REPORT OF THE GOOD ROADS CONVENTION.

ance and necessity of good roads, and have striven in every possible. way, and are striving to-day to solve the difficulties by meeting them.

Now there are a few principles in connection with road making which must be followed. These principles are simple, but they are just as important as the principles of cheese making in the manufacture of cheese, or as the principles which must be observed in other enterprises. What are these principles, and how must they be observed in the construction of country roads? The celebrated MACADAM one time was asked what the principles of road making were. He said : "Well, gentlemen, they are just three in number. First, drainage; second, drainage; third, drainage." Drain the foundation. It is just as necessary to provide a dry and unyielding foundation for a road as it is for any other structure. You cannot bridge over mud and water by piling on stone and gravel. Crown the road so as to lead the surface water into the gutter, and thus drain the surface of the road. Construct ditches along the side with a free and uniform fall to a certain outlet; see that the outlet is clear to provide drainage for this surface water. Those are the principles of road making. There are details, of course, in connection with this which must be observed. Now, how are you following these principles here? I do not know exactly, only from looking over a certain small section, but in the majority of municipalties in the Province of Ontario they were following the principles of road making after this fashion : Don't drain the foundation ; build ditches along the side of the highway; use the earth from those ditches for raising a grade on the surface of the road, but do not construct any outlets from those ditches; keep the water in the foundation o. the road. In this way it will swallow up all the gravel and stone we can put on, and each year certain of us will receive so much money for piling on more stone and gravel; do not crown the surface of the road, but keep it flat, because the flat surface will retain the water when it falls; this water will penetrate the surface of the road, and after twelve hours rain the surface will become soft, the wheels will rut the road and drive the stones into the mud, make receptacles for the water, and the road will more readily become destroyed. Then the next point which they observed: Use dirty material in the construction of roads; that is, provide gravel which will contain about fifty per cent. of sand and earthy matter, and put that on: the

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