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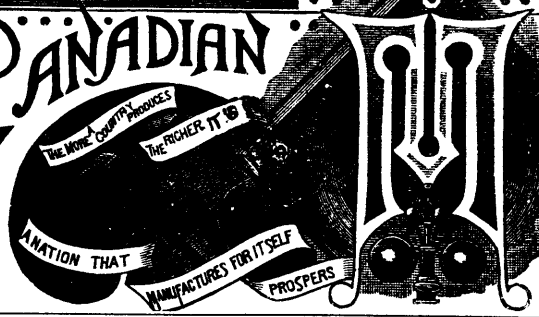
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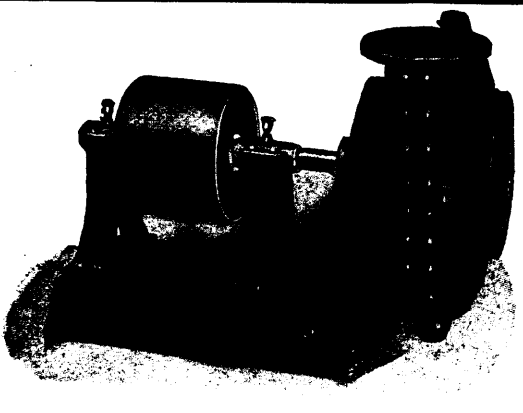
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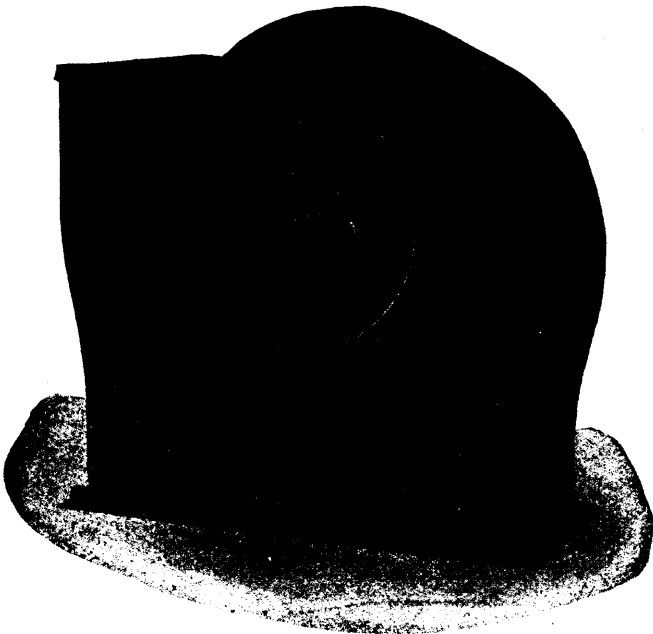
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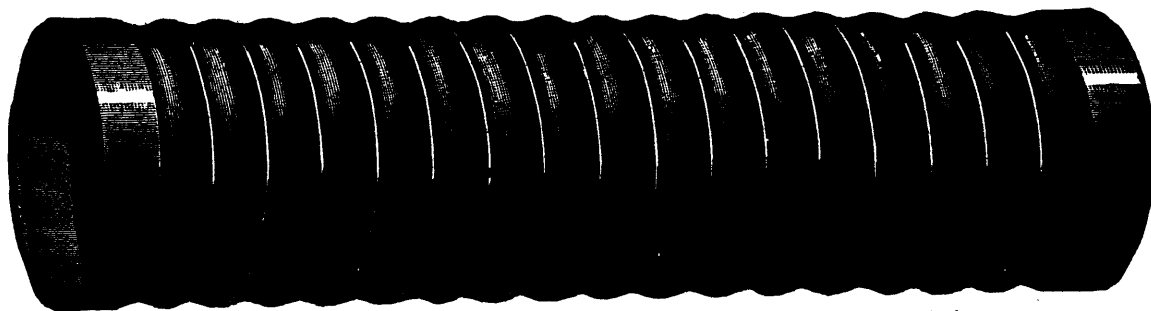


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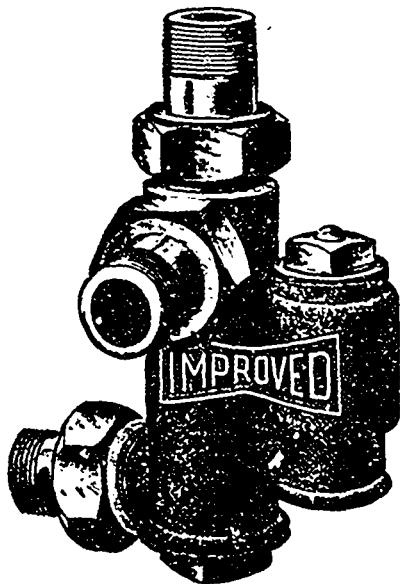
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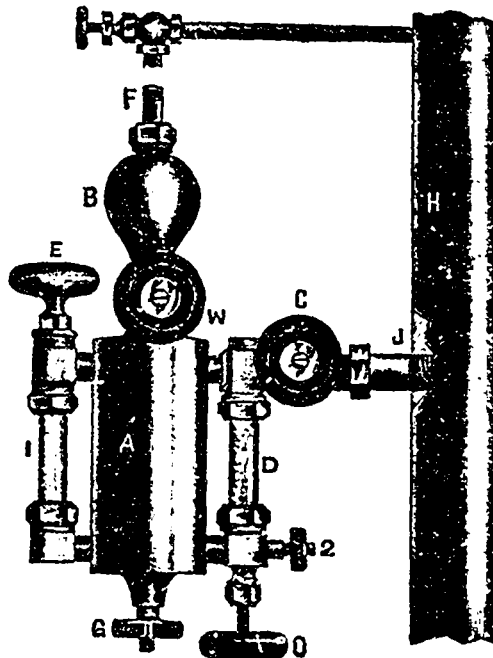
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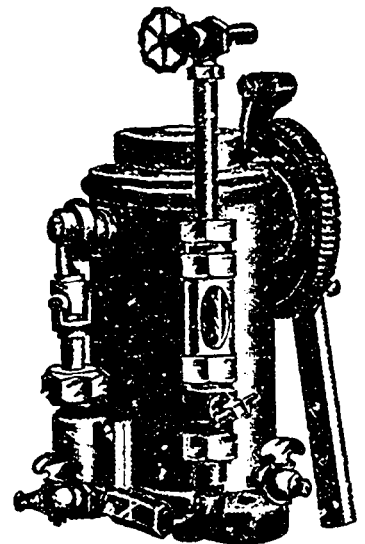
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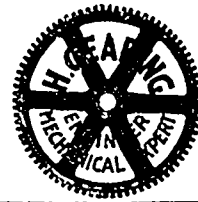
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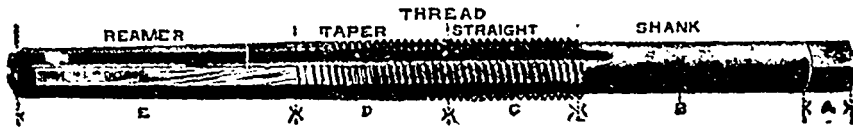
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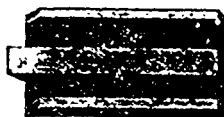
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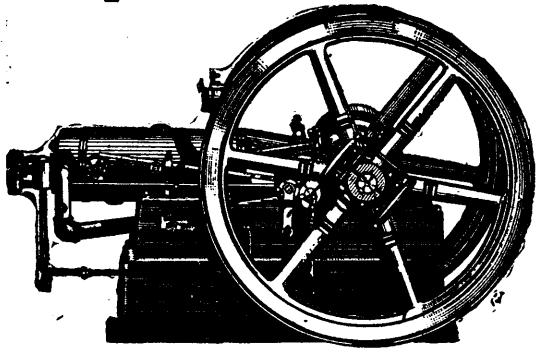
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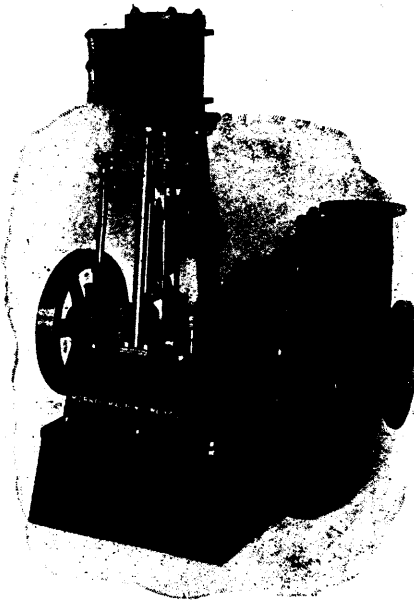
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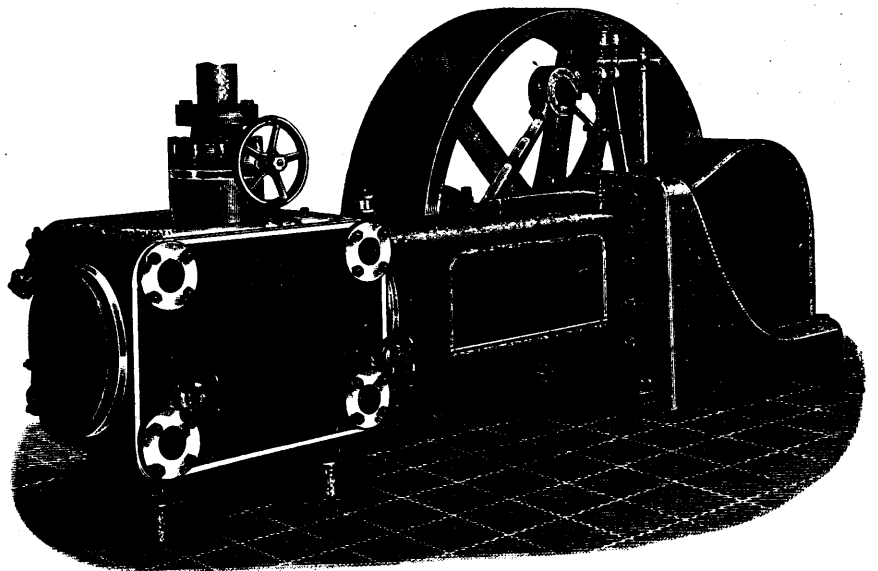
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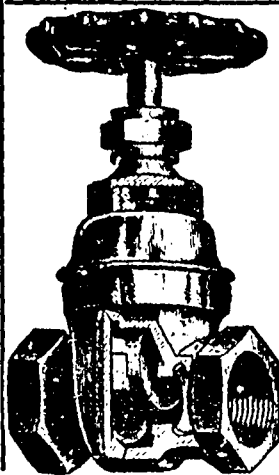
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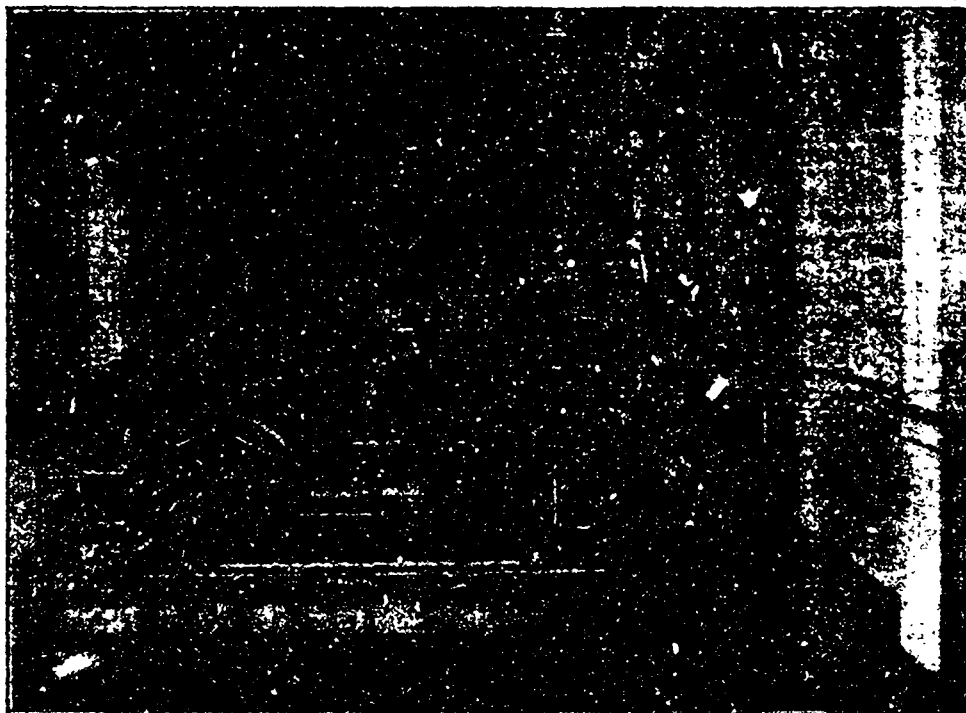
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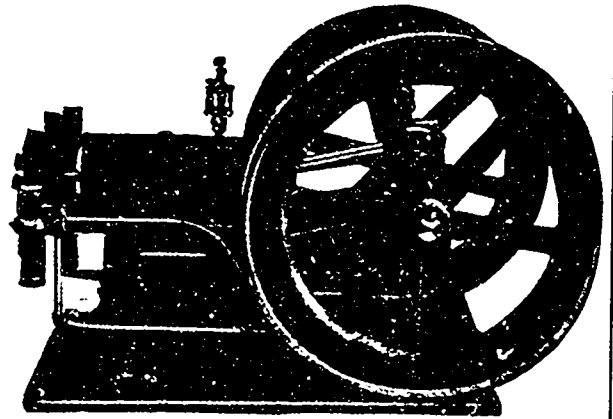
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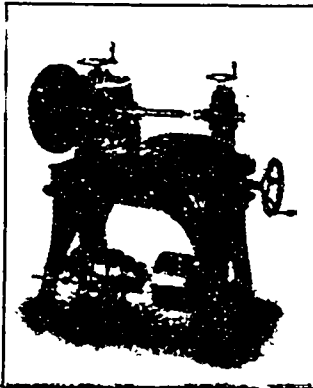


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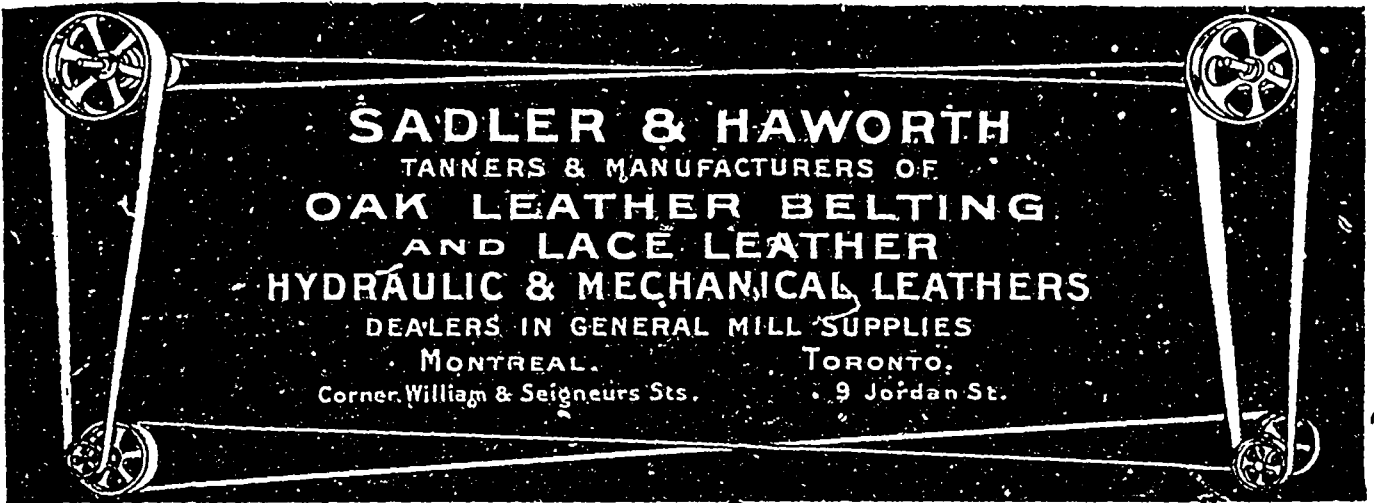
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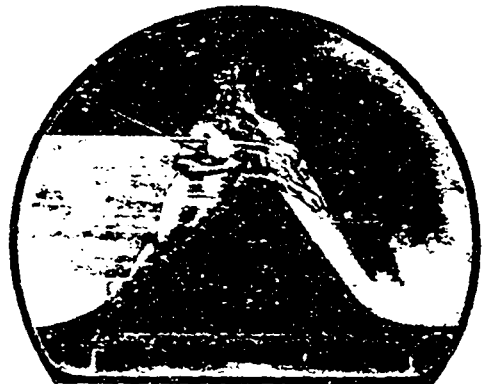
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All this work is of reinforced concrete and embodies the latest and most progressive ideas in factory construction.

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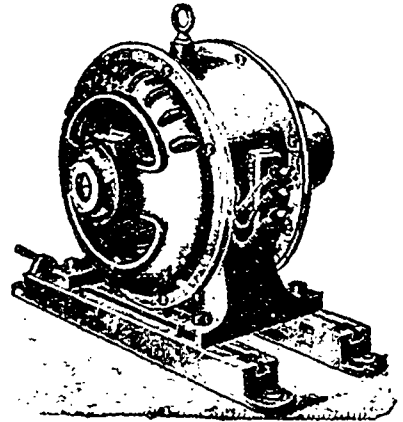
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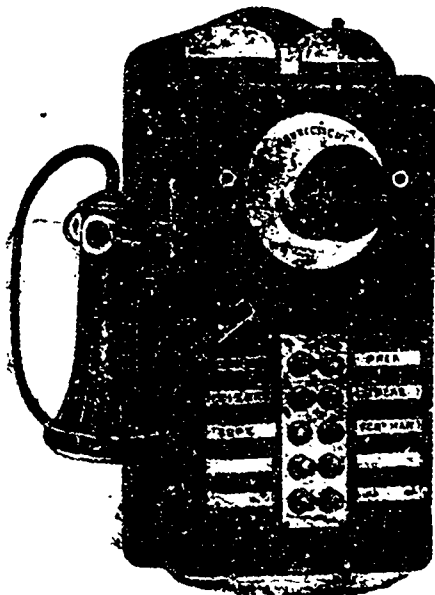
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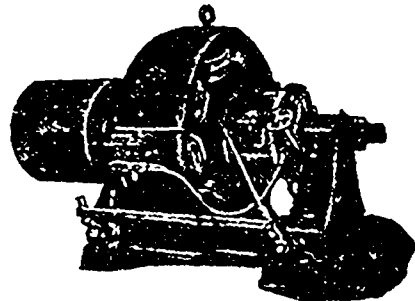
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¶ During 1895-96 a series of experiments were conducted by Prof. C. H. Benjamin, of Cleveland, Ohio, to determine the ratio of the power required to drive shafting and belts, to the total power consumed, in 12 manufacturing plants on both light and heavy work. ¶ The results were as follows:

T A B L E S

Manufacturing Plant Number.	Total Horse Power.	Horse-Power to drive Shafting.	Per Cent. to Drive Shafting.	Manufacturing Plant Number.	Total Horse Power.	Horse-Power to Drive Shafting.	Per Cent. to Drive Shafting.
1.....	400	157	39.2	7.....	40.4	20.7	51.2
2.....	74	57	77	8.....	74.3	40	53.8
3.....	38.6	25.3	65.6	9.....	47.2	24.5	51.8
4.....	59.2	47.9	80.7	10.....	190	108	56.9
5.....	112	64	57	11.....	107	74.5	69.7
6.....	168	91	54.2	12.....	241	114	47.3
Average, heavy machine work.	62.3	Average, light machine work.	55.1

75 per cent. saving is what we guarantee on shaft friction.

Over 200 of the leading Canadian factories are equipped with Chapman Double Ball Bearings.

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ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

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Classified IndexPage 42

Index to AdvertisersPage 49

ANOTHER TARIFF EDITION OF THE CANADIAN MANUFACTURER.

Another tariff edition of THE CANADIAN MANUFACTURER is being prepared, and will be published immediately after the Dominion Parliament takes final action regarding the Canadian tariff.

The issue of THE CANADIAN MANUFACTURER of November 7, 1894, contained complete reproductions of the then recently enacted tariffs of Canada and the United States, which was the first time in the history of journalism in either country, that two such important documents were ever published under one cover of a trade journal.

Important changes having been made in the tariffs of both these countries in the meantime, and to meet a general demand for information, the issue of THE CANADIAN MANUFACTURER of August 6, 1897, contained complete reproductions not only of the Canadian and United States tariffs, but also those of Great Britain and Newfoundland; and in the same issue was also published the full text of the British Merchandise Marks Act; and no important papers bearing upon the commercial industries of the countries named were ever produced under one cover.

After the publication of these tariffs in 1897 very important political changes occurred in both Canada and the United States, one of the most noticeable of which was the adoption by Canada of a tariff preference in favor of Great Britain, and in the issue of THE CANADIAN MANUFACTURER of July 6, 1900, was published complete reproductions of the Canadian tariff, including the Act providing for tariff preference in favor of British goods, the United States tariff, the British tariff, and the Newfoundland tariff. The value of the publication was generously appreciated by all into whose hands it came.

The rapid growth and development of Canada, and the changing conditions which presented themselves de-

manded yet another tariff edition, in response to which THE CANADIAN MANUFACTURER of September 4, 1903, contained complete and accurate reproductions of the Canadian tariff, the United States tariff, the British tariff, the Australian tariff, and the South African tariff, and there are thousands of offices of manufacturing, commercial and industrial concerns, banks, chambers of commerce, Boards of Trade, etc., in Canada, United States, Great Britain, and other countries in which are yet conspicuously displayed copies of that edition.

It is authoritatively announced that further and exceedingly important changes are now to be made in the Canadian tariff; the changes which have since been made in the tariffs of Australia and of South Africa, and the rapidly increasing export trade with those countries, call for full and up-to-date information, and it is therefore the intention of the publishers of THE CANADIAN MANUFACTURER, in accordance with the precedents already established, to publish, as stated, another tariff edition which will contain complete reproductions of the tariffs of Canada, United States, Great Britain, Australia, South Africa and also Japan.

WHAT THE TARIFF SHOULD BE.

Although the call has not yet been issued for the assembling of the next session of the Dominion Parliament there seems to be no doubt that the event will occur early in the month of November. Of course the proposed revision of the tariff is the most prominent and important matter that will be presented, but it is impossible to foretell the character of any changes that are to be made; but it is asserted by some who claim to be able to tell that, as some time ago intimated by the Finance Minister, the tariff will contain three schedules—a maximum, a minimum and also a preferential, to apply to British goods. If this feature is proposed to characterize the forthcoming tariff it is to be hoped that that which relates to the British preference will be left out, allowing the minimum and the maximum features alone to appear.

It was upon the occasion of the call to the Dominion Parliament to assemble in February of last year that THE CANADIAN MANUFACTURER suggested, and which it again repeats as follows:

1. The tariff should be of a dual character—a minimum tariff to apply to imports from commercially friendly countries, such as Great Britain—and a maximum tariff to apply to imports from commercially unfriendly countries, such as Germany.

