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Farm Implements—New and second hand, special prices. P. E. Esbenshade, MONUMENTS—Z. 3d and Pine Sts.

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Crystal radio outfits, immediate shipment Detroit; retail \$7.50 and \$35. Head-quarters 218 Chamber of Commerce, Portland, Oregon.

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Otto Schumann Granite & Marble Works.

opened in Cleveland.

FARM LIVE STOCK

MORGAN HORSE IS HONORED

Sturdiness of Castor, Owned by Government.

has honored Castor, an 800-pound registered Morgan horse bred and owned by the United States Department of Agriculture, by issuing a booklet tellendurance. Castor was one of the few horses to finish the United States from Camp Alfred, Vail, N. J., to Washington, D. C.

During the test Castor carried 245 pounds, nearly one-third of his weight,



Castor, Registered Morgan Horse.

the three-day testowas a remarkable part of his performance, especially. nsidering the fact that he was by far the smallest horse in the contest.

The booklet published by the Morthor is H. H. Reese, animal husband-Morgan horse farm, Middlebury, Vt.

ERADICATE MITES AND LICE

Two Principal Kinds of External Parasites Are Injurious to All Classes of Hogs.

principal kinds of external parasites affecting hogs, say experts of the United States Department of Agriculture. They are injurious to all classes of hogs, but the greatest losses occur in pigs and poorly nourished hogs kept in unsanitary quarters.

The losses are caused by irritation. unthrifty condition, functional disturbances, arrested growth, low vitality,

Only one species of lice commonly affects bogs and this parasite obtains its food by puncturing the skin of the hog and sucking blood. It can be The separator that pleases the user. WHY? Because it has superior points that appeal to their judgment, and when tried out fugills every claim. It should be seen and tried to get all the good points.

We sell the noted Perfection, milker and washing mannes of different styles.

Two species of mange mites commonly affect shogs. The nature and 48 First Street, Portland, Or. habits of these mites, the symptoms DR. G. E. WATTS

INFORMATION

Ods of control and eradication are discussed in Farmers' Bulletin 1085, Hog

DEPARTMENT

DEPARTMENT

DEPARTMENT

Plans for shog swallows and dipping SHOE REPAIRING IN PORTLAND
Model Shoe Hepair, 272 Washington St.
Davis Bros., American Shoemakers,
108 4th St. plants, together with directions for building them and for dipping hogs,

FEED BROOD SOWS PROTEINS

DRUGLESS PHYSICIAN
Chronic diseases a specialty. Dr. W. X.
Allen SS Fieldner Building.
-- CRSES MULES BOUGHT, SOLD
U.S. STABLES 306 Union Ave. Draft
horses bought and sold.
MACHINERY When Pasture Is Not Available Alfalfa Hay, Wheat Shorts or Tank-ACHINERY

send us your inquiries for anything in
nor Woodworking Machinery, Logging,
wmill, Contractors Equipmert, Locotives, Boilers, Engines, Crushors, Rail,
ne. Beiting, etc. Burke Machinery Co.,
Railway Exchange Bidg., Portland, Or. age, Are Essential.

Brood sows should have feed that is rich in proteins, such as alfalfa hay. wheat-shorts or tankage, when pasture is not available. The greatest develduring the last 60 days of the gestation period, hence the importance of feeding brood sows from now until tissues in growth.

Clean, Comfortable Quarters-Watch for Parasites.

PIPES Repaired by experts who are the service of whom are the service of the serv pork next fall.

> Corn Best for Fattening. No other food equals corn in the fattening of pigs, and some farmers feed too much corn. Alfalfa or clover hay may be fed with profit,

Pig Yard Free From Mud. Care should be taken to provide a pig yard as free from mud as pos-

Building Up Sows. Written plendings used in Egyptian James Fenimore Cooper wrote his feed gradually increased so as to be Sows thin in flesh should have their courts were greatly similar to our first story, "Precaution," on a wager in good condition before farrowing.

> Dampness Fatal to Pigs. Nothing gets away with a young pig quicker than a damp bed, especially in cold weather. Exposure to drafts or chilling results in serious loss,

Dust Spray Satisfactory. Dust sprays are being used considerably in the east and appear to give

Grain Goes to Make Gain, Clover pasture will maintain pigs, so that all the grain fed goes to make

satisfacton.

