M A Y 1908.

NAMES AND OCCUPATIONS OF MEN EMPLOYED AT THE SHOPS, AND THE RATE OF WAGES.

N A M E	OCCUPATION	Present wage.	proposed wage.
Chs. Hale	Plumber.	$ 2.85	$ 3.00
Noé Goulet.	Bricklayer.	2.25	2.50
John Phelan	Pipelayer	2.25	2.50
H. Simpson	Valveman	2.25	2.50
M. Martel	Blksmith help	2.25	2.50
James Doran	Driver	2.00	2.25
A. Parent	" of Patrol	2.00	2.25
T. Millet	Pipelayer help	2.00	2.25
Pacifique Hebert	-do-	2.00	2.25
G. Champagne	-do-	2.00	2.25
Roch Rerrault	-do-	2.00	2.25
C. Perrault	-do-	2.00	2.25
Cleo. Perrault	-do-	2.00	2.25
Nap.Belanger	Skilled laborer	2.00	2.25
Bazile Beaudoin.	- do -	2.00	2,25
a Meunier	"	2.00	2.25
[illegible]		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
[illegible]		2.00	2.25
A. Beaulieu	Plumber	$2.85	$3.00
C. Gauthier	Pipelayer	2.50	2.75
R. Olivier	Plumber	2.25	2.50
[illegible]	Blacksmith	2.25	2 50
	W.K. Howes		
[illegible]			
[illegible]			
[illegible]			

744

Mech wages
Increases
granted by Com-
mittee 31 aug/08

31 aug/08

City Hall

Montreal Sept 21st 1909

Mr. Geo. Janin,

Superintendent.

Dear Sir,-

Your inspectors have reported to me that the Montreal Street Ry Co. will not now allow them to ride free on the cars. Thisrule has been strictly enforced during the past week. The meter inspectors feel the effect most, and have notified me that unless transportation is arranged they cannot cover their allotted district within the prescribed time.

As the Health Inspectors travel free, could it not be arranged to pass the Water Inspectors.

Yours ~~Assistant~~ Lieutenant

Thos. O'Leary

City Hall

Montreal Sept 19/9/08

Monsieur J. Veary

Monsieur

Nous soumettons humblement notre cause a vous, au sujet du passage sur les chars de cet City. Par un réglement de la Compagnie nous ne pouvons plus passer gratis, sur les Chars, Vous savez par l'ouvrage que nous avons a faire il est impossible de faire cet ouvrage a deux. Excepté que le Comité nous donne les chars gratis.

Par le passé le Comité de l'aqueduc donnait Vingt Billets par année aux inspecteurs de Compteur pour leur charge. Somme que nous avons pas, et qui est insuffisant. Car cette somme représente trois mois de passage sur les chars seulement. Nous sommes

Andr Gervais
J. D. Moore

Inspecteurs au Compteur

City Hall

Montreal Sept. 22nd. 1908.

To The Chairman,

And Members of the Water Committee,

C I T Y.

Gentlemen,

We, the undersigned Inspectors of the Montreal Water Department, would beg leave to solicit your influence on our behalf to obtain free transport on the cars of the Montreal Street Railway the same as the Police, Fire and Health Departments.

Hoping you will view our petition favorably.

We are,

Gentlemen,

Your obedient Servants,

A. Bivaillon Foreman
Aug. Gervais
J. D. Moore
J. A. Rioux
R. Guimet
Lo. O. Marin

Sept. 23rd. 1918.

No.

Inspection
asking for
free Pass
Sept 21/1918

To The Secretary,

Montreal Water Commission.

Gentlemen,

Kindly oblige me with permission to inspect the Montreal Water Works on Monday next, the 23rd. inst. at 2 p.m. in company with Mr. Joseph Desjardins.

Yours obediently,

Chief Inspector.

Archives de la Ville de Montréal

FORM 113

The Northern Electric and Manufacturing Company, Limited.

P.O. BOX 2376
OFFICE & WORKS, 814 NOTRE DAME ST. WEST.

SUBJECT { No. / Dept. No. 5 } Tender for Lighting Unit. Montreal Sept. 16th, 1908

To The Honorable Water Committee,
City of Montreal,
P. Q.

Gentlemen:

For the sum of One Thousand and Fifty-Five ($1,055.) Dollars, we propose to supply and install, One Generator and Switchboard for same, at the Low Level Pumping Station of the Montreal Water Works. The generator to be for direct connection to an engine of 350 R.P.M. and to be a 20 K.W Western Electric Direct Current Compound Wound, 350 R.P.M machine, and shall give a rise of voltage from 110, at no load, to 120 at full load constant speed. It will be supplied with a suitable field rheostat for back of board mounting, and one set of brushes, and six extra brushes. The machine to operate continuously at its full rated load, and no part of the machine shall show a rise of temperature exceeding 40 degrees C. and to operate a 25% overload for two hours following a continuous full load run, and the temperature rise shall not exceed 50 degrees C. We guarantee the efficiency to be 86.5% at half load; 88.4% at three quarter load and 88.5% at full load. The net weight of the generator to be 3100 lbs., and the weight of the armature alone to be 600 lbs. The engine shaft to be shipped by the engine builders to the works of the generator builders, and the armature pressed upon it, and after so doing it is to be pressed in the lathe and the commutator carefully trued up.

The Switchboard to be made of Blue Vermont Marble 6' x 3' x 2" which is of sufficient size to prevent crowding of apparatus. The panel to be mounted upon an angle iron frame and the necessary wall braces supplied. The panel to contain the following apparatus:

One Wagner D.C. Ammeter with shunt, 200 amp.
One Wagner D.C. Volt Meter, 150 volts.
One Condit 150 amp. double pole Circuit Breaker.
Two Hill D.P.S.T 100 amp. Feeder Switches, with enclosed Cartridge Fuses on front of board.
One Hill D.P.S.T 50 amp. Feeder Switch, with enclosed Cartridge Fuses on front of board.
One Hill D.P.S.T 200 amp. Main Switch.
One Mounting for Field Rheostat.
One Lamp and Bracket.
One set of Ground Detector Lamps.

All wiring between the Switchboard and generator to be done in iron conduit under the floor to meet with the approval of the Canadian Fire Underwriters Association. The distance between the Switchboard and Generator to not exceed 100 ft.

The Switchboard and Generator to be installed upon foundations supplied by the Water Department.

The machinery as proposed to be set up complete, tested and in regular working order three months after the signing of the contract.

Seventy-Five Per Cent of the amount of the contract price to be paid when the machinery is delivered to Pumping Station, the remaining 25% of the contract price shall be paid after the machinery is erected and running satisfactorily over night for at least one month, during which period of time the whole plant shall have been tested satisfactorily to fulfill the required conditions, as to rise of temperature and guaranteed

DEPARTEMENT DE L'AQUEDUC.

Devis estimatif des travaux à exécuter pour la Construction d'un puits de compensation avec deversoir et conduite d'eau jumelle à la Station de Pompage de bas-niveau.

A / PUITS et DEVERSOIR.

Excavation totale 1175 verges cubes, comprenant

s'il est nécessaire les bâtardeaux pour empêcher les infiltration de l'eau du bassin, en prix d'unité, l'asséchement par pompage ou egouttement de l'excavation l'etaiement, et autres contingences.-

1175 verges dont	Terre 1025 v.c. @ $1.25	$1281.25
	Caillasse 150 v.c. " 1.40	210.00
Beton compris moules etc. 1,2,5 en tout 510 v.c. @ $11.00		5610.00
Armature metallique de renforcement.		500.00
30 echelons en fer compris scellement.		50.00
Pose de 3 couvercles de manhole.		30.00
Pose d'un orifice de vidange en fonte.		20.00
200 pieds fer en I, à 18 Lbs. le pied courant compris pose 1800 lbs à 0.20¢		360.00
Scellement des ferrures pour cadres des portes ou vannes du deversoir.		50.00
Scellement des ferrures pour cadres des portes vannes de la conduite jumelle.		50.00
Remblayage sur le puits. 1 pied d'épaiseur sur 100 x 15.		30.00
	à reporter	$ 8191.25

Inspection and Tests

During the process of manufacture, all parts are subjected to rigid inspection and tests, and the completed machines are run for a sufficient length of time to make sure that they come within the guaranteed limits of heating, sparking, etc. The insulation of the various parts of the machine and the completed machine are tested by the application of a high voltage, in accordance with the standard specifications adopted by the American Institute of Electrical Engineers.

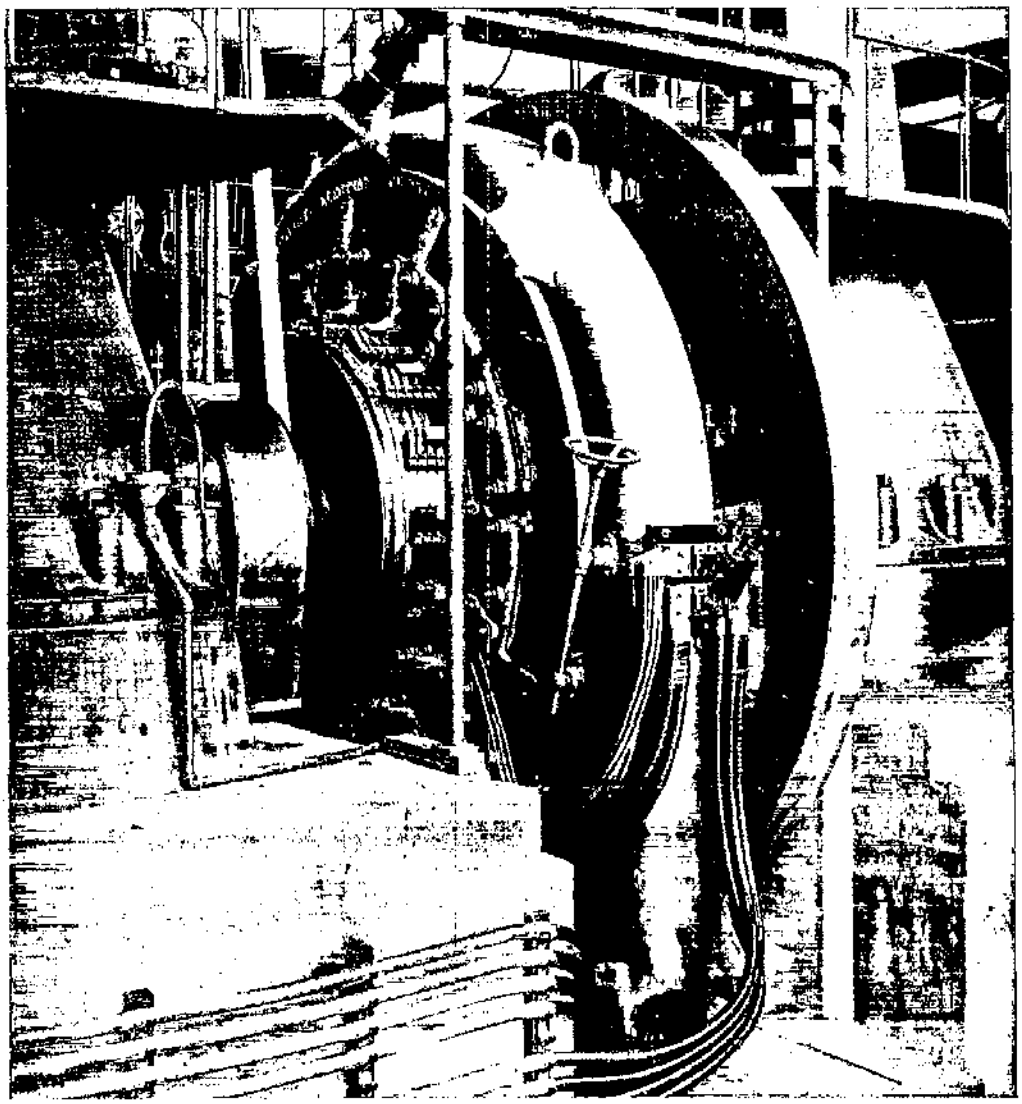


Figure 16. 1200 K. W. Generator, 250 Volts, 100 R. P. M.

WESTERN
ELECTRIC
COMPANY

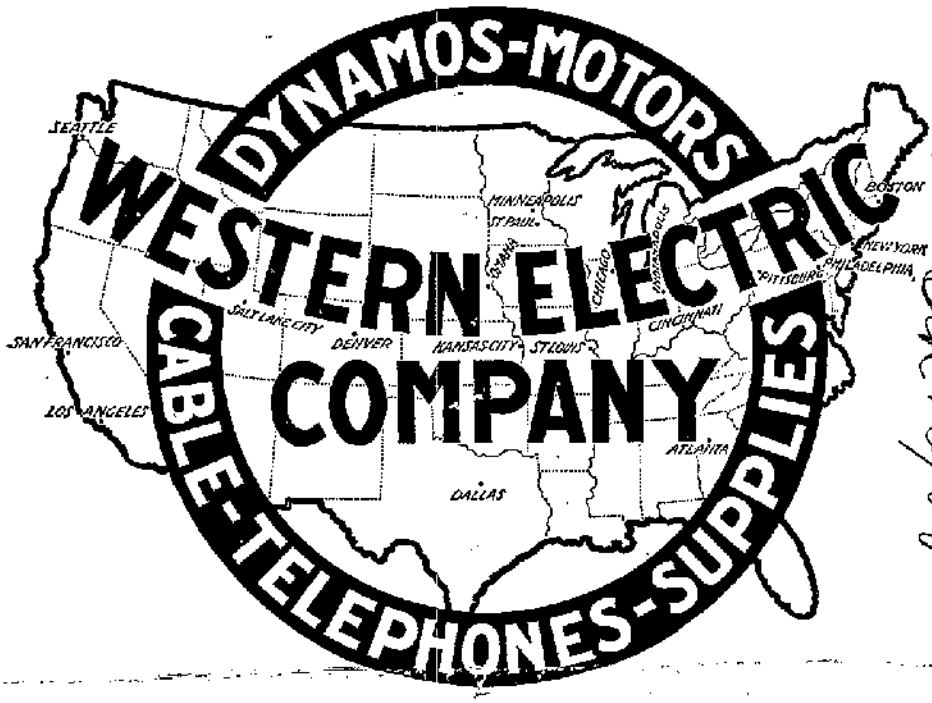
The following is a list of our publications, any of which will be sent on request:

5111 Direct Driven Generators, "L" Design.
5112 Belt Driven Generators, "L" Design.
5131 Type "I" Motors.
5132 Type "E" Motors.
5140 Hoisting Motors, "H" Design.
5210 Alternators.
5230 Induction Motors.
5340 Motor Driven Grinders.
5351 Ventilating and Exhaust Fans.
7030 Multiple Series and Constant Current Arc Lamps for Direct Current Circuits.
5512 Multiple and Multiple Series, Direct Current, Enclosed Arc Lamps.
7036 Series, Enclosed, Alternating Arc Lighting System.
7035 Multiple and Multiple Series, Alternating Current, Enclosed Arc Lamps.
5910-1 Power Equipment for Railroad Shops.
5910-2 Power Equipment for Boot and Shoe Factories.
5910-3 Power Equipment for Cement Mills.
5910-4 Power Equipment for Breweries.
5910-5 Power Equipment for Printing Offices.
5910-6 Power Equipment for Hotels.

OTHER BULLETINS IN COURSE OF PREPARATION.

WESTERN
ELECTRIC
COMPANY

"CONSULT THE MAP"



"WRITE OUR NEAREST HOUSE"

Western Electric Co.
Supply Dept. Electric
Montreal Oct 18/08

DIRECT-DRIVEN GENERATORS
"L" DESIGN
BULLETIN NO. 5111

CANADIAN GENERAL ELECTRIC COMPANY, LIMITED
CANADA FOUNDRY COMPANY, LIMITED
81 ST. PETER STREET,
MONTREAL, P. Q.
HEAD OFFICE: 14 TO 18 KING STREET, E., TORONTO.
FACTORIES: TORONTO, PETERBORO.

MONTREAL, Sept. 18,1908.

Water Committee of the City of Montreal,

M O N T R E A L.

Dear Sirs:

We are enclosing you herewith cheque for $250.00, together with our Proposal M-966, covering 17 K.W. generator directly connected to 8 x 8 Leonard engine, for the total price of.....$1450.00.

This proposal complies in all respects with your specifications, but should you desire to have the generator connected to a Goldie & McCulloch Company's 7 x 10 centre crank Ideal engine, our price will be.....$1625.00., or should you desire this generator to be connected to a Robb 7 x 8 vertical engine, our price will be.....$1575.00.

Submitting the above for your favorable consideration, we remain,

Yours truly,

CANADIAN GENERAL ELECTRIC CO.,LTD.

W. T. Reynolds
AGENT.

WHCR/JF.

Encl.

Proposal No. M-966.

To GEO. JANIN, ESQ.,

CHIEF ENGINEER AND SUPERINTENDENT,

MONTREAL WATER WORKS, MONTREAL.

CANADIAN GENERAL ELECTRIC CO.

LIMITED

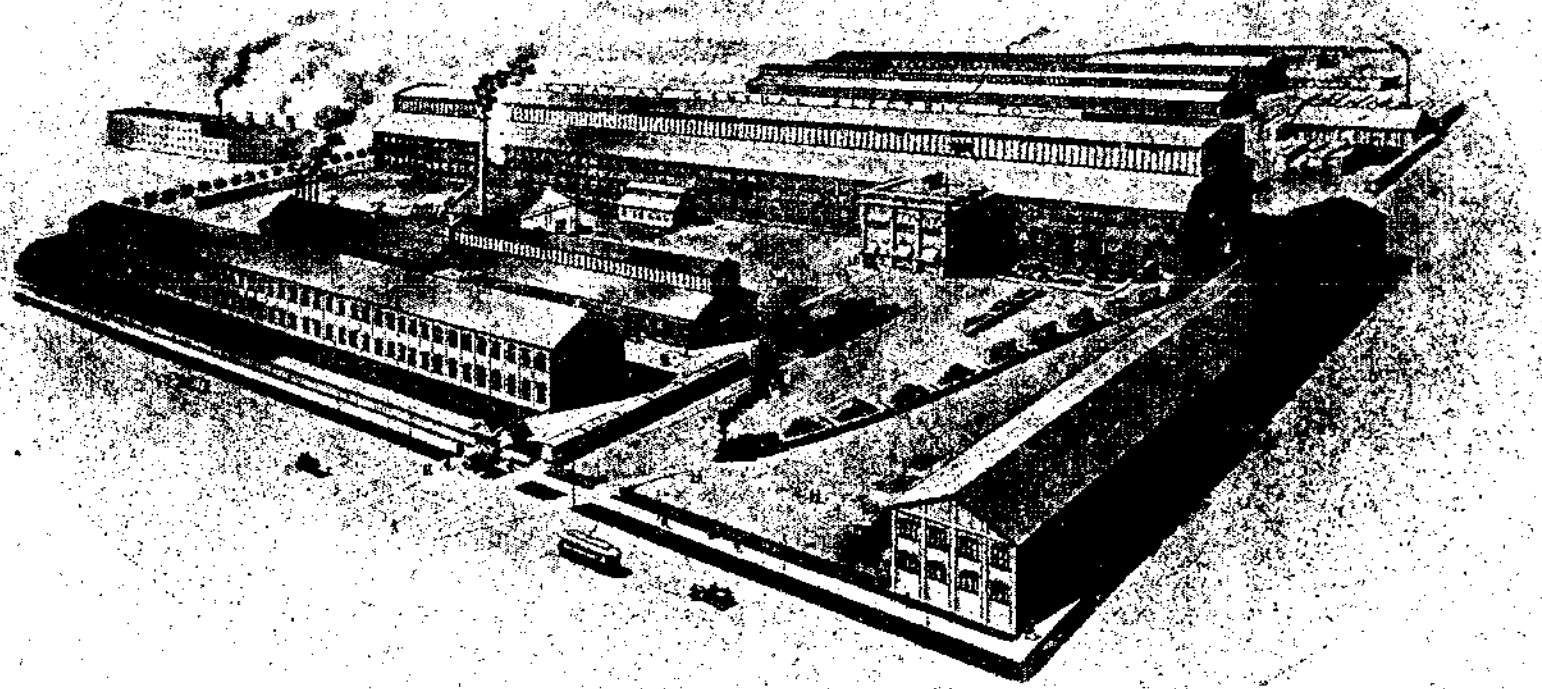
HEAD OFFICE; TORONTO, ONT.

DISTRICT OFFICES:

MONTREAL, HALIFAX, OTTAWA, WINNIPEG,
VANCOUVER, ROSSLAND.

FACTORIES:

TORONTO, ONT. PETERBORO, ONT.



PETERBORO WORKS

CANADIAN GENERAL ELECTRIC CO., LIMITED
TORONTO

AQUEDUC DE MONTREAL

(3) CONDUITE JUMELLE EN BETON ARME

(510 pieds longueur lineaire)

Reporter $ 8,191.25

Excavation totale 3400 verges cubes:

Le prix d'unité comprenant s'il est nécessaire les batardeaux pour empêcher les infiltrations de l'eau du bassin, l'egouttement par pompage ou assechement de la tranchée.

3000 v.c.@ $1.25 $ 3750.-
soit 3400 verges cubes dont
400 v.c.@ $1.40 560.-

Beton.

Beton compris moules 1.2.5; 547 verges cubes à $11.- 6017.-

Armature de renforcement 510 pieds lin. à $ 2.00 1020.-

Posage de 7 brachements de suction metallique pour raccordements aux pompes. a $ 20.00 140.-

3 chambres ou regards (posage) à $ 10.00 30.-

Remblayage de la tranchée et mise en ordre du chemin de roulage. 200.- 11,717.00

Conduite double conique pour le raccordement du compteur Venturi. Longueur 75 pieds à $ 10.00 $ 750.-

Pose du tube métallique du dit compteur 50.- 800.00

Grand total.- - - $ 20,708.25

Prix moyen de la conduite jumelle au pied courant

$\frac{11687}{510}$ - $ 22.08

The remaining twenty-five(25%) per cent. of the contract price shall be paid after the machinery is erected and running satisfactorily every night for at least one month, during which period of time the whole plant shall have been tested satisfactorily to fulfil the required conditions as to rise of temperature and guaranteed efficiency at 1/2, 3/4 and full load.

NOTARIAL FEES.

The Contractor to pay the Corporation notaries their charge for making the contract and a copy of it, which copy will remain on record in office of the Superintendent of Water Works.

Non-Acceptance.

