

or early summer, they very quickly become smooth under traffic; and until cut up by fall rains, make a very serviceable road, where better cannot be obtained.

The drag should be used when the road is wet in the spring, and after rains, as it then "puddles" the surface of a clay road, and enables it to shed the water to the side ditches, instead of absorbing it.

To reach the best results with this method, presupposes the grading of the earth roadway with the modern grading machine. This forms the ditches or water-table; it crowns the roadway in a proper manner, leaving the grade such that good surface drainage is possible. The split-log and kindred scrapers are merely instruments of repair; the grading machine is the instrument of construction.

A. W. CAMPBELL,  
Highway Commissioner for Ontario.

[Note.—It is very encouraging to find that parties who do take a special interest in the simple methods of roadmaking and have secured some practical information, are willing to communicate it to the public through our columns. It is to be hoped that more of our readers who are doing excellent work throughout Ontario will contribute good-roads literature in this way, and refer to some of their experience.—Editor.]

### Roadmaking at Ste. Anne de Bellevue.

The road shown in the engraving, built over bog land on the Macdonald Agricultural College farm, Ste. Anne de Bellevue, was plowed about 4th July; it was then thoroughly worked with a disk and cultivator to kill the sod. After this it was graded with a road grader, the center was levelled out, and the sub-grade rolled with a 10-ton steam road roller. Stone picked off the fields was then spread about four or five inches thick and twelve feet wide; this was broken by hammers to what would be called a four-inch size. This coating of stone was then thoroughly rolled, the roller crushing and levelling it to a smooth surface. On top of this about four inches of crushed stone from the stone crusher, screened through a 2½-inch screen, was evenly spread with a Sawyer & Massey spreading wagon, and then well rolled. As a finishing coat, two inches of fine material was then applied with the spreading wagons, and rolled to a smooth, hard surface.

The stone used was a hard blue limestone. The coarser stone, as already mentioned, was mostly picked up off the fields. The stone crushed was quarried on the College grounds. A No. 2 Austin gyratory stone-crusher was used to break the stone into two sizes, by means of a revolving screen, manufactured by the Sawyer & Massey Company. This screen was six feet long, with perforations of 1½-inch and 2½-inch, in lengths of three feet each. The crusher broke everything fine enough to go through the screen. Two spreading wagons were used, and the rolling was done by a Case traction-engine roller weighing ten tons. The width of the road, as shown, is 12 feet, and the average depth of stone 9 inches. I can hardly estimate the cost of such a road, as that would depend largely on the cost of material, but if that did not cost more than \$2 to \$2.50 per cord for stone, the actual cost of construction (leaving out interest for machinery, etc.), should not exceed \$1,200.00 per mile.

We have also built some roads here with a metalled width of eight feet, following the same directions as given above. In the case of about 1,000 feet of road built over a bog, the width was 18 feet, and from 1 foot to 15 inches of stone was applied in the same proportions as given above. Of course a road metalled only eight feet would cost considerably less than one metalled 12 feet, as shown in the photograph.

JAMES SHEPPARD.

### Little Effort.

Next year "The Farmer's Advocate and Home Magazine" will be better than ever before in every department. We therefore ask all our old friends not only to renew promptly, but, as a special inducement to extend its circulation, we make this special offer, good only till Dec. 31st.

Present subscribers who send us two bona-fide new subscriptions (enclosing \$3) will have their own subscription advanced one year; or, for sending one new subscription and \$1.50, we will advance the old subscription six months.

Changing the name from one member of the family to another is not "a new subscriber." Remember, that the new subscribers will get all the copies for the balance of this year, the beautiful Christmas Number and all of 1907 for the \$1.50. This is a splendid offer. Push it hard. Begin to-day.

