

CANADIAN CONTRACT RECORD

*A Weekly Journal of Engineering, Public Works,
Tenders, Advance Information and Municipal Progress*

This Paper Reaches Every Week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers, Leading Civil Engineers and Contractors throughout Canada, and Purchasers of Municipal Debentures.

VOL. 18.

TORONTO, MONTREAL—SEPTEMBER 11, 1907—WINNIPEG, VANCOUVER

No. 28

THE CANADIAN CONTRACT RECORD PUBLISHED EVERY WEDNESDAY

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lishers of any irregularity in delivery of papers.

**Classified Index
of Advertisers,
Page 15.**

DEBENTURES FOR SALE

TOWN OF GODERICH

Sealed tenders will be received up till THURS-
DAY, THE 17TH DAY OF SEPTEMBER, 1907,
for the purchase of Debentures:
\$11,355.00 Local Improvement.
2,000.00 Jackson Mfg. Co., Bonus.
50,000.00 Wheel Rig's Co., Bonus Loan.
25,000.00 Kensington Mfg. Co., Bonus Loan.
Particulars from undersigned.
No tender necessarily accepted.

M. O. JOHNSTON,
Town Clerk.

TO CONTRACTORS

TENDERS FOR SUNDAY SCHOOL BUILDING

Whole or separate tenders will be received by the
undersigned until 12 o'clock noon, on TUESDAY,
17TH SEPTEMBER, 1907, for the masonry, car-
pentering, plastering, painting and glazing, tin-
smithing, slate and gravel roofing, plumbing and
electric wiring required in the erection of a Sunday
School in connection with Knox Church, Galt.

Plans and specifications may be seen at the office
of Messrs. Smith & Gemmill, Architects, 37 Bank of
Commerce Building, Toronto, or at the office of the
undersigned, Commercial Block, Galt.

The lowest or any tender not necessarily accepted.
FRANK HOGG,
Chairman Knox Church Building Committee.

FOR SALE

One, 7 x 12, double cylinder double drum Beatty
hoisting engine in first class condition; one Beatty
swinging gear, also irons and timbers complete for
large derrick, size, 14 inches.
THE CADWELL SAND & GRAVEL CO.,
Windsor, Ont.

Concrete Sidewalks

Tenders will be received by the undersigned up
to 7 P.M. on SATURDAY, THE 14TH SEPTEMBER,
1907, for building Concrete Side Walks on at
least 4 streets in Town North Toronto. Plans and
Specifications, etc., can be examined at Town Hall,
Eglinton.

Any tender not necessarily accepted.

W. J. DOUGLAS,
Clerk & Treas. Town North Toronto,
Eglinton Cor. York ave.

Notice to Contractors

Sealed tenders, addressed to the undersigned
architects, will be received at their office until 12
o'clock noon of SATURDAY, SEPTEMBER 14TH,
1907, for the various trades for the erection and com-
pletion of a branch building on the north-east corner
of King and Sherbourne Streets, Toronto, Ontario,
for the Imperial Bank of Canada. Plans and specifi-
cations can now be seen at the office of the archi-
tects.

The lowest or any tender not necessarily accepted.
DARLING & PEARSON, Architects,
No. 2 Leader Lane, Toronto.

Concrete Sidewalks

Tenders will be received by the undersigned up to
7 P.M. on SATURDAY, THE 14TH DAY OF SEPTEMBER,
1907, for building Concrete Sidewalks on Belleair
Avenue, Township of York, north of Queen Street
East.

Specifications, plan, etc., can be examined at
York Township office, 108 Victoria Street, Con-
federation Life Building, Toronto.

Any tender not necessarily accepted.

P. S. GIBSON & SONS,
York Township Engineers.

Willowdale, 5th September, 1907.

TOWN OF SUBURRY

Tenders for Intake Pipe and Well

Sealed tenders will be received by the undersigned
until noon MONDAY, THE 16TH DAY OF SEPTEMBER,
1907, for furnishing and laying a new 18
inch steel rivetted Intake Pipe in Lake Ramsay,
with all joints, valves, etc., to connect with present
system, also the construction of a Well near power
house.

Plans and specifications can be seen at the Town
Clerk's office, Sudbury.

The lowest or any tender not necessarily accepted.
S. FOURNIER,
Town Clerk.

Sudbury, September 7th, 1907.

REINFORCED CONCRETE

Advertiser is open for Re-Engagement as Super-
intendent or Foreman on Reinforced Concrete Con-
struction or Building of any kind; can show good
results at fair costs.

Box 113 CONTRACT RECORD, Toronto.

CONTRACTS OPEN.

ST. JOHN'S, QUE.—A by-law to
provide \$15,000 for new Municipal build-
ings was recently defeated.

CHATHAM, N.B.—It is reported
that a new paper mill will shortly be
added to the present industry.

PETERBORO, ONT.—Three plans
have been submitted for the new public
library which is to be erected at a cost of
about \$10,000.

CHILLIWACK, B.C.—The lumber
firm of Hall & Robinson will shortly
erect a large shingle mill, and will also
establish a box factory.

BIENFAIT, SASK.—A. E. Watt,
Secretary-Treasurer, wants tenders up to
September 14th for \$2,500 worth of 7 per
cent. school district debentures.

SUNDRIDGE, ONT.—The rate-
payers of the township of Strong have
defeated a by-law to loan \$5,000 for the
establishment of a veneer factory.

REVELSTOKE, B.C.—Contractors
are notified that the time for sending in
tenders for the hydro-electric plant has
been extended to September 30th.

PORT ARTHUR, ONT.—The
International Harvester Co., of Hamil-
ton, are contemplating the erection of a
distributing warehouse in this town.

OAK BAY, B. C.—The Council are
negotiating with the authorities at Vic-
toria for the purchase of a site upon
which to erect a Municipal building.

BELGRAVE, ONT.—F. Anderson,
Treasurer, East Wawamonosh, wants
tenders up to September 21st for \$3,000
Municipal debentures 4 per cent. 20
years.

CLINTON, ONT.—The Clinton
Thresher Co., whose premises were
recently destroyed by fire, have settled
the insurance question with the Council
and will rebuild at once.

GODERICH, ONT.—The by-law for
guaranteeing the bonds of the Ontario
West Shore Electric Railway Company
for \$125,000 has been carried by the rate-
payers of the township of Ashfield.

ST. ANNE DE BELLEVUE, QUE.—
In the recent fire at the McDonald
Agricultural College some \$5,000 worth
of agricultural machinery was destroyed.
All losses will be at once made good.

RIVIERE DU LOUP, QUE.—Ten-
ders are invited by D. Pottinger up to
September 14th for the erection of a con-

crete and brick machine shop and boiler house. Plans at Station Master's office.

GLEICHEN, ALTA.—Word has been received from the Deputy Minister of Public Works to the effect that the new \$150,000 bridge will be located just west of the east branch of the Arrow Wood Creek.

FORT WILLIAM, ONT.—Tenders are invited by Darling & Pearson, architects, 47 Canada Life Building, Winnipeg, up to September 15th for the erection of a five-storey fire proof office building in this town.

WATSON, SASK.—Tenders will be received up to September 21st by the Secretary of the School Board for the erection of a school house—all trades separately or collectively. Plans with Thomas L. Hayward, secretary.

KINCARDINE, ONT.—F. Gelinus, Secretary Department of Public Works, Ottawa, invites tenders up to September 18th for the construction of public buildings at this place. Specifications at the Department or with the local postmaster.

CHIPMAN, QUEEN'S COUNTY, N.B.—Tenders are invited up to Sept. 16th by C. H. LaBillois, Chief Commissioner, Department of Public Works, for rebuilding the McAfee bridge over Salmon Creek. Plans at Bishop's store, Briggs Corner, and at the Department.

GRAND VALLEY, ONT.—An estimate of the cost of installing a waterworks system has just been prepared by H. J. Bowman, Civil Engineer, of Berlin. The total approximates \$12,000 and the votes of the ratepayers will shortly be taken.

WELLAND, ONT.—J. R. Wilson, architect, is taking tenders for building the new Methodist church.—L. V. Garner is establishing a factory for the manufacture of carbonated beverages and will furnish it with the latest improved machinery.

EDMONTON, ALTA.—It is reported that the Railway Paint Co. will establish an industry in this city and erect a plant at a cost of \$100,000.—The tenders for the purchase of local improvement and other debentures amounting to \$556,000, were all rejected.

SUDBURY, ONT.—S. Fournier, Town Clerk, will receive tenders up to September 16th for furnishing and laying a new 18-inch steel riveted in-take pipe to Lake Ramsay, also for construction of a well near power house. Specification at Town Clerk's office.

CALGARY, ALTA.—It is understood that the Dominion Stores, Limited, will build a large departmental store in this city within the next few months. The building will be five stories high, and will be constructed of reinforced concrete and will cost in the neighborhood of \$1,000,000.