2. The duty imposed upon imports should be (a) specific only and always where possible; or, (b) compound, i.e., both specific and ad valorem; to be ad valorem only when neither specific or compound is practicable.

3. Tariff rates, under all circumstances, should be sufficiently high to afford adequate protection to every Canadian manufacturing and industrial interest.

4. Every possible safeguard should be thrown around the administration of the tariff laws to prevent undervaluation and other frauds upon the Customs.

5. There should be no special preferential provisions in the tariff as now exist, as such features would be included in the minimum tariff, and applicable not only to British imports but also imports from any other country which treats Canada with similar commercial favor.

Such tariffs would be automatic in their application; and it would be free to any country to decide under which its products would be admitted into Canada.

Specific duties would prevent importations of inferior goods of all descriptions, and also undervaluations. Compound duties would apply to textile fabrics, ready made clothing, etc., and would prevent or restrict imports of shoddy or inferior goods.

But first, last and always the salient feature of the Canadian tariff should be adequate protection to every Canadian industry.

SIXTH CONGRESS OF CHAMBERS OF COMMERCE OF THE EMPIRE.

As a matter of interest to Canada, and for future reference, we publish the texts of the resolutions passed at the Sixth Congress of Chambers of Commerce of the British Empire, which was convened by the London Chamber of Commerce, and was held in the City of London on the 10th, 11th and 12th days of July, 1906:

Altogether 182 Associations were represented at the Congress: 89 in India and the Colonies, 88 in the United Kingdom, and 5 in English communities in Europe, the delegates numbering something like 500.

The following were the resolutions adopted:

1. COMMERCIAL RELATIONS BETWEEN THE MOTHER COUNTRY, HER COLONIES AND DEPENDENCIES.

"Whereas in the resolution of the Fifth Congress of Chambers of Commerce of the Empire, held in Montreal in August, 1903, it was stated that the bonds of the British Empire would be materially strengthened by a mutually beneficial commercial policy;

"Whereas it is the opinion of this Congress that it is in the interest of the component parts of the Empire that steps should be taken towards consummating such an arrangement;

"Whereas there are in the United Kingdom, her Colonies and Dependencies, natural resources and industries, which, if developed, would be sufficient to provide the British Empire with its food supply and all other necessities and requirements of life;

"Therefore Resolved, that this Congress urges upon his Majesty's Governments in the United Kingdom and in the various Colonies and Dependencies, the granting of preferential treatment in their respective markets on a reciprocal basis, each to the other, believing that thereby the bonds of union will be strengthened, and the British Empire largely freed from dependence on foreign countries for food and other supplies.

"And that this Congress further urges upon the Governments of the Empire that they treat this matter as of present practical importance, and that each organization represented at this Congress pledges itself to press their respective Governments to take such action at the Colonial Conference of 1907 as will give effect to the principle advocated in this resolution."

The resolution was carried on a vote by Chambers as follows:—For, 105; against, 41; neutral, 21.

2. IMPERIAL COUNCIL.

"That this Congress urges upon his Majesty's Government, and upon the Governments of the Colonies, the appointment of an Advisory Imperial Council to consider questions of Imperial interest, especially those tending to promote international trade."

3. DEFENCE OF THE EMPIRE.

"That this Congress hereby affirms the principle that it is the duty of the self-governing Colonies to participate in the cost of the Defence of the Empire, but that the Colonies claim the privilege of keeping their own initiative as to the nature and mode of help which they may agree to offer."

4. POSTAL RATE ON IMPERIAL PUBLICATIONS

"It is Resolved, that in the opinion of this Congress the circulation and freer interchange of newspapers and periodicals published in the different parts of the Empire is not only a promoter of trade, but helps toward that association of ideas and of interest which makes for unity, without which there can be no national existence.

"Therefore, his Majesty's Government is urged to adopt such rates of postage on this class of mail matter as will encourage the circulation of British newspapers and periodicals in all parts of the Empire."

5. PARCEL POST RATES.

"That in view of the great desirability of fostering trade between the Mother Country and the Colonies, this Congress will recommend to the Colonial post offices of the Empire that a uniform rate of parcel post charge should be established throughout the Empire—the same as has already been adopted between Great Britain and New Zealand."

6. UNIVERSAL PENNY POSTAGE.

"That this Congress supports the proposal for universal penny postage."

7. CABLE COMMUNICATION.

"Whereas cable news reports for Canada are gathered and distributed mainly through foreign sources, thereby receiving a coloring which is detrimental to the existence of the spirit of Imperial and Colonial unity;

"Whereas the same conditions to a greater or lesser extent may now or at any time prevail in connection with the cable news service to other parts of the Empire.

"And whereas the Canadian Parliament has recently made public (*vide* Sessional Paper No. 67) a proposal for the establishment of a complete Imperial Intelligence Service, and the attention of members of this Congress has been directed thereto;

"Therefore Resolved, that the Imperial Government is hereby prayed to devise means whereby cable and telegraphic news to and from all parts of the British Empire shall be furnished entirely through Imperial channels."

"Having regard to the constant interruptions of cable communication with and between our West Indian Colonies, and to the extreme importance of an all British cable,

"Be it Resolved that the Imperial Government be asked to assist the Colonies in providing an all British and reliable means of cable communication through Canada with and between our West Indian Colonies."

8. FAST STEAMSHIP SERVICES.

"Resolved, that this Congress hereby reaffirms the following resolution, adopted at the last Congress held in Montreal in August, 1903:—"That this Congress considers it of the utmost importance, to the interests of the Em-

pire that the United Kingdom and her Colonies should adopt a policy under which lines of steamships will be secured and retained for—

“(1) The provision of fast mail services on the several routes; and

“(2) The development and control of trade between the Mother Country and her possessions, and between the Colonies themselves.”

9. COMMERCIAL TRAVELLERS' TAXES.

“That this Congress is of opinion that the taxes at present levied by certain Colonies on commercial travellers, being the sole representatives of houses established in other parts of the British Empire, operates as a restraint on the development of inter-imperial trade and cause considerable irritation and annoyance; that the Congress is therefore of opinion that such taxes should be abolished; and that a memorial on the subject should be addressed to his Majesty's Principal Secretary of State for the Colonies, and to the Premier of each self-governing British Colony.”

10. CONSULAR SERVICE.

“Resolved, that in the opinion of this Congress it is urgently necessary in the interests of the trade and commerce of the British Empire that the British Consular Service should be reorganized and strengthened on lines calculated to make it more effective for the promotion of the commerce of the British Empire, and that while the present Consular Service of the Empire is to be commended, this Congress is of opinion that an effort should be made to have it supplemented by the establishment of Inter-Colonial commercial agents.”

11. BRITISH COMMERCIAL AGENTS.

“That inasmuch as foreign and competing nationalities are numerously represented throughout the British Colonies and Possessions, but the British Government and British traders have no British Consular representatives throughout their own possessions:

“That inasmuch as foreign competition is thereby considerably increased to the disadvantage of British traders, his Majesty's Government be urged to remedy this anomalous position at the earliest possible moment.”

12. EMIGRATION.

“Resolved, that it is of the highest Imperial importance that British emigrants should settle in British countries, and that this Conference records its conviction that the Governments concerned should exercise the greatest care in seeing that accurate information, and only such, is disseminated for the promotion of this emigration.”

13. BRITISH CAPITAL IN THE COLONIES.

“Whereas there are in the British Colonies and Dependencies great undeveloped resources and many openings for the highly remunerative employment of capital, and

“Whereas financial investment constitutes a strong bond of union,

“Resolved, that it is desirable to encourage the investment of British capital within the British Dominions.”

14. LIGHT DUES.

“Resolved, that in the opinion of this Congress the lighting of the coasts of the United Kingdom and the Colonies is an Imperial duty, for the efficient performance of which full departmental responsibility should be assumed by the State and respective Colonial Governments, and the cost defrayed out of moneys provided by the Home and Colonial Parliaments and Legislative Councils, and not, as now, by charges on merchant shipping.”

(The above resolution was carried, with the proviso that it was limited to the United Kingdom.)

15. SHIPPING BOUNTIES.

“That this Congress is of opinion that his Majesty's Government and the Colonies should take some effective steps to bring about the abolition of shipping bounties, or to counteract their effect.”

16. MERCHANDISE MARKS.

“Whereas a practice has arisen amongst foreign manufacturers of marking their goods with English names or phrases of a nature to lead to the false supposition that they are British goods,

“It is Resolved, that representation be made to the Foreign Office with a view to secure the effectual application to this reprehensible practice of the provisions of the Convention of Madrid 'Industrial Property' of April 14, 1891; and further that the Foreign Office be requested to embody a clause in all official Commercial Treaties which may in the future be negotiated, with a view to securing the application of the said Convention.

“It is also Resolved, that the Colonial Governments be requested to introduce such legislation as shall effectually prohibit the entry into their respective territories of goods not of British origin, and bearing names or phrases of the character referred to.”

17. SURTAXE D'ENTREPOT.

“That the Foreign Office be requested to address representations to the French Government with a view to obtaining that goods coming on a through bill of lading via a British port from a British Colony or Dependency which has no direct service with France be considered by the French Customs as coming direct, and admitted free of the surtaxe d'entrepôt, i.e., of the special tax which is imposed, in addition to the Custom duties, upon goods of extra-European origin coming into France through a European port other than a French port.”

18. SURTAX ON RUM.

“Whereas the surtax of 4d. per gallon imposed by the British Government on spirits manufactured in the British Colonies is felt to be a distinct injustice, inasmuch as it is excessive compensation for any loss sustained by the home distiller as a result of the operation of the Excise regulations of the United Kingdom, and thus forms a distinct protection to the home distiller as against the Colonial producer,

“Be it Resolved, that this Congress of Chambers of Commerce of the Empire desires that the necessary steps be taken to bring about an impartial inquiry into the cost of Excise restrictions of the home distiller, with a view to the proper adjustment of the surtax in question.”

19. MOST-FAVORED NATION TREATMENT FOR BRITISH COLONIES.

“That the Congress desires to express its approval of the resolution adopted by the last Congress of Chambers of Commerce of the Empire, also unanimously approved by the meeting of the Association of Chambers of Commerce of the United Kingdom, held in Paris, September 1900, to the effect that his Majesty's Government should take immediate steps in conjunction with the Governments of the Colonies interested, in order to obtain for British Colonies most-favored-nation treatment from those countries which have granted most-favored-nation treatment to the United Kingdom.”

20. DECIMAL SYSTEM OF WEIGHTS, MEASURES AND CURRENCY.

“That whereas with the progress of industry and the development of trade throughout the world, the establish-

ment of uniform systems of weights and measures and currency becomes more and more desirable and necessary."

"Therefore be it Resolved, that this Sixth Congress of Chambers of Commerce of the Empire recommends the appointment by the Imperial Government of a Royal Commission, who shall investigate and, if possible, recommend uniform systems of weights and measures and currency to be adopted throughout the British Empire."

21. CODIFICATION OF COMMERCIAL LAW.

"That in view of the opinion repeatedly expressed both by this Congress and previous meetings, and by the Associated Chambers of Commerce of the United Kingdom, the time has, in the opinion of this Congress, arrived when it is desirable that his Majesty's Government should convene a Conference, to which should be invited representatives of British Colonies, to consider or determine measures for the immediate assimilation, and where feasible the codification, of the mercantile law in his Majesty's Dominions."

22. PATENTS, COPYRIGHT AND INSOLVENCY.

"That whereas it is desirable for the promotion of trade and the safety of commercial interests within the British Empire that the laws governing important features of commercial life should be harmonious and reciprocal."

"Therefore be it Resolved, that this Sixth Congress of Chambers of Commerce of the Empire recommends that immediate steps be taken through a joint conference of Government representatives or otherwise, to establish within the Empire uniform and equitable laws respecting patents, copyright, and insolvency, and in so doing to provide in the case of artistic copyright that the same protection be given to British works of art in the Colonies as is given in Great Britain to Colonial works of art."

23. REALIZATION OF SMALL ESTATES.

"Resolved, that legislation is necessary with the object of simplifying the procedure and reducing the cost of realization of small estates."

24. CANADIAN BANKRUPTCY LAW.

"That the unification of the law relating to bankruptcy by the enactment of a uniform law throughout the Dominion be pressed on the Government of Canada as a measure that will give greater confidence to those who carry on trade between this country and Canada."

25. COMMERCIAL EDUCATION.

"This Congress views with satisfaction the growth of the commercial education movement throughout the Empire under the auspices of the London and other Chambers of Commerce and urges upon the Colonial and Indian Chambers the importance of opening local centres with the support and encouragement of their respective educational authorities. Also, that a deputation from this Congress be appointed to wait upon the Minister of Education for the purpose of urging upon his consideration:—(1) The introduction of commercial subjects into the regulations for secondary day schools as an alternative special course (commercial) to that in science; (2) the payment of grants to day and evening schools for the efficient teaching of commercial subjects (as a special course) equal to the grants now paid to these schools for special courses in science, (3) the recognition of the certificates of Chambers of Commerce, directly or through University and other colleges, by the Board of Education in the same manner in which those of the City and Guilds of London Institute are now recognized for students and teachers."

26. ARBITRATION.

That this Congress strongly favors the promotion of arbitration for the effective settlement of (a) international

disputes, where practicable; (b) commercial disputes and differences, involving questions of fact or law; (c) labor disputes between employers and employed in regard to wages and conditions of employment and the like; and urges upon all Chambers of Commerce and Commercial Associations represented at this Congress to provide as far as possible machinery for the settlement of disputes under categories (b) and (c), and that the importance of international arbitration (a) be urged upon his Majesty's Government for diplomatic action at every opportunity."

27. COLONIAL DUTIES ON CATALOGUES.

"That in the opinion of this Congress it is highly desirable that his Majesty's Government should take immediate steps to persuade Colonial Governments imposing a tax on printed trade catalogues, circulars, etc., entering such Colonies from the United Kingdom to repeal such tax, on the ground that it seriously interferes with British trade with such Colonies."

28. REGISTRATION OF FIRMS.

"That it is most desirable that there should be in each part of the Empire a register of firms containing the names of all responsible partners."

29. COLONIAL SURVEY.

"That this Congress urges on his Majesty's Government the immediate necessity of a survey of our Colonial possessions on a scale of not less than four miles to the inch, and with this to be combined a scientific investigation into the natural resources of each of these possessions."

30. TRANSPORT.

"That this Congress urges upon his Majesty's Government the great importance of increasing the means of transport in the Crown Colonies and Dependencies, especially in Nigeria, by the construction of railways and roads, and the improvement of waterways, in order that the resources of those countries may be more rapidly developed."

31. CANADIAN RAILWAYS.

"Resolved, that the railways of Canada—extending from the Atlantic to the Pacific—those existing and those projected, together with their auxiliary steamship lines, are in the opinion of this Congress for the general advantage not merely of Canada, but of the Empire, and should receive Imperial consideration in any proposed plan of Imperial Federation and Defence, and in any proposed scheme of directing British emigration to British territory rather than to foreign countries; not merely on the ground that they furnish rapid and effective modes of transportation of troops and munitions of war, but also in that they form the chief land links in the chain of British commerce, give access to the future granary of the Empire, are essential to the future food supply of Great Britain, and form the shortest binding tie between our Dominions and also our allies beyond the seas."

32. REBATES.

"That this Congress records its protest against the injurious effect upon British trade caused by the payment of rebates of freights by steamship companies trading between the various Colonies and Dependencies and the Mother Country, and earnestly recommends that legislation should be introduced into the several Parliaments of the Empire making such rebates illegal;

"That in the opinion of this Congress the higher tariff of sea freights from the United Kingdom is compared with those from the United States are detrimental to the trade of the British Empire."

33. INTERNATIONAL EXHIBITIONS.

"Resolved, that in the opinion of this Congress the time has come when it is desirable in the interests of the trade and commerce of the United Kingdom and that

of her Colonies and Dependencies to form an association on the lines of the French Foreign Exhibition Association, to deal systematically with international exhibitions, both at home and abroad, so as by aiding exhibitors to utilize to the utmost the opportunities they afford, and that steps be taken to initiate the necessary organization."

34. SURTAX IN VENEZUELA.

"Whereas the Republic of Venezuela has for many years past imposed a surtax of 30 per cent. on all goods shipped from the British West Indies to that country, in contravention of existing treaties, which surtax has had and still continues to have the effect of seriously hampering legitimate trade, and of placing those Colonies, especially Trinidad, at a great disadvantage as compared with competing markets; and

Whereas this matter has been repeatedly brought to the notice of the Colonial Office and Foreign Office, without any redress being obtained;

"It is Resolved that this Congress commends this matter to the careful attention of his Majesty's Government, and prays that such steps be taken as may do away with the injustice complained of, and place the British Colonies in the West Indies on the same footing as countries abroad."

35. INADEQUATE SUPPLY OF ROLLING STOCK ON INDIAN RAILWAYS.

"Whereas the scarcity of rolling stock on Indian railways has, since this question was brought before the Fourth Congress of Chambers of Commerce of the Empire in 1900, continued to hamper most seriously the trade of India with the Mother Country and the Colonies; and

"Whereas the difficulties which have in consequence been created have within the past few months led the Government of India, as owners of most of the railways in India, to take a more liberal view of their obligations in the matter of providing the necessary funds for properly equipping the lines with an adequate supply of rolling stock;

"Resolved that the Secretary of State for India be requested to urge upon the Government of India the very great importance of continuing a policy under which the required funds will be annually forthcoming to meet the reasonable demands of the several railway companies for additional stock, so that the serious disabilities under which the trade of India with the rest of the Empire has been, and still is, laboring for the want of a sufficiency of stock, may be removed."

RESPECTING CUSTOMS DRAWBACK.

Complying with frequent requests for information regarding the regulations respecting customs drawback on goods imported from other countries to be manufactured in Canada and exported, the Order in Council now in force was passed on the 1st day of July, 1904, and is as follows:

Ordered: That the General Regulations governing drawbacks, approved and adopted by Order in Council of November 2, 1894, be repealed, and that under authority of the Customs Act and Amendments thereof the following general Regulations governing Drawbacks on Articles manufactured or produced wholly or in part from imported materials, be made and established, to take effect on and from July 1, 1904, in respect of Articles exported from Canada.

When imported materials on which duties have been paid are used, wrought into or attached to any article manufactured in Canada, there may be allowed on the exportation of such articles beyond the limits of

Canada a drawback of 99 per cent of the duties paid on the materials used, wrought into or attached to the articles exported; provided, however, that such drawback shall not be paid unless the duty has been paid on the materials so used as aforesaid within three years of the date of the exportation of the Canadian manufactured article, nor unless the claims as presented at any one time aggregate ten dollars.

The drawback on articles manufactured or produced in Canada and exported therefrom, may be paid to the manufacturer or producer, subject to the following conditions, viz.:

The quantity of such materials used, and the amount of duties paid thereon, shall be ascertained (unless a specific sum has been authorized as drawback payable);

Satisfactory evidence shall be furnished in respect of the manufacture or production of such articles in Canada and their exportation therefrom.

Upon the exportation of any article entitled to drawback, Export Entries, in duplicate, in the usual form (with the words "Subject to Drawback" marked on the face of the entry) shall be filed with the Collector of Customs at the port of exit from Canada, naming the conveyance by which, and the country or place to which the article is to be exported, and fully describing the kind and quantity thereof and also the marks and numbers on the packages.

The claim for drawback shall be verified under oath, before a Collector of Customs or Justice of the Peace, to the satisfaction of the Minister of Customs, in such form as he shall prescribe. The Minister of Customs may also require in any case, the production of such further evidence, in addition to the usual averments, as he deems necessary to establish the bona fides of the claim.

The following documents shall be delivered with the claim for drawback, viz.:

A copy of the bill of lading of the articles exported duly certified as such by the Carrier or his Agent;

A copy of the export entry, certified by the Collector of Customs at the port of exit where the articles were entered for exportation from Canada;

A copy of the import entry showing payment of duty on the materials used in the articles on which drawback is claimed. If a copy of the import entry, however, has been furnished with a previous claim for drawback, it will be sufficient to "refer" to such copy and indicate the claim to which it is attached, without furnishing a further copy of the entry.

In making up the Statement of Claim, the full details of one shipment should be filled in before commencing to fill in the particulars of any other shipment.

Claimants are requested to present drawback claims for payment, as far as practicable, within eighteen months of the date of the exportation of the Canadian manufactured article.

Blank forms for making drawback claims, including claimant's oath and statement of claim, may be had on application to the Collector of Customs at port of exit for Canada, or from John McDougald, Commissioner of Customs, Ottawa.

NEEDN'T PAY THE PLUMBER.

Judge Ryan, of the St. Louis Circuit bench, lately ruled that the Cahill-Swift Mfg Co is a member of the so-called Plumbing Trust, and therefore has forfeited its right to ask the state's aid in the collection of its debts.

The case was that of the Cahill-Swift Co. against Joseph E. Walsh, a plumber, to recover \$240.83 in payment for material which Walsh received. Walsh admitted receiving the material, but refused to pay on the sole ground

that the Cahill-Swift Co. belonged to a pool in constraint of trade, and therefore could not collect the debt under the anti-trust laws of Missouri.

It was set forth by Walsh that the Cahill-Swift Co. had combined with other corporations in the plumbing supply business to prevent independent plumbers—that is, those who do not belong to the Master Plumbers' Association—from obtaining material. It was declared that several plumbers had been virtually without material for eight months, and that many had been driven out of business because they could not get material with which to work; neither could they get into the Plumbers' Association.

Immediately following the decision the independent plumbers decided to proceed against the Plumbing Trust. Attorneys were retained, and proceedings will be brought under another section of the same statute to bar the corporations in the trust from doing business in Missouri.

Walsh's attorneys devoted all their energies to proving that the Cahill-Swift Co. belongs to an illegal combination, and therefore is not entitled to relief from the courts of Missouri. Plumbers not in the Master Plumbers' Association swore that for no other reason than that they were not in the organization the company refused to sell its goods to them. This, in the opinion of Judge Ryan, was conclusively proved, and constitutes a restraint of trade.

Walsh testified that for three years he had bought goods from the Cahill-Swift Co. Then the effect of the combination became apparent. He said that after the combination was formed he tried to buy a bill of goods, and that Thomas Cahill said to him:

"We cannot sell to you any more. You have been a good customer, but the Master Plumbers' Association has a committee out watching our wagons to see whether we are selling to plumbers who are not in the association. If you go into the association it will be all right, but we cannot sell you anything now."

Walsh served notice on the company that he would not pay the bill. When the suit of the Cahill-Swift Co. was filed it had the outward appearance of an ordinary suit on account. Its importance did not develop until Walsh invoked the statute granting immunity of payment from customers of trusts.

The Missouri statute describes in one section what constitutes a trust. This is the familiar description of a corporation or an association of persons combining to fix, maintain or regulate prices or to fix or limit output, and the same are held to be guilty of a conspiracy to defraud. Then follows the specific section under which debts to trusts are made voidable:

"Any purchaser of any article or commodity from any individual, company or corporation transacting business contrary to any provision of the preceding sections of this article shall not be liable for the price or payment of such article or commodity, and may plead this article as a defense to any suit for such price or payment."