### Notes from Ireland.

#### ARBOR DAY AND FORESTRY PROGRESS.

If the Irish Forestry Society achieved nothing else in its career, its existence has been fully justified by the successful way in which it has drawn public attention to the Arbor-day movement, and the extent to which observance of this tree-planting carnival has been secured through its instrumentality in many parts of the country. About two years ago, under its auspices, Arbor Day was officially inaugurated by the planting of half a dozen trees in a prominent part of the expansive Phoenix Park, near Dublin. After this initial effort had been accomplished amid great enthusiasm, it was thought that the movement was on a fair way towards general adoption in Ireland, but, alas, the country people, as a whole, (though there were notable exceptions), did not come into line so readily as could be wished. For a year or so, it must be confessed, the matter was permitted to lie somewhat in abeyance. This year, however, the Forestry Society determined "to do or die" (preferably the former, of course), and, when autumn approached, a valiant effort was made to impress with greater emphasis than ever the need of a more widespread appreciation of the necessity of tree preservation and planting, and the assistance which the general observance of Arbor Day would in many directions contribute towards the desired object. In this laudable aim, the Society found willing and useful allies in the agricultural and general press, and strong appeals on the subject appeared in most of the papers. In addition to these, however, direct circulars were sent to the county councils and other local authorities, explaining the idea embodied in Arbor Day, and asking for its institution in their respective districts. The closing week of October and the opening days of

matter of option for us in these countries to attend to existing forest areas and seek to extend them; rather, it is supremely important. Would that this aspect of the subject were more forcibly driven home and better appreciated by the State.

#### PURE-BRED STOCK BREEDING.

One of the most notable developments of recent years in Irish farming, but one which changing times and conditions have rendered necessary—not to say eminently advisable—has been the marked expansion that has taken place in the number of breeders of pedigreed stock in the country. Whereas ten or twenty years ago our pure-bred herds, flocks and studs could be pointed to as isolated examples, there have now sprung up dozens and hundreds of nurseries of high-class and well-bred pedigree stock, possessing in them the elements of success and progress. In no case, perhaps, has this development been more noticeable than with regard to the Shorthorn cattle, whose popularity here, as elsewhere, shows no signs of waning. By way of parenthesis, and as an example of the hold which the breed has obtained in this country, it may be mentioned that, of the 800 bulls subsidized by the Department of Agriculture during 1905 for service, to improve the country stock, no less proportion than 602 were of the Red, White and Roan breed, the remainder including only 104 Aberdeen-Angus and 69 Herefords. Or, again, even more striking are the estimated totals of bulls serving cows in Ireland during the same year, the respective figures being: Shorthorns, 10,689; Aberdeen-Angus, 769; Herefords, 390; Red Polls, 142; Kerries, 327; Dexters, 95; Channel-Island breeds, 67; cross-breeds, 4,250. As may be gleaned from such comparisons, Shorthorn herds are now quite numerous throughout the country, and a fact that affords special gratification is that our Irish

breeders are proving successful in obtaining a goodly share of the patronage of the South American and other foreign buyers whose operations have made the breeding business so profitable for our Scotch and English friends. As a case in point, reference may be made to the fact that, during the second quarter of this year—the three months ending with June 30th—over 80 Irish-bred Shorthorns were exported to South America. Irish-bred Kerries and Dexters have recently been sent to New Zealand and Australia, while one of our leading Irish flocks of Shropshire sheep, that owned by Mr. R. F. H. White, in the Queen's County, has lately had purchasers from such distant parts of the world as Tasmania and Chili. Other examples could be cited of the encouragement which this foreign demand, now being directed to our shores, gives to our Irish breeders—an encouragement which, it is to be hoped, will foster a striving to produce the highest-quality animals, and so to enjoy a merited and ever-expanding market for them.

#### THE STATUS OF THE AGRICULTURAL INSTRUCTOR.

Strange things happen everywhere now and again, and I am in a position to relate an occurrence that can only be described as strange, and which possesses as much interest for Canadians as for those people at home here who are aware of it. A certain agricultural instructor in the service of the Department of Agriculture, and one who has done excellent work in a progressive Irish county, recently decided to resign his position and repair forthwith to Canada—that magnetic land—where he purposes pursuing, in Alberta, I believe, the commonplace, but (as our mutual friend the Editor so forcibly emphasized in a recent issue) the dignified industry of farming. Of course, there is nothing very peculiar in a man setting out from the beaten track to make the most of his life, but the special circumstances under which this particular young gentleman has arrived at his decision are not altogether on a par with an average case. I think the announcement will have a curious effect on the farmers who have been accustomed to his advice on how to profitably manage their farms, and so remain at home to make a living instead of joining in the ever-flowing westward stream of emigration. Of course, every man knows his own business best, and no one has a right to blame any man for following the bent of his own inclinations, so our unnamed friend is free to bring his scientific and expert knowledge of agriculture to his own personal advantage under any skies he may desire, and may well wish to him in his enterprise and independence of thought and action.

But, incidentally, however, opens up what I regard



Road Over Bog Land.