The Chief Factor in Road Maintenance

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the draw-chain it is usually advisable to run both ends of the chain thru holes in the front runner or else make the connections by means of eye or hook bolts, as shown in the drawing.

Metal Edge Desirable

Many road drags are constructed as above described, without metal cutting edges or other modifications and have been very satisfactory. It is evident, however, that such drags are effective only on comparatively soft road surfaces, and to diminish this limitation and also increase the life of the drag it is very desirable to provide a metal cutting edge for the front runner. An excellent edge of this kind may be made from a strip of iron or steel one-fourth inch thick and about 4 inches wide, and even old

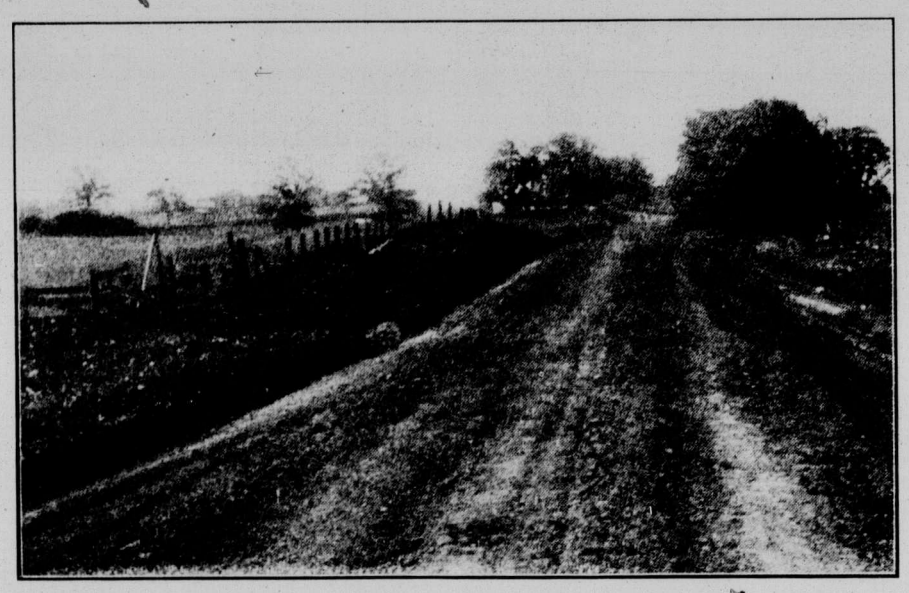
NOT ENOUGH CROWN, LACK OF ATTENTION AND CONSEQUENT HEAVY HAULING

wagon tires or worn-out grader blades have been very satisfactory. The cutting edge may extend along the entire length of the front runner, or it may extend only a part of this length and leave the discharge end of the runner without protection. The advantage of the first method is that the entire front runner is protected from fraying and wearing. The second method affords a slight operating advantage in that the discharge end of the runner is somewhat better adapted to spreading out and compacting the material which it releases while in operation. A skilful operator can usually so adjust the hitching link or shift his weight, if he is riding upon the drag, that the discharge end of the front runner will satisfactorily spread the material which is moved, even when the metal-cutting edge extends thruout its length.

How to Use the Drag

The principal factor in successfully operating a properly constructed road drag, provided that the condition of the road is favorable, is skill on the part of the operator. Such skill can be obtained by intelligent experience in the use of the drag, and no rules can be laid down which would enable an inexperienced operator to produce first class results. Under ordinary circumstances the position of the hitching link on the draw chain should be such that the runners will make an angle of from 60° to 75° with the centre of the road line or in other words a skew angle of from 15° to 30°. It is readily apparent that by shifting the position of the hitching link the angle of skew may be increased or decreased as conditions require. When dragging over ruts or down the centre of the road after the sides have been dragged, it is usually preferable to have the hitching link at the centre of the chain and to run the drag without skew. When the principal purpose of the dragging is to increase the crown of the road, the drag should be sufficiently skewed to discharge all material as rapidly as it is collected on the runners. On the other hand, if depressions occur in the road surface, the skew may perhaps be advantageously reduced to a minimum, thus enabling the operator to deposit the material which collects in front of the runners at such points as he desires by lifting or otherwise manipulating the drag. The length of the hitch is another very important consideration in operating the road drag, and it must be adjusted at the discretion of the operator.