Canada buys more machinery and metals from the United States than any other single country in the world.

CAN'T KEEP UP WITH THE PROCESSION.

The fact that Canada buys more from the United States than from England is a never-ending source of complaint on the part of British exporters. The Canadian tariff gives a preference of 33 1/3 per cent. to British products, but that does not stop the increased purchases from the United States.

A correspondent of the Glasgow Herald, writing from Ottawa, says that the tariff preference arrested the decline of British trade with the Dominion, but did not apparently interfere much with the growth of the United States trade. This correspondent gives the imports of iron and steel articles into Canada for the fiscal year 1905 from Great Britain and the United States to show the relative conditions as to trade with Canada on the part of those two countries. The figures are as follows:

	From Great Britain.	From United States.
Pig iron.....	\$247,406	\$610,315
Bar iron and steel.....	289,961	565,870
Bridge and structural iron....	2,119	717,165
Rolled edge bridge plates....	4,199	402,576
Plates and sheets..	189,417	712,448
Angles, beams, channels and like material.....	240,710	1,244,245
Hoops, bands, scroll and strips	51,247	127,240
Railway fish and tie plates....	18,604	151,823
Nails.....	4,615	160,708
Tubing.....	137,879	978,453
Wire.....	166,664	622,634
Nuts and bolts.....	7,528	116,084
Tools.....	47,099	772,470
Machinery.....	293,384	4,023,425
Gasolene engines.....	623	193,652
Pumps.....	3,706	199,877
Butts and hinges.....	1,341	59,016
Saws.....	5,473	168,783
Files and rasps.....	8,472	63,788

THE TEHUANTEPEC ROUTE.

Those who are interested in the foreign trade of Canada, particularly from the eastern sections, with the western coasts of South America, Australia, Japan and China, are interested in the early completion and operation of the Tehuantepec route, regarding which the New York Commercial says:—

American interest in Panama Canal developments has somewhat restricted the attention which might otherwise have been given to the British-Mexican rival of the Panama route, known as the Tehuantepec Railway. This route traverses the Isthmus of Tehuantepec, which is almost the southern extremity of Mexico. On one side is the Gulf of Campeachy, which is in reality a portion of the Gulf of Mexico, and on the other side, is the Gulf of Tehuantepec, a small indentation in the isthmus, hardly deserving of the name of gulf. Just below the Isthmus of Tehuantepec is the republic of Guatemala.

The English capitalists who have promoted the Tehuantepec route are fond of regarding it as a formidable competitor of the Panama Canal itself. However, fully their expectations may be realized, it is at any rate certain that the railway will have an important part in the world's trade developments long before the Panama Canal is

opened for business. The railway was practically completed over a year ago, and the final touches are now being given to its terminal ports. Coatzacoalcos and Salina Cruz.

Like other isthmian projects, the Tehuantepec Railway has a long and checkered history. A survey with a view of opening a waterway across the isthmus was made in the 16th century, and it was not until 1880 that the idea of canalizing the waterways of the isthmus was finally abandoned. At last, in 1895, as the result of 17 years' operations by various concessionaries, a railway was constructed, but it was hardly a line to be proud of. With light rails, unballasted wooden bridges, and sharp curves, the line was recognized to be unfit for heavy traffic.

The absence of accommodations for shipping at the terminals was a further and even greater drawback to the prospects of the line, while the problem of its operation was also unsolved. The Mexican Government took action in the matter with commendable promptitude. In 1896 an act was passed authorizing contracts with a private firm for the exploitation of the railway and its terminal ports, and, finally in 1898, the government entered into contracts with the English firm of S. Pearson & Son, Limited, whereby the latter undertook to bring up the railway to the requisite standard of solidity, to construct harbor works, and provide facilities for shipping at the terminal ports, and at the same time the firm was admitted into partnership with the Mexican Government in the operation of the property. This firm has brought the line almost up to the standard requirements of the British Board of Trade.

Rails of 80 pounds were adopted as the standard for the main line, the track, which is of the standard gauge, 4 feet 8½ inches, has been ballasted with crushed rock or gravel, grades and curves have been reduced at five points by changing the location of the line, while all the bridges are now of steel, with solid masonry abutments, and are of the most substantial character. The finest steel bridge, perhaps, is that over the Jaltepec River, at Santa Lucretia, the junction of the Tehuantepec with the Vera Cruz & Pacific Railway. This bridge is 560 feet in length. In the reconstruction of the line, the difficulties of the contractors have arisen chiefly from the heavy rainfalls, the exuberant vegetation, and the other tropical conditions.

The rolling stock of the Tehuantepec Railway, both passenger and freight, is in good condition. Some of the latest passenger coaches are included, and Pullman cars are provided for service between Santa Lucretia and Salina Cruz. In view of the growth of the traffic, actual and prospective, the number of freight cars is being rapidly increased.

Upon the opening of the new ports, the Tehuantepec route should compete, under advantageous conditions, for all traffic at present moving between the Orient and United States Atlantic ports, between west coast ports of North and South America and European ports, between San Francisco and New York, and other points. This traffic is now forced to make the tedious passage around Cape Horn or Straits of Magellan, to go by the Panama

route, or over the American and Canadian transcontinental lines, or by way of the Suez Canal.

It has been estimated that the average saving in distance by the Tehuantepec route over Panama to all points on the Atlantic Coasts of the United States and Europe is about 1,250 miles. The ordinary freight steamer makes about 10 miles an hour, or, say 250 miles a day, requiring five days longer via Panama, assuming the time of crossing the two isthmuses to be the same. It will take a steamer about one day to pass through the Panama Canal, and the freight about two days to pass over Tehuantepec from ship to ship, leaving still four days to the advantage of Tehuantepec.

EDITORIAL NOTES.

On the Sunday preceding Labor Day, the minister of a Methodist church in Toronto preached on the subject of labor. The Church, he maintained, was the best friend that labor had, and those who urged to the contrary misrepresented the truth. The Church, he declared, ought to range itself against all that was opposed to labor and to labor men. He recognized the shortcomings of labor unions, but said that they were fighting the evil of capital. It was the aim of the church to stamp out crime and monopoly, and to bring capital and labor into sympathy with each other.

It is this sort of silly and insincere language uttered from the pulpit that tends to the lowering of a profession that should be elevated. In what way is "the church" the best friend of labor? and why is it that the reverend gentleman contends that those who urge to the contrary are liars? It may be that the church with which this minister is connected should consider it its duty to arraign itself against all that is opposed to labor and to labor men. Are there no other elements in the community competent to judge as to the action of laboring men in certain matters? Are laboring men always to be considered as immaculate as this mountebank preacher who, because they are labor men, undertakes to absolve from all wrong doing?

This minister recognizes the short-comings of labor unions, but absolves them when they fight the evil of capital; but he failed to say wherein the employment of capital is an evil. He deems it his Christian duty to toady to labor by denouncing the capitalist as a wretch and scoundrel who employs his wealth in giving employment to labor. "The church" and labor unions, according to this peace-maker and follower of Christ, are doing God's service in breeding trouble and fomenting discord between employer and employe. The man of sacred garb dishonors himself and "The Church" which gave him permission to stand before an intelligent audience and talk such rot.

Commercial Intelligence says that a combination has been formed of the whole of the hinge manufacturers of Great Britain in order to put an end to the severe underselling which exists there. A new price list has been issued, and has received the assent of the whole of the makers. And this in free trade Britain.

CAPTAINS OF INDUSTRY.

The following items of information, which are classified under the title "Captains of Industry," relate to matters that are of special interest to every advertiser in these pages, and to every concern in Canada interested in any manufacturing industry whatever, this interest extending to supply houses also.

The steel plant of the Northern Iron & Steel Co., Collingwood, Ont., is running again after being shut down for a period of two years.

The National Spring & Wire Co., Albion, Mich., are considering the erection of a plant in Canada. They are asking free sites and buildings and also exemption from taxation for several years.

A company has been organized in Owen Sound, Ont., with a capital of \$200,000, to manufacture stoves, heaters, ranges, etc. A. J. Ross, Owen Sound, Ont., is one of the Directors.

The congregation of the Baptist Church, Port Arthur, Ont., will erect a new church building.

The carpenter shop and planing mill of A. J. Bailey, Galt, Ont., were destroyed by fire September 11.

The White Lily Mining & Milling Co. Fort William, Ont., have been organized with a capital of \$1,000,000, to carry on mining and milling business. J. A. Gerow, Detroit, Mich., J. H. Buxton, and T. B. Taylor, Fort William, Ont.

The ratepayers of West Zorra, Ont., voted favorably on a by-law to loan \$15,000 to the St. Mary's and Western Ontario Railway. West Zorra is the last of the township municipalities, through which the proposed road will pass, to vote upon it, and now all the municipalities have carried their by-laws. The railroad will pass through a section of the country that for a long time has desired better railroad connection. From St. Mary's it will run through East Nissouri and a portion of West Zorra to Embro. The Canadian Pacific Railway Co. have agreed to meet the road at Embro, Ont., and to operate it as soon as it is completed, running regular trains over it.

The ratepayers of Hastings, Ont., will vote on a by-law to grant a bonus of \$5,000 to the Peterborough Boiler & Radiator Co.

The Peterborough Steel Rolling Mills Co., Peterborough, Ont., are asking for a bonus of \$6,000 and a right-of-way for a siding.

The Keystone Amusement Co., Pittsburg, Pa., will erect a theatre on Richmond Street, Toronto.

A Presbyterian church will be erected at Cobalt, Ont.

The Dowsell Mfg. Co., Hamilton, Ont., will erect a warehouse at a cost of about \$3,000.

Messrs. Shirley & Dietrich, Galt, Ont., are erecting a large factory.

The Massey-Harris Co., Brantford, Ont., will extend their works at a cost of about \$20,000.

When completed the plant of the Montreal Refining & Reduction Works, Trout Lake, near North Bay, Ont., will cost about \$2,000,000.

The premises of McPhails' cheese factory, Vernon, Ont., were destroyed by fire September 1.

The ratepayers of Leamington, Ont., will

vote on a by-law to grant Wm. C. Campbell, of Detroit, Mich., \$30,000, to establish an automobile factory there.

The Coats Mfg. Co., Fort William, Ont., have been organized with a capital of \$500,000. Directors include H. Coats, Perth, Scotland, and J. Dunwoodie, Glasgow, Scotland.

E. Patterson, Hamilton, Ont., will erect an hotel there.

H. B. Dawson, Port Arthur, Ont., will erect a business block there.

The Molsons Bank, Toronto, will erect a building at a cost of about \$70,000.

The Toronto Board of Education, Toronto, invites tenders for enlarging two schools.

The Sisters of St. Joseph, Toronto, will erect an infants' home at a cost of about \$46,000.

The United Empire Bank will open a branch at Hamilton, Ont.

The United Canada Printing, Engraving & Publishing Co., Ottawa, have been incorporated with a capital of \$20,000, to carry on a printing and publishing business. The provisional directors include J. D. Grace, J. McGillicuddy, Ottawa, and T. D. Grace, Fort William, Ont.

The premises of the Methodist Church, Caring Place, Ont., were destroyed by fire recently.

A public school will be erected at Woodstock, Ont.

The Central Presbyterian Church, Hamilton, Ont., which was destroyed by fire some time ago will be rebuilt at a cost of about \$150,000.

The Methodist church, Murray, Ont., was destroyed by fire, recently.

It is stated that the Grand Trunk Railway Co. will construct another tunnel under the St. Clair River.

The ratepayers of Fort William, Ont., will vote on a by-law to construct a bridge at a cost of about \$135,000.

The Canadian Pacific Railway Co. will build a direct line between Midland and Peterborough, Ont.

A. C. Mailloux, Gordon, Ont., invites tenders up to September 25 for the construction of a steel bridge over the Grand River.

Temiskaming & Northern Ontario Railway Commission, 25 Toronto Street, Toronto, invites tenders, up to October 2, for all the work except track-laying and ballasting connected with the building of the following branch lines, viz.:—1. From the main line near Cobalt to the Kerr region, a distance of approximately four miles. 2. From the main line to a point at or near Haileybury Wharf, Ont., a distance of about one and three-quarter miles. 3. From the main line near Englehart, Ont., to Charlton, Ont., a distance of about eight miles.

The Hensall Foundry & Mfg. Co., Hensall, Ont., have been incorporated with a capital of \$40,000, to manufacture plumbing and

heating supplies, etc. The provisional directors include A. Brandt, Hensall, Ont., F. G. Hunt, and O. L. Robb, London, Ont.

The Hurley Machine Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture machinery, tools, etc. The provisional directors include W. Gow, W. F. Ralph and R. Gowans, Toronto.

The Canadian Coal & Navigation Co., Tillsonburg, Ont., have been incorporated with a capital of \$500,000, to manufacture coal, oil, gas, lumber, metals, etc. The provisional directors include E. C. Jackson, G. W. Tillson and V. A. Sinclair, Tillsonburg, Ont.

The ratepayers of Stamford Township, Ont., voted favorably on a by-law to grant a bonus of \$3,000 to the Rambo Iron Works Co., who will establish a large factory there.

J. J. O'Brien, Guelph, Ont., will erect a brick block at Stratford, Ont.

A seven story addition will be erected to the Royal Distillery, Hamilton, Ont.

The American Machine Telephone Co., Brantford, Ont., have been incorporated with a capital of \$450,000, to carry on the business of a telephone company. The provisional directors include H. N. Baker, A. E. Knox and A. H. Paffard, Toronto.

The Crown Hat Co., Galt, Ont., have been incorporated with a capital of \$50,000, to manufacture hats, caps, etc. The provisional directors include C. C. Stauffer, R. Scott, and F. S. Scott, Galt, Ont.

Chemical Laboratories, Limited, Toronto, have been incorporated with a capital of \$50,000, to manufacture drugs, colors, dyes, etc. The provisional directors include R. H. Parmenter, A. J. Thomson and W. N. Tilley, Toronto.

The Iroquois Motor Car Co., Welland, Ont., have been incorporated with a capital of \$96,000, to manufacture automobiles, motor boats, etc. The provisional directors include J. H. Crow, W. H. Crowther and E. A. G. Pew, Welland, Ont.

The T. Eaton Co., Toronto, will erect a two story building at a cost of about \$25,000.

An addition will be erected to the Borland carriage factory, Stratford, Ont.

The ratepayers of Woodstock, Ont., voted favorably on a by-law to grant a loan of \$25,000 to the Canadian Bearing Co., Hamilton, Ont. This company will erect a factory there.

J. R. Mann, Dayton, Ohio, is considering the erection of an hotel at Sarnia, Ont.

The ratepayers of Kenora, Ont., voted favorably on a by-law to provide for the development of water power on the east branch of the Winnipeg River, at a cost of about \$200,000.

A sewerage system will be installed at Galt, Ont., at a cost of about \$212,000.

A steel reservoir will be constructed and the waterworks improved in North Toronto at a cost of about \$72,000.

The Arnprior Clothespin & Woodenware Mfg. Co., Arnprior, Ont., will erect a factory there.

The Hamilton Health Association, Hamilton, Ont., will erect a consumption sanitarium in Ancaster Township, Ont.

The A. R. Williams Machinery Co., Toronto, in acknowledgment of the excellent work done by their travellers during the past

year gave them a banquet at McConkey's on Friday, the 7th inst. The occasion proved such an enjoyable one and gave a great impetus to the selling energy of the concern that they will probably repeat the experiment.

The Toronto Waterloo Office Fixture Co., Waterloo, Ont., have been incorporated with a capital of \$75,000, to manufacture interior fittings, furniture, etc. The provisional directors include A. Bauer, J. Letter, Waterloo, and J. H. Mitchell, Toronto.

The ratepayers of Port Dalhousie, Ont., voted favorably on a by-law to raise \$4,000 for local improvement debentures.

The Twin Lake Mining Co., New Liskeard, Ont., have been incorporated with a capital of \$500,000, to carry on a mining, milling and reduction business. The provisional directors include J. Juby, H. Dorrow, New Liskeard, Ont., and W. J. Spencer, North Bay, Ont.

The Williams Copper Mining Co., Toronto, have been incorporated with a capital of \$100,000, to carry on a mining, milling and reduction business. The provisional directors include J. L. Lennox, D. A. Rose and F. W. Rose, Toronto.

The Fort Frances Lumber Co., Fort Frances, Ont., have been incorporated with a capital of \$60,000, to manufacture lumber, timber, furniture, etc. The provisional directors include W. A. Preston, P. P. Elliott, Fort Frances, Ont., and W. J. Elliott, Toronto.

The National Mining & Developing Co., New Liskeard, Ont., have been incorporated with a capital of \$40,000, to carry on a mining, milling and reduction business. The provisional directors include K. Farah, J. J. Grills, and J. W. Bolger, New Liskeard, Ont.

E. A. Wood, Limited, Orillia, Ont., have been incorporated with a capital of \$20,000, to manufacture leather, rubber, boots, shoes, etc. The provisional directors include E. A. Wood, A. Tait, and O. H. Tait, Orillia, Ont.

The Golden Reed Mining Co., Sault Ste. Marie, Ont., have been incorporated with a capital of \$1,200,000, to carry on a mining, milling and reduction business. The provisional directors include G. Reed, Michipicoten River, Ont., M. Gates and A. E. Sharpe, Sault Ste. Marie, Ont.

The Toronto Furniture Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture furniture, etc. The provisional directors include D. K. Ridout, T. P. Johnstone and P. S. Grant, Toronto.

Messrs. Benjamin Moore & Co., Toronto, have been incorporated with a capital of \$50,000, to manufacture oils, paints, varnishes, colors, etc. The provisional directors include C. W. Thompson, H. B. Johnson and J. H. Whitehead, Toronto.

The Wrought Silver Mining Co., Toronto, have been incorporated with a capital of \$200,000, to carry on a mining, milling and reduction business. The provisional directors include F. Horder, F. C. Elks and E. B. Ryckman, Toronto.

The British American Silver Co., Toronto, have been incorporated with a capital of \$50,000, to carry on a mining, milling and reduction business. The provisional directors include W. H. Wallbridge, F. Smith and J. E. Elliott, Toronto.

The Bailey Mining Co., Windsor, Ont., have been incorporated with a capital of \$500,000, to carry on a mining, milling and reduction business. The provisional directors include A. R. Bartlet, Windsor, Ont., H. B. Wright and R. A. Bailey, Detroit, Mich.

The Keewatin Lumber Co., Keewatin, Ont., have been incorporated with a capital of \$250,000, to manufacture lumber, shingles, posts, ties, etc. The provisional directors include D. McLeod, Keewatin, Ont., W. F. Brooks and A. E. Horr, Minneapolis, Minn.

The Boehmer Erb Co., Berlin, Ont., have been incorporated with a capital of \$100,000, to manufacture goods, wares, merchandise, etc. The provisional directors include A. Erb, C. S. Boehmer and S. N. Erb, Berlin, Ont.

The Huronian Cobalt Silver Mining Co., Cobalt, Ont., have been incorporated with a capital of \$500,000, to carry on a mining, milling and reduction business. The provisional directors include J. R. Gamble, W. A. J. Bell and T. Langton, Cobalt, Ont.

Messrs. J. Vansickler & Co., Toronto, have been incorporated with a capital of \$40,000, to carry on a building and contracting business. The provisional directors include J. A. Vansickler, G. Grant, Toronto, and J. G. Newson, Toronto Junction, Ont.

The Southampton Furniture Co., Southampton, Ont., have been incorporated with a capital of \$200,000, to manufacture furniture, etc. The provisional directors include J. H. Spence, F. W. Carey and W. H. Phelan, Toronto.

The Ontario Oil & Refining Co., Chatham, Ont., have been incorporated with a capital of \$100,000, to manufacture gas, oil, etc. The provisional directors include J. M. Pike, T. K. Holmes and J. Simon, Chatham, Ont.

The Interprovincial Mining Co., Haileybury, Ont., have been incorporated with a capital of \$1,500,000, to carry on a mining, milling and reduction business. The provisional directors include A. Lay, T. H. Steele, Haileybury, Ont., and W. A. Weir, Montreal.

The Standard Flax Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture goods, wares, merchandise, etc. The provisional directors include J. S. Lovell, R. Gowans and E. W. McNeill, Toronto.

The Peterborough Steel Rolling Mills Co., Peterborough, Ont., have been incorporated with a capital of \$200,000, to manufacture iron, steel, engines, etc. The provisional directors include W. Rudkins, M. A. McNamara and R. H. Fortye, Peterborough, Ont.

The Public Works Department, Ottawa, invite tenders up to October 1 for the construction of a wharf at Montmagny, Que.

The North American Wrecking Co., Montreal, have been incorporated with a capital of \$60,000, to manufacture warehouses, wharves, boats, vessels, etc. The charter members include D. Armour, E. F. Surveyer and E. M. McDougall, Montreal.

The Canadian Shuttle Co., Montreal, have been incorporated with a capital of \$125,000, to manufacture shuttles, mill supplies, etc. The charter members include O. B. D'Aoust, C. Blakely and W. S. Hutchinson, Montreal.

The mill and elevator of the Dowd Milling Co., Quyon, Que., were destroyed by fire September 3. Loss about \$75,000.

The premises of the Hochelaga Cotton Mills, Montreal, were damaged by fire September 4. Loss about \$7,000.

The out-buildings of the Hotel Dieu Hospital, St. Hyacinthe, Que., were destroyed by fire September 3. Loss about \$6,000.

The Roman Catholic Commissioners, Montreal, will erect two new schools at a cost of about \$60,000.

The annual meeting of the Montreal Reduction & Smelting Co., Montreal, was held at the company's head office and the following directors were elected:—J. E. E. Leonard, M.P.; J. H. Brown, mining engineer; Benjamin Burland, broker; L. J. Cartier, ex-banker; O. Lemieux, merchant; O. Robert, bank official; P. A. Thereault, merchant.

The Canadian Pacific Railway Co. will erect two new wings to the Place Viger Hotel, Montreal.

The Ground Anchor Co., Montreal, have been incorporated with a capital of \$25,000, to manufacture anchors, adjuncts, etc. The charter members include F. E. Lovell, Coaticook, Que., R. A. Stinson and F. J. Bell, Montreal.

The Montreal Cotton & Wool Waste Co., Montreal, have been incorporated with a capital of \$400,000, to manufacture cotton batting, paper, etc. The charter members include S. E. Lichtenhein, G. W. MacDougall and C. A. Pope, Montreal.

The premises of the Methodist church, Shawville, Que., were destroyed by fire recently. It will be rebuilt.

The congregation of the McGill College Avenue synagogue, Montreal, will erect a large new synagogue.

The Kent House, Quebec City, will be extensively improved.

An addition will be erected to the drill hall, St. John's, Que.

The Canadian Pacific Railway Co. will erect an addition to their station on Windsor Street, Montreal.

The post office, Shawville, Que., was destroyed by fire September 12.

The sash and door factory of R. G. Hodgins, Shawville, Que., was destroyed by fire recently.

A sewage system will be installed at Aylmer, Que., at a cost of about \$50,000.

The premises of the Calhoun sawmill, Jacquet River, N.B., were destroyed by fire September 7, by the explosion of one of the boilers.

