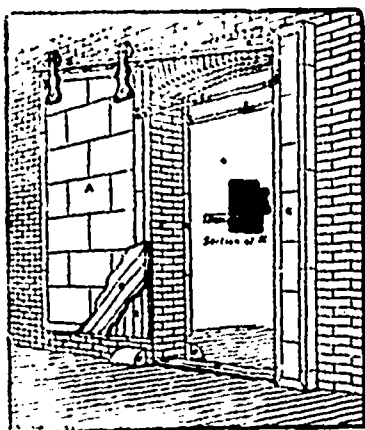


fifty cents per square foot of floor. For many purposes, such as for shoe factories or other light work, these changes and this kind of economy may be admitted, provided a false economy is not applied in the construction of the roof. The whole comfort and welfare of the operative in the one-story factory depends upon the solid construction of the roof and the monitors, the plank to be three inches thick. Ordinary sloping skylights should never be permitted, as they transmit heat; while the monitor, with its vertical windows, reflects the heat and may be made use of to promote ventilation. In all cases the windows in the monitors either should be double or the sash should be glazed with two plates of glass in the same frame, in order that the condensation of moisture on the inside of the windows may be avoided. Experience proves that these flat-roofed buildings, even when constructed from one to three acres in extent, are not more liable to collect snow than are other forms of roof, and they are very much more easily cleared of the snow when it does collect. The English saw-toothed roof, so called, generally placed over the weaving buildings, has not proved to be desirable in this country north of Philadelphia owing to the tendency of the snow to collect in the valleys; it is also more costly than the roof of the one-story building lighted by monitors, as given in this plan. The light in the saw-toothed roof being always taken from the north it may possess a slight advantage, but in the monitor the windows towards the south can be clouded so that there will be no objectionable glare within the room.

The plan has been adopted in many cases of carrying the brick-work to the roof between the windows; more often, though the brick or stone work is carried only to the window-sills, the superstructure being wholly of timber and glass.

In many cases it is desirable that there should be no open space under the floor, both with the view to avoid



AUTOMATIC FIRE-DOOR.

danger and to give stability and freedom from vibration to heavy machinery. To meet these conditions special plans are furnished by the factory mutual companies for laying plank directly on the ground without danger of decay.

It is not a pleasant experience for the officers and inspectors of the factory mutual insurance companies to pass, day by day, bad examples of combustible architecture occupied as shoe factories, clothing factories, and the like, or to see other unsafe buildings in which branches of industry are conducted which have not yet come under the supervision of skilled inspectors and underwriters, but which in their intrinsic hazard are safer than the textile arts. It is not pleasant to witness the mushroom growth of five-story wooden buildings standing often in the middle of a field where land is of little value, in which hundreds of people may be daily exposed to great danger, and hundreds of thousands or even millions of dollars' worth of property are subject to a heavy charge for insurance because the buildings have no right to exist. These officers and inspectors know from their own experience or that of their predecessors, covering fifty years, that more commodious, better ventilated, better lighted, more comfortable, and safer buildings could be constructed for the same or for less money than these examples of combustible architecture usually cost.

It would not be within the province of this article to describe the customary equipment of factories with pumps, pipes, hydrants, automatic sprinklers, watchman's electric record clocks, fire-escapes, and the like; all these safe-guards are fully described in the technical publications of the factory mutual insurance companies. The purpose of this paper is only to call attention to the relatively low cost of slow-burning construction, and to suggest that because the customary methods of building are bad it is not therefore necessary to rush to the opposite extreme and to spend money in futile attempts at fire-proof building for ordinary uses. In fact, there

is no such thing as a fire-proof building; a building may be constructed wholly of incombustible material and may yet be totally destroyed by the combustion of the contents, especially when the iron members of such a building are unprotected from the heat of a fire among the contents. Granite is one of the most worthless materials for withstanding heat. In a recent fire in one of the factories insured under the supervision of the writer a granite post 12x12 inches was reduced to sand by the same fire that burned into a wooden post next to the granite less than one inch. Sandstone and marble are not quite so bad; unprotected iron is most treacherous and unsafe, especially cast iron; brick, having already passed the ordeal of fire, is substantially indestructible, and when combined in a suitable manner with heavy timber and plank, the latter being protected by wire lathing or by other methods for retarding the action of heat, serves the best for the safest construction.—Edward Atkinson.



F. L. Green, of Greenwood, has ordered a "sperry feed" for his Allis rolls from Wm. & J. G. Greey, of Toronto.

H. Brown & Son, Carleton Place, Ont., have ordered six "sperry feeds" for their rolls from Wm. & J. G. Greey, of Toronto.

