

## MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

In his new general specifications for steel railroad bridges and viaducts, Mr. Theodore Cooper, the well known New York engineer, entirely abandons the use of wrought iron for railway superstructure. Another noticeable feature is the wide spans for which plate girders are specified, pin-connected trusses, on the other hand, being used only when the opening to be spanned exceeds 120 ft. Up to spans of 20 ft., Mr. Cooper provides for the use of rolled beams, from 20 ft. to 75 ft. for plate girders, from 75 ft. to 120 ft. for either plate girders or rivetted lattice girders, whilst from 120 ft. to 150 ft. either lattice girders or pin-connected trusses may be used, and beyond that the pin-connected trusses only. Timber flooring may, he specifies, be strained up to 1,000 lbs. per square inch. As for expansion rollers, the smallest size now allowed is  $2\frac{3}{4}$  in. in diameter, which is still small to British ideas, and the permissible working stress on such rollers is put at 300 D lb. per lineal inch where D is the diameter of the roller in inches.

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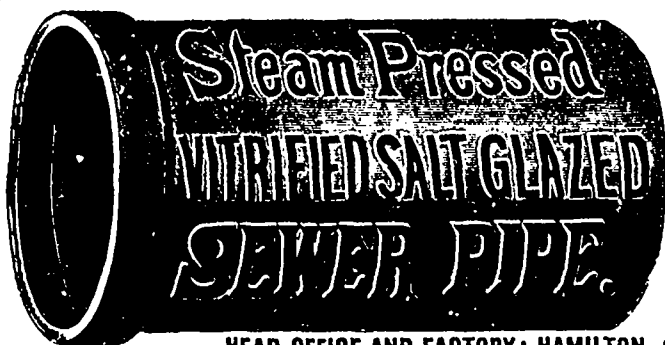
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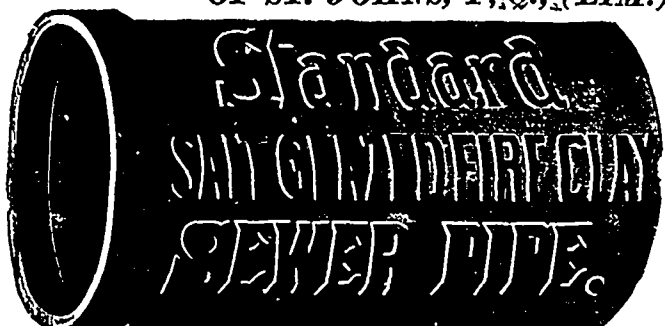
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