· Orchard ·

FRUITS FOR HOME ORCHARDS

Little Expense and Time Required for Providing Various Delicacles for Table Use.

An excellent way to become more independent and prosperous is to start a me orchard so there will soon be plenty of fruits for the family to use in the various ways for convenience and for economy in living. Surely the little expense and dime required to start a home orchard could not be used to better account these days of stress.

The first essential will be to break the land, if it has not already been turned, as soon as the site for the orchard has been chosen. Deep, welldrained land with at least fair fertility is best. If this land is available near the home it is all the better, for the home orchard ought to be handy so fresh fruits may be gathered and brought in when wanted. The land should be well broken and put in exrellent condition before the trees are to be transplanted.

Berries are essential for the home orchard. They bear before other ordinary fruits such as peaches, apples, plums and pears. It requires a small area of land to produce an abundance c. berries, but every farmer should plant liberally enough for the needs of his own family.

Of the berries, none are better, none surer than strawberries. Two or three varieties of strawberries will be a good way to extend the season for this lusclous fruit. Mitchell, Klondyke, Aroma, Norwood, Senator Dunlap are worthy of places in the berry patch.

Set the strawberry plants in rows' about three and one half or four feet apart. Cultivate very carefully, keeping weeds down and a mulch on the surface during the summer, or until the plants spread so cultivation is no

longer possible. Dewberries are treated somewhat like strawberries. The rows are, however, a little wider to permit cultivation till the vines extend over the mid-

Blackberries may be set in rows about six feet apart when transplanted



Some Well Pruned Peach Trees.

be four feet apart in the row.

ford fruit, early, mid-season and late.

Stamen. There are many others. -Varieties of plums recommended by Prof. J. R. Cooper, Arkansas College of Agriculture, are: Wild Goose, Shropshire, Damson, Red June, Burbank, raspberries: Red, King or Cuthbert, Kittating or Soyder; black, Black

Pearl. St. Regis are favored. "The orchard land may be prepared, then the trees set any time during late winter when the season is favorable or in spring before the buds swell-usualopment of the unborn pig takes place ly, the earlier the better, to give the roots a chance to start the hair-like roots to nourish the trees and build up TREES FOR STATE HIGHWAYS

NO ECONOMY IN SMALL TREES

Young Plants Have Had Little Time to Show Their Qualities and Cannot Be Culled.

It is poor economy to buy very small trees. Two-year-olds are best, though an experienced man, with careters, and get her and the pigs on pas- ful attention, can get just about as good results with good one-year-olds but it takes an expert. One thing is that the younger trees have had less add much to the pleasure of driving time to show their characteristics, and along them in the future.-LeRoy result in many additional pounds of can not be culled as closely as the Cady, associate professor of horticulolder ones.

PROPER TOOLS FOR PRUNING

Wood Axe is Essential for Efficient Work-Lop Shears and Saw Are Very Handy.

An efficient job of pruning cannot be that you cannot afford a set of pruning 194.47. tools for the amount of work you have to do, get your neighbor to go in with you and purchase tools together. The two handlest pruning tools are lop shears (shears with handles 2 to 21/2 feet long), and a pruning saw.

Pruning Young Trees. When the trees are taken up for setting they should be pruned. If you

delayed long, and the roots get dry, dip them in sticky mud, but this inch asphaltic concrete base and a tage of this favorable growing season is seldom necessary, and trees should two-inch asphaltic concrete wearing and a longer growing period than those really not be set then. The pruning surface. depends on the fruit.

Buying Trees and Bushes. If you have not bought your fruit trees and berry plants, write for prices just what is asked by the first man the old method of using horse-drawn tages in growing oats that it would be who comes along.

GOOD **HIGHWAYS**

GRADING AND PAVING ROADS

Average Figures for Whole of United States Given Out by Bureau of Public Roads.

(Prepared by the United States Department of Agriculture.)

What part of the cost of a road goes Late grading and structures that are more or less permanent, and what part goes into the paving, which may eventually wear out?

