



An Improved Brooder. The Orange Judd Farmer gives comprehensive illustrations of an improved brooder.

Fig. 1 shows the brooder complete with cover raised. The hover is shown within the top. The upper dotted line shows the position of the matched board floor and the lower dotted line shows the position of the sheet iron beneath which the lamp stove is placed.

Fig. 2 shows the drum of sheet iron, or galvanized iron, which is attached to the edge of a circular opening in the floor, as shown in Fig. 3. This cut shows the floor, the sheet iron and the two inch space between them with the lamp underneath the sheet iron. The air above the sheet iron is warmer and rises through the drum, escaping

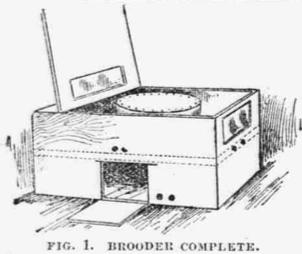


FIG. 1. BROODER COMPLETE.

through the small openings under the top, out into the brooder. A cloth curtain is hung around the edge of the broad top of the drum, forming a hover, into which the chicks go for warmth. This curtain is "slashed" up every few inches. Openings in the sides of the brooder admit air to the lamp to the space between the sheet iron and the floor above, and also ventilate the brooder chamber. These openings from the brooder chamber can be controlled by corks in very cold weather. The brooder can be made any size up

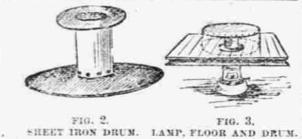


FIG. 2. SHEET IRON DRUM. LAMP, FLOOR AND DRUM.

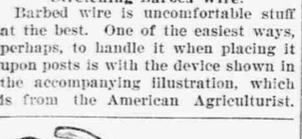
to 3x4 feet, which is large enough for twenty-five chicks. It can be heated with an incubator lamp or any good lamp with No. 2 burner and large oil chamber.

Currents for Profit.

There is no kind of small fruit that is so sure a crop if kept from the worm as the currant. It also generally sells at a good price, with the advantage to the grower that the currants will remain on the bushes two or three weeks, not only without injury, but each day growing better after they are colored. This may not altogether prevent a glut in the market, but it at least gives the currant grower more time in which to market his fruit. The only drawback to currant growing is the currant worm, but this is so easily killed by timely applications of hellebore powder that it is really an advantage to the grower who uses it in time, as it destroys the currants of so many others who would otherwise be his competitors. There is nothing usually to be made in what everybody can produce very easily.—American Cultivator.

Stretching Barbed Wire.

Barbed wire is uncomfortable stuff at the best. One of the easiest ways, perhaps, to handle it when placing it upon posts is with the device shown in the accompanying illustration, which is from the American Agriculturist.



BARBED WIRE DEVICE.

This frame can be quickly made and from it the wire can be unreeled as rapidly as a man can walk, pulling the framework after him. When his companion is ready to staple the wire to a stake, the pin is put through the side of the frame, locking the reel, when the wire can be pulled up as taut as desired.

Preparation for Clover.

Usually there is not much difficulty in securing a stand of clover, but owing to a diversity of soils there are occasionally small areas upon which the young clover plants fail to grow. To guard against this failure haul manure direct from the horse stable and scatter it thinly over those places. Straw should be used liberally for bedding, and during the winter enough manure will be made to cover several acres. The soluble parts of the manure are washed into the surface soil, where they are easily available for the young clover plant. The straw serves as a mulch, affording considerable protec-

tion should an early drouth follow. Clover haulm can be used the same way, thereby getting the benefit of any seed remaining in it. Whatever the method employed, we cannot be too thorough in the preparation for the clover crop.—Orange Judd Farmer.

How to Secure Large Potatoes.

