

# 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 18, 1907—WINNIPEG, VANCOUVER

No. 29

## THE CANADIAN CONTRACT RECORD

PUBLISHED EVERY WEDNESDAY  
As an intermediate Edition of the Canadian  
Architect and Builder.

THE G. H. MORTIMER PUBLISHING COMPANY  
of Toronto, Limited,

Subscription Price, \$2 per annum, payable  
in advance,  
United States, \$3.00 per year

COMMUNICATION LIFE BUILDING, TORONTO

Telephone Main 2364.

Branch Offices:

Room B34, Board of Trade Building, Montreal,

Telephone Main 2999.

700-701 Union Bank Building, Winnipeg,

Telephone 1274

Davis Chambers, 615 Hastings St., Vancouver,

B. C. Telephone 2248

Subscribers who may change their address  
should give prompt notice of same. In doing so  
give both old and new address. Notify the pub-  
lishers of any irregularity in delivery of papers.

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

## 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.

## Pumping Engine For Sale

The City of Calgary invite tenders for a second  
hand "Brown" Pumping Engine in fair condition  
L.O.B. Calgary.

The pump has a capacity of 700,000 gallons in 24  
hours.

Tenders to be addressed to the City Clerk, Calgary,  
Alta., and endorsed "Tender for Pumping Engine".

R. E. SPEAKMAN,  
City Engineer.

City Hall, Calgary, September 2, 1907.

## Concrete Sidewalks

Tenders will be received by the undersigned up to  
7 p. m. on SATURDAY, THE 18th SEPTEMBER,  
1907, for building Concrete Sidewalks on Bellefair  
Avenue, Township of York, north of Queen Street  
East.

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

Any tender not necessarily accepted.

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

Willowdale, 5th September, 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.

## Notice to Contractors

## ASPHALT PLANT

Sealed tenders, addressed to James Davidson,  
Chairman of the Board of Works Committee, will be  
received by registered post only at the office of the  
City Engineer up to 5 P.M., WEDNESDAY,  
OCTOBER 16th, 1907, endorsed, "Tender for an  
Asphalt and Bituminous Paving Plant" for the  
supply and erection of same on a site to be provided  
by the Corporation.

Specifications, forms of tender and full particulars  
may be obtained at the City Engineer's office, City  
Hall.

The Corporation does not bind itself to accept the  
lowest or any tender.

NEWTON J. KER,  
City Engineer.

Ottawa, September 16, 1907.

## CONTRACTS OPEN.

SYDNEY, C. B.—D. J. Macleod has  
just taken tenders for a school building  
on George and Milton streets.

TILLSONBURG, ONT.—It is re-  
ported that the Brantford Linen Mfg.  
Co. are transferring their plant to this  
place.

WOODSTOCK, ONT.—A building  
will shortly be erected in this city by the  
Canadian Pin Co. for the manufacture of  
pins.

MARMORA, ONT.—The ratepayers  
have approved a by-law for granting a  
bonus to J. Hayner & Co.'s stove factory.

DUNDAS, ONT.—The Town Coun-  
cil have decided to take tenders for the  
construction of the McMurry street  
bridge.

OSHAWA, ONT.—It is reported that  
this town will shortly possess a factory  
for the manufacture of steel kegs and  
wire fencing.

BRANTFORD, ONT.—The Cana-  
dian Machine Telephone Co. are contem-  
plating the erection of a factory in this  
locality.

ARCOLA, SASK.—The ratepayers  
will vote on September 23rd on a by-law  
for granting a ten year taxation to the  
Arcola Milling Co.

DIDSBURY, ALTA.—On September  
28th the ratepayers will vote on a by-law  
to provide \$3,000 by debentures for the  
erection of a town hall.

OLDS, ALTA.—A by-law to raise  
\$12,000 for fire protection and public  
works has been carried. The same by-  
law was recently defeated.

LONDON, ONT.—Plans have been  
prepared for a six-storey building to be  
erected on the Crystal Hall site and ten-  
ders will shortly be taken.

BRACEBRIDGE, ONT.—The Coun-  
cil are considering the propositions of a  
company who want to engage in the  
manufacture of steel chairs.

MOOSE JAW, SASK.—At a recent  
meeting of the City Council a by-law for  
raising \$90,000 for electric light exten-  
sions was put through the first reading.

NEWCASTLE, N. B.—The Board  
of Trade are considering the propositions  
of J. B. Beverage, of Chatham, for the  
building of a pulp and paper mill in this  
city.

PRINCE ALBERT, SASK.—Votes  
of the ratepayers will be taken on Oc-  
tober 1st on a by-law to raise \$29,000 by  
debentures for local sewerage improve-  
ments.

AYLMER, ONT.—The ratepayers  
have petitioned Council to issue a by-law  
to raise \$10,000 for additional water  
supply and to furnish a site for the Cana-  
dian Condensed Milk Co.

SOUTH BATTLEFORD, SASK.—  
The ratepayers have sanctioned a by-law  
providing \$10,000 for a bonus to a new  
flour mill and elevator. Construction  
work will shortly be put in hand.

ISLINGTON, ONT.—At a recent  
meeting of the Etobicoke Township  
Council a by-law was passed authorizing  
the issue debentures amounting to \$18,  
000 for purposes including the erection of  
a school house.

ST. THOMAS, ONT.—J. Lewis  
Thomas, C. E., has completed plans for  
the new Masonic Hall, to be erected at a  
cost of about \$10,000, and tenders for its  
construction will probably be taken at an  
early date.

LOUISBURG, C.B.—The Town  
Council are considering the propositions  
of the Eastern Fish Co., who want a  
bonus of \$30,000 in furtherance of schemes  
for erecting wharves, packing houses and  
warehouses.

NORTH SYDNEY, C. B.—At a  
recent meeting of the parishioners of St.  
Joseph's church a committee was ap-  
pointed to consider the building of a new  
stone and brick church to replace the  
building recently destroyed by fire.

HAMILTON, ONT.—At a recent  
meeting of the Finance Committee and  
Parks Board the by-law governing the  
Hamilton, Waterloo & Guelph Railway  
was considered and, meeting with no

opposition, was referred to the City Council.

**DUNDAS, N.B.**—C. H. LaBillois, Chief Commissioner, Department of Public Works, Fredericton, invites tenders up to October 7th for the construction of one metal superstructure span of 173 feet on Cagagne Mouth Bridge. Plans at the Department.

**SHERBROOKE, QUE.**—The well-known mining engineer, Crittenden Underwood, has been making investigations in this locality on behalf of a big American syndicate with a view to the erection of a big smelting plant early next season.

**MEDICINE HAT, ALTA.**—Fred Gelinus, Secretary Department of Public Works, Ottawa, is taking tenders this week for the construction of a squadron armoury for this town. Plans with Commanding Officer, R.N.W.M. Police, and at the Department at Ottawa.

**MONCTON, N.B.**—The proprietors of the Crystal Theatre Picture Show, headed by F. W. Winter, have decided to erect a new opera house at the rear of their building on Albion block. The new playhouse will be of steel construction and have a seating capacity of 2,000.

**EDMONTON, ALTA.**—Inquiries from several manufacturers have recently been received including one from a prominent Eastern cigar manufacturing firm, and one from K. N. Robbins, of Rochester, who will likely farm on a large scale and use steam machinery for cultivating purposes.

**QUEBEC, QUE.**—The Waterworks Committee are considering the installation of water and drainage to the Cap Blanc school at a cost of \$3,500. They have decided to extend the water and drainage to the Police Station at Dalhousie street and to purchase a rock drill for excavation purposes.

**WINDSOR, N. B.**—Tenders will be received up to September 21st by the Directors of the Windsor Foundry & Machine Co. Ltd., for the property and general effects of the concern, including warehouse, office and factory buildings and a considerable quantity of machinery and tools.

**FREDERICTON, N.B.**—Tenders are invited by C. H. La Billois, Chief Commissioner, Department of Public Works, for constructing one metal superstructure span of 173 feet in the clear on Cagagne Mouth Bridge, Dundas, Kent County. Specifications at office of the Department.

**BOBCAYGEON, ONT.**—L. K. Jones, Secretary Department of Railways & Canals, Ottawa, wants tenders up to September 20th for building a concrete dam at this place. Specifications at office of Superintending Engineer, Trent Canal, Peterboro, and at the Department, Ottawa.

**SAND POINT, ONT.**—Tenders are invited by Fred Gelinus, Secretary, Department of Public Works, Ottawa, up to September 27th, for the construction of a public wharf here. Specifications on application to the local Postmaster, to the Postmaster at Ampror, and at the Department, Ottawa.

**PORT ARTHUR, ONT.**—It is reported that negotiations have been effected by the Council for the sale of 3 acres of ground east of the C.P.R. track and south of Current river, to the Kennedy Carbon Light Co., who will locate a factory there for the manufacture of gas-oil lamps, heaters, etc.

**NEW WESTMINSTER, B. C.**—A company headed by H. B. Gillies, of Tacoma, are making negotiations with the authorities for the erection of an hotel building over the market square. If the city grant this concession the com-

pany will tile the entire floor of the square, and erect new sanitary stables for visiting farmers.

**LATCHFORD, ONT.**—Tenders will be received by Fred Gelinus, Secretary, Department Public Works, Ottawa, for building a dam across the Montreal river. Plans at office of J. G. Sing, Resident Engineer, Confederation Life Building, Toronto, at the Department of Public Works, Ottawa, and with the Local Postmaster.

**BRANDON, MAN.**—With reference to the proposed establishment of a Ruthenian school in this city, it is probable that a new building will have to be erected, as the cost of remodelling the Hughes block has been estimated at \$10,000.—The Salvation Army will likely commence the erection of new headquarters at an early date.

**FORT WILLIAM, ONT.**—The C. P. R. have great improvement schemes in hand including a million ton coal dock, freight sheds with a frontage of 6,000 feet and a huge cleaning elevator.—The construction of the Imperial Steel & Wire Nail Co.'s huge factory has just commenced. The dimensions of the main building and of the warehouse will be 500 x 70, and 60 x 200, respectively. Machinery will be installed in the spring.

**PETERBORO, ONT.**—The Victoria Telephone Company has just been formed and a committee has been appointed to secure estimates for the construction of a line from Burut River to Fenelon Falls.—The following building permits have been issued: Sidney Crowe, Aylmer street, \$1,600; W. R. Adamson, Stewart street, \$3,000; W. Cole, Dublin street, \$1,000.—Tenders are invited by Thomas G. Gillespie up to September 20th for the building of a Baptist church on Park street. Plans at office of Y.M.C.A. Secretary.

**WINNIPEG, MAN.**—Recent building permits include:—Rev. A. W. Woods, residence, corner of Home & Buell, \$5,000; C. Jenik, frame apartment block, Grove street, \$4,000.—Plans for the proposed new bridge over the Winnipeg river at Pointe du Bois and also for the Redwood bridge have been approved by Government.—N. Rosenblat has taken out a permit for a \$24,000 brick addition to the Windsor Hotel.—Tenders are invited by E. D. Tuttee, architect, 204 Bannatyne avenue, until September 23rd for alterations and improvements to the Louise bridge Methodist church, Elmwood.

**WELLAND, ONT.**—Propositions have been made by a manufacturer of brass plumbers' goods, gas and electric fixtures, the terms of which include the erection of a \$7,000 building and the installation of \$15,000 worth of machinery. An American manufacturing company are also contemplating the location of a plant here and the investment of \$50,000 to \$60,000 in factory building, and it is reported that the Niagara Falls Canning Co. will likely establish a branch in this town.

**HULL CITY, QUE.**—The Council have decided to issue debentures amounting to \$36,000 to cover the cost of the following improvements: Installation of new services, \$8,750; purchase of engine for thawing out frozen hydrants, \$560; lowering main pipes, \$5,000; new valves \$850; hydrants, \$4,100; renewing pipes of various sizes, \$16,500; extension of waterworks, \$2,000; stopcocks, \$400; repairs to E. B. Eddy services, \$600; new services, \$570; unforeseen expenses, \$470, total, \$36,800.

**ST. CATHARINES, ONT.**—A by-law has been passed granting Whitman & Barnes a fixed assessment of \$45,000 in return for an expenditure of \$35,000 in alterations and improvements to the

firm's plant and machinery.—At a recent meeting of the City Council the Mayor called attention to the economy of the concrete macadam pavement in use at Windsor and urged his colleagues to consider the question of finding a cheap paving material.

**VICTORIA, B.C.**—The Upton's farm, a property which has been described as "the finest site on the Pacific Coast" is to be cut up and sold by Oldfield, Kirby & Gardiner, of Winnipeg, who purchased it a short time ago from the Hudson's Bay Co. for \$460,000. A large number of applications for building lots have been received from all parts of the Dominion.—Recent building permits include J. C. Shore, two storey frame dwelling, Grant street, \$2,400; Cady & Doan, frame dwelling, Duchess street, \$2,500.

**MONTREAL, QUE.**—Saxe & Archibald, architects, are preparing plans for the remodelling of Emmanuel church on St. Catherine's street which is to be converted into a music hall.—A request is being made to the Government by the Montreal Bar Association for extensions and improvements to the Court House.—The Water Committee have rejected all tenders in connection with the proposed enlargement of the aqueduct. The lowest figure \$684,715, was sent in by Patrick McGovern, of Boston. The City will likely do the work by day labor.

**OTTAWA, ONT.**—The Murphy-Gamble Co. have purchased the Brunswick hotel property and will erect a new seven-storey building.—A new factory is shortly to be erected by the Library Bureau of Canada whose premises were recently destroyed by fire, on a site formerly occupied by the Canadian General Electric Co.—L. Z. Gauthier, of Montreal is the architect chosen to design the plans for the New Sacred Heart Church.—Tenders are invited by L. K. Jones, Secretary, Department of Railways and Canals, for the building of a concrete dam at Bobcaygeon, Ont. Plans at office of Superintending Engineer Trent Canal, Peter, and at the Department.—New boiler works will shortly be erected by W. J. Campbell at a cost of \$20,000.—The parishioners of St. Bridget's church have decided to decorate their church on an extensive scale and are organizing a fair for the raising of the funds.

