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CHAS. G. HOPKINS, Manager.

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THE FINEST DOLLAR ROOM IN AMERICA
With detached bath, 1 person, \$1.00 \$1.50
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TYPHOID is no more necessary than Smallpox. Army experience has demonstrated the almost infallible efficacy of Typhoid Vaccine, and the almost certain immunity of Antityphoid Vaccination. Be vaccinated NOW by your physician, you and your family. It is more vital than health insurance. Ask your physician, druggist, or send for "Have you had Typhoid?" telling of Typhoid Vaccine, obtainable from us, and danger from Typhoid Carrier. THE CRITTELL LABORATORY, BERKELEY, CAL. PRODUCING VACCINES & SERUMS UNDER U. S. GOV. LICENSE

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for THANKSGIVING and CHRISTMAS trade. Write for prices. Ship us your Veal, Hogs, Poultry, Eggs, Hides and Cascara bark. Top prices and fair treatment.

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Will guarantee you top market prices at all times for your Veal, Hogs, Poultry, Eggs, Butter, Hides, Etc. If you have not shipped to us, try us.

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Write about your wants in this line to
FINKE BROS.,
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HIDES, PELTS, CASCARA BARK, WOOL AND MOHAIR.

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THE H. F. NORTON CO., Portland, Ore.; Seattle, Wa.

SHIP Veal, Pork, Beef, Poultry, Butter, Eggs and Farm Produce.
to the Old Reliable Everding house with a record of 45 years of Square Dealings, and be assured of TOP MARKET PRICES.
F. M. CRONKHITE
5-47 Front Street Portland, Oregon

We Want Your BEANS

We Pay Cash. No Commissions
HEIDENREICH CO.,
74 Front St., Portland, Ore

P. N. U. No. 42, 1917

GRAVEL ROAD WORK

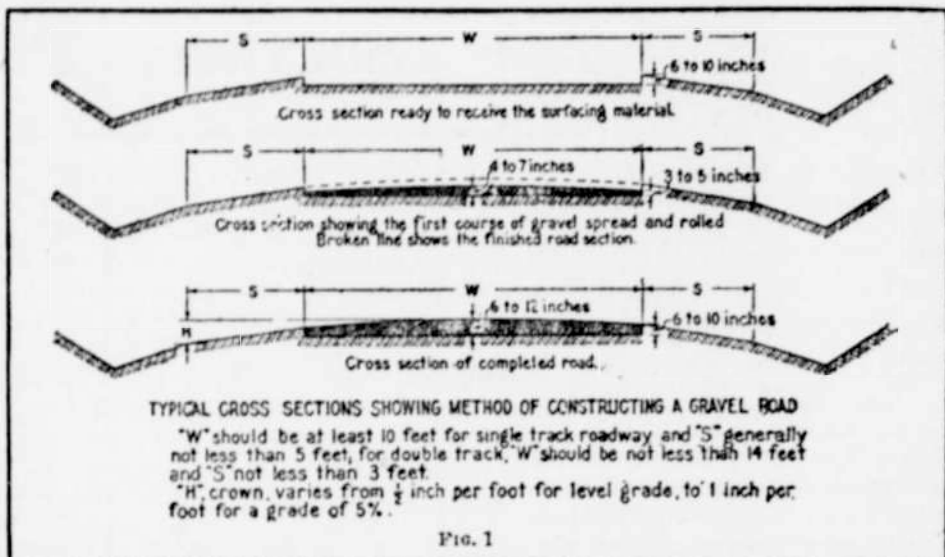
Construction Is Usually Divided Into Two Entire Distinct Classes.

SUBGRADE FOR THE SURFACE

Some of Most Important Details Requiring Careful Attention Are Frequently Overlooked—Some Precautions to Observe.

