

# HOW TO BUILD A SAND-CLAY ROAD

Proper Drainage Must Be First Consideration.

SIDE DITCHES ARE GOOD.

Before the Combination of Sand and Clay Has Become Thoroughly Dry It Should Be Dragged Every Morning to Smooth Out the Ruts—Care Should Be Taken to Keep Ditches Clean.

When a sand-clay road is built upon a clay subgrade proper drainage is one of the most essential things, for unless the subgrade of the road is dry and firm the surfacing of sand-clay is sure to break through, says Professor M. G. Homes of the University of South Carolina. Ordinarily side ditches, which must be large enough to carry off all of the water falling on the road, will be sufficient.

These side ditches should be wide and shallow rather than narrow and deep, as thus they will not be hard to keep open nor dangerous to travel. They should be from four to five feet wide and from one to one and a half feet deep, sloping three to one on the side next to the road and down to one on the outer side, and they should have outlets as frequently as possible to carry the water entirely away from the road. When the subgrade is wet or damp most of the time or is through swampy land the subdrains should be laid in order to keep the foundation of the road dry and firm. It must be borne in mind that greater care must be exercised to keep the clay subgrade dry and in the majority of cases of a subgrade in sandy soil.

The roadbed should be graded true to the lines and grades established by the engineer. All spongy material, vegetable matter, trees, roots and stumps should be carefully removed from the roadbed and the space thus filled in with sound material, and the surface of the roadbed should be dry and the sand and clay should be plowed and harrowed with a disk harrow to a depth of four inches until the clay is completely pulverized, and the clay subgrade should be comparatively dry or it will not pulverize. After this has been done the roadbed should be leveled up, and it will then be ready for the sand.

The subgrade is now covered with six to eight inches of clean, sharp and sound sand. When the clay already



ROAD WITH DRAINAGE SYSTEM.

contains much sand the amount of sand stated above should be cut down by that much. The sand should be spread evenly and be of a uniform thickness. To get the best results the road bed should be dry when the sand is added, and especially should it be dry when the sand and clay are mixed, as it is very difficult to mix the sand evenly with the clay when the latter is wet and sticky.

The mixing is now carried on with a spike or spring tooth harrow until the sand and clay are thoroughly incorporated and the mixture is brought to a state of fine subdivision. The roadway is now shaped up with road machine. A split log drag may be used. From now until the surface becomes thoroughly consolidated the greatest care should be exercised to keep the surface smooth and properly crowned, and for at least a week the surface of the roadway should be reshaped every morning with the road machine, for if the roadway is worn into ruts at first it is a hard matter to ever get a smooth surface.

As soon as it has dried out sufficiently the surface should be smoothed with the road machine and given the proper crown. And just before it becomes entirely dry it should be rolled until it becomes hard and ceases to show the tracks of ordinary loaded vehicles. The roller should weigh from six to ten tons, never more, and may be either horse power or a steam roller.

The side ditches should be given a general cleaning and repaired at least once in the early spring and once in the early fall. All ruts and other obstructions should be thrown out on the sides opposite from the roadway, and all scoured places and holes in the ditches should be filled up with firmly packed rock and clay.

**Salt Water For Dust Problem.**  
Salt water taken from the meadow streams will be used by the officials of Atlantic City to rid the country roads of the dust nuisance. The efficacy of salt water was discovered after they had expended thousands of dollars in experiments with oily concoctions.

## BE WISE; STICK TO FARM.

It Stands For Everything Attractive, Wholesome and Profitable.  
For the restless boy or girl who wants to go away from the farm and get out into the big world to do something, no better bit of earnest reading can be found than this extract from the New York Independent.

"The new farm children," it says, "live a third dispensation. The sciences began to take hold of the land at least fifty years ago, but there was an off-clearing necessary. The transition period was protracted, mainly because the land was already in possession of a race of farmers that would die off."

"The agricultural college applied the sciences to tillage and to crops and to animal life on the farm twenty-five years ago. It was slow work, not only to awaken the farmer, but to investigate, discover, and then to apply. The age is now rapidly falling into the hands of men who are alive to the great fact that production has never yet approached its maximum. The orchard has all this while, thanks to moths and caterpillars, become more and more an entomological laboratory. Gradually it has come about that not a thing can be grown on the land without a fight. This has not by any means been a permanent loss, but has awakened a spirit of scientific examination and determination to master conditions. The microscope and the crucible are as necessary today as the plow and the hoe. The farm boy is not without stimulus, nor is he without interesting conditions; rather it will now take the brighter boys to do the farming."

"The development of farm machinery and the application of new forces on the land have gone on at the same time. In every department of the home, in the house as well as in the barn, machinery takes the place of men, and the help problem is now driving us to a still more complete age of mechanism.  
"There is no lot on earth so enviable today as that of an American farm boy or girl. They have room, fresh air, beautiful surroundings, while the arts and sciences are involved in their work, and isolation is absolutely abolished.

"Nothing can be gained any longer by quitting the farm. It stands for everything that is attractive, wholesome and profitable; but at the same time it stands for the new and the stimulating. Country life cannot be made dull, unless it willfully severs itself from advantages that are freely offered."

## WILD MUSTARD GREAT PEST.

Not Useful Like Its Estable Cousins, but an Indefatigable Menace.