**TORONTO, ONT.**—Symons & Rae, architects, have applied for a permit to erect a \$10,000 biscuit factory on Ontario street.—Plans have been submitted to the Board of Education by Supt. Bishop for the erection of the Kent and Howard public schools on Dufferin street and Howard avenue.—Recent building permits include:—Geo. Molley, 2½-sty. brick dwelling, Sheridan Ave., \$2,500; Alex. Craig, 2-sty. brick dwelling, Emerson Ave., \$2,500; A. Moody, 2-sty. brick dwelling, Dunn Ave., \$2,800; Wm. Spadbrown, 2 sty. brick dwelling, Bedford road, \$2,000; Mary Cutts, 2-sty. brick dwelling, Galley Ave., \$2,800; Toronto Laundry Machine Co., addition to factory, corner of Dundas St. & Sorauren Ave., \$3,500; D. Robertson, 1 pr. semi-det. 2-sty. & attic brick dwellings, Guelph Ave., \$5,600; F. J. Cummings, 2-sty. brick dwelling, Broadview Ave., \$2,500; H. M. King, 4 att. 2-sty. brick dwellings, Rolyat Ave., \$8,000; F. H. Moses, 1 pr. semi-det. 2-sty. brick dwellings, Broadview Ave., \$3,000; David Mackie, 2-sty. brick dwelling, Bartlett Ave., \$2,300; Thomas Kelly, 1 pr. semi-det. 2-sty. roughcast dwellings, brick fronts, Lewis St., \$2,000; Alice Hughes, 2-sty. roughcast dwelling, brick front, Hamburg Ave., \$1,500; T. J. Mulvihill, 2-sty. brick dwelling, Bloor St., \$1,800; T. Cocker, 2-sty. roughcast dwelling, brick front, Russett Ave., \$1,500; Laidlaw Watson Shoe Company, brick factory, Atlantic Ave., \$12,000; W. L. Bullen, 6 attached

-At a recent  
l the Mayor  
nomy of the  
at in use at  
lques to con-  
ng a cheap

ipton's farm,  
described as  
ic Coast" is  
dfield, Kirby  
so purchased  
e Hudson's  
rge number  
its have been  
e Dominion.  
nclude J. C.  
elling, Grant  
Joan, frame  
5,500.

axe & Arch-  
ing plans for  
el church on  
is to be con-  
A request is  
ment by the  
r extensions  
ourt House.  
ave rejected  
with the pro-  
cqueduct.  
was sent in  
oston. The  
y day labor.  
e Murphy-  
l the Bruns-  
erect a new  
w factory is  
the Library  
emises were  
a site forma-  
lian General  
ier, of Mon-  
to design the  
eart Church.  
L. K. Jones,  
ailways and  
concrete dam  
at office of  
rent Canal.  
ment.—New  
erected by  
if \$20,000.—  
lgets church  
their church  
e organizing  
funds.

nons & Rae,  
a permit to  
tory on On-  
en submitted  
n by Supt.  
he Kent and  
fferin street  
ent building  
lley, 2½-sty.  
ve., \$2,500 ;  
elling, Emer-  
oody, 2-sty.  
\$2,800 ; Wm.  
velling, Bed-  
s, 2-sty. brick  
oo ; Toronto  
ition to fac-  
& Sorauren  
s, 1 pr. semi-  
ings, Guelph  
nings, 2-sty.  
ve., \$2,500 ;  
ck dwellings,  
Moses, 1 pr.  
ngs, Broad-  
ackie, 2-sty.  
ve, \$2,300 ;  
ni-det. 2-sty.  
fronts, Lewis  
2-sty. rough-  
amburg Ave.  
2-sty. brick  
; T. Cocker,  
brick front,  
llaw Watson  
ory, Atlantic  
n, 6 attached

# WHEN DAYS GET SHORT

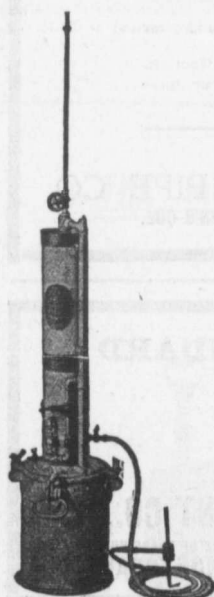
You want a Portable Light of High Power to enable you to conduct your work satisfactorily.

## The Holland Acetylene Light

is a very handy article for Contractors, Bridge Builders, Freight Yards, Wharves, etc. It gives a brilliant flame of 100 candle power which is unaffected by wind or rain.

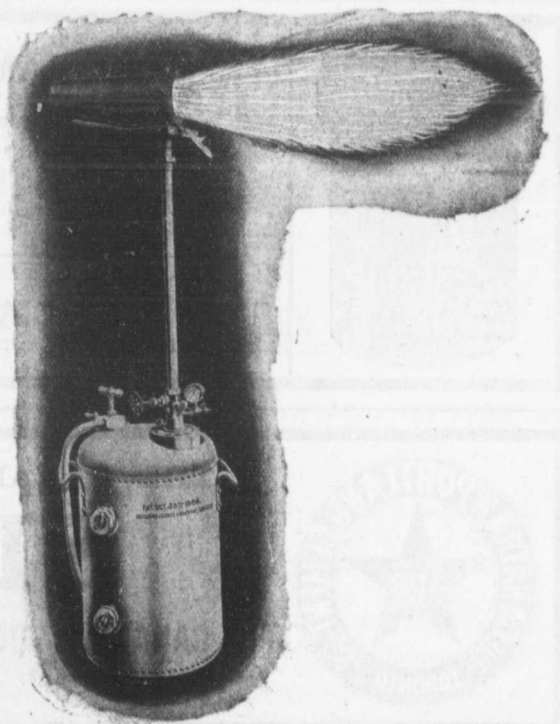
## The Buckeye Kerosene Light

is also unaffected by wind or rain, and is suitable for work where a very bright light is required in one place. It is supplied in capacities from 1,000 to 6,000 candle power.



HOLLAND LIGHT

— — —  
Immediate  
Shipment  
— — —



BUCKEYE LIGHT

# MUSSENS LIMITED

RAILWAY, MINING, MUNICIPAL AND CONTRACTORS' SUPPLIES

Head Office: MONTREAL

Branch Offices: QUEBEC, TORONTO, WINNIPEG, VANCOUVER

dwellings, Bloor St., \$12,000.—The ratepayers voted in favor of the by-law to raise \$781,171 for improvement and extensions to the waterworks system by a majority of 804. The outlay will include: Fifteen million gallon engine at main pumping station, \$250,000; new meters, \$100,000; 20-inch mains northwest section of city, \$93,820; 20-inch and 16-inch mains for the western district, \$90,188; six million gallon engine at high level station, \$60,000.

VANCOUVER, B.C.—According to City Engineer Clement's estimate a temporary bridge which it is proposed to erect across False Creek will cost \$7,000. \$7,000.—Yuen Chong has purchased property on Hastings and Abbot streets upon which he will erect a new three-storey business block to cost \$12,000.—Recent permits include:—H. C. Thompson, five residences, Ninth avenue, \$12,000; J. E. Dodson, Tenth avenue, \$2,000; H. J. Purvis, Eight avenue, \$2,000; R. J. Crawford, frame dwelling York street, \$5,500; J. G. Stacy, Eleventh street, \$2,000; C. J. Church, frame dwelling, Fifth street, \$3,000; James Eadie, frame dwelling Second street, \$3,500; A. Calori, frame dwelling, Cordova street, \$3,000; George Mura, frame apartment, Alexander street, \$3,500; James Beath, frame dwelling, Eight avenue, \$2,000; A. S. McMeekin, frame dwelling, Seventh street, \$2,500; M. B.

Peck & Co., frame dwelling, Sixth street, \$4,000; Empire Mfg. Co. Limited, frame foundry, Sixth street, \$2,500; John Horner, frame dwelling, Parker street, \$3,000; S. J. Castelman, brick dwelling, First street, \$10,000; M. Healy, frame dwelling, Comoco street, \$5,000; J. Bennet, frame dwelling, Keefer street, 6,000; H. Hoffmeister, frame store, Granville street, \$3,000; J. E. Dadson, frame dwelling, Eighth avenue, \$2,000; C. S. Thompson, frame dwelling, Ninth avenue, 12,000; J. H. McCall, frame dwelling, Eighth avenue, \$8,500; J. G. Ranch, frame dwelling, Oxford street, \$1,800.—C. E. Tweedale, of Richards & Alroyd, is building a fine business block on Bridge streets, between Seventh and Eighth avenues.—The Bridge Committee have recommended a \$1,000,000 by-law to the City Council to cover the cost of the entire bridge propositions. The estimated amounts presented to the Committee were as follows: Granville street, \$500,000; Cambie street, \$235,000; Westminster avenue, \$150,000; Cole Harbor, \$55,000. Votes of the ratepayers will probably be taken in January next.—Owing to the increased traffic across the Westminster avenue bridge it is proposed to lay extra tram lines in this locality.—A new industry will soon be in running order at False Creek, the Empire Mfg. Co. having taken out a permit for the building of a foundry.

**CONTRACTS AWARDED.**

MONTREAL, QUE.—J. B. Pauze & Co. have obtained the contract for the new jail at \$790,000.

CHARLOTTETOWN, P.E.I.—The contract for the Provincial Infirmary has been awarded to Parkman & Crabbe at \$30,000. Architect, C. B. Chappell.

BRANDON, ONT.—The contract for the new addition to the Brandon Asylum has been awarded to the Brandon Construction Co. at \$12,000.

PETERBORO, ONT.—The St. Joseph's hospital authorities have awarded the contract for extensions to their building to James Bogue.

VANCOUVER, B. C.—Wood block paving on Granville street from Fourth to Ninth avenues for B. C. E. R. Co.: Ironsides, Rannie & Campbell.

LONDON, ONT.—John Hayman has secured the contract for the additions to the G. T. R. car shops in the east end of the city, approximate cost, \$50,000.

COLBORNE, ONT.—The construction work for the two sanitary plants to be erected here and at East Zorra for the Blandford Cheese and Butter Mfg. Co. has been awarded to West & Bezzley.

CALGARY, ALTA.—J. McDiarmid, of Winnipeg, has secured the contract for the central part of the new C.P.R. station.—W. J. Richards has secured the contract for the erection of the new Mooney



**You Cannot Afford to Take Chances**

Poor Sewer Pipe is a menace to health and very expensive to replace. Purchase the best and get it when you want it. Ask for full information at the nearest of our three factories.

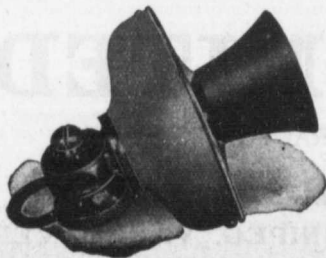
**THE CANADIAN SEWER PIPE CO.**  
HAMILTON, ONT. TORONTO, ONT. ST. JOHN'S QUE.



**THE CANADIAN STANDARD**

**STAR**

**THE CANADIAN PORTLAND CEMENT CO., LIMITED**  
502 TEMPLE BUILDING, TORONTO 203 BOARD OF TRADE BUILDING MONTREAL



We manufacture and carry in stock at all times complete lines of

**Telephones Switchboards Supplies**

We are the only manufacturers in Canada who can supply you with anything or everything for a telephone system.

**The Northern Electric and Manufacturing Co., Limited**  
WINNIPEG MONTREAL

# PLUMBERS' AND STEAMFITTERS' SUPPLIES

**Iron Pipe 1-8 in. to 12 in. carried in stock**

**Malleable Fittings Cast Iron Fittings**

**Lead Traps and Bends**

**Valves Tools Lead Pipe Pig Lead**

**PROMPT SHIPMENT**

## Somerville Limited

**TORONTO 59 Richmond St. East**

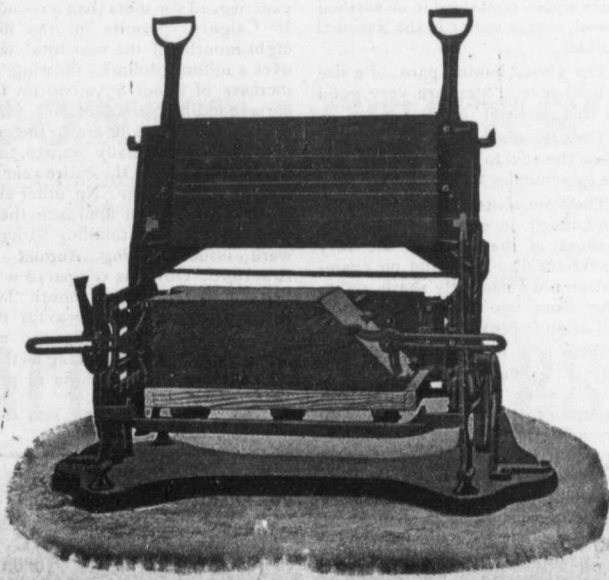
... Speaks For Itself ...

### THE MILES CONCRETE BUILDING BLOCK MACHINE

Makes 40 Different Sizes of Stone in Any Design, as well as the Specials, viz.:

Water Table, Gable, Circle, Angle, Chimney, Cornice, Pier Blocks, etc.

Catalogues and Information *Cheerfully* Furnished.



This Machine makes all blocks face down—"the only practical way"—allowing of a richer and finer facing, producing blocks that are perfect in appearance and impervious to moisture.

Let us tell you how the "Miles" will pay for itself over any other machine in three months' operation.

Manufactured and Sold by

**VINING BROS.  
M'fg. Co.**

Niagara Falls, - Can.

Sales Agent for Quebec:  
T. A. CHADBURN, 242 St. James Street,  
MONTREAL.

warehouse, whose tender was about \$15,000.—The work of heating Knox Presbyterian church has been awarded to the "Kelsey System" of the James Smart Mfg. Co.

TORONTO, ONT. — New Boiler, Engine and Condenser House and Chimney Stack 185 feet high on the new works of the Consumers' Gas Co., Eastern avenue; Brickwork, Wickett Bros.; Carpentry, R. G. Kirby; Tar Roofing, A. B. Ormsby Co.; Painting, H. W. Johnston; Steel and Iron Work, Dominion Bridge Co. Approximate cost of work \$75,000. Architect F. H. Herbert, 65 Adelaide street east.—The following tenders have been awarded by the Board of Education: Howard street addition, carpenter work, William Eaton, \$690; painting, J. Phinmore, \$22; plastering, Beaver & Co., \$145; galvanized iron and roofing for Howard street and Pape avenue school, A. B. Ormsby, \$216; Pape avenue, plastering, Beaver & Co., \$157; painting, J. Phinmore, \$20; carpentry, Wm. Eaton, \$630.

#### FIRES.

St. Joseph's R. C. church, North Sydney, C.B., loss \$22,000.—Woolen factory of M. Methot, Cap St., Ignace, Que., loss \$20,000.—Residence of H. B. Donly, Simcoe, Ont., loss \$5,000.—Farm buildings of J. Erb, Tavistock, loss, including stock, \$3,000.

#### THEORETICAL FALLACIES IN STRUCTURAL WORK.

The following is an extract from an address delivered by Professor Barr of Glasgow University to the Aberdeen Association of Civil Engineers, and, in view of recent events, should be particularly interesting to all connected with the trade in this country:—"The materials used in a structure may not—usually do not—conform to our assumption as to strength and properties of those materials. In many cases the materials, as actually used, are not so strong as we are led to believe by the application of the tests described in certain textbooks. There is no definite value that can be stated as the strength of a particular kind of material without many reservations, and many more reservations that can be conveyed in the ordinary books of reference. To take a particular specimen of steel or iron, and to say that its strength is about 29 tons per square inch may be true; but to state the strength down to the hundredth part of a ton is nonsense. Two pieces cut from the same material may have different strengths. The strength of any material may be affected by exceptional treatment which textbooks may not have taken into account. Those strengths that are quoted in textbooks as the strengths of materials are strengths that were got by the use of testing machines when the specimen was pulled gradually and quietly. But if we apply a load to a piece of material and remove the load, and again apply the load and remove it, and so on, we will find that far less than 22 tons per square inch will break a piece of Yorkshire iron. Ordinary formulas that are used to

find the intensity of the stress in pieces of material are usually very far wrong. Engineers should avoid discontinuity of form as far as possible. If they apparently strengthen a piece of material they often weaken it. Engineers should be careful to make things not only strong enough, but not too strong. It is dangerous to trust any formula without thinking out carefully what is implied in the formula, and considering in what way the practical conditions with which we are dealing differ from the practical conditions laid down in the formula."

#### A VITRIFIED CLAY WATER MAIN.

A vitrified clay water main, 12 inches in diameter and 3 miles long, has been constructed at Hobart, Okla., under the direction of the U. S. Geological Survey. It is made of double-strength pipe and is subjected to a maximum head of 14 pounds. The joints were calked with oakum and run with a mixture of both pure and crude asphalt and petroleum.

#### TO RE-SHARPEN FILES.

Many inquiries are received as to a method of re-sharpening files, and many mechanics are at a loss as to the best methods, and the only way to determine is to get the methods of all and sift out until it is satisfactory. I will give a method that has proved very satisfactory and hope others will do the same. The process I will explain is known as the acid process; first wash the files, thoroughly cleaning with a scratch brush in a strong solution of sal soda (washing soda) in hot water, to clear them of grease, dirt or metal that may stick between the teeth. Then wash in clean hot water to remove the soda, dip in a bath of one part nitric acid to four parts water, contained in an earthen vessel, says a writer in the National Builder.

The glazed baking pans, of a size to hold several files, are very good for this purpose.

Turn the files over constantly to allow the acid to act on all sides and the gas bubbles to escape.

