Farm and Garden

FARM WATER.

Inexpensive Filters For Purifying and Filtering It For Household Use.

One of the problems on the farm is how to obtain an ample supply of good, clear water. It is not so easy to provide well or spring water with a filter, but cistern water may be easily purified by means of one or more simple devices which may be of home construction. Much dirt in the way of soot, leaves, dead insects, droppings from birds and pollen from trees is washed into the cistern unless some means are taken to prevent it. The simplest arrangement is to have a movable section in the leader which can be turned to let the rain wash the dirt on to the ground. Then after the

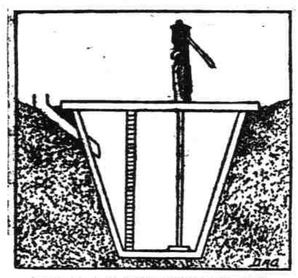


FIG. I—A SIMPLE BRICK FILTER.

roof is cleaned the balance of the rain can go into the cistern. This is objectionable in that it needs to be looked after during every rain, and frequently all the water will be lost.

The simplest form of filter is to build a partition through the cistern, laying up a soft brick wall in cement, as shown in Fig. 1. This will ordinarily give satisfaction if the impurities which collect on the receiving side of the wall are removed occasionally. Another and better form of filter is shown in Fig. 2. In this case the cut is supposed to represent a hundred barrel cistern and a filter of twenty-five barrels capacity. They are built of either concrete or brick, well cemented on the inside.

The filter is flat bottomed and is half filled with charcoal, sand and gravel in layers, the charcoal being placed in the bottom. The leader which comes from the roof should enter the filter on only a slight angle. The material in the filter will need to be removed occasionally and replaced with fresh charcoal, sand and gravel.

When a cistern is built it should be water tight so as to prevent contamination from ground water during the wet season as well as to prevent leakage of water that runs into it from the roof, and if a well is to be dug or drilled it should be located upon higher ground than the house, barn and outbuildings and some distance from the latter. The principal troubles that may be traced to an impure or contaminated water supply are, as a rule, intestinal troubles, the most dangerous being typhoid fever. The most common as well as the most dangerous contamination of the drinking water comes from the cesspool. Every precaution should be taken in locating the well to place it so as to prevent as nearly as may be any possibility of contamination.

There are as many, if not more, of the germ diseases that may be transmitted by water as by any other means, and some of the diseases are so uniformly transmitted by the water supply that they are known as water borne disease. Typhoid fever is such a disease, as well as some of the other forms of intestinal troubles. If disease may be carried by water, it is of the greatest importance that every precaution should be taken to insure a pure water supply.

A hasty examination of a water is of very little benefit and may often be entirely misleading. A water may be clear, free from any sediment or odor

FIG. II—CHARCOAL AND GRAVEL FILTER.

and may taste good and still be dangerous for drinking purposes. A chemical analysis, supplemented when necessary by a bacteriological examination, is needed to determine the quality of a given sample of water for domestic purposes. One examination is not always sufficient to decide the fitness of the water, as contamination is more likely to take place at one time of the year than another.

The amount of rainfall will influence very considerably the bacterial contents of water from shallow wells or poorly constructed cisterns. During the heavy spring rains the number of bacteria reaches an enormous figure and decreases again as the dry season progresses. All of the bacteria that are found in the water are not dangerous, but if drainage and other conditions allow contamination from outside sources there is always an opportunity for the introduction of disease producing germs.

GRASS CULTURE.

Forethought and Intelligent Supervision Insure a Good Lawn.

Great care should be taken by the gardener with his lawn. It is the canvas upon which he will paint his flower bed pictures and landscape effects. To be successful he must prepare his canvas well.

The first thing is to grade the ground, smoothing rough surfaces, making proper level stretches and gentle slopes. If possible, the lawn should slope from the house. The grading should be done so as to distribute evenly all surface water, avoiding the formation of little runs which might produce washouts.

The soil should be enriched with a liberal supply of well rotted manure. This is essential where the soil is lacking in humus; otherwise bone meal or other good fertilizer is useful, and manure often contains the seed of weeds. The ground should be plowed or spaded not less than eight inches deep, removing all the stones and similar material, and the surface made as smooth as possible. Then it is ready for sowing.