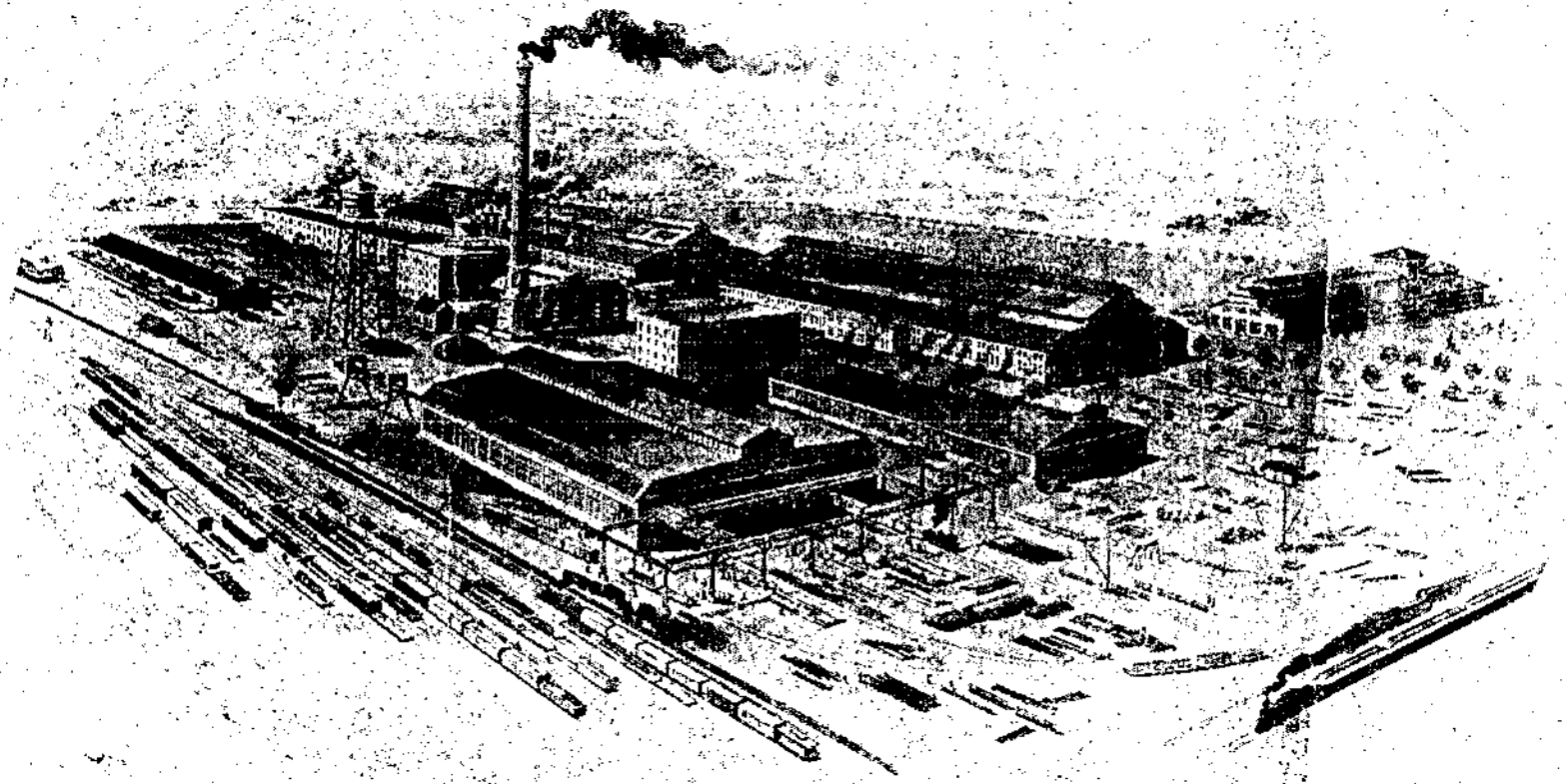
The Water Committee do not bind themselves by this specification or any part in connection therewith to the purchase of a lighting unit of any kind, type or make, but it is expressly understood that they are at full liberty to reserve and do hereby reserve the right to reject any and all bids.

Geo. Janin,

Chief Engineer and

Superintendent M.W.W.

Montreal, Sept. 4,1908.



A-10 (M-5-8.

DAVENPORT WORKS

CANADIAN GENERAL ELECTRIC CO., LIMITED
TORONTO

Gen. General Election
Tenders for Electric
Unit.
13 Oct. 1905

ALLIS-CHALMERS-BULLOCK
LIMITED.

Form 1636 12-12-05

Sheet 1—ORIGINAL

No.....

HEAD OFFICE AND WORKS
MONTREAL

DISTRICT OFFICES
NEW GLASGOW
MONTREAL
TORONTO
WINNIPEG
NELSON
VANCOUVER

ALLIS-CHALMERS-BULLOCK
LIMITED

PROPOSAL

Montreal, Sept. 18th, 1908.

The Chairman of the Water Committee,
Corp. of Montreal,
MONTREAL, P.Q.

(Hereinafter called the Purchaser)

ALLIS-CHALMERS-BULLOCK, Limited, hereinafter called the Company, proposes to furnish the Purchaser, ~~f.o.b. cars point of shipment,~~ on the following conditions, the apparatus described below, or in specifications attached, which are made a part of this proposal.

1 -17½ K.W. Direct Current Generator direct connected to-

(a) 1 -7 X 8" Robb Armstrong Vertical Engine, or, as an alternative, direct connected to-

(b) 1 -7 X 10" Ideal Horizontal Engine

Switchboard, wiring and conduit between same and generator all erected at Low Level Pumping Station and connected as required in Mr. Janin's specifications of September 4th/08.

All apparatus shall be installed by and at the expense of the Purchaser, unless otherwise expressly stipulated herein.

The Company will repair f.o.b. works where made, or furnish without charge f.o.b. its works, a similar part to replace any material which, within one year after shipment, is proven to have been defective at the time it was shipped, provided the purchaser gives the Company immediate written notice of such alleged defects. The Company shall not be held liable for damages on account of any delays caused by such defective material, and no allowance will be made for repairs or alterations, unless made by its written consent or approval.

The title and ownership of the property furnished under the terms of this contract, shall remain in the Company until the full and final payment thereof shall have been made by the Purchaser, according to the terms agreed upon, and until all notes, if any, shall have matured and been settled in full. In case of default in any of the payments herein provided for, the Company may remove the property covered by this agreement wherever found, and shall not be liable in any action at law on the part of said Purchaser for such removal of its property, nor for the repayment of any money or moneys which may have been paid by such Purchaser in part payment for said installation and equipment; but all such payments shall be imputed and considered as rental for the use of said property.

The Company agrees that it shall, at its own expense, defend any suits that may be instituted by any party against the Purchaser, for alleged infringements of patents relating to the apparatus furnished under this proposal, provided such alleged infringement shall consist in the use of said apparatus, or parts thereof, in the regular course of the Purchaser's business, and provided the Purchaser shall have made all payments then due therefor and gives to the Company immediate notice in writing of the institution of such suits, and permits the Company, through its Counsel, to defend the same, and gives all needed information, assistance and authority to enable the Company to do so, and thereupon in case of a final award of damages in such suit the Company will pay such award, but it shall not be responsible for any compromise made without its written consent, nor shall it be bound to defend any suit or to pay any damages therein when the same shall arise by reason of the use of parts not furnished by the Company under this proposal. The Company shall also be notified of, and reserves the right to be represented at, any tests which the Purchaser may make, in relation to guarantees of operation.

If shipment of the apparatus herein specified, or any part thereof, is delayed by any cause for which the Purchaser is directly or indirectly responsible, the date of completion of said apparatus by the Company shall be regarded as the date of shipment in determining when payments for said apparatus are to be made. If all the apparatus should not be forwarded on the same date, pro-rata payments shall be made for partial shipments.

This contract is contingent upon strikes, fires, accidents or other delays unavoidable or beyond the reasonable control of the Company. The Company shall not be held responsible or liable for any loss, damage, detention or delay, from any cause beyond its control; and the receipt of the apparatus by the Purchaser shall constitute acceptance for the delivery and a waver of any and all claims for loss or damage due to any delay.

PRICE. For proposition (a) covering electrical appartus and Robb Engine, TWENTY-ONE HUNDRED ($2100.00) DOLLARS.

For proposition (b) covering electrical apparatus and IDEAL Engine, TWO THOUSAND AND EIGHTY-FIVE ($2085.00) DOLLARS.

TERMS.

Terms of payment are as follows:

~~Seventy-five per cent (75%) payable against shipping documents. Twenty-five per cent (25%) payable for apparatus on delivery station. Forty per cent (40%) thirty days after arrival~~

Seventy-five (75%) per cent on delivery at Pumping Station. Twenty-five per cent (25%) after erection and satisfactory operation for one month(every night) and fulfillment of guarantees.

SHIPMENT.

The apparatus herein specified will be ~~shipped~~ delivered and erected in three (3) months——————————————*from the date of the receipt of the contract and full information from the Purchaser, at the Company's works.*

NOTARIAL CONTRACT: The Company agrees to pay the Corporation's notaries their charge for making contract and copies.

7445

Supp'y Estimate
for Water Mains
Section of Aque-
-duct & Well

31 Aug 1908

Allis-Chalmers Company

General Offices, - - - - - Milwaukee, Wis.

WORKS

Milwaukee:
- Reliance Works:
  - Flour Mill and Saw Mill Machinery,
  - Power Transmission Machinery.
- West Allis Works:
  - Steam Engines, Hoisting Engines, Blowing Engines, Pumping Engines, Steam and Hydraulic Turbines.

Chicago:
- Works No. 1:
  - Crushing and Cement Machinery.
- Works No. 2:
  - Mining Machinery.

Scranton, Pa.:
- Scranton Works:
  - Power and Mining Machinery.

Cincinnati, Ohio: Electrical Works.

Executive Offices - - - - - - - - - - - - - - 71 Broadway, New York, N.Y

DISTRICT OFFICES

Atlanta, Ga., Fourth Nat'l Bank Bldg.
Baltimore, Md., Continental Bldg.
Boston, Mass., 50 Congress St.
Buffalo, N. Y., Ellicott Square Bldg.
Butte, Mont., 51 East Broadway.
Chicago, Ill., First National Bank Bldg.
Cincinnati, O., First National Bank Bldg.
Cleveland, Ohio, New England Bldg.
Dallas Texas, Wilson Bldg.
Deadwood, S. D.
Denver, Colo., McPhee Bldg., 17th and Glenarm Sts.
Detroit, Mich., 800 Union Trust Bldg.
El Paso, Texas, 301-306 Guaranty Trust Bldg.
Kansas City, Mo., The Dwight Bldg., cor Baltimore Ave., and Tenth St.
Minneapolis, Minn., Corn Exchange Bldg.
New Orleans, 316 Godchaux Bldg.
New York, 71 Broadway.
Omaha, Neb., 502 N. 26th St.
Philadelphia, Pa., Land Title Bldg.
Pittsburg, Pa., Frick Bldg.
St. Louis, Mo., Chemical Bldg.
Salt Lake City, Utah, Dooly Bldg., 117-119 W. 2nd South St.
San Francisco, Cal., Atlas Bldg.
Scranton, Pa.
Seattle, Wash., 316 Occidental Ave.

FOREIGN SALES OFFICES

London, 533 Salisbury House, Finsbury Circus, E. C.
Johannesburg, South Africa, The Corner House

CANADA

Allis-Chalmers-Bullock, Ltd.: Works, Montreal, Que.

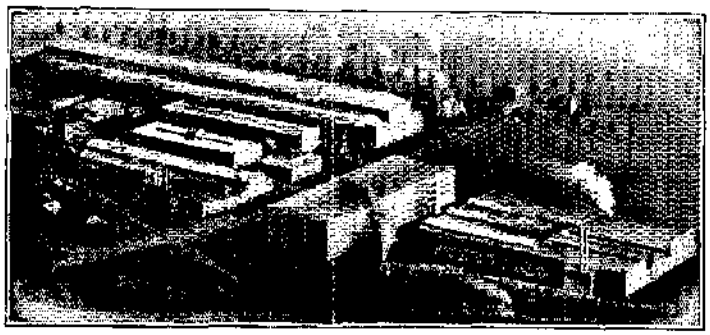
Offices

Montreal, Que.—Allis-Chalmers-Bullock, Ltd., Sovereign Bank Bldg.
New Glasgow, N. S.—Allis-Chalmers-Bullock, Ltd.
Nelson, B. C.—Allis-Chalmers-Bullock, Ltd., Main St.
Toronto, Ont.—Allis-Chalmers-Bullock, Ltd., Traders Bank Bldg.
Vancouver, B. C.—Allis-Chalmers-Bullock, Ltd., 416 Seymour St.
Winnipeg, Manitoba—Allis-Chalmers-Bullock, Ltd., 251 Notre Dame Avenue.

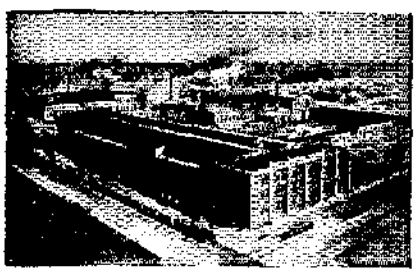
FOREIGN SALES AGENCIES

Auckland, New Zealand,	John Chambers & Son, Ltd
Johannesburg, South Africa,	Herbert Ainsworth (for Rock Crushers Only)
Lima, Peru,	Henry Guyer
Manila, P. I.,	Bryan-Landon Co.
Perth, West Australia,	Frank R. Perrot
Valparaiso, Chile,	John R. Beaver
Yokohama and Kobe, Japan,	American Trading Company
Shanghai, China,	American Trading Company

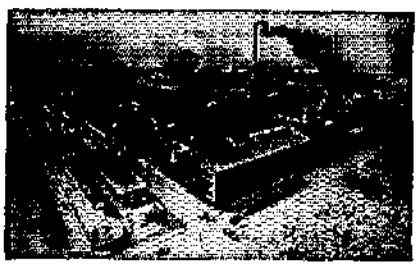
Allis-Chalmers Co's Works



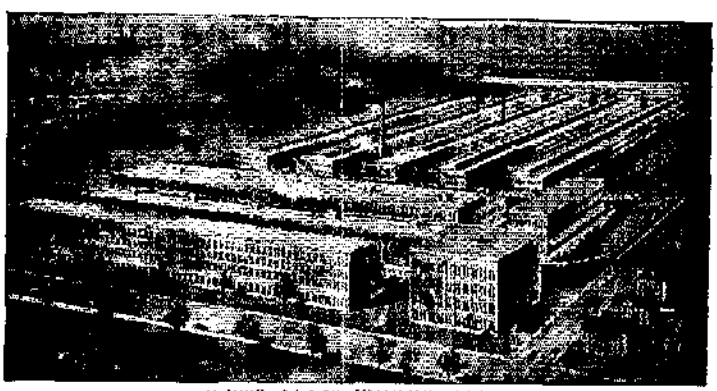
Cincinnati, O.—Electrical Department



CHICAGO WORKS No. 1
Crushing and Cement Machinery



CHICAGO WORKS No. 2
Mining Machinery



WEST ALLIS WORKS—Milwaukee
Steam Engines, Gas Engines, Hoisting Engines, Blowing Engines, Pumping Engines,
Steam and Hydraulic Turbines, Air Brakes

SCRANTON WORKS—Scranton, Pa.
Power and Mining Machinery
Steam Shovels, Dredges

RELIANCE WORKS—Milwaukee
Flour Mill and Saw Mill Machinery
Power Transmission Machinery

Allis-Chalmers Company

PRINCIPAL PRODUCTS

AIR BRAKES

AIR COMPRESSORS
- Steam Driven
- Belt Driven
- Electrically Driven
- Hydraulic Driven

BLOWING ENGINES

CEMENT MACHINERY
- Ball Mills
- Balls, Forged
- Coal Pulverizing Machinery
- Crushing Rolls
- Elevators
- Mixing Pans
- Perforated Metals
- Revolving Screens
- Rock and Ore Breakers
- Rotary Dryers
- Rotary Kilns
- Tube Mills
- Tube Mill Linings
- Tube Mill Pebbles

CHILLED ROLLS

COAL MINING MACHINERY
- Barney Cars
- Crusher Rolls
- Hoisting Cages
- Revolving Screens
- Shaking Screens
- Ventilating Fans

CONDENSERS
- Jet
- Barometric

CORLISS ENGINES

CRUSHING MACHINERY
- Ballast Plants
- Crushing Rolls
- Dumping Skips
- Gyratory Rock Breakers
- Jaw Crushers
- Macadam Plants
- Perforated Metals
- Portable Crushing Plants
- Revolving Screens
- Quarry Cars
- Elevators
- Hoists

DREDGES
- Gold Dredges
- Dipper Dredges
- Hydraulic Dredges

ENGINES
- Blowing Engines
- Corliss Engines
- Gas Engines
- Hoisting Engines
- Pumping Engines
- Rocking Valve Engines
- Rolling Mill Engines

FLOUR MILL MACHINERY
- Bolters, Universal
- Bolting Cloth
- Bran and Shorts Brushes
- Centrifugal Reels
- Corn Mills
- Feed Mills
- Feed Screens
- Flaking Rolls
- Flour Packers
- Hexagon Reels
- Purifiers
- Roll Corrugating
- Roller Mills
- Rolling Screens
- Scalping Reels
- Sieve Scalpers

GAS ENGINES

HOISTING ENGINES

HYDRAULIC MACHINERY
- Water Turbines
- Turbine Governors

MINING MACHINERY
- Air Compressors
- Boiling Tanks
- Chilian Mills
- Chlorination Plants
- Concentrating Plants
- Copper Converting Plants
- Crushing Plants
- Cyanide Plants
- Frue Vanners
- Gold and Silver Mills
- Gold Dredging Machinery
- Gyratory Breakers
- Hancock Jigs
- Hoisting Machinery
- Horse Whims
- Huntington Mills
- Jaw Crushers
- Lead Refining Plants
- Lixiviation Plants
- Mining Cages
- Mining Cars
- Mine Ventilating Machinery
- Ore Buckets
- Ore Cars
- Ore Feeders
- Overstrom Concentrators
- Prospecting Mills
- Roasting Furnaces
- Skips
- Smelting Machinery
- Stamps, Gravity
- Stamps, Steam
- Stamps, Atmospheric
- Stamp Shoes, and Dies
- Tramways
- Tube Mills, Wet and Dry

PERFORATED METALS

POWER TRANSMISSION MACHINERY
- Belt Tighteners
- Boxes
- Couplings
- Gears
- Hangers
- Pulleys
- Rope Sheaves
- Shafting

PUMPING MACHINERY
- "High Duty" Pumping Engines
- Centrifugal Pumps
- Elevator Pumps
- Fire Service Pumps
- Geared Pumps
- Hydraulic Transmission Pumps
- Mine Pumps
- Multi-stage, High Lift Centrifugal Pumps
- Screw Pumps

ROLLING MILL ENGINES

SUGAR MACHINERY

SAW MILL MACHINERY
- Band Mills, Double Cutting
- Band Mills, Single Cutting
- Band Re-saws, Horizontal
- Board Lifters, Steam
- Cant Flippers, Steam
- Canting Machine, Overhead
- Circular Saw Mills
- Conveying Machinery
- Cutting Off Saws, Steam Feed
- Edgers
- Edging Grinders
- Feeds, Steam, Direct Acting
- Feeds, Steam, Twin Engine
- Filing Room Tools
- Lath Mills and Bolters
- Live Rolls and Drives
- Log Chains
- Log Jacks
- Log Loaders
- Log Turners
- Niggers, Steam
- Rocking Valve Engines
- Saw Mill Carriages
- Set Works
- Shakers
- Steam Feed Valves
- Stock Lifters, Steam
- Transfers and Transmission
- Trimmers

STEAM SHOVELS

TIMBER PRESERVING MACHINERY

TURBINES—STEAM

TURBINES—WATER

ELECTRICAL APPARATUS.

Alternating Current Generators and Motors.

Belted type generators
Engine type generators
Fly-wheel type generators
Water-wheel type generators

Synchronous Frequency Changers
Induction Motor Frequency Changers
Synchronous Motor-Generator Sets

Induction Motor-Generator Sets
Synchronous Motors
Induction Motors

Transformers
Rotary Converters
Turbo-Generators

Direct Current Generators and Motors.

Belted type motors and generators
Engine type generators
Railway generators

Small multipolar motors and generators
Small Bipolar and multipolar motors and generators
Street Car Equipments, Motors, Controllers, Etc.

Multiple Voltage Balancing Sets
Multiple Voltage Variable Speed Equipments

Switchboards for Direct Current and Alternating Current.

Bulletin No. 1059

ALLIS-CHALMERS-BULLOCK, Limited

MONTREAL

DIRECT CURRENT GENERATOR SPECIFICATION

SUBMITTED TO

The Corporation of the City of Montreal

MONTREAL, P.Q.

Item	Number of Units	Type	Normal Speed R. P. M.	Normal Rated Capacity in K. W.	Normal Range of E. M. F. From	To	Normal Current Capacity in Amperes	Efficiency at Percent of Load 25	50	75	100
A	1	Engine	340	17½	110	130	146		84.8	85.5	84.4
B											
C											
D											

RATING CONDITIONS.

The output in watts to be measured at dynamo terminals.

The normal current load to be rated under a working E. M. F. of 120 *volts at the dynamo terminals.*

Each dynamo to be capable of carrying its full normal load for a continuous period of 24 *hours without sparking, or without heating windings more than* 40 *degrees C. and commutator more than* 45° *degrees C. above surrounding atmosphere. Temperatures are to be measured by thermometer according to A. I. E. E. standard of capacity.*

Each dynamo to be capable of carrying 25 *per cent. overload following a* 24 *hour's run at full load, for a period of* 2 *hours without heating windings more than* 50 *degrees C. and commutator more than* 55 *degrees C. above surrounding atmosphere; also to be capable of taking momentarily, if required,* 50 *per cent. overload without flashing. Also to be able to go from no load to 25 per cent. overload without shifting the brushes. The efficiencies to be as given in schedule.*

FIELD MAGNET FRAME.

The field magnet to be of type having inwardly projecting poles disposed at equi-distant points around the armature periphery.

Each field magnet to consist of a circular yoke made in two symmetrical halves or portions joined and divisable horizontally on a plane passing through the centre of the dynamo shaft. The exceptions to this construction are Frames 104 and 106 of Type "H" machines and all frames of Types "B," "N" and "N-I," which are cast solid.

Boxed weight of generator 3600#
Net " " 3300#
" " " armature 600# exclusive of shaft

MAGNET POLES.

To be laminated steel with malleable iron end-plates and to be joined with the magnet frame by being bolted into it in seats bored out of the casting of the yoke. By this arrangement, the pole pieces and field coils can be removed without disturbing the yoke or armature.

The polar portions to be of proper design and shape to secure a properly graded magnetic flux density in the air gap at the polar horns, and to maintain the same as uniform as possible under all conditions of electric load and operation.

MAGNET WINDING.

The field windings are to be wound in separate coils and no spools are to be used. The coils, both series and shunt, are insulated and mummified separately. First, the winding is covered with a layer of heavy canvas, then mica cloth of sufficient thickness is applied, and the whole covered by a double layer of webbing, and then bound with "Sampson" cord. The coils are held in position by the polar projections. The winding wire to be double cotton covered.

ARMATURE.

The armature is of the iron-clad type, having a laminated core with numerous ventillating ducts running at right angles to the shaft and transversely through the core. The core is provided with slots having grooves near the upper edge, into which wooden coil retaining wedges are driven, thus dispensing with band wires on body of armature. Machines having armatures 8 in. diameter and under do not have these retaining wedges, but have band wires instead.

All coils are insulated complete before being applied to the armature. Each coil, after being properly insulated, is pressed in steam-heated coil presses, then cooled while under pressure, thus insuring a close and solid coil.

The mechanical arrangement and details of the armature winding to be such as to secure a balanced, symmetrical, compact winding, in which all the armature sections are individually removable, and are all of the same form and dimensions. Each section to be continuous and without joints between the terminals or end connecting the commutator bars.

COMMUTATOR.

The length of the commutator bars to be sufficient, so as to allow ample space for the total width of necessary carbon brushes. The segments are to be made from cold-drawn copper bars, of pure metal and to be insulated from each other by mica, especially selected for the purpose with reference to its wearing qualities.