The time of immersion must depend much on experience and the fineness of the cut. If the very coarse-cut files are found on examination not sufficiently sharp, redipping from two to three minutes will often improve their sharpness.

With a little experience, files of different grades may be sharpened at the same operation by giving attention to the time of immersion for each grade. Acid baths of less strength, with longer immersion of the files, may be used after a little experience. Thorough washing in hot water and drying is the final operation, but if the files are to be laid aside for future use they should

be greased with vaseline while warm from the wash bath, after drying. Some prefer to dry the files when required for immediate use by a dip in a strong hot soda or lime water bath.

#### CEMENT SHINGLES CHEAPER THAN WOOD.

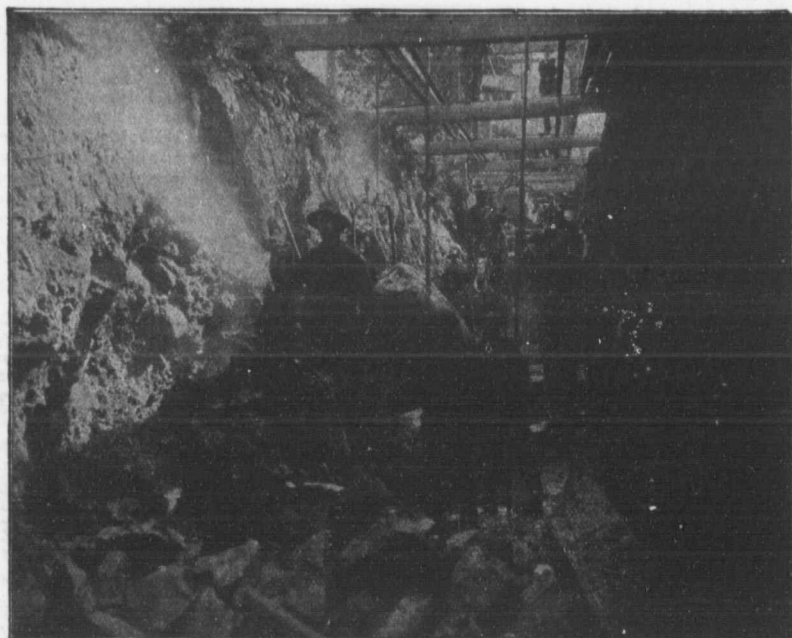
The use of cement for replacing articles made of wood is increasing every day. Cement has already replaced wood, to a great extent, in building sidewalks, bridges, fence-posts, steps, building walls, foundations and many other purposes and is commanding considerable attention at present in the form of shingles, says the Popular Mechanic's Exchange. In the earlier instances of concrete roofing the material was used in the same manner as in laying a floor, but the great strength required in a floor is not necessary in a roof. The cement shingles are only a little heavier than slate and not much more expensive than the best wood shingles, and, as they are practically indestructible, they are cheaper in the end than any other material, including tile and slate. These shingles are made in a great variety of designs, and are re-inforced with metal skeletons, which hold the cement together, and terminate in loops at the edges for nailing to the roof. They are practically everlasting, as moisture, the cause of universal decay, is the chemical agent in the process of hardening cement and when properly mixed and tempered the cement shingles become harder and more durable the more they are exposed to the weather.

#### BUILDING BOOMS.

It is reported that New Westminster is enjoying greater activity in the building trade than has been experienced for more than a decade. In Calgary, permits for the first eight months of the year total well over a million dollars, showing an increase of about \$350,000 on the corresponding period of last year, while Edmonton's figure to the end of August is actually \$2,030,700, against a total for the entire year of 1906 of \$1,868,060. No other city of similar size can approach these figures. Permits totalling \$59,775 were issued during August at Brantford, Ont., as compared with \$52,025 in the same month last year, an increase of \$7,750 for the four weeks. These figures are highly encouraging marking as they undoubtedly do the paths of progress and prosperity.

**JOHN S. FIELDING**  
CONSULTING ENGINEER  
WATER POWER DAMS, etc.  
15 TORONTO ST. TORONTO

# "INGERSOLL" ROCK DRILLS



Three out of the ten of our "Ingersoll" steam drills used by Messrs. Laurin and Leitch in excavating rock at St. Louis de Mile End, Quebec. These rock drills are fully described in catalogue No. 81.

---

## CONTRACTORS' PLANT

"Ingersoll" Air Compressors and Rock Drills; "Lidgerwood" Hoisting Engines and Ballast Unloaders;  
"Gates" Rock Breakers; "Allis-Chalmers" Steam Shovels; "Bullock" Electric Motors and Generators.

---

# ALLIS-CHALMERS-BULLOCK LIMITED

Head Office and Works: MONTREAL

District  
Offices :

{ MONTREAL : Sovereign Bank Bldg.  
NEW GLASGOW N.S. : Telephone Bldg.  
WINNIPEG : 251 Notre Dame Ave.

TORONTO : Traders Bank Bldg.  
NELSON : Josephine St.  
VANCOUVER : 416 Seymour St.

## NEW COMPANIES.

Colonial Drain Company, Limited, Winnipeg, Man., incorporated, capital \$150,000. Directors, J. C. Gage, A. B. Stothart, T. H. Hatchard, W. C. Leistikow and A. Reid.

The Jenks Dresser Company, Limited, Sarnia, Ont., capital \$50,000, incorporated to manufacture iron and steel work, and to build bridges, wharves and docks. Directors, W. G. Jenks, A. A. Dresser, R. M. Norton, M. Fuller and Hiram Manning.

Mapleton Dairy Company, Limited, Winnipeg Man., incorporated, capital \$15,000. Directors, R. Barbour, F. McShane, W. Cowan and A. H. S. Murray of Winnipeg.

"Ingersoll Sergeant of Canada," Limited, Montreal, Que., capital \$20,000, incorporated to manufacture mining and other machinery and tools. Incorporators, H. D. Lawrence, W. Morris, A. F. Plant and R. F. Morris of Sherbrooke, Que., and W. E. McIver of Richmond, Que.

Middle West Investment Company, Limited, Winnipeg, Man., incorporated, capital \$200,000. Directors, B. E. Chaffy, B. R. Dingwall, L. Verhoven, G. A. Mitchell, J. D. Atchison, and others.

Saskatoon Township Company, Limited, Winnipeg, incorporated, capital \$200,000. Directors, W. S. Ronald, H. T. Read, D. P. Black, F. H. Webb, and J. Palmerston, all of Winnipeg.

## COUNTRY HOMES FOR WORKINGMEN.

The Garden Cities Association of America, the organization of which was announced last November, has recently decided to support three movements to build garden cities for working people in as many States, and is about to take up two others. W. D. P. Bliss, secretary of the association, refused to give the names of the places near which these improvements were to be made, but said that one of the cities will be on Long Island, one in Virginia and one in Pennsylvania. The two being considered are to be in Connecticut and New Jersey.

On Long Island 800 acres are to be developed into a model industrial village, consisting of factories and the homes of the workers. The Virginia proposition is for the development of 5,000 acres, and will be an agricultural community. In Pennsylvania, near Easton, 500 acres are to be developed for manufacturing and residential purposes.

The two plans under consideration provide for the development of 247 acres in Connecticut near an industrial city, and of 1,000 acres in New Jersey within thirty-one minutes of New York. The latter will be the most important of all.

"This is not a charity, even if it is altruistic," said Mr. Bliss. "A

workingman who is earning his living is not a subject for charity. The Garden Cities Association will enable him to move into the country and to own his own home if he chooses."

The officers of the association are John Lewis Childs, president; Ralph Peters and Levi C. Weir, vice-presidents; R. W. Jones, Jr., treasurer, and W. D. P. Bliss, secretary. Among the directors are Felix Adler, C. Loring Brace, Dr. Josiah Strong, Joseph Silverman, Bishop Henry C. Potter and Edward M. Shepard.

## GLASS AND IRON.

When the first World's Fair in London was held in a building of glass and iron, the use of the frail and strongest of building material was regarded as among the world's transient curiosities. Now, according to The Mining and Scientific Press, this utilitarian age is turning again to these two materials as the best adapted for roofing high buildings. The San Francisco fire taught emphatically that the most vulnerable part of a building in the case of a big conflagration is the roof. Several forms of fire-proof roofing have since been energetically pushed forward, and at least two styles are guaranteed to resist flames under all conditions. These two forms are metal shingles and clay tiles. The third and probably the greatest achievement in tile-roofing from a utilitarian as well as an esthetic point of view, is the use of glass tiles. They are of the same pattern as clay tiles, and in factory work, upon an open-steel construction, may be inserted just as a clay tile would be in any number or in any position required.

This does away with the cost of sheet-metal work, and the absence of this, or even of wire work is important in many other respects. Galvanized iron and tin yields quickly when it comes in contact with the gases that arise almost invariably from reduction works and various factories. The life of this customary support to the skylight is three years. The glass tile, moreover, washes clean, while glass surrounded by sheet metal work never does. The light obtained from the use of tile skylights is far superior to that

obtained in the old way, the corrugated surfaces of the tile acting prismatically, and perfect dissemination of light follows. With the crowding of cities the light problem becomes more and more difficult of solution, and that must strengthen the tendency to resort to the one-time curious combination of glass and iron.

A giant smoke-stack, which when completed, will be over 500 feet high and will have an inside diameter at the top of fifty feet, is being built at Great Falls, Mont. Ten thousand tons of concrete are being used in the foundation. It is claimed that the stack will be the largest in the world.

The City of Ottawa has just obtained a loan of \$730,000 from Parr's Bank, London, England for a period of six months with option of renewal. In view of the big schemes that the Capital City is entertaining it is of importance to note that no heavy expenditure involving a large issue of debentures can be undertaken during the currency of the loan.

## JNO. S. FIELDING

CONSULTING ENGINEER

Hydraulics, Dams  
ETC.

WATER POWER DEVELOPMENT

15 TORONTO STREET - - TORONTO

## The Reliance Labor Exchange

426 St. James St., MONTREAL

Licensed to supply labor of all kinds.  
Careful and prompt attention given.

SAUNDERS &amp; BLACK, - Proprietors

E/ie

Hanover Portland Cement Co.  
Limited

Manufacturers of

"SAUGEEN" BRAND

PROMPT SHIPMENT WRITE FOR PRICES

Office and Works: Hanover, Ontario

## A. LEOFRED

(Graduate of McGill).

Consulting Engineer

WATERWORKS A SPECIALTY.

39 St. John Street  
Metropolitan Ins. Bldg. QUEBEC  
Phone 345The  
Portable Gravity Concrete Mixer

PRICES REDUCED

Large Capacity

Simple in Operation

No Power Required

E. F. DARTNELL, MONTREAL



**PULLING DOWN A TALL CHIMNEY.**

The great chimney which was connected with the Machinery Hall of the Bavarian Jubilee Exposition in 1906, 160 feet high, was recently condemned by the Municipal Government of Nurnberg and orders were given for its removal. For some time the contractors were undecided as to whether it would be better to blow up the iron shaft or pull it down. The latter plan was decided upon and was carried out, according to a Leipzig paper, in the following way: "On the side toward which it was agreed that the chimney should fall, a ditch of considerable depth was dug under the foundation, and then braces of wood were substituted for the earth. Light wood was packed in the ditch and whole saturated with petroleum. The two main supports were removed, the oil-soaked wood was set on fire, and in fifteen minutes the chimney, broken in three huge pieces by the fall, rested where the engineers had made a bed for it"

The Victor Cement Block Co. of Victoria, B.C. have just secured a patent on a machine for moulding the sheet metal bonded cement building block, which is becoming very popular for building purposes. Plans have been prepared for the erection of a magnificent building

**JOHN S. FIELDING**  
 Mem. Soc. C.E. West Penn. '87  
 Mem. Engineer's Club, Toronto  
**CONSULTING ENGINEER**  
 Expert on Bridges and Machinery  
 Room 2, 15 Toronto Street, TORONTO, ONT.

in the Strand, London, Eng., which will be the Canadian Emigration headquarters. Strathcona Hall, as it is to be called, will cost two

million dollars, and will have a frontage of 413 feet.

**THE PRIESTMAN EXCAVATOR AND DREDGER**

is used throughout the world. Will do more work with less labor, at a less first cost than any Excavator at present in use in Canada. For particulars write  
**G. P. WALLINGTON,**  
 Canadian Representative,  
 11 Front Street East, Toronto

METALLIC  
**SKYLIGHTS & VENTILATORS**  
 METALLIC ROOFING CO.  
 LIMITED  
 TORONTO, CANADA.

**JOSSON CEMENT**

Is the Highest Grade Artificial Portland Cement and the Best for High Class Work. Has been used largely for Government and Municipal Works.

TO BE HAD FROM ALL CANADIAN DEALERS OR FROM

**C. I. DE SOLA, 180 St. James Street, MONTREAL**

**THE JOHNSON CORRUGATED STEEL BAR**



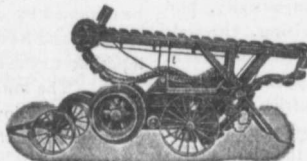
FOR  
**REINFORCED CONCRETE**

Manufactured by

**THE CORRUGATED STEEL BAR CO. OF CANADA, LIMITED**

Operating under Johnson Patent No. 91650 and by license of Sir Wm. Mather.

Office: Coristine Building, MONTREAL



**NOTICE to CONTRACTORS and QUARRYMEN**

Get prices on our  
**NEW SOLID STEEL FRAME CRUSHERS**

Especially adapted for road making, mining and general contract work.

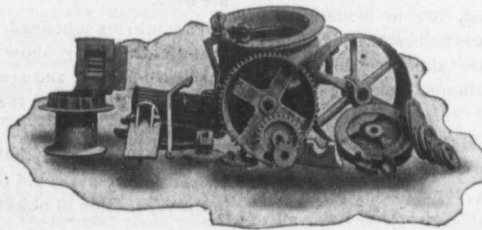
**Sawyer & Massey Co., Limited**  
 HAMILTON, CANADA

**GEORGIAN BAY ENGINEERING WORKS, MIDLAND, ONT.**

**CASTINGS**

UP TO THE MINUTE  
 IN EVERY WAY

Manufacturers of  
**Hoisting Engines and Contractors' Plants**



**Gray Iron  
 Bronze  
 Brass**

SEND FOR  
 CATALOGUE

**THE STANTON IRON WORKS CO.**

Near NOTTINGHAM, ENG. Largest Makers of Cast Iron Pipe in the World LIMITED

Annual Output  
 100,000 Tons

**CAST IRON PIPE**

SIZES: 1 1/2 in. to 72 in. diameter, 9 ft. and 12 ft. lengths.

Irregular Castings for Gas, Water, Sewerage Work. Steam, Hydraulic and Pump Installations. Also makers of Cast Iron Tanks, Columns, Girders, Etc.

**W. BEVERLEY ROBINSON** AGENT FOR CANADA Board of Trade Building **MONTREAL**

## The Uses of Copper

The average man, if asked to name, offhand, the uses of copper, would be likely to reply that the metal was used mainly for coining pennies and making wire, yet these uses employ barely more than a quarter of the copper that is produced. On second thought he might smile at naming copper coinage as an important consumer of the metal, yet his first thought would be nearer right than his second, for the Chinese Empire has used fifty thousand tons of copper for making new coins, within the past two years, thereby increasing the circulating medium of the country to the extent of four ounces to each inhabitant—for while fifty thousand tons of copper is a large quantity of metal, sufficient to load a thousand freight cars of the heaviest type used on American railroads, it is but a quarter of an avoirdupois pound per capita, when divided among four hundred million people.

Only the expert, of those engaged most actively in the copper industry, have the slightest idea of the diversified uses to which it is put, as shown by a chapter on the uses of the metal in the new edition of the Copper Handbook, published by Horace J. Stevens, of Houghton, Michigan. According to this book copper enters into almost every form of human activity, and the multiplicity of its uses is most surprising. Electric light, power and traction are immense consumers of the metal in the form of wire, and telephones and telegraphs find it indispensable, yet electricity requires only a trifle more than a quarter of the metal made. The engineering trades consume more than half of all the copper produced, mainly in the form of brass, but there are about a score of friction metals and alloys, each having its specific use, into which copper enters as a component part.