VICTORIA, B. C.—Tenders will be received up to September 16th by W. Ridgeway Wilson, architect, for the erection of the proposed Victoria West school.—A large brick terrace is being erected on Chatham street at a cost of \$20,000, and four permits have been issued totalling \$12,500.

HAMILTON, ONT.—The D. C. Atkins, Co., of Indianapolis, Ind., are going to establish a saw factory in this city. They have purchased and will remodel the Hofner Refining Co.'s building. Total estimated expenditure, \$150,000. It is reported that the city will also get a large knitting factory.

CAMBRIDGE, QUEEN'S COUNTY, N.B.—C. H. LaBillois, Department of Public Works, Fredericton, wants tenders up to October 14th for building substructure, approaches and covered wooden superstructure of the Narrows bridge over Washademoak Lake.—Spec-

ifications at White's store, Narrows, and at the Department.

LONDON, ONT.—The G.T.R. have decided to erect their proposed new depot on a site immediately opposite the old station.—The contract recently awarded to W. J. Anthistle at \$820 for sidewalk construction has been cancelled owing to a misunderstanding in the calculations, and fresh tenders will be taken.

BRANDON, MAN.—Plans have been submitted for an approach from Assiniboine avenue to the new bridge, estimated cost, \$7,000. The addition of a lower road would bring the cost up to \$15,000.—By-laws to raise \$50,000 by loan from the Merchants Bank for building purposes and current expenses have just been passed.

CAPE ST. MARY, N. S.—Tenders will be received up to September 24th by Fred Gelinus, Secretary, Department of Public Works, Ottawa, for extensions to the breakwater. Plans at offices of E. G. Milledge, Resident Engineer, Antigonish, C. E. W. Dodwell, Resident Engineer, Halifax, on application to the Postmaster at Mavillette, N. S., and at the offices of the Department, Ottawa.

NEW WESTMINSTER, B. C.—The City Council have been requested by James Cunningham to remove the restricted district from McNeely and Ramage streets as he is contemplating the erection of a large business block on adjacent property.—The School Committee have purchased a site west of Moody Square upon which they will erect a two-storey building.

MONCTON, N. B.—D. Pottinger invites tenders up to September 14th for the construction of a concrete and brick machine shop and boiler house at Riviere du Loup, P. Q. Plans at office of Chief Engineer.—Upon the recommendations of Engineer Edington it has been decided to call for tenders for extending the six inch water mains on Enterprise and Cheapside streets, probable expenditure \$1,000.

PORTAGE LA PRAIRIE, MAN.—We understand that the London Fence Co., whose factory was recently destroyed by fire, have selected a new site upon which they will shortly erect an up-to-date building.—Local Y.M.C.A. enthusiasts have been making great efforts to arouse interest in favor of the erection of a \$50,000 Association building.—F. D. Foley, of St. John, N. B., was recently in this town with a view to the establishment of a pottery plant.

ROSTHERN, SASK.—A new brick industry will probably be started here in the near future. The name of the company, for which a charter has been applied, is the Saskatchewan Brick & Tile Co. A plant will be installed with a capacity of 100,000 bricks daily, and the company will manufacture wire cut, sand moulded, repressed or ornamental brick, drainage tile, sewer pipes, and also limestone and cement; up-to-date machinery will be installed.

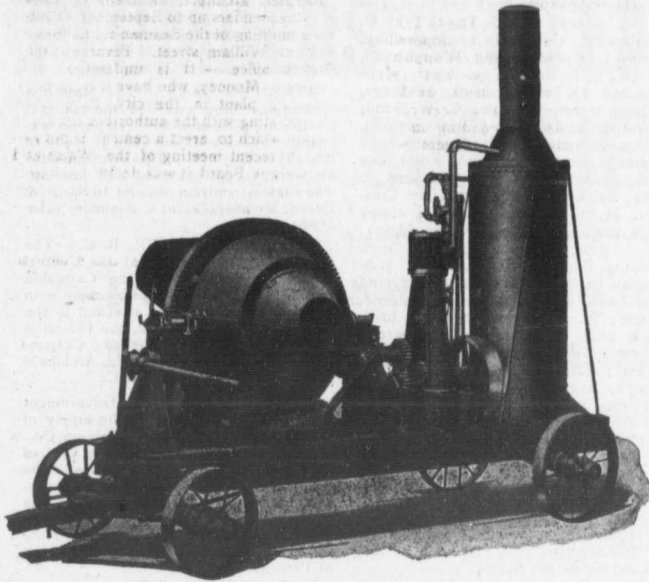
OTTAWA, ONT.—Fred Gelinus, Secretary, Department of Public Works, will receive tenders up to September 24th for the construction of an extension to the breakwater at Cape St. Mary, N. S. Specifications at offices of E. G. Milledge, Resident Engineer, Antigonish, N. S., C. E. W. Dodwell, Resident Engineer, Halifax, on application to the Postmaster at Mavillette, N. S., and at the Department.—Tenders are invited by P. E. Ryan, Secretary, Transcontinental Railway, up to September 20th for a large quantity of railway ties. Specifications and further details with Hugh D. Lumsden, Chief Engineer, Ottawa, or with A. E. Hodgins, District Engineer, Kenora, Ont.

ST. JOHN, N. B.—Ernest Fairweather, architect, 84 Germain street, invites tenders up to September 12th for the building of the Seamen's Institute on Prince William street. Plans at architect's office.—It is understood that Messrs. Mooney, who have a large brick making plant in the city, have been negotiating with the authorities for a site upon which to erect a cement factory.—At a recent meeting of the Water and Sewerage Board it was decided to reject tenders for repairs to caretaker's house at Little River Reservoir, all of them being beyond the estimate of \$1,300. Fresh tenders will be taken.—R. D. Isaacs is contemplating the establishment of car works in this city and the Council are considering his propositions.

WINNIPEG, MAN.—It is reported that the plans for the new Union Station are practically completed and that the construction will be undertaken this fall. The hotel will probably be a separate building.—Darling & Pearson, architects, Canadian Life Building, want tenders up to September 15th for the erection of a five-storey office building, Fort William.—It is reported that the city will in the near future possess several new industries. Thomas Nevin, of New York, a large glove manufacturer, has been negotiating for a site for the location of a large tannery and glove factory, a Cleveland paint manufacturer is almost certain to come to the city in the beginning of 1908, and a large Wisconsin firm of manufacturers of agricultural implements are considering the erection of a factory.

MONTREAL, QUE.—At a recent meeting of the Westmount Council a by-law to raise \$250,000 for roads, sidewalks, drains and electric light plant, received its third reading, and it is probable that the ratepayers' votes will be taken in the near future.—Tenders are invited by Fred. Gelinus, Secretary, Department of Public Works, Ottawa, up to September 24th, for the construction of an addition to the Post Office. Specifications on application to C. Desjardins, Clerk of Works, Post Office, or at offices of the Department. At a recent meeting of the Finance Committee the sum of \$178,000 was voted for various works, including the following: Paving St. Catherine street west, from Fort to city limits, \$22,000; paving Ontario street, from Papineau avenue to Parthenais street, \$15,500; paving St. James street, from Mountain to Dominion street, \$11,000; repairing old pavements, \$10,000; new boilers for the waterworks, \$28,000; macadam, \$35,000.

VANCOUVER, B. C.—The Trustees of Wesley Methodist church are preparing plans for the building of a new \$7,000 parsonage on the corner of Haro and Bute streets.—According to City Engineer Clement the bridge over False Creek at Westminster avenue is nothing but a "mass of old dead timber." It is more than likely that the bridge will be closed and a new structure erected.—The Horticultural Society will probably take steps in the near future towards the erection of an Exhibition building.—It is reported that an English firm will build a large oil refinery in this city, the plant to have a capacity of 1,000 barrels per day, and to cost in the neighborhood of \$250,000.—Recent building permits include P. W. Dallow & Co., frame dwelling, George street, \$4,500; O. Hughes, frame dwelling, Fifteenth street, \$1,800; Thomas Storey, alteration, Homer street, \$2,500; A. J. Valley, frame dwelling, First street, \$2,300; Vancouver Drop Forge Co., frame shop, Princess street, \$2,000; Kenneth Brunette, alterations, Comox street, \$1,700; J. E. Mayhew, frame dwelling, Eighth avenue, \$2,200; W. A. Shaw, addition to Strand Hotel, Eighteenth street, \$1,200; Mrs. Fair-



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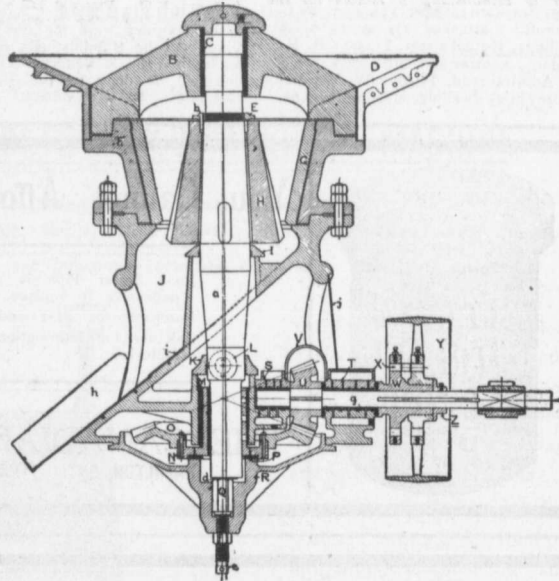
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burn, Tenth avenue, \$1,850; W. W. Brehaut, Prior street, \$2,500; K. L. Burnette, Comox street, \$1,700; J. Diasmore, Granville street south, \$5,000; J. Henderson, addition to Browning block, Granville street, \$9,000; B. T. Rogers, Pendrill street, \$2,500; J. Barrett Cotton Drive, \$1,200; E. Cook, alterations, Hastings street, \$2,000.—It is reported that a site has been purchased by the North American Timber Company, of Minneapolis, upon which will be immediately erected a mill having a capacity of 100,000 feet per day.

