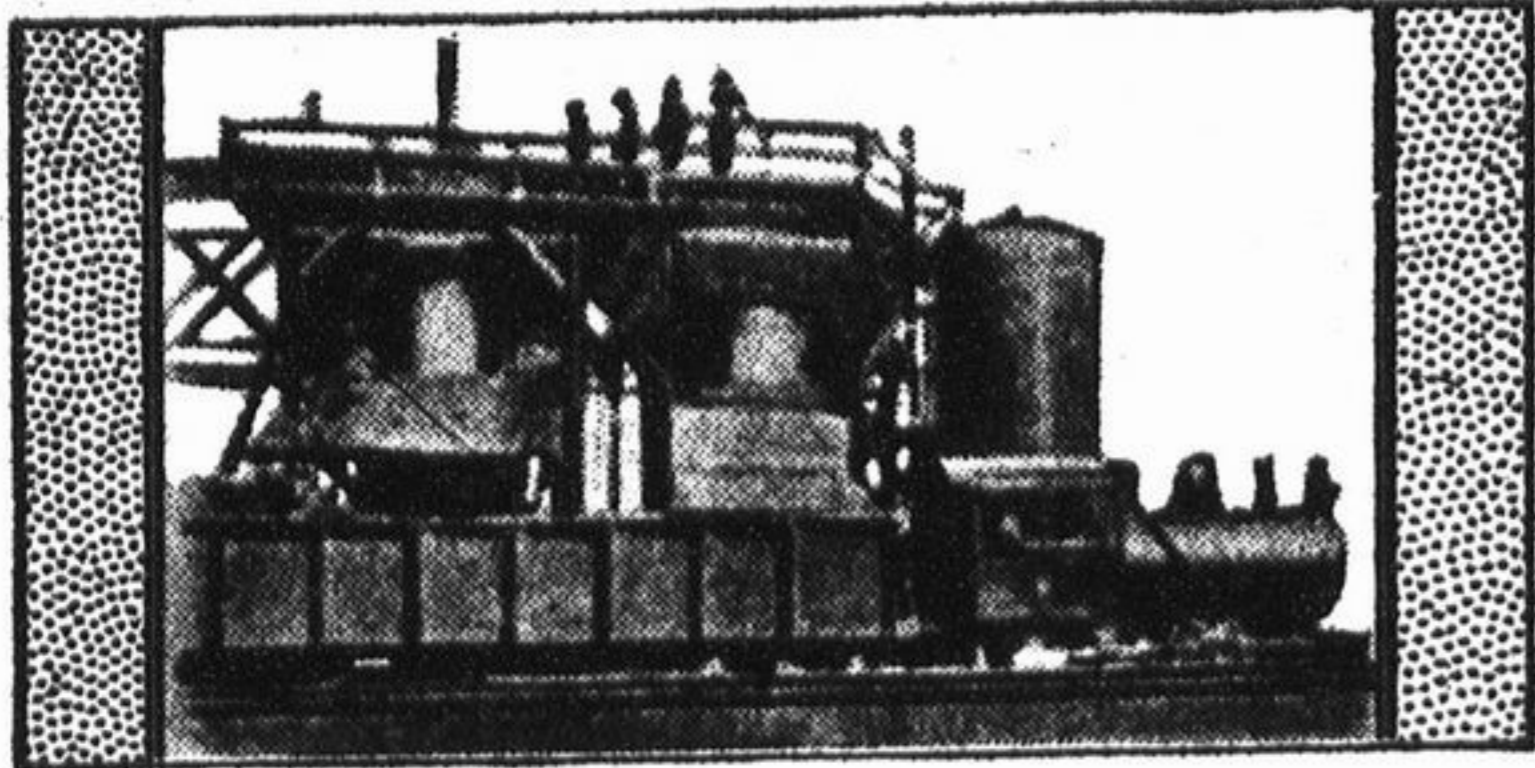


FIRELESS STEAM LOCOMOTIVE FOR SAFETY

In the yards of a wood-preserving plant at Orville, O., a fireless steam locomotive is employed as a safeguard against conflagrations. The engine is interesting not only because it is unfamiliar type, but on account of the fact that one of the first of its kind was the subject of much speculation a few years ago when displayed at an Italian exposition. At that time its practicability had yet to be proved. The locomotive does not generate the steam it uses, for its main part consists of a large cylinder—instead of a