One of the best mixtures for the lawn is four parts Kentucky blue grass with one part of white clover, sown not less than five bushels to the acre. Equally good results are usually obtained by the use of redtop in place of the blue grass or with equal parts of redtop and blue grass and a little white clover. When moisture is plentiful the blue grass forms a softer turf than the redtop, but does not seem to endure drought so well. In shady places the blue grass mixture is best. Nothing but pure seed should be sown.

It is well to be liberal with the seed, not to scatter it too thinly and to reseed portions that come up poorly.

BRUSSELS SPROUTS.

Easy to Raise and Profitable if Properly Marketed.

Brussels sprouts may be easily grown in the ordinary home vegetable garden. The plant is a close relative of the cabbage and cauliflower, but instead of producing a single head forms a number of small ones in the axils of the leaves, and these heads are called sprouts and are the edible part of the vegetable. The sprouts average one or two inches in diameter.

The seed should be sown in the open ground as early as the weather permits. When the plants are three inches high they should be transplanted or thinned out into rows twenty-four to thirty inches apart and about two feet apart in the row. The plants must be well watered after they have been moved.

As the small sprouts begin to crowd the leaves should be broken from the stem to give the small heads more room. A few leaves should be left at the top of the stem where the new heads are formed.

In warm climates the plants may be left in the open ground all winter, the heads being removed as desired, but in more northern latitudes plants that are well laden with heads are taken up when frost comes and set close together in a pit or cellar or a "cold frame" or bed covered with glass. With a little soil packed about their roots they may in this way be kept all winter, being used when needed. When boiled or stewed with cream they are delicious.

GROWING RHUBARB.

A Crop That Pays Well For Very Little Outlay and Work.

The best crop, counting expense of growing and amount of land used, is pieplant. Procure some roots of the Linnaeus variety that is early, tender and, while growing very large, is less acid than many other kinds.

Prepare the bunches by putting five or six stalks in a bunch, tying it securely at the butts of stalks and again around the leaves just above the stems; then with a sharp knife cut off a portion of the leaves, leaving about a third of the green leaf on the stalk. It will wilt less quickly with a part of the leaf on than with the whole leaf or where only the stalk has been left.

The rows should be six feet apart and plants four feet in row. The only work expended on it is to cultivate two or three times early in the season and hoe it once. In the fall the rows are covered with a mulch of strawy manure.

Pull it late in the day, tie and trim the leaves, then pack it in sixty quart berry crates. It does not wilt as much if crowded in tightly.

Rhubarb may be made to yield about $35 to $40 an acre per month.

Spraying Potato Vines.

The number of sprayings it will be necessary to give potatoes depends somewhat upon the season. If rainy weather prevails it will be necessary to spray more frequently than if it be comparatively dry, not only because the rain will wash the spray material off the vines, but also because damp weather is favorable to the development of the disease. A good general rule is to begin spraying when the vines are about six inches high and spray every ten days or two weeks throughout the season.—W. J. Green.

Alfalfa and Water.

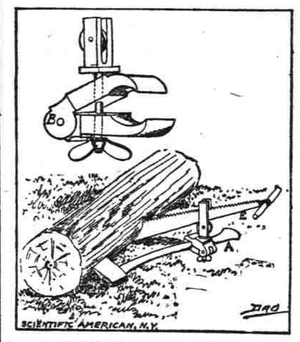
To grow alfalfa we must first of all provide a soil which is dry by nature or which is underdrained. If we dig a post hole four feet deep and find water we may know that alfalfa will not grow there. There is an old saying which expresses this, "Alfalfa will not grow with wet feet." Though it seeks water in a deeper soil and the roots penetrate very deeply indeed in an old field, we must not expect it to grow where the water rises to within four feet of the surface.

Farm and Garden

THE WOOD LOT.

Devices For Making the Cutting of Timber Less Laborious.

The increase of interest in timber raising makes the consideration of any devices of aid to the woodcutter of interest. The accompanying sketch shows a support or guide for a saw, which may readily be attached to a log or timber with ordinary tools to

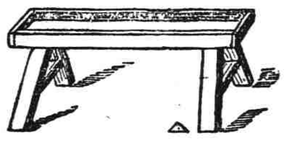


NEW LOG SAWING DEVICE.