TORONTO, ONT.—W. W. Hudson has purchased a site on the corner of College street and Montrose avenue on which he will erect four new stores.—H. F. McNaughton, Secretary Department of Public Works, has extended the time for the receipt of tenders for construction of a coal bin at the Agricultural College grounds, Guelph, to September 13th.—The following building permits have been issued: David Henderson, 2 storey and attic brick dwelling, Forest Hill Road, \$7,500; Fred Ingram, pair semi-detached 2½ storey brick dwellings, corner Logan avenue and Gerrard street, \$7,000; W. P. Graham, 1 pair semi-detached 2 storey brick stores, Bloor street, \$4,500; George C. Craig, 2 storey brick dwelling, St. Clarens avenue, \$3,500; J. Walker, 2 storey brick store and dwelling, corner Symington and Wallace avenue, \$3,500; Consumer's Gas Co., 1 storey brick boiler house, condenser house and smoke stack, \$60,000; A. Elliott, 2½ storey brick dwelling, Avenue road, \$4,000; J. G. Laughlin, 2 storey brick veneer dwelling, Chesley street, \$2,000; Stewart Baker, 2 storey roughcast dwelling, brick front, Withrow avenue, \$2,000; T. Gingras, 4 pair semi-detached 2 storey and attic brick dwellings, Crawford street; \$14,500; F. L. Beecroft, 3 attached 2½ storey brick dwellings, Mutual street, \$7,000; H. H. Suydam, 2 storey and attic brick dwelling, Admiral road, \$5,500; W. Wardle, 2 storey brick dwelling, Hastings avenue,

\$2,000; J. J. McKinney, 1 pair semi-detached 2½ storey brick dwellings, also stable, Grace street, \$7,500; J. D. McMurrich, 2½ storey brick dwelling, corner Liszt avenue and Warren road, \$6,300; C. R. S. Dinnick, 6 pair semi-detached 2½ storey brick dwellings, Dupont street, \$30,000; C. W. Bond, alterations to dwelling, 512 Jarvis street, \$2,000; Symons & Rae, 2½ storey brick dwelling, corner Maple avenue and Glen road, \$10,000; W. H. Knowleton, 2 storey brick dwelling, Wellesley Crescent, \$5,000; James Kent, 2½ storey brick dwelling, Madison avenue, \$8,000; W. J. Mills, 2 storey and attic brick dwelling, Simpson avenue, \$3,000; J. A. Harvey, pair semi-detached 2 storey and attic brick dwellings, Rusholme road, \$6,000; W. H. Evans, 2 storey brick store and dwelling, College street, \$3,500; Geo. Dudsall, pair semi-detached 2 storey brick dwellings, Garden avenue, \$4,000; J. Quirt, 2½ storey brick dwelling, Sherbourne street, \$4,200; E. Taylor, 2½ storey brick dwelling, Hepbourne street, \$2,600.

CONTRACTS AWARDED.

DARTMOUTH, N.S.—Freeman Bros., of Halifax, have obtained the contract for the erection of a residence to cost \$15,000 for Arthur Scarfe.

MIMICO, ONT.—Miller & Cumming, Toronto, have secured the contract for the construction of a concrete superstructure and the extension of the wharf at the Asylum.

SUDBURY, ONT.—The Provincial Government have awarded the following contracts: Erection of new Court House, M. Healy, Toronto; erection of Registry office, O'Boyle Bros., Construction Co., North Bay.

FORT WILLIAM, ONT.—The contract for the masonry work for the G.T.P. bridge over the Kaministiquia river has been let to Wylie & Belfort. The steel work will be done by the Canadian Bridge Co.

GUELPH, ONT.—The City authorities have awarded the contract for 40 yards of pavement to contractor Conn.—The Turnbull Elevator Co., Toronto, have the work of installing a freight elevator at the Ontario Agricultural College.

WINNIPEG, MAN.—The Manitoba Government have awarded the contract for the erection of a new telephone exchange to James M. and John J. Kelly of this city at \$97,172. This price includes all work except plumbing and heating. The subway contract was let to Stone & Green, Minneapolis, at a minimum price of \$83,000.

NEW WESTMINSTER, B. C.—The contract for the heating at the Central school has been let to the Canadian Buffalo Forge Co.—In connection with the proposed new homes attached to the Royal Columbian hospital, the following contracts have been awarded: Carpentry, John Common; plumbing, Archibald Bros.; heating, Hardman & Co.

OTTAWA, ONT.—The Government have awarded contracts for the supply of 36,000 tons of rail to the Dominion Co., of Sydney, and the Algoma Steel Co., of the Soo, in about equal quantities. The Algoma Co.'s tender was about \$34 a ton, and the Sydney Co.'s a trifle below this mark.—The work of heating and plumbing the buildings of the American Bank Note Co. is being done by McGregor & Reid, of Peterborough.

TORONTO, ONT.—In connection with the Aluminum & Crown Stopper Co.'s proposed factory corner of King and Parliament, work has been apportioned as follows: Masonry, Wickett Bros.; carpentry, Kirby; sheet metal, Douglas Bros.; painting, James Brennan; structural steel, McGregor & McIntyre. Architect H. Simpson is in charge of the work. We understand that the heating contract is not yet let.

VANCOUVER, B. C.—The opening of tenders for the block paving of Granville street south disclosed new competitors in the firm of A. H. McLellan & Co. For some time past Ironside, Rannie & Campbell have been the only contractors



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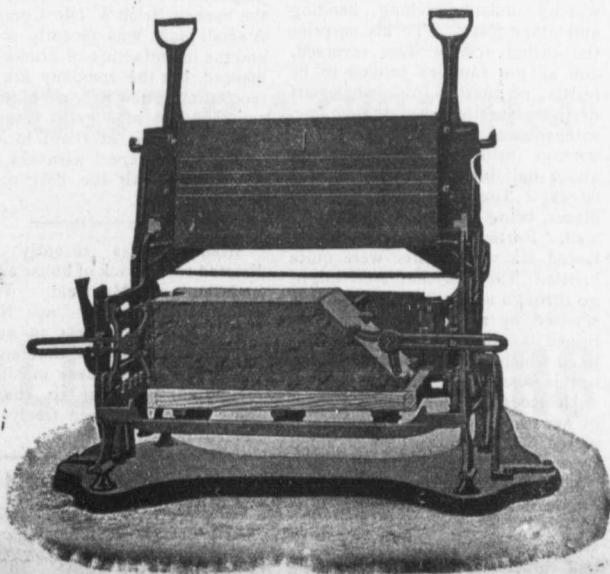
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to compete in this work. The new company put in close prices there being a difference of only \$1,186 on \$50,000 worth of work. The contract however fell to Ironside, Rannie & Campbell, who managed to keep below the mark on each section. Details follow:—Fir block paving of Granville street from Fourth avenue to Ninth, A. H. McLellan & Co., \$34,470.61; Ironside, Rannie & Campbell, \$32,780.85. Stone-paving lane north of Water street at rear of Hudson's Bay Company's warehouses, Ironside, Rannie & Campbell, \$1,459; A. H. McLellan, \$1,480. Stone-paving of lane south of Cordova street from Cambie to Granville street. Ironside, Rannie & Campbell, \$8,999; A. H. McLellan, \$9,097.—The C. P. R. have awarded a large contract to MacDonell & Gzowski, in the work of reducing the railroad grade at Field. The figure is in the neighborhood of a million and a half dollars. It is expected that the work will be let out in sub-contracts.—The Silica Brick & Lime Co. have been awarded the contract for a million bricks for the new David Spencer block now building.

FIRES.

Lund's elevator and mill, Wapella, Sask., completely destroyed.—Hardware store of D. L. Myer, Stratford, Ont., loss \$4,000.—Buildings of Maritime Co. and John A. Ash, Pugwash, N.S., loss \$50,000.—Buildings of English church, two residences and dry kiln, B.C.—Buildings of Standard Drain Pipe Company, New Glasgow, N.S., estimated loss \$100,000.—Buildings of B. F. Myles, Henry DeForest, Samuel McPhee and Thomas McFain, Sussex, N.B.—Saw, shingle and planing mill of Mayor Lyle, Smith Falls, Ont., loss \$6,000.—The Buildings of McDonald Agricultural College St. Anne de Bellevue, loss \$35,000.