firebox and boiler—that holds a sufficient quantity of steam under heavy pressure for eight or more hours of operation. Steam is developed at a power plant and pumped into the reservoir before the beginning of the day's work. The piston cylinders are placed at the front of the engine, for the purpose of balance. The locomotive in the yards at Orville weighs 22 tons and pulls about a dozen steel gondola cars, fully loaded.—Popular Mechanics.



STEAM IS PUMPED INTO THIS ENGINE.

WANTS MORE ROAD

New Chinese Government Wants to Make Improvements.

NEED 100,000 MILES OF ROAD

Authorities Shooting Far Beyond That Mark and Propose Eventual Construction of 300,000 Miles—America Interested.

The transportation fever has struck China. The Chinese want more roads, and it looks as if they were going to be obliged, for their new government agrees with them and has started upon the task with a vim that promises early results. A writer in Asia, a new magazine issued by the American Asiatic association, says that it is estimated that 100,000 miles of road would solve for the time being the carrying problem of the republic, but that the governmental authorities are shooting far beyond that mark and propose the eventual construction of 300,000 miles. This situation is especially interesting to American business men, since a part of the necessary capital will be furnished here and a share of the actual building will also be done by Americans. All this is indicative not only of the new spirit in China, but also of the growing cordiality between the two countries. At the present time China has only six thousand miles of railroad to accommodate a population of more than 400,000,000. This is scanty indeed when the figures for the United States are considered. Here with 100,000,000 inhabitants there are 250,000 miles of road and even at that complaints that we are falling behind in construction are frequently heard. It is not to be assumed, Asia points out, that China's necessities are to be satisfied at once. Indeed, it may be ten years before she is able to add more than 10,000 miles, but a building program is being arranged that provides definitely for the projection of new lines into industrial sections which have hitherto been neglected, and for immediate relief in cases where congestion is now so great as to interfere with the industrial life of the country. Just how much the Chinese plan men in a financial way to the United States is shown by the estimate that 100,000 miles of railroad will cost \$2,000,000,000, a great part of which will be raised by American capitalists. China at present makes scarcely any use of the materials for construction, but her natural resources are so great that eventually she will be able to produce all the equipment that is necessary.

NOW USE AUTOMATIC DEVICE

Air and Car Coupler Simplifies Matter of Coupling and Uncoupling Cars—Prevents Accidents.

The Pittsburgh railroads are making use of a new form of automatic air and car coupler which not only simplifies the matter of coupling and uncoupling cars, but obviates the necessity of a man standing between the cars in order to perform this operation. In order to insure the comfort of the riders it is necessary that the coupling between street cars should be very rigid, and it has been heretofore found difficult to obtain this rigidity in a piece of mechanism designed to stand the hard usage which couplers are subjected to. The present device is so carefully machined as to insure a perfectly rigid connection when coupled together, this being made possible by means of adjustable joints behind the heads to provide the necessary vertical and lateral movement. In spite of the neatness of the fit of these parts the couplers will properly come together and lock, though they be as much as three inches out of alignment, and they are sufficiently flexible to operate where the car levels may vary as much as ten inches.—Scientific American.

Big Bridge.

A bridge projected between San Francisco and Oakland will be the largest of its kind in the world. It will cost more than \$2,000,000 and will carry three roadways and four railroad tracks. The supports will consist of 16 spans, two of which will be large enough to allow the passage beneath them of any ship entering San Francisco harbor.

Print Telegraph Blanks.

The Erie railroad has 5,000,000 telegraph blanks printed at one time.



