A single broad flight of stairs, the different stories opening upon it, is insufficient. There should be one staircase at least for each floor, with openings only at the top and the bottom. The portion of the building enclosing the staircases should be absolutely fireproof, without one foot of wood from top to bottom. There is no justification for a staircase that is not fireproof. The cost of the building will be increased, but that is little when so many lives are at stake. Staircases must be built in any case. As a rule, they are the first portion of a school to require repair. Cement stairs and cement walls never wear out and cannot burn. Their cost is moderate. It would be impossible for the children to be driven back by smoke from such a staircase. Cement floors, walls, and stairs often are seen standing intact in a mass of ruins the morning after a fire. To pull them down is almost impossible. That is what is needed for the schoolhouse. The staircase would no longer be the means of communicating fire from one floor to another.

With the expert engineers and architects of this country, and with the facilities now afforded for cement and concrete construction, the board of trustees which consented to anything but a fireproof staircase in a modern school might be held for a very serious charge.

EDITORIAL NOTES.

The destruction of a cement plant by fire is a curious anomaly. The plant of the Alpena Portland Cement Company was wiped out almost completely by fire last month. The loss will be probably $400,000, with $200,000 insurance. This is the second fire which has attacked United States cement plants this year. Cement is a good fireproof material. It is handing out ironical advice to suggest that cement companies might try their products in the construction of their own buildings.

An amusing story of the jerry bulider is going the rounds. A certain contractor, more famous for the strength of his banking account than the stability of his buildings, agreed to erect a row of houses in remarkably quick time. The foreman in charge and his assistant were sent to test the walls. The former remained in one house while the latter went next door. The following interesting conversation between the two parties then took place: "Are you there, Bill?" "Yes." "Can you hear me speak?" "Yes." "Can you hear me tapping?" "Yes." "Can you see me?" "No." Then the buildings were passed by the foreman as satisfactory.

The Government has assumed the role of cement manufacturer in Arizona. A large dam was to be constructed. The cement makers, scenting large profits, made bids that practically negatived the enterprise. They asked $9 a barrel, including a sixty-two mile haul by waggons from the nearest railway station. Then they learned that the Government thought of setting up as a rival. Their bids were reduced then to $4.89 a barrel. Even this meant an outlay of more than a million dollars for cement alone, or about $7 for every acre of land benefited by the project. The cement makers could give hardly a better price, as the second quotation left them only 60 cents a barrel for their product at the mill. About this time the Government engineers discovered a fine ledge of limestone near the damsite and excellent clay within reach. So they bought machinery and put up their own cement mill. It is turning out cement at a cost of $2.13 a barrel, in which story may be found many morals.

Several experiments have been made in the United States which are interesting to Canadian roadmakers. The era of temporary roadmaking is disappearing. The value of permanent work is recognized. The smallest municipality might aspire reasonably to durable roads and sidewalks. It was found that, in making macadam or telfer roads, limestone binds well with little rolling, but wears down very rapidly; also that granite and other similar hard rocks, although very durable against abrasion, can be made to bind only by long and expensive rolling, unless clay or some such binder be added. The Public Roads Office of the United States Department of Agriculture has been experimenting upon the effect of combining these two rocks, with the result that the combination was found to have much higher cementing value than the limestone alone. They found that the best application of this discovery lay in "using the limestone as a top dressing, and in the form of screenings as fine as may resist the scattering effect of the wind; the road to be kept moist for as long a time as possible after construction."