The connection of the armature conductors to the commutator segments to be made rigid by connecting them directly to the commutator ears in such a manner as to prevent vibration, and secured by solder in such a way as to afford a conductivity equal to that of the amature conductor itself. The finished armature to be in perfect running balance.

BRUSH HOLDERS.

To be the Bullock pattern holders, designed and constructed for use with carbon brushes, so arranged as to allow the maximum freedom of access to the commutator at all times, and so as to bring no portion of the conducting metal within flashing distance of any portion of the frame of the machine.

BRUSH HOLDER SUPPORT.

The brush holders of Types "I," "H-I" machines to be mounted on studs which are connected to the brush holder yoke and thoroughly insulated therefrom. The brush holder yoke to be mounted on suitable guides so as to be capable of rotative movement co-axial with the armature; said movement to be effected and the position of the ring to be locked by a tangential screw to be operated by a suitable handwheel.

For Type "H" machines, the brush studs are held in a rocker arm mounted upon the inner end of bearing, while in the Types "N" and "B" machines they are mounted upon the end head.

REGULATING RHEOSTATS.

Each machine will be supplied with a suitable shunt field regulating rheostat.

ELECTRICAL FEATURES.

The windings of the fields and armature to be free from all electrical defects, and to be properly insulated. The individual insulation resistance of armature and field magnet windings, with respect to the dynamo frame, is to be according to A. I. E. E. standard. The dynamo to run without destructive sparking at all loads within the limits of capacity specified.

WORKMANSHIP AND FINISH.

The workmanship to be, in general, of the highest class. All parts to be accurately made to standard guage. All corresponding parts of each size of dynamo to be perfectly interchangeable. At all joints the pieces joined are to be symmetrical, and to be "dressed" so as to match properly, and to present a neat finished appearance. Unfinished surfaces are to be "filled" and rubbed down to an even and smooth surface

Submitted by C. T. Hayes

District ~~Manager~~ Engineer.

Sept 18 1908. Montreal

District.

Montreal Mai 27 1908.

Monsieur George Janin
Ingenieur Surintendant du Département de L'Aqueduc de Montreal.
Hotel de Ville,
Montreal.

Cher Monsieur

J'apprend, que La Commission de L'Aqueduc, est sur le point de se choisir et faire la nomination permanente d'un Conducteur de Travaux pour ce département: en consiquence, je prend donc la liberté et ai l'honneur de faire application à cette Position, et dont je me crois très bien qualifié pour tout les rapports, et capable de la remplir à la grande satisfaction de mes Supérieurs et aux bénéfices du Département.

Je suis agé de 37 années, sobre et homme de bonne réputation, je parle et écrit les deux Langues, Français, Anglais, j'ai pris de 22 années de pratique d'expérience dans les ouvrages en plomberie, travaux d'excavation, aqueduc, ouvrages en ciment, Pompes hydrauliques et aussi en tout genre de mécanisme.

Espérant de remporter cette Nomination, afin de prouver mes avancées

Je me souscris

Votre humble Serviteur

Marie Leduc

#1392 Boulvd. St Laurent
Montreal.

Dimensions

Diameter of cylinder 7 inches.
Stroke of piston 10 inches.
Revolutions per minute 340
Piston speed in feet per minute 564
Steam pressure at throttle 120
Diameter of governor pulley 48 inches by 8-1/2 inches face.
~~Diameter of pulley~~ ~~inches by~~ ~~inches face.~~
Diameter of main bearings 4 inches.
Diameter of crank pin 3/1/4 inches.
Length of crank pin 2-1/2 inches.
Diameter of crosshead pin 2 inches.
Length of crosshead pin 2-1/2 inches.
Size of crosshead shoes, each 4-1/4 inches by 8 inches long.
Total bearing surface of crosshead shoe 66 square inches.
Diameter of piston rod 1-7/16 inches.
Steam pipe 2-1/2 inches diameter.
Exhaust pipe 2-1/2 inches diameter.
Approximate floor space 86 inches by 97 inches.

Shipping Weight

Approximate shipping weight of engine 5900 lbs.

Material and Workmanship

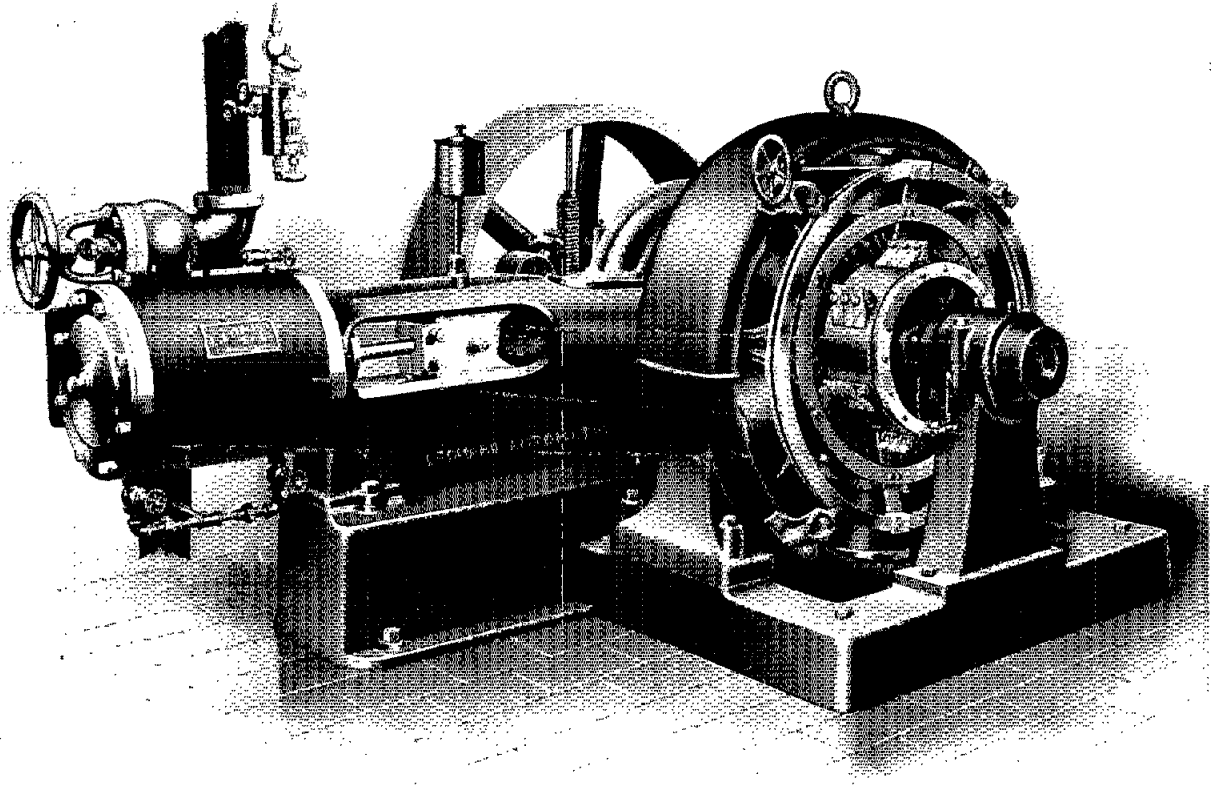
The best material and workmanship that is possible to be obtained will be used in the construction of this engine. It will be well designed and first class in the distribution of metal, and in the kind, grade and quality of the materials used according to the various purposes for which they are intended, and all parts of the engine will be of sufficient strength to run with a full load at 150 lbs. initial steam pressure. and 100 degrees super heat. The right is reserved to make such modification of design as will tend to its improvement, and any such change shall not be deemed a departure from this specification.

Foundation

We will supply plans for the engine foundation which we expect will be built in accordance therewith. The purchaser will also where required by the nature of the soil furnish a proper footing for such foundation adequate for the purpose intended, and such foundation and footing shall be of first-class material and workmanship.

C. T. Thompson.

Allis-Chalmers
Bullock.
Induction Electric
Unit
Oct 13/08



LEONARD AUTOMATIC ENGINE

DYNAMO ATTACHED

E. Leonard & Sons, London, Can.

TO THE WATER COMMITEE OF THE CITY OF MONTREAL

WE, the undersigned, hereby agree to execute and have executed for the Corporation of the City of Montreal, the work for the erection and supplying at the Low Level Pumping Station of the Montreal Water Works of One Direct Current Electrix Générator dirent coupled to steam Engine for electric lighting.

Our generator has aaweightof I650 lbs
Our Armeture " " " " 450 "

Description of Engine

Will use the Leonard Automatic Engine, Dynamo attached capable of running at 300-400 revolutions per minute and with direct connection to electrical génerator. 30-40 I.H.P. One hundred pounds steam pressure I/4cut off to operate about I20 lbs steam pressure & good for I50 lbs. working pressure.

general dimensions

Diameter of high pressure cylinder	Eight	inche
Diameter of Low pressure cylinder	Eight	inches
Length of stroke	Eight	"
Diameter and face of pulleys	36 x 8	"
Diameter & length of main bearings	3 x 6½	"
Dia. of crank shaft at " "	3	"
Diameter & length crosshead pin	I⅝ x2I/4	"
Wearing surface of Crosshead	62 square	"
Diameter & length Crank pin	3 x 2 I/4	"
Dia. of Steam Pipe 8⅝ in. Exhaust pipe	3	"
Exhaust pipe		
Shipping Weight of engine, approximately	3300	lbs

Engine frame — The frame is of heavy design and constructed for Strength and rigidity, and will be placed on a heavy cast iron sub- base;

CYLINDER — The cylinder is made of clean, hard, close grained iron, carefukly selected for its wearing-qualities, and bored true and smooth. The Cylinder will be covered with planished steel lagging, with nickelled bands, and packed with a suitable non-conducteur.

GENERATOR EXTENsion base. — The engine is supplied with an extension attached to the Engine sub-base to support the génerator, and carry a substantial outboard bearing.

THE SELF OILING SYSTEM — The oil is supplied from a reservoir mounted on frame in such a manner as to positively and automatically

lubricate the crank,crosshead,and shaft bearings,giving uniform and abundant lubrication to all these wearing parts.

Main Bearings — The Main Bearings are lined with the best quality of babbit metal,carefully peaned,accurately bored,and scraped to a true bearing surface.

Crank Shaft — The Crank shaft is made of hammered open hearth steel forged in one piece,and suitably counter balanced.

Generator Shaft — This shaft is an extension of the crank shaft,arranged to suit any generator.

Engine Pulleys — The Pulleys are made with solid rim split hub,with bolt and key.

Governor — Within the governor pulleys are erected an inertia governor with minimum of working parts.

REGULATION — We guarantee the governor to regulate the speed of the Engine,and when developing from one horse power to full rating,the speed shall not vary more than 1% of its numberof revolutions and whwn the power is from full load to no load there shall not be a variation of more than 2% of its number of revolutions,and between these limits the variations in speed is to be regular,when sufficient dry steam is supplied to work off the power. 32 lbs.of Steam per H.P. per hour at full load to 45 lbs at half load.

Crosshead — The Crosshead is of the box type with shoes adjusted with wedges. The shoes are lined with the best quality of Anti- friction Metal and carefully fitted to the guides.

Piston Rod and Rings — The Piston is of the solid type,cored out,and is securely attached to the rod so as to meet every possible normal strain.

The Piston Rod is made of the best quality of mild Steel. The Piston rings are made from carefully selected material and are scraped and fitted to place,which keeps them steam tight without undue wear to cylinder.

Connecting Rod — The connecting Rod is of forged Steel, morticed at cross-head end, and has a wedge adjustment moved by a screw with a brass box, carefully fitted. The Crank end is of the Marine type with interchangeable liners.

Dynamo

17½ K.W. Direct Current Compound Wound Westing house Generator 115 volts 350 R.P.M. for direct Connection to Leonard Automatic Engine.

One Westing house type "J.B." switchboard upon which will be mounted the following.

I DC Westing house Armmeter 200 Amp.
I DC " " Voltmeter 150 volts
I- 150 Amp Double Pole Circuit Breaker
2 double Pole Single Throw 100 Amp feeder switches with enclosed cartridge Fuses on front of the Board
I Double Pole Single Throw 50 Amp feeder switch with enclosed Cartridge fuses on front of the board
I double Pole Single Throw 200 Amp Main switch
I mounting for field rheostot.
I set of ground Detector Lamps

We hereby agree to accept the chauses and conditions mentions in your spécifications, all for the sum of *two thousands and seventy hundred and eighteen dollars* We sincerely hope you will take our above proposition in consideration and that your Honorable will do us Justice.

Respectfully

Jos. Brien & Cie
313 Roy East
City

Montreal May 27 1908.

Mr. George Janin C. E.
Superintendent of Montreal
Water Works Department,
City Hall.
Montreal.

Dear Sir,

I learn, that the Water Commission is about to select and make a permanent nomination of a Chief Works "Superintendent" for this Department: consequently, I take liberty and have the honour to make application for the appointment, for which, I believe to be very well qualified in every respect, and able to fill the same to the great satisfaction of my Superiors, and for the best advantage of the Department.

I am of 37 years old, sober, free and man of a good reputation, I speak and write both languages, English and French. I have very near 22 years old in plumbing works, steam, in excavations, cement works, hydraulics Pumps and also a general knowledge of mechanics systems.

Hoping to obtain the nomination, appointment, in order to prove my affirmations

I remain
Your humbly Servant
Wm Lester

#1392 St Laurence Boulvd.

THE REXFORD-BISHOP, LIMITED
GENERAL CONTRACTORS
3 BEAVER HALL SQUARE

TELEPHONES:—
GENERAL OFFICE: UP 1329
MR. REXFORD AND MR. BISHOP: UP 1330

MONTREAL, Nov. 16th '08.

Mr. Geo. Janin,

Supt. Water Works,

City of Montreal.

Dear Sir:- Re conduit and well at pump house.

We will be finished all of the concrete work on our contract for you, by Wednesday night, the 18th inst., with the exception of the connections at both ends, one where the meter is to connect with Mr. McGovern's conduit and the other end which connects with the wheel house.

At the upper end, next Mr. McGovern's completed conduit there is a tremendous flow of water at present, making it practically impossible to do concrete work. At the lower end next the wheel house, there is at present a large suction running to the turbine driven pump, which we understand cannot be interfered with for some time. There is a small length of conduit which could be placed between this to connect with the steel junction forming the inlet to your turbine. It would be possible to place this short piece of conduit between where the short piece of cast iron pipe and the flume. We understand that it will be quite a while before this steel connection is delivered and we take the liberty of pointing out that it would be much better to wait until this is delivered and do all of the small piece at the end together. We want of course to leave everything perfectly safe, and we do not think it would be wise to leave this end uncompleted for any length of time as

a leak might break through there.

Where we commenced work, we have sheeted and braced the trench carefully, so it will stand there almost indefinitely.

We would respectfully submit the following proposition.

We will shore the trench carefully, furnish all stone, sand, cement, and reinforcing material required, as well as the necessary form material, and will allow you the sum of $82.00 for labor. Then, when you are ready you could go ahead and do this small amount of work in conjunction with what you would have to do in any event.

This would allow us to clean up this week and get off your premises in good shape.

Yours respectfully,

The Rexford-Bishop, Ltd.

Wm. V. Bishop V.P.

* This to be increased to $150.00

Hôtel de Ville

Montréal 20 Novembre 1908

Monsieur Geo. Janin, Ingenieur en chef et
Surintendant de l'aqueduc.

Hotel de ville - (Montréal)

Monsieur le Surintendant,

Conformement aux instructions que vous me donnez, je soumets ici un estimé repondant au soumission de MM. Mr Rexford et Bishopp.

Pour completer le travail laissé en suspens par ces entrepreneurs, nous avons à construire.

1o) Pour le raccordement, ou plutot adherement du Venturi meter, sur une longueur d'axe de 17! 5½ ; en total ----- 6 verges ⅝ cubes.

2o) Pour le raccordement de la conduite jumelle, jusqu'au conoid d'amenée de la turbine No. 1, sur 22 pieds de longueur d'axe - - - - - - - - - 20 verges cubes.

3o. Pour completer le deversoir, - - - - - - - - - - 6 verges cubes.

4o) Pour completer l'arche du puits 1 verge ½

En total, verges cubes de beton 1:2:5 33 verges ½.

Remarque: Ces 33 verges ½ ne comprennent pas les 6! 6" necessaires pour raccorder le Venturi meter à l'extremité de la conduite laterale, sont 6 verges cubes.

Hôtel de Ville

Montréal ..... 19 .....

Il faut estimer que le prix de la main-d'oeuvre pour ce béton, coutera certainement $2.25 la verge cube, ce qui represente un montant de 33.50 x 2.25 = $75.37 dont M.M^rs. Rexford et Bishop devraient crediter le departement de ce fait.

A cela, nous devons ajouter l'excavation additionnelle

1°. pour la conduite jumelle - 60 verges cubes
2°. pour le deversoir 15 verges cubes

Au total 75 verges cubes,

En comptant cette excavation à $0.60 la verge cube, cette quantité donne un montant de 75 x 0.60 = $45.00

En definitive, M.M^rs. Rexford et Bishopp devraient, d'après cet estimé, crediter ce departement de :

1°. pour excavation ..	$45.00
2°. pour asechement, bonsage	35.00 (remblayage)
3°. pour main-d'oeuvre beton	75.37
Au total	$155.37.

En materiel, ils devraient nous donner pour les 33 verges ½ de beton

1°. trois cubes ou sacs de ciment : 155 sacs de ciment International
2°. verges cubes de sable - 17 verges cubes de sable
3°. verges cubes de pierre carrée - 24 verges cubes de pierre

En plus, de renforcement metallique, 1 barrel de clous de 2½ ; formes et bonsage.

Respectueusement à vos ordres

J. Dupuis

749

Redfield - Ewing

Nov 16/08

re. contract for

steel & iron

work

T. Devlin Esq.

Sec. Can Society for the Prevention of Cruelty to animals.

Dear Sir: Replying to yours of the 3rd inst. addressed to the City Clerk, I am asking if the City would be willing to take over the Fountain erected to the memory of the late Mr. Geo. Eliot, and hand it to your Society, who at present [illegible] Fountain at the corner of Peel & St. Catherine Sts. Regarding the Fountain in question as regards the City of your Society.

Yours truly

A. Adams

Sec. Trans Council

R. Lucien 747

Réparations

garantie.

Fait.

9/9/5

Abandonné

10/10/02

City Hall

Montreal 19 Novembre, 1908. 19

A Monsieur le Président et aux Membres

de la Commission de l'Aqueduc,

Monsieur le Président,

Durant tout le mois d'Août et à différentes intervalles j'ai travaillé, en sus de mon ouvrage habituel, comme inspecteur de compteur à l'eau.

Je soumets humblement que ce travail devrait être récompensé.

Espérant, Monsieur le Président, que vous prendrez ma demande en considération,

Je demeure,

Votre obéissant serviteur,

J. L. Lamir

Dept. Marine
Fac similes

30/11/08

Montréal 20 Mai 1908

Mr le Président et membres
de la commission de
l'aqueduc

Chers Messieurs

J'ose me permettre de venir vous demander une augmentation de salaire. Je laisse à mes supérieurs de vous fournir les renseignements utiles à mon sujet.

Sur espoir de vos bontés
je demeure votre dévoué
serviteur

Jos Simon
aide-mesureur
atelier central

Jos Circuit
Jas Riccardo
20/11/08

Montréal 20 Nov 1908

Au Membres du Comité

de l'épreuve

Messieurs

Depuis 27 ans que
Je suis au service du département
comme peintre à l'atelier Central
l'aide de garde magasin l'ai
toujours Je crois avoir fait
mon devoir J'ose vous demande
une augmentation de salaire
Espérant en vos bontés
Je demeure votre
Serviteur

Henry Bradshaw
Atelier Central

N. Bradshaw
Jan niceaze
30/11/08

F. C. Gorman

133.

88 BLEURY ST., MONTREAL

City Hall

Montreal November 19 1908

L. Janin. Esq. Chief Engineer & Superintendent.
Montreal Water Works

Dear Sir

I have addressed to our Chairman J. B. Charbonneau. Esq an application, asking that my Salary be increased to Twelve hundred dollars per annum. As Your Hear Sir, are very familiar with the responsibilities and duties of my position. I feel that You will support my request, and for which I will be most grateful.

Your obedient Servant
John Fallon
Foreman at Shop

City Hall.

Montreal November 19 1918

G. Janin. Esq, Chief Engineer, and Superintendent.
Montreal Water Works

Dear Sir

Accompanying this letter I attach a list giving the names. also the occupations. of the men under my Charge at the Central Shop. I also attach a list Showing the various branches of our Department. which are assisted in their many duties by Men, Materials, Cartage &c. in emergencies and otherwise.

Your obedient Servant.
John Fallon
Foreman. Central Shop

C E N T R A L S H O P - MONTREAL WATER WORKS.

106 St Charles Borromée street,

Montreal, November 12th 1908.

Geo Janin, Esq.

Chief Engineer & Superintendent ,

Montreal Water Works, City Hall.

Dear Sir,-

The following is the classified list of the Staff at the Central Shop, their duties and occupations. The attached giving names and occupations.

1	Valvemen	17	Men in charge of steamers
2	Plumbers	18	Messengers
3	Hydrant inspectors. Summer & Winter.	19	Men attending steamers - in day-Winter.
4	Turncocks	20	Men attending steamers - in night-Winter.
5	Footpath inspectors	21	Drivers
6	Footpath repairers in wood.	22	Night watchmen for cuts
7	General repairers and pavers in cement and stone.	23	Men cleaning service pipes.
8	Bricklayers	24	Meters
9	Carpenters	25	Carters
10	Blacksmiths and helpers	26	Stone Breakers
11	Storekeeper and assistant	27	Snow shovellers
12	Accountant in store	28	Preparing leather valves for Hydrants.
13	Office staff at shop	29	Removing snow from around Hydrants.
14	Laborers	30	Men repairing cuts in street
15	Night watchman at shop	31	Men driving boxes
16	Reserve men	32	Men with meter inspectors.

John Talbot
Foreman Central Shop

November 18 908

Foreman at Central Shop.

John Fallon.

Valvemen.

J. Baird.
N. Cusson
R. Hale

Plumbers.

W. McCaffrey
Peloquin
D. Sullivan
Otis
Mathewson
O'Connor
McGilvray

Blacksmiths.

N. Guindon
T. Lagarde

Joiners

C. Gelinas
J. Giroux
P. Primeau

Bricklayers

O. Guillemette
N. Goulet
C. Brazeau

Turncocks

F. Hetu
J. Hall
D. Hennessy
A. Meunier
C. Masson

Hydrant Inspectors-Perm.-

E. Barron
J. Naud
J. May
A. Laforest

Footpath inspectors

W. Naud
Raiche
Baker
Moreau

Footpath repairers -Wood -

Briard
Murphy

Blacksmith Helpers.

M. Martel
A. Solarie

Meter repairers

A. Mireault
J. McEntyre

Reserve Staff

O. Parent
F. Dillon
N. Tremblay
R. Hebert

Skilled laborers.

C.Perrault
J.McGolderick
J.Beaudry
M. Desjardins
H.Perrault
J.Riendeau

Pipelayers.

G.Champagne
T.Millet
R.Bergeron

Certificated Engineers for steamers.