facilitate the sawing of the log. The details of this attachment are shown. Says the Scientific American: "The attachment consists of a clamp adapted to be secured to the handle (A) of an ordinary ax. The clamp comprises two jaws (B), through which a bolt is passed. The upper end of this bolt terminates in a support. The support consists of two parallel arms, between which a roller (O) is mounted to rotate. The bolt which passes through the jaws of the clamp is fitted with a wing nut, and by turning this nut the jaws may be pressed together on the handle of the ax. In use the ax is driven into the log, and the clamp is then made fast with the support, standing vertically. The saw is then guided between the arms of the support, and the back of the saw rests on the roller. With the saw thus supported and guided, it may be operated in the usual manner to saw through the log. The roller may be mounted near the outer end of the support or close to the jaws. In the former case the saw will operate between the roller and the jaws, and the support must be mounted to project downward. In order to permit of removing the saw from the support it is preferable to support the saw on the outer side of the roller, guiding it in the open slot formed by the two arms of the support. The clamp is then applied, with the support projecting upward instead of downward." This useful attachment for sawing logs has been patented by Mr. Levi Smith of Marshfield, Coos county, Ore.

A sawhorse for household use may be made like the ordinary sawhorse, except that at the back instead of a narrow edge a wide edge is put, with a top piece four inches wide. It can be made wider if desired. Two strips along the side form a box, which will hold tools and nails. It is about the handiest thing the handy man around the farm can have.

To bring the forests to their full productiveness they must be cut over. The ax is the forester's hoe as well as his scythe. Reaping and sowing are



A SAWHORSE.

usually for him one and the same operation, and cultivation is accomplished by getting rid of what he does not want. There were cut from the national forests during the last fiscal year the equivalent of a little over 280,000,000 board feet of timber. This involved cutting operations on slightly less than 360,000 acres of land, or about one four-hundredths of the total area of the government's forests. In other words, hardly a beginning has been made in bringing the forests to their highest productiveness through use, and their reserve of mature timber has scarcely been touched by the operations under way. There is money in the wood lot, and the average farmer in awakening to this fact.

Destroying Smut.

To destroy the germs of smut on oats and other seeds add half a pound of formalin to thirty gallons of water, spread the seed on a barn floor and sprinkle the solution over it, making it thoroughly damp. Then shovel it into a pile and cover it with sacks or blankets for about two hours, so that the chemical may act on the grain. The grain may then be dried for future use, but it is better to sow it at once. The seed should not be so moist as to pack in the hand. Thirty gallons will treat 100 to 150 bushels of grain.

Utilizing a Broken Hoe.

Don't throw away the hoe with a broken handle even if there are only two feet of the handle left. Instead take it to a blacksmith shop and have the hoe straightened out on a line with the handle. It would not be amiss also to have the hoe sharpened. You will find this useful in many ways around the chicken house or in the garden for digging weeds or lifting plants for repotting.

LUMP JAW.

A Treatment That Sometimes Will Cure an Infected Animal.

The following is the standard treatment for lump jaw on cattle: If there be an opening in the tumor or swelling, inject into the opening about one teaspoonful of tincture of iodine daily. If there is no opening, rub the tincture on the skin daily, or it may be injected with a hypodermic syringe. Continue the treatment until it is evident that the growth of the tumor has stopped.

If willing to give up the use of the cow as a milker until she is cured, you may also, in addition to the treatment above prescribed, give her one and a half to two and a half teaspoonfuls of iodide of potassium divided into two doses, one in the morning and one at night, to be given in a pint of warm water. Continue this for two weeks or until signs of iodism appear, such as a scurfy skin, weeping at the eyes and dribbling from the nose and mouth. Then discontinue for a week or ten days and commence again if necessary.

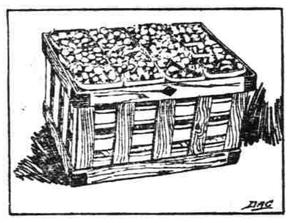
The iodide of potassium will render the milk unfit for use. Continue to milk her regularly, however, and throw the milk away, as she may be cured in a few weeks, and then her milk will be all right. The disease itself does not render the milk unfit for use unless the cow is in the last stages, where the general health of the cow will be impaired.

THE HOME FRUIT GARDEN.

Suggestions For Making It Profitable as Well as Useful.

The home fruit garden is not only attractive when the strawberries are in bloom or in fruiting or when the raspberries, currants, pears, peaches or other fruits are ready to pick. The home garden is ever an attractive spot. No member of the family, no visitor or other person can pass this garden devoted to the growing of the various fruits for home use without being attracted to it. Such a home fruit garden expresses much to the observer at all seasons of the year. It speaks of contentment, of health and of the home table embellished with beautiful and delicious specimens of large and small fruits.