The building trades are enormous consumers of copper, and this sort of consumption is increasing rapidly. Copper roofs, cornices and fronts adorn the exteriors of business buildings in thousands of towns, while for interior work the great majority of modern buildings use copper, brass or bronze locks, knobs and butts. Brass pipes, nicked, are in modern bathrooms and lavatories, and brass and bronze chandeliers, gas and electric fixtures are almost invariable. A dozen or more other very common domestic uses of copper are mentioned.

In the manufacturing world the uses of copper and brass are innumerable. One concern in the Naugatuck valley of Connecticut buys copper in ten-ton lots, monthly, solely for the making of watch-dials, all of the better-grade dials being of copper, enameled. The common pin requires hundreds of tons of copper yearly, insignificant as a single pin may seem. Bals for shoes and tips for shoe laces require metal by the scores of tons, and the thin metallic tips on rubber-tipped lead pencils are responsible for a surprising depletion in the stock of the metal.

In addition to the consumption of the metal itself, tens of thousands of tons of copper sulphate are required for arts and manufactures, and for horticulture purposes, in spraying fruit, trees, bushes and vines. It is very evident, from a perusal of the book in question, that copper plays a vital, and a far more import-

ant part than commonly supposed, in Twentieth Century civilization.

Another use of copper is for making mirrors.

The importance from the point of view of the health of the workpeople of obtaining a substitute for the tin amalgam used in the manufacture of mirrors has led many chemists to study the conditions under which metals are deposited from aqueous solution. These investigations have, however, usually had for their object the preparation of a liquid which would deposit a uniform and coherent layer of silver over a large glass surface at the ordinary temperature. Liebig was the first to solve this problem satisfactorily, and his method in which milk sugar is the reducing agent was formerly extremely used.

Other metals are not so easily deposited, and copper, which from its close relationship with silver one would expect to behave similarly, has never been observed to be so laid upon glass. Although copper mirrors have never been obtained by deposition of the metal from an aqueous solution, Faraday about the time when silver mirrors were attracting much attention made the interesting observation that a mirror-like deposit could be obtained by dissolving a little oxide of copper in olive oil and heating plates of glass in a bath of this liquid up to the temperature at which the oil decomposes. The mirrors, however, obtained by Faraday's method, if of any size, are liable to be stained or discoloured in patches by decomposition products of the oil, and they are, moreover, generally lacking in brilliancy. Further, as the deposition of the metal only takes place when the oil decomposes, the process is excessively disagreeable to carry out; and since the oil is spoiled it is also somewhat costly.

In the course of an investigation on the oxidation of aromatic hydrazines, the author made the observation that when solutions of cupric oxide are reduced by these compounds the metal is deposited upon the glass in the form of a brilliant coherent film if clear vessels are used.

The mirrors obtained by this method are very beautiful, as they show the lustrous red colour of burnished copper, and are as perfect in reflecting surface and as uniform as the similar mirrors obtained by the deposition of silver.

It seems probable that this method of depositing copper upon glass could receive important application in the production of objects of art.

---

The Royal Collieries Limited, the largest company ever chartered by the Provincial Government of Alberta, has been incorporated with a capital of \$3,000,000 with the head office at Coleman.

The architectural competition for the proposed Administrative Building at Regina to be erected at a cost of about \$1,250,000 is confined to the following firms: Darling & Pearson, Winnipeg and Toronto; Cass. Gilbert, New York, U. S. A.; Marchand & Haskell, Montreal; E. & W. S. Maxwell, Montreal; Mitchell & Raine, London, Eng.; F. Rattenbury, Victoria, B. C.; Storie & Von Egmond, Regina.

### PAINT AS A PRESERVATIVE.

Though one of the most common things to be seen in this country, the real preservative properties of paint are but little understood, even by many who are engaged in employing it. To most people paint is paint, whereas there is a wide difference in varieties and numerous serious mistakes are made in employing the wrong kind. L. E. Andos, who has completed a series of exhaustive tests on all subjects connected with paints and the uses to which they are adapted, has recently published a statement which brings into prominence several facts that have largely, at least, escaped the notice and attention of paint users, tells the American Contractor.

The investigation shows that a simple coat of linseed oil, either raw or boiled, or some varieties of spirit varnish, is practically useless when used on metal which is exposed to the action of the weather. When, on the other hand, an oil paint is made up with a trustworthy pigment, it matters but little what pigment is employed, one thing is all important: the vehicle or liquid matter used must be essentially linseed oil.

On the contrary, if the metal is to be always under water, especially fresh water, oil paints are valueless—except red lead in boiled oil—and the proper protection is one of those spout varnishes which fail in the air.

The utmost attention must be given to the material upon which the paint is to be employed. Thus an oil paint that indicates permanency when used on glass under water, usually fails utterly when applied to submerged iron. Fresh water is much more injurious to oil paint than salt water, such as that of the sea. This difference is very pronounced, a single coat of white lead in oil withstanding a three per cent. solution of ammonia salt water better than several coats of the same paint will endure in fresh water. The best method of protecting iron, which has to be kept under water constantly, is still being investigated; at present it seems that a priming of red lead in boiled oil, followed by some varnish paint is the most satisfactory. For exposure to definitely corrosive influences, a spirit varnish composed of some rosin and some celluloid gives the most lasting coat, but the behavior of this material in air has not yet been studied.

### WIND STRAINS.

There has been at various times a great deal of discussion among engineers as to the role which is played by the forces of the wind acting against a framed structure. The problem is quite indeterminate, as far as regards actual experiments. There were some valuable data collected at the time of the very short-lived tornado in St. Louis a few years ago which wrecked a surprisingly small number of buildings, and which established velocities from which were deduced certain pressures per pound supposed to be exerted by the wind. And yet in this very tornado it was observed that the effect of the wind was not to blow the glass in, but to break it by forcing outward. If this is the case, why is it fair to assume a great wind pressure against the outside of a building? Again, in lesser degree, a great deal has been written about the wind pressure on the Flatiron Building in New York, and that structure was, in fact, designed for a wind stress

of something like thirty pounds per square foot, if we are correctly informed, and yet it is doubtful if there is a single plate-glass window in the building that would for a moment stand a load of thirty pounds over every foot of its area. It is to be hoped that experiments may be made ere long on a large scale which may either definitely settle the actual amount of stress resulting from certain wind velocities, or will, as we think, more likely set at rest forever the apprehension that the wind would possibly blow at the same time over any great area of a building with a uniform pressure; or, in other words, prove that the necessity for providing against wind strains in a modern building is so extremely slight that it can be disregarded in first-class constructions.

### SOUND-PROOF PLATES.

These bricks or plates are made from a mixture of gypsum, with sawdust, coke dust or ashes. The following, according to the *Boutechnische Zeitschrift*, is another effective but more expensive method. An acid or acid salt from the second salt is mixed with the gypsum mass by stirring; the action of the acid forces out the carbonic or hydrochloric acid from this second salt, and these gases escaping produce pores in the plates. With careful work, the pores in the mass may be distributed so evenly and in such great number that the plates made from it are very light, conduct sound badly, and can be easily nailed. The same result, according to the *Allgemeine Chemikerzeitung*, may be obtained in a much simpler manner by adding small quantities of carbonates to the gypsum mass. These carbonates and the gypsum suffer mutual decomposition, resulting in the liberation of carbonic acid. The gas escapes slowly and steadily, while the gypsum sets and hardens, acquiring an entirely porous texture without losing any of its durability. Thus, at the expense of very little material, the plates, while retaining their strength, become lighter. The bicarbonates of the alkalies—sodium carbonate or ammonium bicarbonate—are the best salts to use for the purpose. The effect may be increased by adding sawdust, coke dust or ashes. For example, 20 parts by weight of sawdust may be mixed with 40 parts by weight of gypsum and 40 parts by weight of water, in which one part by weight of sodium bicarbonate or ammonium carbonate has been dissolved, added to the mixture. The pulp is poured into moulds, and then be left to harden without further attention.

### VALUABLE MINERAL DISCOVERY.

A new mineral discovery of great promise is reported from the north, Miss Louise Roberts, well known in business circles in Vancouver, having recently brought to that city samples of rock for assay that give promise of being of great value.

The claims, seven in all, were restaked by Miss Roberts and Messrs. Leopold Roberts, Sivert Benson and John Claverie. While the discovery was made last May it has been kept very quiet, those concerned desiring to explore the lead and secure all of it possible for themselves.

The ledge, ore from which has already given excellent assays in gold, silver and copper, is located at the mouth of the Skeena and Oxtall rivers, near Port Essington, close to salt water, and the syndicate has

already been asked to give an option on the property to a strong mining and smelting corporation.

This has been refused as the owners have great faith in the property and wish to acquaint themselves more thoroughly with it before binding themselves to any bargain.

#### REINFORCED-CONCRETE STRUCTURES.

Three papers presented at the Engineering Conference of the Institution of Civil Engineers, dealt with various phases of this subject. We give below extracts from some of the more important paragraphs.

The form of the section of the bars, provided the area is sufficient, is of little moment, the friction of the steel in the concrete varying but little in all cases. A little rust on the bars is no objection, as it increases the friction.

The round bar offers the most facility for getting the steel thoroughly imbedded in the concrete.

The stirrups, or iron bands for holding the round steel bars in place, must be so formed as not to give until the limit of elasticity has been reached.

It is necessary to crush the aggregates of the concrete small enough to pass through a mesh  $\frac{3}{8}$ -in in diameter, in order to permit the concrete to get in all the interstices of the steel framework, and in order to insure this, the concrete should be well rammed in with suitable shaped rammers. The ramming of the concrete does not have much effect on its strength after it has been made for twelve months. Experiments on blocks 12-in. cube prove this.

The ratio of cement to aggregates should be between 5 and 6 to 1 for ordinary beams and floors, and 4 to 1 for piles and columns to carry heavy weights. In the upper end of piles, for a length of 1 ft., it should be 3 to 1.

For driving into rough gravel or ballast the piles (ferro-concrete—Hennibique) should be at least six weeks old, and should have a tube down the center for the application of a high pressure water-jet.

The deterioration of the steel in the concrete, provided the latter be properly made, is a negligible quantity.

Ferro-concrete is to be preferred to timber for marine structures, as it is immune to attacks of the sea worm; on the other hand, timber is easier to repair when damaged by collision.

As regards structures on land, ferro-concrete is preferable to timber as it is absolutely fire-proof, and can be made as strong as steel in buildings and stagings, provided weight is not an objection. For large buildings it works out cheaper than stone, and is much lighter—a consideration when the foundations are defective.—Charles Scott Meik.

What evidence is there that the material used for reinforced concrete is not liable to corrosion? As far as the information I have goes, it has been found that, unless the bars are very rusty, the oxide or iron in the bars when placed in the concrete produces ferride to a very slight extent around the bars and practically makes the bars quite clean. I am told of instances where piles have been cut off, and, after lying about in water, have been broken up, and the bars have been found to be quite bright and clean. On the other hand, should the concrete surrounding the steel or iron be faulty, water gets in, and I am certain, from experience of iron-slag concrete in the sea-water, that some

chemical action would take place which would probably render ferro-concrete practically useless. Charles A. Harrison.

Dealing first with settlement of foundations, it may be said that steel concrete is a rigid material, and the foundations of a structure of this substance ought to be designed in such a way that they cannot settle. This can always be done even on soft ground, either by piling or by spreading the weight over a large area, on a strong reinforced concrete base.

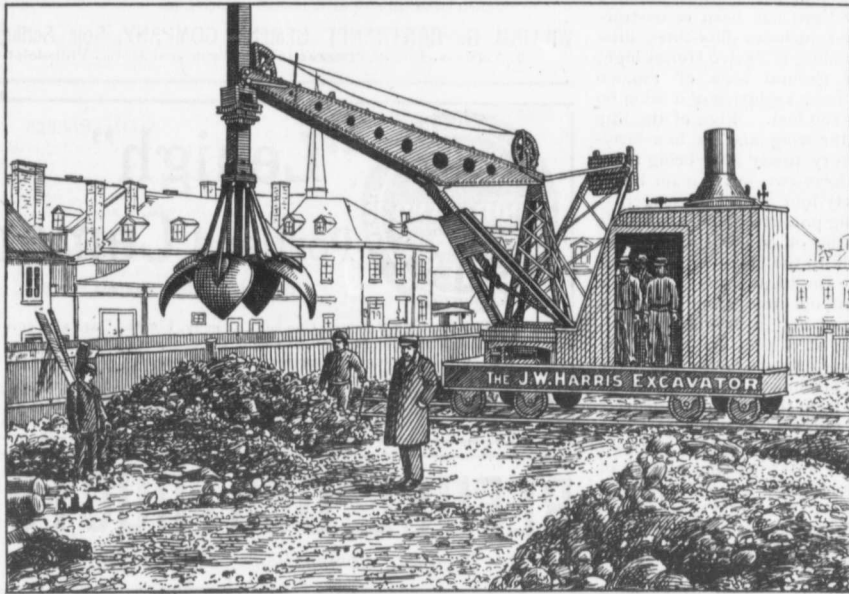
Reinforced concrete is undoubtedly a first rate fire-resisting material. It would seem that for fire-resisting purposes it is best that the steel should consist of many bars of small section in preference to a few bars of large section, as the first arrangement forms close net-work, which prevents pieces of concrete from dropping out and so reducing the strength of the building. It is also important the concrete aggregate should be crushed small. The ideal composition for the aggregate would seem to be a strong flint or granite for the hearting, with an outside skin of cinder concrete to act as a good non-conductor. It is essential, too, that in a building, the walls, floors, and posts should be well tied into one another.

With reference to damage by earthquake, Captain Sewell, in a recent magazine article ("Concrete," of September 1906), gives an excellent account of its behaviour at the San Francisco earthquake. He mentions the museum building at the Leland Stanford University, which had three wings, one of reinforced concrete and two of brickwork. One building received a very severe shaking, and while the brick wings were in a state of collapse, the damage to the steel concrete wing was insignificant.

We have had enough experience of concrete to know that, if good it is practically unaffected by atmospheric changes. At one time it was feared that the steel might rust, especially in structures under water, but this fear seems to be groundless. Some recent experiments on the permeability of concrete by Mr Baldwin Wiseman show that, if well made, it is one of the most water-tight materials known, and that it rapidly becomes less and less porous when water is forced through it. Moreover, some experiments quoted by Mr. Marsh in his work on "Reinforced Concrete" seem to show that cement has some chemical action on iron which prevents rust.

If reinforced concrete is to be used for marine work, it must be carefully fendered at all parts where it is likely to be struck. In most systems of reinforced concrete the steel is placed within an inch or two of the surface, and if the structure is not protected by timber cushions, this concrete skin is easily knocked away, leaving the steel naked and liable to rust. At the same time it is true that steel concrete does not spall easily from blows, provided they do not fall directly on the concrete; and it will stand a wonderful amount of shocks, and bending due to shocks, if a wooden fender is interposed.—Francis E. Wentworth-Sheilds.

The demand for homes of a moderate size at Vancouver is far ahead of the supply, and there is no doubt a great opening for an enterprising firm or building syndicate to erect a number of dwellings in the western part of the city.



