

GET WELL

Thousands of sufferers who have
FAILED

to get relief in any other way, are invited to investigate Chiropractic methods, which are permanently curing hundreds every day.

Chiropractic is the Safe, Sane, Sure and Modern science of curing and preventing disease.

Chiropractic will permanently cure 95 per cent of all diseases.

Chiropractic removes the cause; health returns.

The Best of Chiropractic Doctors will thoroughly diagnose your case and direct your treatment FREE. In the Clinic department of college.

Hospital. The college conducts a hospital in connection with the school where patients from a distance can have room, board and all Chiropractic service at a very small cost.

Don't Suffer. Get Well. For full information and reservation in hospital department, address Dr. Oscar W. Elliott, President.

PACIFIC CHIROPRACTIC COLLEGE

Cor. of Park and Yamhill Streets, PORTLAND, OREGON
Be a Chiropractic Doctor; earn \$5,000 a year. Write for full particulars

EARTH, SAND-CLAY AND GRAVEL ROADS



(Prepared by the United States Department of Agriculture.)

Effective drainage usually should be the very first consideration in connection with the location and design of any road. This statement requires no explanation, because the action of water in changing clay into mud and in causing all kinds of soils, except sand, to give way when a load is applied, is familiar to every person living in a humid climate. The following summary supplies a few suggestions as to how water may best be removed from a road bed:

- The road surface should be crowned so as to shed water off to the side ditches as rapidly as it falls on the road.
- Wherever the road is in an excavation, suitable side ditches or gutters

section of a road surface depends on two opposed factors:

(a) It is desirable to get water away from the surface as quickly as practicable, so as to prevent the surface material from being softened by saturation or washed by water collecting in, and flowing along, ruts.

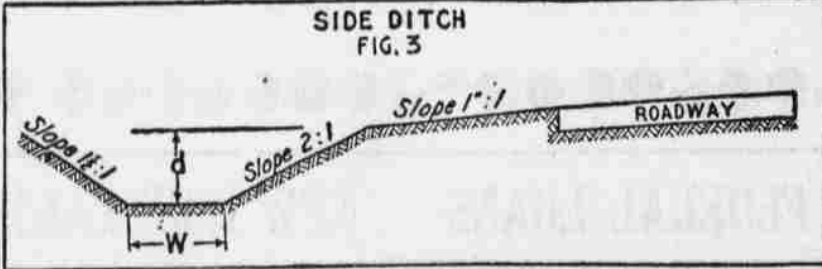
(b) It is desirable to keep the cross section of the road as flat as is consistent with good drainage, because traffic distributes itself over a flat road surface much better than over one that is heavily crowned, and an even distribution of traffic makes toward uniform wear and comparatively light maintenance. There is also less danger of skidding on a road of flat cross section than where the surface is crowned. In general, the amount of crown should be greater on grades than on



should be provided along the sides so that the water may be conducted to some point where it may be turned off from the road. The accompanying figures show typical cross sections for earth side ditches. The cross section shown in the first figure is suitable for steep grades where the depth of water in the side ditches must be kept low in order to prevent washing of the soil. The second figure shows a modified section which gives a greater capacity for the same widths of ditch than the cross section shown in the preceding figure, but which can be employed only on comparatively flat grades if washing is to be prevented. Figure 3 shows

level stretches of road, because the tendency for water to wash away the surface by collecting in and flowing along ruts depends largely upon the steepness of the grade. Also the care with which a road is to be maintained may have an important influence on the amount of crown that should be given to the surface. It is evident that a road surface maintained in a smooth uniform condition will shed water off to the side ditches with much less crown than would be required where ruts are allowed to form.