This question is answered fully by statistics compiled by the bureau of public roads of the United States Department of Agriculture on 1,350 completed federal-aid roads, involving 7.-500 miles of road, at a total cost of \$112,000,000. Of the total cost, 21 per cent went into grading, 14 per cent into structure, 62 per cent into paying, and 3 per cent for engineering. These are the average figures for the whole of the United States, but there is considerable variation in different sections.

In the Middle Atlantic states, where grading is not heavy and paving must be built for heavy traffic, the cost of the paying rises to 75 per cent and the grading and structures fall to 15'per cent and 9 sper cent, respective-

In the Mountain states the probem is very different, much of the work - being new construction with eavy grading, and the highest type



An Improved Road in the Rocky Mountains.

of surface is not necessary. In this group of states the cost of grading amounted to 33 per cent, structures 20 per cent and paving 42 per cent.

TRAFFIC CENSUS OF TRUCKS

Information as to Speed and Size of Average Vehicle Obtained in New England.

How large is the average truck and Peaches will respond to good prep- and users of the highways are anaration and good care afterwards Sev- swered by information obtained in a eral varieties will be desirable to af- recent traffic census taken by the bureau of public roads, United States Of the early apples, Red June, Yel- Department of Agriculture, on one of low-Transparent Sweet Bough Malden the most traveled highways in New Blush, Red Astrachan are sultable. England. The census discloses that Later varieties or early fall sorts: Jon- 40 per cent of the trucks were of 1 ton athan, Grimes, Delicious, Ben Davis. capacity or less; 33 per cent between Late: Mammoth Black Twig, Winesap, I and 21/2 tons; 5 per cent between 214 and 5 tons; and that less than 2 per cent of the trucks were of more

than 5 tons capacity. On a level stretch of road, over which the speed of motor vehicles Abundance, Arkansas. The following was timed, it was found that more trucks traveled at a speed of 20 miles an hour than at any other rate. Thirty-seven per cent traveled 20 miles an hour or faster. One truck, whose driver said he was in a hurry to get there, was found to be traveling at a speed of 45 miles an hour.

If Planted 50 or 60 Feet Apart They Will Not Harm Roads and Will Add Pleasure.

The Minnesota forestry department in the capitol at St. Paul is offering nut trees for planting on the highways of Minnesota. The planting of these state highways with shade, ornamental or fruit trees should be begun at once. If the road is properly made so that it drains well and the trees are set 50 or 60 feet apart they will not harm the roads in the least and will ture, University Farm, St. Paul,

Big Program in New Mexico. The state highway commission in New Mexico-has launched a big roadbuilding program with six new fed-

eral aid projects, one to cost \$46,-707.02, a second to cost \$65,505.67, a third \$58,362.87, the fourth \$41,624.73, done with the wood axe. If you feel a fifth \$69,844.49 and the sixth \$74,

for actual construction.

equipment.

Contracts in Oregon. The Oregon state highway commis 17.3 miles of highway, with a three- chicks early they will have the advan-

Tractor Equipment Best. Owing to the immense saving in time and labor with a reduction in final cost, the construction of roads by means crops this year oats should have conand see if you cannot bent buying at of tractor equipment is far ahead of sideration. There are so many advan-

SOME FERTILIZER IS **REQUIRED BY ONIONS**

Spading Fork Should Be Used in Preparing Soil.

Poultry and Sheep Manure Are Both Good for Crop, but Should Be Used Sparingly-Steel Rake Is

Splendid Tool. (Prepared by the United States Department of Agriculture.)

Onions require a mellow, rich soil; In fact, very few gardens are rich enough to grow good onions without some fertilizing. In preparing the soil break it up with a spading fork, working into the top three or four inches plenty of well-rotted manure, suggest garden specialists of the United States Department of Agriculture, Ten pounds of high-grade commercial fertillizer should also be spread over each square rod of ground and well raked into the soil a few days before planting the onion "sets." Poultry and sheep manure are both good fertilizers for onions, but must be used sparingly and well mixed with the soil to prevent burning the onlon roots.