FOR

excavation of any description, a Contractor couldn't save as much money with any class of machinery as he would with the

# "J. W. HARRIS EXCAVATOR"

As the Machine does the work of a given number of men, a Contractor must always figure to a certainty on his working force, and that there will be no absentees, and therefore always ready at the tick of the clock when he says the word

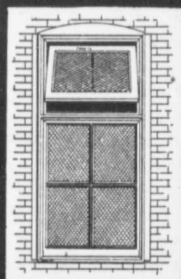
FOR FURTHER INFORMATION APPLY TO

**J. W. HARRIS**  
**MANUFACTURING COMPANY**  
**MONTREAL**

**HIGH PRESSURE HYDRAULIC LIFTS.**

The mechanical equipment of the Metropolitan Life Insurance building at New York has been reconstructed, and includes fifty-three lifts. The building is twelve stories high, with a ground area of 120,000 square feet, exclusive of a wing 60 feet by 100 feet. Five of the lifts are in the wing and six in a forty-eight-story tower now being built. Of the forty-two in the main building thirty-four are for passengers—six being powerful enough to handle safes; the other six run from the footwalk to the basements, and one of these can handle safes. All the lifts are operated from a central high-pressure hydraulic plant, working at a pressure of 850 lbs. Duplicate delivery mains lead to the several machines, and a discharge system from the machines delivers to roof tanks. To maintain a constant pressure, and also a constant supply of water in case a number of lifts should start before the pumps have gained speed, there are a number of weighted accumulators connected to the delivery line. Slight fluctuations of pressure in the delivery mains, caused by stopping and starting, are provided for by air chambers. Most of the lifts are operated by horizontal machines, controlled by special operating valves with low-pressure pilot valves and motor cylinders to actuate the high-pressure valve mechanism.

There are three high-duty pumps of the three-cylinder crank and flywheel type. The passenger lifts have maximum capacities of 1,000 feet to 2,800 feet, with speeds of 500 feet per minute; the lifts to the basements have capacities of 2,000 pounds to 4,000 pounds, and speeds of 500 feet to 100 feet per minute. The passenger elevators are geared

**STANDARD METAL WINDOWS**

GLAZED WITH FIREPROOF GLASS  
—  
PREVENT AND RETARD FLAMES  
—  
REDUCE YOUR INSURANCE PREMIUMS  
—  
CLOSE AUTOMATICALLY

RECOMMENDED AND ENDORSED BY FIRE UNDERWRITERS

WRITE FOR CIRCULARS OR CATALOG

**A. B. ORMSBY, LIMITED**

161, 163, 165 QUEEN ST. EAST, TORONTO  
FACTORIES: 67, 679 NOTRE DAME ST. W., WINNIPEG

MANUFACTURERS AND CONTRACTORS OF  
FIREPROOF WINDOWS, DOORS AND SKYLIGHTS  
METAL STUDDING FOR FIREPROOF PARTITIONS  
CORNICES, CORRUGATED IRON, METAL CEILING  
CORNER IRON, ETC. SLATE, FELT & GRAVEL ROOFERS

**VULCAN PORTLAND CEMENT**

DAILY CAPACITY 2500 BARRELS

Will be ready for shipment about January 1st. Our location, accessible to three railroads and the St. Lawrence River, gives excellent shipping facilities and ensures against car shortage in times of famines, embargoes, etc.

**WILLIAM G. HARTRANFT CEMENT COMPANY, Sole Selling Agent**  
Bank of Ottawa Building, **Montreal** Real Estate Trust Building, **Philadelphia**

**“Lehigh” Portland Cement**

Capacity 20,000 Barrels Per Day.

The “Lehigh Portland Cement Company, Limited,” are also now building a plant at Belleville, Ont., of 750,000 barrels annual capacity. Until this plant is completed all orders can be shipped from the United States. For prices, etc., address—

**THORN CEMENT CO. - Buffalo, N. Y.**  
SALES AGENTS FOR CANADA

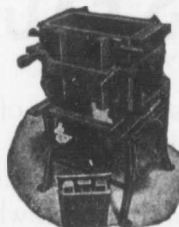
**REFUSE DESTRUCTORS**

*Complete Combustion — Perfect Sanitation  
Latest Improvements.*

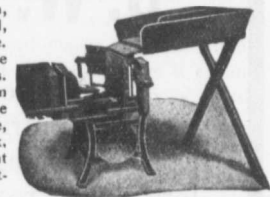
**STRUCTURAL STEEL AND BRIDGE WORK**

**HEENAN & FROUDE, Limited**  
Manchester, England

**RICHARD A. TAUNTON, - 622 McINTYRE BLOCK WINNIPEG**

**LONDON CONCRETE BLOCK MACHINES**

Beat Everything in Competition. Face-down, Adjustable, Combined, many machines in one. All sizes of blocks made on the one size of pallets. The core is withdrawn vertically, allowing the use of quite wet concrete, insuring a stronger block. Those new and important features are fully protected by patents.



**LONDON MACHINES** are known for their Superiority throughout the Continent.

Send for descriptive Catalogs of Face-down Block Machines, Brick Machine, Concrete Mixers, Sewer Tile Moulds, Drain Tile Machine, Sill and Lintel Moulds, Etc.

**LONDON CONCRETE MACHINERY CO., 28 REDAN ST., LONDON, ONT.**

Largest Exclusive Concrete Machinery Manufacturers in Canada.

**Portland Cement****Monarch Brand**

Highest quality—guaranteed to fulfill the requirements of specifications for Portland Cement approved of by the Canadian and American Societies of Civil Engineers.

Prompt shipments from mill or stock at Fort William and Port Arthur.

**THE LAKEFIELD PORTLAND CEMENT CO. LIMITED**  
LAKEFIELD ONT.

**CLASSIFIED INDEX OF ADVERTISERS**

<b>ACCIDENT INSURANCE</b> Page	<b>DRILLING CONTRACTORS</b> Page	<b>PIPE (CAST IRON)</b> Page
Ontario Accident Insurance Co. .... 19	Harvey, J. .... 24	Canada Foundry Co. .... 27
<b>BOILERS</b>	<b>DEBENTURES</b>	Gartshore-Thomson Pipe and Foundry Co. .... 27
McDougall Caledonian Iron Works Co., John ..... 19	Nay, Anderson & Co. .... 21	Gaudry & Co., L. H. .... 18
<b>BRIDGES (STEEL)</b>	Stinson & Co., G. A. .... 19	Canadian Iron & Foundry Co. .... 25
Canadian Bridge Co. .... 19	<b>ENGINEERS AND CONTRACTORS</b>	Stanton Iron Works Co. .... 9
Canada Foundry Co. .... 27	British Columbia General Contract Co. 20	<b>PIPE (WOODEN)</b>
Dominion Bridge Co. .... 20	<b>ENGINEERS (CIVIL)</b>	Canadian Pipe Co. .... 25
Jenks & Dresser. .... 16	Aitken, K. L. .... 23	Dominion Pipe Co. .... 25
Phoenix Bridge and Iron Works. .... 22	Canadian Engineers, Limited. .... 22	Pacific Coast Pipe Co. .... 25
<b>CASTINGS (IRON)</b>	Chipman, Willis. .... 23	<b>PLUMBERS' SUPPLIES</b>
Laurie Engine & Machine Co. .... 16	Connor, Clarke & Monds. .... 23	Somerville Limited. .... 5
Rogers Manufacturing Co. .... 24	Davis & Johnston. .... 22	<b>PUMPS AND PUMPING MACHINERY</b>
<b>CEMENT</b>	Fenson, C. J. .... 22	Allis-Chalmers-Bullock. .... 7
Alsen Portland Cement Co. .... 24	Fielding, John S. .... 9	Canadian Buffalo Forge Co. .... 4
Bremner, Alex. .... 20	Jackson, John H. .... 23	Canadian Fairbanks Co. .... 17
Canadian Portland Cement Co. .... 4	Keating & Breithaupt. .... 22	Canada Foundry Co. .... 27
DeSola, C. I. .... 9	Lea & Coffin. .... 23	Drummond, McCall & Co. .... 20
Gray & Bruce Portland Cement Co. .... 26	Leofred, A. .... 8	Mussens Limited. .... 3
Hyde & Co., F. .... 21	Macallum, A. F. .... 22	McDougall Caledonian Iron Works Co., John ..... 19
Hanover Portland Cement Co. .... 8	Pitt & Robinson. .... 23	<b>ROAD MACHINERY</b>
Hartranft, Wm. G. .... 14	Smith, Kerry & Chase. .... 23	Cameron & Co., Hugh. .... 20
Lakefield Portland Cement Co. .... 14	Scott, Wm. Fry. .... 22	Climax Road Machine Co. .... 26
McNally & Co., W. .... 16	<b>ENGINEERS (MECHANICAL)</b>	Heaman, George. .... 27
Morrison & Co., T. A. .... 20	Farmer, John T. .... 24	Morrison & Co., T. A. .... 20
Owen Sound Portland Cement Co. .... 26	Galt & Smith. .... 18	Mussens Limited. .... 3
Ontario Portland Cement Co. .... 16	<b>ENGINES</b>	Sawyer & Massey Co. .... 9
Raven Lake Portland Cement Co. .... 21	Allis-Chalmers-Bullock. .... 7	<b>ROCK DRILLS</b>
Stinson-Reeb Builders' Supply Co. .... 21	Cameron & Co., Hugh. .... 20	Allis-Chalmers-Bullock. .... 7
Thorn Cement Co. .... 14	Laurie Engine & Machine Co. .... 16	<b>ROPE</b>
<b>CONTRACTORS' SURETY BONDS</b>	Rogers Manufacturing Co. .... 24	Dominion Wire Rope Co. .... 28
United States Fidelity & Guaranty Co. 22	Sawyer & Massey Co. .... 16	Greening Wire Co., B. .... 22
<b>CONCRETE MIXERS AND MACHINERY</b>	<b>ELECTRICAL APPARATUS AND SUPPLIES</b>	<b>STEEL BARS (CORRUGATED)</b>
Canadian Fairbanks Co. .... 17	Allis-Chalmers-Bullock. .... 7	Corrugated Steel Bar Co. of Canada. . 9
Dartnell, E. F. .... 8	Canadian Gen. Elec. Co. .... 27	<b>STRUCTURAL IRON AND STEEL</b>
Goold, Shapley, & Muir. .... 23	Drummond, McCall & Co. .... 20	Canada Foundry Co. .... 27
Hopkins & Co., F. H. .... 23	Northern Electric & Mfg. Co. .... 4	Dominion Bridge Co. .... 20
Ideal Concrete Machinery Co. .... 17	<b>FIRE APPARATUS</b>	Jenks & Dresser. .... 16
London Concrete Machinery Co. .... 14	Cameron & Co., Hugh. .... 20	McGregor & McIntyre. .... 18
Mussens Limited. .... 3	McGregor & McIntyre. .... 18	Phoenix Bridge & Iron Works. .... 20
Morrison & Co., T. A. .... 20	Morrison & Co., T. A. .... 20	Taunton, Richard A. .... 14
Toronto Pressed Steel Co. .... 18	Seagrave, W. E., .... 16	<b>STONE</b>
Vining Bros. Mfg. Co. .... 5	<b>HOISTING MACHINERY</b>	Crushed Stone, Limited. .... 16
<b>CONTRACTORS' PLANT</b>	Allis-Chalmers-Bullock. .... 7	Doolittle & Wilcox. .... 22
Allis-Chalmers-Bullock. .... 7	Beatty & Sons, M. .... 21	Morrison & Co., T. A. .... 20
Beatty & Sons, M. .... 21	Canada Foundry Co. .... 27	<b>SHOVELS (STEAM)</b>
Canada Foundry Co. .... 27	Georgian Bay Engineering Works. . 9	Allis-Chalmers-Bullock. .... 7
Harris Mfg. Co., J. W. .... 13	Hood & Sons, Wm. .... 19	Beatty & Sons, M. .... 21
Hopkins & Co., F. H. .... 23	Hopkins & Co., F. H. .... 28	Canada Foundry Co. .... 27
Jenckes Machine Co. .... 26	Mussens Limited. .... 3	Hopkins & Co., F. H. .... 28
Mussens Limited. .... 3	Rogers Mfg. Co. .... 24	Mussens Limited. .... 3
Rogers Manufacturing Co. .... 24	<b>HYDRANTS</b>	Rogers Manufacturing Co. .... 24
Toronto Pressed Steel Co. .... 18	Canada Foundry Co. .... 27	<b>SEWER PIPE</b>
Wallington, G. P. .... 9	Canadian Fairbanks Co. .... 17	Canadian Sewer Pipe Co. .... 4
<b>CONCRETE CONSTRUCTION</b>	Canadian Iron & Foundry Co. .... 25	Dominion Sewer Pipe Co. .... 20
Ambursen Hydraulic Construction Co. 22	Gartshore-Thompson Pipe & Foundry Co. .... 27	<b>SHOVELS</b>
<b>CONTRACTORS' EMPLOYMENT BUREAUS</b>	Kerr Engine Co. .... 24	Hopkins & Co., F. H. .... 28
North Western Employment Agency. . 16	McDougall Co., R. .... 18	Mussens Limited. .... 3
Reliance Labor Exchange. .... 8	<b>LOCOMOTIVES AND RAILS</b>	<b>TELEPHONE SUPPLIES</b>
Zarossi, Banco. .... 26	Canada Foundry Co. .... 27	Northern Electric & Mfg. Co. .... 4
<b>CORRUGATED IRON</b>	Gartshore, John J. .... 19	<b>TANKS AND STAND PIPES</b>
Metallic Roofing Co. .... 9	Hopkins & Co. .... 28	Canada Foundry Co. .... 27
Metal Shingle and Siding Co. .... 16	Mussens Limited. .... 3	Ontario Wind Engine & Pump Co. .... 18
Ormsby, A. B., Limited. .... 14	Sessenwein Bros. .... 18	<b>VALVES</b>
<b>CRUSHERS (STONE AND ROCK)</b>	<b>PLASTER BOARDS</b>	Canada Foundry Co. .... 27
Allis-Chalmers-Bullock. .... 7	P. W. St. George. .... 26	Canadian Fairbanks Co. .... 17
Beatty & Sons, M. .... 21	<b>PILE DRIVING</b>	Canadian Iron & Foundry Co. .... 25
Canada Foundry Co. .... 27	Hood & Sons, Wm. .... 19	Gartshore-Thomson Pipe & Foundry Co. .... 27
Dartnell, E. F. .... 8	Russell, John E. .... 19	Kerr Engine Co. .... 24
Hopkins & Co., F. H. .... 28	<b>PAVING AND PAVING MATERIALS</b>	McDougall Co., R. .... 18
Mussens Limited. .... 3	Ontario Asphalt Block Co. .... 23	<b>WOOD FIBRE PLASTER</b>
Morrison & Co. T. A. .... 20	Pettypiece Silex Stone Co. .... 23	Imperial Plaster Co. .... 26
Sawyer & Massey Co. .... 16	Silica Barytic Stone Co. of Ontario. . 20	<b>WHEEL SCRAPERS</b>
		Bechtels Limited. .... 24

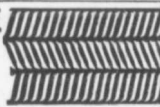
12 to 1, and the goods elevators 4 to 1. The plunger diameters are from 4 inches to 12 inches. Ball-bearing anchors are used at all attachments of the cables to the frames of the cages or cars, thus allowing for the constant twisting and untwisting of the cables as the stresses vary.—Builders' Journal.

#### NEW WAY TO CUT STEEL.

A new method of cutting steel is said to have been patented by a Berlin engineer. The process consists in first heating the metal by means of an oxy-hydrogen flame and then cutting it by a small stream of oxygen gas, which unites with the steel and forms a fusible oxide, which flows freely from the cut. It is said that the cut is fully as smooth as that made by the saw, and is only 1-1,000 inch wide.

Thanks largely to the efforts of A. E. Planta, Ltd., Nanaimo, B.C., will soon have a Building Society. The financial aid offered through this medium will doubtless be a great incentive to many in the neighbourhood who would like to build their own homes. Application has been made for a charter and the institution will soon be in running order.

**HERRINGBONE  
LATH**  
MANUFACTURED BY  
THE METAL  
SHINGLE & SIDING CO., LIMITED  
MAKERS OF FIREPROOF BUILDING GOODS  
PRESTON & MONTREAL



**STEEL**

**HIGHWAY**

**BRIDGES**

**JENKS & DRESSER**  
SARNIA, ONT.

BUILDERS OF  
**STEEL HIGHWAY BRIDGES**

**STRUCTURAL STEEL WORK**

**CONCRETE ABUTMENTS**

## Portland Cement...

HIGH GRADE GERMAN BRANDS FOR GRANOLITHIC  
AND ARTIFICIAL STONE SIDEWALKS.