The location of the home fruit garden should be as near the dwelling as possible. It may embrace an acre, half an acre, quarter of an acre or it may be confined to the rear end of a forty foot lot in town or city. If you have plenty of land, give the fruit garden



HOW TO PACK BERRIES.

liberal space. If you have simply a town or city lot, make the most of this small plot of ground at your disposal, remembering that by cutting back the new growth every year on the fruit trees many of them can be grown in small space or on the borders near fences.

You may have one row devoted to grapevines, another row to raspberries, another row to blackberries, another to currants and several rows devoted to strawberries, each row running the whole length of the fruit garden and so planted as to admit of horse cultivation. The disposal of the rows of apple, peach, pear, plum and cherry trees can be easily arranged. Plant the rows of trees far enough apart to admit the various rows of small fruits between the rows of trees.

Grapevines will thrive equally well when trained to the side of the house or to any other building or trained to the pillars of the porches of the house.

If there is a surplus of fruit it may be easily marketed. If sent to the city it must be carefully packed. The crate shown in the sketch is equipped with a tight wooden cover, yet is sufficiently open to allow the air to circulate. It will hold about sixty quarts of berries.

Grasses Everywhere.

Grasses are widely distributed. We usually think of them as existing in our temperate zones only, because here we have the perennial pastures and meadows. They are, however, to be found so far north that the soil is frozen under them during the greater part of the year, while they are also common to parts of the south where the frost is never known. Even the mountain tops that are clothed with perpetual snow have just below the snow line their carpets of poas that grow and bloom through a brief period every year. The grasses push hard against the eternal snows.

Holland Cabbages.

It appears that some varieties of cabbage and cauliflower suffer more from maggot attack than others, but except for the Holland cabbages there are none, so far as we know, that will not be badly injured by these pests. Both from our own state and elsewhere the Holland cabbages are reported as being quite free from maggot attack and need little if any treatment.—New Jersey Experiment Station.

Applying Lime.

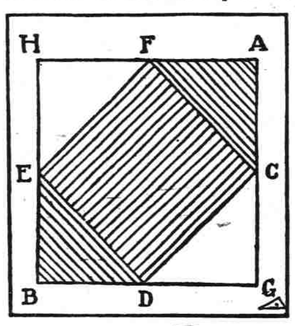
The fall is generally considered the best time to apply lime, but moderate application may be made whenever the farmer finds it convenient to perform the work. Much of the fall grain is seeded on corn ground, and this land is not plowed up or in shape to apply the lime advantageously at that season.

Farm and Garden

PLOWING AND DRAGGING.

System Will Save Time and Trouble In Farm Work.

In plowing aim to have the plow clean and free from rust, so it will scour at the start. Couple the horses closer to the plow than to a wagon. See that the clevis is adjusted so it is in a direct line and causes the plow to go the proper depth. Take pains to have a steady, even pulling team. See that the harness fits just right and everything is in order. For plowing level make narrow lands and consequently more dead furrows. Go to the side of the field and step off the

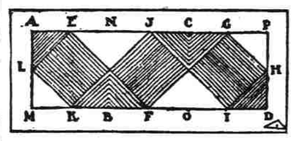


PLAIN DUTCH HARROWING.

required distance at each end and place a pole upright at each end and at the end opposite to the one where you commence plowing. Place another pole farther on, lining it up with the end poles. Step off the same distance at each end that you do at the sides, so the land will be the right proportion. Start the plow and keep the two end poles in line between the horses' heads, and get a straight furrow to start with. All that is now necessary is to keep the back furrow straight with the other, and after that keep the horse in the furrow, and turn the soil in even layers, slightly lapping over, leaving no space between them. As soon as a land is finished harrow and drag it before commencing another field. If using two teams, the first one to finish uses the harrow and drag. This rests the team by a change. This method puts the land in fine condition and saves much future work, as freshly plowed land works much better than where an entire field is plowed before dragging or harrowing.

Dragging "Dutch fashion" may be new to some and prove of value. Its advantages are that it drags neither lengthwise nor square across the furrows and makes easier corners than the ordinary diagonal dragging. The plain Dutch fashion is shown in the diagram. Commence by "striking out" from A to B. Turn to the right and go back on the left side of first track till you reach edge of field near A. Drive across the first track and back on the opposite side to the other end. Cross over and back on opposite side again.