EWES CARE AT LAMBING TIME

Most Common Complaint is That Animals Walk With Unsteady Gait—Cause and Treatment.

A large number of inquiries concerning the care of ewes at lambing time have been received by the University of Missouri College of Agriculture. The most common complaint is that "the ewes heavy with lamb walk with a weak unsteady gait and later get down and seem to be paralyzed in their hind legs." In most cases where these symptoms have occurred the ewes have come into lambing season in a rundown condition.

In many cases too much corn, corn stover, corn silage, timothy hay, oat straw or similar feeds have been fed. Such feeds do not contain sufficient raw material for the mother to build up muscle, bone and blood. Alfalfa hay, linseed oil and bran must be fed. Breeding ewes that are in strong, thrifty condition in the fall can be carried up to lambing season on good alfalfa, clover or clover hay. However, about a month before lambing it is advisable to feed about one-half pound of grain per head per day. A grain ration of six parts corn, three



Sheep at Pasture.

parts bran and one part oil cake by weight has proved successful. A double handful of this ration will average about one-half pound. After lambing it will be necessary to increase the feed to one pound of grain up to the time pasture is available. Some native ewes are troubled with "nodular disease." This disease is due to small worms lodging in the tissues of the intestines, and a small tumor-like mass is formed around them. So far as is known the trouble caused by this worm is due to the decreased area of digestion. The only known remedy is liberal feeding. The Missouri College of Agriculture will be glad to answer any further inquiries.

SORE SHOULDERS OF HORSES

Animal Should Be Given Frequent Breathing Spells When First Started at Hard Work.

When the soft horse is started at heavy work, the shoulders should be given a good deal of care. The horse will need frequent breathing spells and at these times lift the collar so as to give the shoulder a chance to cool and to dry. When it becomes moist from sweat, it will become sore much quicker than if dry. The collar should be kept smooth. If any incrustations form on it, scrape them off. Care should be used in making sure that the horse has the collar that is fitted to its shoulders. A misfit collar is apt to lead to shoulder trouble. When starting the horse at hard work, watch its shoulders and neck too, carefully.—Extension Department, North Dakota Agricultural College.

PIG FEEDS AFTER WEANING

Separate Boars and Sows and Aim for Growth, Bone and Muscle—Do Better Without Fat.

When the pigs are weaned and doing well, separate the boars and sows as soon as possible, for too many pigs in one lot do not do so well as when they are divided into several different lots. Then feed for growth, bone and muscle; the finishing touches can be put on the last month or so before the sale. If a pig is grown without very much fat, he will, nine times out of ten, be a better hog on his feet, for if a pig is loaded down with fat and his pancreas are broken down, it is "good-by" as far as good feet are concerned.

SALT LIVE STOCK REGULARLY

Some Growers Follow Plan of Salting Once Every Week—Arrangement of Box Is Best.