BIDS.

MONTREAL, QUE.—The following contractors tendered for the construction of the new Montreal jail: Martineau & Prenoveau, J. B. Pauze & Co., Hussey Construction Co., C. Deacon, Daniel Ford, Michael Connolly and J. Bourque.

VICTORIA, B. C.—Tenders for cast iron pipe were recently opened and referred to the engineers but Robertson & Godson will likely get the work. The quantities were 15,000 feet of 4 inch, 30,000 feet of 6 inch and 8,000 feet of 4 inch, and the tenders were as follows: Robertson & Godson, 4 inch \$43.92, 6 inch \$42.69 and 8 inch \$42.69; Vancouver Engineering Works, 4 inch \$40, 6 inch \$39, 8 inch \$38.50; Evans, Coleman & Evans, 4 inch \$44.50, 6 inch \$43.25, 8 inch \$43.60. The quotations were per ton weight, but the Vancouver Engineering Works computed on the short ton basis of 2,000 lbs.

NEW COMPANIES.

The Dickson Bridge Works Company, Limited, Campbellford, Ont., incorporated, capital \$40,000. Incorporators, W. H. Caskey, L. A. Dickson, W. C. Macann and others.

The New Liskeard Concrete Company, Limited, New Liskeard, Ont., incorporated, capital \$40,000. Incorporators, S. Jewell, V. E. Taplin, W. H. Carruthers, J. E. Whyte, W. V. Craig and others.

Union Brass Goods Company, Limited, Toronto, Ont., incorporated, capital \$150,000. Incorporators, M. P. Voort, T. H. Best, F. J. Stanley and others.

Anthes Foundry, Limited, Toronto, Ont., incorporated, capital

\$100,000. Incorporators, L. L. Anthes, H. C. Sparling, H. Wilson, W. W. Vickers and E. Crook, all of Toronto.

Ideal Foundry Company, Limited, Toronto, Ont., incorporated, capital \$100,000. Incorporators, H. E. Pearce, W. H. Smith, Arthur Gate and others.

National Oxide Paint & Color Company, Limited, Hamilton, Ont., incorporated, capital \$50,000. Incorporators, Geo. Stroud, G. F. Webb, A. Stroud, H. A. O'Sullivan and T. J. O'Sullivan, all of Hamilton.

Sable Logging Company, Limited, Massey, Ont., incorporated, capital \$75,000. Incorporators, W. J. Bell, Chas. McCrea, N. W. Arnold and others.

The Canadian Holland Gin Distillery Company, Limited, Joliette, Que., incorporated, capital \$190,000. Incorporators, S. P. Champoux, L. P. Deslongchamps, S. Vessot and others.

THE AGEING OF MILD STEEL.

In a paper read at the May meeting of the Iron and Steel Institute, Mr. C. E. Stromeyer stated that in 1889, while engaged in testing steel at some German works, he wished to experiment on some basic steel, and, not without some trouble, the manager finally consented to roll a plate out of one of their basic Bessemer ingots. Two strips were at once sheared from this plate; one was bent cold, and the other after tempering. The results were satisfactory, being in agreement with those for the other steels with which he was then dealing. The plate was therefore duly marked off and sheared into strips, and a few days later a series of tests was commenced. They were to have demonstrated whether or not the quality was uniform and trustworthy under punching, bending and other tests. To his surprise the earlier results were reversed, and all the samples proved to be brittle, no matter from what part of the plate they were taken, or, rather, each strip now seemed to contain brittle zones extending about half inch from the sheared edges. The centers of the test pieces, being still tough, bent fairly well. Further samples which were tested six weeks later were quite brittle. The idea that steel might go through an ageing process was scouted by all to whom he mentioned it, but experiences accumulated which strengthened his belief in this possibility.

He accordingly undertook a series of experiments, which, when completed, will include results obtained from some 800 specimens. His conclusions from the data already obtained are that certain steels possess ageing qualities, that some steels tend to improve with time, and others to deteriorate. The

value, in his opinion, of the results obtained, is that they will direct attention to a subject which, if followed up, may lead to improvements in the ageing properties of steel.

CANADIAN NATIONAL ASSOCIATION OF BUILDERS.

The chief result of the recent convention of builders held in Toronto was the federation of the various building exchanges into the above named association. The meeting was held at the King Edward Hotel, and 325 delegates were present, Montreal alone contributing 160. The following officers were elected: President, J. O. Deslauriers, Montreal; vice-presidents, J. W. Morley, Winnipeg, C. W. Batts, Toronto, R. D. Clarke, Quebec; general secretary, J. Herbert Lauer, Montreal; directors, T. Seef, Toronto, B. Richardson, Hamilton, W. H. Yates, jr., Hamilton, Wm. Tytler, London, T. W. Murray, Winnipeg, D. W. Ross, Montreal.

QUEER FEAT IN ARCHITECTURE.

A queer feat in architecture has been begun at the Singer building, a skyscraper at Liberty street and Broadway, says a report from New York City. Its top is to be sliced off and three extra stories are to be sandwiched in between the seventh and eleventh floors. A large force of men will work night and day on the job. The undertaking will be confined to the original corner building, which will be part of a new forty-one-storey structure, the tallest office building in the world.

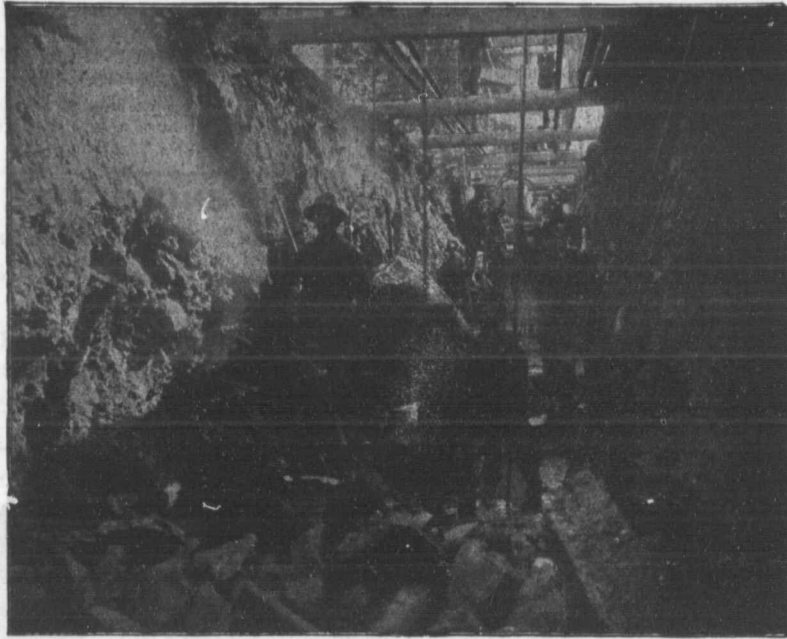
NEW BRICK WORKS AT SECHLT, B.C.

The latest enterprise in this neighborhood is the formation of the Sechelt Brick & Tile Company. A small plant was recently erected and the manufacture of bricks commenced, but the company are contemplating a new \$50,000 plant and are confident of a great future on account of their excellent location. According to expert assayers, their clay ranks with the best on the Continent.

Attention has recently been directed to the lack of house accommodation at Montreal. Whole communities spring up North, South, East and West in an incredibly short space of time and the crude housing of these mushroom populations so close to the city limits has of late been freely commented upon.

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THE USE OF LYE WATER.

Perhaps the best practical example of potash on concrete was the use of concrete in soap works, where it was discovered that lye water made a harder concrete in much less time than pure water and it was used in laying several thousand feet of concrete flooring, which wore well for two years, when crumbling in spots began.

In two years more the daily sweepings consisted largely of concrete until the four inches of concrete was entirely swept away in spots.

The owners believed it to be caused by certain acids used in manufacturing soap, but the theory that it was due to an overdose of lye water in making the concrete for those particular spots looks more plausible, as the original floor made of pure water is to-day without a blemish.—Cement World.

AN ODDITY AMONG NAILS.

A man who had often seen on the side of a building that he passes in his rounds down town a sign reading, "Cement Coated Nails," and who had wondered what cement coated nails could be used for, and made up his mind that they must be used in wharf building or something like that, under water, where the cement on them would protect

them against rust, learned upon inquiry that the cement on the nails did indeed have a protective purpose; but this purpose turned out to be one quite different from that which he had imagined.

For the coating on cement coated nails is designed not to protect the nails themselves, but the goods in the boxes in which the nails may be driven; and this in a manner that to the man of inquiring mind seemed quite novel and remarkable.

The cement coated nail is a wire nail. In these days there are more wire nails used than cut nails, because wire nails are cheaper; they cost about the same by weight, but there are more wire nails to the pound, and so wire nails have come into widespread common use for many purposes, one of them being found in the nailing together of many sorts of boxes.