**Sewer Pipes, Best English Cements. Best Belgian Cements  
Culvert Pipes, &c. W. McNALLY & CO., Montreal**

## Crushed Stone, Limited STONE

of any Size and in any Quantity on hand for  
Sidewalks, Roadwork or Concrete Work

Works:  
KIRKFIELD, ONT.

Head Office: 47 Yonge St. Arcade. TORONTO  
Phone Main 4516  
G. W. Essery, Manager.

## Blue Lake Cement

MADE BY

**THE ONTARIO PORTLAND CEMENT CO. LIMITED**  
HEAD OFFICE: BRANTFORD, ONT. LONG DISTANCE 'PHONE 194

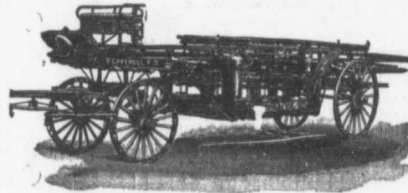
## THE NORTH WESTERN EMPLOYMENT AGENCY

We supply men of all nationalities on short notice.  
Laborers, Railway Men, Mechanics, Bushmen,  
Teamsters, etc., furnished on demand.

378 Craig Street West, MONTREAL TEL. MAIN 468  
We undertake all kinds of Contracts by letter or telegram

## LIGHTNESS, STRENGTH AND ECONOMY

Seagrave Patent Trussed Ladders, Trussed Aerial, City Service and Village Hook and Ladder Trucks, Combination Hook and Ladder Trucks and Chemical Engines, Trussed Trucks and Hand Pumps, Combination Hose Wagons and Chemical Engines, Hose Wagons, Combination Hook and Ladder Trucks and Hose Wagons, Chemical Engines, Fire Extinguishers, Hose Reels, Patrol Wagons, Ambulances, Specialty Wagons, Patent Sleigh Runners, and other Modern Fire Fighting Tools.



Prompt attention given all inquiries. All goods built to order.

Long Distance  
Phones 536 and 684

**W. E. SEAGRAVE, WALKERVILLE  
ONT.**

## "LAURIE" Mining Machinery

Rock and Ore Crushers  
Cyclone Pulverisers  
Plain and Corrugated Rols

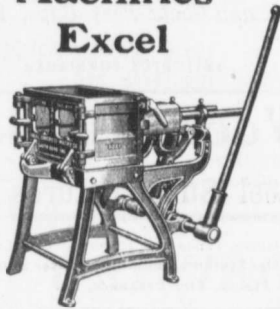
WRITE FOR CATALOGUE

**LAURIE ENGINE & MACHINE CO., Limited**  
MONTREAL

Parmelee & Nicholson, Toronto Agents. Guilford & Son, Halifax Agents.



Why  
**IDEAL**  
Machines  
Excel



The "Down-face" principle of the Ideal Concrete Block Machine permits the only practical use of rich facing material with coarser material in back of block. This principle is protected by a basic patent. No other machine using it can be legally *made, sold or used*.

(INTERCHANGEABLE)  
**IDEAL CONCRETE MACHINES**  
VARIOUS SIZES

Safe to buy because it is the original and only protected "Down-face" machine. Attachments and accessories will always be obtainable.

Profitable to own, because it produces blocks, not only at lowest cost, but of a uniform excellence of quality that commands highest price. Ideal Concrete Blocks are salable anywhere and everywhere at splendid profits.

Wonderfully rapid and economical to operate, because of its extreme simplicity. Not a wheel, cog, chain or spring in its construction.

Magnificent illustrated catalogue of the entire Ideal line, a practical encyclopaedia of cement block manufacture, sent free on application.

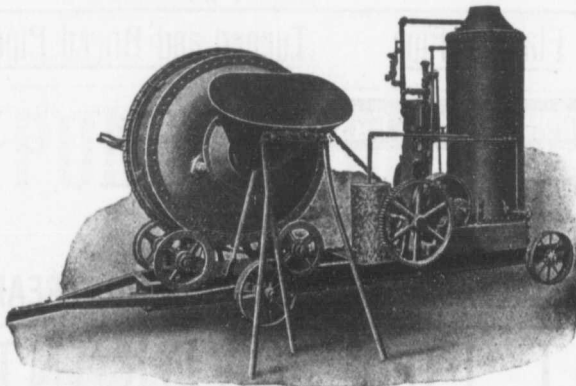
**Ideal Concrete Machinery Co.**  
LIMITED  
Dept. A.Q. - London, Ontario



Ideal Block showing natural stone effect. Same machine produces endless variety of designs.

MUSSENS LIMITED  
SOLE AGENTS FOR CANADA  
MONTREAL QUEBEC TORONTO WINNIPEG VANCOUVER  
Block, Brick and Sill Machines. Mixers, Ornamental Moulds, Etc.

# McKelvey Batch Mixers



are the favourites with many Contractors.

They combine strength with many improvements for quickness of operation.

THE FOLLOWING CAPACITIES:

One Yard Three Fourths Yard  
One Half Yard One Third Yard  
One Sixth Yard One Ninth Yard

WITH

**Steam, Gasoline or  
Electric Power**  
can be Promptly Furnished

Lever on side of drum operates discharge. Drum bearing-wheels are Cast Steel with Roller Bearings.

All Mixers mounted on Steel Trucks.  
Charging Hoppers always furnished.

*The* **Canadian Fairbanks Co., Limited**  
MONTREAL TORONTO WINNIPEG VANCOUVER

**FOR SALE**

44 Steel Flat Cars in perfect condition suitable for Lumber or Mining. Standard Gauge. Capacity 5 to 7 tons. Will sell cheap to a quick buyer. For further particulars apply to

**SESSENWEIN BROS., MONTREAL**

**43 MILLION DOLLARS**

WAS SPENT on new buildings in Winnipeg alone during the past 3 years. . . .

If you want Western Business you should cater for its trade by advertising in the

**WESTERN CANADA CONTRACTOR & BUILDERS GAZETTE**

Published, printed and edited solely for the West.

For Sample and Advt. Rates, address  
730 Union Bank, WINNIPEG.

**McGREGOR & McINTYRE, LIMITED**

67 to 91 Pearl Street, Toronto, Ont.

**STRUCTURAL IRON WORKS**

*Beams, Channels, Tees, Angles, Chequered Plates, etc., in stock. Fire Escapes, Sidewalk Doors, Iron Stairs, etc., etc. Sole Agents for Duplex Hangers and Goetz Post Caps, Wall Boxes, etc.*

PHONES: 7248  
7249

ESTIMATES FURNISHED

**Steel and Wood Tanks**

**Steel Substructures**

We are installing Tanks and Towers all over Canada for **Sprinkler Systems, Municipal Water Supply Plants, Fire Pressure, &c.**

**Steel Flagstuffs, Bell Towers, Hose Towers, &c., &c.**

POWER FURNISHED  
**WINDMILL, GASOLINE ENGINE or HYDRAULIC RAM**

**ONTARIO WIND ENGINE & PUMP CO., LIMITED**  
TORONTO



**The Toronto Pressed Steel Co., Limited**  
Toronto and Winnipeg

Manufacturers . . .

**Drag Scrapers (Solid pressed bowl)**  
**Wheel Scrapers (pressed or square bowls)**  
**Dump Cars, from 1 to 3 yards**  
**Wheelbarrows, Wood or Steel Trays**  
**Waggons, Carts, Cement Mixers, Etc.**

Prompt delivery from stock at Toronto and Winnipeg  
Send for complete catalogue. Write nearest office.



**Spigot and Faucet Pipe**

**Flanged Pipe**

**Turned and Bored Pipe**

MADE IN 12' 0" LENGTHS  
3 TO 48 INCHES DIAM.



**CAST IRON WATER & GAS PIPE**

MADE IN SEVERAL WEIGHTS  
PROVED FROM 100 TO 700 LBS.

**AND SPECIAL CASTINGS**

"THE WORLD'S STANDARD FOR ACCURACY, QUALITY AND FINISH."

Write for Our Pocket Edition: The most complete catalog in this line published.

**L. H. CAUDRY & CO.,** Canadian Agents for **QUEBEC AND MONTREAL**  
Robt. Maclaren & Co., Glasgow

**THE GALT FIRE HYDRANT**



Endorsed as the best Hydrant on the market, easily operated and perfectly safe against damage above ground. Circulars give full information of this and other MUNICIPAL SUPPLIES, CATCH BASINS, MAN-HOLE COVERS and FRAMES, Etc.

**The R. McDougall Co., Limited,**  
Galt - Canada.

# The Canadian Bridge Co., Limited

WALKERVILLE, ONT.

MANUFACTURERS OF **RAILWAY AND HIGHWAY BRIDGES**

Locomotive Turn Tables,  
Rops, Steel Buildings and  
Structural Iron Work of all descriptions

Municipal and Other Bonds  
and Debentures Bought  
Highest Prices Paid.

G. A. STIMSON & CO.  
16 King Street, West - TORONTO

## PILE DRIVING

On land and water by steam.  
Pile drivers or drop hammers.  
Dams, wharves, bridge building  
trestle work and general contract-  
ing.  
Submarine diving and all kinds  
of submarine work.



We have always a stock in hand to  
let of:  
Diving Outfits, Portable Boil-  
ers, Hoisting and Pumping  
Machinery, Etc.  
WM. HOOD & SON  
10 Richmond Sq. - MONTREAL

## The Ontario Accident Insurance Co.

ACCIDENT, EMPLOYERS, ELEVATOR  
AND GENERAL LIABILITY . . . .  
104 St. Francois Xavier St. Montreal

RAILS For Contractors, Switches, Gir-  
ders, etc.  
New and Second Hand.  
LOCOMOTIVES AND CARS  
John J. Gartshore  
83 Front St. West,  
(Opposite Queen's Hotel.) TORONTO

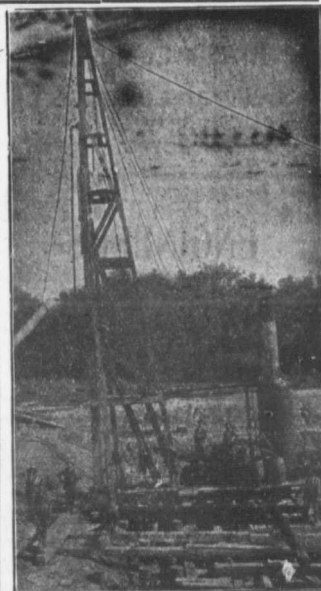
## ELECTRICITY

If you desire to keep posted on  
the wonderful progress that is  
taking place in the use of elec-  
tricity for an almost endless var-  
iety of purposes, you should sub-  
scribe to the

Canadian Electrical News  
and Engineering Journal  
A 44 PAGE MONTHLY.  
PRICE \$1 PER YEAR

Write for free sample copy to

The G. H. Mortimer Publishing Co.  
LIMITED  
Toronto Montreal Winnipeg Vancouver



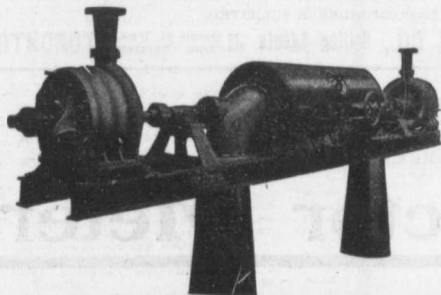
## PILE DRIVING

and Foundation Work.

By 5-ton Automatic Steam Pile Hammers  
Water Jet or Drop Hammers, Dock Build-  
ing, Submarine Work and Dredging.  
BUILDING MOVER AND WRECKER  
General Contracting.

JNO. E. RUSSELL, - Toronto  
Residence, 1010 Queen St. E.—Phone M. 4526  
Office and yard 307 Logan Ave.—Phone M. 2007

# PUMPS FOR WATER WORKS



WATER WORKS SYSTEMS INSTALLED

Boilers, (Return Tube and Water  
Tube,) Tanks, Penstocks,  
Mill Machinery.

Builders in Canada of

“WORTHINGTON” TURBINE PUMPS

## The John McDougall Caledonian Iron Works Co., Limited.

Estimates Cheerfully Furnished HEAD OFFICE AND WORKS: Montreal.

DISTRICT OFFICES:

MONTREAL, 82 Sovereign Bank Building. TORONTO, 810 Traders Bank Building. WINNIPEG, 251 Notre Dame Avenue  
VANCOUVER, 416 Seymour Street. NELSON, Josephine Street. NEW GLASGOW, N.S., Telephone Building.

**ARTIFICIAL STONE PAVEMENTS**

**SIDEWALKS A SPECIALTY**  
**CORPORATIONS** Will do well to consider our work  
 and prices before letting contract.  
**The Silica Barytic Stone Company**  
 of Ontario, Limited.

**WALTER MILLS** General Manager. **Head Office:**  
**INGERSOLL, ONT.**

**The British Columbia**  
**General Contract Co.**  
 Limited

Telegraphic Address: "Dredging"

Suite 5, Crowe & Wilson Block, 441 Seymour Street VANCOUVER, B. C.

**ENGINEERS**  
 AND  
**CONTRACTORS**

MUNICIPAL WORKS AND BUILDINGS  
 DREDGING AND RECLAMATION  
 CONCRETE CONSTRUCTION  
 RAILWAYS, BRIDGES  
 HARBOR WORKS

Stone Crushers and Grinders.  
 Steam Road Rollers.  
 Fire Engines Steam and Gasoline.  
 Bricks Pressed and Enameled.  
 "Roman" building stone.



**"Tamco"**  
 Crushed Stone  
 for Concrete  
 Roofing and  
 Macadam.

**T. A. Morrison & Co.**  
 204 St. James Street,  
 Telephone Main 4532. **MONTREAL.**

Please mention CONTRACT RECORD  
 when corresponding with  
 advertisers.

**Dominion** **STEEL BRIDGES**  
**Bridge**  
**Co., Ltd.**

P. O. Address, MONTREAL, P.Q.  
 Works at LACHINE LOCKS, P.Q.

Toronto Agent: GEO. B. EVANS,  
 35 Canada Life Bldg., TORONTO, ONT.

**PORTLAND CEMENT**

**SEWER PIPES**  
**FIRE BRICKS**  
**FIRE CLAY**



**ALEX. BREMNER**

50 Bleury Street, MONTREAL

**SEWER PIPES**

CHIMNEY TOPS  
 FLUE LININGS  
 WALL COPING



Salt Glazed and  
 Vitrified.

TRUE TO SIZE  
 IMPERVIOUS TO WATER  
 WILL NEVER DISINTEGRATE

Sizes manufactured and  
 always in stock:

4-inch to 24-inch.  
 SWANSEA.

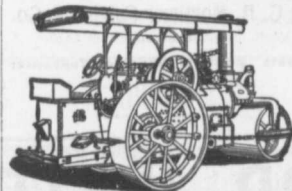
Ask for Price List  
 and Discount.

Telephone (Toronto Connection): Park 1809.

Post Office: SWANSEA.

**THE DOMINION SEWER PIPE CO., LIMITED** | **SWANSEA**  
 (THE INDEPENDENT COMPANY) (NEAR TORONTO)

**"WATEROUS"**  
**ROAD MACHINERY AND**  
**FIRE APPARATUS**



FIRE ENGINES in five sizes,  
 with a full line of fire-  
 fighting goods.

We Rebuild other makes of  
 Fire Engines with our  
 patent Boiler.

**BRANTFORD PITTS DOUBLE ENGINE STEAM ROAD ROLLER**

IN THREE SIZES—10, 12 and 15 ton.

CORRESPONDENCE SOLICITED.