It will pay to thin potatoes to one stalk in a place and so give all the strength and moisture of the land to those that remain. It might be well to cut all eyes of the potatoes when planted, except such as are desired to grow, and so save the trouble of thinning out the field to some extent. There is no profit in growing a large crop of potatoes unless they are of merchantable size. The largest potatoes are always found where the largest and strongest stalks grow, and the small ones where they are small and weak. It is a mistake to plant small seed, or to cut the large ones to one or two eyes to save seed and to reduce the number of plants, as the common practice is. It is much better to plant whole potatoes of good size, or, if large, to cut them at most only in halves. Of course, it will cost more to seed a field, but with good seed properly thinned, much better results can be obtained.

If one desires to raise the largest quantity possible from a few seed, great results can be obtained by taking off the shoots and transplanting, but the potatoes will not grow large. It may not be known to some people that each eye in a potato is capable of producing a large number of shoots; as fast as taken off others will grow. Usually not more than two or three to each eye will start when planted, but that number is far too many to be left to grow.—Orange Judd Farmer.

Trees by the Roadside.

Many farmers when setting out trees by the roadside make the mistake of planting only one variety, which happens to be the one that they particularly admire. But variety of scenery adds much to its attractiveness, and a row of trees of different kinds shows in the varying foliage far more beauty than a single variety could do. Besides, where there is a long row of trees, some will be on low and wet soil, and others on that which is high and dry. Besides, each kind of tree should have the particular soil that it is best adapted to. An exception to this rule of interspersing varieties is found where rows of sugar maples are planted along roadsides, to be tapped for sap when old enough. It is then economy to have the trees in unbroken rows, so that the sap may be gathered more easily. A row or grove of maples near the house will usually be tapped every spring, while the more distant sugar bush may be neglected, when the woods are full of deep snow and it is hard work to get into them.

Corn.

But for the great corn crop made in the South last season the price would be maintain high, and the cotton States would be badly stranded. The escape from the peril incident to being caught between the rocks of 42-cent cotton and \$1 corn, should afford a warning never to be forgotten.

It is among the probabilities of the near future that the Gulf States will be called upon to reverse the old order of things and ship to the West, for the unfertilized lands of that section are not responding with their old-time harvest of that cereal.

For the next few years, and perhaps always, there will be a splendid market for corn and hay in Cuba and Porto Rico, that we ought to capture and control; and when the work begins on the Nicaragua Canal the Gulf States should supply the corn and forage consumed in course of construction, as well as the cattle, mules and lumber; and later on we should make enormous shipments of these products through the great canal.—Aberdeen Ex.

Variation of Cultivated Plants.

Most of the forest trees have very little variation from their original stock when grown from seed. With trees that have been long in cultivation, the variation is so much greater that the only way to secure the identical variety desired is by budding and grafting. It is probable that cultivation and better care given to trees and plants has much to do with making new and better varieties. It is after seasons that are unusually favorable to fruit of all kinds that the best varieties have been originated. It is always worth while to plant the seed of extra choice fruit and see what variety will come from it.—Exchange.

Home-Made Cheese for Farmers.

A great deal of the complaint of over-production of dairy products would be obviated if more farmers made a practice each year of using enough milk for cheese to have a supply always on the family table. There is no better, cheaper or more healthful nutrition than can be found in cheese. It contains all the strength-giving nutrition for which meat is often eaten, and even when bought at retail, the cheese gives this much more cheaply than meat could do. Almost everybody likes cheese, and if more farmers made and used it, they would avoid the necessity of eating an excess of meat, as many now do, in hot weather.

Feeding Cotton-Seed Meal.

Cotton-seed meal is extremely difficult of digestion, and should never be given to young animals or those which from advanced age have a weak digestion. The hull which is shown by dark spots in the meal is almost entirely indigestible. Calves and pigs have been killed by eating small amounts of dark cotton-seed meal. Ruminant animals can digest it better, but it is so concentrated a food that it ought always to be fed with some bulky but less nutritious ration. A small amount of cotton-seed meal in a palful of bran mash can be eaten safely by a cow.