A wire nail can be drawn more easily than a cut nail, and so with less likelihood of injury to the box, and this might seem only another recommendation of the wire nail in such use, as it reasonably might be if one of the chief considerations were the preservation of the box; but the primary consideration is, of course, the protection of the box's contents, and here is where the cement coated nail comes in, and in the manner that seemed novel and remarkable.

With time and the opportunity the cover of a light box wire nailed could be lifted and replaced and the nails redriven without showing any marks on the box, and thus there was the possibility of the abstraction of goods from such boxes in transit. For instance, a pair of shoes might be taken out of a shoe case and the cover put back without showing any signs of tampering. And with this requirement for it along comes the inventor of the cement coated nail, which is simply a wire nail covered with a very thin coating of material that makes the nail, once driven, stick so tightly that not only does it hold more securely, but it can't be drawn without marring or breaking the box.

Toronto building permits for the current year to the end of August totalled \$11,440,740.

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SOME DRAWBACKS TO ONE-HUNDRED-STOREY SKY-SCRAPERS.

An eminent New York engineer and practical builder who has to his credit many of the finest skyscrapers of the metropolis, states that a one-hundred-storey building, built of reinforced concrete and towering more than one thousand feet from the ground, may yet be seen by people who are living and even reached middle life. The fifty-storey buildings, which are now being considered as a future possibility, will constitute but a stepping-stone to the seventy-five-storey buildings and then to the one-hundred-storey buildings. The principle drawback which now presents itself is said to be the impossibility of providing elevator accommodations for even a fifty-storey building, for the reason that the weight of the cable to support the car in the numerous thirty-storey buildings now in commission is enormous, and some other method of utilizing the upper floors will have to be invented and introduced before the skyscraper can be built any higher. The limits of the elevator, as understood at this time, have already been reached.

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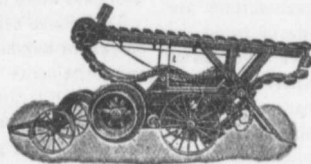
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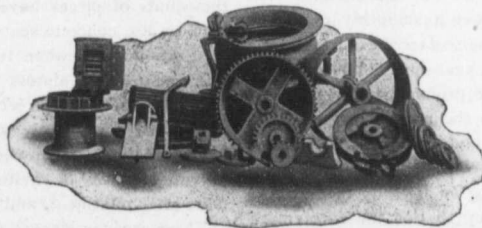
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SURFACE FINISH IN CONCRETE BUILDING

By LINN WHITE, Engineer South Park Board

A pleasing and consistent surface finish generally has not little to do with the strength of a concrete structure, but it is not inconsistent with maximum strength in any structure.

Next to form or design, the character of the surface has most effect on the appearance of concrete, whether in a building arch, wall or abutment; in fact, when the view is had at a very close range, or in such structures as retaining walls or pavements, the surface finish may take precedence over proportion.

It is not intended to attempt a full discussion of the subject, but only to describe some methods used in trying to obtain satisfactory surfaces in the various classes of concrete work done in the South Park system of Chicago.

The imperfections in the exposed surfaces of concrete are due mainly to well known causes which may be summed up as follows:

1. Imperfectly made forms.
2. Badly mixed concrete.
3. Carelessly laid concrete.
4. Efflorescence and discoloration of the surface after the forms are removed.

Forms with a perfectly smooth and even surface are difficult and expensive to secure. Made of wood, as they usually are, it is not practical to secure boards of exact thickness, joints cannot be made perfectly close, the omission of a nail here and there allows warping and the result is an unsightly blemish when least wanted.

Badly mixed concrete gives us irregularly colored, pitted, and honeycombed surfaces, with here a patch of smooth mortar and there a patch of broken stone exposed without sufficient mortar. Careless handling and placing will produce the same defects.

But granting we have the best of labor, that all reasonable expense and care is had in making up forms, in mixing, handling, and placing the concrete, that it is well spaded, grouted, or the forms plastered on the surface, the results are not satisfactory. All these efforts tend to produce a smoothly mortared surface, and the smoother the surface the more glaring become minor defects. The finer lines of closely-made joints in the forms become prominent, the grain of wood itself is reproduced in the mortar surface, hair-cracks are liable to form, and, worst of all, efflorescence and discoloration are pretty sure to appear. We surely have been working on a wrong theory.

It is of doubtful efficiency to line the forms with sheet metal or oilcloth. Imperfections still appear.

Two methods suggest themselves as likely to overcome the defects alluded to above. (1) Treating the surface in some manner after the forms are removed to correct the defects, and (2) using for surface finish a mixture which will not take the imprint of and which will minimize rather than exaggerate every imperfection in the forms and which will not effloresce.

Methods of treating the surface by bush-hammering, tooling and scrubbing with wire bushes and water have been described in various published articles, all of which have for their object the removal of the outer

skin of mortar in which the various imperfections exist. But the method most used in the South Park work is the acid treatment. It consists of washing the surface with an acid preparation to remove the cement and expose the particles of stone and sand, then with an alkaline solution to remove all free acid, and finally giving it a thorough cleansing with water. The operation is similar and always effective. It can be done at any time after the forms are removed, immediately or within a month or more. It requires no skilled labor—only judgment as to how far the acid or etching process should be carried. It has been applied with equal success to troweled surfaces, like pavements, to moulded forms, such as steps, balusters, coping, flower-vases, etc., and to concrete placed in forms in the usual way. It, of course, means that in the concrete facing only such material shall be used as will not be affected by acid, such as sand or crushed granite. It excludes limestone.

The treated surface can be made any desirable color by selection of colored aggregates or by the addition of mineral pigments. The colors obtained by selection of colored stone are perhaps the most agreeable and doubtless more durable.

There have been moulded in the South Parks shops blocks for buildings, columns, architectural mouldings and ornaments with both red and black crushed granite, all treated with the acid to bring out the natural colors of the stone. There has been a large quantity of concrete pavement laid with torpedo sand surface colored a buff sandstone color with a small quantity of yellow ochre and mineral red and treated with acid. The buff color imparted to the surface is a welcome relief from the glare of the ordinary whitish grey concrete pavement in the sunshine, and the etching of the surface adds to the softness of the color, at the same time preventing any slippiness. The same buff color has been used to a large extent in steps, bases of lamp-posts, and other moulded articles to be placed on or near the ground. With sand as the aggregate thousands of pieces have been moulded for coping, balustrades, concrete seats, drinking fountains, pedestals, etc., which, when treated with the acid, appear like fine-grained, almost white sandstone.

Where there are projections or marks left by the moulds or forms they are tooled or rubbed down before treatment, and where it is necessary to plaster up rough places or cavities in the surface it may be done after treatment, and cannot be detected.

These various classes of work have been done on a large scale during the last three years in connection with the improvement of new parks, and have in all cases proved satisfactory.

The second method of preventing or minimizing surface defect has also been tried in the South Park work with quite a measure of success.

During the years 1904, 1905, and 1906 groups of concrete buildings have been erected in nine different parks, costing with their accessories, from \$65,000 to \$150,000 for each group. These buildings are all monolithic structures, with occasional expansion-joints, the exposed surfaces of walls being of concrete com-

posed of one part of cement, three parts of fine limestone screenings, and three parts of crushed limestone, known as the one-fourth-inch size. This was thoroughly mixed quite dry, so no mortar would flush to the surface, and well rammed in wooden forms made in the usual manner. The result was an evenly grained, finely-honeycombed surface, of a pleasing soft gray color, which grows darker with time and blends admirably with the park landscape. In placing it was not spaded next the form; it was too dry to cause any flushing of mortar, so there is no smooth mortar surface, the imprint of joints between the boards is hardly noticed, and the grain of the wood is not seen at all. There is no efflorescence apparent on the surface anywhere, and cannot be on account of the dryness of the mixture and the porosity of the surface. The buildings are used as gymnasiums, assembly halls, reading and refreshment rooms, and as a rule the same grey concrete finish is given the interior walls as the exterior. In some cases a little color has been applied on the interior walls, and the walls of shower and bath-rooms have been waterproofed with plaster. The porosity of the surface makes it well adapted to receive and hold plaster.

This sort of surface is not capable of treatment with acid as a smooth mortared surface, nor is it desirable. Consequently the only color obtainable is the natural color of the cement-covered stone, but which is softer and far more agreeable than the grey of the usual mortar-finished surface. It is not suited for the surface of a pavement and is not impervious to water. Although it is evident the water enters the pores to a considerable extent, there is no evidence of injury from the frost during the two winters some of the walls have stood.

The same finish has been used for retaining walls, arch bridges, fence posts, walls enclosing surface yards, etc. In the buildings the thin walls were made entirely of this mixture, while in the heavier structures it has been used only as a facing. Two reinforced arches of 60 feet span were faced with this mixture, but the steel was imbedded in a wetter, more impervious concrete. The same dry mixture can be used for moulded stones when the mould is open enough to permit tamping, and of course it is eminently suited to block machines.