The mill of Messrs. Fownes & White, Hanford Brook, N.B., was destroyed by fire recently.

The St. George Pulp & Paper Co., St. George, N.B., whose premises were destroyed by fire recently, will erect a new saw mill.

The Royal Bank of Canada, St. John, N.B., will erect a four story building.

Messrs. R. C. Fuller & Co., Amherst, N.S., are improving their works at a cost of about \$2,000.

The ratepayers of Halifax, N.S., voted favorably on a by-law to construct a new iron fence for the Public Gardens, at a cost of about \$10,000.

The Amherst Foundry Co., Amherst, N.S., are making an addition to their factory, 75x60 feet, at a cost of about \$4,500.

The Royal Bank of Canada will erect a branch building at Weymouth, N.S.

It is stated that car building works will be established in Halifax, N.S. Those interested include J. R. Macleod and F. B. McCurdy, Halifax, N.S.

The wireless station, Glace Bay, N.S., will be extended at a cost of about \$40,000.

The Rhodes Curry Co., Amherst, N.S., will erect an addition 135x76 feet to their works.

The Public Works Department, Ottawa, invites tenders up to September 28 for the construction of a wharf at Jersey Cove, N.S.

The Globe Construction Co., Winnipeg, Man., have been incorporated with a capital of \$5,000, to manufacture lime, brick, paints, builders' supplies, etc. The provisional directors include J. W. Henderson, F. R. Mayotte and L. G. Anderson, Winnipeg, Man.

The Town Topics Publishing Co., Winnipeg, Man., have been incorporated with a capital of \$5,000, to manufacture paper, envelopes, books, etc. The provisional directors include G. R. Ryan, G. Saults and I. Pitblado, Winnipeg, Man.

The warehouse of the Massey-Harris Co., and several adjoining buildings, Pilot Mound, Man., were destroyed by fire September 11. Loss about \$20,000.

The Stewart & Mathews Co., Winnipeg, Man., have been incorporated with a capital of \$500,000, to construct warehouses, elevators, mills and to manufacture lumber, stone, brick, etc. The provisional directors include E. B. Tainter, C. W. Fillmore and C. W. Bradshaw, Winnipeg, Man.

The Union Farmers Telephone Co., Langford, Man., have been incorporated with a capital of \$2,000, to carry on the business of a telephone company. The provisional directors include W. G. Pollock, J. C. Drysdale and R. Hunter, Langford, Man.

The Watson Confectionery Co., Winnipeg, Man., have been incorporated with a capital of \$75,000, to manufacture confectionery, etc. The provisional directors include J. Watson, W. J. Boyd and W. S. Evans, Winnipeg, Man.

A school will be erected at Mather, Man., at a cost of about \$6,000.

A new school will be erected at Miniota, Man.

The Fire and Light Committee, Winnipeg, Man., invite tenders up to September 24, for 7,500 feet cotton rubber hose.

The Dominion Bank will erect a branch building at Deloraine, Man.

Four new fire halls will be erected in the suburbs of Winnipeg, Man.

Messrs. Kelly Bros. & Mitchell Co., Winnipeg, Man., have been awarded the contract for the construction of the Imperial Bank at a cost of about \$150,000.

The Fort Rouge Building Co., Winnipeg, Man., will erect a block at a cost of about \$35,000.

The Canadian Northern Railway Co. will erect a station at Brandon, Man., at a cost of about \$25,000.

M. M. Whiting, Birch Hills, Sask., will erect a Methodist church there.

An eight-roomed school building will be erected at Innisfail, Alta.

The Canadian Pacific Railway Co. will extend their yards at Estevan, Sask., at a cost of about \$30,000.

The Council, Strathcona, Alta., will erect a nurses' home in connection with the hospital.

The Lethbridge Milling Co., Lethbridge, Alta., will erect a new mill at a cost of about \$25,000.

The ratepayers of Yorkton, Sask., will vote on a by-law to raise \$90,000, for the purpose of installing sewerage, waterworks and telephone systems.

The Bank of Toronto will erect a bank building at Calgary, Alta.

Messrs. Schram & Brown, Medicine Hat, Alta., have commenced the manufacture of brick by a new process.

The ratepayers of Calgary, Alta., will vote on a by-law to raise another \$10,000 for the power plant.

The W. R. Brock Co., Calgary, Alta., will erect a warehouse there.

A public school will be erected at Strathcona, Alta., at a cost of about \$15,000.

A school will be erected at Vegreville, Alta., at a cost of about \$10,000.

A public school will be erected at Didsbury, Alta., at a cost of about \$18,000.

The congregation of the Presbyterian church, High River, Alta., will erect an edifice at a cost of about \$10,000.

The Merchants Bank, Camrose, Sask., will erect a building at a cost of about \$10,000.

Messrs. Sprout, Waldron & Co., Minneapolis, Minn., will erect a flour mill at Lethbridge, Alta.

The Lethbridge Coal Mines Co., Lethbridge, Alta., will improve their plant at a cost of about \$75,000.

J. W. Horn, Vancouver, B.C., will erect a business block at a cost of about \$25,000.

A. G. Hamersley, Vancouver, B.C., will erect a six story business block.

The premises of the Boundry Iron Works Foundry, Grand Forks, B.C., were destroyed by fire recently. Loss about \$35,000.

Messrs. McLean Bros., Vancouver, B.C., will erect a sawmill on the Fraser River, B.C.

A new school will be erected at South Dunach, B.C.

S. Sing, Vancouver, B.C., will erect a three story brick block at a cost of about \$20,000.

A new court house will be erected at Nelson, B.C., at a cost of about \$60,000.

An addition will be erected to the asylum, New Westminster, B.C.

A new court house will be erected at Vancouver, B.C., at a cost of about \$150,000.

A consumption sanitarium may be erected at Victoria, B.C., to cost about \$60,000.

Messrs. Sullivan & Considine, Vancouver, B.C., will erect a new theatre there.

The Vancouver branch of the A. R. Williams Machinery Co. are finding a good demand for machinery and engineering supplies from Japan and Alaska, as well as from British Columbia points.

PUBLICATIONS.

The publishers of The Canadian Manufacturer solicit in advance, if possible, catalogues, circulars, and other industrial publications issued by manufacturers. We wish to review such literature, and bring the principal points to the attention of our readers.

The Calculagraph.—A 24 page illustrated catalogue showing the many uses to which the calculagraph can be put in office, workshop, telephone exchange, etc. The Northern Electric & Mfg. Co., Montreal.

The Dyeing of Cotton.—An 88 page book, bound in cloth. In the preface the publishers say of this book: "The dyeing of loose cotton, roving and yarn in the form of hanks, cops, cheeses and warps, according to the various systems in use is fully described herein and explained by a number of recipes obtained by practice, which yield excellent results and will serve as a valuable guide in the various methods of working. The Cassella Color Co., Montreal and New York.

Incandescent Lamp Dictionary.—A 16 page vest pocket dictionary explaining the various terms used in reference to incandescent lamps. The Werner Co., Akron, Ohio.

The Copeland-Chatterson Co.—This firm continues to send out exceptionally good advertising literature. One card to hand drew attention to the fact that as the mosquito is the plague of the summer night, so the small worries make the day tiresome, recommending a C.-C. system to simplify accountancy and reduce the worries. Another emphasizes the fact that the firm's new factory is adapted in its design and equipment for a much greater output of loose leaf ledgers, etc., of the highest quality and workmanship and at a minimum expense.

Automobile Number.—A number of the Trussed Concrete Bulletin devoted to an illustrated description of the new plant of the Packard Motor Car Co., Detroit, constructed throughout with reinforced concrete. This number will prove of exceptional interest to manufacturers thinking of erecting new factories or warehouses, also to all contractors.—The Trussed Concrete Steel Co., Detroit.

Dyestuffs.—The feature of the August issue of Dyestuffs is "Hyraldite as a stripping and Discharging agent."—The Cassella Color Co., New York and Montreal.

The Lighting of Public Buildings.—A 32 page booklet, illustrated, giving illustrations of the varied possibilities of the Nernst lamp.—The Canadian Westinghouse Co., Hamilton, Ont.

Through Frisco's Furnace.—A superbly illustrated 24 page booklet, telling of soundness of steel constructed buildings, under the crucial test of earthquakes, dynamiting and fire. The purpose of the publication is to show how well Dixon's silica-graphite paint preserves the maximum strength of steel work of high buildings, so that severe strains can be successfully resisted.—The Joseph Dixon Crucible Co., Jersey City, N.J.

Blue Shades.—Samples of results secured in ladies' dress materials and gentlemen's suitings, together with dyeing instructions.

The Cassella Color Co., Montreal and New York.

Bowser Oil Cabinets.—A 48 page booklet, giving full details with illustrations of the great value of Bowser oil cabinets for factories, mills, railroads, etc.—S. F. Bowser & Co., Fort Wayne, Ind.

Fire Alarm Apparatus.—A 16 page illustrated catalogue showing the various signal boxes, mechanical gongs, etc., manufactured by the Northern Electric Mfg. Co., Limited, Montreal.

Reliance Gasoline Engines.—A dainty catalogue giving full description, with illustrations of the Reliance gas and gasoline engines, now made in Canada.—The Labatt Mfg. Co., London, Ont.

Valves and Hydrants.—A 64 page catalogue devoted to full descriptions, with illustrations of the brass and iron valves and hydrants made by the Kerr Engine Co., Limited. As this firm are one of the largest manufacturers of these lines, and as their product is recognized as being ever up to a high standard of quality every buyer of valves and hydrants should be in possession of this catalogue. Send a card to Kerr Engine Co., Walkerville, Ont.

CANADA A RIVAL OF THE UNITED STATES IN ELECTRICAL MACHINERY.

The largest generator ever made in this country has just been made ready for shipment to British Columbia from the works of the Canadian Westinghouse Co., of Hamilton, Ont. The purchaser is the British Columbia Electric Railway Co., of Vancouver, B.C. The generator is 2,000 h.p., 3 phase, 7,200 alternations, 200 revolutions per minute, engine type for direct connection with the water wheel. The order also includes one rotary converter of 1,350 h.p., 550 volts, 3 phase, 7,200 alternations, 400 revolutions per minute, and eight air blast transformers each of 733 h.p., 2,200 volts to 24,200 volts, 7,200 alternations. The necessary switchboards and regulating and controlling the devices were also manufactured in this plant, and will be shipped with the balance of the order in the course of a day or two.

The new machinery is required by the Vancouver company to provide added power to meet the ever increasing demand of Vancouver and vicinity. It is the fourth generator of the size ordered by the Vancouver company, but the other three were supplied by the Westinghouse Co. from its Pittsburg works previous to the building of the Hamilton works. The one now ready for shipment is by long odds the largest ever manufactured in Canada.

THE TIME WILL COME.

When it will be a disgrace not to work when one is able.

When everybody will know that selfishness always defeats self.

When to get rich by making others poorer will be considered a disgrace.

When the golden rule will be regarded as the soundest business philosophy.

When the business man will find that his best interests will be the best interests of the man at the other end of the bargain.

When all hatred, revenge, and jealousy will be regarded as boomerangs which inflict

upon the thrower the injury intended for others.

When a man who seeks amusement by causing pain or taking the life of innocent, dumb creatures will be considered a barbarian.

When every man will be his own physician, and will carry his own remedy with him, —when mind, not medicine, will be the great panacea.

When men will realize that there can be no real pleasure in wrongdoing because the sting and pain that follow more than outweigh the apparent pleasure.

When the world will have everything to sell and nothing to give, and the price it demands will be the best service the purchaser can render the race.

When it will be found that repression and punishment are not reformatory, and our prisons will be transformed into great educative and character building institutions.

When it will be found that physical and chemical forces were intended to release man from all physical drudgery, and so free his mind from the burden of living-getting that he can make a life.

When no man will be allowed to say that the world owes him a living, since the world owes him nothing that he should not pay for; it owes a living only to cripples, invalids, and all others who can not, through some misfortune, help themselves.

When the "grafter," who fattens upon an unsuspecting public wears purple and fine linen and lives in luxury, will be meted out the same measure of justice as the vulgar footpad receives who knocks a man down and picks his pockets.

When the "best society" will consist of men and women of brains, culture and achievement, rather than those whose chief merit and distinction lie in the possession of unearned fortunes which they make it the business of their lives to squander.

When a man will be ashamed to harbor such an unworthy ambition as the accumulation of an unwieldy fortune, merely for the sake of being rich; when no woman will live simply to dress and waste her time in a round of idiotic and exhausting pleasures, or what she has hypnotized herself into believing are "pleasures."

When the human drone who eats the bread and wears the clothes he has never earned, who consumes the products of others' struggles, who lives in luxury by the sweat of others' brows and on others' sacrifices and ruined ambitions will be looked upon as an enemy of his race, and will be ostracized by all decent people.—Success.

DIFFICULTIES OF VENTILATION.

"I know of no subject of so much importance which is surrounded by so much ignorance or so many perplexities, difficulties and blunders as ventilation," says R. T. Crane, in *The Valve World*.

"What we call natural ventilation, that is, the natural action of flues in a house, is entirely determined by the temperature of the weather, or in other words, the flues only act when there is a difference in temperature between the air inside and the air outside the house. Hence when there is practically no difference in temperature, there is no action in the flues. This action is systematically increased by the increased difference between the temperature inside and outside the room. There being in consequence no

uniformity of action, ventilation depending merely upon the movement of air in flues is exceedingly irregular and unreliable.

"Consequently the action of air in flues cannot be made effective when there is but little difference between the temperature of the atmosphere inside and outside the room unless the flues are warmed or some mechanical means for moving the air is provided.

"While the heated flue must of necessity serve as it may in the small building nothing short of a fan blower will insure positive ventilation in such a building as a school house, a theatre or hall. That this fact is almost universally recognized is manifest in the rapidly increasing use of the fan for such purposes."

DAIRY INDUSTRY PROSPEROUS.

The past season in the dairy industry of Canada is likely to prove one of the most prosperous to Canadian farmers the country has ever had. The make has been heavy and prices have ruled high all through the year. From year to year Canadian cheese exports to England are steadily increasing while those of the United States are declining. There was a time when the States had practical control of the trade there but the Canadian article showed better quality and we are now supplying the demand for what is one of the most important articles of food in that country. The excellent returns to Canadian farmers during the past year have done much to ensure good general business conditions in the dairy districts of Ontario and Quebec.

AUTOS DISCARDED TOO SOON.

Many automobiles are discarded long before their time, with ruined bearings and "general debility"—just for lack of a little lubrication. The most effective lubricator for motor machinery is graphite. It is surer and much more lasting than oils or oil compounds, because it does not run or drip off, nor does it evaporate as oils do when heated. Graphite makes a thin coating right where it is most needed. This acts as a filmy cushion that keeps the expensive surfaces and bearings from rubbing and wearing each other. Flake graphite, composed of thin flakes or layers, is the best kind of graphite for motors, as it does not get "caked" or "balled" up, nor does it gum or clog their intricate mechanism.—*Evening Post*, New York.

LOW SUMMER TOURIST RATES WEST.

During the entire summer the Chicago & North-Western Railway will have in effect very low round trip tourist rates to Colorado, Utah, California, Oregon, Washington, and British Columbia points. Choice of routes going and returning with favorable stopovers and time limits. Very low excursion rates to the Pacific Coast from June 25 to July 7. For further particulars, illustrated folders, etc., write or call on B. H. Bennett, General Agent, 2 East King Street, Toronto, Ont.

As showing the real progress made in the construction of the "Grand Trunk Pacific," it is interesting to note that a cheque for \$382,000 has been paid into the Customs Department at Ottawa, representing duty on 54,500 tons of steel rails which will be used in the building of that road.

OFFICE METHODS AND APPLIANCES.

A Review of the Latest Suggestions in Office Systems and Supplies for Manufacturers.

A ROLLING STONE.

By H. A. THOMPSON.

At a chamber of commerce dinner I sat next to a man who is recognized as one of New York's leading merchants, and for that reason I shall call him Mr. Smith.

Afterwards we walked around to his club. On the way he remarked, "What did you think of that last speech?"

"I suppose the reporters will call it a masterly address," I replied, tentatively.

"Yes; he's one of those chaps who can call a spade more different names and do it more eloquently than any one else I've ever heard. But do you remember anything he said?"

"Come to think of it, I don't."

"No; he didn't say anything. The only impression his speech left on me is a confused blur of words."

By this time we were at the club. When we were ensconced in comfortable chairs, Smith resumed:

"Out of the glittering galaxy of words and phrases, I do remember one or two,—'stick-to-it-iveness'—he seemed to be very fond of that word,—and 'a rolling stone.' I think he talked for ten minutes on the different kinds of moss a rolling stone fails to gather." After a short pause, Smith continued:

"A couple of months ago I dropped into a concern where I started as a clerk. There was another clerk there named Carruthers. He had this start of me, all right, a good high-school education, family without a flaw, dressed well,—his linen was immaculate, his clothes and his habits unimpeachable. A stranger would have taken him for the boss, particularly as the boss was often taken for the janitor. On a scale of points the judges would have awarded Carruthers the blue ribbon. When I left he was getting ten dollars a week, was at business punctually every morning, did his work properly, was guilty of no dissipation, minded his own business,—and stopped there. Somehow, the men who get along are those who find it their business in business, to mind some other fellow's business.

"Well! If a chap writing a book on 'How to Succeed' had run across Carruthers he'd 'a' put the clerk's picture in as a frontispiece, and devoted a chapter to him. Unfortunately, he didn't come along, and it never occurred to Carruthers to look him up.

"That was thirty years ago. When I called there, the other day, Carruthers was still in indisputable authority over ledger N to Z. He was gray and thinner, but his linen was immaculate, his trousers neatly pressed, and he was minding his own business. He was a bachelor still, he told me. Think of it! Thirty years, and no kid to call him father!

"Still here," I said, making a stab at something cheerful to hide my real feelings.

"Still here," he said. A rolling stone gathers no moss, you know."

"That was about the best exposition of the wrong side of a maxim I ever heard. It was sad but Carruthers didn't know it was sad.

"I said to the boss, as I was leaving, 'What's Carruthers getting?'"

"Twenty-five a week," he replied.

"That isn't more than enough to keep him," I said.

"It's all his job's worth, and the Lord knows where he would get another," said the boss.

"I suppose a rolling stone doesn't gather moss, and I guess Carruthers got about all the moss that he needs in his business. But I think a rolling stone gets a bit polished; it certainly has variety, and undoubtedly it runs across many opportunities, and bless me if I can really see what on earth it wants with moss, anyway.

"There was another chap there, in those days,—a little red-headed fellow, who was a trifle careless about blacking his shoes every morning. He was invoice clerk and he used to nose around the books, asking what this was for and what that was for. Carruthers used to tell him that bookkeeping is a science beyond the comprehension of the ordinary intellect. But that never feazed Reddy. I rather liked him,—somehow I have always

"WHAT CONSTITUTES SUCCESS."

He has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has left the world better than he found it, whether by an improved poppy, a perfect poem or a rescued soul; who has never lacked appreciation of earth's beauty or failed to express it; who has always looked for the best in others and given the best he had; whose life was an inspiration; whose memory a benediction.—Ex.

had a weakness for red-heads,—and used to give him a pointer now and then. In those days an order was made in a blotter, then the invoice was made out from the blotter, a slip for the packer written out, and the charge posted from the blotter to the ledger.

"Reddy went to the boss, one day, and suggested, in a shamefaced manner, as if he expected to get fired, that, if a book in triplicate was used, with carbon paper, the blotter entry, invoice and packer's slip could be made out at the same time.

"The boss saw the point, but he didn't care to spoil the boy with too much praise, so he said, 'Do I pay you for working or thinking?'"

"For working," answered Reddy; but, with the glint of a twinkle in his eye, he added, 'but I did this thinking out of office hours.'

"Reddy," said the boss, 'what am I paying you?'"

"Five," said Reddy, wasting no words.

"It'll be ten, next week," said the boss, 'and now go back to your desk and don't act as if you owned the place.'

"When I left, Reddy took ledger A to M.

When I went with The Emporium, I sent for Reddy. He hadn't been there a year before he had introduced a plan for keeping a perpetual inventory by a card system. Then he got a raise in salary, but somehow it didn't spoil him. Instead of taking a vacation, like an ordinary human being, he went East and visited the large department stores there. He nosed around, asking questions and making friends among all the department managers, and when he came back he had some new ideas. He organized a mail order department, induced the firm to hire a high-priced windowdresser and an advertising manager at a salary that made his employers gasp for breath, and got them to put in drugs, books, and groceries.

"Of course, he didn't do all this at once. The firm gave him a chance to make a few more trips at their expense that didn't come out of his vacation time. They weren't hustlers themselves. But there is one class of men that does things and another class that has sense enough to get a man to do things for it.

"Reddy's in the firm now. I guess he is the firm. He's pretty much everything in that city,—has been mayor two terms, built the biggest church there, organized the Country Club, disorganized the political ring, and reorganized the school system.

"But somehow or other, Reddy never gathered much moss."

HOW TO PICK A SUPERINTENDENT.

"Because he can run the factory more like I would run it myself were I able to oversee all its details than any man I could find, that's why I made him my superintendent," remarked a prominent American manufacturer the other day. And that's a good reason, although it may sound a little egotistical before you think it over. But think it over a little and you'll see that it's sane and just.

In the first place, a man's business is the product of his own work, not the product of the work of a lot of clever assistants or workmen. They all count, of course, but it's mostly the old man in the office. The business gets to amount to something or it don't, according entirely to his ability or lack of it. By the time a business is established as this one is it is running along smoothly (or it wouldn't be running at all), and unless a mighty big change of system is going to be made it isn't desirable that there be any change at all. So when it becomes necessary to hire a new superintendent the idea is to get one who'll run things pretty much as the old man himself would run them if he were on the spot.

It has been my theory always that the man who can judge men is the proper kind of a man to make a superintendent out of. So when I began to pick my candidates for the superintendency I first tried them out a judging other men. Aside from the fact that this is a good test for a man in any capacity, it is, of course, one of the prime requisites in a superintendent. The superintendent who isn't able to judge the

men under him will be as much at sea as a mariner without a compass. He will hire inefficient, reject the competent, and ball things up generally. So I picked three and began to try them.

I was fortunate. I picked the winner at the first. I called him into the office one day and began to speak to him:

"There's Saxton," I said. "It seems to me that Saxton ought to be in a better position than he is. He's a bright chap, I think, and capable of doing something besides running a machine at \$3 a day. I'm thinking of putting him in charge of the boys in your room."

He was a slow speaking fellow and he said: "Well, Mr. —, then you don't know Saxton."

"Why?"

"Well, Saxton is a good workman at his machine, but that lets him out. He's got a temper that unfits him for any position where he would have power. He's impossible as anything but a workman."

"Well, then, there's Grimmer," I continued. "I'm about ready to let him go. We can't afford to have any old fogies like him around the place any longer. He's behind the times, out of date. I guess you'd better tell him that we'll drop him next Saturday."

"All right. But I want to tell you that he is worth what he's getting, and a lot more, too. Why, his steady plugging and satisfaction with his place has been worth thousands of dollars as an example all through the works. There'd have been two big strikes last winter sure if it hadn't been for old Grimmer. But he talked to the men and told 'em that he'd been with you twenty years and that you'd always given everybody a square deal when they dealt squarely with you, and they calmed down. You lose a strong ally when you let him go."