N. Goulet
J. Phelan

Pipelaying -Foremen-

C. Hale
P. Hebert

Storekeeperand assistant

S. Lafond
H. Bradshaw

Messengers

J. St Onge
Martin

Night Watchman at Shop.

Ed. Bradshaw

Driver

Jas. Doran

Aqueduct

N.Belanger
F.Beaudoin
J. Vallières

Laborers at shop.Permanent.

Forty - (40)

Inspector of Services

J.O.Brault.

Time-keeper.

L. Lagacé.

Carters - Permanent -

Twelve (12)

Winter Inspectors HYDRANTS

Twenty-seven (27)

Three (3) Portable steam boilers.

Thawing water services by electricity.

J. Fallon
Foreman Central Shop

November 19 1908

BRANCHES OF THE DEPARTMENT SUPPLIED FROM

CENTRAL SHOP.

MECHANICS, LABORERS, MATERIAL.

Low Level Pumping Station.

High Level Pumping Station.

Aqueduct. - Bridges, Fences, Ditches, Telephones, Emergencies.

Reservoirs. - General Repairs to Fences, roads, grounds, buildings, machinery, emergencies.

Meter Inspection.

Hochelaga Office.

John Fallon
Foreman Central Shop

L. Janin. Esq
Chief Engineer & Superintendent.
Montreal Water Works

John Fallon
Increase of
salary.
Nov. 19/08

Application

Montreal August 28th 98.

Water Dept.
City of Montreal:

Dear Sir

I am sending in my application for a position in the water Dept as tap inspector with a view to a future for advancement: I am 21 yrs old and born and living in montreal all my life: my father use to be a city bailiff. I can furnish good references: I would be pleased if my application is considered at or early date: I am Catholic and speaking French and English: and as I am looking forward for a future for my self: so hoping to be

Your Obident
Servant
J. A. Gorman
#133. Bleury St.
Montreal

MARQUE DE COMMERCE

TEL. BELL EST 2390 — 141 RUE WOLFE — TEL. DES MARCHANDS 356

J. O. Labrecque & Cie

AGENTS POUR

Le Celebre Charbon Diamant Noir

Montréal, 29 Dec 1908

Monsieur Le Président
et Messieurs les Membres
Commission de l'Eau

Messieurs

Nous avons livré à cette
date 3769 tons de charbon. Nous
vous demandons de bien vouloir faire
remise du montant de $1264 qui
nous revient

Et vous obligez
Votre

J. O. Labrecque

Fr. Baiseur
reçus 3100 tons
delivered.
30/12/08 JOB

J. Rabeyrac
Rapport
déposé.
29/12/08

L. COHEN & SON
COHEN'S CLEAN COAL
DRY KINDLING WOOD
36 PRINCE ST MONTREAL

OFFICE OF **L. COHEN & SON,** 36 PRINCE STREET

FOUNDRY FACINGS & SUPPLIES
COAL, COKE & CHARCOAL

PHONES: MAIN 881 & 882.

MONTREAL, Dec. 28th, 1908.

Messrs. Montreal Water Works Committee,

City.

Gentlemen:-

Including the enclosed bill for $4165.93 we have delivered up to date on our contract 2770 tons, we would therefore ask you to be good enough to return us a part of our deposit on say 2500 tons at 40¢ namely $1000.00 and oblige.

Yours truly,

L. Cohen & Son

Per Richardson
Address Cheque
3813 Fish.
Send Return with Warrant —

V. Bouvier

L. Cath. Sec.
Refund of deposit
29/1/08

26/12/08

Mr. Dowd

MacLaren has completed

the contract

J. S. Farrell

BELL TELEPHONE, MAIN 534
OFFICES: CORISTINE BUILDING.

A.B.C. CODE 5TH EDITION USED

TELEGRAPHIC ADDRESS
"GAUDIRON" MONTREAL

L. H. Gaudry & Co.

IMPORTERS
STEEL I BEAMS
CHANNELS, ANGLES
TEES, PLATES ETC.

IMPORTERS
CAST IRON COLUMS
AND ORNAMENTAL
IRON WORK ETC.

Iron and Steel Merchants

QUEBEC OFFICE
76 ST. PETER ST.

Montreal, Canada. Nov. 10/1908

Mr. Dowd,

Montreal Water Works,

Montreal.

Dear Sir:-

Confirming our conversation of this morning, would you kindly see that our deposit is returned to us as all pipe ordered by the M.W.W. is now delivered.

Your personal attention in this matter would be much appreciated by,

Yours truly.

L. H. GAUDRY & CO.

Per.

7418

J. le Gardeur
Jne pasteur
au inspecteur
14/9/08

efficiency at one half, three quarters and full load.

We to pay the Corporation's Notaries their charge for making the contract and a copy of it, which copy will remain on record in the office of the Superintendent of the Water Works.

Respectfully Submitted,

W.M.Turnley/NB

Power Apparatus Department.

WESTERN ELECTRIC COMPANY

NEW YORK SAINT LOUIS SAN FRANCISCO DENVER PITTSBURGH OMAHA ATLANTA INDIANAPOLIS

CHICAGO

PHILADELPHIA SAINT PAUL CINCINNATI KANSAS CITY DES MOINES SALT LAKE CITY LOS ANGELES SEATTLE

DIRECT DRIVEN GENERATORS
"L" DESIGN

BULLETIN, NO. 5111 (Replacing Bulletin 3080 of September, 1906) JULY, 1908

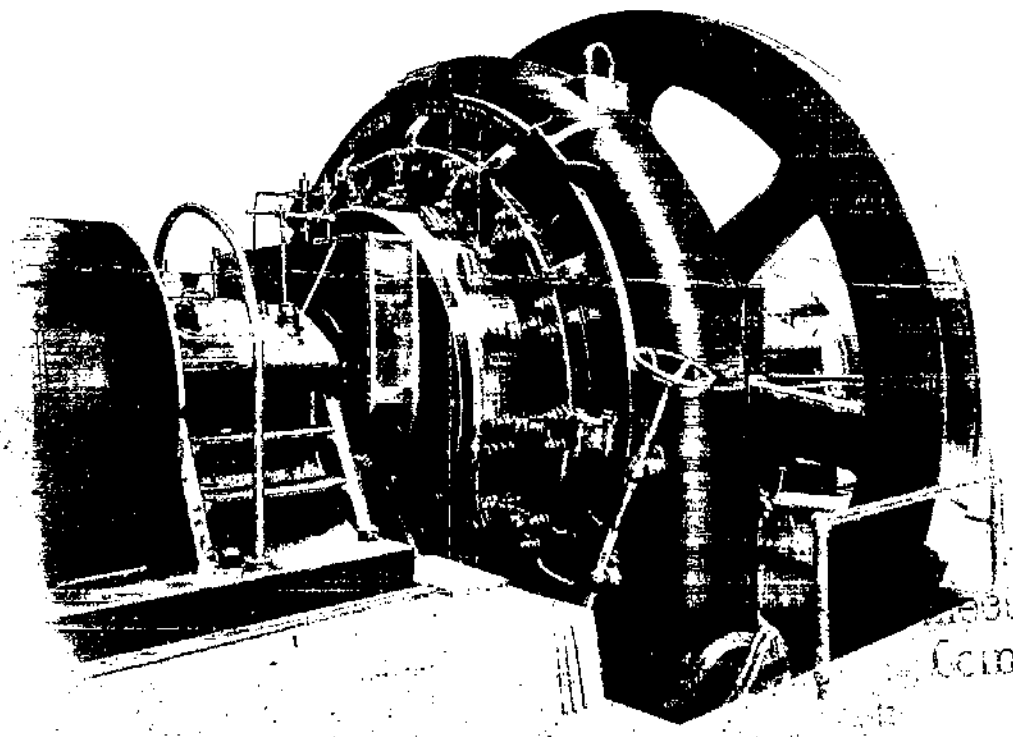


Figure 1. 850 K. W. Generator, 250 Volts, 90 R. P. M.

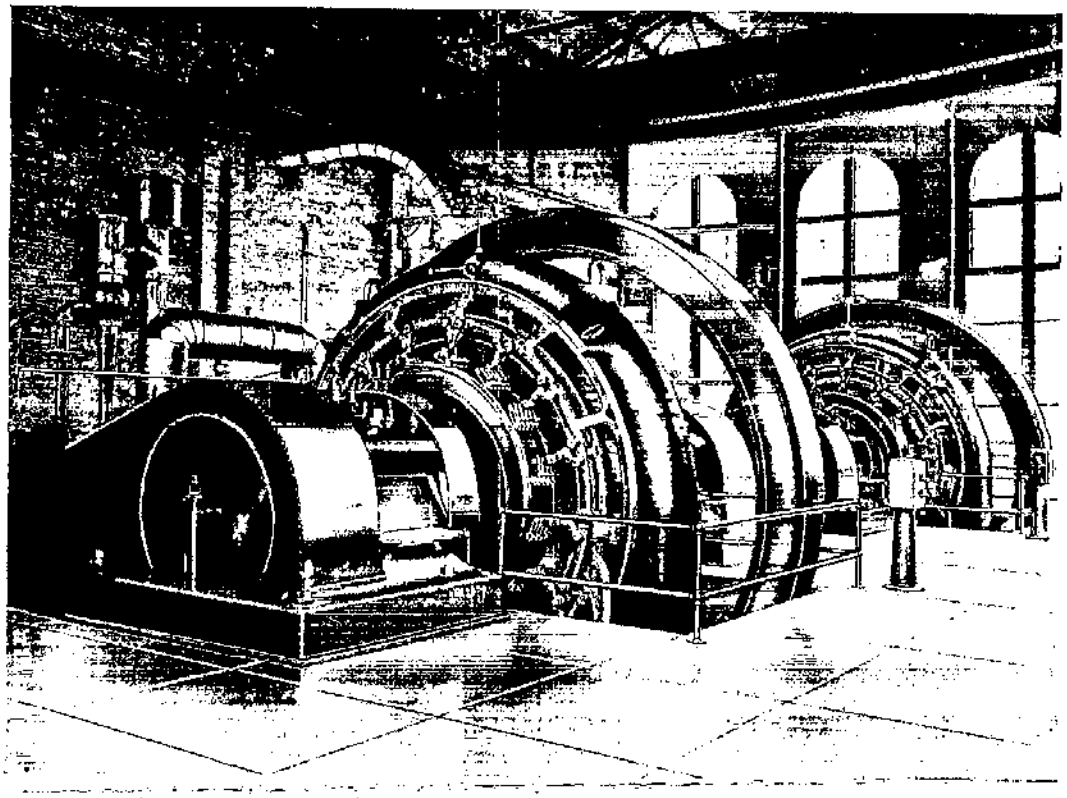


Figure 2. View in the Engine Room of the Plant of the Marquette Cement Manufacturing Company, La Salle, Illinois, Showing Two 800 K. W., Western Electric Generators.

GENERAL

IN designing the line of Type "L" generators we have embodied therein such features of our earlier designs as had proven satisfactory, and have also made many improvements where study and experience has shown it possible, with the result that these machines are unexcelled for simplicity, durability and efficiency of operation.

Frame

The cross-section of generator frames must be sufficient not only for the magnetic flux that it is intended to care for, but must also be of such form and section as to insure perfect mechanical stability. In larger generators, mechanical considerations demand a form and size of section other than would be necessary by the requirements of the magnetic flux. It is for this reason that our larger generator frames are of cast-iron, while in the smaller ones, where the section necessitated by the requirements of the magnetic flux is greater than would be necessitated by mechanical strength, a special material of high magnetic permeability is used. By reason of this construction the best results are obtained with a minimum weight of material.

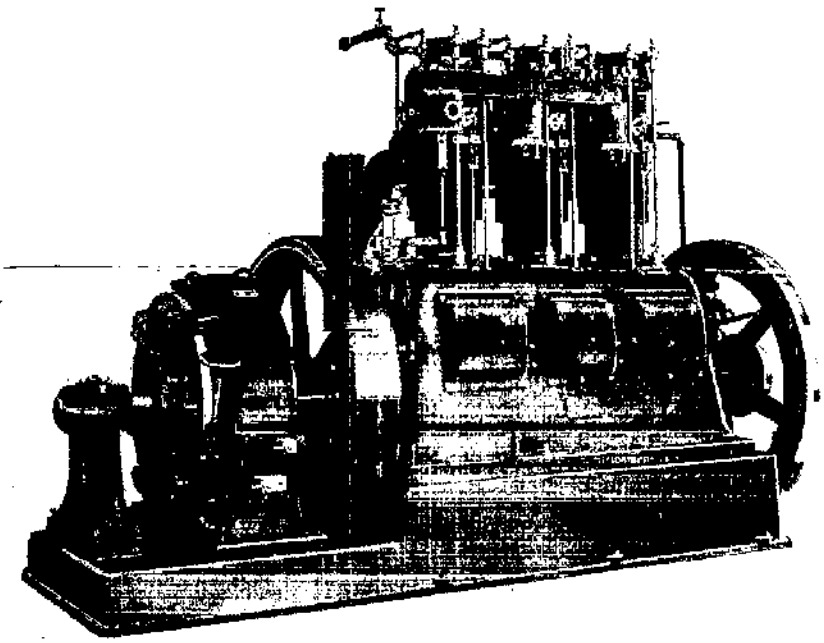


Figure 3. 40 K. W. Generator, Direct Connected to Gas Engine

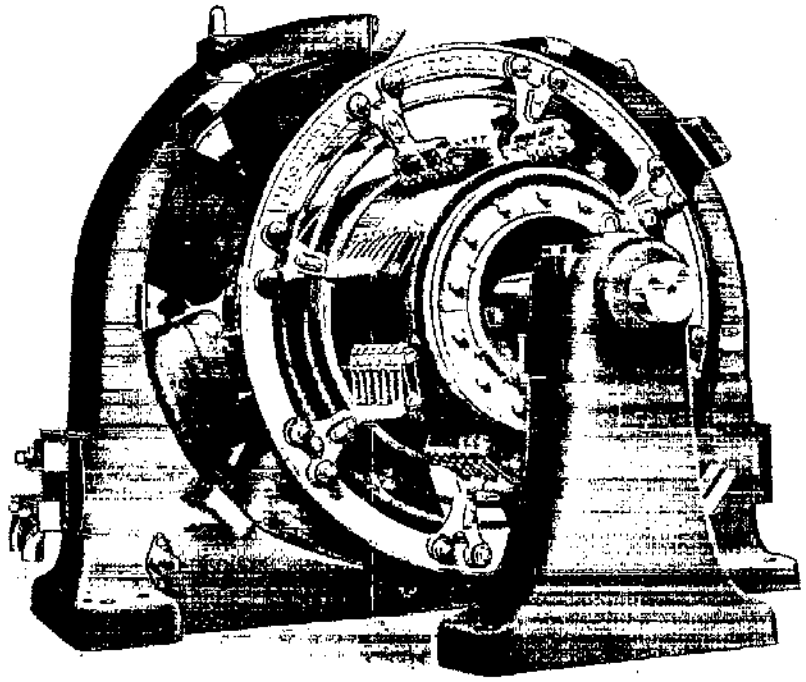


Figure 4. Generator with frame partially withdrawn for Armature Inspection

In our standard construction the frame is divided vertically, which permits drawing the yoke apart horizontally, allowing the armature to be inspected or removed. It is also a great advantage in isolated plants of limited distance between floor and ceiling, as the frame can be easily handled without access to cranes or other lifting devices.

The method of bolting the frame to the extended engine sub-base allows adjustment both horizontally and vertically, insuring a uniform air-gap and a perfectly balanced magnetic field, conditions necessary to obtain the best operation of a generator. On account of limited width of engine-room it is sometimes impossible to make use of the vertically divided frame construction; it then becomes necessary to use a horizontally divided yoke. We are prepared to furnish our standard machines with horizontally divided frames when desired.

Pole Pieces

In generators having solid pole-pieces there is a considerable loss, due to the eddy currents in the pole tips. This results in materially reducing the efficiency of the outfit with the consequent increase in the temperature of the pole-tips. To eliminate as much as possible these wasteful currents, we have adopted the laminated pole-piece construction, the pole-pieces being built up of thin sheets of thoroughly annealed mild steel, the various

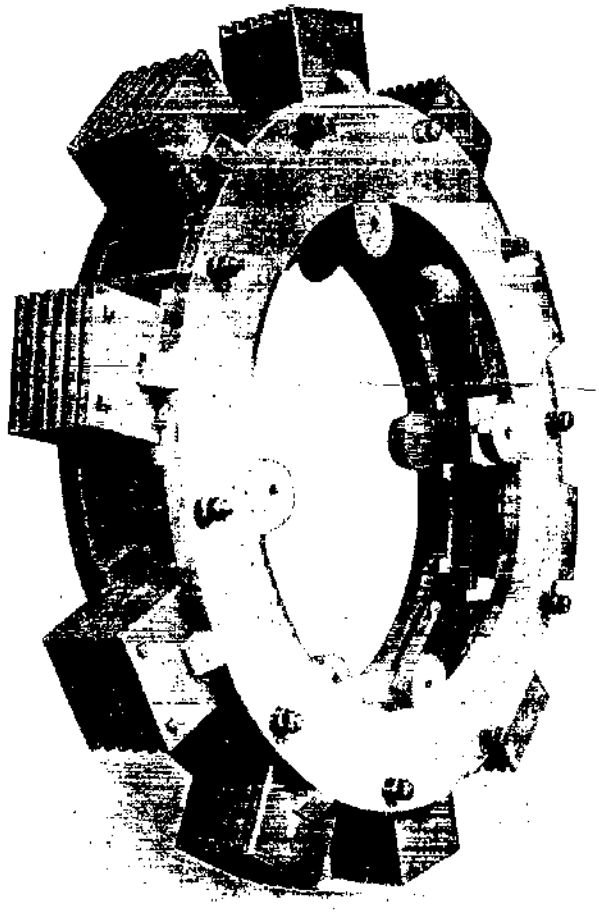


Figure 5. Pole-pieces Assembled in Clamp, ready for Moulding Process

sheets being both bolted and riveted together. The cut shows one of the separate pole-piece sheets and also a pole-piece assembled ready to be placed in the clamping plate which is used in the process of moulding. The metal of the frame is poured around the outer and jagged ends of the pole-pieces. By this construction an area of magnetic contact between the pole-pieces and the frame is obtained which is nearly three times greater than the maximum possible area of the bolted pole-piece construction. In addition to this a partial weld is obtained between the pole-pieces and the yoke. By these means we obtain a frame, the magnetic resistance of which is reduced to the lowest possible point and the liability to an unequal magnetic distribution, with the attending sparking, is much less than would be obtained by any other construction.

While the usual methods employed in building generators having the pole-pieces cast integrally with the frame permit, in the finished product, of variations in mechanical placement of the pole-pieces, the method illustrated for assembling and holding the pole-pieces in place during the process of moulding, has been found to entirely eliminate this difficulty, and, as stated above, to assure at the same time a better mechanical and magnetic joint than would be possible in a generator having the pole-pieces bolted to the frame. In order to assure the similarity of the pole-tips of all pole-pieces, a condition necessary for uniform mag-

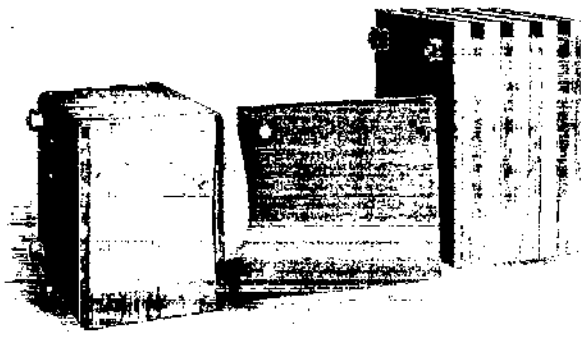


Figure 6. Laminated Pole-pieces

netic distribution and sparkless operation, each tip is machined to a standard guage after the pole-pieces are cast into the frame.

Field Coils

In the standard construction the shunt and series field coils, although separately wound and insulated, are mounted on a single metallic spool. This method has the advantage of the additional mechanical protection, which facilitates not only the shipment but also the handling of the coils during erection.

Figure 7. The Shunt and Series Field Coils are mounted on a Single Metallic Spoo

Armature Cores

The armature is of the iron-clad type. In order that it may have a minimum loss the armature core is made of thin discs of doubly annealed sheet steel. After the slots have been carefully punched in the periphery of these discs, the final annealing is given. By this method any hardening effect caused by the punching of the slots is removed. Radial ventilating spaces are provided, which connect with horizontal openings in the armature center, allowing a thorough system of ventilation. The smaller armatures are built up of continuous rings, while in the larger ones, on account of the difficulty of obtaining iron in sheets sufficiently large, the method of building in segments has been adopted.

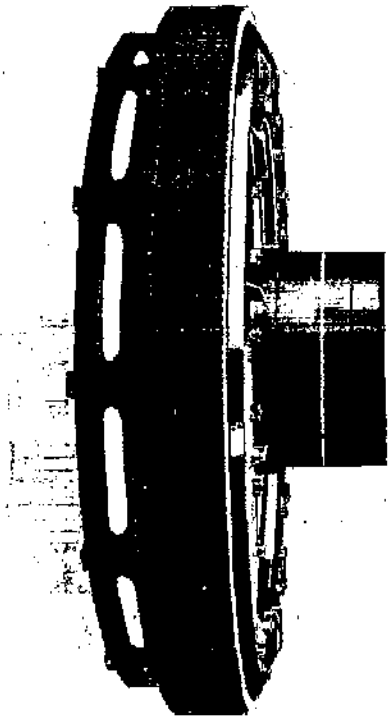


Figure 8. Armature Core
Ready for mounting of Commutator

The armature, after being built up in this way and after having the commutator and armature winding placed in position, may then be mounted on the engine shaft. In mounting the complete armature on the engine shaft, the Western Electric Company employs what is termed the "double fit" construction which provides for two sizes of armature shaft and bore of armature center. The difference in these dimensions is very slight, but sufficient to permit, in mounting, of the armature center being well onto the engine shaft before it is required to apply pressure.

Armature Coils

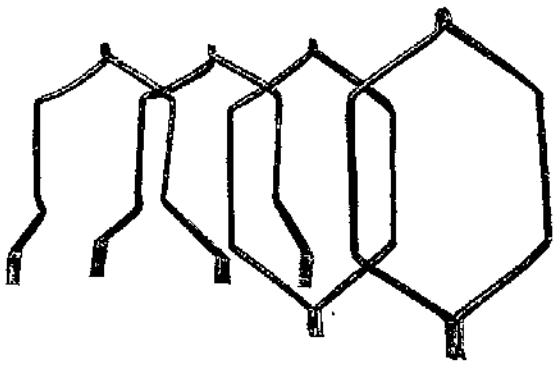


Figure 9. "A Perfectly Symmetrical and Balanced Winding is Assured"

In winding the armature, solid bars of specially drawn copper are used. The coils are enlarged in cross-section at the ends of the armature, thus obtaining a very low armature resistance and a consequent gain in efficiency, while all the advantages of a solid bar winding are secured. The results and advantages in higher efficiency and lower temperatures fully warrant our going to this additional expense.

The bars are formed into coils before being placed on the armature so that when complete a perfectly symmetrical and balanced winding is secured. They are insulated individually and in groups, the insulation, as well as the bar itself, being continuous from segment to segment of the commutator. At the various steps in the insulation process the bars are immersed in insulating compound and thoroughly baked. An illustration of the armature core prior to placing the coils and commutator thereon is shown on the opposite page. The shape of the slot and the notches near the top of the slot permit of retaining the coils in place by means of fibre wedges.