With the finely crushed stone a sound, smooth surface was obtained (when the sides of the boxes were removed) where it was manifestly impossible to plaster or grout the surface and where spading a mixture of coarse stone simply washed the cement away from the surface stones. On account of the variable water-level it was particularly desired to have a sound, smooth surface.—Cement World.

CEMENT SIDEWALK SPECIFICATIONS.

The following specifications formed a part of the paper read by Alber Moyer, New York City, at the convention of the National Association of Cement Users in Chicago:

Drainage Foundation.—Excavate to a sufficient depth so as to get below the frost line, ram and tamp the ground thoroughly and evenly, fill in with clean cinders, broken stone or brickbats to within — in. of top of the established grade of the pavement (a sufficient number of inches to provide for the thickness of slab necessary

to give sufficient strength for the character of the work it is to perform); tamp this drainage foundation well and evenly, thoroughly wet the cinders, stone or broken brick, place in position wooden forms in a manner necessary to accurately outline the top and external edges of the walk, the top of the form being located so as to coincide with the established grade of the walk. As an additional precaution, and where necessary to accomplish the purposes of drainage, side drains should be placed every ten or twelve feet, having a fall of not less than one-quarter inch to the foot, leading to some point forming an outlet for water which may accumulate. This outlet should be below the frost line and may be accomplished by a hole filled with cinders, stone or brickbats.

Concrete Base.—For a concrete base spread — in., number necessary to provide for the thickness of slab which will come to within one inch of the top of the established grade; this concrete to be composed of one part Portland cement and two and a half parts sand or quarry screenings, all passing one-quarter inch mesh, and five parts broken stone or gravel, all passing one-inch mesh.

These specifications may be regulated if proportions can be obtained which will allow of a larger proportion of broken stone, at the same time giving maximum density. Tamp the concrete to an even thickness, cut same into uniform squares of not over six feet square, using a steel cleaver of not less than one-eighth inch and not over one-quarter inch in diameter. Fill the joints thus formed with dry sand, so that there is no possibility of the square blocks adhering together. Mark on the wooden forms the exact locations of these cuts. After each batch of concrete is laid as required, it shall be immediately covered with a top coat, or wearing surface, no dirt or dust having been allowed to accumulate on the base and the surface of the base to be wet or moist. Any portion of the foundation which has been left long enough to have the appearance of setting or hardening shall be taken up and relaid before the top coat is put on.

Place a 2 x 3 inch strip parallel with sides of walk, in such position as will form square blocks, of equal dimensions, not over six feet wide; brace same with stakes, but do not nail to frame; then cut a strip 2 x 3 inches, the length of which is to be the width of the blocks. Place this strip so as to form a square block. On inside of strips place thick tar, or felt paper, one-quarter inch thick and three inches wide; fill in the space thus formed with concrete composed of one part Portland cement, two and one-half parts sand, and five parts crushed stone or gravel, mixed thoroughly. Tamp concrete thoroughly to an even thickness of three inches, then remove strip; the tar paper will adhere to the concrete. Move the strip to the next position, place the thick tar or felt paper as before, and proceed the same with each block, laying alternately. Put on top coat before the first block made starts to set or harden, and in regular order as blocks were made.

Top Surface.—For wearing surface, mix one part Portland cement with two parts crushed granite or other hard stone, all of which will pass through a one-quarter-inch mesh screen, or good coarse sand; mix by turning with shovels, raking with a garden rake as each shovelful is turned, turn twice dry and twice wet;

add sufficient water to make a plastic consistency, so that when floated or troweled very little water rises to the surface. Spread this mortar over concrete base to a thickness of one inch. Work to a flat surface with a straight edge, smooth down with float and trowel after surface water has been absorbed. Be careful to get an even surface, bringing no neat cement to the surface and avoiding float and trowel marks.

Cut top surface directly over cuts made in base; cut entirely through top and base all around each block. Finish joint thus made with a jointer and round or bevel all edges.

Monolithic Slab.—As an alternative, and instead of using a top coat, make one slab of selected aggregates for base and wearing surface, filling in between frames concrete flush with established grade. Concrete to be of selected aggregates, all of which pass through a three-quarter-inch mesh sieve; hard, tough stones or pebbles graded in size, proportioned to be one part cement, two and one-half parts crushed hard stone screenings or coarse sand, all passing one-quarter-inch mesh, and five parts crushed hard stone or pebbles, all passing through a three-quarter-inch mesh. Tamped to an even surface, prove surface with straight edge, smooth down with float or trowel, and in addition a natural finish can be obtained by scrubbing with a wire brush while concrete is "green," but after final set.

Expansion.—Do not allow any block to bear directly against any solid body, such as stone curb, building, post, manhole rim, etc. Leave the same space (about one-quarter inch) between pavement and such fixtures as is between the blocks themselves. This applies to the base and top as designed to avoid cracks and chipping due to expansion and contraction from temperature changes. This space can be conveniently provided for by the use of thick tar paper or felt, waterproofed with any of the reliable waterproof paints.

Protection and Seasoning.—Immediately as finished cover pavement so as to protect against rays of sun and drying, raising covering a few inches so as not to come in contact with the surfaces after pavement has reached hard set, sprinkle frequently, two or three times a day, with a garden hose or sprinkler for a week or more.

CONCRETE FOR SCHOOL BUILDINGS.

A situation of more than ordinary interest has developed in Philadelphia, where the Property Committee of the Board of Education has under consideration the erection of new school buildings. A rather surprising report was circulated, giving the impression that after due consideration the committee was opposed to the

use of cement and concrete in the construction of these buildings, and that in assuming this attitude it had the support and approval of well-known architects. This position seemed so radical that inquiry was made as to the true situation by engineers and architects who are making a specialty of concrete construction, and, as might have been expected, the report was found to be somewhat misleading. It transpires that opposition to concrete, especially on the part of certain members of the committee and various architects, is not so uncompromising as the report would make it appear. It has also been discovered that the committee is not at all prejudiced in the matter; but, on the contrary, is inclined to liberal views, with the hope of solving the building problem to the best advantage of all concerned.

The subject is one of moment, and brings up exceedingly interesting questions. It may be of interest to note that at this moment the most prominent journal in the United States devoted to insurance engineering is preparing reports from more than three hundred colleges and universities respecting fire dangers due to bad construction, which brings into prominence the value of concrete in buildings of this character. From the fireproof standpoint alone, concrete should not be discarded without the most extended and careful inquiry as to its value in this respect. It is hardly possible that any capable architect or engineer would in this day take the ground that concrete is not safe from a structural point of view. On that point there is abundant evidence to be found in Philadelphia, where many concrete manufacturing plants, some of them many stories high, have been constructed in recent years. In many, the wide-span girders and beams carry concrete floors especially designed to withstand the pressure and vibration of heavy machinery. Concrete will not only mean structural strength, but fireproof walls, stairways and roofs, if the Board of Education cares for that sort of thing. Concerning the artistic side of the problem, there may be cited handsome private residences and costly hotels built of this material, some of the most striking and notable among them having been designed by Philadelphia architects. In one instance, reports credit the committee with the statement that concrete construction requires great care and expert knowledge. Every properly constructed building demands this. From all that has been presented, we fail to see how concrete has been discredited. It is likely that the committee has heard but one side of the story, and before deciding the matter finally, its members would find it exceedingly interesting and instructive to invite before them some of the engineers and architects of known ability and standing who are achieving an enviable reputation in concrete construction. Let them hear both sides of the story.—Cement Age.

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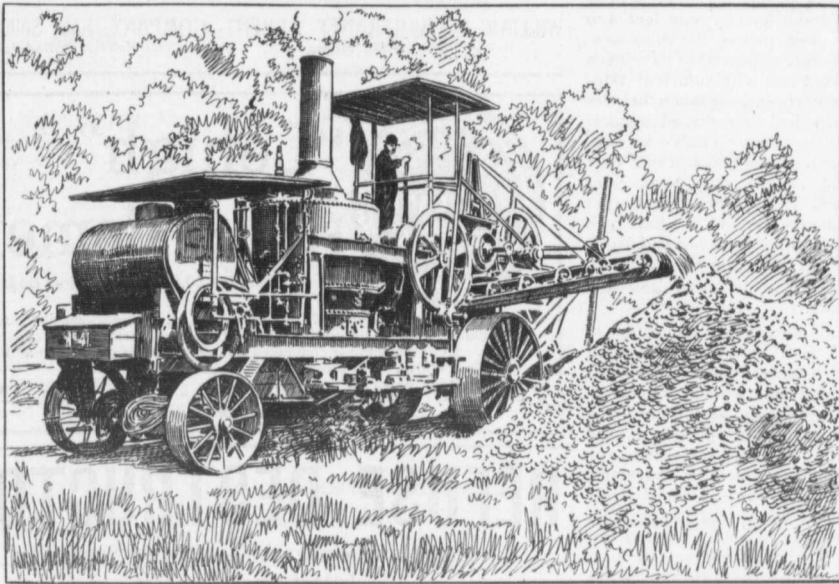
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DOES ELECTRICITY DESTROY CONCRETE?