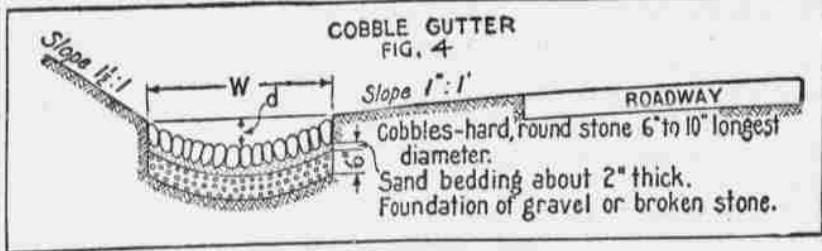
Instead of crowning the road surface sufficiently to prevent water from flowing along the traveled way and



a cross section adapted especially to flat grades where a considerable volume of water must be carried. Ditches of the cross sections shown in figures 1 and 2 have the advantage in that they may be constructed with an ordinary road grader, which is not true of the section shown in figure 3.

3. Where it is impracticable to construct side ditches that will carry the required amount of water without washing, paved gutters should be employed. Suitable cross sections for a cobble gutter are shown in figures 4 and 5. Where it is impracticable to construct gutters, earth side ditches frequently may be kept from washing by the use of breakers.

4. If the material composing the roadbed consists of springy earth, some form of underdrainage is essential. A



line of farm tile laid to proper grade under each side ditch is, in general, the most satisfactory way of securing adequate underdrainage. Either four-inch or six-inch tile is employed for this purpose.

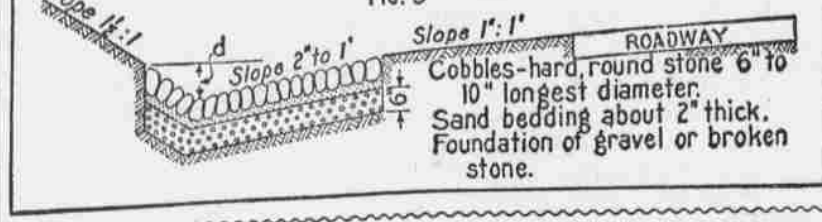
5. Culverts or bridges should be constructed wherever it is necessary to carry water across the road.

6. Avoid turning water from one intersecting road down the side ditches of another. Also avoid draining adjacent fields into the side ditches.

Crown.
The proper crown to give the cross

causing washes on steep grades, resort is sometimes had to "water breaks," or "thank-you-ma-ams," constructed across the road at short intervals. These water breaks may consist of either broad, shallow ditches or flat ridges constructed at a slight angle with the road so as to turn water from the traveled way into the side ditches. Such devices usually are much more objectionable, especially to automobile traffic, than a rather heavily crowned road, provided the surface is not constructed of material which becomes very slippery when wet, and they should be dispensed with except in extreme cases.

An exception to the general rules for crowning a road surface perhaps should be noted as applying to cases where the roadbed and surface are of



Sufficient food is essential. Every colony should have at least 30 pounds of honey. White clover honey is best, although any white honey is good. Dark honey should be used sparingly; and honeydew honey not at all, on account of the waste it contains. Bees count of the waste in the hive, never deposit fecal waste in the large intestine, but retain it in the large intestine, where it causes dysentery unless soon passed out. In attempting to rid themselves of this, the bees fly forth on cold days, become chilled and never

Methods of planting corn by which one or two rows of an early-maturing variety alternate with one or two rows of a later-maturing variety planted alone, according to the annual report of the bureau of plant industry. Where there is likely to be a shortage of moisture during certain periods of growing season, dependence should not be placed in a single variety; under such conditions two or three varieties which differ considerably in length of growing season

FACTS ABOUT GOATS

Every vicid kid shoe is made from goatskin.

All "mohair" goods in the dress line are made from goat hair.

The average Angora goat will produce about six or eight pounds of mohair.

The meat of the purebred goat is excellent and very similar to mutton.

The silk plush of every Pullman car is made of Angora goat hair.

The Angora reaches the size of an ordinary sheep, but it is slower to mature.

Goat milk gives a constitution to the child which cannot be obtained from cow's milk.