About as troublesome a weed as the farmer the world over has to deal with is the charlock or wild mustard. It is prolific to the extreme and, unlike its black and white cousins, is not only worthless, but harmful. About the only way to control it is to use a spray



SPRAYER TO DESTROY WEEDS.

made up of either a 2 per cent solution of copper sulphate or a 15 per cent solution of iron sulphate. The quantity needed is from fifteen to twenty gallons to the acre, and American grain growers go after it with a sort of watering cart.

It is particularly obnoxious in wheat-fields, not only choking growth, but making the harvesting of the crop a matter of great difficulty.

## Creek an Ideal Farm Hand.

A wide-awake farmer noticed that his creek, if dammed at a certain place, would produce a six foot waterfall. He built a dam and put in a water wheel—a \$300 turbine that yielded twenty-five horsepower. Over the water wheel he built a powerhouse in which he placed a dynamo for the water wheel to run. The electricity was wired 1,700 feet to the farm buildings.

Then he put his electricity to work in every possible place about the premises. He heated and lighted the house, did the cooking and the washing and ironing, did the sweeping and dusting, beat eggs—and at three different speeds too—turned the ice cream freezer and in summer ventilated the house with fans.

Now with a vacuum milking machine he milks twenty cows, two at a time; drives the cream separator, churns, pumps water into every room in the house and into the stall of each horse and cow, drives lathes and drills in a workshop, drives a circular saw to cut cordwood and drives an ensilage cutter. It pays to be up to date.

## THE MONEY MAKING MULE.

The mule is a slave animal. At two years he is ready to do considerable work and will from that age on make a profit over and above his feed and expense bill in the value of his labor and at the same time be growing more valuable until four or five years old, at which age he will command the top of the market in his age class.

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Attorney-at-Law

(Successor to W. A. Bell)

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(County Physician.)

Prineville, Oregon.

**M. R. Elliott,**

Attorney-at-Law

Prineville, Oregon.

**Fred A. Rice, C. E., J. B. Neville, Jr., E. M. County Surveyors.** Deputy Co. Surveyor.

**Rice & Neville**

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**M. C. Brink**

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**Willard H. Wirtz**

Attorney-at-Law.

Office in M. R. Biggs' office.

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## Summons.

In the Circuit Court of the State of Oregon for Crook county.

D. F. Stewart, Plaintiff,

vs.

John T. Moore and Della A. Moore, Defendants.

To John T. Moore and Della A. Moore, Defendants.

In the name of the state of Oregon. You are hereby required to appear and answer the complaint filed against you in the above entitled suit on or before the last day of the time prescribed in the order for the publication of this summons, to-wit: on or before the 2nd day of May, 1912, and if you fail so to appear and answer, for want thereof, the plaintiff will apply to the court for the relief demanded in his complaint, to-wit: for judgment against you for \$415, with interest thereon at the rate of ten per cent per annum from May 15th, 1908, for \$50.00 attorney's fees and for the costs and disbursements of this suit. For a decree for the sale of the lands described in that certain mortgage executed by you and in favor of plaintiff, dated May 14, 1908, and for the foreclosure of said mortgage.

This summons is published by order of the Honorable W. L. Bradshaw, Judge of the above entitled court, which order was made and entered on the 11th day of March, 1912, and the day of the first publication of this summons is the 21st day of March, 1912.

M. R. ELLIOTT,

Attorney for Plaintiff.

## Notice of Dissolution of Partnership.

Notice is hereby given to all persons concerned that the copartnership formerly existing and engaged in the sawmill business on Crook Creek, Crook county, state of Oregon, between O. F. Wallenburg and H. C. Farrer, under the firm name and style of Wallenburg & Farrer, has been this day dissolved by mutual consent, H. C. Farrer, retiring. All money and debts due and to become due said former firm are payable to O. F. Wallenburg, and all debts and liabilities due or to become due from said former firm are to be paid by him.

(Signed) O. F. WALLENBURG,

H. C. FARRER.

Dated this 15th day of March, 1912.

## Notice for Publication.

Department of the Interior, U. S. Land Office at The Dalles, Oregon, February 29th, 1912.

Notice is hereby given that Walter Elliott, of Prineville, Oregon, who, on March 21st, 1910, made homestead No. 9813, for 1/4 sec. 34 and 1/4 sec. 35, section 26, township 18 south, range 23 east, Willamette Meridian, has filed notice of intention to make final commutation proof, to establish claim to the land above described, before Warren Brown, county clerk, at his office, at Prineville, Oregon, on the 15th day of April, 1912.

Claimant names as witnesses: Joseph L. Lister, of Prineville, Oregon; John Brantlett, of Medford, Oregon; Marion F. Taylor, and George Ray, of Post, Oregon.

C. W. MUEBEK, Register.

## Notice to Creditors.

Notice is hereby given, by the undersigned, the executors of the estate of James K. McMeen, deceased, to all creditors of said deceased, all persons having claims against said estate to present them with the proper vouchers to the undersigned at the office of M. R. Elliott at Prineville, Oregon, within six months of the date of the first publication of this notice.

Dated this 2nd day of Feb., 1912.

CHAS. C. MCKEEN,

ERNA F. MCKEEN.



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