Recently I was present at the removal of an inferior concrete floor or slab about four by nine feet and four to five inches in thickness. The concrete appeared to have been well mixed and with sufficient reinforcement to endure much heavier loads than had been placed upon it during its three years' service. The concrete was made of one part Portland cement, two parts river sand and two parts gravel that would pass a one and one-half inch ring, well mixed by hand and firmly tamped into place, the time required for the entire slab being less than two hours.

The reinforcement consisted of quarter inch round rods spaced eight inch centers each direction, it being the usual two-way reinforcement; these rods were placed one inch from the bottom side of the slab and in no place was there any indication of a defective character. The centering was not removed for at least five weeks and the greatest load ever placed upon it would not exceed 150 pounds per square foot, yet lengthwise through the center (somewhat diagonal) two breaks appeared which continued to enlarge until fractures connected with each other and the edges at all sides. The first visible crack was noticed about two years after the slab was made, and during the last year disintegration was rapid. In removing the work two electric arc lamp wires were found embedded in the center of the slab directly under the two large breaks mentioned above, the insulation on these wires was loose and shelly and in a few places the concrete was in direct contact with the bare wire, and at each of these places a yellowish

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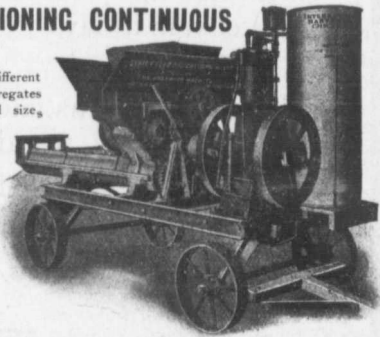
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CLASSIFIED INDEX OF ADVERTISERS

ACCIDENT INSURANCE Page
 Ontario Accident Insurance Co. 19

BOILERS
 McDougall Caledonian Iron Works
 Co., John. 19

BRIDGES (STEEL)
 Canadian Bridge Co. 19
 Canada Foundry Co. 27
 Dominion Bridge Co. 20
 Jenks & Dresser. 16
 Phoenix Bridge and Iron Works. 12

CASTINGS (IRON)
 Laurie Engine & Machine Co. 16
 Rogers Manufacturing Co. 24

CEMENT
 Alsen Portland Cement Co. 24
 Bremner, Alex. 20
 Canadian Portland Cement Co. 4
 DeSola, C. I. 9
 Gray & Bruce Portland Cement Co. 26
 Hyde & Co., F. 21
 Hanover Portland Cement Co. 8
 Hartranft, Wm. G. 14
 Lakefield Portland Cement Co. 14
 McNally & Co., W. 16
 Morrison & Co., T. A. 20
 Owen Sound Portland Cement Co. 26
 Ontario Portland Cement Co. 16
 Raven Lake Portland Cement Co. 21
 Stinson-Reeb Builders' Supply Co. 21
 Thorn Cement Co. 14

CONTRACTORS' SURETY BONDS
 United State Fidelity & Guaranty Co. 22

CONCRETE MIXERS AND MACHINERY
 Canadian Fairbanks Co. 17
 Dartnell, E. F. 8
 Gould, Shapley, & Muir 23
 Hopkins & Co., F. H. 28
 Ideal Concrete Machinery Co. 17
 London Concrete Machinery Co. 14
 Mussels Limited. 3
 Morrison & Co., T. A. 20
 Toronto Pressed Steel Co. 18
 Vining Bros. Mfg. Co. 5

CONTRACTORS' PLANT
 Allis-Chalmers-Bullock. 7
 Beatty & Sons, M. 21
 Canada Foundry Co. 27
 Harris Mfg. Co., J. W. 13
 Hopkins & Co., F. H. 28
 Jenckes Machine Co. 26
 Mussels Limited. 3
 Rogers Manufacturing Co. 24
 Toronto Pressed Steel Co. 18
 Wallington, G. P. 9

CONCRETE CONSTRUCTION
 Ambursen Hydraulic Construction Co. 18

CONTRACTORS' EMPLOYMENT BUREAUS
 North Western Employment Agency. 16
 Reliance Labor Exchange. 18
 Zarossi, Banco. 26

CORRUGATED IRON
 Metallic Roofing Co. 9
 Metal Shingle and Siding Co. 16
 Ormsby, A. B., Limited. 14

CRUSHERS (STONE AND ROCK)
 Allis-Chalmers-Bullock. 7
 Beatty & Sons, M. 21
 Canada Foundry Co. 27
 Dartnell, E. F. 8
 Hopkins & Co., F. H. 28
 Mussels Limited. 3
 Morrison & Co., T. A. 20
 Sawyer & Massey Co. 16

DRILLING CONTRACTORS Page
 Harvey, J. 24

DEBENTURES
 Nay, Anderson & Co. 21
 Stimson & Co., G. A. 19

ENGINEERS AND CONTRACTORS
 British Columbia General Contract Co. 20

ENGINEERS (CIVIL)
 Aitken, K. L. 23
 Canadian Engineers, Limited. 22
 Chipman, Willis. 23
 Connor, Clarke & Monds. 23
 Davis & Johnston. 22
 Fenson, C. J. 22
 Fielding, John S. 8
 Galt & Smith. 18
 Jackson, John H. 23
 Keating & Breithaupt. 22
 Lea & Coffin. 23
 Leofred, A. 8
 Macallum, A. F. 22
 Pitt & Robinson. 23
 Smith, Kerry & Chase. 23
 Scott, Wm. Fry. 22

ENGINEERS (MECHANICAL)
 Farmer, John T. 24
 Galt & Smith. 18

ENGINES
 Allis-Chalmers-Bullock. 7
 Cameron & Co., Hugh. 20
 Laurie Engine & Machine Co. 16
 Rogers Manufacturing Co. 24
 Sawyer & Massey Co. 16

ELECTRICAL APPARATUS AND SUPPLIES
 Allis-Chalmers-Bullock. 7
 Canadian Gen. Elec. Co. 27
 Drummond, McCall & Co. 20
 Northern Electric & Mfg. Co. 20

FIRE APPARATUS
 Cameron & Co., Hugh. 20
 McGregor & McIntyre. 18
 Morrison & Co., T. A. 20
 Seagrave, W. E. 16

HOISTING MACHINERY
 Allis-Chalmers-Bullock. 7
 Beatty & Sons, M. 21
 Canada Foundry Co. 27
 Georgian Bay Engineering Works. 9
 Hood & Sons, Wm. 19
 Hopkins & Co., F. H. 28
 Mussels Limited. 3
 Rogers Mfg. Co. 24

HYDRANTS
 Canada Foundry Co. 27
 Canadian Fairbanks Co. 23
 Canadian Iron & Foundry Co. 25
 Gartshore-Thompson Pipe & Foundry
 Co. 27
 Kerr Engine Co. 24
 McDougall Co., R. 21

LOCOMOTIVES AND RAILS
 Canada Foundry Co. 27
 Gartshore, John J. 19
 Hopkins & Co. 28
 Mussels Limited. 3
 Sessenwein Bros. 18

PLASTER BOARDS
 P. W. St. George. 26

PILE DRIVING
 Hood & Sons, Wm. 19
 Russell, John E. 19

PAVING AND PAVING MATERIALS
 Ontario Asphalt Block Co. 23
 Pettypiece Silix Stone Co. 23
 Silica Barytic Stone Co. of Ontario. 20

PIPE (CAST IRON) Page
 Canada Foundry Co. 27
 Gartshore-Thomson Pipe and Foundry
 Co. 27
 Gaudry & Co., L. H. 18
 Canadian Iron & Foundry Co. 25
 Stanton Iron Works Co. 9

PIPE (WOODEN)
 Canadian Pipe Co. 25
 Dominion Pipe Co. 25
 Pacific Coast Pipe Co. 25

PLUMBERS' SUPPLIES
 Somerville Limited. 5

PUMPS AND PUMPING MACHINERY
 Allis-Chalmers-Bullock. 7
 Canadian Buffalo Forge Co. 4
 Canadian Fairbanks Co. 17
 Canada Foundry Co. 27
 Drummond, McCall & Co. 20
 Mussels Limited. 3
 McDougall Caledonian Iron Works
 Co., John. 19

ROAD MACHINERY
 Cameron & Co., Hugh. 20
 Climax Road Machine Co. 26
 Heaman, George. 27
 Morrison & Co., T. A. 20
 Mussels Limited. 3
 Sawyer & Massey Co. 9

ROCK DRILLS
 Allis-Chalmers-Bullock. 7

ROPE
 Dominion Wire Rope Co. 28
 Greening Wire Co., B. 22

STEEL BARS (CORRUGATED)
 Corrugated Steel Bar Co. of Canada. 9

STRUCTURAL IRON AND STEEL
 Canada Foundry Co. 27
 Dominion Bridge Co. 20
 Jenks & Dresser. 16
 McGregor & McIntyre. 18
 Phoenix Bridge & Iron Works. 20
 Taunton, Richard A. 14

STONE
 Crushed Stone, Limited. 16
 Doolittle & Wilcox. 22
 Morrison & Co., T. A. 20

SHOVELS (STEAM)
 Allis-Chalmers-Bullock. 7
 Beatty & Sons, M. 21
 Canada Foundry Co. 27
 Hopkins & Co., F. H. 28
 Mussels Limited. 3
 Rogers Manufacturing Co. 24

SEWER PIPE
 Canadian Sewer Pipe Co. 4
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TELEPHONE SUPPLIES
 Northern Electric & Mfg. Co. 11

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 Canada Foundry Co. 27
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 Canadian Fairbanks Co. 17
 Canadian Iron & Foundry Co. 25
 Gartshore-Thomson Pipe & Foundry
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WOOD FIBRE PLASTER
 Imperial Plaster Co. 26

WHEEL SCRAPERS
 Bechtels Limited. 24

deposit, not unlike ochre, and equally as soft, was found. Three arc lamps connected with these wires gave the linemen no end of trouble the past few weeks, which ended with the removal of the concrete slab, the flickering having disappeared.

