investigating the prospects for a large pulp mill. They examined the water power at Chelsea, which is regarded as a suitable site.

TORONTO, ONT.—Application will be made at the next session of the Ontario legislature for the incorporation of the Haliburton, Whitney & Mattawa Railway Company, to build a railway from Haliburton to Whitney and Mattawa.—Plans for additions and alterations to a building in Picton, Ont., for the Loyal True Blue Association, are on view at the office of Mr. Henry Simpson, architect, 9½ Adelaide street east. Tenders will be received up to January 7th.—The city engineer, in a report presented to the Works Committee last week, estimates the cost of extending the Parkdale sewers into deep water and disposing and treating the sewage at $60,000, with $4,000 as the annual cost of maintenance. The engineer has recommended the construction of an asphalt pavement on Queen street west, from Yonge to John street, at a cost of $34,101, and a twelve-inch tile sewer on Amelia street, at a cost of $346. —It is rumored that the Canadian Motor Syndicate has completed negotiations for the purchase of a block of land in the central part of the city, on which to erect a building 50×60 feet, to be used as a factory.—Mr. W. L. Symons, architect, has forwarded to the Property Committee his estimate as to the cost of providing accommodation in St. Lawrence Hall for the Technical School. By extending two floors of the present hall some distance to the rear, the accommodation could be secured at a cost of $25,000. The estimated cost of an entirely new building is placed at between $75,000 and $85,000.—Building permits have been granted as follows: Confederation Life Association, alterations and new store fronts at building on north-east corner of Yonge and Richmond streets, cost $10,000 (J. Wilson Gray, architect); M. DeLaplante, four attached brick dwellings, 34-45 Mission avenue, cost $3,000; F. Simpson, three storey and basement brick store, 738 Yonge street, cost $9,000.—The Grand River Electrical Power Co., Ltd., has been organized by G. H. Carroll, J. F. Boultbee and A. N. Parney, of Paris, and W. J. Clark and Thomas McLaughlin, of this city. The capital stock is $95,000.—The city clerk has received petitions for a cedar block pavement on Oxford avenue, from Augusta to Bellevue avenue, and against a brick pavement on Division street.

## FIRES.

The fires of the past week included the following: The Western Milling Company's elevator at Pense, N.W.T.; totally destroyed.—Dwelling house of John Chaplow, three miles from Thamesville, Ont.—North Star Hotel at Magnetawan, Ont., owned by Adams & Burns, of Toronto, loss $2,000, small insurance.—The Superior school building at Dorchester, N.B., totally destroyed.—Brunswick Hotel at Wabigoon, Ont., owned by Kennedy Bros.; loss $5,000, insurance $3,500.—Factory of the Hamilton and Toronto Sewer Pipe Company at Hamilton, Ont., loss $12,000, covered by insurance. Three drying kilns were saved.—Residence of V. E. Wensley at Belleville, Ont.; loss $2,500.—Arthur Ludlam's sash and door factory at Leamington, Ont., damaged to the extent of several thousand dollars.—Factory of the Ontario Wind Engine & Pump Company on Liberty street, Toronto, partially destroyed.—The Music Hall at London, Ont., owned by Alexander Harvey, damaged to the extent of $2,000.—The Methodist church, corner Elizabeth and Toronto streets, Barrie, Ont., partially destroyed. It is expected that the church will be rebuilt.

## CONTRACTS AWARDED.

ALLENFORD, ONT.—The township of Amabel has received $900 premium on $22,000 of 3½% debentures.

BROCKVILLE, ONT.—W. & J. Sheridan have secured the contract for galvanized iron roof for new skating rink.

BADEN, ONT.—Ernest Albert has the contract for building a residence for John Brennaman, near New Hamburg.

CRYSLER, ONT.—C. T. Gagnon, of Moore Creek, was the successful tenderer for the Blue Creek and Butternut Creek drains.

THESSALON, ONT.—The tender of N. Dyment for the purchase of $13,000 of debentures has been accepted, at a premium of $200.

WINNIPEG, MAN.—Tenders for sewer pipe were received by the city council as follows: J. H. Ashdown, $1,202; W. F. Lee, $909 (accepted).

NEW GLASGOW, N. S.—Three tenders were received by the town council for an iron tower for an electric fire alarm, that of John Stuart, at $748, being the lowest.

PERTH, ONT.—Sub-contracts for the new addition to the public school have been let as follows: Masonry, George & Richard Smith, $2,400; carpenter work, W. J. Robb, $2,930.

ST. AGATHA, ONT.—Contracts for building the R.C. church have been let as follows. Carpenter work, Forler Bros., of Philipsburg; stone and brick work, Wunter Bros., of Baden.

ST. JOHN, N. B.—George Appleby, of Darling's Island, has been awarded the contract of removing the St. John bridge and the railway tracks in connection with the I.C.R. improvements.