TOPICS FOR FARMERS.

A DEPARTMENT PREPARED FOR OUR RURAL FRIENDS.

Cuba and the American Farmer—The Farm as a Permanent Home—How to Cut Up Hogs—Traveling Post-offices for the Country.

Since the farmers of this country have learned more about Porto Rico and Cuba there has been much question as to what extent the soil products of these countries will injure home production if admitted free to our markets. As Porto Rico is now a United States possession there will be no duty on products shipped from there, and the distance will serve to keep down prices to a point where they will be of little injury to the home output. With Cuba it is different, but it is not probable that the products of the island will materially interfere with our own except in few instances. In vegetables we have little to fear from Cuba.

The main competition will be against our Southern States, and chiefly in such tropical productions as pineapples, bananas, mangoes, oranges, tobacco and sugar. With the growths of the North Cuba cannot compete, but the people of the island will in time grow their own vegetables for winter or rainy season use and also raise their own meat, thus cutting off a valuable market. At the present time we have more to fear from the free entry into this country of sugar from Cuba than anything else. If Cuba is kept an independent nation a duty will probably be kept on sugar, but if the island shall eventually become part of the United States our sugar-producing States must suffer unless especial provision is made for them.—Farmers' Friend.

The Farm a Home.

The farm is a home—not a place to be fived at to-day and moved from to-morrow, but a home to be improved and beautified—a home where orchards are to be planted, where vines are to be grown, where substantial things are to be constructed, where children are to be born and fathers are to die. Into the fields come and reap new generations; out of the fields and into the graveyard pass old generations. There is no spot on earth where God more continuously shows himself than on a farm. Here becomes understood the endearing name "Father." The God is Father to the father, Providence unrolls the heart-curling corn leaves, fills the grape skins with new wine, gives drink to thirsty cattle, beautifies the garden with many-hued flowers, perfumes the air with fragrance made among the meadows. Here, too, man is made philosophic as he beholds on every hand the "evidences of design." Faith he does not need; certainty takes the place of it.—Farm and Factory.

Cutting Up Hogs.

For cutting up the carcass of a hog should be laid on the back, upon a strong table, says Western Plowman. The head should then be cut close by the ears, and the hind feet so far below the hocks as not to disfigure the hams, and leave room sufficient for hanging them up; after which the carcass is divided into equal halves, up the middle of the backbone, with a carving knife, and, if necessary, a hand-mallet. Then cut the ham from the side by the second joint of the backbone, which will appear on dividing the carcass, and dress the ham by paring a little off the flank or skin part, so as to shape it with a half round point, clearing off any top fat which may appear. Next cut off the sharp edge along the backbone with a knife and mallet, and slice off the first rib next the shoulder, where there is a bloody vein, which must be taken out, since, if it is left in, that part is apt to spoil. The corners should be squared off when the ham is cut. The ordinary practice is to cut out the spine or backbone. Some take out the chine and upper parts of the ribs in the first place; indeed, almost every locality has its peculiar mode of proceeding.

Traveling Post-offices.

The Postoffice Department has ordered an innovation in the postal service by the experimental establishment of a postoffice on wheels, to operate in the vicinity of Westminster, Md. The service, which is to begin shortly, calls for the use of a postal wagon to travel over a designated route in rural districts. Mail boxes can be placed at some point on the route for every farmer living within a mile or two from the proposed route and mail will be collected therefrom. One important feature of the contemplated innovation, which, if successful, will be extended generally, is that it will have money order and registry matter facilities.

Grafting for a Head.