Continue crossing over at each end inside your last track and outside the last track along the sides. When half done the piece will look like the first diagram, and the next trip would be from C to D, to E, to F, to C. When done the last trip would be from G to H, and the piece will have been dragged twice diagonally in opposite directions. This works well on pieces that are nearly square or not more than twice as long as wide. Of late, said one who had tried this system, we have found that it is economy in plowing, cultivating, etc., to make our lands as long as possible. On these Dutch dragging did not work as well, as it was too near lengthwise the furrows, so we hit upon what we call "crazy Dutch," shown in the second diagram. We "strike out" zigzag across the piece two or three or more times, according to its length compared to width. The diagram shows three times —viz, from A to B, to C, to D. Turn to the right and go back on left to first track to C and drive across it. Go on right side to B, then up left side to A. Cross over and back on left side of B. Drive straight across the first two tracks, turn to the left and go on right side to



VARIATIONS ON DUTCH FASHION.

C, where you will cross the two tracks again, and go on left side to D. Always go straight ahead till you get to the edge of the field before you make a turn.

When half done it will look like the picture, and the next trip would be from E to F, G, H, I, J, K, L, E. When done the last trip will be from M to N, O, P. This looks complicated, but it isn't half as hard to do it as it is to tell about it. At least it seems that way to me just now. In striking out we never measure a piece, but guess at the angles. However, the truer you get it struck out the better it works out in finishing.

Eastern Poultry Plants.

Leghorns, Minorcas and Rhode Island Reds are used on the egg farm, Light Brahmas and Plymouth Rocks on the roaster and capon plants, while the broiler and combination plants use Plymouth Rocks, Wyandottes or Rhode Island Reds.—Oscar Erf.

HORSE SENSE.

Some Sensible Advice In Regard to Collars and Their Use.

The closely padded, ill fitting, soft collar means suffering and shortens the life for the horse.

"Years ago I gave up the hot, sticky pad," said an intelligent farmer, "and have used only the close fitting, hard leather collar, which we have endeavored to keep clean. This clean collar, with a good washing of the shoulders noon and nights, has generally sufficed to keep them free from soreness. Still, during the constant use of the riding cultivator in our cornfields the necks sometimes get sore, caused by the weight and the moving of the collar across the skin at each step of the horse. We are all inclined to use collars too large for the horse. Much pains should be taken in the first fitting of the collar, and if it is thoroughly soaked and placed on the horse while still wet it will usually shape itself to the shoulders. Another thing, we try to avoid a too low draft. The way double harnesses are usually made all the weight comes on the horses' necks, and there is a constant tendency to lower the draft even until it comes nearly to the point of the shoulder. This should be overcome as far as possible. The draft should be high enough to insure an even bearing the entire length of the shoulder, and neither should the girth be buckled tight enough to cause any draft on the top of the neck. In fact, a girth is unnecessary and need never be used except where the traces are attached to the load above a right angle to the horse's shoulders. Steel collars are in use near us, and I am going to try a pair this spring. I think the principle is right, and they strike me as being very convenient."

DWARF APPLE TREES.

They Are Useful to Owners of Small Plots of Lands.

The sketch was made from a Red Astrakhan tree set two years before. This was only one of a hundred similar trees of the same variety planted by George T. Powell of Columbia county, N. Y., who has taken up the culture of dwarf apples. These Astrakhans were propagated on Paradise stocks, which make trees that if pruned properly never grow more than eight to ten feet high. They can be planted ten feet apart each way and when a few years old will bear a bushel to a barrel each.

The owner of a small lot who wishes to have several varieties of fruit and

DWARF APPLE TREES.

will give the trees good culture will find both pleasure and profit in dwarfs. In a commercial way the apples on Paradise stocks have not been grown extensively enough to test them. It is generally considered that they require too much care to be profitable when grown on a large scale. Some leading fruit growers believe, however, that the Doucin stock has great commercial possibilities. It makes trees eighteen to twenty feet high. They can be set from a rod to twenty feet apart each way and can be given the best of attention owing to their moderate size.

The Fruit Patch.

The government horticulturist says many persons with small lots may plant what are known as dwarf fruit trees. In proportion to size dwarf trees are more fruitful than "standards." They come into bearing sooner and are therefore of special value for use in limited inclosures or fruit gardens. Besides the advantage of dwarfing, grafting may be turned to good account, enabling the owner of trees to increase his variety of fruits. Single trees have been made to bear as many as 150 varieties of apples.

