

Jacques, Que., owned by William Lord, was totally destroyed by fire on January 29th. Loss, \$3,000; no insurance.—At Ottawa, Ont., on the 28th ultimo, fire destroyed A. G. Pittaway's photograph studio, and the business establishments of C. A. Douglas, Beament & Johnson and Mrs. Short. The loss amounts to \$12,000. The buildings were owned by Geo. Hay.—R. T. McGirr's hotel and stables at Feversham, Ont., were burned on January 27th.—Three stores and dwellings and a hotel at Gatineau Point, Ont., were burned last week. The losses on buildings are: Louis Laurin, \$5,000, A. Villeneuve, \$6,000, Wm. Smith, \$3,000, Mrs. Egan, hotel, \$700.

#### CONTRACTS AWARDED.

**VANCOUVER, B. C.**—The contract for the erection of the Phoenix cannery at Steveston has been awarded to Messrs. Ironsides & Rannie, of this city.

**TRURO, N. S.** James Reid, of this town, has the contract for the new building for the Merchant's Bank. Rhodes, Curry & Co. will supply the counter.

**ST. CATHARINES, ONT.**—Cooke & Son have been awarded the contract for the supply of timber for the Welland canal. The iron work goes to James Cunningham.

**PETERBORO', ONT.**—The Central Bridge & Engineering Company, of this town, have been awarded the contract to erect a swing bridge over the Trent Valley canal at Nassau.

**LONDON, ONT.**—The contract for valves required for the new conduits at Springbank has been awarded to the London Machine Tool Company. Bowman & Co. will supply the tile.

**MELITA, MAN.**—A committee of Arthur council received tenders as follows for the construction of two pile bridges, one on the North Antler and the other on the South Antler. The tenderers were A. E. Blakeway, \$1,300, R. Dickson, Brandon, \$1,250; S. Nesbitt, \$1,228 (accepted.)

**HAMILTON, ONT.**—Tenders for the supply of furniture for the Collegiate Institute and Normal School have been received from the following firms: Globe Furniture Company, Toronto Furniture Company, Pennington & Baker, Alex. Thompson, J. Hoodless & Son and Malcolm & Souter. The award will be made in a few days.

**AYLMER, QUE.**—The contract for the masonry and carpenter work for the Hull Electric Company's new hotel at Aylmer has been awarded to Messrs. Viau & Lachance; the heating and plumbing to McKinley & Northwood; the painting and glass to John Shepherd; the plastering to A. Bowman, and the steel joists to Ernest Arnoldi.

**NEW WESTMINSTER, B. C.**—Mr David Bam, of this city, has been awarded the contract for the erection of a new cannery for the Cleave Canning & Cold Storage Co.—McLean Bros., of Vancouver, have been awarded the contract for completing the work in connection with the Maple Ridge dyking scheme. Besides completing the unfinished portion of the dyke and other improvements, a new intercepting ditch is to be constructed from McKenny's place to the Lillooet river. The total amount of the contract is in the neighborhood of \$25,000.

**ST. JOHN, N. B.**—Tenders for timber for harbor improvements have been accepted by the Common Council as follows: For birch timber, Simmons & Burpee, 1,000 tons of 22 foot lengths, at \$5.75 per ton; Simmons & Burpee, 100 tons mixed lengths, at \$5.75 per ton; James Stevenson, 400 tons of 12 and 22 foot lengths at \$6 per ton. F. E. Sayre and Jarvis Wilson will furnish 1,150 tons each of birch, maple or beech, according to their respective tenders, at \$6.12½ and

\$6.15 per ton respectively. Hemlock timber, 2,000 tons at \$4 per ton, F. E. Sayre. Red pine timber, F. E. Sayre, \$4 per ton. White pine timber, P. & K. B. Smith, 20 tons at \$7.50 per ton. Spruce spars, 900 pieces, P. & R. B. Smith, at 37 cents each.

**OTTAWA, ONT.**—The contract for the erection of the C. Ross Co. building has been awarded to Messrs. Poulin & Fitzpatrick, of this city. The contract includes masonry, cut stone, brick work, carpentry, plastering, painting, heating and plumbing. The steel girders, columns, etc., are to be supplied by the Dominion Bridge Co.—The directors of the Protestant hospital have accepted tenders as follows for the new wing to the building: Masonry, A. Garvock, \$15,475; carpentering, A. Sparks, \$8,924; plumbing and heating, McKinley & Northwood, \$5,847; painting, John Shepherd, \$1,815; electric lighting, Garrioch & Godard, \$325; boilers, Bannerman & Findlater, \$846; steel bars, A. Fleck, \$820; roof and concrete floors, J. R. Douglas & Co., \$1,357; plastering, Campbell & Sutherland, \$2,698; tile brick work, Ottawa Granite Company, \$1,100.