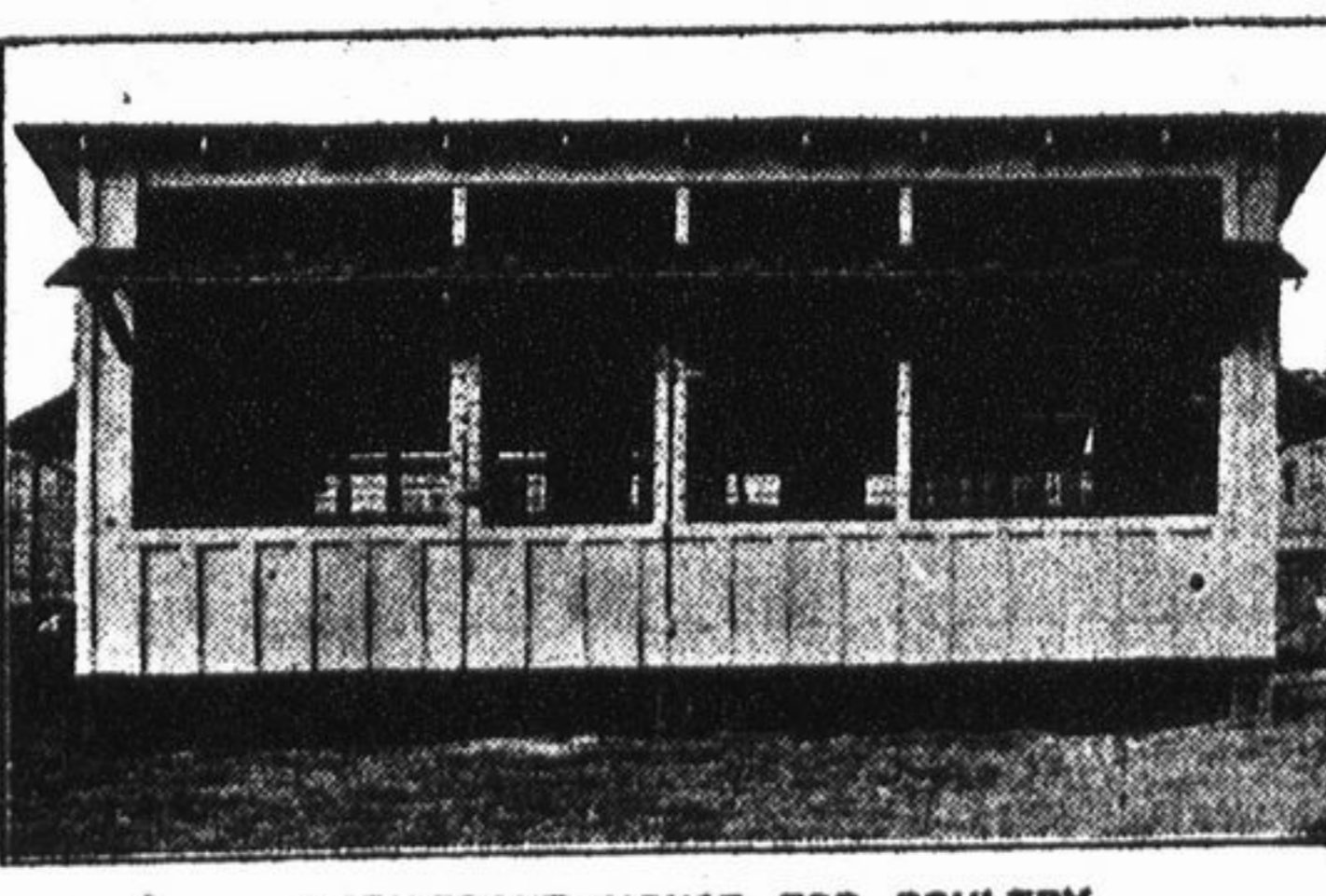
Any kind of live stock must have salt and have it regularly if they are to grow as fast as they should. Some stock growers follow the plan of salting their stock once every week or ten days. Sometimes we get too busy to salt at the proper time. Why not arrange for a saltbox and keep the salt always before them? It will pay. Little Cost in Sheep. Most farmers could with very little expense prepare to keep a small flock of sheep. On many farms comparatively little preparation need be made. On most farms a few sheep could be kept at a profit. Handling Lambs. Docking and castrating the lambs should be done at one operation in large flocks because of the necessity of saving time, but with small flocks it is better to make two operations a week apart.

CHICKS THRIVE BEST IN EARLY SPRING

(From the United States Department of Agriculture.)

Contrary to general belief and practice, chicks do not grow or thrive as well during the warm months or hot summer days as they do earlier in the spring. Experienced poultrymen realize this fact. The average farmer, however, does not make an effort to hatch early so that the chicks will have the advantage of a longer and more favorable growing season. Early hatching not only insures more rapid gains in the growth of chicks but has a favorable influence on the size of the individuals of the flock. Late-hatched chicks rarely, if ever, attain the size of those hatched early. Early

hatching likewise influences early maturity and consequently early egg production. Given the same food, care and attention, chicks hatched the first of March will reach more when they are four months old than those hatched a month later, say the poultry specialists of the United States department of agriculture. This likewise holds true with chicks hatched the first of April as compared with those hatched May 1. This is due to the fact that the rate of growth of a chick is greater during the first four weeks of its