Onions grow very quickly and require frequent shallow stirring of the surface soil. The usual method is to plant the "sets" in rows about 15 medicine. Inches apart and 3 to 5 inches apart in the rows, covering them just so the



Working in a Big Onion Field.

tops will be below the surface. A nar- we would stand aghast at the imposrow steel rake is a good tool for work. sible task of spraying all the trees in ing between the rows at first, but later as the onions attain some size a wheel hoe can be used. For the very first estry Magazine. We must perforce deworkings and for getting between the pend on the natural enemies of insects individual plants in the rows there is to protect our forests. Fortunately, nothing better than a short piece of birds and other foes of insects, wherlath with three wire brads driven ever their numbers are sufficient, act through it at one end, making what is known as a "scratcher." By and by the onlon tops will get so large that they almost fill the spaces between the rows and hand weeding may have to crop free from weeds.

About the time the onlons begin to enlarge at the base, or to "bottom," as the growers say, it is a good plan to scatter a very little nitrate of soda. not more than two pounds to the square rod, over the soil between the ing to leather upholstery, the leather rows and work it in with a hoe or should be rubbed lightly with a cloth rake. This will stimulate the growth dampened with gasoline, just at the time that the plants most need a little extra food and will usually increase the yield.

FINE SOIL FOR ROOT CROPS

Carrots, Parsnips and Salsify Want to Grow Straight, but Clods Work Injury.

Do you want long, straight carrots been under the doctor's car all this parsnips, and salsify, or crooked, week.-Boston Transcript. forked ones? Ask your wife; she has to peel them. All these roots have good intentions; they want to keep will keep it from blowing off on the straight, but they cannot stand adversity nor withstand temptation. If windlest day, they strike rocks or clods on the way down, they become forked or twisted, and if lumps of stable manure are to the soil, they bend toward these or send out branches in that direction. Dig extra deep, making the soil fine and mellow where these crops are to grow, and see that all manure is finely. pulverized and all fertilizer thorough-

GROW CROP OF LATE CABBAGE

ly mixed with the soil.

Land That Has Been Utilized for Peas Potatoes or Beans Is Usually Made Use of.

Late cabbage is usually grown on land that has been utilized for peas, early potatoes, or beans during the early part of the season. The seed should be sown in a seed box or a special outdoor bed four to six weeks before the plants are needed for setting. The seed should not be sown too thickly, and it is a good plan to thin the plants to an even stand in the seed bed, so they will develop uniformly. The land on which late cabbage is grown should be well fertilized and the plants set 18 to 20 inches apart in rows three feet apart.

MONEY FOR CONCRETE ROADS

Sum of \$635,000,000 Recently Appropriated by States and Counties for Construction.

States and countles of the United States have recently authorized \$635, 000,000 bonds for road construction much of it of concrete, \$391,000,000 bonds are passing through the process of authorization and the federal government has appropriated \$200,000, The states can do no better service ernment has appropriated \$200,000, to themselves and the country at this 000 toward road construction, making time than by using their road funds a total fund of over \$1,200,000,000 for good ronds.

Early Hatches Are Best, Early spring is nature's most favorsion awarded contracts recently for able growing season. By hatching hatched during the late spring or early summer.

> Oats in the Rotation. In considering the relative value of

hard to enumerate all of them.

DAUGHTER HAD TO HELP MOTHER

Now Can Do All Her Housework Alone Because Lydia E. Pinkham's

Vegetable Compound Helped Her Jasper, Minn. — "I saw in the paper about Lydia E. Pinkham's Vegetable Compound and took it because I was having such pains in my

stomach and through my back that I could not do my work. I had tried other mednad tried other med-icines, but none did me the good that your Vegetable Com-pound did. Now I am able to do all my work alone while be-

ter staying at home to do it. I have told a number of friends what it has done for me and give you permission to use my letter as a testimonial."—Mrs. JESSE PETERSEN, Route 1, Jasper, Minn. There is no better reason for your trying Lydia E. Pinkham's Vegetable Comwomen. So if you suffer from displace ments, irregularities, backache, ner vousness or are passing through the Change of Life remember this splendid medicine. What it did for Mrs. Peter-

sen it may do for you. The Vegetable Compound stands upon foundation of nearly fifty years of service.

Buttercup Seeds as Food.

