

## ROAD CONSTRUCTION.

By A. W. CAMPBELL, C.E., PROVINCIAL ROAD COMMISSIONER.

I had the pleasure of addressing your society about a year ago on the subject which at present is occupying my time. If I remember rightly, my talk was quite as much on the management of councils, as on the management of roads. I recall, too, that your Principal, Prof. Galbraith, suggested afterwards that he had expected me to discuss rather the practical construction of roads. It is said that in a certain Ontario town, the fathers of the community were discussing the ways and means of laying a suitable roadway on their main business thoroughfare. The financial difficulties seemed insurmountable. One tenacious member of the council finally expressed his belief that if they would "put their heads together" a plan would be devised. His suggestion, it is said, was acted upon, and the result was wooden block pavement. I rather fancy that were Prof. Galbraith to undertake the work of a city engineer, he would see very clearly the connection between the matter of my address and the practical designing of streets. It might have been described under the head of paving material.

It is, however, a material so seldom commented upon, in works on paving, and as a practical discussion was desired, I really could conceive of no department of a more practical nature. It may be that familiarity with the real work of road construction has caused me to underestimate the difficulties, but I am more strongly convinced to-day than I was perhaps a year ago, that good business ability, combined with the ability to deal with councils, must be the most important part of a municipal engineer's qualifications. However, this afternoon, I will try to be as practical as possible and will discuss a few points in the actual work of constructing a broken stone roadway for a town street.

### STAKING OUT WORK

To lay out the work; that is, to place the necessary stakes for the guidance of the foreman and workmen, is a matter to which I had