The Columbia Flour Mill Co., of Siccamoos, B. C., has ordered a No. 2 wheat heater from Wm. & J. G. Greey, of Toronto.

P. R. Hoover, of Green River, Ont., is adopting Wm. & J. G. Greey's system of connected rolls and rope drive for his rolls.

The Geo. T. Smith Co., are removing the stones from Heslop Bros' mill at Wellandport, and substituting one of their two break roller and centrifugal mills.

Robert Bruce, Esq., of Gormley, Ont., has ordered 3 double sets of 6x18 rolls, one No. 1 aspirator, and one No. 1 centrifugal reel from Wm. & J. G. Greey of Toronto.

We regret that a change of advertisement for the W. F. Cochrane Roller Mill Supply Co., reached us too late for this issue, but will appear in our May number.

Messrs. Sherk & Snider, of Baden, Ont., are putting in one of Greey's improved vibratory scalpels, also a motion indicator manufactured by Wm. & J. G. Greey, of Toronto.

Messrs. Bingham & Webber have just completed a delivery to Patterson Bros. & Co., of Woodstock, Ont., of 40,000 of the finest agricultural catalogues ever prepared in the Dominion.

Mr. J. S. Barker, formerly of Alvinston, Ont., has connected himself with Messrs. Wm. & J. G. Greey, and is at present engaged in the work of rearranging the roller mill of H. Brown & Son, at Carleton Place, Ont.

In our March number our reference to Messrs. Frost & Wood's order for catalogues from Bingham & Webber was made to read as though it was only for 1,000. The order was for 25,000 and the notice referred to the first shipment only.

Messrs. Wm. & J. G. Greey, of Toronto, will supply the new roller machinery for the mill at Utopia, Ont., owned by Messrs. J. & R. Bell. It is to be on the short system with provision for increasing the capacity should the trade warrant it in the future.

Sir W. P. Howland expresses himself as highly pleased at the result of the change made in his mill at Lambton Mills, by the Geo. T. Smith M. P. Co. It is now a full roller mill of 150 bbls daily capacity, making three breaks on wheat, and using the Geo. T. Smith full Centrifugal Bolting system.

Messrs. Lomer, Rohr & Co., of Montreal, placed an order with Wm. & J. G. Greey of Toronto, for 2 No. 1 centrifugals and two run of millstones, also elevator cups, belting, etc. This machinery is for the preparation of phosphate.

Pearen Bros., Brampton, are erecting at that place a 100 bbl. mill. No expense will be spared to make this one of the most complete mills of its size in Canada. The Geo. T. Smith Co., furnished the building plans and plans for locating machinery, and all the machinery from engine to flour packer will be made at their shops in Stratford.

M. Staples of Bethany, Ont., has ordered an outfit of roller machinery for his mill, and work will soon be commenced. It is expected that the mill will be ready for work by the time seeding is over. Messrs. Wm. & J. G. Greey of Toronto, have the contract.

The millwrights employed in remodelling Hon. Justice Cross' mill at River Beaudette had a rather unpleasant experience. They had just commenced work there, and had part of the machinery in the building, when it was levelled to the ground by a cyclone. Fortunately none of them were seriously injured. The mill has since been rebuilt and is now in successful operation.

Messrs. Wm. & J. G. Greey, of Toronto, have contracted with Mrs. Catharine Bonfield, Eganville, Ont., for the rebuilding of her mill lately destroyed by fire. The mill will contain besides the roller machinery, 3 run of stones for provender, rye, etc., and will be on a larger and more complete scale than before its destruction last January.

Mr. James Norris recently made a contract with the Geo. T. Smith Middlings Purifier Co., of Stratford, to change his mill at St. Catharines, to their full roller and Centrifugal system, using their noisakas belt drive roller mills, together with their horizontal cleaning machinery and bran dusters in connection with their centrifugals, inter-elevator flour dressers, purifiers, &c. It is expected the mill will be ready to start early in April.

Messrs. Wm. & J. G. Greey have completed and started in operation Mr. Stephen Knight's mill, at St. Marys, Ont., it being exactly five weeks from the time the mill was stopped till it was running again as a roller mill. Any one interested in short system or small mills will be amply repaid by a visit to this neatest of little roller mills.