**HUGH CAMERON & CO.,** Selling Agents **75 Queen St. West,** **TORONTO**  
 Manning Chambers.

**HERSEY METERS**

DISC, ROTARY AND TORRENT TYPES

**Hersey Detector Meter**

Indispensable for Fire Mains of large Factories. Measures  
 small Drafts but gives unrestricted waterway if Hydrant  
 opened. Send P. C. for further information.

Sales Agents:

**DRUMMOND McCALL & CO.**  
**MONTREAL**

**Prices of Building Material**

**PRESSED BRICK, Per M.**

**TORONTO PRESSED BRICK AND TERRA COTTA WORK**

	F.O.B.	Milton, Ont.
Red No. 1.....	\$13 00	12 50
" 2.....	10 00	10 00
" 3.....	17 00	15 00
Buff No. 1.....	13 00	12 00
" 2.....	15 00	14 00
Brown.....	25 00	23 00
Roman Red.....	30 00	28 00
" Buff.....	35 00	33 00
" Brown.....	40 00	38 00
Hard Building.....	8 00	7 00
" Packing.....	7 00	6 00

Moulded and Ornamental from \$2.00 to \$5.00 per 1,000.  
Terra Cotta string Courses and Frieze, from 50c. to \$2.00 per ft. run.  
Roofing Tiles, \$20.00 per 1,000.

**DON VALLEY BRICK WORKS.**

Nos. 1, and 2, Red Pressed Bricks.....	
Nos. 1 and 2 Buff Pressed Bricks.....	
No. 1 Brown Pressed Brick.....	
Pompelian Red, Buff and Brown Pressed Bricks.....	
Ornamental Bricks of all kinds for Man- tel purposes.....	
Enamelled Bricks of all Colors.....	
Porous Terra Cotta Fireproofing of all Descriptions.....	
Vitrified Street-Paving Bricks.....	
Semi-Vitrified Foundation Bricks.....	
Common Stock Red and Grey Bricks.....	
Sewer Bricks.....	
Stone or Macadamised Roadways.....	

Please write to head office,  
54 Toronto St., Toronto, for  
catalogue and prices.

**BEANSVILLE BRICK AND TERRA COTTA CO.**

	F.O.B.	Beamsville.
Red Peerless Facing.....	\$26 00	24 00
" No. 1.....	14 00	12 00
" No. 2.....	10 00	10 00
" No. 3.....	30 00	28 00
Buff Peerless.....	18 00	16 00
" No. 1.....	20 00	18 00
" No. 2.....	15 00	13 00
Moulded and Ornamental Brick from \$3 to \$5e per C		
Gamma Red (Size 12 x 4 x 1 1/4 in.).....	30 00	28 00
" Buff.....	35 00	33 00
" Brown.....	35 00	33 00
Vitrified Paving Brick No. 1.....	18 00	16 00
" No. 2.....	15 00	13 00
Sewer.....	8 00	7 00
Roofing Tiles.....	22 00	20 00

Sackett Plaster Board, 32" x 36" in size, sold at about 2c. per square foot

**LUMBER**

**CAR OR CARGO LOTS, F.O.B. TORONTO.**

	Per M. Ft.
1 inch No. 1 Pine cuts and better	\$49.00 to \$51.00
1 1/2 to 2 inch No. 1 cuts and better	54.00 58.00
2 inch No. 2, Pine cuts and better	48.00 50.00
1 1/2 to 2 inch No. 3 cuts and better	42.00 46.00
1 inch Pine Dressing and better shorts.....	28.00 30.00
1 x 4, 6 and 8 Common.....	27.00 28.00
1 x 10 and 12 Common.....	30.00 35.00
1 inch mill run sittings.....	25.00 28.00
1 x 10 and 12 mill culls.....	22.00 23.00
1 inch dead cull sittings.....	15.00 16.00
1 1/4 inch Flooring.....	32.00 34.00
Hemlock, 1 x 4 to 8 inch.....	19.00 20.00
" x 4 to 8 inch, 12 to 16 feet.....	23.00 25.00
" x 4 to 10 inch, 18 feet.....	33.00 35.00
1 1/4 inch No. 1 4 ft. Pine Lath.....	4.75 5.00
1 1/4 inch No. 2 4 ft. Lath.....	4.25 4.50
1 1/4 inch No. 1 4 ft. Hemlock Lath.....	4.00
XXXX Pine Shingles.....	3.50 3.75
XX Cedar Shingles.....	2.50 2.75
B.C. Shingles:	
XXXX 6 Dute to 2 inch.....	3.85
XXXX 6 to 23-16 inch.....	4.07
XXXXX 5 to 2 inch.....	4.50

**HARDWOODS—PER M. FEET CAR LOTS.**

Ash, white, 1sts and 2nds, 1 to 2 inch.....	\$35.00 to \$38.00
Ash, black, 1sts and 2nds, 1 to 1 1/2 inch.....	33.00 35.00
Birch, M. R., 1 inch.....	21.00 22.00
" 1 1/2 inch to 2.....	23.00 24.00
Basswood, Common and better, 1 to 1 1/2 inch.....	25.00 26.00
Basswood, 1 1/2 to 2 inch.....	26.00 28.00
Him, soft, mill run, 1 to 1 1/2 in.....	33.00 34.00
Him, rock, mill run, 1 to 1 1/2 in.....	26.00 28.00
Maple, common and better, 1 to 1 1/2 inch.....	22.00 23.00
Oak, red plain, 1sts and 2nds, 2 to 4 inch.....	46.00 50.00
Oak, white, 1sts and 2nds, 1 to 1 1/2 inch.....	44.00 46.00
Oak, quartered, 1sts and 2nds.....	70.00 80.00

We are the largest buyers of Western  
School Debentures in the British Empire  
School Trustees will do well to communicate  
with us when having debentures to offer for  
present or future delivery

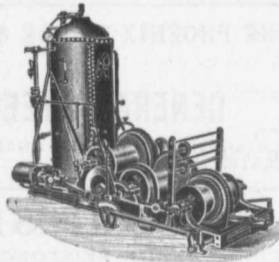
HIGHEST PRICES PAID. PROMPT SETTLEMENT  
NAY & JAMES  
SUCCESSORS TO  
**NAY, ANDERSON & CO.**  
Regina, Sask.

**Lafarge (NON-STAINING) Cement**

PORTLAND CEMENT FIRE BRICKS  
DRAIN PIPES FIRE CLAY  
CULVERT PIPES SEWER BRICK  
SEWER BOTTOMS

**F. HYDE & CO.,**

King, Queen and Wellington Sts. - MONTREAL



**M. BEATTY & SONS, Limited**  
WELLAND, ONTARIO, CANADA

**DREDGES, DITCHERS, DERRICKS  
STEAM SHOVELS,**

Submarine Rock Drilling Machinery,  
Mine Hoists, Hoisting Engines  
Centrifugal Pumps for Water and Sand  
Stone Derricks, Clam Shell Buckets,  
Steel Skips, Coal and Concrete Tubs,  
and other Contractors' Machinery

**Portland Cement**

STRICTLY HIGH GRADE



Ask Us for Prices

**RAVEN LAKE PORTLAND CEMENT CO., Limited**  
VICTORIA ROAD P.O. - ONT.

WE SELL

**PORTLAND CEMENT  
WOOD FIBRE (HARDWALL) PLASTER  
WHITE ROCK (FINISHING) LIME  
COMMON LUMP LIME  
SACKETT PLASTER BOARD**

**BRICKS**

PRESSED COMMON FIRE

SALES AGENTS FOR

**HUMPHRIES PATENT SCAFFOLDING BRACKET**

CAR LOAD LOTS OR LESS

WRITE, TELEPHONE OR WIRE FOR PRICES

**Stinson-Reeb Builders' Supply Company**  
LIMITED

188 William St., - - Montreal.

## MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

**DAVIS & JOHNSTON**

CIVIL ENGINEERS

WATER WORKS, SEWERAGE  
AND SEWAGE DISPOSALWm. Mahlon Davis, Herbert Johnston. C. E.  
M. Can. Soc. C. E.

Offices: BERLIN and GALT

**JOHN T. FARMER**MECHANICAL and  
HYDRAULIC ENGINEER

418 Coristine Bldg. - MONTREAL

**C. J. FENSOM, B. A. Sc.**  
CONSULTING ENGINEER

Aberdeen Chambers - Toronto

Machinery designed, supervised,  
inspected and contracted for.

TESTS - REPORTS

Electric Light Plants, Power Plants,  
Pumping Plants.**CANADIAN ENGINEERS, LIMITED**  
CIVIL AND CONSULTING ENGINEERSElectric, Hydraulic Plants,  
Waterworks, Sewerage, Bridges.

33 Bank St. Chambers, OTTAWA.

E. H. KEATING, M. Inst. C. E. M. Can. Soc. C. E.,  
M. Am. Soc. C. E.WM. H. BREITHAUP, C. E. M. Can. Soc. C. E.,  
M. Am. Soc. C. E.**Keating & Breithaupt**  
Consulting and Constructing EngineersWaterworks, Sewerage, Power Develop-  
ments, Railway and Structural Work,  
Examinations, Estimates and Reports.Cable Address: Keating, Toronto.  
Telephone: Main 6718.**Andrew F. Macallum**

Consulting and Constructing Engineer

Steam and Electric Railways, Hy-  
draulic, Industrial and Mining Plants.Rooms 612-14  
Continental Life Building - TORONTO  
Telephone Main 4652.**WILLIAM FRY SCOTT**  
STRUCTURAL ENGINEERConsultation or Design: Buildings, Building  
Construction, Foundations, Walls, Roofs,  
Bridges, Masonry, Fireproof, Reinforced Con-  
crete, Reinforced Brick, Steel, Timber, Specifi-  
cations, Examinations, Valuations, and Reports  
for Investment.Aberdeen Chambers Cor. Adelaide  
and Victoria Streets, TORONTO, ONT.  
Main 4724 North 4260**GALT & SMITH**CONSULTING CIVIL AND  
SANITARY ENGINEERSSPECIALTIES:  
WATERWORKS, SEWERAGE  
AND ELECTRIC LIGHTINGJOHN GALT, C. E. OWEN W. SMITH,  
Mem. Can. Soc. C. E. Assoc. Mem. Can. Soc. C. E.

25 Jordan Street TORONTO

Contractors to H. M. Governments

**ALLAN, WHYTE & CO.**


Clyde Patent Wire Rope Works, Rutherglen, Glasgow, Scotland

**WIRE ROPES** for Cableways, Aerial Ropeways, Elevators,  
Cranes, Derricks, Pile Driving, Drilling, etc.Large stocks carried by **DRUMMOND, McCALL & CO.,**  
MONTREAL AND TORONTO**THE PHOENIX BRIDGE & IRON WORKS, LIMITED**  
MONTREAL  
**GENERAL STEEL CONTRACTORS**Large Stock I BEAMS, CHANNELS, ANGLES, TEES, ZEES and  
PLATES always on hand.**AMBURSEN DAMS**  
OF REINFORCED CONCRETE

Write us at once for information.

Ambursen Hydraulic Construction Co. of Canada, Limited  
Coristine Building, MONTREAL**Use Limestone Screenings**for Concrete Blocks. Being free from loam, it makes a  
stronger, cheaper, and better block than any other material.  
Write to-day for sample and prices; it means money to you.**Doolittle & Wilcox, Limited, Dundas, Ont.**Advertise-  
ments  
in the  
CONTRACT  
RECORD  
bring  
results

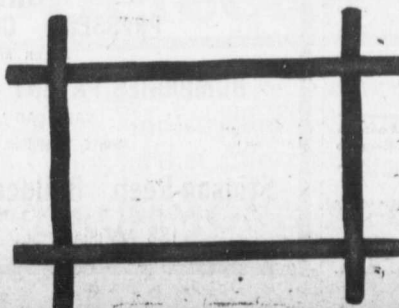
**THE UNITED STATES FIDELITY AND GUARANTY Co.**



Acts as Sureties on  
Contractors' Bids or Tenders  
and on Final Bonds

Rates Reasonable. See our Agent  
in your town or write direct to us  
Head Office for Canada:  
6 Colborne Street, Toronto  
A. E. KIRKPATRICK, MANAGER

**WE WILL BOND YOU**

**CONCRETE BONDING**  
OF  
**CRIMPED STEEL WIRE****THE STRONGEST,  
BEST AND CHEAPEST**If interested write for pamph-  
let and full particulars . . .**THE  
B. GREENING WIRE CO.  
LIMITED  
HAMILTON, ONT.  
MONTREAL, QUE.**

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

**WILLIS CHIPMAN**

Hon. Grad. McGill University.  
M. Can. Soc. C.E. M. Am. Soc. C.E.  
Mem Am. W.W. Ass'n.  
**WATERWORKS, SEWERAGE WORKS, GAS  
WORKS, ELECTRIC LIGHT AND  
POWER PLANTS**  
Reports, Surveys, Construction, Valuations  
**103 BAY STREET - TORONTO**

**LEA & COFFIN  
and H. S. FERGUSON  
ENGINEERS**

Waterworks, Sewerage, Water Powers  
Pulp and Paper Mills  
Reinforced Concrete Structures of Every  
Description.  
Coristine Building - MONTREAL

"THE NIAGARA BAR"

**PITT & ROBINSON  
ENGINEERS**

411 MANNING CHAMBERS, TORONTO, CANADA  
PHONE MAIN 6307  
Offices also at Niagara Falls, Canada

A. W. Connor, B.A., C.E. H. R. Clarke, B.A. Sc  
W. Mondt, B.A. Sc.

**CONNOR, CLARKE & MONDS  
CONSULTING ENGINEERS**

Hydraulic, Municipal and Railway Work; Long  
Distance Power Transmission; Machinery;  
Pumps; Complete Industrial Plants; Fire-  
proof Steel or Reinforced Concrete Office and  
Mill Buildings; Bridges, Towers, etc.  
**CEMENT TESTING LABORATORY**  
36 TORONTO ST. - TORONTO, ONT

**J. LEWIS THOMAS  
CIVIL ENGINEER  
LONDON - ONTARIO**

Consulting Engineer for Municipal and County  
Work. Electric Railways, Bridges, Water-  
works, Sewerage, Wharves, Docks, etc.  
Special attention to Valuations and Arbi-  
trations.

**Smith, Kerry & Chace  
CONSULTING AND CONSTRUCTING  
ENGINEERS**

Hydraulic, Electric, Railway, Municipal,  
Industrial.  
Rooms 124-127 Confederation Life  
Building, TORONTO.  
W. U. Code used. Cable Address "Smithco"  
CECIL B. SMITH J. G. G. KERRY W. G. CHACE

Please mention CANADIAN CONTRACT  
RECORD when corresponding  
with Advertisers.

**John H. Jackson  
CIVIL ENGINEER**

WATER POWER, ELECTRIC RAIL-  
WAYS, STRUCTURAL STEEL.  
**Niagara Falls, Canada**  
Associated with Charles H. Mitchell,  
C. E., Hydraulic Engineer.

**K. L. AITKEN**

**CONSULTING ELECTRICAL ENGINEER**

1003 Traders Bank Building  
**TORONTO, ONT.**  
Long Distance Phones { Office - Main 1482  
Residence - North 311

**More Men Employed in the Paving Business**

by the Pettypiece Silex Stone Co.  
than by any other firm in Ontario.

*There is a Reason.*

**Pettypiece Sidewalks are Good  
Sidewalks**

We also manufacture Cement Building Blocks, Brick, Tile, etc.

**THE PETTYPIECE SILEX STONE CO.  
AMHERSTBURG, ONT.**

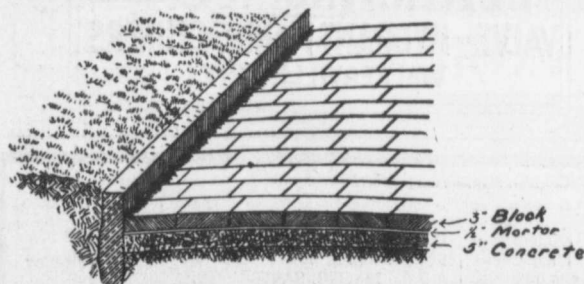
**"IDEAL"  
CONCRETE MIXER**



*Most  
up-to-date  
Mixer  
on the  
market.*

Write For  
Catalogue.