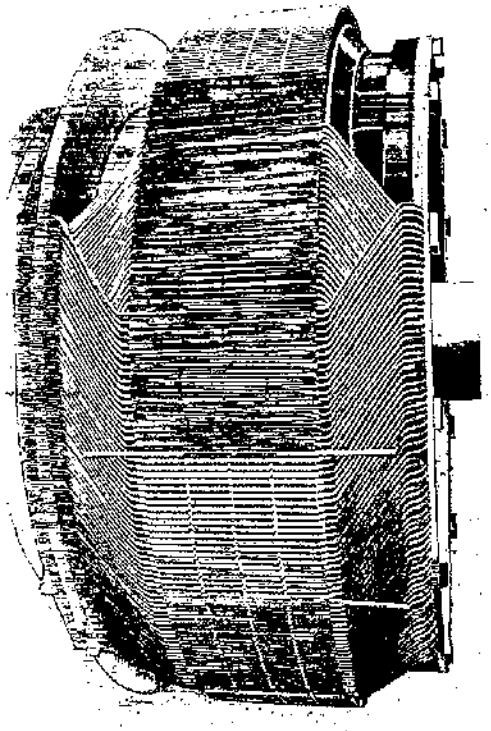


Figure 10. Armature during winding

In addition to these wedges, band wires are used on that portion of the armature winding lying outside of the armature core. A finishing plate is placed at the pulley or engine end of the armature.

Commutators

The commutators are of a very rigid construction, enabling them to withstand strains due to expansion, contraction and to centrifugal force. The segments are made of the very best drawn copper and have riveted and sweated to them rolled copper tangs. These segments are insulated

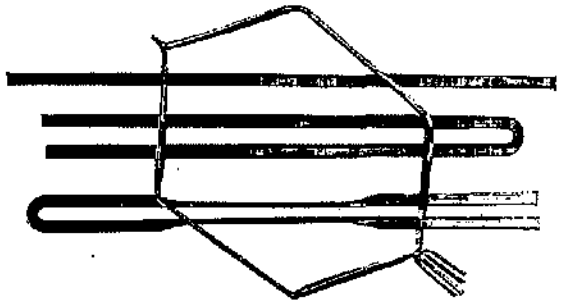


Figure 11. "The Coils are Enlarged in Cross-section at the Ends of the Armature"

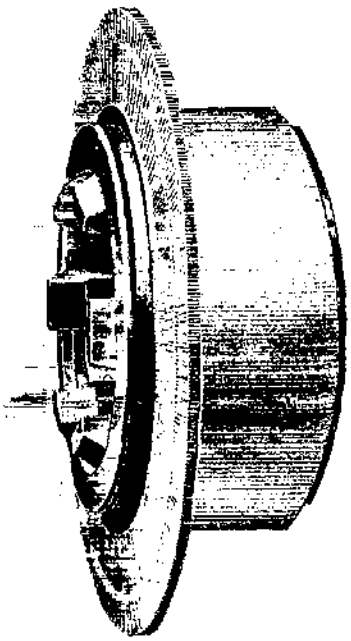


Figure 12. Commutator complete

from each other by specially prepared mica of a sufficient degree of hardness to produce a uniform wearing surface. In all but the smaller sizes the segments are mounted upon a cast-iron center from which they are insulated by mica. The completed commutator is then mounted upon the extended hub of the armature center, thereby permitting it to be removed from the armature without disturbing the armature mounting. A thorough system of ventilation is provided by means of horizontal air ducts. In the smaller sizes, in order that this ventilation may be obtained, it is necessary to cast the commutator center integrally with the armature center. The segments are then mounted in the manner described above. This construction does not permit of the removal of the commutators from the armature center, but as the total weight of the completed armatures in the sizes in which this construction is used is small, in case of accident the complete armature may be handled without any difficulty.

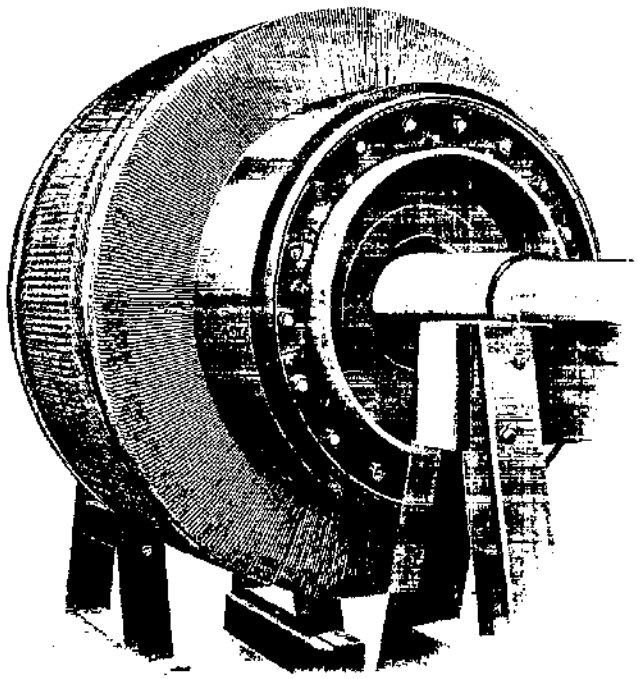


Figure 13. Complete Armature mounted on Temporary Shaft for Testing

Brush Holders

The cut on this page illustrates the brush holder mounting and shifting device. Each set of brush holders is mounted upon a brush holder arm supported from a circular ring. This ring is carried in supports projecting from the yoke, the entire device being moved around the commutator by means of a hand wheel at the side of the machine. It will be readily seen that this arrangement gives an extremely stable construction.

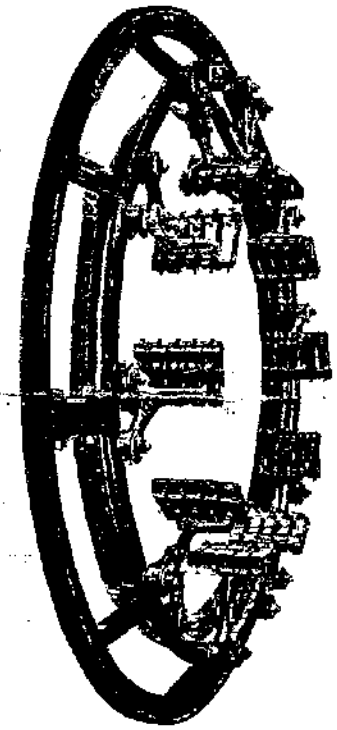


Figure 14. Brush Rocker Ring

The brush holders are designed so that the brushes may be moved in a direction radial to the surface of the commutator. Each brush is held firmly in a clamp in such a manner that the current does not pass through any sliding contacts.

The current is conducted from the clamp through copper strips, thus eliminating any danger of affecting the tension springs. The brush holder clamp and brushes themselves are small and light and, having very little inertia, follow the commutator quickly.

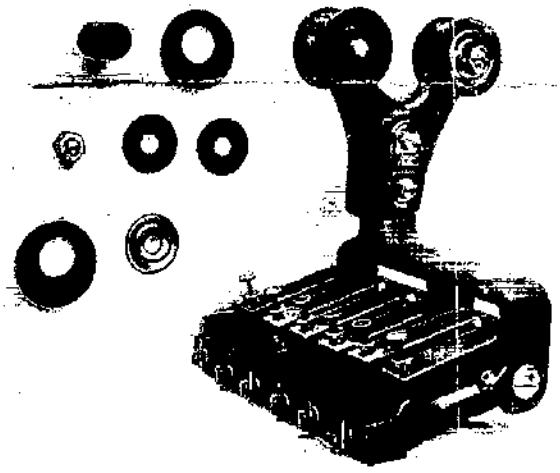


Figure 15. Brush Holder Arm with Eccentric Bushing Parts

Any brush may be lifted from the commutator without disturbing the adjustment of the others, and all brushes may be adjusted independently. A single arm with brushes and with parts is shown. By means of the eccentric bushing each individual arm may be adjusted to obtain perfect uniformity of spacing of the brushes about the commutator.

To GEO. JANIN,ESQ., CHIEF ENGINEER AND SUPERINTENDENT,
MONTREAL WATER WORKS,
MONTREAL.

THE CANADIAN GENERAL ELECTRIC COMPANY, LIMITED, proposes to furnish apparatus as hereinafter described, according to the following conditions for the sum named in the attached agreement:

The Company guarantees the apparatus specified herein to be free from all inherent electrical or mechanical defects and agrees to correct any such defects in the same which develop under normal and proper use within twelve months from the starting thereof provided the apparatus shall not be taxed beyond its normal capacity and shall be operated in accordance with the Company's instructions.

The purchaser agrees to protect the property of the Company and to make good any losses to the Company which occur through improper protection when their property is on the premises of the purchaser.

The purchaser agrees to provide a suitable location for the apparatus free from dampness and not subject to excessive heat or cold.

If the installation is to be made by the Company the purchaser agrees to provide all necessary buildings, foundations, opening, blocking or staging, floors, etc., required for receiving and erecting the apparatus; right of way, free ingress to and egress from location of plant, and authority for the installation and operation of the plant and to re-imburse the Company for any loss incurred by reason of delays in starting the plant and completing the work that are not chargeable to the Company; to designate the location of the apparatus herein specified before the work is begun, to pay extra for any changes made in location of same after it has been placed, and for any work performed or apparatus or material furnished in addition to that therein specified. That all normal operating expenses shall be borne by the purchaser from the date plant starts.

That should the purchaser require the apparatus or any part of the machinery to be put into operation before the entire completion of the work, the plant, as affecting terms of payment, shall be considered as having started.

The Company shall not in any event be held responsible or liable for any loss, damage, detention or delay caused by fire, strikes, civil or military authority, or by insurrection or riot or by any other cause beyond its control.

PLACE OF DELIVERY. (see page 5)

It is agreed that the apparatus herein mentioned shall be delivered by the Company at the place of manufacture unless otherwise expressly stipulated, and transportation and cartage charges after such delivery shall be paid by the purchaser.

INSTALLATION. (see page 5)

The apparatus shall be installed by and at the expense of the purchaser, unless otherwise stipulated, and the following charges will be made: For services of Expert Foreman, $7.00 per day; Wiremen, $5.00 per day each; ordinary Laborers, $2.50 per day each; as well as all travelling and hotel expenses.

All tests after installation to be made by and at the expense of the purchaser.

This agreement is subject to the approval of an authorized executive officer of the Company, and is not binding upon the Company until so approved.

CANADIAN GENERAL ELECTRIC COMPANY, LIMITED,

By W. B. Reynolds

CANADIAN GENERAL ELECTRIC CO., LIMITED
TORONTO, ONT.

SPECIFICATIONS FOR CONTINUOUS CURRENT {GENERATOR / MOTOR}

Classification, ~~MP~~ CLC 35-17-350-125 Number of Poles, 6 main
6 commutating

Rated {Kw. capacity 17 / ~~HP Output at Rim~~} Revolutions per minute, 350

Full load current, 142 Amperes. Voltage from 110 to 120

Voltage to which {Kw. / ~~HP~~} rating applies 120

This machine will be direct connected to an 8x8 engine and will be furnished ~~with~~ without shaft, base and bearings.

MAGNET FRAME.

The magnet frame will be circular in form and made of cast iron of high permeability and will have six inwardly projecting poles. It will be divided horizontally so that the upper half can be lifted up to provide for inspecting or removing the armature, and will be provided with two feet of ample size to insure a firm footing on the foundation. The seats for the pole pieces and the joints between the two halves of the yoke will be accurately finished. The seats for the bolt heads and nuts will be faced and the heads of all bolts and nuts will be case hardened.

Pole Pieces. The pole pieces will be made of lam. iron and will be fastened to the magnet yoke by bolts so that any pole piece and field spool can be removed without disturbing the armature or magnet yoke.

Field Coils. The field coils will be compound wound, and all parts of the winding will be carefully insulated with materials of the best quality, and thoroughly tested.

ARMATURE.

Armature Spider. The armature spider will be made of cast iron and so designed that all shrinkage strains will be avoided. The hub of the spider will be made amply long and will be bored and scraped accurately to gauge and key seated.

Laminations. The armature punchings or laminations will be made from the best material thoroughly annealed and securely keyed to the spider. They will be accurately punched, and before being assembled will be thoroughly japanned to prevent eddy currents.

Ventilating Ducts. At certain intervals, space blocks will be inserted between the laminations so as to provide ventilating ducts for cooling the core and windings.

End Flanges. The laminations will be held in place by end flanges of cast iron which will also serve to support the windings. The bolts which hold these end flanges *will not pass through the laminations.*

Slots. Slots will be punched in the periphery of the laminations to receive the armature conductors.

Insulation. The conductors will be insulated from each other with tape, and from the core with alternate layers of oiled tape and paper.

Specifications for Continuous Current { *Generator* ~~Motor~~

Armature Conductors.

The armature conductors will be made up of copper bars of high conductivity, and adjacent conductors will be thoroughly insulated from each other. These conductors will be bent on a form into the proper shape, so that they can be laid in the slots without difficulty, and will be interchangeable.

COMMUTATOR.

Method of Attachment.

The commutator will be supported on an extension of the armature spider to which it is keyed, or keyed directly to the shaft, thus preventing any relative movement between the commutator segments and the armature conductors.

Bars.

The commutator bars will be of hard drawn copper and finished accurately to gauge.

Insulation.

The insulation will consist of carefully selected mica, accurately fitted.

Clamps.

The bars will be held firmly in place by clamping rings so that no displacement will be caused by expansion or contraction.

Clamping Bolts.

The bolts of the clamping rings will be easily accessible for purposes of tightening and removal for repairs.

Insulating Material.

To prevent arcing from the brushes to the clamping rings, and also surface leakage, suitable insulating material will be placed between the ends of the segments and the clamping rings.

Leads.

The leads connecting the commutator segments to the armature conductors will be made of copper strips carefully insulated.

Brush-holders and Brushes.

The brush-holders are so constructed that the tension on any brush can be adjusted without lifting the brush from the commutator and without the use of any tools. Any brush can be removed while the machine is in operation, without disturbing the others and without moving the holder on the stud. Flexible connections to the brushes are used, which prevent injurious currents in parts of brush-holder mechanism.

The commutator and brushes will be so proportioned that they will operate in the most efficient manner within the desired temperature limits.

The brush-holders will be supported from the outboard bearing by a suitable mechanism.

Shifting Device.

A suitable device will be provided for adjusting the position of all the brushes simultaneously.

Specifications for Continuous Currents {*Generator*
{XXXXX

Temperature Rise.

After a run of 24 hours at 142 amperes and 120 volts, the temperature rise of the different parts of the machine will not exceed the following:

Armature	40	degrees C. rise by thermometer.
Commutator	40	degrees C. rise by thermometer.
Fields	40	degrees C. rise by thermometer.

With the load then increased to 172 amperes and 120 volts (125 % full load) for two hours, the temperature rise of the different parts of the machine will not exceed the following:

Armature	50	degrees C. rise by thermometer.
Commutator	50	degrees C. rise by thermometer.
Fields	50	degrees C. rise by thermometer.

The above is based on 25 degrees Centigrade for the temperature of the surrounding air and normal conditions of ventilation. In the event of the temperature of the surrounding air differing from 25 degrees Centigrade, the observed rise in temperature is to be corrected by ½% for each degree Centigrade that the temperature of the surrounding air differs from 25 degrees Centigrade.

Overload Capacity.

The machine will carry an overload in current of 25 % at 120 volts for two hours without movement of brushes and without injurious sparking, and 50 % overload in current at 120 volts momentarily without flashing over or injurious sparking.

Insulation Test.

The insulation between field coils and magnet frame and also between armature winding and armature core will stand an insulation test of 1500 volts alternating current, for 60 seconds.

Efficiency.

The commercial efficiency will be as follows:

1 load	%
Full "	85.7 %
¾ "	83 %
½ "	78 %

In calculating the commercial efficiency, *all losses*, including those in the commutator and brushes, have been taken into account.

N.B.—When base and bearings are furnished, as in the case of belt-driven machines, the friction is included in computing the efficiency; but when the machine is furnished without base or bearings, as in the case of a direct-driven machine mounted on an engine bed-plate, the friction is not included.

WEIGHT.

The net weight of the armature and commutator XXXXXXX will be approximately 800 lbs.

The total net weight of the machine will be approximately 2400 lbs.

We propose to supply and erect on foundations supplied by the Montreal Water Works the following apparatus, all in accordance with the foregoing specifications, and as per your specification of Sept. 4th, copy of which is herewith attached.

One- C.L.C. 35 - 17 K.W. - 350 r.p.m. - 125 volt, D.C.generator, directly connected to an 8 x 8 automatic engine.

Switchboard.

One- Blue Vermont Marble Panel, 80 x 24 x 2", on angle iron supports, containing:-

1- Type D.ammeter, 200 amp;
1- Type D.voltmeter, 175 volts;
1- D.P. C.G.circuit breaker, 200 amp.,250 volts;
2- D.P. S.T. 100 amp.,250 volt feeder switches with Noark fuses on front of board;
1- D.P. S.T. 50 amp. 250 volt feeder switch with Noark fuses on front of board;
1- D.P. S.T. 200 amp. 250 V. main switch;
1- Mounting for field rheostat;
1- Set of ground detector lamps.

Agreement made this day of 190

Between

THE CANADIAN GENERAL ELECTRIC COMPANY, LIMITED, OF TORONTO, hereinafter called "the Company,"

AND

THE CITY OF MONTREAL,

hereinafter called the Party of the Second Part.

The Company agrees for the sum named below and in consideration of the promises herein contained to supply the Party of the Second Part with the apparatus and machinery as specified in the attached sheets which are part of this agreement for the sum of $1450.00----------

(One thousand, four hundred and fifty dollars)

And it is hereby agreed that the property and title in the plant shall not pass from the Company until all payments hereunder (including deferred payments if any) shall have been fully made in cash; and in case of default in payment of the purchase money or any part thereof, as provided in this agreement, the whole purchase money or any note or notes given on account thereof shall forthwith become due and payable, and the Company shall be at liberty, without process of law, to take and remove the said plant and machinery, and recover all such costs and damages as they may have incurred in consequence of such default, and the Party of the Second Part hereby waives all claims for damages which might be sustained by reason of such removal and agree, in case of such default, to forfeit all monies which may have been paid to the Company under the terms of this agreement, as a rental charge for the use of said plant and machinery, and it is further agreed in case of such re-taking possession the Company shall be at liberty to re-sell the said plant and machinery either by auction or private contract without further notice and the Party of the Second Part shall pay forthwith the difference between the said price and the proceeds of the said sale as representing depreciation to the plant and machinery since the date hereof.

All previous communications between the parties hereto, verbal or written, are hereby abrogated and withdrawn, and these conditions when duly signed and approved constitute the agreement between the parties hereto and no modification of this accepted agreement shall be binding upon the parties hereto or either of them, unless such modification shall be in writing, duly accepted by the Party of the Second Part and approved by an executive officer of the Company.

In consideration of the foregoing the Party of the Second Part agrees to pay to the Company at their office, 14 King Street East, Toronto, the sum of.....$1450.00

(One thousand, four hundred and fifty dollars)
payable as follows:

75% draft attached to B/L

25% one month after the successful operation of the apparatus, it being understood that the work of erection will be proceeded with immediately on arrival of the apparatus and that the acceptance will be made without delay by the Montreal Water Works.

In Witness Whereof the said parties hereto have hereunderto set their hands and seals.

Signed, Sealed and Delivered
In the presence of

.....

THE CANADIAN GENERAL ELECTRIC COMPANY LIMITED,

By

Second Vice-President and General Manager.

(SEAL)

Party of the Second Part

M O N T R E A L W A T E R W O R K S.

SPECIFICATION FOR DIRECT CURRENT LIGHTING UNIT.

Proposals and general data.

Sealed proposals will be received at the office of the City Clerk, City Hall, Montreal, until 12 o'clock noon on Friday, 18th September, 1908, for the supplying and erecting at the Low Level Pumping Station of the Montreal Water Works of One Direct Current Electric Generator direct coupled to steam engine for electric lighting.

Capacity.

The generator shall not be less than 17 K.W.capacity, and is to be used for 115 volts direct lighting system. It shall be compound wound and shall operate at a speed for direct connection to an engine not exceeding 350 r.p.m. The compound winding shall give a rise of voltage from 110 at 0 load to 120 at full load constant speed. It shall be supplied with a suitable field rheostat for back of board mounting. It shall also be supplied with one set of brushes and six extra brushes.

Temperature.

Machine shall operate continuously at its full rated load and no part of the machine shall show a rise of temperature exceeding 40°C. It shall operate at 25% overload for two hours following a continuous full load run and the temperature rise shall not exceed 50°C.

Efficiency.

Tenderers shall give their best guaranteed efficiencies at 1/2, 3/4 and full load.

Weights.

Net weight of the generator shall be given and also the weight of the armature separately.

Engine.

The engine shall be of sufficient capacity to operate the above generator at its full load at the most economical point of cutoff with a steam pressure of 120 lbs. and 100 superheat. The engine shall be of the automatic simple non-condensing type, but the cylinders shall be of sufficient strength to stand 150 lbs. working pressure. The engine may be called upon to successfully operate at 25% overload under the above condition. It shall be supplied complete with extended shaft, outboard bearing, extended sub-base, foundation bolts, full set of oil cups, sight feed lubricator, full set of wrenches, and full set of foundation plans and drawings.

The armature of the generator shall be pressed upon the engine shaft at the works of the generator builder and after so doing, it shall be pressed in the lathe and the commutator carefully trued up.

Switchboard.

The switchboard panel shall be made of 2-inch blue Vermont marble of sufficient height and breadth so that all the apparatus can be mounted thereon without crowding. The panel shall be mounted upon an angle iron frame and with it, the necessary wall braces shall be supplied. It shall contain:

1- D.C.ammeter with shunt, 200 amps;
1- D.C.voltmeter, 150 volts;
1- 150 amp. double pole circuit breaker;
2- Double pole, single throw, 100 amp. feeder switches with enclosed cartridge fuses on the front of the board;
1- Double pole, single throw, 50 amp. ditto.
1- Double pole, single throw, 200 amp. main switch;
1- Mounting for field rheostat;
1- Set of ground detector lamps.

All this apparatus shall be installed upon foundations supplied by the Water Department.

All wiring between the switchboard and generator shall be done in iron conduit under the floor to meet with the approval of the Canadian Fire Underwriters' Association.

Steam and exhaust piping will be done by the Water Department.

DELIVERY.

The machinery as contracted for shall be set up complete, tested and in regular running order three months after the signing of the contract.

Deposit.

Each proposal must be accompanied by a certificate for deposit of $250.00 with the City Treasurer, said amount to be forfeited if the tendering party decline to accept the contract that may be awarded to him at the price stated in his tender.

PAYMENTS:

The amount of the contract price shall be paid as follows:

Seventy-five(75%)per cent. of the contract price shall be paid when the machinery shall be delivered at the Pumping Station.

Should the Purchaser desire to avail himself of the services of engineers or mechanics of the Company for the purpose of superintending the erection or operation of the apparatus covered by this proposal, the services of said parties, plus all travelling and hotel expenses, shall be paid by the Purchaser, at the rates named in the attached specifications, including all time the said parties are absent from the Company's works on the Purchaser's business; it being understood and agreed that during the term of such service the said engineers, millwrights and mechanics shall be the Purchaser's employees, for whose acts the Company shall assume no responsibility.