Angoras will thrive and live in any climate of our country where sheep will.

HORSE-RADISH IS GOOD CROP

Excellent Variety Discovered by Explorer of United States Department of Agriculture.

An excellent new variety of horse-radish was discovered by the United States Agricultural Explorer David Fairchild in Bohemia, a few years ago. Cuttings from this planted in April will produce fine large roots for grating the following October, and if left in the ground until spring, will grow to very large size. It is white



Horse-Radish.

and of excellent quality. Horse-radish grows on almost any kind of soil, and will stand the dry weather as well as potatoes. In planting horse-radish, fit the soil the same as for strawberries, and cultivate the same as any other garden crop.

Many persons plant horse-radish in some out-of-the-way spot and dig a piece of the root as often as needed, leaving the fragments of roots in the soil to grow for further use. This method results in having nothing but tough, stringy roots, very unlike the product of a properly planted and well cared for bed. The best roots are those planted in the spring at the time of setting early cabbage, and dug as late as possible as the weather will permit. It becomes therefore, an annual crop.

INCREASE YIELD BY PRUNING

Pinch Off Center Buds, Thus Throwing Energy of Plants to Formation and Ripening of Fruit.

The yield and quality of many vegetables can be increased by pruning and pinching off center buds, thus throwing the energy of the plants to the formation and ripening of fruit.

With muskmelons and cantaloupes I always pinch off the center bud of the main vine when it reaches a length of four or five feet, says a writer. Cucumbers are treated in a like manner. Such treatment results in increased size of the fruit and a hastening of maturity. For the same reason the ends of pole and lima bean vines are pinched off when they reach a height of six feet.

Tomato vines expected to yield an early crop are pruned severely. But three stalks are allowed to develop, all side shoots being pinched off as soon as they begin to form. The three stalks are firmly supported by a stake four feet in height.

When the vines reach the top of the stake the center bud is pinched out. This stops height growth and throws all the energy of the vine to the developing and ripening of fruit already set. By following this method I have obtained as high as 40 fine, perfect tomatoes from a single plant.

WAR GARDENS FOR EVERYONE

Supplies Are Needed for Armies Fighting for Brotherhood and Peace, Says Dean Woods.

Every family should have its own garden this year. "To do so will be to release supplies for the armies that are fighting for brotherhood and peace," says Dean A. F. Woods of the Minnesota College of Agriculture.

"To hasten the close of the war," adds Dean Woods, "we must feed the people in the armies. The farmers are doing everything possible and the people of the towns should assist by avoiding waste and extravagance. They should make gardens not only in their back yards, but in their front yards as well, and on vacant lots. They should organize garden clubs, including women and children, and grow enough to supply their needs not only through the summer, but through the winter. They can do this by intensive effort."

Dean Woods urges boys' and girls' clubs, Boy Scouts, teachers, preachers and all public-spirited citizens to lead

SUFFERING FROM COLD

If you shiver in frosty weather, if you have cold hands and feet, if colds are stubborn and frequent, then your blood may be thin and impoverished.

SCOTT'S EMULSION

has been correcting this condition for nearly fifty years. It possesses rare powers for creating natural body warmth, for charging summer blood with winter richness and strengthening both throat and lungs.

The Norwegian cod liver oil in Scott's Emulsion is now refined in our own American laboratories which makes it pure and palatable. Scott & Bowne, Bloomfield, N.J. 17-12

MURINE Granulated Eyelids, Sore Eyes, Eyes Inflamed by Sun, Dust and Wind quickly relieved by Murine. Try it in your Eyes and in Baby's Eyes. No Smarting, Just Eye Comfort. Murine Eye Remedy At Your Druggist's or by Mail, One per bottle. Murine Eye Salve, in Tubes etc. For Book of the Eye—Free. Ask Murine Eye Remedy Co., Chicago

Very Concise.