OPEN-FRONT HOUSE FOR POULTRY.

more prevalent. If for no other reason chicks should be hatched early so their growth will not be interrupted by the presence of lice. Many farmers realize considerable money each spring from the sale of broilers, the price of which is usually governed by their size when sold and the time marketed. Thus it would seem that in order to increase the amount of money from the sale of broilers and fryers early hatching would be employed so as to have a marketable-sized fowl early in the spring when prices are highest.

lowering the flame of the lamp. For the first week the temperature should be 102 to 103 degrees, for the second week about 103 degrees, and beginning with the third week and continuing to the end of the hatch, 103 to 104 degrees. These temperatures hold good when the center of the bulb of the thermometer is about 1 1/2 inches above the bottom of the egg tray.

CRATE FOR FATTENING

Larger Gains and Better Conditions of Flesh Produced. Droppings Fall Through Slat Bottom, Insuring Clean Feed—Description of Device Given by Pennsylvania Expert.

Crate fattening of fowls produces larger gains and slightly better condition of fleshing than pen fattening. It is also cleaner, since the droppings fall through the slat, or wire bottom, preventing soiling of the feet and feathers of the fowls and insuring clean feed. Crate fattening involves the restriction of exercise and forced feeding of the fowls. L. S. Kieneschmidt of the poultry husbandry division at the Pennsylvania State college, gives the following description of a desirable fattening crate: Birds are placed in small crates or cages allowing approximately one square foot of space for each bird. The most desirable crate is six feet long, 16 inches wide and 20 inches high, divided into three two-foot compartments. The entire coop may be made of wooden slats one-half by one-half in size, and running lengthwise over all parts except in front, where they should be nailed vertically. All except the bottom slats may be spaced about one inch apart. The bottom may be made of number 16 galvanized iron wire, having a two-inch mesh. The top, ends and back may be covered with a two-inch poultry netting in place of the slats. A sliding door should be on the front of the crate to permit the removal of the bird to arrange the crates in tiers one above the other. If they are so arranged galvanized iron trays should be placed beneath each crate to collect droppings. A feed trough should be arranged along the front of the crate. A crate of this kind will accommodate from three to five birds in each compartment.

COMFORT FOR EARLY CHICKS

Warm Place Should Be Provided to Prevent Chilling When Mother Hen Fails to Brood Them.

Early chicks with hens should be kept in a warm place, otherwise they are likely to be chilled when the hens fail to brood them at the right time, and as each chick may require brooding at different times, a cold day would find it necessary for the old hen to hover her brood practically all the time, something that she is not likely to do. If the room is warm, there is less chance for trouble of this kind.

FLOOR FOR POULTRY HOUSES

Nothing Better Than Earth Where It Is Practicable to Keep It Dry—Sandy Loam Is Best.

There is no better floor for poultry than an earth one, providing it is practicable to keep it dry. It is also the most economical. A light, sandy loam is the best soil for this purpose, where the climate is particularly dry. PROPER CARE OF INCUBATOR Practice of Pennsylvania School to Regulate Temperature Before Putting Eggs in Machine. A constant temperature is essential in the incubator. The practice at the Pennsylvania School of Agriculture and experiment station is to regulate the temperature carefully before the eggs are placed in the machine. The regulator should not be disturbed after that time. And further adjustment of the temperature should be made by

DISPOSITION OF DEAD BIRDS

Practice of Allowing Carcasses to Lie About Premises Is Responsible for Much Trouble.

