled. The cotton connecting the cartridge and the shell is ignited by powder. It is burned, and the cartridge, filled with oil, is sent spinning away over the waves. Then, at any point the navigator may wish, the cartridge, because of the lead at the head, will sink into the waves. The oil being lighter than the water, rises to the top of the sea, and spreads over it like a film over the waves. By means of these cartridges a path an eighth of a mile broad can be made through the heaviest of seas.—Court Journal.

The crow is er mighty peart bird, but, for all his fine looks he sucks eggs jess the same.

Some folks kin 'tend to other people's business a blamed sight better'n they kin to their own.

'Tain't the hardest licks that allus drives a wedge in the furdest; sometimes gentle taps 'll make it stick a heap the best.

Hard times will cause the most stupid to become intelligent enough to try and find out what the matter is.

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Vas Bender Henshepecked?

ANY shentleman dot vill go round pehind your face, und in front of your back apout sonicings, vas a shvindler. I heard dot Brown says veek povore next apout me I vas a henshepecked huspand. Dot vas a lie! De proof of de eating vas in de puddings: I am married twenty year already, und I vas yet not pald-headed. I don't vas oondcr some pottygoats gofornments; shtill I tinks it vas petter if a feller vill insult mit his vife und got her advices apout sometings or oder.

Dem American vomans don't know sometings nefer about his huspand's peeness, und ven dem hart times come, und not so much money comes in de house, dot make not some tiference mit her. Shtill she moost have vone of dot pull-pack-in-de-front hoop-skirt-pettygoats, mit every kind trimmings. Pooty soon dot huspant gets pankerupted all to pieces. Dey send for de doctor; und ven de doctor comes de man dies. Den dot vomans vas obliged to marry mit anoder mans vot she don't may be like mit four or six shildrens, on account of his first vife already, und posscably vone or two mudders-in-law,—vone second-handed, und de oder a shtep-mudder-out-law. Den she says mit herself, "I efen vish dot I vas dead a little."

Now if a Chermans goes dead, dot don't make a pit of tiference. Nopody vould hardly know it except maype himself. His vife goes mit de peeness on shust like notings has happened to somepody.

American vomans und Cherman vomans vas a tiferent kind of peobles. For in-shtinct, last year dot same feller, Mr. Brown, goes mit me in de putcher peeness togeder. He vas American man,—so vas his vife. Vell, many time ven efery peobles has got de panic pooty bad, dot vomans comes to her huspant und says she moost have money. Den she goes out riding mit a carriages.

Vonce on a time, Brown says to me, "Bender, I vouldn't be henshepecked." So he vent off und got himself tight—shust peacuse his vife tells him, bleaso don't do dot. Den he sits down on his pack mit de floor, und if I am not dere dot time he never vould got home.

Vell, dot night, me und my vife, ve had a little talk apout sometings; und de next tay I says to Brown, "Look here vonst! My vife she makes sausages, und vorks in dot shtore; also my taughter she vorks py the shtore und makes head-skees, und your vife vas going out riding all de times mit de horses-car, und a patent-tied-pack-cardinal shtriped shtockings. Now your vife moost go vork in de shtote and cut beefshteaks, und make sauerkraut, or else ve divide not equally any more dot profits."

Vell, Brown goes home und he tells his vife apout dot. Den she comes pooty quick mit Brown around, und ve had a misundershtanding apout sometings, in which eferypody took a part, including my leetle dog Kaiser. Pooty soon up comes a policesmans und arrests us for

breeches of promise to keep de pieces, und assaulding de battery; or sometings. Den de firm of Bender & Brown vas proke up. I go apout my peeness, und Brown goes mit his peeness. My vife she helps in de shtore. His vife goes riding mit de horses-car, und efery nights she vas by de theater.

Vot's de gonssequences? Along comes dot Centennial panie. Dot knocks Brown more higher as two kites, py Chimminy! My income vas shtill more as my outcome. But Brown, he goes 'round dot shtreets mit his hands out of his pockets, und he don't got a cent to his back.

A Word for the Boy.

The natural history of a boy is an interesting study. It is hard for the old folks to look at things from his standpoint, because their memories are short. However, he will grow old soon enough, and the era of mud pies and marbles will fade only too quickly.

Only a boy, with his noise and fun,
The veriest mystery under the sun;
As brimful of mischief and wit and gloo
As ever a human frame could be,
And as hard to manage as—Ah! Ah, mo!
'Tis hard to tell,
Yet we love him well.

We can't see why it should be fun for him to put a bit of orange peel on the sidewalk and then watch until the unwary traveler lies on his back, spluttering all the oaths which the living and dead languages afford, or to tie a string from the door to the lamppost just opposite, high enough to knock off everybody's hat who hurries along, or to slip out the tailboard of a lemon cart and then start the horse on a run, while the dismayed vendor gnashes his teeth and expresses the wish that the cholera would come quickly and make short work of the little rascals. No, we can't see the sport in all that; but twenty years ago we did. We can't remember that we ever stopped up the chimney and filled the house with smoke, or put particles of gunpowder in the middle of the old gentleman's cigar and then watched for the explosion, looking so meek and absorbed in our geography lesson that the victim of our mischief thought there must be a mistake somewhere, and that if he thrashed us he would do injustice to an innocent student. Well, that is probably what we did, never theless, and that is just what other boys are doing nowadays.

Only a boy, who will be a man
If nature goes on with her first great plan;
If water, or fire, or some fatal snore
Conspire not to rob us of this our heir,
Our blessing, our trouble, our rest, our care,
Our torment, our joy,
"Only a boy."