A writer in one of our contemporaries tells how he succeeded in rebuilding a tree by grafting limbs on the body of a tree. He had some trees which were not symmetrical, and some from which limbs had been broken, until they were one-sided. These were so badly crippled that it was not probable the tree would correct the fault, as it would if but slightly misshapen, so he secured some scions, and opening the bark of the body of the tree to be operated on, introduced the scions exactly as he would if budding a tree, the only difference being that the scions had several buds on instead of being a mere bud. These were then waxed and bound as a bud would be, and all of them began to grow at once, and at the end of the season had made a very satisfactory growth, with a promise of making the trees so grafted symmetrical in a very short time. It is thinking of these little things that makes successful fruit growers,

and publishing the results is what makes a man's work valuable to the world as well as himself.—Farmer's Voice.

Why You Should Keep Hens.

- 1. Because you ought by their means to convert a great deal of the waste of the farm into money, in the shape of eggs and chickens for market.
2. Because with intelligent management they ought to be all-year-revenue producers, excepting, perhaps, about two months, during moulting season.
3. Because poultry will yield you a quicker return for the capital invested than any of the other departments of agriculture.
4. Because the manure from the poultry house will make a valuable compost for use in either garden or orchard. The birds themselves will destroy many injurious insects.
5. Because while cereals and fruits can only be successfully grown in certain sections, poultry can be raised in all parts of the country.
6. Because poultry raising is an employment in which the farmer's wife and daughter can engage and leave him free to attend to other departments.
8. Because to start poultry raising on the farm requires little or no capital. With proper management, poultry can be made a valuable adjunct to the farm.—Farmer's Review.

Combined Harvester and Thresher.

The Laufenberg traction engine and combined harvester is thus described by the Scientific American: The harvester, which is used in the great wheat fields of California and the Pacific coast States, cuts a swath 28 feet wide, and threshes, cleans and sacks the grain as it moves along. It would seem that a machine cutting a strip of grain 28 feet wide would be handling straw fast enough to satisfy almost any one, but the Laufenberg machine has been built to cut a nice little swath of 52 feet and sack the grain completely clean and ready for market. While the combined harvester is not a new feature in the handling of crops on the coast, only recently, and not until the traction engine became a success in the field, did they ever attempt to cut wider than 18 feet, 16 feet being the standard machine, requiring from thirty to forty head of horses to handle it.

Wealth of the United States.

The United States constitutes the richest nation on the globe. Muhlhall furnishes these figures: United States, \$81,750,000,000; Great Britain, \$59,020,000,000; France, \$47,950,000,000; Germany, \$40,260,000,000; Russia, \$32,125,000,000; Austria, \$22,500,000,000; Italy, \$15,800,000,000; Spain, \$11,300,000,000. These computations are based upon values as shown by real estate records, buildings, merchandise and railways, as well as the circulating medium in each nation. As will be seen, our wealth is more than seven times greater than that of Spain, double that of Germany, two and one-half times greater than that of Russia, nearly double the wealth of Russia, Italy, Austria and Spain, and \$22,720,000,000 larger than that of Great Britain.

Keep Out of the City.

Why do men prefer the privations and battling and poverty of a city, when on a farm there is so much of plenty and peace and wealth? The illiterate laborer selects the town because of that sense which prompts the knowing to raise his eye above the sixpence which conceals the dollar beyond. "It is easier," says a carter, "to load a cart than to grub a clearing." And so it is, only that brush land once made clear stays cleared, while carts that are laden empty as fast as they are laden. The work with the cart waxes harder with the age of the carter. The cultivation of the land grows easier with the children of the farmer.

To Exterminate Vermin.

A writer in the Scientific American says he has cleared his premises of vermin by making whitewash yellow with copperas and covering the stones and rafters in the cellar with it. In every crevice in which a rat might be put the copperas, and scattered it in the corners of the floor. The result was a complete disappearance of rats and mice. Since that time not a rat or a mouse has been seen near the house. Every spring the cellar is coated with the yellow whitewash as a purifier and a rat exterminator, and no typhoid, dysentery or fever attacks the family.

Cultivation of Timber.