"Well, then, why wouldn't he make a good superintendent?" I flashed at him.

He grinned back at me. "Oh, well, to tell the truth, the old man's too blamed kind hearted for any such job. Besides," he continued, "you never thought of making him superintendent any more than you did of firing him or of promoting Saxton. You wanted to see how I had 'em sized up. Now please tell me why you did it."

"Because," I said, "I strongly suspect that you're going to be my superintendent."

MEN GROW STRONG WITH LABOR.

This is the age of business, and there is danger that the higher interests of men will be submerged and choked out by the crowding concerns of our money-seeking civilization. The refinements of art, the beauty and glory of nature, the power of repose, the adventure of the ideal—all these things should be parts of a fully rounded human life; all these things should have a place in a career that is worth while, thus enlarging life's scope.

Mere material success usually is lop-sided. It is not long ago that Andrew Carnegie, our Bismarck of business, delivered a weighty utterance upon the insufficiency of wealth as an ideal aim in life. "Money," said Mr.

Carnegie, "does not make a man happy. I would give up all the wealth I have rather than be denied the pleasures that come from the study of literature and art. If Shakespeare and Wagner, the mountain peaks of literature and music, were taken out of my life, life would be poor indeed."

Here is testimony, competent, relevant and pertinent—the testimony of a disinterested witness, writes Edwin Markham. Here are texts for many serious meditations. These doctrines cry out against a soul-suffocating absorption in business, but do they set the word of approval on an idle life? Do they mean that work is a misfortune to bemoan, an incubus to be shaken off? Is labor the Old Man of the Sea astride the bended back of Life? Nay, verily.

We are outgrowing the crude tradition that work is a curse, a hindrance to a complete life. It is the mark of a shallow thinker to fancy that, if it were not for work, life would break open around him into beautiful satisfactions.

There is no curse of work—work that is not slavish drudgery; for work is as normal to man as play is to a tiger's cub. But in the ashes of hope there is a curse upon the paradise of the idle, deep as the dust of graves.

So the chief concern of every man should be to become oriented—to find out his errand to the earth. This is a part of the obligation laid upon every soul. The animal does not have to seek for its mission, does not have to find its way. In normal conditions, the animal is pushed on in the path of its fore-ordained career, but man must co-operate consciously with the powers that make for his progress and his peace.

One look into life makes clear the fact that man is not here to roll as an aimless stone down a swift river. No; he is not here to drift with the stream, but to turn the course of the stream. He is not here to be bent by the world, but to bend the world.

Into the destiny of things he comes as another fate to seize the raw materials of life and mould them nearer to his heart's desire. He is here to affirm, to create, to compel nature to higher issues, and to write large his autograph on a page of history.

It is his to find the wilding crabapple in the Asian forests, and to transform it to the bellflower and the greening of our orchards; his to transform the sneaking wolf into the faithful collie and the benevolent St. Bernard; his to transform the arid desert, the reeking swamp, to the busy city, the whitening wheat field; his to command the irresponsible lightnings and yoke them to fetch and carry our words, our burdens, ourselves.

Do we smile at the old myths? If so we are forced to be serious in the presence of one of them—the old story of the terrible Erinnyes, the three secret goddesses who ever were alert to punish those who escaped or defied the law. There is a dread truth in that old tradition. In the deep chambers of nature there are Avenging Powers that no wealth can bribe, no cunning evade.

The punishment of the idler is doubly deep because his crime is a double crime; he sins against himself and against society. He fails to express himself; and at the same time he fails to render to others any return for his food and shelter. The deep life law is founded on the Golden Rule, the principle

of reciprocity. If we take, we must give. Failure to obey this divine mandate is the chief cause of all the sorrows and disasters of individual and of social life. It is the observance of this law that swings the world in its harmonies and makes possible the heaven of heavens.

It is a canon of biology that the unused organ perishes, that the parasite shrivels to a quaking pulp or a flabby shell. The parasite declines to work, declines to take its place in the world order, preferring to forage upon its more thrifty fellows.

The common dodder is one of these natural paupers. In the beginning it makes an honorable start; performs every plantlike duty; shoots out root and leaf. But the bane of the idler is in its nature; so, casting off its self-respect, it proceeds to suck its daily sap from some worthy neighbor.

Here is a felony in the plant world. Vigilant nature, with her keen, searching eye does not fail to see it, and sets forth to punish the offender. She speaks her inflexible judgment. "Let the unused organs perish." Forthwith that pauper plant begins to be stripped of its dignity and beauty, and finally stands a degraded, stricken thing, rootless, leafless, strengthless—a mere nonentity.

This is the dodder—its story and its tragic doom. The parasite life of the succulina preaches the same lesson. This creature starts out with all the organs and activities of any well-born crustacean. It holds its own; it earns an honest living. But the pauper spirit comes upon it—the desire to get something for nothing—the purpose to live without work. It makes its mendicant way into the body of a hermit crab and there finds ready-made nourishment and shelter.

Soon, as in the case of the dodder, the deep law begins its terrible rebuke. The succulina loses its organic structure. Look at this degenerate idler. The leprosy of the workless life is upon the shapeless thing. Its legs have dropped away, its eyes have gone out. It has become only a hollow pocket, a sucking bag.

Here we touch upon a law, deep as eternity—a law that rebukes the worthless life. It is only through rational activity of body and mind that any being evolves and conserves its powers. So, if a man stands idle, leaning or living upon others, his faculties dwindle, his powers decay.

To get something for nothing, to win safety without struggle—this is not in the sanctions of the divine order of the world; this is an evil thing that distorts one's senses of the primary rectitudes, and that lets in the dry rot upon the moral character.

Labor is not something thrust upon us by a malign or capricious deity, by some Setebos on his arbitrary seat. It is the friendly rock in the road, the lifting of which calls out our unknown strength, our hidden genius. In the tug and wrestle of it we rise into self-realization, into self-mastery.

The law that blasts the parasite blesses the worker. While one descends the perilous path to degeneration the other climbs the path of evolution to a more abundant life. A man fitted to his place and work is in the motion and music of the elemental forces; he is co-operating with the world will. Every breeze favors and sun and stars light his onward way.

Go into Business for Yourself.

ORISON SWETT MARDEN, Editor of Success.

"I would not give a fig," says Andrew Carnegie, "for the young man in business who does not already see himself a partner or at the head of an important firm. Do not rest for a moment in your thoughts as a head clerk, a foreman, or general manager in any concern, no matter how extensive. Say to yourself, 'My place is at the top.' Be king in your dreams. Vow that you will reach that position with untarnished reputation, and make no other vows to distract your attention."

It is well known that long-continued employment in the service of others often cripples originality and individuality. That resourcefulness and inventiveness which come from perpetual stretching of the mind to meet emergencies, or from adjustment of means to ends, is seldom developed to its utmost in those who work for others. There is not the same compelling motive to expand, to reach out, to take risks, or to plan for oneself, when the programme is made for him by another.

Our self-made men, who refused to remain employees or subordinates, are the backbone of the nation. They are the sinews of our country's life. They got their power as the northern oak gets its strength by fighting every inch of its way up from the acorn with storm and tempest. It is the hard schooling that the self-made man gets in his struggles to elevate and make a place for himself in the world that develops him.

As a rule men who have worked a long time for others shrink from great responsibility, because they have always had others to advise with and lean upon. They become so used to working to order—to carrying out the plans of other men,—that they dare not trust their own powers to plan and think. Many of them, after a while, unless they are in very responsible positions, sink into mere automatons. They become more or less helpless, and dependent upon others, because they have never developed their own self-reliance.

The greatest strength of character must be developed with a free mind, absolutely untrammelled by orders from others or by others' programmes. The mind can never reach out so far into new, untried fields,—never touches its limit of possible reach,—until absolutely free to act without restraint and with independence and boldness. Self-reliance is a powerful man-developer.

Some employees have a pride in working for a great institution. Their identity with it pleases them. But, isn't even a small business of your own, which gives you freedom and scope to develop your individuality and to be yourself, better than being a perpetual clerk in a large institution, where you are merely one cog in a wheel of a vast machine?

The very struggle to keep one's head above water and guard against failure, hard times, or panics, the constant effort to stretch a little capital over a large business and adjust means to ends, develops managing ability, leadership, staying power, stamina, and grit which no amount of working for others in an ordinary situation could ever produce. It is

the spur of necessity constantly pushing us on, putting our powers to the test, and calling upon all our ingenuity and inventiveness and originality—it is the situation that forces us to a perpetual effort to do our utmost to bring things out right—that develops power. We grow most in a situation that forces us to think, study, and plan ways and means of engineering our business or enterprise.

A young man entering business with little capital, in these days of giant combinations, like a soldier in battle who is reduced to his last few cartridges, must be doubly careful of his aim and doubly zealous in his endeavor, for everything is at stake. He must call into action every bit of judgment, courage, sagacity, resourcefulness, ingenuity, and originality he can muster. He must make every shot tell,—every dollar count.

What is the result? The young man begins to grow; he feels his master-purpose prodding him to do his best; his mind is constantly being stretched over difficult problems; his ingenuity is taxed to make both ends meet, to provide for the coming bills, to pay pressing notes, to tide over a dull season, or to pull his business through hard times or a panic. This like playing a great life game of chess where everything depends upon a single move, and where the final result is success or failure. He cannot afford to make a bad move; a misstep might be fatal. He can not afford to be careless, indifferent, or lazy. It will not do for him to be caught napping. He must be on the alert, watching for every advantage, and looking out for the success enemies that would trip him.

When working for another, his ambition may have been to climb to the highest position possible to him; but now he feels a new and powerful motive tugging away within him and impelling him to exert himself to his utmost, that he may show the world that he is made of winning material. The desire to take his place among men, and stand for something in his community, is a most laudable one, and this, too, is an additional prod to endeavor. The schooling which the young man gets in the struggle to establish himself in his chosen career can never be had in the same degree and force while working for salary alone.

The sense of personal responsibility is, in itself, a great educator, a powerful schoolmaster. Sometimes young women who have been brought up in luxury, and who have known nothing of work, when suddenly thrown upon their own resources, by the loss of property, or compelled even to support their once wealthy parents, develop remarkable strength and personal power. Young men, too, sometimes surprise everybody when suddenly left to carry on their fathers' business unaided. They develop force and power which no one dreamed they possessed.

We never know what we can do until we are put to the test by some great emergency or tremendous responsibility. When we feel that we are cut off from outside resources and must depend absolutely upon ourselves, we can fight with all the force of desperation.

I know a man in New York who worked for others until he was thirty years of age and never received but a small salary. It always chafed him to think that he must be dependent on the will of another, although he had never made any great exhibition of power or executive ability while in a subordinate position. But the moment he started out for himself he seemed to grow by leaps and bounds, and in a comparatively few years he has become a giant in the business world. He has developed a tremendous passion and ability for doing things; his executive ability comes into play when he makes his own programme; he is also strong in carrying out his own ideas, whereas he was comparatively weak in trying to fit his individuality into another's programme.

The trouble with working for others is the cramping of the individuality,—the lack of opportunity to expand along original and progressive lines,—because fear of making a mistake and apprehension lest we take too great risks are constantly hampering the executive, the creative, the original faculties.

But, you will say, "We cannot all be employers; we cannot all be in business for ourselves." What if your employer had said the same thing, and decided that he would better work for somebody else all his life? Have not you as much right to absolute independence as he, and is it not your duty to put yourself in a position where you will develop the largest possible man or woman? Where was the obligation born that compels you to work for somebody else all your life?

But you will tell me that there are plenty of managers and superintendents, and all sorts of employees, who could not do any better if they were working for themselves. I know perfectly well that there are tens of thousands of employees who are absolutely conscientious, and think they are doing their level best, who apparently could not do better if they were working for themselves; but let one of these faithful employees get a start for himself, and he will find that his ambition is touched as never before, and a new power is born within him. He will feel a new motive working within him which will take the drudgery out of his task as nothing ever before did. When he is conscious that he has no one to lean upon, or to make his programme for him, but must do his own thinking and planning, he will find himself expanding. He will feel a new power, because he will be exercising, more than ever before, his self-reliance. No one else will be furnishing the capital. He alone will be piloting his ship through panics, through dull seasons, and through hard times. His own resourcefulness will be touched as never before and called into larger action. He will find that his motives run down deeper into his nature than he had dreamed. While working for another his desire was to render efficient and honest service,—perhaps even to earn much more than he found in his pay envelope,—but when in business for himself he feels every power and faculty in him called upon to give up its best. His pride is at stake; he has committed himself; he has said to the world, "Now, watch me and see what I can do for myself," and he calls on all the resources in him to make good.

A man sees himself through carrying out his own plans, as he never can in any other situation. The money or reputation he makes himself seems to be an enlargement of

himself,—an expansion of his personality. He lives in the children of his brain, his work.

It is true that not every person has the executive ability or strength of mind, the qualities of leadership, the moral stamina, or the push to conduct a business successfully for himself and stand his ground. There are, of course, many instances of young men who have others dependent upon them, and who are not in a position to take the risks of going into business for themselves. A great many, however, work for others merely because they do not dare to take the risk of starting on their own responsibility. They lack the courage to branch out. The fear of possible failure deters them. Moreover, a great many start as boys in certain occupations, work up to a fairly good salary, and, though they may be ambitious to be independent, yet the distrust of their own powers and the advice of others, to "let well enough alone," hold them back until the habit of doing the same thing year in and year out becomes so fixed that it is very difficult to wrench themselves out of their environment.

Again, a great many people prefer a small certainty to a big uncertainty. There is no disposition to hazard, no desire to take risks, in their make-up. They do not want to assume large responsibilities. They prefer steady employment and certainty that every Saturday night they will find fixed sums in their pay envelopes to the great risks, responsibilities, and uncertainties of a business of their own.

You may not have the ambition, the desire, or the inclination to take responsibility. You may prefer to have an easier life, and to let somebody else worry about the payment of notes and debts, the hard times, the dull seasons, and the panics. But, if you expect to bring out the greatest possibilities in you,—if growth, with the largest possible expansion of your powers, is your goal,—you cannot realize your ambition in the fullest and completest sense while merely trying to carry out somebody else's programme and letting him furnish the ideas.

I do not believe that a leased man can ever be as great as an independent man. Yet, practically, for the consideration of freedom from responsibility, with so many dollars in an envelope every Saturday night, thousands of people barter away their liberty of speech,—their freedom to express their unbiased opinions,—their right to independent thought. They lease their individuality,—their right of growth,—their chance of independence,—everything that man should most prize, for their salaries. Is there a more pitiable thing in the world than to see a man, born to dominate, to do things, to achieve, and to be independent and self-reliant, put himself in a position where he must always carry out another man's ideas or plans, and is not expected to express an untrammelled opinion or to say his soul is his own?

Can a man ever give God his greatest opportunity in him and express the fullest, the largest, the completest manhood as long as he practically leases himself for a stated amount of salary during all his most productive years?

I believe that the Creator intended every human being to be individual, to develop along his own planning, and to make his own programme, not to let somebody else make it for him. It would be very silly for you to say that because, in the present order of

things, the great majority of people must work for others, you should not start out for yourself. Let those who are not ambitious enough, or who are not willing to pay the price for independence,—let those who prefer to work for others do so, and not you, if you feel that you have ability and stamina, and are not afraid of hard work and responsibility.

It is true that some people lack initiative, leadership, and executive ability sufficient to enable them to go into business for themselves wherein they must employ others; but there are a great many things which even these people can do which will not require the employment of others, which would give them the ineffable boon of independence.

It is the locked-up forces within, that lie deep in our natures, not those which are on the surface, that test our mettle. It is within everybody's power to call out these hidden forces, to be somebody, and to do something worth while in the world, and the man who does not do it is violating his sacred birth-right.

Every man or woman who goes through the world with great continents of undiscovered possibilities locked up in him commits a sin against himself and that which borders on a crime against civilization.

Don't be afraid to trust yourself. Have faith in your own ability to think along original lines. If there is anything in you, self-reliance will bring it out.

Whatever you do, cultivate a spirit of manly independence in doing it. Let your work express yourself. Don't be a mere cog in a machine. Do your own thinking and carry out your own ideas, as far as possible, even though working for another.

PROFIT SHARING A SUCCESS.

RESULT OF TWENTY YEARS' EXPERIENCE.

When, twenty years ago, I first became interested in co-operation and profit sharing, writes Mr. N. O. Nelson, of the N. O. Nelson Mfg. Co., in American Industries, the subjects were practically unknown in this country, and what was known about them was in an unfavorable light. They were regarded as somewhat anarchistic innovations on established property rights and business organization.

It was taken for granted that co-operative associations were unworkable, because people could not manage their own business. Trade was a trade which none could follow except the initiated and none would follow except for profit.

Profit sharing had been heard of only by the economic professors, and most of these discussed it only as an airy theory. General Francis A. Walker, who twice took our census and was afterwards president of the Massachusetts Institute of Technology, was an exponent of profit sharing, and likewise Carroll D. Wright, afterwards Commissioner of the United States Bureau of Labor. Little or nothing was known about it in business circles. Little credence was given it where known.

When I introduced the system in our business in the spring of 1886 I was warned by business friends that in thus recognizing the interests of the employes, I should subject myself to arbitrary interference, and instead of promoting efficiency, the men would feel themselves privileged to loaf. When a little later, I began paying the dividends in stock,

thus admitting all the employes as stock holders or partners, it was generally assumed that all would want to be masters and the management would be criticized and interfered with.

At the end of twenty years I can vouch for it that none of these evil prophecies have come true. A good many hundreds of men doing all classes of work have been stock holders for many years, and not once has one sought to shirk his work or interfere with anybody else's work. Self interest has begotten loyalty, and loyalty has made management easier.

We started out by simply putting a printed slip of about seven lines into the pay envelopes, the slips reading about like this:—

"Beginning with the present year, we will take interest for the net capital invested and divide the remaining profits by equal percentage on the capital and on the salaries and wages of all employes who have worked six months within the year. There will be 2½ per cent. of the profits set aside for a provident fund, 2½ per cent. for an educational fund and 10 per cent. for surplus fund.

At the end of a month we called the force together and made some oral explanations, answered some questions and stated that the employes would select an auditor to verify the correctness of the division at the end of the year. After some years we improved on this by allowing 2 per cent. on wages for each 1 per cent. on capital; and in place of the regular allowance for the provident fund, we provided for all disabled and sick employes and their families, and charged it to the expense account.

For nineteen years this yielded dividends on salaries and wages varying from 4 per cent. to 10 per cent. a year.

The first three years we paid the dividends in cash with the option of investing in stock. After that the dividends were all paid in stock, the purpose being to give a growing interest in the business to all those who continued in our employ.

At the end of nineteen years, we adopted our present plan, by which capital gets only interest and all the remaining profits are divided between the employes and the customers. This plan has yielded a dividend of 15 per cent. on salaries and wages and an average of about 4 per cent. on customers' purchases.

Another plan of division sometimes used is to charge interest for capital and divide the remainder by equal percentage on the interest fund and the wages fund.

The oldest and most typical profit sharing concerns are Leclair & Co., house painters and decorators in Paris. In this concern, profit sharing was started in 1842 and has continued ever since. Leclair withdrew in 1870 and turned the entire management over to the men. The concern now employs 1,400 men and in all the ups and downs of France and of Paris it has remained unshaken. The Godin Co., at Guise, France, employs 1,700 men in its iron works. Since Godin's death in 1888, his capital has all been paid off and the concern is now owned and controlled entirely by the employes.

There are in France and England a considerable number of well established profit sharing concerns and a large and growing number in the United States.

It may well be argued that it is a wiser disposition of the surplus profit to distribute

it among those who have a part in making it, than to invest it for additional profit making or give it away in large sums to institutions. The individual employes need it for old age or for the family in case of death or in the purchase of a home.

Nearly all thoughtful captains of industry, in common with other citizens, view with anxiety, the growing disproportion of corporation and individual wealth and the number of wage earners who own no property and live from hand to mouth. If we should choose to look ahead another twenty years and count on such a growth of disproportion and such a growth of the feeling against it, as we have in the past twenty, we are not borrowing trouble when we look for breakers.

There is enough for all and robbing none, if reasonably distributed. Money makers are as fair minded as the members of any other class on the average. They are not hard hearted. Many of them ardently wish for a better distribution, the difficulty lies in adopting a plan different from the established one. The profit sharing plan is very simple. It interferes not at all with the ordinary methods of the business, takes away nothing that the profit maker needs, takes none of the spirit out of the game, and need not take any active capital out of the business.

It is not now regarded as an undue innovation. There should be a growing number of profit sharing concerns in this country.

COMMERCIAL EDUCATION IN EUROPE.

Frank V. Thompson, who is to be the principal of Boston's new Commercial High School, has been spending several months in Europe in making a thorough examination of the commercial schools in Germany, Italy, Switzerland, and other countries. The Boston Transcript prints a very interesting statement from Mr. Thompson of the results of his investigations in Europe.

Mr. Thompson says that the commercial schools of Italy, Switzerland, Austria, Germany, Belgium and France have all past the experimental stage and are component parts of the educational scheme of those countries and are considered especially valuable. In Italy the government usually encourages the extension of such instruction by granting large subsidies. The same is true in Switzerland, but to a greater extent. In that country there is scarcely a city of even moderate size which has not a flourishing school of commerce. The town of Neuchatel, which has less than 18,000 inhabitants, has a commercial school of 700 boys and young men. The fine building, with its splendid equipment of laboratories, is superior, Mr. Thompson says, to any school structure in Boston, and he was surprised to find about two dozen American boys in that school receiving their education for business careers in the United States, Austria has a very complete system, Vienna alone having 15 lower commercial schools and four higher schools of commerce. There were 1,200 young men in one of these schools visited by Mr. Thompson.

He says that Germany usually takes the lead in the matter of commercial education. There are four kinds of commercial schools in that country, all under control of the state. One kind gives an elementary training for business to boys up to the age of 16 or 17. Then there is a higher kind of commercial training, and then, again commercial univer-

sities of the same grade as the usual German universities. The fourth kind of commercial education is the apprentice institution. Boys are not turned adrift educationally at the age of 14, as is the case in this country. The German government demands that all the apprentices of whatever occupation shall attend class instruction for ten to twelve hours a week for three years. This is not done by haphazard evening instruction, but in regular schools during the daytime.

France also has a fine system of commercial schools. In the corridor of the High School of Commerce in Paris can be seen the purpose of the school stated in these words: "The High School of Commerce is intended to complete by means of higher studies the instruction given in special educational establishments, and to impart to young men leaving grammar schools and other institutions the technical knowledge necessary in managing business, whether trade, manufacturing, or banking. The High School of Commerce also trains candidates for the consular service, capable of worthily representing France in international relations."

England has no schools of commerce in the strict sense. The realization of the need, however, is growing. The invasion of German young men, well trained and capable, into the business houses of England is forcing a recognition of the desirability of a proper business education. Germany has put her millions into technical schools, and has no problem, Mr. Thompson says, of the unemployed. Instead, there is a scarcity of labor. He says that the United States is not making "our weight count commercially as we should."

HOW TO PRESENT A BUSINESS MATTER.