Dr. Laurent, of Rouen, France, considers boiled milk less healthy for young infants than milk which has not been boiled. Although boiling destroys microbes, it also destroys constituents of the milk which act as ferments and render it more digestible, especially in the case of babies.

Using the Eyes on FineWork.

MR. BRUNDELE CARTER, in his "Good and Bad Eyesight," an excellent little book, takes the ground that the habitual exercise of the eye upon fine work, instead of being injurious to the visual organs, tends to develop and preserve them. On this point he says:—

"The man who would preserve the full integrity of his functions to a ripe old age must avoid excesses of every description, and must endeavor to employ the higher faculties of his mind somewhat more energetically than is now always customary. A time comes to every one when the physical powers begin to decay, and then, unless the brain has been kept active and recipient by exercise, there is nothing left to live, and the man perishes. We say that he died of gout, or of over-eating, or of heart disease, or of kidney disease, or of the failure of the particular organ which was the first to exhibit symptoms of the approaching end. In reality he has died of stupidity, artificially produced by neglect of the talents with which he was endowed. That which is true of the organism as a whole is true also of its parts, and the eyes, among others, are best treated by an amount of systematic use which preserves the tone of their muscles and the regularity of their blood supply. The acuteness of sight, moreover, is in a great degree dependent upon the mental attention habitually paid to visual impressions, and I have often observed this acuteness to be below the natural average in agricultural laborers, who, if able in some sense to read, were not in the habit of reading, and who were not accustomed to look carefully at any small objects. I have even had reason to think that the wives of such men were indebted to their household needle-work for the maintenance of a higher standard of vision than that of their husbands, and I have no doubt that idleness of the eyes, if I may use the expression, is in every way hurtful to them, and that proper and varied employment is eminently conducive to their preservation in beauty and efficiency."

Ink-Erasing Fluids.

A newly patented composition for the removal and erasure of writing-inks or writing-fluids from paper, cloth and all other substances, which writing fluids and inks may come in contact with without injury to the paper or other substance, consists of the following ingredients, viz: Four quarts of water, four ounces of citric acid, twelve to sixteen ounces of strong solution of borax and three-quarters of a pound of chloride of lime. In preparing the composition two quarts of water which had been previously boiled and cooled are taken. Four ounces of citric acid are added, and, after the acid has been dissolved, six to eight ounces of a strong strained solution of borax are added, after which the whole may be put in a bottle or suitable receptacle.

HINTS FOR THE SICK.

"Don'ts for the Sick-Room."

Don't light a sick-room at night by means of a jet of gas burning low; nothing improves the air sooner. Use sperm candles, or tapers which burn in sperm oil.

Don't allow offensive matters to remain; in cases of energy where these cannot be at once removed, wring a heavy cloth, for instance like Turkish towelling, out of cold water, use it as a cover, placing over this ordinary paper. Such means prevent the escape of odors and infection.

Don't forget to have a few beans of coffee handy, for this serves as a deodorizer, if burnt on coals or paper. Bits of charcoal placed around are useful in absorbing gases and other impurities.

Don't have the temperature of a sick-room much over 60 degrees; 70 degrees are allowable, but not advisable.

Don't permit currents of air to blow upon the patient. An open fire place is an excellent means of ventilation. The current may be tested by burning a piece of paper in front.

Don't give the patient a full glass of water to drink from, unless he is allowed all he desires. If he can drain the glass he will be satisfied; so regulate the quantity before handing it to him.

Don't neglect during the day to attend to necessities for the night, that the rest of the patient and the family may not be disturbed.

Don't ask a convalescent if he would like this or that to eat or drink, but prepare the delicacies and present them in a tempting way.

Don't throw coal upon the fire; place it in brown paper bags and lay them on the fire, thus avoiding the noise, which is shocking to the sick and sensitive.

Don't jar the bed by leaning or sitting upon it. This is unpleasant to one ill and nervous.

Don't let stale flowers remain in a sick chamber.

Don't be unmindful of yourself if you are in the responsible position of nurse. To do faithful work you must have proper food and stated hours of rest.

Don't appear anxious, however great your anxiety.

Don't forget that kindness and tenderness are needful to successful nursing. Human nature longs to be soothed and comforted, on all occasions when it is out of tune.

Take it as a rule, the most violent poisons, and the substances that produce the most deleterious effects on the human system, are from the vegetable kingdom.

The mineral drugs which may cause harm are few in number, and, if we except arsenic, are not especially violent poisons. There is a considerable amount of poisoning from lead, but not through its medicinal uses; and the same may be said at the present time of mercury. In

fine, it is the purely vegetable drugs which are the most dangerous, because it is these which stimulate the brain or benumb the senses, induce morbid habits, and eventually establish physical degeneration. We wish that the public could be made to understand this, when it is confronted with alluring notices of the perfect safety and harmlessness of "purely vegetable" drugs.

Remedy for Neuralgia.

DR. JOHN T. METCALFE, a well-known physician of New-York, writes to the Boston Medical and Surgical Journal that the following formula was learned by him: from one of his patients whom he had sent to Cuba with the hope that a change of climate would afford relief from sciatica. A French physician who there attended him used this remedy with the best results, and Dr. Metcalfe has tried it so often since with success that he speaks of its value with great confidence.

Equal parts of the tinctures of aconite root, colchicum seeds, belladonna, and actea racemosa. Six drops to be taken every six hours until relief is felt.

The doctor says that "as an internal remedy it is worth all others put together of which I have knowledge."