A certain teacher asked her pupils to bring in "three items of information" about the river which flowed by their town; and from one boy she received this model of concise composition: "I have lived near it. I have skated over it. I have fell into it."—Exchange.

Anticipated.

"You know, Gladys, since I promised you a diamond ring, diamonds have gone up so—"

"And you want to make sacrifices to prove your love for me? You darling boy!"—Exchange.

A Blow for the Bench.

The judge (to jury who have retired several times without agreeing)—I understand that one jurymen prevents your coming to a verdict. In my summing up I have clearly stated the law, and any jurymen who obstinately sets his individual opinion against the remaining 11 is totally unfitted for his duties.

The Solitary Objector—Please, m'lud, I'm the only man who agrees with you!—Passing Show.

To keep clean and healthy take Dr. Pierce's Pleasant Pellets. They regulate liver, bowels and stomach.

Not So Bad.

Mrs. Suburbs on the way home from the musical show, "I think," she said primly, "that those ankle watches are positively immodest."

"How can you say so?" replied Mr. Suburbs soothingly, "the ankle watch is very modest. It keeps its hands before its face all of the time."—Exchange.

BIG, STRONG CHICKS
Is the result of using Petaluma Incubators and Brooders. That's the kind you want. Write for our big Free Catalog No. 60. PETALUMA INCUBATOR CO. Petaluma, California

COLIC IN HORSES
demands PROMPT attention. Keep one or two bottles of Dr. David Roberts' Colic Drench 75c in your medicine chest all the time. It relieves in the shortest possible time. Read the Practical Home Veterinarian. Send for free booklet on ABORTION IN COWS. If no dealer in your town, write Dr. David Roberts' Vet. Co., 100 Grand Ave., Waukegan, Wis.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.
Reduces Strained, Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Boils, Swellings; Stops Lameness and allays pain. Heals Sores, Cuts, Bruises, Bunt Chafes. It is a SAFE ANTISEPTIC AND GERMICIDE
Does not blister or remove the hair and horse can be worked. Pleasant to use. \$2.50 a bottle, delivered. Describe your case for special instructions and Book 5 M free. ABSORBINE, JR., antiseptic liniment for mankind, reduces Strains, Blisters, Knots, Swollen Veins. Concentrated—only a few drops required at an application. Price \$1.25 bottle at dealers or delivered. W. F. YOUNG, P.O.F., 403 Temple St., Springfield, Mass.

KOW-KURE
Booklet, "The Home Cow Doctor," free.

Write for Catalog and full information on
PORTLAND SEED CO.

IRRITATING COUGHS
Promptly treat coughs, colds, hoarseness, bronchitis and similar inflamed and irritated conditions of the throat with a tested remedy—
RISOL'S

BIG MONEY IN FURS

SHIP TO NEAREST MARKET
BETTER PRICES-QUICK RETURNS

We Want Immediately
**MUSKRAT
SKUNK
COYOTE
RACCOON
MOLE
MINK
FOXES
OTTER
AND OTHER FURS.**

Prices are higher than ever.
Send for Raw Fur price list today.

H. LIEBES & CO.
Dept. E.
Raw Fur Dealers and Fur Manufacturers
149-151 Broadway, Portland, Or.

We Pay the Highest Market Prices For
RAW FURS
Guarantee quick returns; charge no commission. Make trial shipment and get the most for your FURS.

N. M. UNGAR CO.,
191 Broadway, PORTLAND, ORE.

200 Rooms Near Both Absolutely
100 Beds Depots Fireproof
Hotel Hoyt
Corner Sixth and Hoyt Sts., Portland, Ore.
LOU HIMES, Manager.

FRED DUNDEE
MOTOR CAR REPAIRING
MACHINE WORK
MAGNETO SERVICE STATION
ALL KINDS OF
WELDING
CYLINDER GRINDING
PROMPT ATTENTION
TO ALL ORDERS
Broadway at Flanders, Portland, Or.