This is my first experience of this nature, nor have I heard of a similar instance, but feel thankful that I have never allowed wiring to be imbedded in concrete in any work under my supervision.

Should any readers have similar experience I would be pleased to hear from them, as I am told that a number of reinforced concrete buildings have the lighting wires imbedded in their floor slabs.—Fred W. Hagloch, in Cement World.

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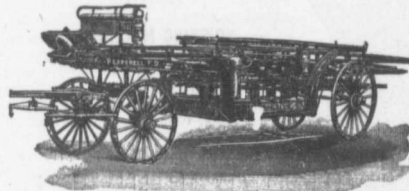
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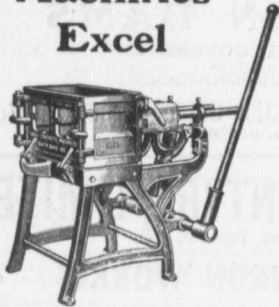
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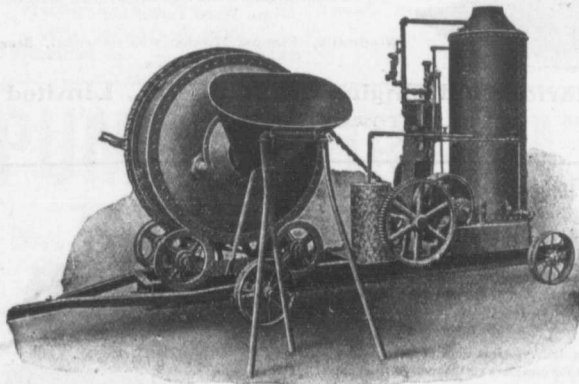
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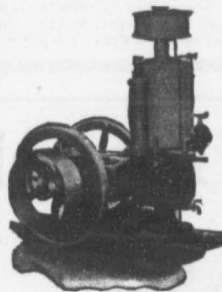
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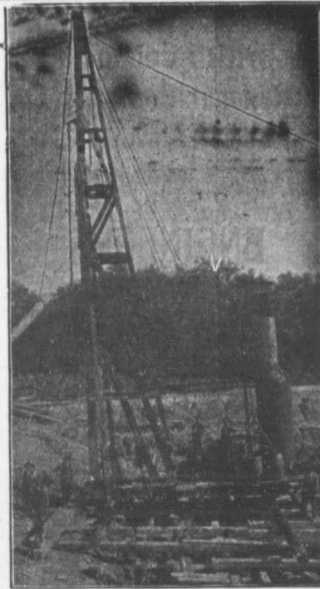
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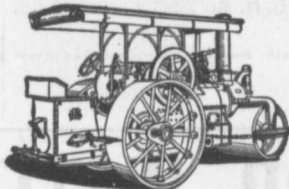
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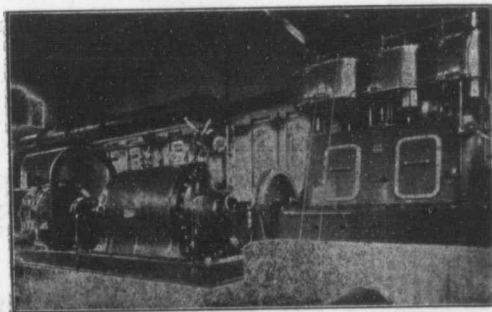


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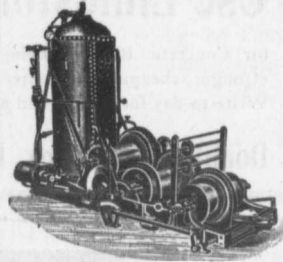
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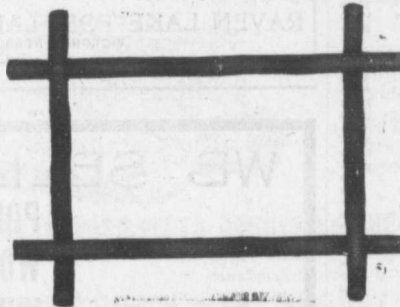
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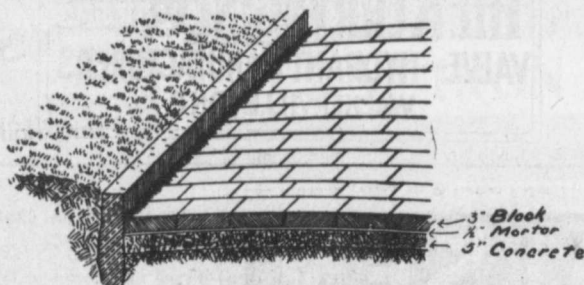
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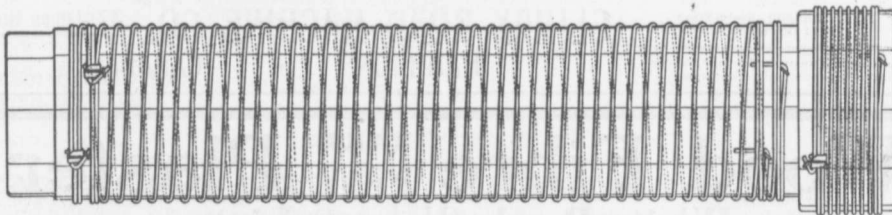
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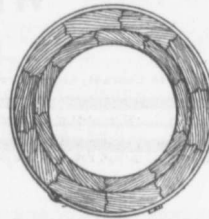
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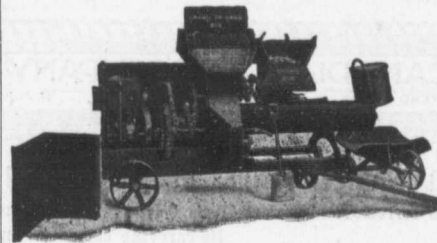
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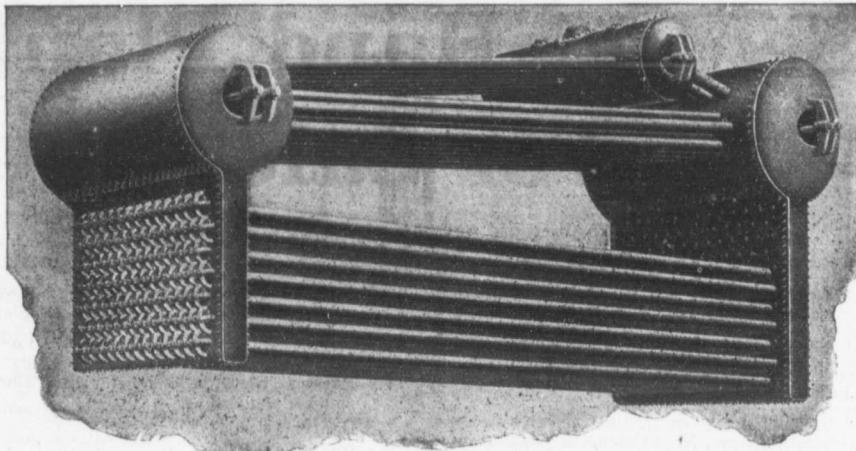
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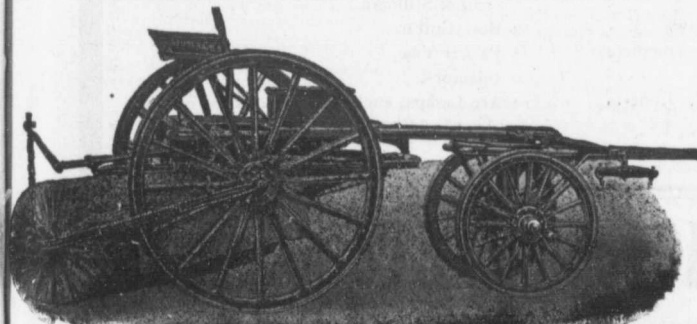
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