Figure 1 shows a typical cross section for a gravel-road surface and indicates the customary steps involved in the construction of such a surface. The limiting thicknesses shown on this cross section are by no means followed universally, but are believed to represent the best current practice. The minimum thickness shown is supposed to be employed where the traffic is light and the subgrade is uniformly stable, while the maximum thickness is adapted for opposite conditions. Perhaps the most usual compacted thickness of surface is eight inches at the center and six inches at the edges. The difference in thickness between the edges and center is effected by making the crown of the subgrade flatter than that of the surface.

The construction of a gravel road usually is divided into two entirely distinct classes of work. The work of grading and preparing the subgrade



falls into one class, and that of hauling, spreading and compacting the gravel into the other. The first class of work has been discussed at considerable length in connection with earth and sand-clay roads, but since it is desired to emphasize certain features of subgrade preparation that are of increased importance in connection with gravel-road construction, both classes of work will be considered in the following discussion:

Preparation of the Subgrade.

In grading the roadbed and preparing the subgrade for a gravel surface, it should be borne in mind also that the more expensive a road surface, the greater should be the care exercised to prevent it from being damaged through settlement or upheaval of the subgrade, and the greater should be the accuracy with which the subgrade is constructed, so that no unnecessary surfacing material may be required to correct irregularities in grade and cross section. No matter what the soil conditions may be, the subgrade for a gravel road surface, when completed, should conform closely in grade and cross section with the requirements of the plans and should present an even, uniform appearance. Also, it should be as firm and unyielding as the conditions will permit.

Some of the most important details requiring careful attention in preparing the subgrade, and which are perhaps most frequently overlooked, are (1) backfilling culvert trenches so as to prevent subsequent settlement, (2)

COLLIDED WITH A BUMBLEBEE

Aviator Finds There Are Other Things Besides Airplanes That It Is Not Safe to Encounter in the Air.

Birds and airplanes are not the only flying things with which it is possible for an aviator to have a serious collision. The author of "Tales of the Flying Service" gives as an instance a strange accident that occurred in France.

Not long ago, he says, I ran across an aviator I know, looking very much annoyed and with one eye seriously obstructed by a large contused swelling on his cheekbone. Thinking that he had had a smash of some kind, probably a bad landing in which he had been pitched against the front of his machine, I asked him what had happened.

He explained that about six hours earlier he was starting out on a fast biplane, and was going full speed on the ground in order to get a good jump into the air, when he met a large-sized bumblebee going in a burry in the opposite direction.

exclusion of vegetable matter from fills, (3) provision for draining wet-weather springs which occur in the subgrade, and (4) the matter of thoroughly loosening and distributing the materials contained in old road crusts.

After the roadbed has been graded and drained properly, and the details mentioned above have received proper attention, the work of preparing the subgrade consists simply in forming a trench, as shown in figure 1, to receive the gravel surface. The trench may be formed largely with a grading machine, but the final shaping should be effected by means of picks and shovels and rolling. It is customary to provide grade stakes at intervals of about 50 feet, to serve as a guide for the pick and shovel work, and where extreme accuracy is desired cords may be stretched between the stakes to insure that the subgrade conforms to the required grade throughout. The rolling is done ordinarily with a power roller weighing about ten tons.

In order that the subgrade may be well drained during the process of spreading and compacting the gravel it is frequently necessary to provide shoulder drains at comparatively short intervals. Such drains are constructed by opening small ditches through the shoulders and partially filling them with gravel.

PROPER FEED FOR CHICKENS

Dry Ground Mixture in Hoppers Should Be Kept Before Them at All Times—Give Some Milk.

Farmers should keep dry ground feed, such as a mixture of bran, shorts

A Halt to John Barleycorn.

Ten years ago probably not one American in a million expected to see the day when the government, on thirty days' notice, would by its fiat stop the making of whisky for an indefinite period. Yet that is precisely what was done last month, under the provisions of the Food Control Act, while the country looked on in amazement. The greatest distilleries in the world—those at Peoria and Louisville—stopped the buying of grain, save in comparatively small quantities for the manufacture of alcohol for commercial and medicinal uses. These great plants have not been equipped for producing anything except whisky. Experts tell us, however, that of all the grain that was taken by distilleries the country over, only 40 per cent went into whisky. This estimate would indicate a saving of 40,000,000 bushels of grain a year for food purposes. There need be no fear of a whisky famine, for the stock accumulated by the distillers and stored is described as enormous. Meanwhile, the government will continue the collection of heavy taxes on this stock, and its revenues from this source may be even greater than before the manufacture was stopped.—From "The Progress of the World," in the American Review of Reviews for October, 1917.