PHENOL CAMPHOR. Dr Theodore Schaefer, of Beecher, Ill, says that he noticed, in Dec, 1882, the fact that when crystallized carbolic acid is liquefied by means of heat, and camphor is gradually added, a permanent liquid is obtained which is colorless, refractive, possesses the odor of camphor without a trace of that characteristic of carbolic acid, and has a sweetish camphoraceous, but biting taste, not so caustic as that of carbolic, but somewhat benumbing to the tongue. It is soluble in alcohol, ether, chloroform, and ethereal oils, but is insoluble in water, and is heavier than the latter. It burns with a smoky flame, and possesses the advantage over carbolic acid of being less irritating and caustic, and of having a pleasant odor.

Dr. Schaefer has used it successfully for lessening the pain of toothache and in growing toe nails and as a local application in certain parasitic skin affections.—*Boston Med. and Surg. Journal.*

TOOTHACHE REMEDY.

Dr. J. R. Irwin writes to the North Carolina Med. Journal that one of the best and most pleasant things that can be used to relieve this painful state of the dental nerves is chewing cinnamon bark. It destroys the sensibility of the nerves and suspends the pain immediately, if the bark is of good quality. "After repeated trials, and in different cases, I am convinced that it is generally as efficacious as any of the other remedies suggested for odontalgia, and not attended with the unpleasant consequences of creosote carbolic acid, etc., which relieve the pain but leave the mouth as sore and painful as the tooth was previously, though these

results are usually due to carelessness in using."

Corn Remedies.

We take the following from the American Druggist:

The best kind of application will be one which remains for some time in contact with the corn. Among those which have been reported as really efficacious are the following:

- Extr. Cannabis Indica..... 10 gr.
- Salicylic Acid.....50 gr.
- Collodion.....1 fl. oz.

Mix and dissolve. It is applied by means of a camel's-hair pencil, so as to form a thick coating, for four consecutive nights and mornings. The collodion at once covers and protects the corn from friction. The Indian hemp acts as an anodyne, and the acid disintegrates the corn, so that after a hot bath on the fifth day, it will usually come out, adhering to the artificial skin of collodion.

Another similar preparation, also suggested by a Russian apothecary, is the following:

- Turpentine.....30 gr.
- Salicylic Acid.....45 gr.
- Collodion.....1 fl. oz.

Still another is Baudot's Corn Plaster, the formula for which we print below:

- Resin Cerate600 gr.
- Galbanum Plaster.....600 gr.
- Subacetate Copper.....230 gr.
- Turpentine.....75 gr.
- Creosote.....45 gr.

Mix and make a plaster.

There are a number of proprietary corn plasters which contain nearly the same ingredients as the preceding, merely ringing the changes.

Laroche's Corn Plasters are made as follows:

- Olive Oil.....30 parts
- Yellow Wax.....10 "
- Wheat Flour.....90 "
- Acetic Acid.....60 "
- Boric Acid.....30 "
- Oil Lavender.....3 "
- Vinegar.....30 "

Mix. Apply to the corn for 24 hours. This is a proprietary preparation, which has the above formula, according to Hager.

A patented fluid for removing ink from paper or parchment, in order to instantly rectify a mistake or clean off a blot without any injury whatever to the printer's ink upon any printed form—such as a deed, mortgage, or bill-head, or the ruling upon any mill-ruled paper—such as legal cap, foolscap, etc.—saving the time and labor of scratching, and leaving the paper or parchment as clean and good to write upon as it was before the mistake or blot was made, consists of one ounce of chloride of lime, combined with two drops of acetic acid.

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HOUSEKEEPERS' HINTS.

Never wait for a thing to turn up. Go and turn it up yourself. It takes less time, and it is sure to be done.

Eggshells crushed into small bits, and shaken well in decanters three parts filled with cold water, will not only clean them thoroughly, but will make the glass look like new.

Be very particular about disinfecting the kitchen sink. Washing soda, two tablespoonfuls to a gallon of boiling water, makes an excellent wash to pour hot into the sink at night after you have finished using it.

To make a gloss on white linen mix up cold water starch and add to it a very small quantity of borax and four or five drops of turpentine. Iron the articles until perfectly dry, after which damp the breast again with a damp cloth, and iron again, rubbing hard until a brilliant gloss is obtained.

It is said that flies may be kept from windows, mirrors, glass-cases, etc., by washing the glass with water in which an onion has been soaked long enough to give the water a slight onion smell. A writer in a horticultural journal says that green fly and other insects may be kept from plants by washing them with an infusion of quassia, 1 lb. to 1 gallon.

To remove ink from paper or parchment the end of the pen holder is dipped into the fluid and applied to the writing without rubbing. When the ink has disappeared the fluid is taken up with a blotter. To remove stains from laces, etc., the stained part is dipped into the fluid and then rinsed in clean water.

After long use sponges are liable to smell very badly unless carefully cleaned every day. By rubbing a fresh lemon thoroughly into the sponge and then rinsing it several times in lukewarm water it will become as sweet as when new.

Paro a fresh lemon very carefully, without breaking the thin white inside skin, put it inside a wild duck and keep it there for forty-eight hours, and all of the fishy taste so disagreeable in wild fowls will be removed. The lemon should be removed and a fresh one put in its place as often as every twelve hours. A lemon thus prepared will absorb unpleasant flavors from almost all meat or game.

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

CUBAN COFFEE.—Put three pints of rich, sweet milk in a coffee pot, and let it boil. When boiling put in a tea-cupful of ground coffee, and boil five minutes. Strain, and serve.

HOW TO MAKE SOAP.—I like old-fashioned, home made, soft soap best for all ordinary rough work. I did not know how to make it, so I have always had my grease made up away from home. But it was not always satisfactory, and on due deliberation, I determined to make soap myself. A scholarly lady of many years' experience as a housekeeper told me that no one without a good, practical knowledge of chemistry could succeed in making soap. Unfortunately, I was like Miss Pallas Andora Von Blurkey—my knowledge of chemistry was murky, chemical experiments being twenty years behind me with my school days. But I had made up my mind to make soap, and "when a woman will, she will, you may depend on it." Instead of chemical knowledge I thought I would substitute perseverance with what little common sense I could muster, and so I went to work.

