

## MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

necessary to inspect the erection, but this is very important. I was once instructed to inspect the erection of a long bridge of which the first span of the approach had already been completed. The field riveting had been so badly done that the superintendent of construction was instructed to go over the work himself, and was kept going over it until he had marked and cut out about 400 bad rivets. The riveting on the work thereafter was really well done; the bad work had cost too much.

The Railroad Commissioners of the State of New York have done good service by condemning many unsafe bridges and requiring the railroad to have the strains calculated on all their bridges. Every state should have a similar commission for both railroad and highway bridges. As most railroads have some sort of inspection, however poor, and most highway bridges have none, the latter are, as a rule, much more dangerous than the former.

## CONVICT LABOR IN ROAD MAKING.

The Georgia Road Congress has adopted a resolution approving of the use of convict labor in road making, and holding that labor and property should each bear their fair proportion of road duty, the latter to be an ad valorem tax. Each county is to decide as to the amount and character of the work to be done and own and furnish the tools to be used. A complete revision of existing roads laws is earnestly recommended. At the congress the Highway Improvement Association was formed, with all citizens of Georgia eligible to membership on the payment of 50 cents per annum.

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WELLAND CANAL ENLARGEMENT,  
RESIDENT ENGINEER'S OFFICE,  
WELLAND, April 17th, 1884.

JOHN BATTLE, Esq. Thorold.

Dear Sir.—Yours of yesterday, relative to  
Thorold Hydraulic Cement, is received. In re-  
ply, I beg to say that my tests of the Thorold  
Hydraulic Cement have extended over a period  
of twenty-eight years, and have been on a large  
scale, as exemplified in the locks, bridges, cul-  
verts and other masonry on the Welland Canal  
and Welland Railway and that the record which  
has been invariably satisfactory, is to be found in  
examination of the structures. The necessity  
tearing down of masonry and concrete, during  
the Welland Canal Enlargement, has afforded  
abundant evidence of the reliability of the Thor-  
old Hydraulic Cement, both in masonry and  
concrete, and at once and under water. I desire  
no better cement for the class of work referred to.

I am, dear Sir, yours truly,

W. G. THOMPSON,  
Resident Engineer.ISAAC USHER & SON,  
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