Very little of the timber now in this country is valuable for lumber, and that which will not make lumber has no other value, present or prospective. If it is to be retained, why not have the land freed from taxation? Perhaps a premium should be paid for the cultivation of timber. It seems that we must do that or do worse. The sooner we arrive at some determination the better it will be for the country. As an investment our timber lands do not now pay.—Globe-Democrat.

Potatoes in Africa.

In spite of the statement frequently made that white potatoes would not grow in Africa, the trial was recently made again, and the potatoes grew and brought forth abundantly. From this time on travelers and missionaries need not be deprived of their favorite vegetable, provided they stick to the higher altitudes. While the African-raised potatoes are a little more watery than the best American or European tubers, they are not so much so as to impair their quality to an important degree.

Spanish Wines.

Wine forms 48 per cent. of Spain's general exports.

There are still some old-fashioned people who do not believe that a social affair is a success unless the noise can be heard a block away.

Evidence of Indigestion.

Coldness of feet and limbs is almost invariably an evidence of indigestion. The coldness is due not to the weakness of the heart or feebleness of circulation, as is generally supposed, but to the contraction of the small arteries, preventing blood from entering the parts. There is generally an irritation of the abdominal sympathetic nerve centers which control the circulation of the lower extremities. This difficulty is not to be removed by exercise or by any special application to the limbs, but by removal of the causes of irritation. This may be a prolapsed stomach or chronic indigestion. Hot and cold footbaths are valuable. These act not simply on the feet and limbs, but by reflex action affect beneficially the abdominal sympathetic centers, which are in a diseased condition.

Human Power Exhausted.

In an Aberdeen bookshop an old lady was inquiring for a copy of the Bible, and the shopkeeper brought forward one at half a crown. But the old lady wanted something cheaper. A copy at 18 pence was produced, containing illustrations. But the illustrations, the old lady averred, entailed superfluous expenditure. "Then here," said the shopkeeper, "is a copy for a shilling, which contains a that's necessary for salvation." He descended from the ladder and laid it before his customer. "But hae ye no something a wee bit cheaper?" asked the old lady. "Wumman, wumman!" said the shopman, "ae' upon the Almighty to come down and sell ye his ain publications, for I can dae nae mair!"

The Highest Cross in the World.

Crosses are placed in all sorts of positions, but the monster structure that has recently been erected on the peak of the highest of the Hartz mountains can certainly claim to be the highest cross in the world. As a matter of fact the cross is a tower, and has been built more for the purpose of sight-seeing than anything else. The tower stands on the Josephshoeh Mountain, and commands a magnificent view.

The mountain itself is 1,731 feet above the level of the sea, and the cross tower is 120 feet high. The colossal structure rests on a quadrangle, shaped into an immense hall, to hold 500 people. A stairway of 200 steps leads to the top, and a hydraulic elevator will soon make travel upward easier.

Flame in His Breath.

There is a colored man by the name of Bill Watson, who is employed in the new Illinois Central yard as car repairer, who has a wonderful breath. He can take a piece of paper or any light material and by blowing his breath upon it the material will ignite. A Whig man had an opportunity of seeing this feat accomplished with a small piece of writing paper. It was lighted when he had blown his breath on it twice. He is compelled to sleep on an oilcloth and cover with the same to prevent setting fire to the bedclothing. He has been in the employ of the Illinois Central company for quite a while, and is an efficient employe.—Jackson Whig.

The Longest Head of Hair.

The woman who possesses the longest head of hair in the world is said to be Mercedes Lopez, a Mexican. Her height is 5 feet, and when she stands erect her hair trails on the ground four feet eight inches. The hair is so thick that she can completely hide herself in it. She has it cut very frequently, as it grows so quickly, enabling her to sell large tresses to hair dealers every month. She is the wife of a poor sheep herder.

In Austria 5,578 patents were granted.

In 1897, of which only 1,795 were issued to Austrians, 262 to Hungarians and 4 to residents of Bosnia and Herzegovina; that is, 2,061 of subjects of the Austro-Hungarian monarchy. The remainder, 3,517, were taken out by foreigners. Of these, Germans were most numerous, viz., 1,804; Americans were second, with 462; British subjects third, with 408, and French fourth, with 365.