The wood we burned was hickory, sugar beech, and oak, cut green and dried before using. I was careful to save ashes that we free from burnt walnut shells or stone coal ashes, as either will prevent the formation of soap. When a sufficiency of ashes had been saved, I made a small platform with a bench and some boards, covered it entirely with a piece of zinc, having the back part a little higher than the front, so that the lye could be caught conveniently. I placed a barrel upon this platform, from which a part of the bottom had been removed, put a little clean straw, and filled it about one fifth full of ashes. I then sprinkled a gallon of slacked lime in the barrel, after which I filled full of ashes, pressing the contents occasionally with a stick of wood. I poured rain water on this, and in twenty-four hours the lye began to run.

I have a large, iron kettle, and an iron ring with three long feet; the kettle fits into the ring, and I am not troubled with forked sticks and a pole upon which to swing my kettle. A stationary kettle is much more convenient than a swinging one. I put six gallons of very strong lye into the kettle, together with eighteen pounds of clear lard and tallow. After boiling it a short time it began to look soapy, but continued boiling did not improve it. By testing it I found it to be very strong, so I poured three gallons of rain water into the kettle, and the result was eleven gallons of very excellent soap. I think I might have made as much more from that barrel of ashes.

One of my neighbors called across the fence and told me that, as I had gone into the soap business, she wanted me to try her mode of making hard soap. I did so, and made twenty pounds as white as the Ivory, at a cost of forty cents. The following is the recipe: 5 pounds of soda ash, 2½ pounds of lime (unslacked), 12 gallons of rain water, 10 pounds lard, 2 ounces borax. When the water boils add the soda ash, lime and borax. After it is thoroughly dissolved, pour the mixture into a tub, and when it is cool, pour off carefully, avoiding the sediment as much as possible; then put this mixture and

the lard into the kettle and boil fast for two hours. When cold, cut it out and dry.

Two New Foods.

It is said that two extremely valuable articles of food are now prepared from skimmed milk by a new process. It has long been known that skimmed milk was a most useful food for fattening pigs. On the same principle, perhaps, it has been utilized as food for human beings in a form which is claimed to be highly healthful and nutritious.

The process used separates the solids of the skimmed milk from the water, and makes of them two food articles. The skimmed milk is heated and rennet mixed with it, which separates it into curds and whey. The curds are pressed and dried and cut into blocks. These blocks of caseine are then mixed with bran or meal and form a most valuable food for cattle. They may be mixed with linseed meal or cottonseed meal.

Now for the whey. It is mixed with a like amount of skimmed milk. All the water is next evaporated from the mixture. A solid, cheesy, substance remains. It is cut into blocks and roasted. This product is what is claimed to perform so important a part in human food. To the roasted substance is given the name lactoserine. The way to use it as food is to grind it and add it to coffee or cocoa in the proportion of a third or half. It makes coffee less stimulating and more nourishing and digestible.

By the introduction of lactoserine into coffee and chocolate these drinks will become at once cheaper and more healthful. An excellent drink can be made from the lactoserine alone, by steeping and slightly boiling it, a drink at once delightful to the palate, and containing the richest of food materials besides Lactoserine, indeed, might to some extent take the place of meat.

THE EIFFEL TOWER.—In addition to the lighthouse there are several points connected with this great tower of interest to electricians. During the building of the tower the telephone proved of great use as a means of communication between the men at work at the top and those engaged below; and the various platforms are now all permanently in telephonic connection with one another. Special provision has been made to protect this huge lightning conductor from lightning. Eight cast iron pipes, 19 inches in diameter, connected to the ironwork of the structure, pass through to the water-bearing strata 60 feet below the level of the Seine, while at the summit soars a long pointed rod of the ordinary description. Bent on vindicating the practical utility of the Eiffel Tower, the French have been at great pains to enumerate the various scientific possibilities of the structure. First and foremost, there is the laboratory at the top, for which great things are predicted in the way of meteorological observations and discoveries in atmospheric electricity.

All About Summer Dinners—Receipts for Dainty Dishes.

The dinner in summer should be a much lighter, more dainty meal than in winter. Let the cloth be pure white damask, with little color displayed in the decorations, except in that furnished by the flowers. Little Neck clams are, of course, particularly nice to introduce the soup, which should be a clear consommé or a delicate cream soup. The heavy English soups, like calf's head and oxtail, belong to the winter table. Mulligatawny is an Indian soup, which belongs to summer, and is properly served with a chicken or game dinner. Most varieties of fish are only in season in summer. The greater part of the fish sold in the winter is refrigerated, and cannot be compared in flavor with perfectly fresh fish, for no refrigerated food loses so much by being frozen as fish. Heavy, hot roasts of beef or mutton may often be discarded on a warm summer's day for broiled lamb-chops served with maître d'hôtel butter; or for fried chicken or broiled cutlets; or for a delicately crisp roast of spring lamb with mint sauce.

Curries belong to summer, and they offer an agreeable change to the appetite, which has become jaded by a monotonous winter diet. A bottle of curry-powder should be purchased at the beginning of each summer season to insure it's being fresh; as it costs but 25 cents a bottle it is no great extravagance to throw out what has been left over from the previous year, and is probably stale. Chicken and veal are the most suitable meats for a curry, but lamb and some varieties of fish are also delicious prepared in this way. Fricassees of lamb, chicken and veal are always welcome summer meals.

