the following:—A mixture composed of water, 100 parts, by weight; gum, 50 parts; sulphate of zinc, 40 parts; is printed on the dyed fabric, and when dried the piece is immersed for two minutes in a cold bath, consisting of a solution of hypochlorite of lime, marking two degrees Baumé.

This new process for effecting the “discharge” is much more rapid, more certain, and very much more economical than the old method; the difference being the value of sulphate of zinc compared with that of tartaric acid.

The Tooley Street Fire.

From the London Mechanics' Magazine, July, 1861.

SIR:—Referring to the lateral pressure of the cast iron beams on the side walls in the great fire in Tooley Street, causing their falling and the loss of many valuable lives, I wish, through your valuable and influential journal, to recommend, where iron beams and brestsumers are used, to arrange them so as their expansion and contraction may occur by their ends bearing on rollers in an open socket or tube, having a blank space behind the end of the brestsumer in the socket, to permit its receding inside the tube or socket in case of fire or great heat, and to contract where affected by severe cold.

I am, Sir, yours truly,

GEORGE WALCOTT.

24, Abchurch Lane, London, E. C., July 16, 1861.

P. S. A socket or tube containing rollers might be let into the side walls instead of being fitted to the pillar supporting the floor. *a, a*, is the floor. *b*, is the cornice closing floor, and permitting the floor to roll into the socket or tube. *c*, a pillar supporting an upper floor; *c'*, a pillar supporting the floor beam. *d*, is a tube or socket open at both ends for receiving

and allowing for expansion or contraction.

The Pyrometer. By M. A. NOBEL.

From the Lond. Practical Mechanics' Journal, September, 1860.

Serious difficulties have hitherto presented themselves in the construction of a really exact pyrometer. M. Nobel, an engineer at St. Petersburg, has long been engaged in the study of the heat developed by furnaces of various kinds. As the result of his experiments, he has recently brought out a very simple apparatus, most easy of application and exact in its indications. This apparatus consists essentially of a cylindrical vessel or chamber, composed of platinum or other refractory substance, capable of withstanding a considerable degree of heat. This chamber is connected by a tube with a pressure indicator or manometer. Bourden's is found to answer well. The vessel is