The Purchaser shall provide and maintain adequate insurance for the apparatus herein specified, against loss or damage by fire, in an amount fully protecting the Company. The said policies of insurance are to be made payable to the Company and held by it as collateral security. The Purchaser shall assume all loss resulting from fire in case of failure to effect such insurance.

All the terms and provisions of the contract between the parties hereto, are fully set out herein, and no agent, salesman or other party is authorized to bind the Company by any agreement, warranty, statement, promise or understanding not herein expressed, and no modifications of the contract shall be binding on either party unless the same are in writing, accepted by the Purchaser and approved in writing by one of the Company's Executive Officers, and it is expressly agreed and understood that there are no promises, agreements, or understandings, verbal or otherwise, outside of this contract, with its attached specifications.

This proposal is for immediate acceptance of the Purchaser, and is subject to the written approval of an Executive Officer of the Company, and shall not be binding upon the Company until so approved.

ALLIS-CHALMERS-BULLOCK, Limited

Submitted by C. T. Thorpe.

ACCEPTANCE.

The foregoing proposal is hereby accepted and agreed

to this *190*

(Purchaser sign here) .....

.....

Approved,

ALLIS-CHALMERS-BULLOCK, Limited

.....

Allis-Chalmers-Bullock,

LIMITED

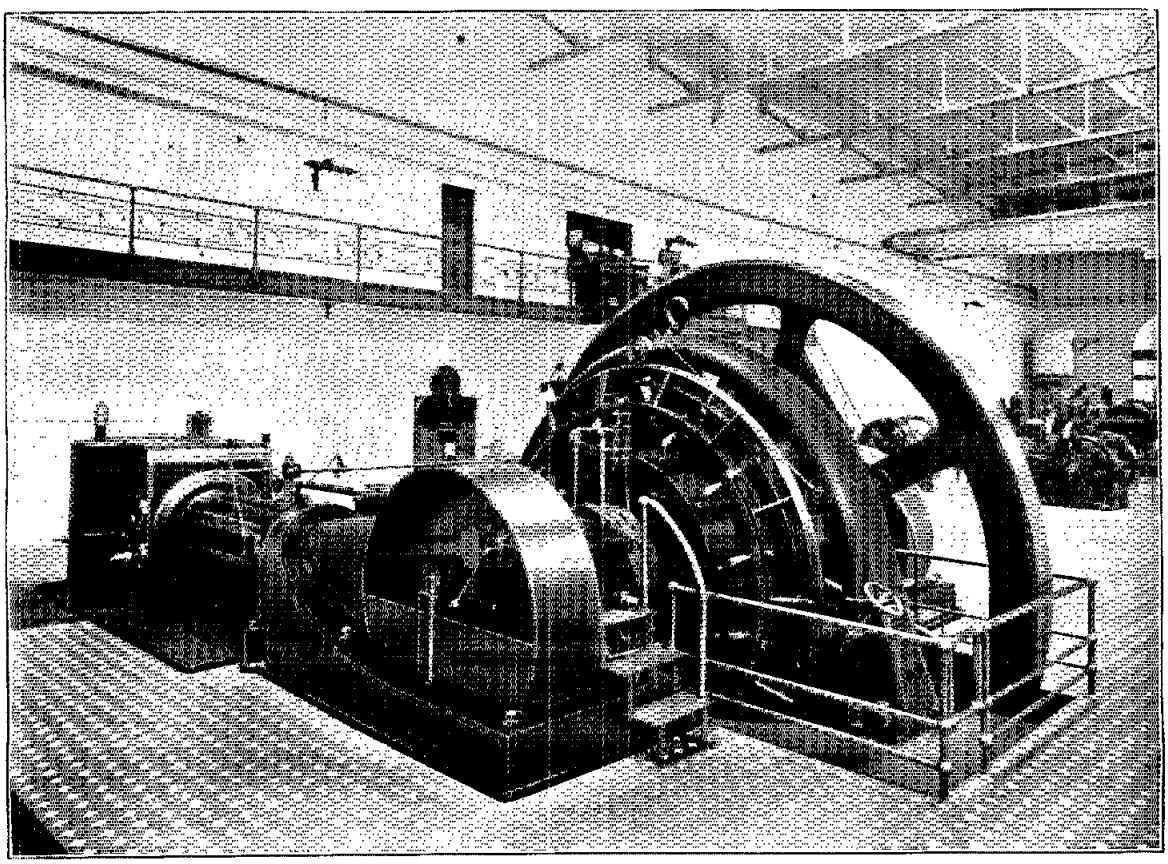
ELECTRICAL DEPARTMENT

Bulletin No. 1059 | Superseding No. 1029 | February, 1907

Allis-Chalmers Engine Type Generators

For Direct Current

Type "I"



Allis-Chalmers Type "I" Generator, driven by an Allis-Chalmers Cross-Compound Heavy Duty Engine.

MONTREAL, CANADA

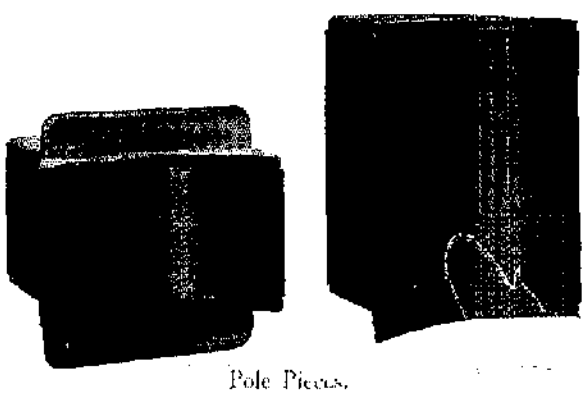
Allis-Chalmers Type "I" Generators

Direct current generators built by Allis-Chalmers, of the type described in this bulletin, are designed for general lighting and power service wherever machines suitable for direct connection to steam, gas, or oil engines are required. These generators have a well established reputation for reliability and satisfactory performance under widely varying conditions of service, their design being liberal in all parts. They are built for standard pressures of 120, 240 and 525 volts, and for speeds and outputs as indicated in the tables printed on pages 6 and 7.

CONSTRUCTION DETAILS

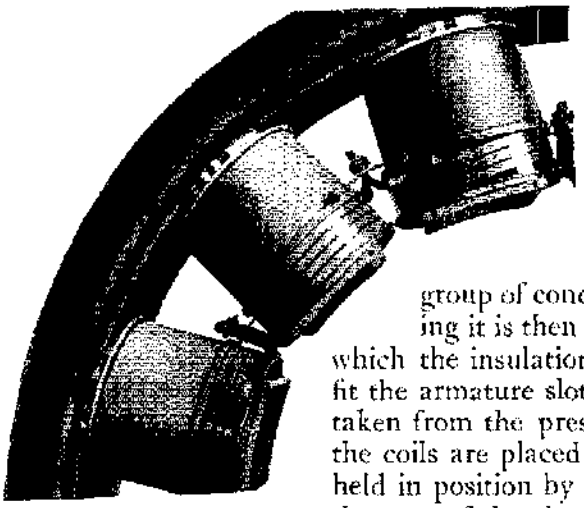
Following is a description of the principal features of construction that distinguish our machines.

FIELD FRAMES AND POLES.—The cast iron field frame, or magnetic yoke, is of circular form and has an elliptical cross-section. The two parts of the yoke, which is divided horizontally, are bolted together by cap screws having their heads set in pockets covered by suitable plates. As a rule, the pole pieces are made of steel punchings riveted together. In some of these machines the pole-cores are of cast steel, as the conditions of service may require, but with most of them laminated pole-faces are provided. Cast steel poles are used in machines where the design is such that the pole-core is of circular cross-section. In all Type "I" generators the poles are bolted to the inside surface of the yoke which is bored concentric with the armature. The heads of the screws holding the poles in place, are counter sunk so as to be flush with the external surface of the yoke. By holding the poles in place with screws, accurate spacing can be obtained, and by the easy removal of one or more poles, field coils can be changed or minor armature repairs made without dismantling the whole machine.



Pole Pieces.

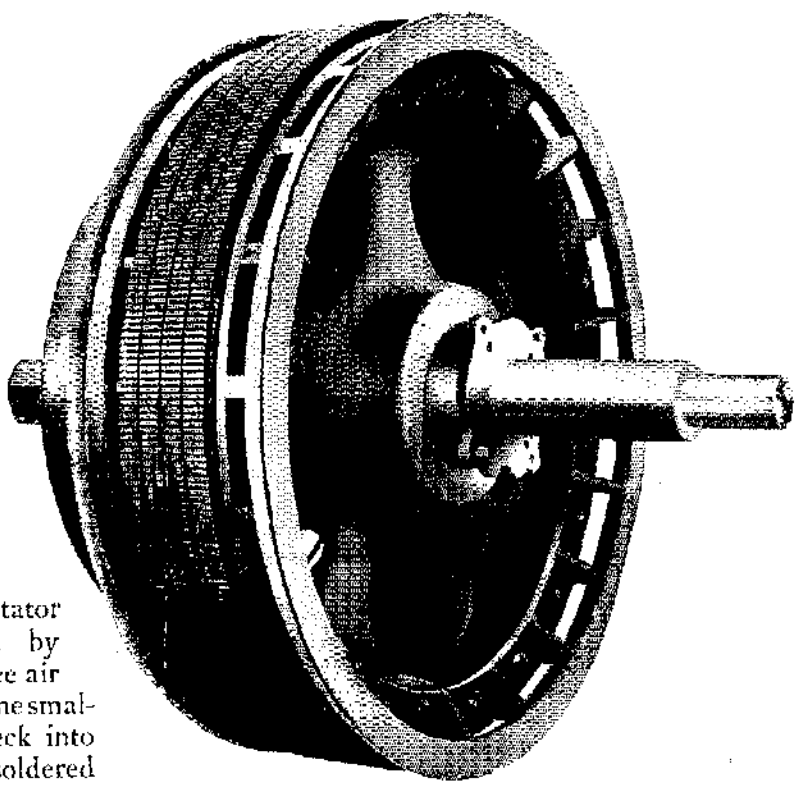
ARMATURE.—Armature discs of 34 inches outside diameter or less are made in complete rings, while those of larger diameter are built up of circular segments dovetailed to a cast iron spider, and assembled so that adjacent laminations break joints. The inside of the armature is very open and affords a free passage for the air, which circulates through the body of the core and the radial ventilating ducts. The armature coils are made of rolled copper strip bent into shape in such



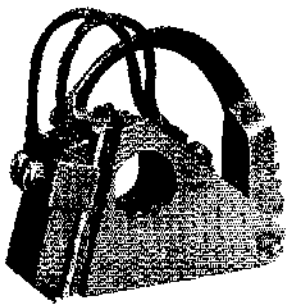
Portion of Field 500 K.W. Generator.

manner that all the armature coils of a given machine are interchangeable and readily renewable. The individual conductors are insulated with linen tape, and the several conductors that are to be placed in the same slot are grouped together and the slot insulation wrapped around them. The group of conductors with the slot insulation surrounding it is then placed in a steam-heated screw press, in which the insulation is pressed into the shape necessary to fit the armature slot. As the coils are cooled before being taken from the press, the insulation retains its shape and the coils are placed in the armature slots, where they are held in position by hard wood wedges fitted into grooves at the tops of the slots. No band wires are used on the armature under the poles, but a steel wire band at each end serves to keep the ends of the coils in place.

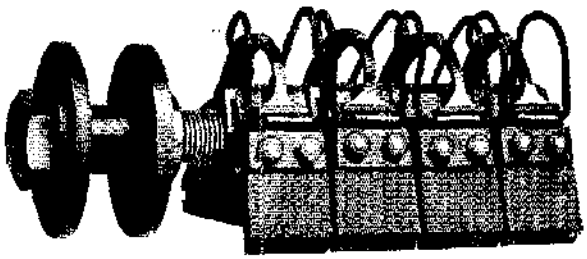
COMMUTATOR.—The mechanical construction of the commutator is such as to combine simplicity with the greatest possible rigidity of the parts. The segments, made of hard drawn copper, are accurately tapered, as required, during the process of drawing. They are thoroughly insulated from the clamping ring and sleeve by mica insulation .10" thick. In most of the larger machines the necks for connecting the armature conductors to the commutator segments are separated by spaces which permit of free air circulation. For some of the smaller sizes, however, the neck into which the armature coil is soldered is made integral with the segments.



Armature Core and Commutator with temporary shaft.

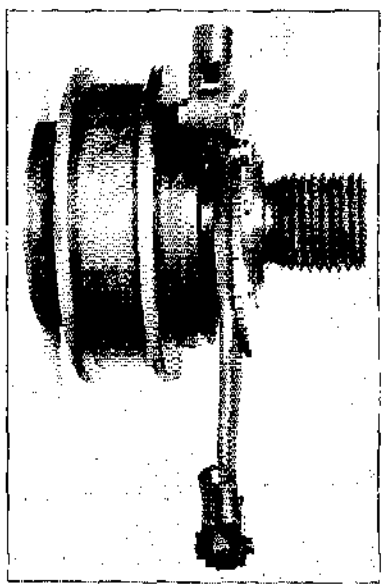


BRUSH HOLDERS.—The brush holders, of a design patented by Allis-Chalmers Company, are provided with an adjustable spiral spring. The body of the brush holder is mounted on a brush stud, while the brush and tension finger are allowed to move freely to follow any irregularities of the commutator. This arrangement is most desirable, as it reduces the mass of the moving parts to a minimum. Flexible copper leads connect the brush and the holder and offer a low resistance path for the current. The brushes are held positively to the holders, so that there is no liability of their getting out of place.



Brush Holders.

BRUSH HOLDER RIGGING.—The supports carrying the brush holder studs are bolted to a circular cast iron brush yoke attached to the field frame. The method of attachment is by means of three or more cast iron rollers turning on studs screwed into the field frame; the rollers have grooves made to fit a turned V around the periphery of the brush yoke. The shifting of the brushes is accomplished by means of a screw and hand-wheel. On the larger sizes of these generators the brush rigging is provided with a brush oscillator, the purpose of which is to give to the brushes a slow to and fro motion parallel to the shaft. This prevents the brushes from wearing grooves in the commutator and tends to polish the commutator surface in exactly the same way as is done in belted machines by the "end play" allowed in the journals. To accomplish this result, the rollers carrying the rocker arm are moved laterally on their supporting studs by internal cams, operated by gearing driven by a one-inch belt running over the engine shaft at the back end of the armature.



Brush Oscillator.

TEMPERATURES.—On account of the construction of the armature the heat generated is rapidly radiated, and, as the amount of heat generated is kept very low by careful designing, these generators carry their rated loads with but small rise in temperature and are able to stand with safety the usual overloads to which they may be subjected.

RHEOSTATS.—Every Type "I" generator is supplied with a shunt field rheostat, which is arranged for mounting on the front or on the back of the switchboard, according to the purchaser's preference.

RATINGS.—The standard ratings of type "I" generators for 120, 240 and 525 volts are given in the appended tables.

COMPOUNDING.—Standard generators are compound wound to give variation in voltage from no load to full load, as follows:

120 volt generators; 115 volts no load, 120 volts full load.
240 volt generators; 230 volts no load, 240 volts full load.
525 volt generators; 500 volts no load, 525 volts full load.

SHAFT AND BEARINGS.—As a generator of the type described in this bulletin has its armature mounted directly on the engine shaft, it is furnished without shaft or bearings. These are supplied with the engine, when we sell a complete unit—as we ordinarily do—or by the builder of the engine, if one not of the Allis-Chalmers Company's make is ordered.

SPEEDS.—The speeds shown in the following tables have been selected with especial reference to steam engine requirements, and for other service we will, when requested, submit figures based upon the best engineering practice in modern power plant design.

RATINGS:

120 VOLT D. C. ENGINE TYPE GENERATORS.

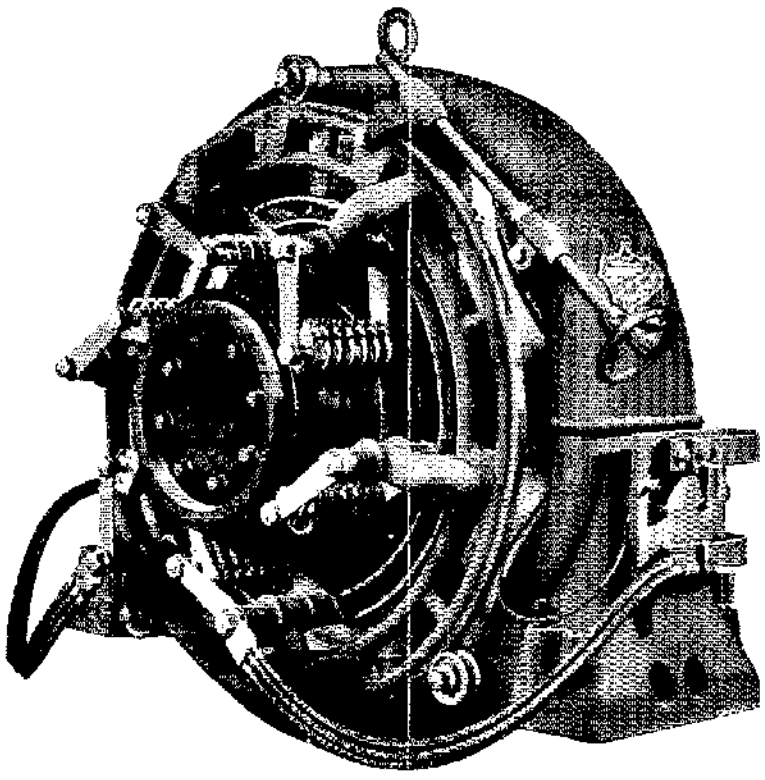
K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.
12	270–280	30	175–185	60	125–135	125	250–265	225	200–210
13	310–325	35	365–380	62.5	275–290	125	150–160	225	100–105
15	360–375	35	300–315	62.5	235–250	150	310–325	250	250–260
15	275–290	37 ½	250–260	75	275–290	150	200–210	250	175–185
17 ½	325–340	40	350–365	75	150–160	150	150–160	250	120–125
18	250–265	40	225–235	80	220–235	150	130–135	280	75–80
20	450–470	40	180–195	80	165–175	150	100–105	300	120–125
20	375–390	45	300–315	85	330–345	165	225–235	300	100–105
20	275–290	45	250–260	100	350–370	175	150–160	350	120–125
25	450–470	50	450–470	100	275–290	175	200–210	350	70–75
25	350–365	50	275–290	100	250–260	200	300–315	375	100–105
25	260–275	50	225–235	100	200–210	200	250–260	400	110–115
30	425–440	50	185–195	100	150–160	200	175–185	400	80–85
30	300–315	50	150–160	100	100–105	200	150–160	450	90–95
30	260–275	60	330–345	115	120–130	200	125–135	500	100–105
30	210–220	60	165–175						

240 VOLT D. C. ENGINE TYPE GENERATORS.

K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.
12	270–280	45	250–260	100	275–290	200	300–315	360	300–315
13	310–325	50	450–470	100	250–260	200	250–260	375	170–180
15	360–375	50	350–365	100	200–210	200	175–185	375	120–135
15	275–290	50	275–290	100	150–160	200	125–130	400	110–115
17 ½	325–340	50	225–235	100	100–105	225	200–210	400	100–105
18	250–260	50	185–195	120	120–125	225	100–105	450	110–115
20	450–470	50	150–160	125	320–335	250	310–320	450	80–85
20	375–385	60	330–345	125	250–260	250	250–260	500	125–130
20	275–290	60	165–175	125	150–160	250	175–185	500	90–95
25	350–365	62.5	275–290	150	310–325	250	120–125	550	100–105
30	300–315	62.5	235–250	150	200–210	300	300–315	700	90–95
35	365–380	75	400–420	150	150–160	300	200–210	800	100–110
35	300–315	75	275–290	150	130–135	300	135–140	1000	90–95
37 ½	250–260	75	200–210	150	100–105	300	120–125		
40	350–365	75	150–160	165	225–235	300	100–105		
40	180–190	80	220–230	175	200–210	325	150–160		
45	300–315	100	350–365	175	150–160	350	120–125		

525 VOLT D. C. ENGINE TYPE GENERATORS.

K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.	K. W.	R. P. M.
90	250	135	90	250	110	400	275	625	110
100	275	150	200	250	90	450	115	625	95
100	90	165	110	300	180	500	180	750	85
110	135	175	250	325	115	500	150	800	90
125	165	175	200	380	180	575	95	800	75
125	140	175	185	380	140	575	75	850	85
135	130	185	135	380	100				



Small Type "I" Generator (without shaft)

Power and Electrical publications issued by Allis-Chalmers Company, which may be had upon application to the Department of Publicity, Milwaukee, Wis.

CATALOGUES.

126 Hoisting Engines.
† 130 Power Transmitting Machinery.

BULLETINS.

1037 Testing Alternating Current Generators.
1038 Alternating Current Generators; Engine, Fly-Wheel, Belted and Water-Wheel Types. (In French, German and Spanish, Bulletin 1001.)
1039 Electrical Equipment of a Modern Shipyard.
1040 Polyphase Induction Motors.
1042 Direct-Current Multipolar Motors, Type "N." (Superseded by Type "K" Motors, Bulletin 1057.)
1044 Multiple Voltage System of Control for Variable Speed Motors.
1045 Rotary Converters.
1046 Direct-Current Motors, Types "H" and "HI".
1047 Oil Insulated Transformers.
1048 Alternating Current Generators, Engine and Fly-Wheel Types.
1049 Railway Generators for Direct-Current.
1050 Alternating Current Generators, Water-Wheel Type.
1051 Alternating Current Generators, Belted, Type "AH" (See 1060).
1052 Direct-Current Motors and Generators, Type B. (Superseded by Type "K" Motors, Bulletin 1057.)
1053 Railway Motors and Controllers.
1054 Steam Turbines and Generators.
1055 Electric Drive in a Saw Mill.
1056 Large Induction Motors for the Anaconda Copper Co.
1057 Direct-Current Motors, Type "K".
1058* Equipment of an Interurban Railway.
1059 Direct-Current Generators, Engine Type (Type "I").
1060* Alternating Current Generators, Belted, Type "AB."
1202 Reliance Friction Clutch.
1500 Allis-Chalmers Engines at Home and Abroad.
1501 Reliance Corliss Engines, Belted.
1502 Test of the New York Subway Engines.
1503 Reliance Direct Connected Engines.
1505 Heavy Duty Engines, Belted.
1506 Electric Hoists.
1507 Air Compressors.
1508 Air-Brakes, Electrically Operated.
1509 Air-Brakes, Repair Parts.
1510 Heavy Duty Engines, Direct-Connected.
1511 Condenser Connections.

*Indicates that publication will be issued shortly.