As a rule the diet should be more vegetarian in summer than in cold weather, when the green herbs, roots and fruits of the earth are in perfection. Wise gardeners arrange the sowing of their crops so that there is a continuous supply of fresh, tender green peas and corn and other choice vegetables from the first picking till the frost appears. It is a little more difficult to insure tender salad greens. Nothing grown for this purpose in the heat of midsummer is ever so crisp and delicious as the lettuce and other plants that spring out of the cool earth in early spring. They are nature's own purifiers of the blood, which has become clogged with the heavy meat diet of winter. Lettuce that grows in a head is not as much cultivated throughout the country as it should be, though it can always be had in Boston, New York and other large markets. The heart leaves of this lettuce make the most delicious salad greens. The dark green leaves that grow on the outside of the head, like the green leaves of cabbage, should be thrown away with the stalk, as they are not fit for salad. Only the bleached head, which is crispy and cream white, is used.

There is no excuse for heavy desserts in summer. Light batter puddings are almost the only hot pudding suitable for warm weather. The variety of cold custards, iced desserts and creams are so large that there is no excuse for greasy, rich pies and puddings. Good housekeepers need not be reminded that perfectly ripe fruit is to be served in perfection ice cold, but never iced.

—New York Tribune.

Recipes.

HOP BEER—Two handfuls of hops, two pail-

fuls of cold water, one pint of malt; boil five minutes, then strain it; if very bitter, add cold water; put in half a pint of yeast, one pint of molasses; put it in a keg to ferment, and next day it may be drunk.

STEWED SMALL FRUIT.—Persons with whom many of the small fruits, especially currants and strawberries, disagree when eaten raw, can eat them with impunity if they are stewed. Allow from one-quarter to one-half pound of sugar to each pound of fruit, according to its acidity, and stew only until done. This is an excellent way to prepare fruit for children.

BERRY FRITTERS.—Mix a tatter of one cup of flour, one-half teaspoonful of baking-powder, a pinch of salt, two eggs, one tablespoonful of olive oil or melted butter. Sift the flour, salt and powder together; add the oil, the eggs, well beaten, and the milk. The batter should be of a consistency that it will run in a continuous stream. Mix any berries with this—whortleberries, blackberries, raspberries, etc.—in the proportion of one cupful of berries to one and a half of batter. Drop in tablespoonfuls in hot lard, and fry a light brown. Serve with sugar or sauce.

CHICKEN SOUP WITH CREAM.—Three pints of the water in which a chicken has been boiled, with all fat removed, one pint of rich cream, four eggs, one cupful of bread-crumbs, salt, pepper and celery salt. Heat the water to the boiling point. Boil the eggs twenty-five minutes and mash the yolk with the bread crumbs which should be softened in a little milk. Heat the cream to near boiling, stir it gradually into the eggs and crumbs, pour the mixture into the chicken water and boil five minutes. Season to taste with salt, pepper and celery salt, and a little onion, if preferred. Toasted crackers may be added.

butter, a gill of vinegar, and a gill of water. Put the butter in a crockery dish on the stove, and when it is melted stir into it a teaspoonful of flour, add a pinch of grated nutmeg, salt, pepper, some parsley, then the fish. Pour over it the vinegar and water, and put in a moderately-heated oven, where it should remain till done. Serve in the dish in which it is cooked.

PICKLED PEACHES.—One quart of good vinegar to three pounds of sugar. This will be enough for a peck of peaches. Boil the skin stick five or six cloves in each peach and boil a dozen or so at a time till all are tender. Take out with a fork, lay in a jar. When all are done, strain the vinegar over them.

TOMATO PICKLE.—Slice thin a peck of full-grown green tomatoes. Pour over them vinegar enough to cover, and add, for each quart of vinegar, of whole spices an ounce of the following: pepper, cloves, allspice; two ounces white mustard seed, and two onions chopped fine. Boil all together one minute, and set away to cool. In a week it will be ready for use. This is an old and well-tried recipe.

Beating the Gas Company.

A business man in this city has found a new use for the electric light. After he closes up for the night he takes his books, pen, and ink and, seating himself on a nail keg under the arc light, proceeds to post up his accounts, thus saving the cost of gas and at the same time enjoying the cool breeze out of door—if there is any.—Middle West Mercury.

TURKEY PATTIES.—Mince part of the breast fine, season with salt, nutmeg, grated lemon, white pepper and a little butter warmed; fill the patties and bake.

VEAL SAUSAGE.—Chop half a pound of lean veal and fat bacon very fine; add sage, salt, pepper and allspice to taste; beat well, roll into balls, flatten and fry them.

BROILED VENISON.—Cut thin slices, mix stale bread crumbs with pepper and salt, egg the slices, dip into the seasoned bread; broil over a clear fire. Serve with a gravy sauce.

MIRADES.—Four eggs beaten very light, one cup of butter, two teaspoonfuls of baking powder, and only flour enough to roll out; roll thin, cut in squares, and fry in hot lard. Excellent coffee cakes.

CORN STARCH AND EGG OMELETS.—Four eggs well beaten; two tablespoonfuls corn starch, mixed with a half-cupful of milk; add pepper and salt to taste, and fry in hot lard.

BROILED HAM.—Should the ham be very salty, soak the slice to be used in warm water, letting it remain about twenty minutes before broiling. Then take out, wipe dry, and broil on a gridiron, turning often; season with pepper and butter.

COFFEE CAKE.—One cup of butter, one cup of sugar, one cup of molasses, one cup of cold coffee, four or five cups of flour, one pound of raisins (only one and one half cups are necessary). Put the raisins in the coffee; spice to taste.