The seeds of the buttercup are so small that we would scarcely think of them as a source of food for human beings; yet it is said that the Indians formerly gathered them for that purpose. At first thought, collecting them in sufficient quantity would seem like an almost endless task. But after one has seen them growing as thickly as grain-as in the cases above referred to, for instance—the situation takes on a new light

Birds Guard Our Trees.

We can spray orchards and shade trees with poisonous insecticides, but

Can You Beat It!

No better vacation motto has been be resorted to in order to keep the devised than that of which Pliny reminded Tacitus: "Better be at leisure than at nothing."-Boston Herald.

To keep one's clothing from stick-

Clothing Sticking to Leather.

Cleaning. Ceilings that have been smoked by an oil lamp can be cleaned by wash-

ing with water in which soda has been Long Time Fixing It.

Ohio Paper-Mrs. Lucy Merrow has

Ten pounds of lead inside your hat



What This Buffalo Physician Has Done For Humanity

The picture which appears here of Dr. Pierce of Buffalo, N. Y., was taken in 1910. As a young man Dr. Pierce practised medicine in Pennsylvania and was known far, and wide for his great success in alleviating disease. He early moved to Buffalo and put up in ready-to-use form, his Golden Medical Discovery, the well-known tonic for the blood. This strengthbuilder is made from a formula which Dr. Pierce found most effective in diseases of the blood. It contains no alcohol and is an extract of native roots with the ingredients plainly roots with the ingredients plainly stated on the wrapper. Good red blood, vim, vigor and vitality are sure to follow if you take this Alterative Extract. Dr. Pierce's Golden Medical Discovery clears away pimples and annoying eruptions, tends to keep the complexion fresh and clear. This Discovery corrects the disordered conditions in a sick stomach, aids diger lood, Write Dr. Pierce's Invalida Hotel in Buffalo, N. Y., and receive confidential medical advice free. Send 10e for trial pkg. tablets. gists sell Discovery, tablets or liquid.

BALL BLUE

used for baby's clothes, will keep them sweet and snowy-white until worn out, Try it and see for yourself. At grecers Are You Satisfied? BEHNKE-WALKER BUSINESS COLLEGE is the biggest, most perfectly equipped Business Training School in the Northwest. Fit yourself for a higher position with more money. Permanent positions assured our Graduates.

Write for catalog—Fourth and Yamhill,

enth in his church. He was found in the position of in the evenings, preach twice Sunday floorwalker and section manager of and wake up Monday eager for my a big Manhattan department store, a store job."

WORTH KNOWING

Ohio's first women's bank has been | The largest hot springs in the world

pened in Cleveland.

Mrs. O. S. Kinney is the only womRichard Wagner, the great com-

an member of the Alabama state sen- poser, was the youngest of nine chil-

Boston university is the only co- Henry Wadsworth Longfellow en-

fifteen.

with his wife,

educational university in Massachu- tered Bowdoin college at the age of

THIS PASTOR IS A FLOORWALKER

Methodist church here, Rev. F. C. the Union Hill church for 30 years. Ramsay passes six days each week as a floorwalker in a store and the sev-

Union IIIII, E. J .- Unable to make | position which he has held the last financial ends meet on his salary of year without the knowledge of his less than \$24 weekly as pastor of the parishloners. He has been pastor of

write my sermons, study and lecture

Booklet Issued Telling of Remarkable

(Prepared by the United States Department of Agriculture.)

The Morgan Horse Club of America ing of his remarkable sturdiness and ounted service endurance test held last October. The horses traveled

without developing any leg trouble.



His loss of only 121/2 pounds during

gan Horse club is entitled "Morgan Horse Wins Laurels in Mounted Service Endurance Test, 1921." The auman in charge of the United States

Lice and@mange mites are the two

and increased death rate.

BRAZING, WELDING & CUTTING ment, and sent free out the sulphur dips are ment, and sent free on request. Crude effective remedies for common or sarcoptic mange of hogs,

are given in the bulletin.

farrowing time.

FEED BROOD SOW LIBERALLY Animal Should Be Provided With

Feed the suckling sow liberally; provide her with clean, comfortable quarture as soon as possible. Watch the pigs carefully for signs of disease or parasites. A little attention now to insure a good-start for the litter will