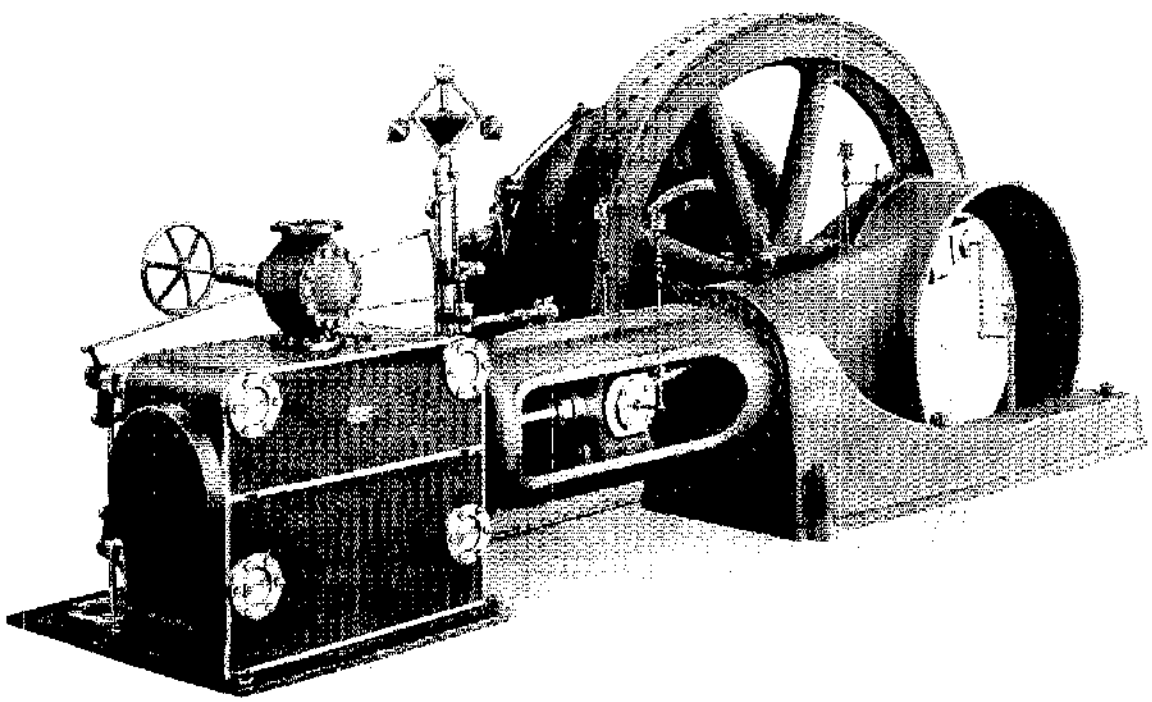
PUBLICATIONS—Continued.

LEAFLETS AND REPRINTS.

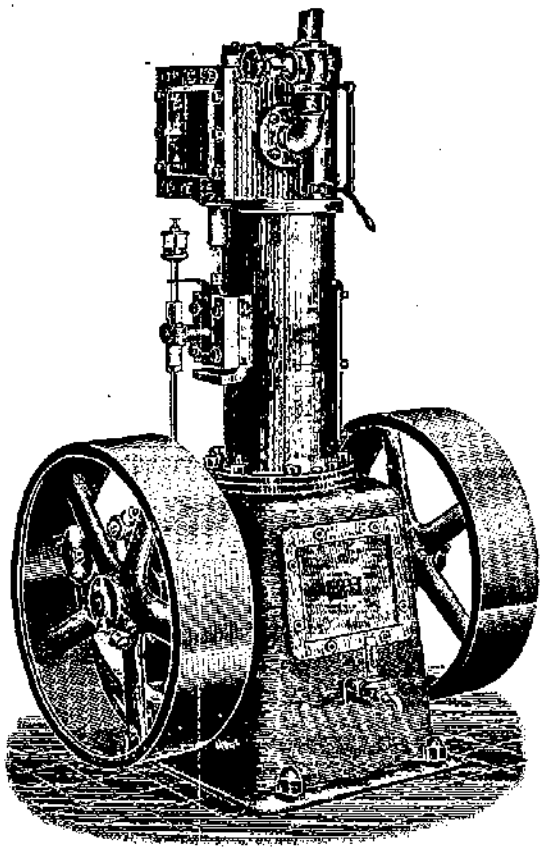
2002 Repair Parts for Reynolds Corliss Engines.
2004A Directions for Setting Valves of Girder Frame Engine.
2004B Directions for Setting Valves of Reliance Engine.
2007 Rocking Valve Engines for Saw Mills.
2016 Twin Engines for Operating Saw Mill Carriages.
2027 Hydro-Electric Plant at Trinity River, Cal.
2028 Starting up a large Steam Turbine
2030 Hydro-Electric Plant at Concord, N. H.

INSTRUCTION BOOKS.

5007 Instructions for Installing and Operating Allis-Chalmers Polyphase Induction Motors.
5008 Instructions for Installing and Operating Allis-Chalmers Alternating Current Generators.
5009 Instructions for Installing and Operating Allis-Chalmers Direct-Current Motors, Type K.



Allis-Chalmers Heavy Duty Engine direct connected to a Type "I" Generator.
(Note the compact, substantial design of this unit.)



ROBB-ARMSTRONG VERTICAL ENGINE

Belted Type.

GENERAL SPECIFICATION

ROBB-ARMSTRONG SINGLE VALVE ENGINE

Valves and Valve Gear consist of (1) "Sweet" balanced valve for steam and exhaust of high pressure cylinder (2) "Sweet" balanced valve for low pressure cylinder. Eccentrics have spherical bearings, the straps being lined with genuine babbit carefully fitted and scraped. Semi-steel rocker arms are arranged to give uniform steam distribution for both ends of cylinder at various points of cut off; all joints of valve gear to have interchangeable bushes to take up for wear.

Frame to be extra heavy in a line between the cylinder and shaft bearing and to be machined to correct alignment for the crosshead guides, shaft bearing seat, cylinder and packing glands.

Cylinders to be of close grained iron; the thickness of metal to be sufficient for the required working pressure and for re-boring, and to be counter-bored at each end to prevent wear of piston rings.

All Steam Joints to be metal to metal ; all bolts to be spaced sufficiently close to prevent leakage, and ample in size and strength for the pressure to be carried. The gland to pass through the cylinder head and frame, insuring central alignment and providing for an air space between the cylinder and frame ; the cylinder to be encased with a neat cast iron or steel jacket and bonnet covering the back head and bolts.

The Throttle Valve to be of the Coffin type, with valve and seat protected from the cutting action of the steam.

Pistons to be of cast iron as light as possible to prevent wear, and so that the piston may break before the cylinder in case of confined water.

Piston Rings to be of soft cast iron, carefully fitted to grooves in the piston and to the bore of the cylinder.

Piston Rods to be of rolled or hammered steel, ground true and fastened to piston by taper fit and lock nut in the larger sizes, or by hydraulic pressed fit and riveting in the smaller sizes, and to the crosshead by screw and lock nut.

The Crank Shaft to be of the best quality of mild forged steel; the crank disc of cast iron or steel casting forced on the shaft by hydraulic pressure and keyed.

Crank Pins to be carefully aligned, ground and lapped true and smooth.

Shaft Bearings to consist of removable, interchangeable shells in halves, lined with genuine babbitt of copper, tin and antimony compressed into place, carefully bored and scraped to gauge. The adjustment for wear to be arranged so that the bearing may be adjusted while the engine is running. Except in vertical enclosed engines in which case it is not desirable or necessary, the shell bearings to be removable without removing the shaft.

Connecting Rods to be forgings of mild steel with solid or marine ends, the boxes to be interchangeable and lined with genuine babbit compressed into place, and carefully bored and scraped to gauge; the adjustment to be by wedges and screws arranged so that the wear will not change the length of rod.

Crossheads to be of steel or semi-steel casting, fitted with an adjustable shoe for all engines over 8 inch stroke, and lined with genuine babbit compressed into place, turned and scraped to fit the guides. The crosshead shoe to run over oil pockets at each end of the stroke.

The Governor to be of the Robb-Armstrong-Sweet frictionless inertia type with a powerful centrifugal weight suspended directly on a flat leaf spring, so that no centrifugal strain or friction is brought upon the working parts, the arrangement being such that the inertia of the centrifugal weight will aid in quick regulation. The governor to be quick and powerful to respond to sudden changes of load without racing, sticking or other disturbing features.

The Oiling System to consist of an oil reservoir or pump piped to each bearing. The outboard bearing to have self-oiling rings; all oil being returned to oil reservoir or crank pit. An oil and water separator with pump, will be supplied with each engine, when desired, at an extra charge.

Fittings to be supplied with each engine:—oil guards for crank and eccentrics, throttle valve, set of hardened drop forged steel wrenches and handles for removing steam chest cover, pistons, etc.; sight feed lubricators for cylinders, nickeled set of connected drain cocks for cylinder, steam chest and frame; relief valves for compound cylinder; set of bolts for frame with finished cap-nuts. Foundation plan, template and bolts for foundation will be shipped in advance of engine if required, freight to be paid by purchaser.

Balance. The engine shall be balanced so that it will run without vibration, when attached to a good foundation.

Test. Each engine shall be carefully tested under steam before or after shipment, and shall be adjusted ready to run at specified speed when erected and connected.

Guarantee. Within one year after the starting of engine, if any material or workmanship is shown to be inherently defective, if reported promptly and parts returned for inspection, or satisfactory proof given that failure is not due to ordinary wear and tear or improper use, such parts will be repaired at the works of the manufacturer, or duplicate parts shipped from said works free of charge, but no further responsibility is assumed by the manufacturer on account of losses, delays or transportation charges.

ENGINE

DIMENSION SHEET.

Type VERTICAL, arranged for direct connection to 17 K.W. Generator

Hand RIGHT

Rated Horse Power 26 Maximum H. P. 35

Revolutions per minute 340

Steam Pressure at the Throttle 120 + 100° F. Superheat.

Condensing Engines figured to give H. P. with --- inches vacuum

High Pressure Cylinder 7 inches

Low Pressure Cylinder --- inches

Stroke 8 inches

Driving and Governor Wheel 36 x 8 inches

Additional Wheel (not included) --- inches

Steam Inlet for pipe 2 inches

Exhaust Outlet for pipe 2½ inches

Crank Shaft Main Bearing 3⅜ x 6½ inches

Crank Pin Bearing 3½ x 3½ inches

Crosshead Pin Bearing 2⅜ x 2⅜ inches

Piston Rods 1 7/16 inches

Crank Shaft (fitted for) armature

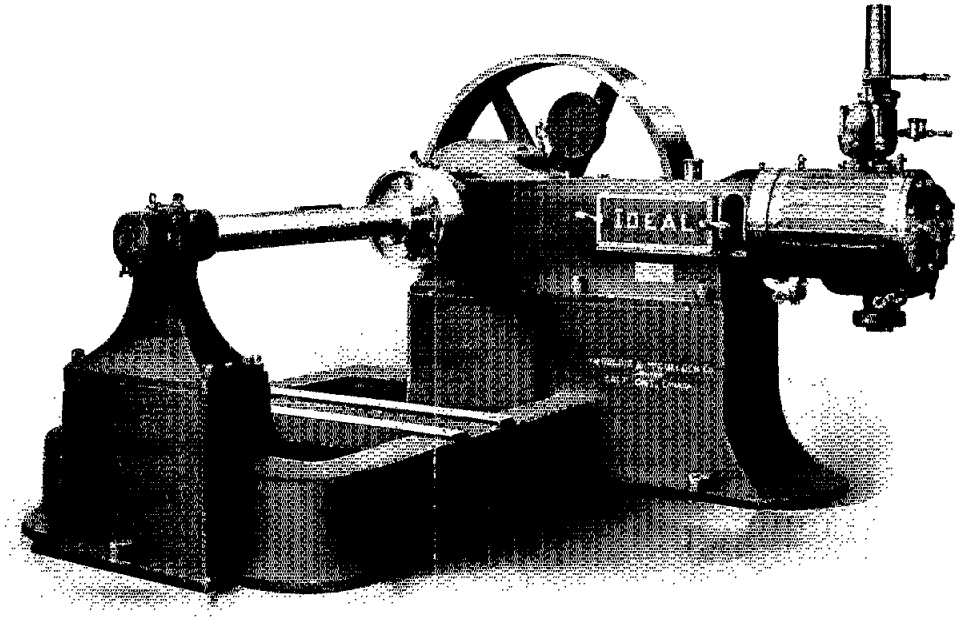
Sub-base to be included (~~not~~ extended for dynamo)

Floor Space -- feet 32 inches, by -- feet 47½ inches plus width of Generator.

Sight Feed Lubricator

Set wrenches, etc.

Cylinder: to be designed for 150 lbs. working pressure.



Single Cylinder Centre Crank Ideal Engine

With Extended Sub Base and Shaft for Direct Connection to Generator.

Information Required for Quotations

When asking for quotations on an engine, please give the following information :

The horse power required.

Number of revolutions per minute.

Steam pressure to be carried on boilers.

Approximate distance between engine and boiler.

Whether engine is Single Cylinder or Tandem Compound.

Whether engine is to be condensing or non-condensing.

The probable back pressure if the exhaust is to be used for heating, drying, or other similar purposes.

What the engine is to drive.

If electric generator, state whether belt drive or direct connection.

Specification No. 1 Sept. 14th 190 8

FOR

CENTRE CRANK
IDEAL ENGINE

Suitable for Direct Connection.

to 17-1/2 K.W. Generator.

SUBMITTED BY

THE GOLDIE & McCULLOCH CO., Limited,

GALT, - ONTARIO, - CANADA.

To Allis-Chalmers-Bullock. Co. Ltd.,

Montreal, Que.

Style and Size

In accordance with the proposal and agreement hereto attached and forming a part of this, we describe the machinery that we propose to furnish as follows, viz. :

One SIMPLE NON CONDENSING CENTRE CRANK IDEAL ENGINE of the type shown in cuts attached. The cylinder to be 7 inches diameter by 10 inches stroke of piston.

Horse Power

This engine when properly erected and operated and running at 340 revolutions per minute with the steam pressure of 120 pounds at the throttle valve (the pressure being given as "gauge pressure," or pressure above atmospheric pressure in pounds per square inch) will develop at about one quarter cut-off approximately 35 indicated horse power. The power at other speeds and pressures will be in proportion. The engine will be set to run at any constant speed between 300 and 350 revolutions per minute.

Cylinder

The cylinder will be made of the best quality of durable close grained iron, perfectly clean and sound casting, truly bored for piston and valve seats. Cylinder will be designed to withstand a safe working pressure of ..... lbs. after two reborings. Radiation of heat is prevented by a coat of non-conducting material over which is placed a lagging of sheet metal. Each end of the cylinder will be provided with relief valves. Cylinder will be tapped for indicator pipe connections and capped with finished acorn nuts.

Frame

The frame or bed of the enclosed "Ideal" centre crank pattern, will be cast in one piece and bolted to heavy sub-base, and will have circular bored guides of large bearing surface. The crank end will be encased with planished iron cover arranged for self-oiling purposes. An extra head or division plate will be cast in the frame through which the piston rod passes freely. This plate prevents the oil from being thrown against the heated cylinder head. The opening in each side of the frame makes the piston rod stuffing box visible and accessible at all times.

Main Bearings

The main bearings will be made very heavy and rigid with liners in cap for taking up wear. Bearings will be lined with the best quality of babbit metal properly hammered, bored and scraped to fit shaft at perfect right angles to the bore of guides and cylinder.

Direct Connected Engine

If the engine is of the direct connected type, it is understood we supply sub-base for generator, outboard bearing, generator shaft and flange coupling. Generator shaft will be coupled to engine shaft with a flange coupling outside of main bearing. THIS GIVES AN INDEPENDENT SHAFT FOR GENERATOR. Shaft will be made of steel and finished ready for armature.

Outer Bearing for Direct Connected Engine

The outer bearing will be made of cast iron with adjustable cap and will be ring oiling with large oil well under bearing and lined with the best quality of babbit metal properly hammered, bored and scraped to fit shaft. The bearing will rest on a heavy cast iron sub-base.

Governor Wheel and Pulley

The Governor wheel.....will be 48 .....inches diameter by 8-1/2 inches face properly turned and keyseated. The hub will be split on one side and have large bolt for securely clamping it to the feather in shaft.

Crank Shaft

The crank shaft will be forged solid of open hearth steel with bearings on both sides of the crank, and will be neatly finished four .....diameter in the bearings, keyseated and fitted with feathers for pulleys.

Crosshead

The crosshead will be of the box pattern, very heavy and rigid, and made of semi-steel with lumen bronze shoes turned and scraped to fit the guides, which will be bored circular and central with the piston rod, allowing of perfect alignment. The piston rod will be screwed into the crosshead and secured by a heavy nut.

Crosshead Pin

The crosshead pin will be made of a special grade of steel, turned, hardened on the surface, and ground perfectly true and fitted in the crosshead with a ground taper and securely held in position.

Connecting Rod

The connecting rod will be made of a suitable grade of mild steel. The crank pin end will be of the marine type lined with the best quality of babbit metal. Crosshead end will be of the solid end type with wedge adjustment fitted with bronze bearing bored and properly fitted to pins.

Piston

Piston will be made of cast iron of the box type and cast hollow in order to give it strength, lightness and durability, and will be fitted to rod with a taper and securely held in place by a nut. The piston will have a wide, smooth bearing on the cylinder to save wear, and will be provided with cast iron snap ring packing, well finished and fitted.

Piston Rod

The piston rod will be made of the best quality of piston rod steel, turned, ground and properly finished, secured to the crosshead by a special screw thread, and securely locked by an extra heavy lock nut. Piston rod will be packed with Fibrous packing.

Valve Gear

The valve gearing will consist of eccentric and eccentric straps, all of the most suitable quality of iron; eccentric straps lined with the best quality of babbit metal. Valve spindle and eccentric rod will be made of the best quality of mild steel with special ball and socket joint made of brass, coupling the two rods together.

Valve

The steam valve will be a balanced solid piston valve made of cast iron with ample port opening, and consequent minimum of wear. The valve seats will be cast iron bushes with bridges across the ports, and will be pressed into position and interchangeable. They will be first rough bored, then reamed out with a spiral reamer, and finally lapped out to gauge and a perfect surface. The valve will be ground to gauge. This ensures a steam tight contact between valve and seat at the outset, and for a long period of running.

Governor

The governor used in connection with this engine will be the "Rites Inertia Governor." It will regulate as steadily as is possible for any similar engine under similar conditions of service, and the variation shall not be more than 2 per cent. of mean speed when the engine is properly adjusted and operated on suitable load and steam pressure, and other conditions of service such as are commonly met with in this class of engine. This automatic cut-off governor is simple, and produces a regulation seldom realized by other governors. The range of cut-off is wide and enables the engine to carry a load largely in excess of rating, as the point of cut-off is automatically extended to three-fourths stroke when an increased load requires it.

Throttle Valve

The Ideal throttle valve, of ample size for the piston speed for which the engine is herein rated, will be our new, quick-opening, self-packing throttle valve. It is opened and closed by one movement of the lever, giving the engineer complete and instant control of the engine. An important feature is the "by-pass" passage opened or closed by the small hand wheel projecting from the body of the valve. By this valve a small quantity

of steam may be admitted to steam chest without opening the throttle valve. This will drain the pipe and warm up the valve and cylinder of engine before starting. The throttle valve will have standard opening tapped ready for steam pipe. There will also be fitted and bolted to exhaust chest a standard flange tapped for standard pipe.

Oil Devices and Fittings

With this engine will be supplied one nickel-plated lubricator of ample capacity for the cylinder, one hand oil pump, oil cup for eccentric, grease cups for governor and eccentric rod, oil gauge and drain cock, one set of wrenches the proper size for adjusting bolts and also one set of foundation bolts, and washers.

Lubrication

The engine being of the enclosed type will be automatically oiled. The crank disc will be covered by a light hood fitted tight to the top of the engine frame and readily removable. The crosshead and guides will likewise be fully enclosed, but will have a side plate for obtaining ready access thereto, held in position only by two cam handles, a quarter turn of which releases it. The crank disc dips about one inch into the oil, and none of the parts are submerged. The motion of the disc splashes the oil back on to the crosshead and also into the pocket extending across the inside of the hood and through a pipe attached to the hood into the oil pocket through which the oil is carried down in streams to the crank shaft bearings and thence through the crank pin to its bearing and back to the oil chamber under the crank disc. The journals are consequently getting COPIOUS, POSITIVE AND VISIBLE LUBRICATION ALL THE TIME.

Shop Test

The engine will be placed on testing table at our works and run under steam, indicated and tested for steam distribution, regulation and running balance. If the engine is of such size that it is not expedient to make such test at factory, then the engine will be assembled on temporary foundation at works so that the mechanical working of all parts is apparently correct and in good condition.

General

The Ideal Engine is particularly adapted to direct connected work on account of its perfect balance, quiet running, automatic lubrication and cleanliness, in addition to its massive and compact construction. All parts are interchangeable and can be duplicated on short notice.

Engine above specified will have governor pulley on right hand side as one stands behind the cylinder and the direction of rotation will be that the top of pulley will run away from person so standing, or in other words the engine will run "over."

Jas. Brunet
Decedé Jas Elect
Clerk.
13 Dec 08

MONTREAL
TORONTO
ST. JOHN

WINNIPEG
CALGARY
VANCOUVER

THE CANADIAN FAIRBANKS COMPANY
LIMITED
FAIRBANKS STANDARD SCALES
FAIRBANKS-MORSE GAS AND GASOLINE ENGINES AND PUMPS
HYDRANTS, VALVES, COCKS, INJECTORS, PACKING, PULLEYS, SHAFTING, HANGERS, BELTING, TOOLS AND MACHINERY,
TRUCKS, FACTORY, RAILWAY AND MILL SUPPLIES

444 ST. JAMES STREET

PHONE:
MAIN 5507
Private Branch
Exchange
connecting all
Departments

MONTREAL, Sept. 18th, 1908.

ADDRESS YOUR REPLY TO
ENGINE DEPARTMENT

Office of the City Clerk,

City Hall, MONTREAL.

Gentlemen:-

The following is our proposition for the new Electric Lighting Unit to be installed at the Low Level Pumping Station of the Montreal Water Works.

The Generator will be 19 Kw capacity, voltage as specified in your specification, and will be direct-connected to a Vertical Automatic Simple Non-Condensing Type Steam Engine. The Switchboard will be made up as per your specifications. We propose to supply all this material installed at the Low Level Pumping Station at Point St. Charles, for the sum of Two Thousand Three Hundred Dollars ($2300.00).

If any further particulars are desired we shall be glad to furnish them at once.

We enclose voucher for $250.00, which please receipt and return to us, as we are sending this with the understanding that it will be returned to us, or forfeited if we should decline to accept the contract, should it be awarded to us, at the price stated in our tender.

Yours very truly,

THE CANADIAN FAIRBANKS CO. LTD.

ELECTRICAL DEPT.

KED/EAW

Secundum
Statutum
Dentur Jus Electio
Unit.
13 Oct/08

Dominion Bridge Company, Limited.

OFFICE & WORKS AT LACHINE LOCKS, P.Q.

Post Office Address. MONTREAL.

All business correspondence should be addressed DOMINION BRIDGE CO. Ltd. MONTREAL.

Cable Address: Dominion Montreal

Montreal 22nd September 1908.

Geo. Janin Esq,

Superintendent,

Montreal Water Works,

Montreal.

Dear Sir:-

We beg to tender to supply and erect the structural steelwork required for a new building for the Worthington Pumping Engine Low Level Station, as per your plans and specifications, for the sum of FIVE HUNDRED AND SEVENTY FIVE DOLLARS.....$575.00

We will also supply and erect a traveller girder and trolley arranged to receive a five ton block, for the additional sum of THREE HUNDRED AND FIVE DOLLARS.....$305.00

The block is not included in this price.