**MONTREAL, QUE.**—W. McLea Walbank, architect, has awarded the following contracts for reparations and additions of a house on Mountain street for Dr. Armstrong. Carpenter and joiner's work, Robert Neville; painting, L. Z. Mathere; plastering, F. Decary; electric wires, J. H. Scott; roofing, F. Power; heating, J. W. Hughes.—The Fire Committee received tenders as follows for supplying hose Canadian Rubber Co., Maple Leaf brand, double jacket, 85 cents per foot net; J. A. Ogilvie, 80c., Rob Roy, single lined, 80c.; Gutta Percha and Rubber Manufacturing Company, of Toronto, double jacket, guaranteed to stand five years, 97c.; W. A. Fleming, Keystone brand, 94c.; L. E. Morin, Anchor brand, No. 1, \$1.21; No. 2, \$1; Salamander, double jacket, 99½c.; Salamander, cotton, 90½c.; John Martin, Son & Co., American double jacket, Revere brand, complete with couplings, and guaranteed for six years, 94c. The Canadian Rubber Co. was given the contract for 3,000 feet. John Martin, Son & Co. for the same quantity, and W. A. Fleming for 500 feet.

#### TORONTO CHAPTER OF ARCHITECTS.

A meeting of the above recently organized chapter will be held in the School of Practical Science next Monday evening at 8 o'clock. Papers will be read by Messrs. D. B. Dick, W. R. Gregg and A. T. Wickson.

#### A SMART ENGINEERING FEAT.

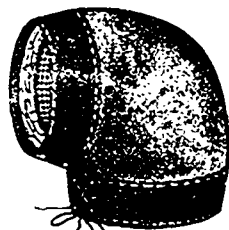
An interesting piece of rapid structural engineering work was accomplished on the Great Eastern Railway system during the early hours recently. The railway bridge over the river Ouse, on the London & Norwich main line, near Ely, was completely removed, and a new wrought iron bridge of one span, of some 300 tons of dead weight and 130 feet long, erected in its place; the night was extremely dark, and the work was rendered

somewhat difficult by the prevailing high wind and heavy gusts of rain. About 1.30 a.m. operations were begun by removing the rails and upper cross timbers. Half an hour later the first of the iron girders, which number twenty in all and weighed about six tons each, was lifted up by powerful steam cranes and shunted on to tracks. The work was completed by 7.30 a.m. Preparations were now made for placing the new bridge, which had been previously erected on staging alongside the old bridge, into position. This was effected by slowly hauling the entire structure by means of powerful winches fixed on both river banks. The bridge itself rested on trolleys running on rails laid along the abutments. The next business was to relieve the trolleys of their 300 tons of dead weight and to lower the bridge by powerful hydraulic jacks on to its permanent supports. This was done, rails were laid, the permanent way was made good and the main line connections completely restored, with a delay to only one train of the ordinary Sunday service.—London Times.

#### STRENGTH OF COLUMNS.

If the fibres in any material body were exactly rectilinear, so that a rod being placed on one end in a vertical position, no one of the particles were opposite to the intervals between any two in a transverse section below it, it might be conceived that no force compressing the rod in the direction of its length would produce any other effect than that of diminishing its length. But as we find that all bodies when so compressed may be bent and finally broken, such a disposition of the particle is destitute of probability. In fact when a pillar is compressed by a great weight above it, either the fibres already curved have their curvature increased so that the whole pillar bends, or the particles in some of the transverse sections are forced outwards by lateral pressures arising from those above and below their intervals being thrust between them, and then the pillar swells on its whole periphery. The consequence in either case is that the cohesion of the longitudinal fibres is impaired or destroyed and the pillar is at length broken or crushed. The strength of a pillar when so compressed must evidently depend upon the number of particles in a transverse section that is, upon the area of such section but since besides the displacement of those particles from the longitudinal pressure their lateral cohesion must be overcome before they can be thrust outwards, it is evident that the strength is not proportional to the area simply, but to some function of that area. No law on which any dependence can be placed has yet been discovered for the strength of a pillar in such circumstances. Euler, for analytical consideration, concluded that it varies as the square of the area, but engineers have supposed that the square root of the third power of the area more correctly represents the law of the strength.

Messrs. Sievwright & Loxton have started in business at Petrolia, Ont., as plumbers, steam fitters, etc.



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