Do you know how to present a case? To present it to win out? To place it before the party you wish to interest so that he will immediately understand your meaning, be right on a level with you in the understanding of it and so that you can both start in from there and discuss its merits? This does not imply that you should make a tedious explanation, nor a verbose statement, nor, on the other hand, think that brevity without explanation of the main idea will carry. If you want the municipality to put an extra street lamp near your residence, write why the lamp is essential and send a rough pencil sketch with the application showing the location of the other lamps. The person to whom you have addressed the letter will then see the proposition clearly, and the case is probably half won in its first stage. Do you want the side track at your manufacturing plant extended? Send the local agent of the railroad a letter with a rough sketch. He will forward it to the Superintendent, who will immediately be able to locate it on his blue print and then decide whether the proposition is practical and come to an understanding with you. In the designing of factory improvements, in all matters of manufacture and commerce where the other party has to be interested for mutual advantage, present your case clearly as it affects you. Do not tell him that you are presenting this for his benefit. He will infer from the way you present your case that you may possibly

be a good man to tie up to, and mutual interests will be enhanced by your coming to an agreement to carry out the project. The world of improvement, commerce and manufacture is interdependent, and all interests are advanced promptly when the basis of a project is clearly presented. The other party may not be able to accede, but he will give satisfactory reasons, or, what is more likely, by a few further questions on his part the matter may be brought to a conclusion benefitting all concerned.—Manufacturing, New York.

THE MAN WHO FALLS OVERBOARD.

BY ELBERT HUBBARD.

A big business is a steamboat bound for a port called Success. It takes a large force of men to operate this boat. Eternal vigilance is not only the price of liberty, but is the price of every other good thing, including steamboating.

To keep this steamship moving, the captain requires the assistance of hundreds of people who have a singleness of aim—one purpose—a desire to do the right thing and the best thing in order that the ship shall move steadily, surely and safely on her course.

Curiously enough, there are men constantly falling overboard. These folks who fall overboard are always cautioned to keep away from dangerous places, still there are those who delight in taking risks. These individuals who fall off and cling to floating spars, or are picked up by passing craft, usually declare that they were "discharged." They say the captain or mate or their comrades had it in for them.

I am inclined to think that no man was ever "discharged" from a successful concern—he discharges himself.

When a man quits his work, say, oiling the engine or scrubbing the deck, and leans over the side, calling to outsiders, explaining what a bum boat he is aboard of, how bad the food is, and what a fool there is for a captain, he gradually loosens his hold until he falls into the yeasty deep. There is no one to blame but himself, yet probably you will have hard work to make him understand this little point.

When a man is told to do a certain thing and there leaps to his lips or even his heart the formula, "I wasn't hired to do that," he is standing upon a greased plank that inclines toward the sea. When the plank is tilted to a proper angle, he goes to Davy Jones' locker, and nobody tilts the fatal plank but the man himself.

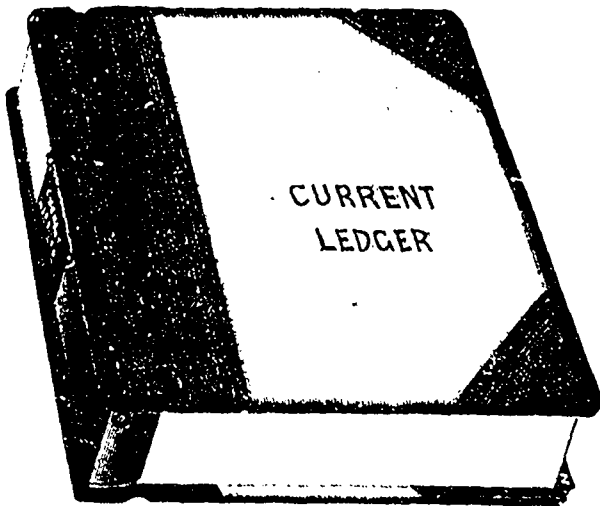
And the way this plank is tilted is this: the man takes more interest in passing craft and what is going on on land, than in doing his work on board ship.

So I repeat: no man employed by a successful concern was ever discharged. Those who fall overboard get on the greased plank and then give it a tilt to starboard.

If you are on the greased plank you had better get off from it and quickly too.

Loyalty is the thing—faith.

One good way is to set down separately each argument about your proposition that seems convincing, then select the strongest—just a few of them—and weld them together into a readable, understandable ad.—Our Silent Partner.



\$19.75 Complete Perpetual Ledger Outfit

We recognize that there is a demand for a good Perpetual Ledger outfit at a low price.

\$19.75 is the figure we are asking for the very latest Perpetual Ledger System turned out in our new factory and designed to fill this demand.

It carries with it the Copeland-Chatterson guarantee for labor saving features and absolute quality in material and finish.

Outfit will be shipped immediately upon receipt of order.

Here is what you get for **\$19.75**, F.O.B. Factory, Brampton, Ontario:

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- Five Hundred Leaves (1000 pages)**
- One Transfer Ledger Binder and Index**

THE COPELAND-CHATTERSON COMPANY, LIMITED

WORKS: BRAMPTON

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BRANCHES EVERYWHERE.



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What Is Its Basis?



THE CALCULAGRAPH

- DOES NOT GUESS
- DOES NOT ESTIMATE
- DOES NOT FORGET
- DOES NOT MAKE CLERICAL ERRORS

As the stability of a building depends on the soundness of its foundation, so a factory cost system depends on the accuracy of the records on which it is based.

If you depend on your workmen for these records they must be full of errors—not necessarily intentional.

THE CALCULAGRAPH

is a machine which makes original records of working time with absolute mechanical accuracy.

Such records make a reliable foundation for, and are adaptable for use in connection with, any system of finding costs of factory products.

The **CALCULAGRAPH** is the only machine in the world which mechanically subtracts the time of day a workman begins from the time of day he stops and prints his actual working time.

THE NORTHERN ELECTRIC & MFG. CO., Limited
 COR. GUY & NOTRE DAME STS. = = MONTREAL.

Where the Business Specialist Comes In.

By ROBERT C. ADAMS, IN AMERICAN INDUSTRIES.

The development of modern business has brought forward new problems to solve, and, history repeating itself, an insistence on these new problems has brought forward new solutions. The whole modern labor proposition is a new problem, and we are just now in the throes of its solution. The whole proposition of so handling an old business as to meet modern requirements and modern limitations and to neglect no modern possibilities is in itself a problem that must be solved individually by each separate establishment, not only if it is to go on growing, but if it is to survive at all.

As it always has been, the man who goes ahead of the procession will make a big success; the man who keeps up with the procession will hold his own; but the man who stands still and lets the procession move on and leave him behind will surely be lost sight of. And the leader in the manufacturing world has been the man who utilized every possible help in keeping his advanced position. Every new machine has been worthy of attention, every possible lost motion has been eliminated.

The successful manufacturer has realized that the test of success of his business is the profit it produces; and to make this maximum of profit he has realized that he must determine for himself exactly where the big possibilities of profit in his particular business are, and then develop this one line to its last possible limitation. If the profit is in large quantities on a narrow margin of profit, then he must get the cost down to the last fraction of a cent and secure the widest possible market. Every manufacturer knows this thoroughly, but the large majority fail to act.

For instance, you are manufacturing a commodity of general domestic consumption. You know that your problem is to get at the people themselves, first, last, and nearly all of the time between, but are you doing it? Is your advertising done with this end in view? Are your salesmen working for individual profits, or are they working as part of a plan to develop your business on a more comprehensive, surer basis? Too much money is easily spent on salesmen. Could it not be more advantageously devoted to the education of the consumer? The retailer orders once or twice from the salesman, and the jobbers do what they have to do; but they are both indifferent to your success or failure. The plan of distribution that gets the goods to the greatest number of retailers is important; but more important is the plan that carries the distribution one point further, from the retailer to the individual customer. This individual customer is the man from whom your money comes in the last analysis; and you have got to see that his tribe increases far quicker than any natural law of increase will involve.

And if your product is machinery, or whatever it is, the same proposition is true. You must reach the man who uses your product; and if the increase of the business is to be forced, you have got to force it by a well-defined plan. Perhaps the business will have a natural growth; but to stand almost still and wait for this natural growth is to invite

all kinds of competition. If you don't force your goods, you invite competition, and competition usually accepts all invitations.

PROFITS ARE THE PROOF.

The plan, it would seem needless to say, must prove itself on the trial balance. This is the court of last resort. If the plan or lack of plan is not making an increasingly large amount of profits, depend upon it, the plan is wrong, and you or your successors have got to change it. If you cannot work out a carefully developed, detailed plan for the general forcing of your business, the modern manufacturer is realizing that he must get it done elsewhere. It must be done. It is this demand for just this kind of development work that has created that comparatively new and highly specialized profession of "business development." While a staid old concern, unconscious of the dry rot that time has engendered, has held back from asking help of this specialized variety, the more progressive man has accepted this help as quickly as possible, realizing that no business is so great that it cannot be made greater, no method so good that improvement is impossible, and they have not hesitated to get the best possible assistance from wherever they could find it, from old employes inside the concern or from specialists from outside. Results, ever increasing results, have been their demand. Respect for traditions and past experience, progress by the development of present possibilities rather than revolution, these must be considered; but definite results must be the final test. If this means taking a specialist in from outside and having him devote a trained mind to your particular problems, no matter; you must get results.

You object, of course, to having an outsider tell you how to run your business.

CONSULT AN EXPERT.

But this is a superficial objection. You go to a doctor and take his advice about your health, which is more vital, even, than your business. You go to a mechanical engineer for one kind of service, and every man in your employ is there for some kind of service. The fact that a specialist is there for a few weeks or a month does not change the principle that you must depend upon other heads for the fullest development of your business. Mr. Carnegie knew this, and has often said that his success came from utilizing the brains of other people.

No one man, however brilliant his qualities, can do the work in ten different directions that ten different men specially trained, each for his particular work, could do for him.

If a man undertakes to do all of the work of his concern himself, he unnecessarily limits the development of that business to his individual capacity.

THE EXPERIENCE OF ONE FIRM.

One of the clients of the company with which the writer is connected was an immense concern with an old-established reputation, making six grades of goods and the cheap grade was slowly undermining the reputation of the higher priced products. This had been going on for years, and so gradually

that it had not been appreciated. The owners of the business could not see the forest for the trees. A careful study was made of just where the profit in this business was coming from, and it was found that the big possibilities of profit were not in the cheap goods, of which quantities were being made, but in the higher priced articles. It was determined to cut out all of the grades except the very highest priced goods and then devote the entire factory to this product. This was done, with a double result. A great deal more business was done, and the profit on this business was a great deal higher; of course, that would have been realized on the gross sale of the cheaper grade of goods. There was nothing brilliant about this work. It was just the application of a general law to a particular instance through experience in recognizing conditions.

These general principles cover the business as a whole, and are just as applicable to all of the details. The factory management can very properly be made a subject for the same kind of study. A change in the arrangement of the machinery, the installation of some labor saving device that has proved profitable in some other field, all these come more quickly, oftentimes, to the man from outside than they do to the man trained all his life in the one line of business.

In one large business the introduction of a simple mechanical device invented by Thucydides enables girls at \$25 per month to do each the work previously done by three men at \$75 per month each. In another concern the establishment of a special cross index effected a saving of \$150,000 per year in freight charges.

STUDY THE COST OF PRODUCTION.

Production costs, the bugbear of almost every manufacturer, are too often governed by haphazard methods gradually established by the man in the shop or the engineering department with one end in view, and imperfectly recorded by the accounting department with another end in view. The result is a compromise satisfactory to no one. The manufacturer is told the cost of his product, it is true, but how far can he depend upon it? Is he sure at the end of the month that everything has been included in the cost statements as presented to him and that guess work has been entirely eliminated? The difference between a guesswork margin of profit and the real dollars and cents margin of profit may be the difference between profit and loss on big contracts involving hundreds of thousands of dollars. In this cost accounting field a great many manufacturers have realized the importance of outside assistance. The cost system evolved by any one concern for itself by its own men represents only the knowledge of these men backed up by no general knowledge of cost accounting. This general knowledge of cost accounting is oftentimes of much greater importance than a knowledge of the details of one particular business.

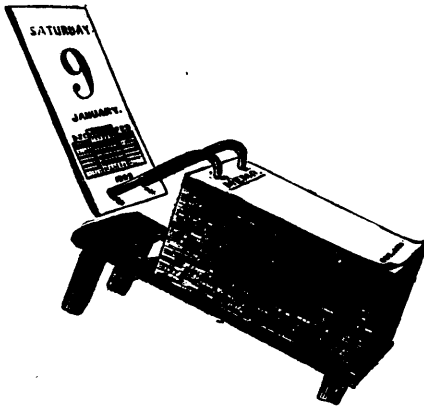
The amount of red tape and roundabout expensive methods that get woven into the average cost "system" is beyond belief.

AN EXPERT IS NECESSARY.

Cost accounting should be simple and direct, but it requires a high degree of skill to know what not to do.

The necessity for trained experience is paramount.

HANDY CALENDAR PAD 1907



The most complete and practical Memorandum Pad ever offered. It is "Handy" because in its daily manipulation all the user has to do is to "turn over a new leaf."

It has a larger surface for memos. than any other calendar.

January memoranda are preserved till December. Shows day of week, day of month and calendar for three months on each page.

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Any business man can realize the stupidity of trying to apply exactly the same system to two different businesses.

In a great many instances it is even out of the question to use the same system in two different branches of the same business.

We have no cheap, "ready-made" system to sell.

Our trained accountants investigate your business thoroughly and then devise you a special system "to order" that is exactly adapted to the needs of your particular business.

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Business Systems condense and simplify—enable you to find what you want when you want it.

Business Systems are mechanical in operation—keep your books like machinery would—absolutely perfect.

Business Systems make it possible for one clerk to do the work of two.

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We are anxious that you should know more about Business Systems.

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It does not obligate you in any way.



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C.
Dept.
Send to
the address
below full in
formation about
Business Systems.

And this cost accounting work is an example of highly specialized work. Every manufacturer knows that he wants accurate cost statements. He cannot afford the time to study out the preparation of these statements, and if he leaves the matter to his regular employes, he is not dead certain of the results. If he tried to keep in his employ a man capable of this kind of work, he would have to pay him ten times what he would be worth after the proper methods were once established. You do not keep an architect after the house is finished. For the establishment of proper accounting records you need specialized service for a short time, but the best methods once installed are the simplest, and a good cost system or a good accounting system means one that will run evenly and without high-priced supervision.

This article would seem to indicate that the solution of every problem lies in getting some one from outside to solve it for you. This is not the real point of view. The point I am trying to emphasize is the fact that one man or one set of men in a business must avail themselves of every possible help from every possible source, if they are to meet all conditions on the same plane as their competitors. Every business establishment is unique in some respects, but every business establishment is a part of an industrial whole. To meet its greatest measure of success it must develop its uniqueness to the point of the greatest possible expansion; but it must also keep sufficiently in touch with what is being done in every other line of industrial activity to know that its competitor has no tricks up his sleeve. In the same way that you avail yourself of all the labor-saving machinery that your competitor has, so must you avail yourself of all specialized service that can be obtained from any source; this not in one detail of your business nor in one department, but from every source and for every branch of your business.

What has been said deals largely with generalities, but it is very easy to make special applications.

SOME OF THE LEAKS IN MANUFACTURING.

Here are some symptoms of the disease with which business houses are so often affected, and which must be rooted out either from within or by trained men:—

Waste and extravagance in manufacturing.
Carelessness and ignorance in purchasing.
Expensive and old-fashioned selling methods, sometimes a lack of appreciation of selling possibilities.

Too much money invested in slow-moving stock.

Lack of prompt and essential information. A statement on the 5th of the month is valuable. The same statement one, two or six months afterwards is worthless.

Carelessness in credits and collections—failure to take cash discounts.

Too many high-salaried officers, and, oftentimes, too many cheap clerks.

Lack of accurate knowledge of production costs. This is the ignorance that means so much in active competition.

Failure to keep in close touch with salesmen.

These are some of the specific troubles of our clients. The most specific cure is definite knowledge along the following lines:

First, the head of the business promptly at the end of each month—not later than the 5th of the succeeding month—should have detailed and accurate statements setting forth in dollars the following:—

Sales, lost orders, number of new accounts, delinquent accounts, shipments:

Then he must have the following information in exact figures:—

Comparative record of salesmen, gross profit, net profit, comparative cost records, comparative expense records, advertising costs and results, accounts payable, accounts receivable, stock on hand, stock in progress, raw material on hand, purchases.

The enumeration of these items may suggest complicated work to keep up, but this is in no way true. Proper methods of handling routine work should give this information periodically and with no effort on your part.

These details are important. They are a part of the whole and the business as a whole must necessarily have the keenest attention. Last year one idea was worked out that proved profitable, this year there must be others. The success of one idea should prove to you the importance of fresh thought in every direction.

An idea which made money for a soap manufacturer can be adapted to increase the business of a silk weaver. You must take the good where you find it, and through whomever it can come.

One concern stands at the head of every business. So long as you are not that concern you have work to do.

WILL HE WORK?

A young man was recently applying to a well-known employer for a position, says H. J. Hapgood in a recent magazine article. He was in the midst of rather a glowing description of his peculiar qualifications for the place, when the employer interrupted him. "Never mind about all this. There is just one thing I want to know. Will you work?"

Will he work? Not merely has he ability; but does he know how to use honestly, energetically and persistently what ability he has? This is the great question. The answer decides the employment of every new man and the promotion of every old one and it applies with equal force to all grades of service, from the laborer to the general manager.

A Chicago employer who engages each year a large number of young college men invariably gives preference to those who have earned the money for their education. He does this, because he has learned that a man who has made his way through college unaided, possesses the capacity for hard work which is so necessary in business. His preference in this respect was originally based upon the case of a young man who entered his employ several years ago and is now one of his most trusted lieutenants.

This man went from the farm to a New York university with less than ten dollars in his pocket and no idea where to find more. He was slow to learn and decidedly unattractive in appearance, but he knew how to work. Before the end of the first month he was on a self-supporting basis. At the close of his freshman year he was actually making money. By working from 12 to 14

hours a day continuously for four years he maintained a fair rank in his class, earned every dollar of his expenses, and on commencement day had in the bank a cash balance of \$500.

Every man who intends to make himself of value to his employer and to win advancement for himself (and the two go hand in hand despite all that pessimists may say) must have this capacity for work. No matter how great his ability, how thorough his education, or how attractive his personality, these qualities are as worthless as a locomotive without fuel unless backed up by persistence and energy. He may be retained for a time because of his ability, but in the long race he will be found sadly wanting. Some day his employer will be forced to give the position he has hoped for and which by his natural talents he is pre-eminently fitted to fill, to a man who although less capable, has shown himself to be a worker.

SAFE FOR SALE

GOOD AS NEW

Cost \$115.00; will sell for \$75.00.

Box 110 CANADIAN MANUFACTURER,
McKinnon Building, Toronto.

SITUATION WANTED

Expert Accountant, now holding good position, would accept position as accountant or manager of manufacturing concern.

Box 115, CANADIAN MANUFACTURER,
McKinnon Building, Toronto.

WATCHMAN'S CLOCKS

ELECTRIC AND PORTABLE
ALWAYS THE BEST

ECO MAGNETO CLOCK CO.,
BOSTON, MASS.

WRITE FOR PRICES.

The DUPLIGRAPH

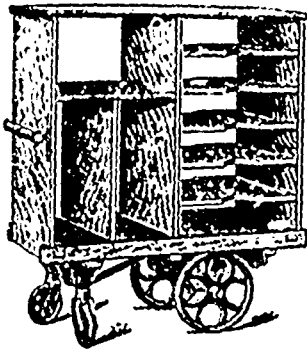
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Very simple. No stencil, no rollers, no expensive supplies, no soiled hands. Cleans itself—requires no washing. Very durable. 100 perfect copies from pen written original in ten minutes. Equally speedy with typewritten copy. Reproduces lead pencil copy. Duplicates perfectly on plain paper, cardboard, wood or china. The necessity of every business man—any boy or girl can operate it.

Single Tray, legal cap size - \$4.00
Cabinet Three Trays, cap size \$10.00
Delivered, carriage paid, on receipt of price. Money back if not satisfactory. Try the dealer first. Dealers wanted everywhere.

PENMAN & SPRANG, LIMITED
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Designed to suit any requirements.
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Makers of Good Trucks
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TORONTO.

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*For Sidings, Roofings,
Ceilings, Etc.*

Absolutely free from defects—made
from very finest sheets.
Each sheet is accurately squared,
and the corrugations pressed one at a
time—not rolled—giving an exact fit
without waste.
Any desired size or gauge—galvan-
ized or painted—straight or curved.
Send us your specifications.

The Metallic Roofing Co.
WHOLESALE MANFRS. LIMITED
TORONTO, CANADA.

The Rapid Rotopress Copier

Aren't you tired of the delays, the mistakes, the
vexations of the old letter book and the old copying press?

Are you looking for the method of copying your let-
ters by which you will

**SAVE THE MOST TIME
PREVENT MISTAKES
SECURE CLEAR COPIES
AT LEAST EXPENSE**

We have this method, the machine you are looking
for; twenty times as fast as the old letter book; saves half
the cost of the carbon copy way; better, cheaper, quicker
than any other machine.



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The following Canadian municipalities are offering inducements to secure manufacturing establishments. Inquiries should be addressed to the Mayor, Town Clerk or Board of Trade of the respective cities:

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- Brantford, Ont.
- Hamilton, Ont.
- Peterborough, Ont.
- Regina, N.W.T.
- Sherbrooke, Que.
- Toronto, Ont.

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Fifty Horse Power Boiler—used one year; fittings complete, will sell cheap.
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67 Sherbourne St., Toronto.

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Andrus Bldg., Minneapolis, Minn.

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Coldschmidt Thermit Co.
334 St. James St., Montreal



Mfrs. of Set, Cap and Special Screws, Studs, Fini-hed Nuts, etc.

R. SPENCE & CO.

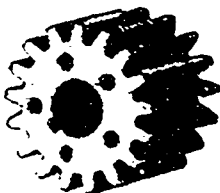
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A trial order solicited. Write for terms.
C. P. MOORE, PROPRIETOR.

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MANUFACTURED BY
THE HORSBURGH & SCOTT CO.
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TANGYE GAS ENGINE and DOMINION GAS PRODUCER.

The most effective combination to produce the cheapest power. Over a dozen plants running in Canada—some of them for three years.
Write for fuller details.
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THE BEST GASOLINE ENGINE

On the continent for all purposes is the Sylvester. Parties wanting cheap power will consult their own interest in purchasing a Sylvester, built in sizes 12 to 32 horse power; portable, stationary and marine; best and cheapest power available; if you want an easy starting, simple and reliable engine that will give full rated power in coldest weather, buy the Sylvester; works as easy in January as July on gasoline, coal oil or distillates; write for catalogue. The Sylvester Mfg. Co. Limited, Lindsay, Ont.



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MAGNESITE BURNT MAGNESITE

Our factories are the most complete in the country. Located in Pennsylvania, Ohio, and Kentucky—and controlling the largest known bodies of Refractory materials for different work. Operated by experienced managers. We manufacture material for all heat work—second to none.
Capacity over 20,000 Brick and Special Shapes per day. Write for catalogue.