Yours truly,

Dominion Bridge Company, Limited.

Representative.

LOCAL CONTRACTING OFFICE, ROOM 79 ALLIANCE BLDG.

Structural Steel Company, Limited.

OFFICE & WORKS AT LONGUE POINTE, P.Q.

Post Office Address, MONTREAL.

Cable Address:
"Structural" Montreal

Montreal September 22nd 1908.

George Janin, Esq.,
Supt. Montreal Water Works,
City Hall, Montreal, Que.

Dear Sir:-

We beg to tender to supply and erect the steel columns, trusses, purlins and runway for the new building for the Worthington Pumping Engine Low Level Station, according to your plans and specifications, all for the sum of Six Hundred and Twenty-Five ($625.00) Dollars.

We do not figure on travelling crane. Hoping you will find our price satisfactory for the above, we remain,

Yours truly,

Structural Steel Company Limited,

John Pulsan Jr

Representative.

Dundas Jct
Canada Bldg
Mack. Newsum
Pump Building
13 Oct 1988

GEO. JANIN,
Chief Eng. and Su

Form W. 515½ S.

T. W. LESAG . E.,
A . Supt.

Memorandum

FROM THE OFFICE OF THE

Superintendent of Water Works

CITY HALL,

Montreal, Oct 5th 190 8

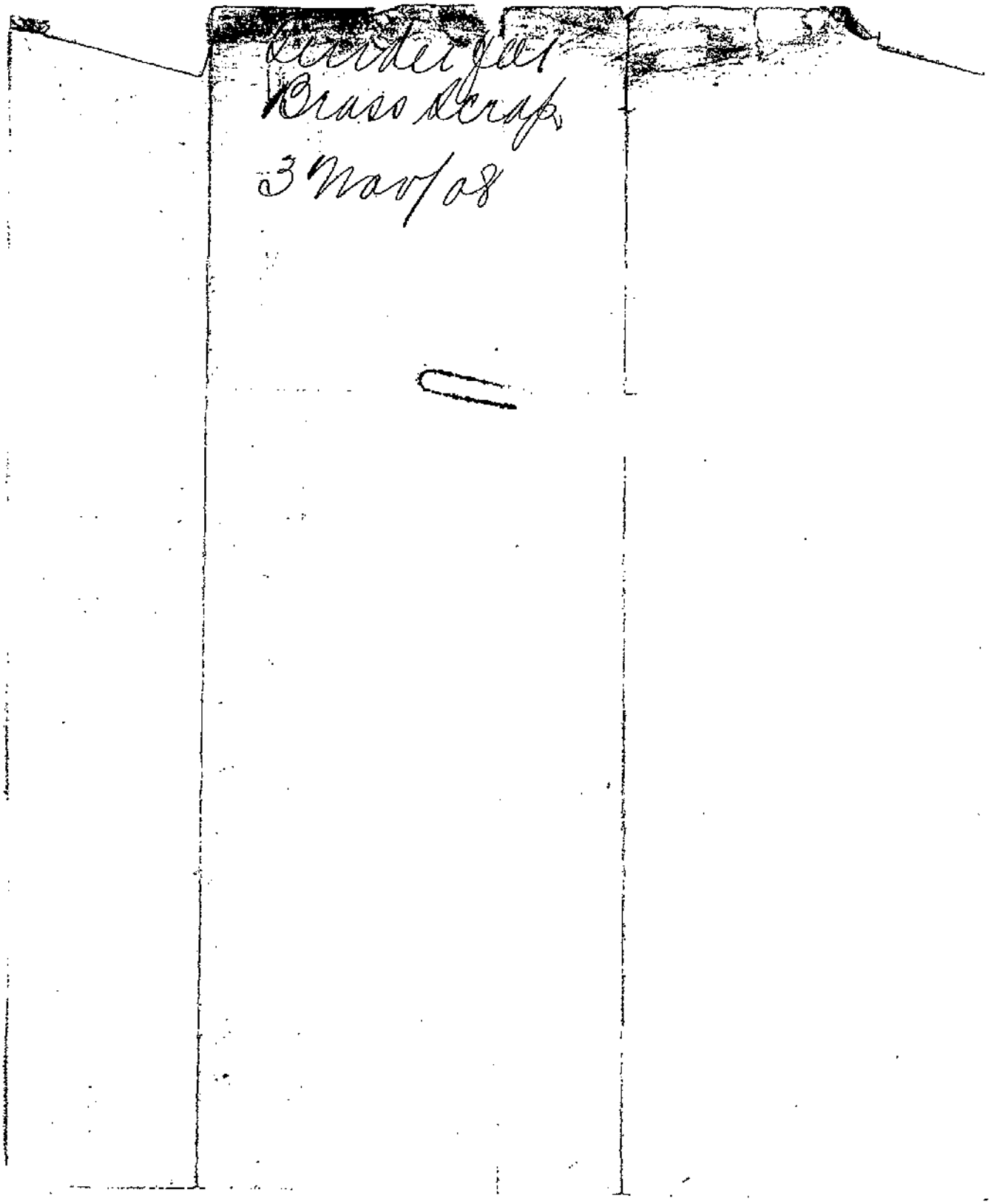
To W. Geo. Janin
Supr. W.W.

Dear Sir.

As requested by Mr. Lesage I telephoned and obtained the following prices for Scrap brass

		Turning	Reamy
Robertson Bros pure		.4*	.8½
N. Gray Geo.	"	.4*	.8
Northern Geo X	"	.5	.8¾

Yours
O Davis.



THE REXFORD-BISHOP, LIMITED
GENERAL CONTRACTORS
3 BEAVER HALL SQUARE

TELEPHONES:—
GENERAL OFFICE: UP 1328
MR. REXFORD AND MR. BISHOP } UP 1330

MONTREAL, November 27th '08.

George Janin, Esq.

Chief Engineer and Supt.

Montreal Water Works.

Dear Sir:- Re claim for additional expense and work.

We respectfully submit for your consideration, the enclosed accounts for additional work.

Number 1 is for excavation for drain from well to sewer. This had to be made by someone and we dug this to assist in disposing of seepage and leakage from broken water main, etc. We have placed reasonable unit prices on this work and trust you will find same O.K.

Number 2 is for additional expense caused us by break in 30" suction, as per detailed account herewith. Item 1 is what it means to us to have our organization at one end of the work demoralized and foremen, plant, etc. standing idle for three days, added to which is one half of the general expense chargeable to this job.

Item 2 is the actual cost of ditching, etc. to take care of the water pumped out by your men while repairs were being made .

Item 3 is the actual difference in cost between cost of scraper work and pick and shovel work hauled by carts on the 150 yards additional we could have handled by scrapers if the break in pipe had not occured.

Item 4 represents additional cost of taking out the material moved until pipe was repaired, with everything saturated with water seeping into cut from broken pipe, and 50 cents a yard will barely cover the additional cost of handling this.

Item 5, Twenty yards of wet, sticky material were thrown into our cut by your men making repairs and had to be raised out by the derrick.

We would ask you to take into account, when considering the foregoing, the following facts;

We submitted tender as per advertisement to close Sept. 18th naturally assuming that on account of the lateness of the season the work would be let out at once at meeting of your Committee intended to be held Sept. 18th., and that it would be ratified by the Council at meeting held Sept. 21st.

This committee meeting however was postponed until Tuesday and there was no Council meeting until a special meeting held two weeks later, when we were awarded the contract and allowed to proceed, which we did the day following.

Our tender was $12,000. lower than the next lowest bidder and needless to say was figured very closely.

Our entire plant was on the work ready to proceed on Sept. 22nd and the fact that we were not able to go ahead caused a loss of two weeks of fine weather and entailed an additional expense to us of nearly $1000, as had we gone on at once we would have missed all the freezing weather.

We have perhaps no legal grounds for a claim against the City on this account, but as a matter of equity we could fairly claim compensation for the additional expense.

Yours respectfully,

The Rexford-Bishop, Ltd.

Wm. J. Bishop

V. P.

Forme 1228.

EXTRAIT

des minutes d'une assemblée de la Commission

des Parcs et Traverses,

Tenue le 15 octobre 1908. 190

Soumise une lettre de la Société pour empêcher les actes de cruauté envers les animaux, offrant de donner à la Cité la fontaine érigée à la mémoire de M.Geo. Gillespie, en face du club Mont-Royal.

Renvoyée à la Commission de l'Aqueduc.

(Certifié)

Secrétaire.

Aqueduc

Montreal, 4th 1908

C. Jonn Esq. Superintendant

Dear Sir

The Granite Fountain Erected by the Canadian Society for the prevention of Cruelty to Animals in May 17th 1907 on Abbott, Stable Dist of Stanley is in good order and has been in use all the last summer

C. Lagace Inman
Jun P. A.

THE CANADIAN SOCIETY FOR THE
PREVENTION OF CRUELTY TO ANIMALS

169 ST. JAMES STREET

MONTREAL, October 3rd 08. 190

WE SPEAK FOR THOSE WHO
CANNOT SPEAK FOR THEMSELVES

The City Clerk,

City Hall,

Montreal.

Dear Sir:

I have been instructed by the Executive Committee of the Society for the Prevention of Cruelty to Animals, to write and ascertain if the City would be willing to take over the Fountain erected the the Memory of the Late Mr. Geo. Gillespie, on Sherbrooke St. in front of the Mount Royal Club.

The Fountain is in perfect order and entirely paid for. The Committee would be obliged if the City would take charge of the Fountain.

Yours very truly,

J. R. Dimmel

Secretary.

Canadian Locality
for the Encouragement
of Culture & Amity
between the Old
& New Worlds

Founders —
Patrons and
Life Members
in June 1918

Archives de la Ville de Montréal

Montreal Nov. 24/05.

Chairman,
Members of the Water Committee

Gentleman:-

We the undersigned Oilers employed at the Low Level pumping Station Pt. St. Charles would respectfully call your attention to a resolution passed by the Council last year granting to all the laborers employed by the city to be rated at twenty cents (20¢) an hour and for some reason we have not received the same and we think our work is as important as any other laborers in the city, as we have been receiving all year seventeen cents (17¢) an hour and injustice to us, we think we should be rated twenty cents (20¢) an hour as all laborers employed by the city. We respectfully ask you to grant us twenty cents (20¢) an hour for the year past and for the incoming year.

Hoping Gentlemen you will give this your just consideration, we remain

Yours truly,

Thomas McAuley · A Auger, Georges Meilleur
J. Lavergne A. Taupin, André Daigneault
George Gougeon Ezra Boudon

Oiler's account,
asking for increase
Nov/08
24th.

Montréal, 20 Nov. 1908

A Mr le Président et aux
Membres du Comité de l'Aqueduc

Messieurs.

C'est avec confiance que je reviens devant vous pour obtenir la faveur de retourner à mon ancienne position, savoir dans le département des compteurs, avec une petite augmentation de salaire. Comme c'est une position que j'ai longtemps occupée et où j'ai acquis l'expérience nécessaire j'ose espérer que vous voudrez bien dans votre intérêt comme dans celui du département faire droit à cette nouvelle demande. En plaçant donc ces votre bien veillant appui dans cette circonstance je demeure

Votre bien devoué serviteur

Max. Martel.

Map Marks
Par Ducreux
30/11/08

City Hall

Montreal November 18th 1908

J. B. Clarkson. Esq.
Chairman.
~~Water Committee~~.

Dear Sir

I respectfully Submit. this. my application. asking that my Salary be increased to Twelve hundred dollars per Annum.

Your obedient Servant
John Tallon
Foreman Central Shops

John Fallon
Jan niceuse
20/11/08

Montréal 20 Novembre 1908

A Monsieur le Président
Et aux membres du Comité
de l'Asyndme

Messieurs

Permettez moi de venir vous demandi une faveur elle, d'avoir une augmentation de salaire comme remmusié aux autres Centrale : Et Je vous vous dire que Je Journe mes ouvrés qui rende beaucoup au département ainsi Je laisse a mes supérieurs l'obligation de vous donné mes aptitudes

Votre dévoué Serviteur
Cécile Jetenais
Remmeur
Atelier Centrale
St Hte Bonne

L. Gelinas
Jardinier
20/11/08

Mlle 50.

Montréal 20 Novembre 1908

Messieurs de la commission de l'aqueduc

Messieurs

J'ai vous demande comme aide plombier de vous demandé une augmentation de salaire j'espère que vous jugerez favorable pour moi

Votre dévoué

Auguste Mercier

Shop Central

A. Meunier.
Jardinier
30/11/08

Monsieur Président

Et Messieurs les membres du Comité
de l'aqueduc

Messieurs

Je vous soumets humblement, que depuis près de trois ans, que je fait l'ouvrage comme Inspecteur, pour les Compteurs, et que les inspecteurs permanent, qui sont Messieurs Baillargé et Robinson, ont un salaire, beaucoup plus élevés, que le mien, de plus, que je fait leur ouvrage

Je vous demande, de bien vouloir, me donner le même salaire que ces Messieurs Connaissant d'avance votre générosité et votre Justice,

Je suis Monsieur
votre serviteur
Antoine Genest
Inspecteur

Montréal Novembre 18/11/08

Aux. Gervais
Jus riceaux.
30/11/08

Mess. les membres de la commission
de l'Aqueduc

Mess.

Veuillez me permettre
d'attirer votre attention sur ma juste
demande. Depuis à l'emploie du
Département de l'eau comme Tourne-Clefs
depuis quinze ans et je désirerais que votre
honorable commission, jugerait cette année
m'accorder une petite augmentation, la-
quelle il me semble est bien méritée,
Vos plus recommandations que j'ai pu
vous donner à l'appui de ma demande,
c'est ma conduite passée, en vos services
rendus. Je vous ferai remarquer Mess
que lors de la disette d'eau j'ai travaillé
tous les soirs durant août d'un mois
sans pour cela recevoir aucune rémunération
l'année dernière l'augmentation a été générale
et moi je n'ai rien reçu alors il me semble
bien que cette année je devrais recevoir quel-
que chose.

Espérant Mess que ma demande
sera jugée en sérieuse considération

Je demeure

Montréal 19 Nov 1908

Votre très devoué serviteur

J. Télesphore Lalibé

Tourne-Clefs

Ateliers municipaux

J. D. Aubé
Jan increase
30/11/08

A Monsieur le Président

et les Membres du Comité de l'Eau

Messieurs

Etant employé depuis près de dix huit ans dans votre département et ne croyant pas mon salaire en proportion avec l'ouvrage que j'ai et la grande responsabilité qui pèse sur moi, me force à vous demander de bien vouloir m'accorder une augmentation raisonnable, que je laisse à votre discrétion

Espérant que vous prendrez ma demande en considération

Je demeure

Votre très dévoué serviteur

J. Lafond

Montréal Nov 20 1908

S. Lafaud.
Jeune inscrit
20/11/08

Montréal 19 Nov 1908

Hon. Jas. Ogilvy

Surintendant de l'Agriculture

Monsieur

Nous soussignés, Contremaître et commis de l'Atelier de bois rue Cadieux, vous sollicitons de bien vouloir appuyer de votre haute influence auprès de votre honorable comité, la requête ci-incluse.

Ces employés sont sous notre contrôle comme commis depuis [redacted] ans, c'est un témoignage de confiance absolu et actif, possédant parfaitement les deux langues, et qui n'ont jamais changé de nos services pour la raison d'un simple journalier.

Comptant sur votre bon cœur et sur votre esprit de justice pour leur faire avoir une petite augmentation bien méritée

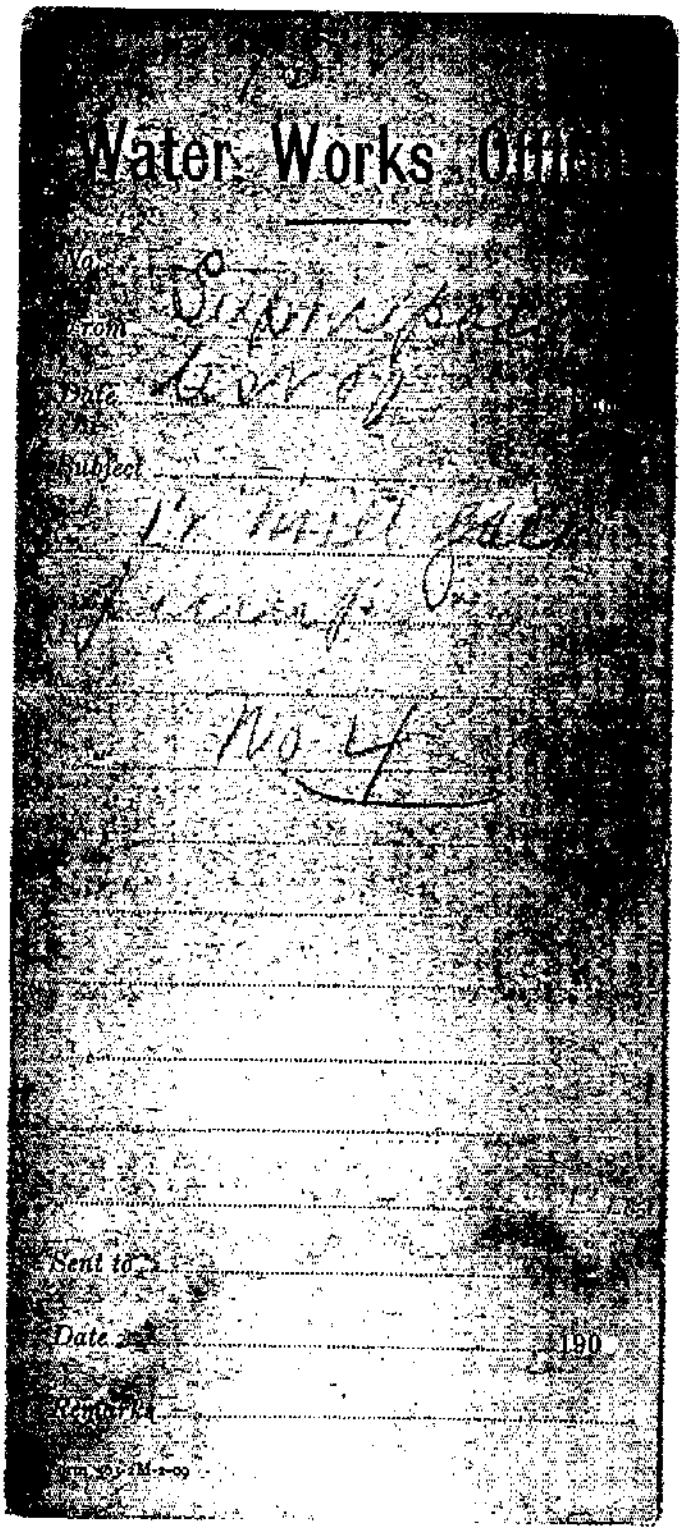
Nous demeurons

Vos très devoués serviteurs

A. L. Pichette
Contremaître

A. Brandrand
Commis

J. Adhémar
Jardinier
19 Nov 1908



JOHN T. FARMER
MECHANICAL AND HYDRAULIC
ENGINEER

TELEGRAPHIC ADDRESS
"AGRICOLA," MONTREAL

CODES USED
ENGINEERING TELEGRAPH
WESTERN UNION

(TELEPHONE MAIN 597)

427 CORISTINE BUILDING

MONTREAL Dec. 23rd '08

Geo. Janin Esq.,

Supt. Water Works,

Montreal.

Dear Sir:-

In reference to our contract for 24 inch pipes entered into with your Corporation in August last, I desire to call your attention to the fact that delivery of the material comprised in the contract is practically completed. The number of pipes specified was 260 of which 251 have been delivered at your yard and have all been tested with the exception of some 4 lengths which we understand have been placed in a somewhat inaccessible position whence it is not very convenient to get them out for testing.

In some of the later shipments we found a number of pipes, 9 in all, so badly damaged by stress of weather that we did not consider it worth while to remove them from the wharf, but instead put in a claim for insurance. We did not have time to have these pipes replaced before the close of navigation, which is the reason for the discrepancy between the number of pipes on order and those actually delivered.

Under these circumstances, we think that you will agree that we have fulfilled the contract and would ask that you recommend the return of the deposit of $1300.00 left with the City Treasurer on account of this contract.

JOHN T. FARMER
MECHANICAL AND HYDRAULIC
ENGINEER

TELEGRAPHIC ADDRESS
"AGRICOLA," MONTREAL

CODES USED
ENGINEERING TELEGRAPH
WESTERN UNION

(TELEPHONE MAIN 597)

427 CORISTINE BUILDING

MONTREAL

As regards the balance of 9 pipes. We are prepared to have these shipped to you as you require them at contract rate.

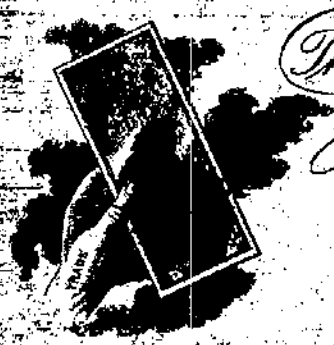
We note that a large part of the pipes supplied under this contract is still being held in stock in your yard and presume that you will have no need of these pipes until pipe-laying is proceeded with in the spring. If agreeable to you, therefore, we would propose to have these pipes shipped out on the opening of navigation in the spring, but in regard to this, we would be glad to have your further instructions.

Yours truly,

John T. Farmer

John D. Ross
Re: Reference
of Affidavit
19/11/14

&
1200 - 25 lbs
Refunded



The Guaranteed Pure Milk Company

Milk and Cream.

OFFICE 875 St. CATHERINE STREET WEST.
TELEPHONE Up. 669

Montreal, Dec. 3, 08. 190

To The Chairman & Members of The Water Committee.

Gentlemen -

We would respectfully submit that the rate charged to large users of water is too high, and we would ask that a reduction be made, and if you cannot see your way to make a reduction to all large users , we would ask you to make a special rate for dairies. We are obliged to use a large quantity for cleaning and cooling purposes, and after paying licences and a heavy business tax, it is hardly fair to make a hundred per cent profit on the water that we are compelled to use to meet the demands of the public for through cleanliness.

We submit that a rate of ten or twelve cents per thousand galls. would ba a fair price, and we trust that you will make us this concession, as our account for water last quarter was One Hundred & Fifty-six Dollars, you will readily see that we do not ask anything unreasonable.

The present rate in Westmount to users by meter is twelve cents per thousand galls.

THE GUARANTEED PURE MILK CO

Yours truly, Per W. H. Trenholme

753

Le cerainier Pare
marche les
chemins par a la
circulation
rale ralio

11/12/08

arriabe
12/12/18

City Hall

Montreal Nov 24th 1903. 19

Mr. Geo Janin,

Superintendent W W.

Dear Sir,-

During the last six months a great quantity of water has been drawn from the City hydrants by private firms and the Fire department for the purpose of checking fires in coal dumps.

In most cases these fires have been caused by insufficient ventilation.

I would respectfully suggest that in future a charge be made for the water when the firms neglect to construct their coal dumps with proper ventilation shafts, and that they be notified accordingly, in any case permission to use the hydrants should be asked, as a fire in a coal dump is entirely differemt to the fires for which this department is supposed to furnish free water.

Your obedient servant,

Thos. A. Leary

Supra Rapport
re matériaux
requis à la pompe
Jeanne d'Arc
11/12/08
Labelle

2757

L.N. Laurin

Robt McLaren

Refused G.

Agent.

29/10/08