LIVER HASH.—Boil a calf's liver till it will crumble. Drain it, and cut it in small pieces. Strain the water in which it was boiled, and thicken it with a piece of butter rolled in flour. Pepper and salt; and a few herbs must be added, and the mixture boiled up. Put the liver on a deep dish with the finely grated crumbs of a stale loaf—about half as much bread as liver. Set the dish in the oven five minutes, pour on the gravy, and serve hot.

BREAKFAST ROLLS.—To one pound flour allow one ounce of butter, one egg, a teaspoonful of baking powder, and sweet milk enough to make a soft dough. Rub the butter and flour well together, add the egg, beaten till light, a pinch of salt, and the milk, till a soft dough is mixed. Let it stand two hours to rise. When light, knead very little, form into rolls and bake in a quick oven.

APPLE FRITTERS.—Make a smooth batter of half a pound of flour, three eggs, and half a pint of sweet milk; Cut a dozen large, juicy apples into slices, after peeling and coring them. Throw the slices in the batter. Have ready a pan of equal parts of lard and butter, boiling hot. Take the batter up in a ladle, allowing a slice of apple to each fritter. Fry brown, drain a moment, and serve with powdered sugar and nutmeg.

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WHAT TO DO IN EMERGENCIES

From two of the valuable papers on "Domestic Nursing," contributed to the Christian Union by Miss E. R. Scovil, of the Massachusetts General Hospital in Boston, we call and condense the following extracts for the benefit of our non-professional readers:—

When an accident happens there is too often valuable time lost in frantic rushing hither and thither, or in hasty application of unsuitable remedies that do more harm than good. A little self-possession and the exercise of a certain amount of common sense will enable one to be of the greatest use at such times, and perhaps even the means of saving life itself.

Every household should have a store of simple remedies, and also antidotes for some of the more common kinds of poisons. They should be kept where they are easily accessible,—not in a locked closet, of which the key is sure to be lost at the very moment when it is most needed,—and in a place well known to each member of the family.

In very severe cases of burns or scalds the nervous system is so prostrated by the shock that there is often less suffering than when the injury is slighter. The pulse will be small and quick, and a stimulant should be administered without waiting for the doctor. A teaspoonful of raw brandy, or a tablespoonful in an equal quantity of water, may be given.

The whole theory of dressing is to exclude the air. The more effectually this is done the greater will be the relief afforded. When only a small surface is injured, an artificial skin may be formed with flexible collodion; or if that is not at hand common mucilage or gum arabic dissolved in warm water will answer: As one layer dries another should be painted over it.

An excellent remedy for burns and scalds is a mixture of lime-water and sweet or linseed oil in equal parts. Another excellent one is bicarbonate of soda. The common kind used for cooking purposes may be employed. A thick layer should be spread over the part and covered with a light wet bandage, keeping it moist and renewing it when necessary.

When the clothing takes fire it is well if the victim have presence of mind to stand perfectly still. Motion fans the flame and causes it to burn more quickly. He many throw himself on the floor and roll over and over, but never move from place to place seeking help. A woollen shawl, piece of carpet, or rug may be wrapped tightly around the person, not covering the face, and if there is time to wet it so much the better, but there is not an instant to lose, particularly if the clothing is of cotton. The great object is to prevent the flames from getting down the throat and the chest from being burned.

In a severe cut on the finger, when the flow of blood renders dressing it a matter of difficulty, it may be checked by tying a string tightly around the base of the finger. It must then be washed in cold

water, and the cut can be dressed at leisure with diachylon or court plaster, and the string removed.

Bleeding from the nose may be stopped by lying flat on the back, with the head raised and the hands held above it. The nose must be covered with a cloth filled with pounded ice, or wrung out of ice water. The head should never be held over a basin, as the position encourages bleeding. The blood may be received in a wet sponge.

When one coughs or spits up blood the first thought is that it must be from the lungs. A slight knowledge of the characteristic of the blood from different parts that may come through the mouth will sometimes save much needless anxiety. Blood from the lungs is always bright red in color, because it has just been purified by contact with the air. It is frothy, mixed with mucus, in small quantity, and is usually coughed up. Blood from the stomach is dark red, almost black, is mixed with particles of food, comes in large quantities, and is vomited. Blood from the mouth and gums is of a red color, and usually mixed with saliva. Unless it has first been swallowed, it is not vomited or coughed up.

In haemorrhage from the lungs the head and shoulders must be raised. Some physicians recommend a tablespoonful of table salt to be given in a tumbler of water. It is always safe to give cracked ice. Bleeding from the stomach may be checked by the application of a mustard plaster over the stomach. Cracked ice should be given and the doctor sent for.

In bleeding from wounds or recent amputation there are three things that may be done.

First, press the fingers or hand over the bleeding point.

Second, press on the main artery supplying the wound; or, if this cannot be found, apply a bandage as tightly as possible above the wound. An excellent tourniquet may be improvised by knotting a handkerchief loosely around the limb, thrusting a short stick through it, and twisting it tight. The blood from an artery is bright red and comes in spurts with each beat of the heart, while that from the veins is a dark purplish color and flows in a steady stream. When the bleeding is from an artery the pressure should be applied between the wound and the heart, when from a vein the limb must be compressed beyond the wound.

Third, raise the part above the rest of the body, that the blood may drain out of it, and support it on pillows. It should be bathed in ice water and have ice wrapped in cotton cloths laid on it. If faintness ensues the sufferer should not be immediately roused, as this is nature's remedy and acts by lessening the force and activity of the circulation. A physician should be called in as soon as possible.