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LIMITED
Manufacturers of **Oilcloths** of Every Description.

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OFFICE AND WORKS:
Cor. St. Catherine and Parthenais Streets
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First-class mills use
LOWELL CRAYONS
WHY? THEY ARE WORTH THEIR COST.

Will you try our Sample-1
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Original Manufacturers.

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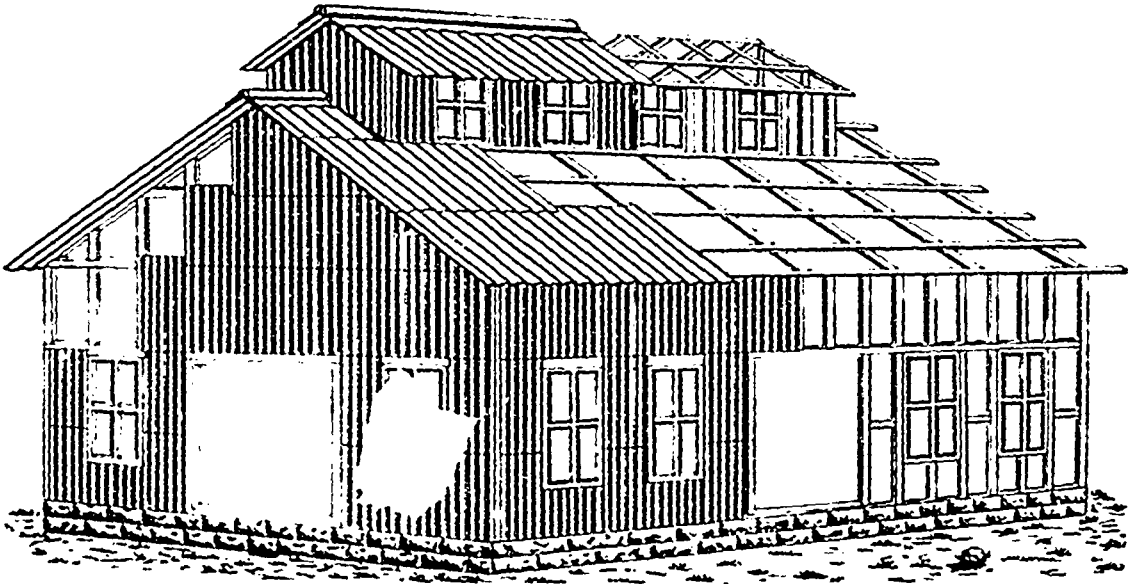
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We carry a 600 ton stock in Oshawa, Montreal, Ottawa, Toronto and London and can ship ordinary requirements the same day order is received

Made in 1", 2", or 2 $\frac{3}{4}$ " corrugations in sheets any length up to 10 feet in 28, 26, 24, 22, 20, 18 gauge, both painted and galvanized.

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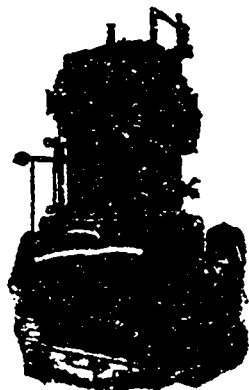
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Webster Steam Appliances now hold undisputed the highest place in steam engineering economy.

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DARLING BROTHERS, Limited
TORONTO — MONTREAL — WINNIPEG

CLASSIFIED INDEX.

Abrasives

Williams, A. R. Machinery Co., Toronto.

Acids

Canada Chemical Co., London, Ont.
Canada Process Co., Toronto.
Nichols Chemical Co. of Canada, Montreal

Air Compressors

Allis-Chalmers-Bullock, Limited, Montreal.
Canada Foundry Co., Toronto.
Canadian Rand Drill Co., Sherbrooke, Que.
Darling Bros., Montreal.
Smart-Turner Machine Co., Hamilton, Ont

Alum

Nichols Chemical Co. of Canada, Montreal.

Aluminum

Northern Aluminum Co., Pittsburg, Pa.
Syracuse Smelting Works, Montreal.

Angles, Beams and Girders

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Hopkins, F. H. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow NS

Aniline Colors and Dyewood Extracts

Benson, W. T. & Co., Montreal.
Brunner, Mond & Co., Norwich, England.
Canada Chemical Mfg. Co., London, Ont.
Canada Process Co., Toronto.
Cassella Color Co., New York City.
McArthur, Corneille & Co., Montreal.
Nichols Chemical Co. of Canada, Montreal
Winn & Holland, Montreal.

Annealing Muffles and Furnaces (Wire)

Leslie, A. C. & Co., Montreal.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Oh.

Antimony

Syracuse Smelting Works, Montreal.

Anvils and Vises

Hopkins, F. H. & Co., Montreal.
Leslie, A. C. & Co., Montreal.

Architects

Gearing, H., Toronto.
Parke, R. J., Toronto.
Vogel, C. H., Ottawa.

Automatic Gear Cutting Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Axles

Hopkins, F. H. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, NS

Babbitt Metal

Petrie, H. W., Toronto.
Syracuse Smelting Works, Montreal.

Banks

Bank of Hamilton Hamilton, Ont.

Bar Iron and Steel

Bourne-Fuller Co., Cleveland, Ohio.
Hopkins, F. H. & Co., Montreal.
Leslie, A. C. & Co., Montreal.
London Rolling Mills, London, Ont.
Union Drawn Steel Co., Hamilton, Ont.

Belt Dressing

McLaren, J. C. Belting Co., Montreal and Toronto.
Petrie, H. W., Toronto.
Sadler & Haworth, Montreal and Toronto.
Williams, A. R. Machinery Co., Toronto.

Belt Fasteners

Bristol Co., Waterbury, Conn.
McLaren, J. C., Montreal and Toronto.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Belting (Cotton)

Dominion Belting Co., Hamilton, Ont.
McLaren, J. C., Montreal and Toronto.
McLaren, J. C. Belting Co., Montreal and Toronto.
Petrie, H. W., Toronto.
Sadler & Haworth, Montreal and Toronto.

Belting (Leather)

McLaren, J. C., Montreal and Toronto.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

CLASSIFIED INDEX.

(CONTINUED).

Belting (Rubber)

Gutta Percha & Rubber Mfg. Co., Toronto.
McLaren D. K., Montreal and Toronto.
Petrie, H. W., Toronto.

Belting and Supplies

Bristol Co., Waterbury, Conn.
Dominion Beltting Co., Hamilton, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Jeffrey Mfg. Co., Columbus, Ohio.
McLaren, D. K., Montreal and Toronto.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Blast Furnace Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.
Elk Fire Brick Co., St. Mary's, Pa.
Hamilton Facing Mill Co., Hamilton, Ont.
Harbison-Walker Refractories Co., Pittsburg, Pa.
Pennsylvania Fire Brick Co., Beech Creek, Pa.
Queen's Run Fire Brick Co., Lock Haven, Pa.
Stowe-Fuller Co., Cleveland, Ohio.

Blowers

Hamilton Facing Mill Co., Hamilton, Ont.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Boiler Compounds

Canada Chemical Mfg. Co., London, Ont.
Canada Process Co., Toronto.
Hamilton Facing Mill Co., Hamilton, Ont.

Boiler Inspection

Boiler Inspection & Insurance Co., Toronto.
Canadian Casualty & Boiler Insurance Co., Toronto.

BOILERS (See Engines and Bolders)**Bolts and Nuts**

London Rolling Mills, London, Ont.
Morrow John Machine Screw Co., Ingersoll, Ont.

Brass Founders

Hamilton Brass Mfg. Co., Hamilton, Ont.

Building and Paving Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.
Hamilton Facing Mill Co., Hamilton, Ont.
Harbison-Walker Refractories Co., Pittsburg, Pa.
Pennsylvania Fire Brick Co., Beech Creek, Pa.
Queen's Run Fire Brick Co., Lock Haven, Pa.
Stowe-Fuller Co., Cleveland, Ohio.

Building Iron and Steel

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Expanded Metal & Fireproofing Co., Toronto.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Builders' Materials

Albert Mfg. Co., Hillsboro, Ont.
Canada Foundry Co., Toronto.
Conduits Company, Limited, Toronto.
Expanded Metal & Fireproofing Co., Toronto.
Gartshore, John J., Toronto.
Hopkins, F. H. & Co., Montreal.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.
Sheldon & Sheldon, Galt, Ont.

Cables

Dominion Wire Rope Co., Montreal.
Greening, B. Wire Co., Hamilton, Ont.
Phillips Eugene F. Electrical Works, Montreal.

Canada Plates

Leslie, A. C. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Canoes

Peterborough Canoe Co., Peterborough, Ont.

Caps

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Card Clothing

McLaren D. K., Montreal and Toronto.

Cast Iron Pipe

Canada Foundry Co., Toronto.
Montreal Pipe Foundry Co., Montreal.
McCullough, John, Caledonian Iron Works Co., Montreal.

Castings (Grey Iron, Malleable Iron and Brass)

Jenckes Machine Co., Sherbrooke, Que.
Kerr Engine Co., Walkerville, Ont.
McCougall, John, Caledonian Iron Works Co., Montreal.
McKinnon Dash & Metal Works Co., St. Catharines, Ont.
Maxwell, David & Sons, St. Mary's, Ont.
Smart-Turner Machine Co., Hamilton, Ont.

Cement Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Bradley Pulverizer Co., Boston, Mass.
McCougall, John, Caledonian Iron Works Co., Montreal.

Centrifugal Pumping Machinery

Morris Machine Works, Baldwinsville, N.Y.
Smart-Turner Machine Co., Hamilton, Ont.

Chain Making Machinery**(Welded Coil Chain)**

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Channels

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Leslie, A. C. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Charcoal Pig Iron

Canada Iron Furnace Co., Montreal.
McCougall, John, Caledonian Iron Works Co., Montreal.

Chemicals

Canada Chemical Co., London, Ont.
Canada Process Co., Toronto.
Nichols Chemical Co. of Canada, Montreal.

Chemists

Heys, Thomas & Son, Toronto.

Clay Working Machinery

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Coal, Coke and Charcoal.

Bourne-Fuller Co., Cleveland, Ohio.
Hamilton Facing Mill Co., Hamilton, Ont.
Mines, James H. & Co., Toronto.

Coal Cutting Machines

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Jeffrey Mfg. Co., Columbus, Ohio.

Coal Triples

Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.

Coil Chains

Greening, B. Wire Co., Hamilton, Ont.
Leslie, A. C. & Co., Montreal.

Coke Oven Brick

Dunbar Fire Brick Co., Pittsburgh Pa.
Stowe-Fuller Co., Cleveland Ohio.

Collection Agency

Petrie, H. D., Hamilton, Ont.

Concrete Mixers

Hopkins, F. H. & Co., Montreal.

Condensers

Smart-Turner Machine Co., Hamilton, Ont.

Conduits (Interior)

Conduits Company, Limited, Toronto.

Contractors' Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Gartshore, John J., Toronto.
Hopkins, F. H. & Co., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
McCougall, John, Caledonian Iron Works Co., Montreal.
Smart-Turner Machine Co., Hamilton, Ont.

Contractors' Plants

Allis-Chalmers-Bullock, Limited, Montreal.
Hopkins, F. H. & Co., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Williams A. R. Machinery Co., Toronto.

Conveying Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Jeffrey Mfg. Co., Columbus Ohio.
McCougall John, Caledonian Iron Works Co., Montreal.
Perrin, William R. & Co., Limited, Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Copper Materials

Greening, B. Wire Co., Hamilton, Ont.
Phillips, Eugene F. Electrical Works, Montreal.
Syracuse Smelting Works Montreal.

Corrugated Iron

Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Cranes (Electric and Hand Power)

Smart-Turner Machine Co., Hamilton, Ont.

Crayons

Lowell Crayon Co., Lowell, Mass.

Crucibles

Dixon, Joseph, Crucible Co., Jersey City, N.J.
Hamilton Facing Mill Co., Hamilton, Ont.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Syracuse Smelting Works, Montreal.

Crucible Caps

Hamilton Facing Mill Co., Hamilton, Ont.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Crucible Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Cutter Grinding Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Dashes

McKinnon Dash & Metal Works Co., St. Catharines, Ont.

Dies (Socket, Sewer Pipe and Tile)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Directories

Kelly's Directories, Limited, Toronto

Draw Benches (Wire)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio

Dredges

Allis-Chalmers-Bullock, Limited, Montreal.

Drills

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Petrie, H. W., Toronto.

Drills (Pneumatic and Rock)

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Jeffrey Mfg. Co., Columbus, Ohio.

Drop Forgings

Globe Machine & Stamping Co., Cleveland, Ohio

Drop Forging Dies

Globe Machine & Stamping Co., Cleveland Ohio.

Dry Kiln Apparatus

Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Dust and Shavings Separators

Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Dye Stuffs and Chemicals

Benson, W. T. & Co., Montreal.
Brunner, Mond & Co., Northwich, England.
Canada Chemical Mfg. Co., London, Ont.
Canada Process Co., Toronto.
Cassella Color Co., New York City.
McArthur, Corneille & Co., Montreal.
Nichols Chemical Co. of Canada, Montreal.
Winn & Holland, Montreal.

DYNAMOS (See Motors and Dynamos)**Electric Meters and Transformers**

Allis-Chalmers-Bullock, Limited, Montreal.
Packard Electric Co., St. Catharines, Ont.

Electric Mine Locomotives

Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.

Electrical Repairs

Keystone Engineering Co., Toronto.

Electrical Supplies

Allis-Chalmers-Bullock, Limited, Montreal.
Bristol Co., Waterbury, Conn.
Canadian General Electric Co., Toronto.

CLASSIFIED INDEX.

(CONTINUED.)

Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Electrical Construction Co., London, Ont.
Forsman, John, Montreal.
Jones & Moore Electric Co., Toronto
Keystone Engineering Co., Toronto
Packard Electric Co., St. Catharines, Ont.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Elevators and Conveyors

Allis-Chalmers Bullock, Limited, Montreal
Darling Bros., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio
Jenckes Machine Co., Sherbrooke, Que.

Elevator Insurance

Canadian Casualty & Boiler Insurance Co., Toronto

Emery and Emery Wheels

Forman, John, Montreal.
Hamilton Facing Mill Co., Hamilton, Ont.
Petrie, H. W., Toronto.

Engineers (Chemical)

Heys, Thomas & Son, Toronto.
Hunt, Robert W. & Co., Chicago, Ill.

Engineers (Civil)

Parke, R. J., Toronto.
Vogel, C. H., Ottawa.

Engineers (Consulting)

Aitken, K. L., Toronto.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
Gearing, H., Toronto.
Hunt, Robert W. & Co., Chicago, Ill.
Keystone Engineering Co., Toronto, Ont.
Marion & Marion, Montreal.
Parke, R. J., Toronto.
Perrin, William R. & Co., Limited, Toronto.
Vogel, C. H., Ottawa.

Engineers (Contracting)

Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
Keystone Engineering Co., Toronto.
McDougall, John, Caledonian Iron Works Co., Montreal.
Robb Engineering Co., Amherst, N.S.

Engineers (Electrical)

Aitken, K. L., Toronto.
Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Ltd., Toronto
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Canadian White Co., Montreal.
Crocker-Wheeler Co., St. Catharines, Ont.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
Jones & Moore Electric Co., Toronto.
Keystone Engineering Co., Toronto.
Marion & Marion, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Engineers (Mechanical)

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
Gearing, H., Toronto.
McDougall, John, Caledonian Iron Works Co., Montreal.
Hunt, Robert W. & Co., Chicago, Ill.
Kerr Engine Co., Walkerville, Ont.
Marion & Marion, Montreal.
Robb Engineering Co., Amherst, N.S.
Sheldon & Sheldon, Galt, Ont.
Smart-Turner Machine Co., Hamilton, Ont.

Engineers (Mill and Hydraulic)

Fensom, C. J., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Vogel, C. H., Ottawa.

Engineers (Mining)

Heys, Thomas & Son, Toronto.
Mills, S. D., Toronto.

Engineers and Contractors

Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Smart-Turner Machine Co., Hamilton, Ont.

Engines and Boilers

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.

Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Hopkins, F. H. & Co., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
Morris Machine Works, Baldwinville, N.Y.
McDougall, John, Caledonian Iron Works Co., Montreal.
Petrie, H. W., Toronto.
Robb Engineering Co., Amherst, N.S.
Sheldon & Sheldon, Galt, Ont.
Smart-Turner Machine Co., Hamilton, Ont.
Sturtevant, B. F. Co., Boston, Mass.
Winnans, A. L., Machinery Co., Toronto.

Engravers

Canadian Manufacturer, Toronto.
Jones, J. L., Engraving Co., Toronto.

Exhaust Fans

Hamilton Facing Mill Co., Hamilton, Ont.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Exhaust Heads

Darling Bros., Montreal.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Hyde Park, Mass.

Exhausters

Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Hyde Park, Mass.

Factory Sites

(See Factory Locations, page 31.)

Feed Water Heaters

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.
Pittsburg Filter Mfg. Co., Pittsburg, Pa.
Robb Engineering Co., Amherst, N.S.
Smart-Turner Machine Co., Hamilton, Ont.

Feed Water Purifiers

Pittsburg Filter Mfg. Co., Pittsburg, Pa.

Files

Spence, R. & Co., Hamilton, Ont.

Fillet (Pattern)

Hamilton Facing Mill Co., Hamilton, Ont.
Sadler & Haworth, Montreal and Toronto.

Filters (Oil)

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.
Perrin, William R. & Co., Limited, Toronto.

Filters and Filtering Systems (Water)

Babcock & Wilcox, Limited, Montreal.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Pittsburg Filter Mfg. Co., Pittsburg, Pa.

Financial

Bradstreet's, New York City.
Dun, H. G. & Co., Toronto.
Neff & Postlethwaite, Toronto.
Petrie, H. D., Hamilton, Ont.

Finals

Metallie Roofing Co., Toronto.
Pellar People, Oshawa, Ont.

Fire Brick and Clay

Dunbar Fire Brick Co., Pittsburg, Pa.
Elk Fire Brick Co., St. Mary's, Pa.
Hamilton Facing Mill Co., Hamilton, Ont.
Harbison-Walker Refractories Co., Pittsburg, Pa.
Pennsylvania Fire Brick Co., Beech Creek, Pa.
Queen's Run Fire Brick Co., Lock Haven, Pa.
Stowe-Fuller Co., Cleveland, Ohio.

Fire Escapes

Darling Bros., Montreal.

Fireproof Partitions

Metallie Roofing Co., Toronto.
Pellar People, Oshawa, Ont.

Flour Mill Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Goldie & McCulloch Co., Galt, Ont.

Forges and Blowers

Canada Foundry Co., Toronto.
Hamilton Facing Mill Co., Hamilton, Ont.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Founders

Canada Foundry Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Robb Engineering Co., Amherst, N.S.
Smart-Turner Machine Co., Hamilton, Ont.

Foundry Facings and Supplies

Hamilton Facing Mill Co., Hamilton, Ont.

Fuel Economizers

Babcock & Wilcox, Limited, Montreal.
Sturtevant, B. F. Co., Hyde Park, Mass.

**Furniture (Lodge, Opera and School,
Canadian Office & School Furniture Co., Preston, Ont.**

Galvanizing

Ontario Wind Engine & Pump Co., Toronto

**Galvanizing and Tinning Machinery and
Furnaces (Wire)**

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ct.

Gas and Gasoline Engines

Economic Power, Light & Heat Supply Co., Toronto.
Morrison, T. A. & Co., Montreal.
Smart-Turner Machine Co., Hamilton, Ont.

Gauges (Recording Pressure)

Bristol Co., Waterbury, Conn.

Gauges (Steam)

Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Gauges (Water)

Babcock & Wilcox, Limited, Montreal

Generating Sets

Sturtevant, B. F. Co., Hyde Park, Mass.

Generators

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Moore Electric Co., Toronto.
Phillips, Eugene F., Electrical Works, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Gloves, Mittens and Moccasins

Storey, W. H. & Son, Acton, Ont.

Government Notices

Factory Inspectors.
Minister of Agriculture.

Graphite

Dixon, Jos. Crucible Co., Jersey City, N.J.
Hamilton Facing Mill Co., Hamilton, Ont.
McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Hames

McKinnon Dash & Metal Works Co., St. Catharines

Hardware

Butterfield & Co., Rock Island, Que.
Gartshore, John J., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio.
Hopkins, F. H. & Co., Montreal.
Morrow John Machine Screw Co., Ingersoll, Ont.

Heating and Ventilating Apparatus

Darling Bros., Montreal.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Hoisting Engines

Allis-Chalmers-Bullock, Limited, Montreal.
Jenckes Machine Co., Sherbrooke, Que.

Hoists (Chain and Pneumatic)

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Hopkins, F. H. & Co., Montreal.

Hose (Air and Pneumatic)

Gutta Percha & Rubber Mfg. Co., Toronto.

Hydrants

Kerr Engine Co., Walkerville, Ont.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.

Hydraulic Accumulators

Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Smart-Turner Machine Co., Hamilton, Ont.

Hydraulic Machinery

Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Perrin, William R. & Co., Limited, Toronto.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

HARRISON-WALKER REFRACTORIES CO.
PITTSBURGH, PA.

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(CONTINUED).

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Phillips, Eugene F., Electrical Works, Montreal.

Iron and Steel Specialties

Armstrong Mfg. Co., Bridgeport, Conn.
 Bourne-Fuller Co., Cleveland, Ohio.
 Canada Foundry Co., Toronto.
 Leslie, A. C. & Co., Montreal.
 London Rolling Mill Co., London, Ont.
 Lysaght, John, Limited, Bristol, England and Montreal.
 Metallic Roofing Co., Toronto.
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.
 Pedlar People, Oshawa, Ont.
 Petrie, H. W., Toronto.
 Union Drawn Steel Co., Hamilton, Ont.

Injectors

Canada Foundry Co., Toronto.
 Hamilton Brass Mfg. Co., Hamilton, Ont.
 Williams A. R. Machinery Co., Toronto.

Iron and Steel Inspection

Hunt, R. W. & Co., Chicago, Ill.

Lamps—Electric

Allis-Chalmers-Bullock, Limited, Montreal.
 Canadian General Electric Co., Toronto.
 Canadian Westinghouse Co., Ltd., Hamilton, Ont.
 Forman, John, Montreal.
 Paokard Electric Co., St. Catharines, Ont.

Lathes

Petrie, H. W., Toronto.
 Williams, A. R. Machinery Co., Toronto.

Lathes (Wood-working)

Goldie & McCulloch Co., Galt, Ont.
 Petrie, H. W., Toronto.
 Williams, A. R. Machinery Co., Toronto.

Lubricators

Hamilton Facing Mill Co., Hamilton, Ont.

Machinists

Goldie & McCulloch Co., Galt, Ont.
 Robb Engineering Co., Amherst, N.S.
 Smart-Turner Machine Co., Hamilton, Ont.

Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.
 Butterfield & Co., Rock Island, Que.
 Goldie & McCulloch Co., Galt, Ont.
 Gutta Percha & Rubber Mfg. Co., Toronto.
 Hopkins, F. H. & Co., Montreal.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Morrow, John, Machine Screw Co., Ingersoll, Ont.
 Petrie, H. W., Toronto.