**GOULD, SHAPLEY & MUIR CO., LIMITED, BRANTFORD**



**A Scientific Pavement**

Must Be

- Durable and Non-Abrasive.
- Non-Absorbent and Nearly Noiseless.
- Unaffected by Extremes of Temperature.
- Sightly and Sanitary.
- Easily Repaired and Easily Cleaned.

*These Requirements are Met by*

**ASPHALT BLOCK PAVEMENTS**

SEND FOR DESCRIPTIVE LITERATURE

**THE ONTARIO ASPHALT BLOCK CO., LIMITED**

**WINDSOR, ONT.**

**J. HARVEY**  
**CONTRACTOR**  
 GREENSVILLE, ONT.  
 Driller of Oil, Gas, Salt or Artesian  
 Wells. Deep Wells a Specialty.  
 20 YEARS' EXPERIENCE IN CANADIAN OIL FIELDS



Contracts taken in any part of Canada. Several years experience in Artesian Wells for Municipal Water Works. Estimates or geological information cheerfully furnished.  
**REFERENCES GIVEN**

DO YOU WANT TO BUY

DO YOU WANT TO SELL

**SECOND-HAND  
 CONTRACTORS'  
 PLANT**

The best results can be obtained at small cost by an advertisement in the CANADIAN CONTRACT RECORD. The rate is 10 cents per line, twelve lines to an inch.

Replies to advertisements may be addressed in care of this paper and will be forwarded without extra charge.

The Canadian Contract Record  
 Confederation Life Bldg., TORONTO

BRANCH OFFICES:  
 MONTREAL - WINNIPEG - VANCOUVER

**STEAM SHOVEL**  
**HEAVY CASTING**  
**HOISTING ENGINE**  
 Dinkey and  
 Air Compressors - Contractor  
 Supplier  
**The Rogers Mfg. Co.,** FOUNDRY AND WORKS:  
 Limited Goderich, Ont.

You Want a



**Wheel Scraper**

That will load easier, dump easier and do a bigger day's work than any other.

Then let us send you one of our machines. It does it.

**BECHTELS LIMITED**  
 Waterloo, Ontario



**KERR'S GLOBE  
 AND  
 GATE VALVES**  
 STRICTLY HIGH GRADE.  
 TESTED & PACKED

WHEN INSTALLING a water works system get Kerr Valves and Hydrants. They give satisfaction every time.



*Mail us your Specifications.*

**THE KERR ENGINE CO. LIMITED**  
 VALVE AND HYDRANT MANUFACTURERS  
 WALKERVILLE, ONT.

**GERMAN ALSEN**, at higher prices than competitors has again this year been awarded the most important contracts of the World because practical tests by leading Engineers proved its merit and relative economy. Note the following:

<p><b>MEXICO CITY</b> 1905-1906 120,000 bbls.  <b>MEXACA DAM</b> (shipping instructions so far 60,000 bbls.) approximate amount 175,000 bbls.  <b>XOCHIMILCO WATER WKS., MEX.</b> approximate 200,000 bbls.</p>	<p><b>U.S. PHILIPPINE GOVMT. ORDER</b> 40,000 bbls.  <b>GOVMT. ORDER SOUTH AMERICA</b> 150,000 bbls.  <b>RIO DE JANEIRO, SANTO'S, ETC.</b> 40,000 bbls.</p>	<p>Also enormous quantities for the <b>PACIFIC COAST, AUSTRALIA, ENGLAND, SOUTH AFRICA, &amp;c.</b></p>
---	---	---

There is always a certain trade who will pay for the best. We also make American Alsen, the highest grade of domestic Portland cement.

**CEMENT**

**45 BROADWAY, NEW YORK CITY**  
*We protect our customers!*

**CEMENT**



**PACIFIC COAST PIPE CO., LIMITED, - P.O. BOX 563 VANCOUVER, B.C.**

**Machine Banded  
Wood Stave  
Water Pipe**



Last year we made 75 miles of pipe of various sizes; one line alone being over 10 miles of high pressure 8-inch pipe for a pumping plant for the C.P. Ry. Co.

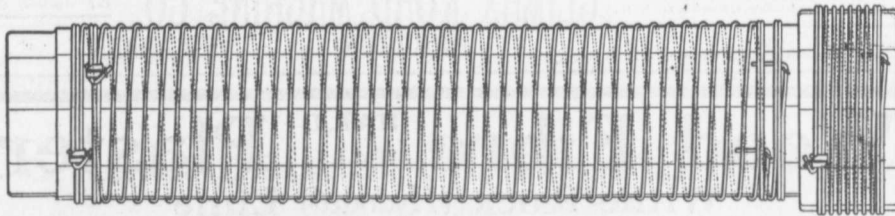
**WRITE FOR CATALOGUE**  
FULL PARTICULARS AND ESTIMATES FURNISHED



**CANADIAN PIPE COMPANY LTD.**  
HEAD OFFICE VANCOUVER B.C. P.O. BOX 915.

**GALVANIZED WIRE WOUND WOODEN PIPE**

No frost breaks, no corrosion. No electrolysis. It is easily and cheaply laid.  
Its carrying capacity is never decreased by rust.



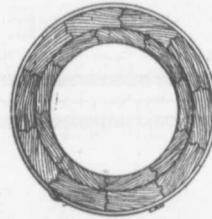
**The Dominion Wire Wound Wood Water Pipe**

Showing special method of winding with two independent parallel wires.  
The great advantage of this is, that in event of one wire becoming damaged the pipe still retains a factor of safety of 2.3.

Made only by  
**THE DOMINION WOOD PIPE CO., LIMITED**  
NEW WESTMINSTER, B. C.

Also Manufacturers of Continuous Stave Pipe for Irrigation and Power Purposes.

WRITE FOR CATALOGUE.



End view of Pipe and Coupling.

Please mention the CANADIAN CONTRACT RECORD when corresponding with advertisers.

**CANADIAN IRON AND FOUNDRY CO.**  
LIMITED

Special Castings  
Flange Pipe  
Branches  
Hydrants  
Valves



**CAST IRON PIPE**

Valve Boxes and General Water Works Supplies

SMALL DIAMETER WHEELS AND AXLES FOR CONTRACTORS.  
CAR WHEELS, CASTINGS OF ALL KINDS.

Works at: { HAMILTON, ONT.  
ST. THOMAS, ONT.  
FORT WILLIAM, ONT.

{ MONTREAL, P. Q.  
THREE RIVERS, P. Q.  
LONDONDERRY, N. S.

HEAD OFFICE: - **IMPERIAL BANK CHAMBERS** - MONTREAL

**SACKETT PLASTER BOARDS**

Great time saver. Fire and sound proof  
Cheaper than wooden and metal lath construction. In stock at Montreal and Toronto. Address

**PERCIVAL W. ST. GEORGE,**

80 St. Francois Xavier St. Montreal

R. B. H. BUCKNER, Ontario Lime Association,  
Toronto.

JAS. J. MURPHY, 85 St. Peter Street, Quebec.

**BANCO ZAROSSI**

Italian Licensed Labor Contractor

460 St. James St., MONTREAL

All kinds of Italian Laborers furnished  
on short notice.

**THE GREY AND BRUCE PORTLAND CEMENT COMPANY**

of Shallow Lake, Limited.

Manufacturers of

BRAND OF

**"HERCULES" PORTLAND CEMENT**

Very finely ground. Unsurpassed for Sidewalks, Floors and all work requiring the highest Grade of Portland Cement. For prices address,

A. D. CRRASOR, Sec'y-Treas.  
Head Office, Owen Sound, Ont.

Please mention the CANADIAN CONTRACT RECORD  
when corresponding with Advertisers.

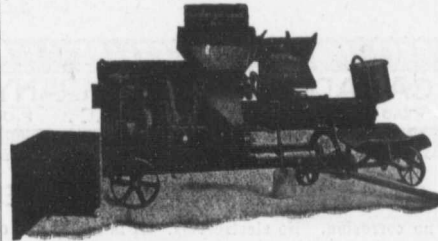
**SAMSON CEMENT**

MANUFACTURED BY

**THE OWEN SOUND PORTLAND CEMENT COMPANY, LIMITED**  
Owen Sound, Ont.

Works at SHALLOW LAKE, ONT.

Write us for prices.

**THE EUREKA CONCRETE MIXER**

is right, will mix wet of dry just as you please. Furnished with or without power with Rotary Pump with two or three measuring bins for Cement, Sand and Gravel or Crushed Stone.

SUITABLE FOR

General Concrete Work,  
Brick, Block and Tile  
Pipe Makers.

FOR CATALOGUE AND PRICE WRITE

**GLIMAX ROAD MACHINE CO.,** 37 James South  
HAMILTON - CANADA

**Wood Fibre <sup>HARD</sup> WALL Plaster**  
**White Rock (Hydrated) Lime**

MANUFACTURED BY

**THE IMPERIAL PLASTER CO., Limited**

Dealers in Cement, Lime, Fire Brick, Fire Clay, Plaster Paris.

King St. (West of Subway) TORONTO

**BOILERS**

FOR

**CONTRACTORS' WORK**

**VERTICAL BOILERS:** Quick steamers, easily set up, portable and convenient.

**LOCOMOTIVE TYPE BOILERS:** Self contained, portable and convenient.

Correspondence invited.

Bulletin No. 103—Vertical Boilers.

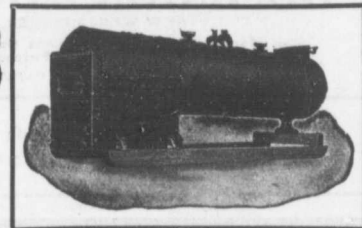
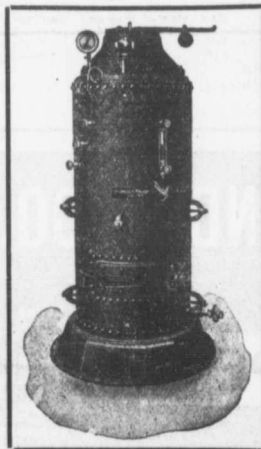
Bulletin No. 106—Locomotive Boilers.

**THE JENCKES MACHINE COMPANY LIMITED**

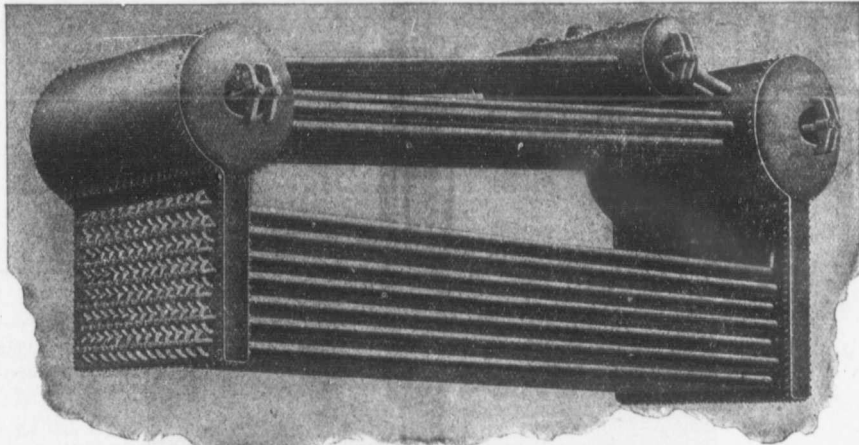
Sales Offices:  
St. Catharines, Rosland,  
Halifax, Cobalt.

Executive Office:  
62 Lansdowne St.,  
SHERBROOKE, QUE.

Plants:  
Sherbrooke, Que.  
St. Catharines, Ont.



# CANADA WATER TUBE BOILERS



*Purify Feed Water  
Superheat Steam*

## SAVE COAL

*Clean Easily  
Give Perfect Combustion*

Send for Bulletin No. 32.

## Canada Foundry Company, Limited

HEAD OFFICE AND WORKS: TORONTO, ONT.

District Offices: MONTREAL, HALIFAX, OTTAWA, WINNIPEG, VANCOUVER, ROSSLAND

JAMES THOMSON, President. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

## THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED.

Manufacturers of

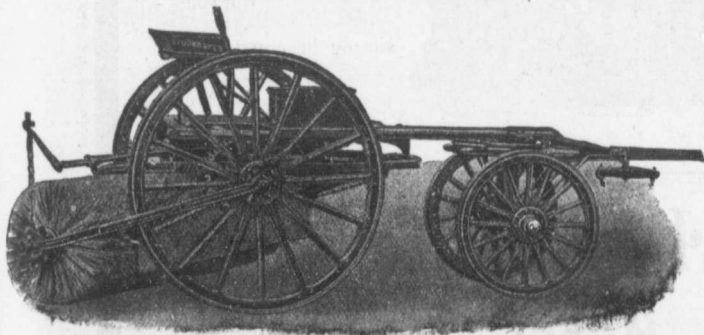
Flexible and Flange Pipe,  
Special Castings and all kinds of  
Waterworks Supplies.

## CAST IRON PIPE

3 inches to 60 inches diameter.

for Water, Gas, Culvert and Sewer

HAMILTON, ONT.



Stackpole Patent Improved **Street Sweeping Machine** is the Standard of Perfection

Because no sweeper so effectually does the work for which it is designed as "The Studebaker." It sweeps Clean. No sweeper is constructed with the same degree of care and mechanical precision. It wears Well. "The Studebaker" has the smallest number of working parts, and has less gearing than any other sweeper made. It is free from all unnecessary complications. With a reasonable care it does not get out of order. Send for complete descriptive catalogue.



**Studebaker Sprinkler**  
(PATENT IMPROVED.)

Does not clog or get out of order. Greatest width of spray can be graded from driver's seat to any volume.

IMPROVED VERTICAL SPRAY

for Pavements

Geo. Heaman, Mfr., London, Ont

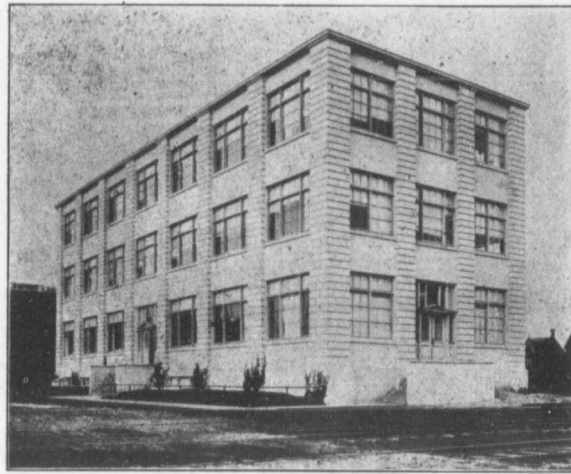
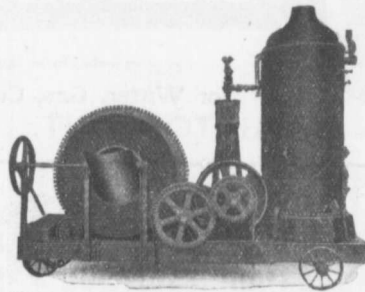


Illustration of the Canada Foundry Company's New Offices, built entirely of concrete by R. A. Rogers & Co., Toronto, with a NO. 1 RANSOME MIXER.

# Ransome Concrete Mixers

are being used everywhere  
and are giving the highest satisfaction

We supply Mixers  
with or without power.  
On skids or trucks.  
All capacities.



Ransome Mixers  
are efficient—  
durable—  
simple in construction.

DUNNBROS  
WINNIPEG  
AGENTS

**F. H. Hopkins & Co**  
Montreal

GORMAN CLANCY  
& GRINDLEY  
EDMONTON  
AGENTS