When the road surface is sufficiently hard or the amount of material which it is desired to have the drag move is sufficient to warrant the operator standing on the drag while it is in operation, he can greatly facilitate its work by shifting his weight at proper times. Thus, if it is desired to have the drag discharge more rapidly, the operator should move toward the discharge end of the runners. This will cause the ditch end of the runners to swing forward and thus increase the angle of the drag. The opposite effect will, of course, result from the weight being put toward the other end.



ROAD GRADED, CROWNED AND SURFACE KEPT SMOOTH BY A DRAG, CONSEQUENTLY EASY HAULAGE AND COMFORT

When to Use the Drag

It is fully as important that a road be dragged at the right time as it is that the dragging be properly done. It is almost impossible, however, to offer any definite rules as to this matter and the success or otherwise of the operation of the drag will depend largely upon the individual. Different types of roads require different treatment. The rule frequently cited that all earth roads should be dragged immediately after every rain is in many cases entirely impracticable. Of course, if the road surface is composed of earthy material mixed largely with sand, such as will not get very sticky even in very wet weather and has a tendency to harden rapidly as soon as the weather clears up, surfaces such as these are best treated if dragged almost immediately after a rain. On the other hand, as the farmer in many Western districts knows only too well, there are earth roads which would be utterly ruined if dragged before they had had time to dry out. This matter of control rests largely on the kind of soil of which the road is made. In general, it may be said that the best time to drag any type of road is when the material composing the surface contains sufficient moisture to compact readily after it has been moved by the drag and is not sufficiently wet for the traffic following the drag to produce mud and consequently make ruts.

In judging the work of a drag it must be remembered that it is only designed to maintain roads, not to make them. So many farmers after using the drag give it up in disgust just because it will not make a perfectly good road out of what is virtually a prairie trail. The drag is useful in smoothing down any rough surface, but it cannot make a rounded grade out of a soddy trail. Roads must first be graded, drained and crowned then the drag comes into its own, and when once used will be recognized as indispensable for the upkeep of such grades

DISTRIBUTION OF SEED GRAIN AND POTATOES

By instructions of the Hon. Minister of Agriculture a distribution of superior sorts of grain and potatoes will be made during the coming winter and spring to Canadian farmers. The samples for general distribution will consist of spring wheat (about 5 lbs.), white oats (about 4 lbs.), barley (about 5 lbs.), and field peas (about 5 lbs.). These will be sent out from Ottawa. A distribution of potatoes (in 3 lb. samples) will be carried on from several of the experimental farms, the Central Farm at Ottawa supplying only the Provinces of Ontario and Quebec. All samples will be sent free, by mail. Applicants must give particulars in regard to the soil on their farms, and some account of their experience with such kinds of grain (or potatoes) as they have grown, so that a promising sort for their conditions may be selected. Each application must be separate and must be signed by the applicant. Only one sample of grain and one of potatoes can be sent to each farm. If both samples are asked for in the same letter, only one will be sent. Applications on any kind of printed form cannot be accepted.

Apply Early

As the supply of seed is limited, farmers are advised to apply early; but the applications will not necessarily be filled in the exact order in which they are received. Preference will always be given to the most thoughtful and explicit requests. Applications received after the end of January will probably be too late. All applications for grain (and applications from the Provinces of Ontario and Quebec for potatoes) should be addressed to the Dominion Cerealist, Central Experimental Farm, Ottawa. Such applications require no postage. If otherwise addressed delay and disappointment may occur. Applications for potatoes from farmers in any other province should be addressed (postage prepaid) to the Superintendent of the nearest Branch Experimental Farm in that province.

For the first time in sixteen years the meat packers at the Chicago stock yards are working day and night in the canned meat and hide departments to fill orders received as a result of the war. In the canning departments of the big packers alone three thousand extra men have been put to work within a week.

Increases in the salaries of Ontario civil servants will be abandoned this year at least.