The practice of allowing dead chickens to lie about the premises or in the brooders and of throwing them over the fence for the hogs to eat is decidedly bad, and directly responsible for large losses each year by causing and distributing disease. Burning is the safest and easiest method for disposing of dead fowls. The coal-burning brooder stoves will take care of any losses among small flocks and where considerable numbers of fowls are kept a small laundry stove or air-tight heater set up in the feedhouse or toolroom will prove very satisfactory. SELECT EGGS FOR HATCHING Exceptionally Long and Very Short, Rounded Are Objectionable—Avoid Malformed Eggs. Eggs selected for hatching should be of a true egg type. Exceptionally long eggs and very short, rounded eggs are equally objectionable. Malformed eggs should never be incubated. These eggs are usually difficult to hatch. White eggs and brown eggs should not be incubated together. NESTING MATERIAL FOR HENS Necessary That Place Be Warm to Produce Good Hatches—Heat Will Escape From Straw. The early sitting hens should have nests made very warm so that the heat from their bodies can be confined around the eggs. If the nest is made of coarse material, such as straw, the heat will escape and the eggs will not be kept warm enough to produce good hatches. DRINKING WATER FOR FOWLS Do Not Allow It to Freeze and Do Not Compel Birds to Eat Snow During Cold Weather. Do not allow the drinking water for the fowls to freeze, and do not compel them to eat snow, but give them frequently, during the coldest days, a drink of fresh water from which the chill has been removed by adding a little warm water.

Information

GOOD GRAFTING WAX

1. The most common formula is: Resin, 4 parts by weight; beeswax, 2 parts; tallow, 1 part. Melt together and pour into a pail of cold water. Then strain the hands and the wax will be it is nearly white.
2. For use in cold weather, when the above will not work, take 6 pounds resin, 1 pound beeswax and 1 pint linseed oil; apply this hot all over the joints with a brush. It should be put on one-eighth of an inch thick.
3. For use in warm weather the following is used: Four parts of resin, 1 pound of beeswax and from half a pint to a pint of raw linseed oil. Melt all together, gradually turn it into cold water and pull. The linseed oil should be entirely free from cottonseed oil.

TO MAKE BORDEAUX MIXTURE

Copper Sulphate, Quicklime and Water Are Necessary Ingredients—Mix and Apply at Once.

The necessary ingredients for making bordeaux mixture are: Copper sulphate, 4 pounds; quicklime, 4 pounds; water to make 50 gallons. Prepare the copper sulphate by suspending it in a gummy sack just below the surface of several gallons of water in a clean barrel. When the sulphate is dissolved, which requires three or four hours, remove the sack and stir into the barrel enough additional water to make exactly 25 gallons of the copper solution.

Prepare the lime by slacking it slowly and thoroughly in a clean barrel, strain, and add enough additional water to make exactly 25 gallons of lime milk. Stir thoroughly.

Pour the two ingredients together into another barrel, or better, directly into the spray tank, if it will hold 50 gallons. It is highly important to stir the mixture very thoroughly and to strain both ingredients before they are combined, an otherwise clogging of the spray nozzles might result. Use a copper or bronze wire strainer of 18 meshes to the inch. Do not put copper sulphate or bordeaux mixture into tin or iron vessels; use only wood or copper containers. Mix the bordeaux as needed and apply at once. It is never as good after it has settled.