Machine Tools

Becker-Brainard Milling Machine Co., Hyde Park, Mass.
 Darling Bros., Montreal.
 Petrie, H. W., Toronto.

Malleable Castings

McKinnon Dash & Metal Works Co., St. Catharines, Ont.
 Smith's Falls Malleable Castings Co., Smith's Falls, Ont.

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 Jenckes Machine Co., Sherbrooke, Que.
 Smart-Turner Machine Co., Hamilton, Ont.

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 Sturtevant, B. F. Co., Boston, Mass.

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Metallic Roofing Co., Toronto.
 Pedlar People, Oshawa, Ont.

Metal Stamping

Globe Machine & Stamping Co., Cleveland, Ohio.
 Metallic Roofing Co., Toronto.
 Pedlar People, Oshawa, Ont.

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Mills, S. D., Toronto.

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 Armstrong Mfg. Co., Bridgeport, Conn.
 Becker-Brainard Milling Machine Co., Hyde Park, Mass.
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 Gartshore, John J., Toronto.
 Goldie & McCulloch Co., Galt, Ont.
 Gutta Percha & Rubber Mfg. Co., Toronto.
 Hamilton Brass Mfg. Co., Hamilton, Ont.
 Hamilton, Wm., Mfg. Co., Peterborough, Ont.
 Hay, Peter Knife Co., Galt, Ont.
 Hopkins, F. H. & Co., Montreal.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Jenckes Machine Co., Sherbrooke, Que.
 Morrow, John, Machine Screw Co., Ingersoll, Ont.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 McLaren, D. K., Montreal and Toronto.
 Petrie, H. W., Toronto.
 Robb Engineering Co., Amherst, N.S.
 Smart-Turner Machine Co., Hamilton, Ont.
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 Jeffrey Mfg. Co., Columbus, Ohio.
 Jenckes Machine Co., Sherbrooke, Que.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 Perrin, William R. & Co., Limited, Toronto.
 Petrie, H. W., Toronto.
 Williams, A. R. Machinery Co., Toronto.

Motors and Dynamos

Allis-Chalmers-Bullock, Limited, Montreal.
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 Canadian Westinghouse Co., Ltd., Hamilton, Ont.
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 Forman, John, Montreal.
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Canadian Copper Co., New York, N.Y.
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McCullough-Dalszell Crucible Co., Pittsburg, Pa.

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Canadian Office & School Furniture Co., Preston, Ont.

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Dixon, Jos. Crucible Co., Jersey City, N.J.
 Hamilton Facing Mill Co., Hamilton, Ont.
 Imperial Oil Co., Petrolia, Ont.
 Queen City Oil Co., Toronto.

Oil Cloth

Dominion Oil Cloth Co., Montreal.

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Berry Bros., Walkerville, Ont.
 McArthur, Corneille & Co., Montreal.

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Barber, Wm. & Bros., Georgetown, Ont.
 Toronto Paper Mfg. Co., Cornwall, Ont.

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 Fetherstonhaugh & Co., Toronto.
 Marion & Marion Montreal.

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Maxwell, David & Sons, St. Mary's, Ont.

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Globe Machine & Stamping Co., Cleveland, Ohio.
 Greening, B. Wire Co., Hamilton, Ont.
 Metallic Roofing Co., Toronto.
 Pedlar People, Oshawa, Ont.

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Canadian Casualty & Boiler Insurance Co., Toronto.

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McCullough-Dalszell Crucible Co., Pittsburg, Pa.

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Gearing, H., Toronto.

Pig Iron

Bourne-Fuller Co., Cleveland, Ohio.
 Canada Iron Furnace Co., Montreal.
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.
 Syracuse Smelting Works Montreal.

Pipe (Riveted, Iron and Steel)

Babcock & Wilcox, Limited, Montreal.
 McDougall, John, Caledonian Iron Works Co., Montreal.

Pipe Threading Machines

Armstrong Mfg. Co., Bridgeport, Conn.
 Butterfield & Co., Rock Island, Que.
 Petrie, H. W., Toronto.

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Bourne-Fuller Co., Cleveland, Ohio.
 Canada Foundry Co., Toronto.
 Montreal Pipe Foundry Co., Montreal.

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Albert Mfg. Co., Hillsborough, N.B.

Plates

Bourne-Fuller Co., Cleveland, Ohio.
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Plumbago

Hamilton Facing Mills Co., Hamilton, Ont.
 McCullough-Dalszell Crucible Co., Pittsburg, Pa.

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Allis-Chalmers-Bullock, Limited, Montreal.
 Canadian Rand Drill Co., Sherbrooke, Que.
 Hamilton Facing Mill Co., Hamilton, Ont.

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 Canadian Westinghouse Co., Ltd., Hamilton, Ont.
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 Economic Power, Light & Heat Supply Co., Toronto.
 Electrical Construction Co., London, Ont.
 Goldie & McCulloch, Galt, Ont.
 Gutta Percha & Rubber Mfg. Co., Toronto.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Jones & Moore Electric Co., Toronto.
 Keystone Engineering Co., Toronto.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 Paokard Electric Co., St. Catharines, Ont.
 Perrin, Wm. R. & Co., Limited, Toronto.
 Petrie, H. W., Toronto.
 Phillips, Eugene F., Electrical Works, Montreal.
 Robb Engineering Co., Amherst, N.S.
 Smart-Turner Machine Co., Hamilton, Ont.
 Sturtevant, B. F. Co., Boston, Mass.
 Toronto & Hamilton Electric Co., Hamilton, Ont.

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Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

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Darling Bros., Montreal.
 Goldie & McCulloch Co., Galt, Ont.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jeffrey Mfg. Co., Columbus, Ohio.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 Petrie, H. W., Toronto.
 Smart-Turner Machine Co., Hamilton, Ont.

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Pumps and Pumping Machinery

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 Canada Foundry Co., Toronto.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CLASSIFIED INDEX.

(CONTINUED).

Darling Bros., Montreal.
Downie Pump Co., Downieville, Pa.
Goldie & McCulloch Co., Galt, Ont.
Jenckes Machine Co., Sherbrooke, Que.
Kerr Engine Co., Walkerville, Ont.
Morris Machine Works, Baldwinsville, N.Y.
McDougall, John, Caledonian Iron Works Co., Montreal.
Ontario Wind Engine & Pump Co., Toronto.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Punches and Shears
Globe Machine & Stamping Co., Cleveland, Ohio.
Petrie, H. W., Toronto.

Purifiers
Babcock & Wilcox, Limited, Montreal.
Goldie & McCulloch Co., Galt, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.

Purifying and Softening Systems (Water)
Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.

Railroads
Chicago & North-Western Ry., Toronto and St. Paul, Minn.

Railway Supplies
Algoma Steel Co., Sault Ste. Marie, Ont.
Allis-Chalmers-Bullock, Limited, Montreal.
Gartshore, John J., Toronto.
Greening, B. Wire Co., Hamilton, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Hopkins, F. H. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Phillips, Eugene F. Electrical Works, Montreal.

Reamers
Butterfield & Co., Rock Island, Que.

Rivets
Bourne-Fuller Co., Cleveland, Ohio.
London Rolling Mills, London, Ont.

Rock and Ore Crushers
Allis-Chalmers-Bullock, Limited, Montreal.
Bradley Pulveriser Co., Boston, Mass.

Rolling Mill Engineers
Bourne-Fuller Co., Cleveland, Ohio.

Roofing
Bourne-Fuller Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Rubber Goods
Gutta Percha & Rubber Mfg. Co., Toronto.

Rubber Packing
Gutta Percha & Rubber Mfg. Co., Toronto.

Rubber Washing Tubs
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Rural Mail Boxes
Globe Machine & Stamping Co., Cleveland, Ohio.

Saddlery Hardware
McKinnon Dash & Metal Works Co., St. Catharines, Ont.

Safes and Vaults
Goldie & McCulloch Co., Galt, Ont.

Saw Mill Machinery
Allis-Chalmers-Bullock, Limited, Montreal.

Screws
Morrow, John, Machine Screw Co., Ingersoll, Ont.

Screw Plates
Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rock Island, Que.

Sewer Pipes.
Dominion Sewer Pipe Co., Swansea, Ont.

Shafting
Allis-Chalmers-Bullock, Limited, Montreal.
Bourne-Fuller Co., Cleveland, Ohio.
Goldie & McCulloch Co., Galt, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
McDougall, John, Caledonian Iron Works Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Shear Knives
Hay, Peter Knife Co., Galt, Ont.

Sheets (Iron and Steel)
Bourne-Fuller Co., Cleveland, Ohio.
Leslie, A. C. & Co., Montreal.
Lysaght, John, Limited, Bristol, England, and Montreal.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Sheet Metal Goods

Globe Machine & Stamping Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Sheet Metal Stamping

Globe Machine & Stamping Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Shovels.

Hamilton Facing Mill Co., Hamilton, Ont.

Smoke Stacks

Gearing, H., Toronto.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.
Robb Engineering Co., Amherst, N.S.
Smart-Turner Machine Co., Hamilton, Ont.

Solder

Globe Machine & Stamping Co., Cleveland, Ohio.
Syracuse Smelting Co., Montreal.

Special Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Globe Machine & Stamping Co., Cleveland, Ohio.
Smart-Turner Machine Co., Hamilton, Ont.

Speed Recorders

Bristol Co., Waterbury, Conn.

Sprinkler Insurance

Canadian Casualty & Boiler Insurance Co., Toronto.

Stamps and Stencils

Globe Machine & Stamping Co., Cleveland, Ohio.

Steam Pumps

Allis-Chalmers-Bullock, Limited, Montreal.
Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Goldie & McCulloch Co., Galt, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Williams, A. R. Machinery Co., Toronto.

Steam Separators

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
Robb Engineering Co., Amherst, N.S.
Sheldon & Sheldon, Galt, Ont.
Smart-Turner Machine Co., Hamilton, Ont.

Steam Shovels

Allis-Chalmers-Bullock, Limited, Montreal.

Steam Specialties

Darling Bros., Montreal.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Hyde Park, Mass.

Steam Valves

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
Kerr Engine Co., Walkerville, Ont.
Petrie, H. W., Toronto.
Williams A. R. Machinery Co., Toronto.

Steel Rails

Algoma Steel Co., Sault Ste. Marie, Ont.
Drummond, McCall & Co., Montreal and Toronto.
Gartshore, John J., Toronto.
Hopkins, F. H. & Co., Montreal.

Steel Shafting

Darling Bros., Montreal.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Leslie, A. C. & Co., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Stocks and Dies

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rock Island, Que.
Petrie, H. W., Toronto.

Stoppers

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Structural Steel

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Hopkins, F. H. & Co., Montreal.

Sulphate of Alumina

Nichols Chemical Co. of Canada, Montreal.

Suspension Furnaces

Continental Iron Works Co., New York City.

Tanks (Oil and Water)

Canada Foundry Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Ontario Wind Engine & Pump Co., Toronto.

Taps and Dies

Butterfield & Co., Rock Island, Que.
Globe Machine & Stamping Co., Cleveland, Ohio.

Tees

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.

Textile Manufacturers

Dominion Oil Cloth Co., Montreal.
Storey, W. H. & Sons, Acton, Ont.

Thermometers (Recording)

Bristol Co., Waterbury, Conn.

Tin

Leslie, A. C. & Co., Montreal.
Syracuse Smelting Works, Montreal.

Tool Steel

Bourne-Fuller Co., Cleveland, Ohio.
Hopkins, F. H. & Co., Montreal.
Leslie, A. C. & Co., Montreal.

Trucks

Hopkins, F. H. & Co., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.
Sheldon & Sheldon, Galt, Ont.

Trucks (Railway)

Canada Foundry Co., Toronto.

Trucks (Wire Mill Supplies)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Tubs (Cleaning and Coating Wire)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Tumbling Barrels

Globe Machine & Stamping Co., Cleveland, Ohio.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Turbines

Canada Foundry Co., Toronto.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jenckes Machine Co., Sherbrooke, Que.

Valves

Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Kerr Engine Co., Walkerville, Ont.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Williams, A. R. Machinery Co., Toronto.

Valves (Rubber)

Gutta Percha & Rubber Mfg. Co., Toronto

Varnishes

Berry Bros., Walkerville, Ont.

Ventilators

Darling Bros., Montreal.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Wagon and Carriage Wood Work

Hore, F. W. & Son, Hamilton, Ont.

Washers or Hollinders (Cleaning Rubber)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Water Power Development

Vogel, C. H., Ottawa.

Water Purifying Chemicals

Canada Chemical Mfg. Co., London, Ont.
Canada Process Co., Toronto.

Water Softening Plants

Pittsburg Filter Mfg. Co., Pittsburg, Pa.

Wheelbarrows.

Hamilton Facing Mill Co., Hamilton, Ont.

Windmills

Ontario Wind Engine & Pump Co., Toronto.

Wiping Rags for Waste

Schienenman, I. L. & Co., Detroit, Mich.

Wire Mill Supplies

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Wire and Wire Rope

Dominion Wire Rope Co., Montreal.
Greening, B. Wire Co., Hamilton, Ont.
Leslie, A. C. & Co., Montreal.
Phillips, Eugene F. Electrical Works Montreal.

Wire Rope Fittings

Dominion Wire Rope Co., Montreal.

Wire Cloth

Greening, B. Wire Co., Hamilton, Ont.

Wire Drawing Machinery

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Wood-Working Machinery

Goldie & McCulloch Co., Galt, Ont.
Petrie, H. W., Toronto.
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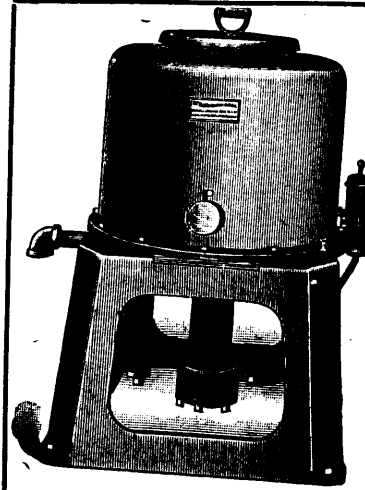
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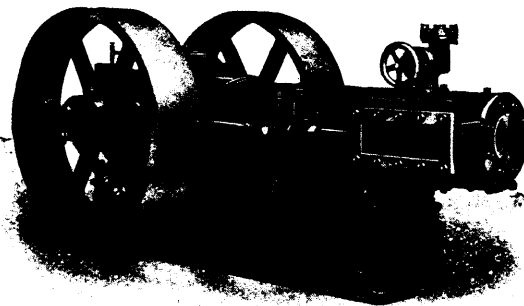
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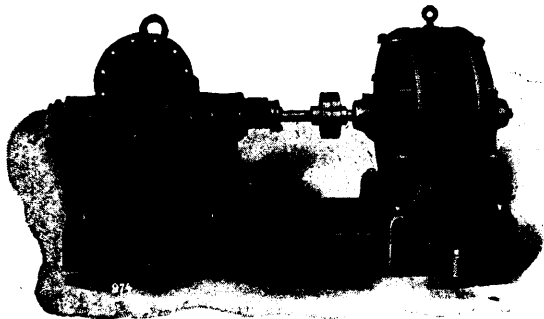
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INDEX TO ADVERTISEMENTS (Continued).

PAGE		M		PAGE	
Goldie & McCulloch Co., Galt, Ont.....	3	Marion & Marion, Montreal.....	8	Petrie, H. D., Hamilton, Ont.....	8
Goldschmidt Thermit Co., Montreal.....	40	Maxwell, David, & Sons, St. Mary's, Ont.....	40	Phillips, Eugene F., Electrical Works, Montreal.....	17
Grand & Toy, Toronto.....	37	Metallic Roofing Co., Toronto.....	39	Piper, N. L. Railway Supply Co., Toronto.....	8
Greening, B. Wire Co., Hamilton, Ont.....	14	Mills S. D. Toronto.....	8	Pittsburg Filter Co., Pittsburg, Pa.....	50
Gutta Percha & Rubber Mfg. Co., Toronto.....	ofc	Monteith-Nixon, Limited, Toronto.....	39	Q	
H					
Hall, J. B., Toronto.....		Montreal Belting Co., Montreal.....	8	Queen City Oil Co. Toronto.....	ofc
Hamilton Brass Mfg. Co., Hamilton, Ont.....	5	Montreal Pipe Foundry Co., Montreal.....	14	Queen's Run Fire Brick Co. Lock Haven, Pa....	ofc
Hamilton Facing Mills Co., Hamilton, Ont.....	ofc	Morris Machine Works, Baldwinsville, N.Y.....	10	R	
Hamilton, Wm. Mfg. Co., Peterborough, Ont.....	12	Morrison, T. A. & Co., Montreal.....	8	Robb Engineering Co., Amherst, N.S.....	10
Harbison-Walker Refractories Co., Pittsburg, Pa.....	45	Morrow, John, Machine Screw Co., Ingersoll, Ont.....	40	Roman Stone Co., Toronto.....	.
Hay, Peter Knife Co., Galt, Ont.....	9	Mc			
Henry & Adams, Toronto.....	39	McArthur, Corneille & Co., Montreal.....	ofc	S	
Heys, Thomas & Son, Toronto.....	8	McCullough-Dalsell Crucible Co., Pittsburg, Pa.....	45	Sadler & Haworth, Montreal.....	13
Hopkins, F. H. & Co., Montreal.....		McDougall, John, Caledonian Iron Works Co., Montreal.....	50	St. Lawrence Supply Co., Montreal.....	18
Hore, F. W. & Son, Hamilton, Ont.....	14	McGuire, W. J. & Co., Toronto and Montreal...		Schienman, I. L. Co., Detroit, Mich.....	
Horsburgh & Scott, Cleveland, Ohio.....	40	McKinnon Dash & Metal Works Co., St. Catharines, Ont.....	ofc	Sheldon & Sheldon, Galt, Ont.....	2
Hunt, Robert W. & Co., Chicago, Ill.....	8	McLaren, D. K. Montreal and Toronto.....	48	Smart-Turner Machine Co., Hamilton, Ont.....	ofc
I					
Imperial Oil Co., Petrolia, Ont.....	7	N			
International Harvester Co., Chicago, Ill.....	10	Neff & Postlethwaite, Toronto.....		Smith's Falls Malleable Castings Co., Smith's Falls, Ont.....	ofc
J					
Jeffrey Mfg. Co., Columbus, Ohio.....	11	Nichols Chemical Co. of Canada, Montreal.....	6	Spence, R. & Co., Hamilton, Ont.....	40
Jenokes Machine Co., Sherbrooke, Que.....	6	Northern Aluminum Co., Shawinigan Falls, Que. and Pittsburg, Pa.....		Storey, W. H. & Son, Acton, Ont.....	14
Jones & Moore Electric Co., Toronto.....	17	Northern Electric & Mfg. Co., Montreal.....	35	Stowe-Fuller Co., Cleveland, Ohio.....	40
Jones, J. L., Engraving Co., Toronto.....	40	Nova Scotia Steel & Coal Co., New Glasgow, N.S.....	4	Sturtevant, B. F. Co., Boston, Mass.....	48
K					
Kahn, Gustave, Toronto.....		O			
Kaye, Joseph & Sons, Limited, London, Eng.....	8	Oakey, John & Sons, London, England.....	7	Sylvester Mfg. Co., Lindsay, Ont.....	40
Kelly's Directories, Toronto and London, England.....		Ontario Wind Engine & Pump Co., Toronto.....	44	Syracuse Smelting Co. Montreal and New York	13
Kerr Engine Co., Walkerville, Ont.....	11	Orford Copper Co., New York, N.Y.....	5	T	
Keystone Engineering Co Toronto.....	8	P			
Krug & Crosby, Hamilton, Ont.....		Packard Electric Co., St. Catharines, Ont.....	16	Toronto & Hamilton Electric Co., Hamilton, Ont.....	17
L					
Laurie Engine & Machine Co., Montreal.....		Parke, Roderick J., Toronto.....	8	Toronto Paper Mfg. Co., Cornwall, Ont.....	40
Leslie, A. C. & Co., Montreal.....		Pears, George, Jr., Toronto.....	37	Trussed Concrete Steel Co., Toronto.....	8
Loignon, A. & E., Montreal.....	8	Pedlar People, Oshawa, Ont.....	41	Turner, Vaughn & Taylor, Cuyahoga Falls, Ohio.....	ofc
London Rolling Mill Co., London, Ont.....	49	Penman & Sprang, Windsor, Ont.....	38	U	
Lowell Crayon Co., Lowell, Mass.....	40	Pennsylvania Fire Brick Co., Beech Creek, Pa.....	9	Union Drawn Steel Co., Hamilton, Ont.....	5
Lysaght, John, Limited, Bristol, England and Montreal.....	ofc	Ferrin, William R. & Co., Limited, Toronto and Chicago, Ill.....	49	V	
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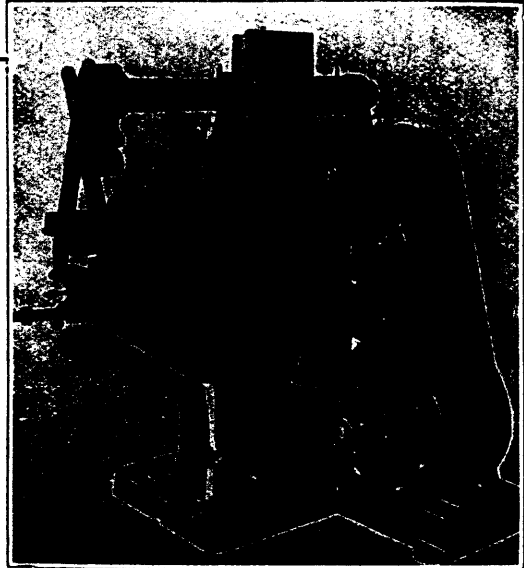
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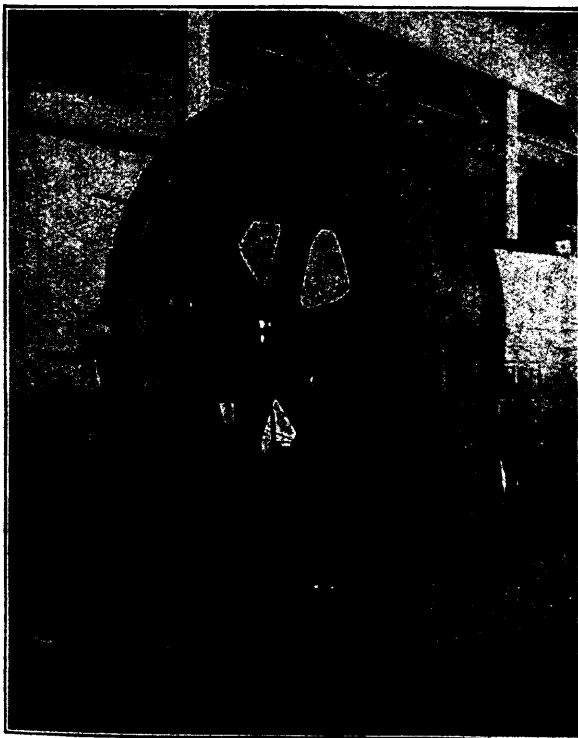
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