When poison has been swallowed the first thing to be done is to get it out of the stomach as soon as possible, before it has been absorbed into the system. As a

stomach-pump does not form part of the furniture of an ordinary house, this must be effected by means of an emetic. Should none other be accessible, stir a tablespoonful of mustard into a tumbler of water, and give one fourth of it at a time, following each dose with a cup of warm water; table salt will do as well, using as much as the water will dissolve. When vomiting is over, the whites of two eggs stirred in a tumbler of water may be given, and as much warm milk as can be taken.

If an alkali, as potash or lime, has been swallowed, give any acid, lemon juice for instance, to neutralize it; without waiting for the emetic to act.

In opium poisoning, after an overdose of laudanum, etc., keep the person in motion, dash water in the face and on the chest; slap the chest with a wet towel, and give strong coffee. If the breathing is sluggish try artificial respiration. There are several ways of doing this. One of the best methods is to take hold of the arms above the elbows, draw them, above the head until the hands meet, lower them bending the elbows, and bring them up over the stomach, pressing them on it to expel the air from the lungs. This must be repeated sixteen times in a minute.

Faintness is caused by the interruption of the supply of the blood to the brain. The head should be placed lower than the body, that the blood may run toward it. Tight clothing should be loosened, particularly about the waist and throat, cold water sprinkled on the face, and smelling-salts held to the nose. Great care should be taken that strong ammonia is not used, lest the olfactory nerve be injured. A little stimulant may be given when the person begins to recover.

The symptoms of hysteria are sometimes very alarming, and it is difficult to distinguish between real and hysterical pain. If the mind of the sufferer can be diverted from herself the pain ceases. She rarely injures herself by biting the tongue or falling heavily. She cries out repeatedly, and cannot bear to have her eyes touched. After the fit is over she is drowsy. The liberal application of a wet towel to the face and chest will produce satisfactory results. Self-control often becomes impossible, so the utmost kindness should be combined with firmness. Scolding is worse than useless. The invalid will sometimes recover more quickly if left alone, out of sight, but not of hearing.

REMEDY FOR ASTHMA.—As a remedy for asthma the *Euphorbia pilulifera*, or pill bearing sponge, has of late attracted attention. The plant is indigenous in Australia (Queensland) and the tropical portions of Asia, Africa and South America. The decoction is made by steeping an ounce of the fresh or half as much of the dried weed in two quarts of water and reducing it by simmering to one quart, of which the dose is a wine-glassful to three or four wine-glassfuls, or of the aqueous extract one or two grains daily.

"THE MANNERLESS SEX."

The September number of the North American Review contains a short and sharp arraignment of "the mannerless sex"—the writer considers it necessary to say that he means "the weaker sex"—by Oscar Fay Adams. The arraignment is of the kind that signifies the most and is the hardest to answer, for it is a statement of facts. Four varieties of rudeness are charged to women in their intercourse with the world at large. These are: "First, the indifference with which a woman will contemplate the fact that the convenience of others has been sacrificed to her caprice. Very observable in young women. Second, the needless delay a woman often causes in making her appearance when visitors have called upon her. Most commonly noticed among women who are no longer classed as girls. Third, the unwillingness of a woman to wait for another to finish speaking before beginning to speak herself. Characteristic of nearly all women. Fourth, woman's failure to recognize the importance of an engagement. Most commonly noticed among women who have the fewest social duties." The total indifference to the rights of others shown very often by women at a railroad ticket-office, is given in illustration of one of these counts. How many persons are there who ever bought a railroad ticket who have not seen this feminine trait? A line of men is in waiting, when up rushes a woman to the ticket-seller, deposits her money, with cool unconsciousness of the contemptuous and impatient looks of the men (who, perhaps, have no time to spare before catching a train), and asks for a ticket to Blanktown. "At the post-office or at any other place where the invariable rule is 'first come, first served,' woman endeavors to reverse this rule in her own favor, and, failing to secure this reversal at times, she sets down the fact to man's lack of gallantry." It is true enough that there are plenty of men who have the same hoggish disposition, but they are never quite so exasperating as are women. But the writer considers woman as at her worst when she is shopping. "Then her hand is raised against every woman who crosses her path. From the moment she pushes the swinging doors of the first retail shop she enters, and lets them fly back into the face of the woman behind her, till she reaches her home again, she has laid herself open at every turn to the charge of bad manners. She has in her progress made tired clerks spend hours in taking down goods simply for her amusement, when she has not the smallest intention of purchasing from them. She has made audible comments upon "the stupidity and slowness of the shop girls." She has swept off from loaded shop counters with her draperies more than one easily-damaged article, which she has scorned to pick up and replace. She has jostled against other women and met their indignant looks with a stony, not to say insolent, stare."

Mr. Adams does not attempt to discov-

er the reason why so many women—perhaps enough of them to say the average woman—exhibit such indifference to the rights and feelings of others. If some one would undertake this task, his effort would no doubt be appreciated by the masculine portion of the race at least. While not attempting it ourselves, we venture to throw out the suggestion that the deference shown to women by men has much to do with it. In this country especially women are overwhelmed with delicate attentions. It is not strange that they come to expect indulgence in everything they wish. It is not strange that they look upon the world and the lesser animals (including men) in it as created to minister to their pleasure and whims. Again, women labor under the disadvantage, as regards ethical culture, of doing little real business. Contact with others on the Rialto has a wonderful influence in rubbing out conceits and unkind manners. Men understand that it pays to be considerate of the feelings of those with whom they talk and trade. Let us acknowledge that some good comes out of the selfish game of greed.

English Ivy.

The use of English ivies for the purpose of decorating living-rooms is more extensive every year and cannot be too highly commended. Being very strong, they will live through any treatment; but study their peculiarities, and manifest willingness to gratify them, and they will grow without stint. Most houses are too hot for them, as indeed they are for their owners. Neither plants nor people should have the temperature over 65° Fahrenheit. Take care not to enfeeble your ivies by excessive watering or undue heat, and you will see they will not seem to mind whether the sun shines on them or not, or in what position or direction you train them. Indeed, so much will they do themselves to render a room charming, that we would rather have an unlimited number of them to draw upon than anything else in nature or art.