LONDON, ONT.—Four tenders were received for construction of a sewer to Waterloo street. The tender of Harding & Leathorne, at $849, and 20 cents for side drains, has been accepted.

NELSON, B.C.—The contractors for the Nelson-Bedlington Railway have let subcontracts for grading, exclusive of timber work, to McLean Bros., Breckenridge & Lunn, MacBeath & Peters, and Gus. Carslon.

NEW WESTMINSTER, B. C.—Tenders were received as follows for the erection of a municipal hall for Matsqui: Joseph Burgess, Mt. Lehman, $3,943; John Israel & Son, Mt. Lehman, $1,571; D. D. Grant, New Westminster, $1,375.

HALIFAX, N. S.—Herbert E. Gates, architect, has awarded contracts as follows for a new building for C. E. Reveril at Dartmouth, N. S.: Carpenter work, F. Bauld; masonry, Alex. Hutchinson; painting, James Leahy; plumbing, Crimp & Ritchie. The contract for painting A. P. Torrence's houses has been let to David Roche. The other trades will be carried out by day labour.

ACTON, ONT.—Tenders for the purchase of $6,000 of electric light debentures were received as follows, the accrued interest being also allowed in each case: Andrew T. Drummond, Kingston, $5,735; James A. McKay, Toronto, $6,050; H. O'Hara & Co., Toronto, $6,105; Geo. A. Stinson & Co., Toronto, $6,105.50; Merchants' Fire Insurance Co., Toronto, $6,125, W. H. Brouse, Toronto, $6,201; Ontario Mutual Life Assurance Co., Waterloo, $6,210. The tender of the Ontario Mutual Life Assurance Company has been accepted. The council has accepted the tender of R. & W. D. Anderson for roofing and plastering the power house.

Mr. John Ross, C. E., of Ottawa, was recently married to Miss Ethel Mattice, of Cornwall.

Mr. F. T. Ure, of Woodstock, Ont., has been appointed county engineer for Oxford, in succession to Mr. W. M. Davis.

## MARKET CONDITIONS.

The trade in builders' supplies is quite as large as could be expected at this season of the year. *Prices do not show any material change.* From Montreal comes the report of several enquiries from the west for round lots of cement for prompt delivery. Pig iron is weaker if anything, and in galvanized iron business is very light. There is a good enquiry for iron pipe, and a fairly good demand for glass. An advance is noted for all descriptions of enamelled and colored fancy glass. A steady advance in the primary markets has compelled jobbers to make an advance of 2c. in turpentine, and further advances are anticipated. The prices of all other staples are firm.

## PILE-RINGS AND METHOD OF PROTECTING PILE-HEADS IN DRIVING.

A committee of the Association of Railway Superintendents of Bridges and Buildings makes the following report on Pile-Rings and Method of Protecting Pile-Heads in Driving:

"First.—We find that the best way to protect the pile-head is to use a 1" x 3" ring, made out of the best iron that can be obtained at the place where used. We recommend, where a railroad company have a steam-hammer in their shops, that they make their pile-rings out of hammered-iron from old car axles. The cost of a 1" x 3"—14" diameter ring is $1.75, while the same size ring made out of best bar-iron costs $2.00. A pile ring made out of hammered iron will last to drive 75 oak piles and at least 300 cedar piles. The rings made out of best bar-iron usually last to drive 50 oak *piles and 200 cedar piles; in fact one of your* committee had 50 pile-rings made out of old car-axles four years ago, and since that time has driven 250 oak piles and 6,000 cedar piles without any renewal of pile rings. A pile driver should carry on the tool-car 60 pile-rings, 10 pile rings 15", 30—14", 10—13½", and 10—13" in diameter.

"The 14" diameter are the ones most used, 14" being the width of caps used by most roads. It is not necessary to have the pile-head larger in diameter than the cap is wide.

"Second.—In fitting the pile-ring, the pile should be neatly sawed off square; the pile should be neatly chamfered down at least 5" from the end, so the ring will just catch on and let the pile hammer do the rest. This is a *little hard on rings, but in this way you are* sure to get a good fit of the ring and the pile-head is best protected.

"The face of the pile-hammer should be concaved to the depth of 1½" in the centre, and run out to nothing 2" from outside of the hammer; this will drive the fibre of the wood down slightly over the edge of the ring and make a neat fit of the hammer, and if the piles are kept exactly under the hammer there is very little danger in fracturing the pile. The best weight of a pile-hammer is 3,300 pounds. The height of the blow should not exceed 12' in driving cedar piles, or 20' in driving oak piles. It will be found that short quick blows will drive the pile as quickly as long blows, and are less liable to injure the pile. The pile should be neatly prepared before driving it; the knots should be neatly trimmed off and the pile sharpened to a 4" square point for hard driving, the point to be made as near straight with the pile as possible. Piles should never be over-driven. When a pile does not go over 1" at a *fall of 10' with a* 3,300 pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or does not go over ¼" at a blow. The driving of piles for railway traffic, and for all kinds of