Mr. Robert Noble of Norval who has the finest mill building of its size in Ontario, and who has been a successful stone miller when inferior roller mills were useless, has abandoned the stones, and is changing to the full roller and centrifugal system. The Geo. T. Smith Co., of Stratford, have the contract. The mill will have a capacity of 300 bbls., and the arrangement of the machinery is peculiar from the fact that one half the mill can be shut off in case of low water, and the other half run at 150 bbls.

Wm. & J. G. Greey have a contract for the refitting of Thos. Stephenson's mill at Omamee, on the roller system. It is to contain all the latest improvements including 4 double sets of 9x15 rolls of Greey's improved system of connected rolls and rope drive, and will be a complete and perfect roller mill. Mr. Wm. Bate, of Peterboro, is to do the millwright work, the plans and flow sheet being supplied by Messrs. Wm. & J. G. Greey.

The attention of those interested in the manufacturing and working of grist mill machinery is directed to the advertisement of Alonzo W. Spooner, of Port Hope, Ont., maker of copperine. This metal stands the pressure and wear of roller mills admirably. It is peculiarly adapted to the uses of all kinds of grist mill machinery, and many of the best manufacturers are using it in preference to any other metal. It is reliable, always true to its character, and can be procured from nearly every hardware dealer in the Dominion. It requires nothing more than an iron ladle and a wood fire to melt it, and is a great saver of oil. It is not expensive, and will give great satisfaction. It speaks volumes, that the largest engines in the Dominion, those of the Toronto water works, run on copperine bearings night and day for weeks without stopping, and Chief Engineer John C. Ferguson recommends for general use, Spooner's copperine.

The W. F. Cochrane Roller Mills Supply Company will open their Dundas shops again in the first week of April. Readers of the DOMINION MECHANICAL AND MILLING NEWS will remember Mr. W. F. Cochrane under whose patents the W. F. Cochrane Roller Mills Supply Company manufacture, was killed in Northern Michigan in January last, since which time the shops at Dundas have been closed down pending the adjustment between the Company and Mr. Cochrane's heirs. We are informed that this has been accomplished and the shops will open again at the time above indicated. The Company claims that their mills are giving the most entire satisfaction. They guarantee in writing a saving of 25 per cent. in power over any belted mill of any make whatever, and if the mills do not do what is claimed, to remove them and pay all damages sustained. They also refer any intending purchaser to any of the mills that are now being operated, which are twelve in number. They are also prepared to recorrugate and regrind rolls to any cut on short notice.

A DANGEROUS PRACTICE.

THE fifth annual report of the State inspector of workshops and factories in Ohio is full of instructive matter, and shows that Inspector Dorn has been mindful of his duties. Among other things, says *Locomotive*, he makes some good suggestions regarding the care of boilers and fittings, which we quote and commend: "Another dangerous practice is the caulking of joints in steam pipes while pressure is on. If pipes or fittings are corroded, as they very frequently are, there is danger that the chisel or caulking tool may be driven through the pipe. In such a case the workman is likely to be seriously scalded. The practice of screwing up man-hole, hand-hole, and similar plates, while boilers are under pressure, to stop leakage, is of a similar nature and should be as strongly discountenanced. A great many accidents have been caused in this manner. The following occurred some years ago: A battery of three horizontal tubular boilers was fired up, and on raising steam the joint of one of the man-hole plates was found to leak quite badly. Instead of letting down the steam and repacking the joint, a wrench was applied and the attempt was made to stop the leak by screwing up on the bolt. This proving insufficient, a long piece of pipe was slipped over the handle of the wrench and more force applied. The immediate result was the fracture of the man-hole frame, the explosion of the boiler, the destruction of about \$10,000 worth of property, and the loss of three lives."

Messrs. H. Lovell & Sons of Coaticook, P. Q., run five saw mills, and pay out in wages, \$2,000 per week.

A local paper, speaking of the rapidly diminishing pine supply of the Province of Quebec, draws attention to the effect that the war of the rebellion had on the trade of the port of Quebec, when the southern ports were closed. For some years before the war the annual supply of red pine was about two millions, and for the last three years of the war the annual supply was over five millions, and after the war was over the supply of this wood fell to less than its previous proportions. Yet, going back to 1847, it is found that the supply of red pine alone was over eight millions, that is to say, over one million feet more than what is now ascertained to be the total manufacture this winter of red and white pine combined from the Ottawa district, the Nipissing and the New Country together, and when the enormous increase in the trade of the United Kingdom to-day, compared with the dates mentioned is considered, the time can not be far distant when for purposes of trade the white pine tree will become as rare as the buffalo is to-day.