ALLEN'S FOOT-EASE DOES IT.
When your shoes pinch or your Corns and Bunions ache, get Allen's Foot-Ease, the antiseptic powder to be shaken into shoes and sprinkled in the foot-bath. Gives instant relief to Tired, Aching, Tender Feet. Sample FREE. Address Allen S. Olmsted, LeRoy, New York.

Definite Information.
The recruit was both sulky and stupid and strongly resented the inquisitorial character of the questions put to him. At last the sergeant turned to him and sternly said: "Look here, young fellow, you've got to give a straight answer to questions put to you. Now, then, where were you born?" Then came the answer slowly, as if the information imparted were grudging: "London—right hand side, going in."—Liverpool Post.

To keep clean and healthy take Dr. Jerce's Pleasant Pellets. They regulate liver, bowels and stomach.
Her Contribution.
"He owes his success to his wife."
"That so?"
"Yes. Scarcely a day goes by but she keeps him from making a fool of himself in one way or another."—Exchange.

Sure! High Heels Cause Corns But Who Cares Now

You reckless men and women who are pestered with corns and who have at least once a week invited an awful death from lockjaw or blood poison are now told by a Cincinnati authority to use a drug called freezone, which the moment a few drops are applied to any corn or callous the soreness is relieved and soon the entire corn or callous, root and all, lifts off with the fingers. Freezone dries the moment it is applied, and simply shrivels the corn or callous without inflaming or even irritating the surrounding tissue or skin. A small bottle of freezone will cost very little at any of the drug stores, but will positively rid one's feet of every hard or soft corn or hardened callous. If your druggist hasn't any freezone he can get it at any wholesale drug house for you.

COMB SAGE TEA IN FADED OR GRAY HAIR

If Mixed with Sulphur it Darkens so Naturally Nobody can Tell.

Grandmother kept her hair beautifully darkened, glossy and attractive with a brew of Sage Tea and Sulphur. Whenever her hair took on that dull, faded or streaked appearance, this simple mixture was applied with wonderful effect. By asking at any drug store for "Wyeth's Sage and Sulphur Compound," you will get a large bottle of this old-time recipe, improved by the addition of other ingredients, all ready to use, for about 50 cents. This simple mixture can be depended upon to restore natural color and beauty to the hair. A well-known downtown druggist says everybody uses Wyeth's Sage and Sulphur Compound now because it darkens so naturally and evenly that nobody can tell it has been applied—it's so easy to use, too. You simply dampen a comb or soft brush and draw it through your hair, taking one strand at a time. By morning the gray hair disappears; after another application or two, it is restored to its natural color and looks glossy, soft and beautiful. This preparation is a delightful toilet requisite. It is not intended for the cure, mitigation or prevention of disease.

AN OPERATION AVERTED

Philadelphia, Pa.—"One year ago I was very sick and I suffered with pains in my side and back until I nearly went crazy. I went to different doctors and they all said I had female trouble and would not get any relief until I would be operated on. I had suffered for four years before this time, but I kept getting worse the more medicine I took. Every month since I was a young girl I had suffered with cramps in my sides at periods and was never regular. I saw your advertisement in the newspaper and the picture of a woman who had been saved from an operation and this picture was impressed on my mind. The doctor had given me only two more days to make up my mind so I sent my husband to the drug store at once for a bottle of Lydia E. Pinkham's Vegetable Compound, and believe me, I soon noticed a change and when I had finished the third bottle I was cured and never felt better. I grant you the privilege to publish my letter and am only too glad to let other women know of my cure."—Mrs. THOS. MCGONIGAL, 3432 Hartville Street, Phila., Pa.