DEVELOP NEW TOWN MARKET

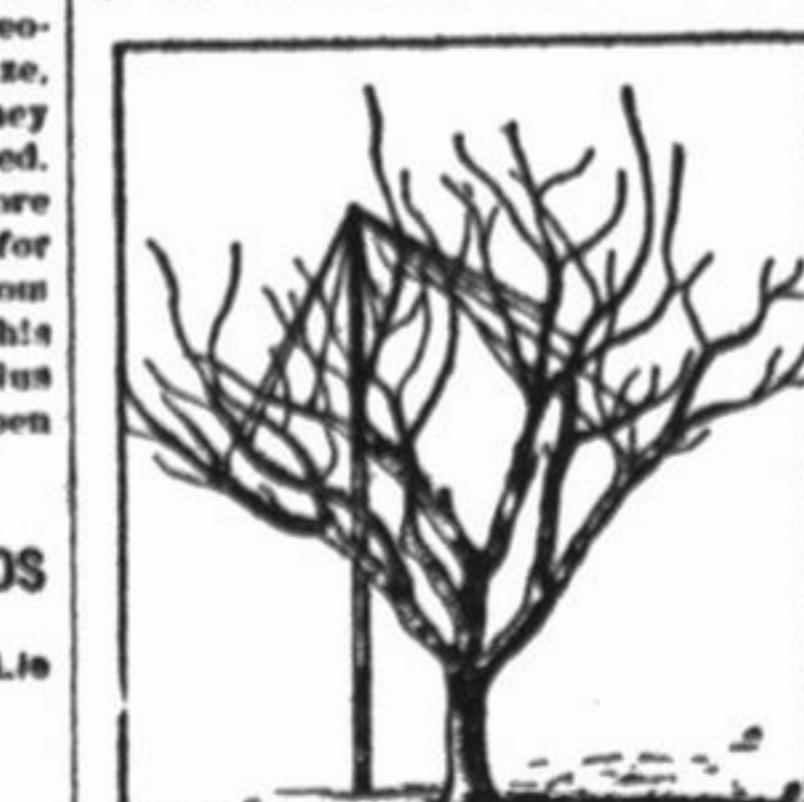
Farmers Can Get Better Prices by Selling Fowls Direct to Consumers—Advertising Helps.

Farmers who have a number of roasting-size chickens ready to sell to commission men might get a better price for them by selling to town or city dwellers. Such prospective buyers can be found readily by using a little advertising space in the home-town newspaper, and a good business be developed. Many city dwellers have a small yard and house for poultry where they keep a few birds to fatten on table and kitchen scraps. Such people prefer birds of the roasting size, keeping a small flock of them so they may pick out a bird when needed. They usually buy a half-dozen or more at one time and will pay more for them than the farmer can get from the commission man ordinarily. This is a good way to dispose of surplus chickens at a time when the open market might be oversupplied.

PROP HEAVILY LADEN TREES

Various Methods Used in Great Apple Orchards of Washington to Protect Branches.

Out in the great apple orchards of Washington various methods are used for propping up the heavily laden trees. The one shown is known as the center pole and wire prop. When following this plan, screw-eyes are placed in the main limbs, and to these are



Apple-Tree Prop.

attached long strands of wire. At the end of each strand is a loop, which is placed over a nail driven into the end of a pole. This pole is raised to a position nearly parallel with the trunk of the tree and then firmly set in the ground. This has the effect of drawing the wires tight, holding the tree in shape and keeping the laden limbs from breaking under the strain.

HONEY BEES ARE NECESSITY

They Are Greatest Factor in Distribution of Pollen Among Fruits and Berries.

An abundance of honey bees is a safeguard to horticulture. They are the greatest factor in the distribution of pollen among fruits and berries. A few other insects carry pollen, but if all honey bees were removed during fruit-bloom season, it is safe to say that there would be not enough fruit or berries produced to pay for the gathering of the crop.

FINE LOCATION FOR ORCHARDS

Fruit Tree Near Dwelling Is Worth Fifty Located Mile Away—Farmers Are Busy People.

A single plum tree or early apple tree near the house is worth 50 a mile away. The farmer and his wife are busy people and do not have time to run over there every time they want a handful of fruit. Desirable Orchard Site. The selection of a desirable site is the first step toward obtaining success with an orchard. Since the different fruits vary somewhat in their habits of growth the site must be selected according to the requirements of the fruit.

Continuous Spraying

Few farmers but know that their orchards should be sprayed continuously both winter and summer, but there are some who do not do this. The work just the same.

Chas. H. Hale

33 S. Main Street
Phone 264-J

Save Pennies—Waste Dollars

Some users of pennies save pennies by getting inferior work and dollars through lack of advertising value in the work they get. Prices are charged very low prices for some of the best work they get. All of them.

Information

6-room house, hot water, bath, laundry, 2 1/2-ft. lot, chicken house, \$2,500. Make offer.

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