"Out of Sight Out of Mind."

In other months we forget the harsh winds of Spring. But they have their use, as some say, to blow out the bad air accumulated after Winter storms and Spring thaws. There is far more important accumulation of badness in the veins and arteries of humanity, which needs Hood's Sarsaparilla.

This great Spring Medicine clarifies the blood as nothing else can. It cures scrofula, kidney disease, liver troubles, rheumatism and kindred ailments. Thus it gives perfect health, strength and appetite for months to come.

Kidneys—"My kidneys troubled me, and on advice took Hood's Sarsaparilla which gave prompt relief, better appetite. My sleep is refreshing. It cured my wife also." MICHAEL BOYLE, 3473 Denny Street, Pittsburg, Pa.

Dyspepsia—"Complicated with liver and kidney trouble, I suffered for years with dyspepsia, with severe pains. Hood's Sarsaparilla made me strong and hearty." J. B. EMERTON, Main Street, Auburn, Me.

Hip Disease—"Five running sores on my hip caused me to use crutches. Was confined to bed every winter. Hood's Sarsaparilla saved my life, as it cured me perfectly. Am strong and well." ANNA ROBERT, 49 Fourth St., Fall River, Mass.

Hood's Sarsaparilla Never Disappoints

Hood's Pills cure liver ills, the non-irritating and the only cathartic to take with Hood's Sarsaparilla.

DYSPEPSIA

"For six years I was a victim of dyspepsia in its worst form. I could eat nothing but milk toast, and at times my stomach would not retain and digest even that. Last March I began taking CASCARETS and since then I have steadily improved, until I am as well as I ever was in my life." DAVID H. MURPHY, Newark, N. J.



Pleasant, Palatable, Potent, Taste Good, Do Good, Never Sicken, Weaken, or Gripes. Do not miss. GURE CONSTIPATION. Sterling Remedy Company, Chicago, Montreal, New York.

NO-TO-BAC



SLICKER WILL KEEP YOU DRY.

Don't be fooled with a mackintosh or rubber coat. If you want a coat that will keep you dry in the hardest storm try the Fish Brand Slicker. If not for sale in your town, write for catalogue to A. J. TOWER, Boston, Mass.

A Good Garden

In a pleasure and a profit, Gregory's seed bank direct a right becoming. Gregory's Seed Bank is the most successful seedling. Get the book now! U.S. Dept. of Agr., Jan. 11, H. Gregory & Son, Marblehead, Mass.

DENSION JOHN W. MORRIS

Successfully Prosecutes Claims. Late Principal Examiner U.S. Pension Bureau. \$7500 civil war. 15 adjudicating claims, city and state.

WHEN WRITING TO ADVERTISERS please say you saw the advertisement in this paper.

Advertisement for Joo Drops and Castoria. Includes text: 'Joo Drops', 'CASTORIA', 'Vegetable Preparation for Assimilating the Food and Regulating the Stomachs and Bowels of INFANTS, CHILDREN', 'Promotes Digestion, Cheerfulness and Rest. Contains neither Opium, Morphine nor Mineral. NOT NARCOTIC.', 'Recipe of Old Dr. SAMUEL FITCHER', 'A Perfect Remedy for Constipation, Sour Stomach, Diarrhoea, Worms, Convulsions, Feverishness and LOSS OF SLEEP.', 'Facsimile Signature of Chas. H. Fitcher, NEW YORK.', 'EXACT COPY OF WRAPPED.' and '5 D. O. 57 Cts.'.

Advertisement for Castoria. Includes text: 'CASTORIA For Infants and Children. The Kind You Have Always Bought Bears the Signature of In Use For Over Thirty Years CASTORIA THE CENTAUR COMPANY, NEW YORK CITY.'