If you set out a fruit garden, take advantage of the space under and between the trees by planting strawberries, blackberries, raspberries, currants or some other small fruit. Vegetables may also be planted about the trees.

Renewing Fenceposts.

Do not throw away old fenceposts just because the ends in the ground have rotted away. You can patch these out and the posts will last as long as new ones. Take a piece of an ordinary post two feet long and smooth down one end with an ax so as to fit on to the end of the post, which should likewise be smoothed down. Now get a half dozen spikes and nail the piece to the post. Reverse the post, leaving the patched end at the top.

One Man Spraying.

For an area of less than one acre a small compressed air or knapsack sprayer will be very satisfactory. Where fruits as well as potatoes are to be sprayed the barrel spray pump outfit will be most economical. By mounting the barrel on a one-horse two-wheeled cart, at the rear of which a three-quarter inch pipe of sufficient length to cover four rows and provided with nozzles is attached, one man can do the spraying unassisted.

Farm and Garden

PROFITABLE TURKEYS.

How to Raise These Fowls to Bring Good Prices In the Market.

"Success in turkey raising depends largely on the choice of stock, also on the care and attention given," says one authority. "I have raised different kinds, but like White Hollands the best. I have often raised a large flock from three hens. They are very tame and bring more in the market on account of their fine plumage.

"In the early spring I gather the eggs daily, for if left to accumulate in the nest they become chilled and so are worthless for hatching. Much labor and time may be saved if the

FINE WHITE TURKEYS.

hens are kept in an inclosure during the egg producing season. Barrels laid on the side with straw placed in them make good nests.

"After gathering them it is not best to keep the eggs very long, but if there is no suitable place to put them with a hen they should be turned at least twice a week.

"I give seventeen eggs to a turkey hen. It is best if they can come off while sitting to eat and dust as they like. They may also be dusted with a good powder just before the young turkeys come out. I take them from the nest as soon as possible, all but one, to be left with the mother, so she will not be uneasy. I keep them in a box in the house until they learn to eat and walk. They soon learn to eat bread moistened with sweet milk.

"The coops are then ready. These are made of boards eight feet long, about three feet high at the front and two and a half inches in the rear, being fitted with a good cover; also boards partly covering the bottom, with a door in each end. This, divided in the middle, will make two good coops, which will turn the rain. I keep them in the coop with the hen one day, then turn them in a pen made of boards a foot high. The pen is about twenty feet square. Around this two feet of poultry wire is placed to keep the mother in; also to keep the outside chickens from getting to scalp the little ones.

"The coop opening in this pen makes it easy to change them around. In this way they get plenty of exercise and will flourish if given cornmeal and cheese made of sour milk four times a day with plenty of fresh water. Small oyster shell is necessary. A small bit of cayenne pepper mixed with the cheese is a good stimulant.

"After keeping them in the pen about two weeks they are getting anxious to find larger fields. The White Hollands will wander and hunt, but nearly always come home in the evening. They soon learn to go in the coop. This must be kept very clean. After feeding they are shut in and kept till the grass is dry in the morning. Always keep them in when it rains. They cannot run in the wet until larger.

"When getting them ready for market a mixed feed of oats and corn is good. Old corn is much better than new."

A way of controlling turkeys to make them stay in a field is very simple. Take a shingle or a thin piece of board about a foot long and bore with a small bit four holes, two on one side and two on the other, that will just cover the wings. Take then a stout piece of soft cloth and put under the wing, around the wing of holes and tie securely. The turkey cannot fly with this on, for she cannot raise her wings, as she is obliged to in flying. The cut gives an idea of how it is made and attached. The strings should not be tied so tightly as to injure the wing, but tight enough to stay on. The device cannot be used during the breeding season, as it will prevent the turkeys from mating.

YOKED TURKEY.

Lame Pigs.

Young pigs confined in a floored pen sometimes become lame. It is advisable to turn the pigs out and let them have an opportunity to take proper exercise and enjoy natural conditions as nearly as possible. It is the plank floor that causes soreness and lameness. If the pigs have access to good pasture they may be fed on corn alone, but if confined in a small lot they should be supplied with food that contains more bone making constituents than is supplied by corn, such as wheat bran, oats, middlings, collards, etc.