MONEY FOR YOU.

Thousands of trained young people needed. Behns-Walker Business College, Portland, places students in positions. Enroll any time. Free Catalogue.

Has Another Think Coming.
The man who thinks he knows it all generally marries a woman who teaches him a lot more.—Boston Transcript.

Unselfish.

New Mistress—How about the afternoon out?
New Cook—I am willing that you should have one.—Boston Transcript.

Extent of Sympathy.

"The young man's story was a very affecting one. Didn't he touch you?"
"He did—for five dollars."—Exchange.

Similarity.

"You say Graftor makes you think of a corkscrew. Why so?"
"Like a corkscrew he has a pull, but it's on account of his crookedness."

SHIP Veal, Pork, Beef, Poultry, Butter, Eggs and Farm Produce.
to the Old Reliable Sewarding house with a record of 45 years of Square Dealings, and be assured of TOP MARKET PRICES.
F. M. CRONKHITE
5-7 Front Street Portland, Oregon

LESS MEAT IF BACK AND KIDNEYS HURT

Take a glass of Salts to flush Kidneys if Bladder bothers you.

Eating meat regularly eventually produces kidney trouble in some form or another, says a well-known authority, because the uric acid in meat excites the kidneys, they become overworked; get sluggish; clog up and cause all sorts of distress, particularly backache and misery in the kidney region; rheumatic twinges, severe headaches, acid stomach, constipation, torpid liver, sleeplessness, bladder and urinary irritation.

The moment your back hurts or kidneys aren't acting right, or if bladder bothers you, get about four ounces of Jad Salts from any good pharmacy; take a tablespoonful in a glass of water before breakfast for a few days and your kidneys will then act fine. This famous salts is made from the acid of grapes and lemon juice, combined with lithia, and has been used for generations to flush clogged kidneys and stimulate them to normal activity; also to neutralize the acids in the urine so it no longer irritates, thus ending bladder disorders. Jad Salts cannot injure anyone; makes a delightful effervescent lithia-water drink which millions of men and women take now and then to keep the kidneys and urinary organs clean, thus avoiding serious kidney disease.—Adv.

Anxious.

Sister—Is George waiting still?
Willie—Not very still. He acts kind of nervous. Guess he's goin' to propose.—Brooklyn Citizen.

Jawing.

Mr. Peewee—I suppose you're very much annoyed by me.
His Wife—I never allow myself to be annoyed by trifles.—Exchange.

Proof Positive.

"Is that purse of yours real alligator skin?"
"Is it? Just listen to it snap."—Baltimore American.

A Man of Few Words.

Walter L. Ball of Muncie, former state senator and recently republican candidate for the 8th congressional nomination, has a farmer client he will pit against the world for fewness of words. Seeing Farmer X in the street the other day and knowing that Mrs. X had been ill, Mr. Ball inquired of the husband:

"Well, Jim, how's the wife today—any better?"
"None."
"Any worse?"
"None."
"Just about the same, eh?"
"None."
"Well, how is she, then?"
"Dead."—Indianapolis News.

Constipation can be cured without drugs. Nature's own remedy—selected herbs—Is Garfield Tea.—Adv.

More Trying Position.

Newrich (to prospective butler)—A hundred dollars a month? Why, that's all I pay my bookkeeper.
Butler—But 'e doesn't 'ave to hassoociate hevery day with your family, sir.—Exchange.

Constipation, indigestion, sick-headache and bilious conditions are overcome by a course of Garfield Tea. Drink on retiring.—Adv.

Hose-Anna and Such Tunes.

She—Do you play on the piano?
He—Occasionally. I am a fireman.—Boston Transcript.

RAILROAD BILLING and TRAFFIC COURSE

and Dictaphone Operators

Now in demand by the Railroad Companies. My course will fit you for any of the above positions. Course by mail if desired.

SHERLOCK BILLING and DICTAPHONE SCHOOL