Do you wish the ugly plain doors that shut off your tiny entry from your parlor, to be arched or curved, like those in the drawing-rooms of your richer neighbor? Buy a couple of brackets, such as lamps for the burning of kerosene are sometimes placed in, and screw them in the sides of the door. Put in each a plant of English ivy, the longer the better; then train the plants over the top against the sides, indeed any way your fancy dictates. You need not buy the beautiful but costly pots the flower dealer will advise, common glazed ones will answer every purpose, for, by placing in each two or three sprays of Coliseum ivy, in a month's time no vestige of the pot itself can be discerned through their thick screen.

The English ivy growing over the walls of a building, instead of promoting dampness, as most persons would suppose, is said to be a remedy for it, and it is men-

tioned as a fact that in a certain room where damp had prevailed for a length of time the affected parts inside had become dry when ivy had grown up to cover the opposite exterior side. The close overhanging pendant leaves prevent the rain or moisture from penetrating to the wall. Beauty and utility in this case go hand in hand.—Journal of Horticulture.

Rose Management.

A very successful rose grower sends to a friend the following account of his style of managing the rose. The friend says his plants are one mass of bloom from November till late spring. His method is as follows:

"You ask me how I manage my roses to have bloom in early spring. I prefer two year old plants, but use good strong one year old ones, if compelled to do so. I plant my roses out in the garden in the spring and don't allow them to bloom during the summer. About the last week in August or the first of September, take them up with all the soil that will hang to them, pot and place in a very shady place for about two weeks out of doors, watering and sprinkling all the time. I now expose them to the sun, until the foliage falls off. All this time they will be making new roots and the tops will be at rest. When the leaves have fallen, prune them. Cut back the young growth a little and then cut out the center. Place them in the greenhouse. I would place the plants in the middle of the house, but if they are on the benches over the pipes, put two inches or more of sand under the pots. Do not attempt to force them too much, but give all the air possible in the daytime. Great care should be taken not to sour the soil, syringe often. Soil is very important. If it be possible, get a lot of sods from the cow pasture, three or four inches thick, put them in a heap and add to them as one to four of cow and horse manure; turn this compost over three or four times during the summer, breaking up the sod each time. I never screen my soil for roses, nor do I use drainage in the bottom of my pots, but simply the old fibrous roots that I find in the soil at the time of potting. Turn out all your roses as early in the spring as possible, prune off the long roots, and follow directions as above given, and I will ensure you abundance of flowers from November until March. I prefer to have my roses too dry rather than too wet."—Gardener Monthly.

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THE VEGETABLE GARDEN.

BY S. V. STORM.

The idea seems to prevail among farmers that the vegetable garden is quite an unimportant part of the farm; therefore it is not given the care almost any other portion of the place receives, and in consequence of this neglect it fails to become the profitable piece of the farm which it can be made, and which it will be, if properly attended to. The woman who has a family to care for appreciates fully the benefit to be derived from a little garden, well-tilled, because the vegetables grown there render it easy for her to vary the bill of fare from day to day, in such a manner as to avoid monotony, and therefore to succeed in pleasing the palates of "men-folks," who, while protesting against the bother of a garden, do full justice to vegetables grown in it. A good garden is a year-round source of pleasure and profit to every member of the family, and is an important factor as regards health. The man who has to buy all the vegetables used in his family can understand quite well, after trying his skill at gardening with very ordinary success, the amount of money in it. If he improves on the ordinary and secures, by care and proper cultivation, a really good garden he will be convinced that it is certainly the most paying portion of his farm. Those who have good gardens are those who have tried this experiment fully, and nothing could induce them to give the garden up.

This is not what I set out to say, but so much importance do I place on the benefits of a garden that I always feel like saying something to induce those who have none to try the experiment for a year or two, feeling sure that they will not willingly be without one after that. Especially would I urge this in the interests of the housekeeper, who finds it an extremely perplexing thing to try to make something out of nothing, as most housekeepers sometimes feel they are obliged to do if a supply of vegetables are not at hand to draw from in furnishing the table.

The garden ought to be manured in the fall. A good supply should be given, for you must have a rich soil if you would grow good vegetables. If possible select that manure which has lain long enough to become thoroughly rotten; for in such a fertilizer there will be but few seeds which will grow, while a fresher manure will be quite likely to contain the seeds of weeds in immense quantities. Spread it over the soil evenly, and then plow the ground to the depth of at least a foot. A foot and a half is better. I prefer fall plowing for several reasons. It exposes the soil to the action of frost; it makes the ground mellow and dry much earlier in spring than would be the case were it not to be plowed until that season, thus enabling the gardener to make his beds several days earlier. It therefore greatly expedites spring's work which is likely to come all in a heap, in consequence of

which rush the garden is generally neglected more than it ought to be. It has a tendency to drive worms and insects deeper into the soil, where it is more compact, in search of winterquarters. A fall plowed garden can be harrowed as soon as the frost is out of the ground, because the water from melting snows is not retained as it is on land not broken apart and made porous by deep plowing.

If you do not get around to plow the

garden in the fall, be sure to clean it up out of regard for neatness. Pull up the vines and burn them. Remove all unsightly rubbish. Take in the trellises on which you have trained tomatoes. Put away the bean poles for another season's use. Fix up the broken fences, if there are any. In short, make the garden as tidy a place as you have on your farm, and in doing this you will increase in respect for it.

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