

## MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

# MUNICIPAL DEPARTMENT

## ROAD CONSTRUCTION AND MAINTENANCE.

By W. M. DAVIS, C. E., WOODSTOCK.

In this short paper I shall refer more particularly to the class of roads best suited to the conditions which exist in the county of Oxford, and which will be applicable to many localities similarly situated. The character of the land throughout the greater portion of the county is undulating and is now in a state of cultivation. In no part of the county is it difficult to find an outlet for subsoil and surface drainage within a reasonable distance. A few of the leading roads were constructed in a substantial manner in the early 40's by private companies, and the remainder of the highways have been graded and maintained by statute labor according to the system, or rather lack of system, prevalent over the whole Province. Material, such as field stone and gravel, for the construction of permanent roadways, can be had in many cases on the neighboring farms for a little more than the cost of hauling. The field stone have been gathered into heaps and disposed of in any way to get rid of them and were absolutely worthless in the absence of rock crushing machinery. All that is required to give us a network of excellent roads in the County is a knowledge of how to use the materials nature has placed at our disposal and a system under which the work may be done in a thorough manner, and when once done may be maintained in an efficient state.

The science of road construction is neither difficult nor abstruse, but is based on well established principles, a clear comprehension of which is necessary to attain satisfactory results. It is not by any means a modern science though in its infancy in this country. It is our good fortune to have the benefit of the years of experience of other countries.

**DRAINAGE.**—Some one has truly said the three prime essentials to good roads are first, drainage, second, better drainage, third, the best drainage possible. On soils of a nervous nature, open ditches of from three to three and a half feet in depth will be found sufficient if the fall is good. This point is imperative; no water must remain stagnant to soak into the road bed. In more retentive soils a very good plan is to lay three inch or four inch tile in the centre parallel with the line of the road and emptying into open drains or the natural water courses. Another method is to lay transverse drains, preferably in the form of a V, with the apex up hill and the legs connecting with the deep open ditches. Lay two lines of tile

(Continued on page 6.)

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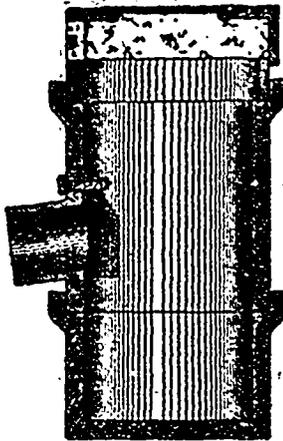
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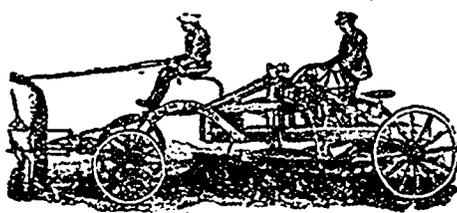
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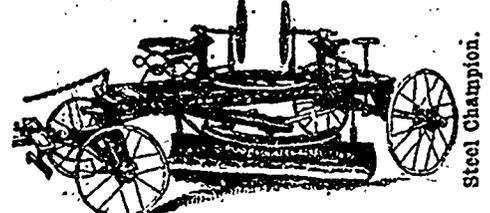
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