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DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

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Vol. 43.

TORONTO, OCTOBER 18, 1901.

No. 8.

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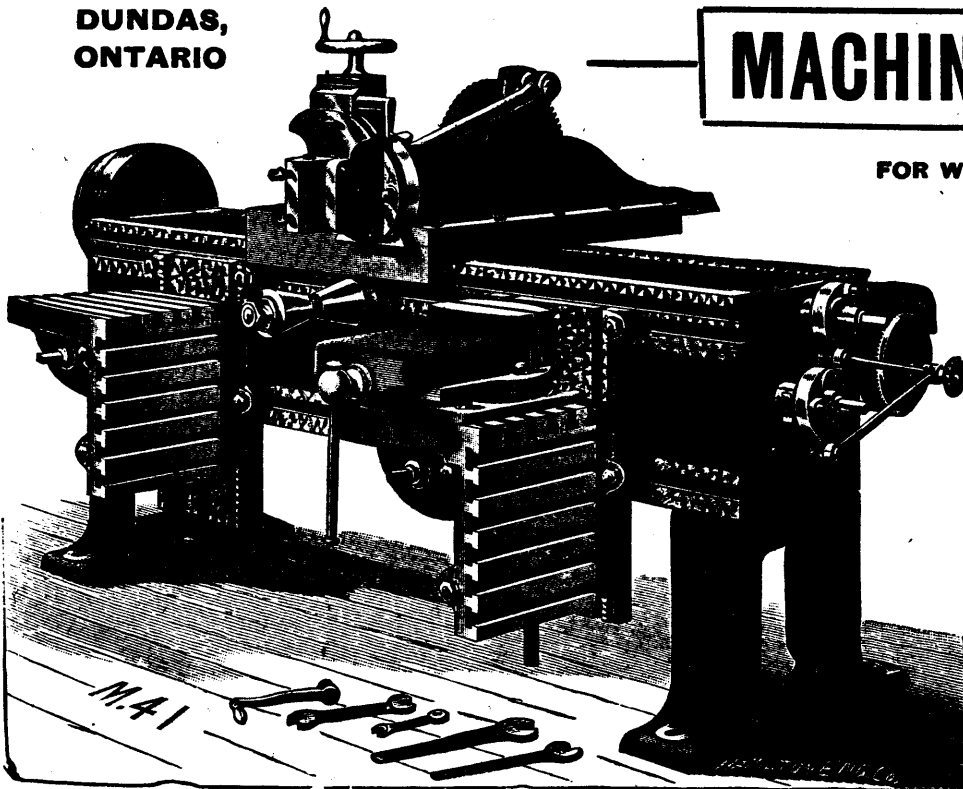
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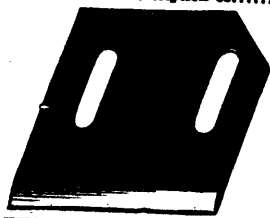
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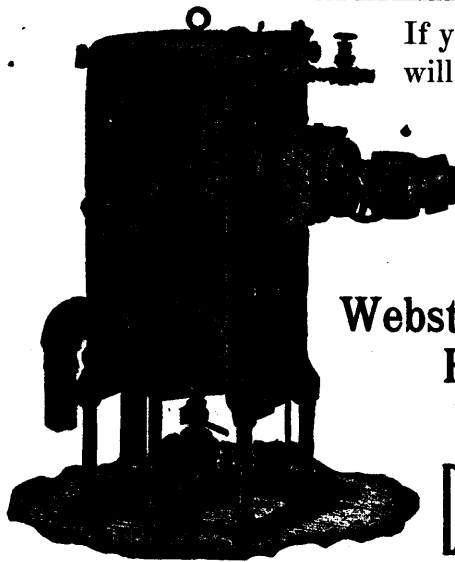
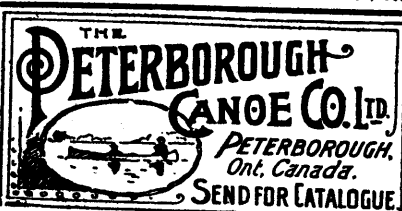


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## WEBSTER SYSTEM OF STEAM HEATING

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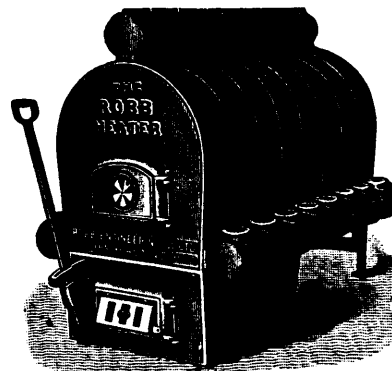
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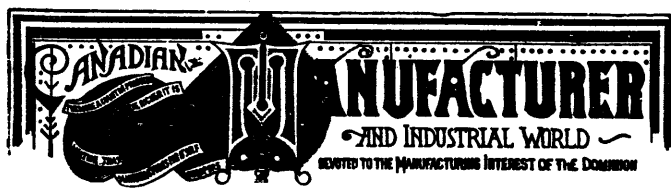
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FOR FACTORY AND OFFICE.

Imperial Lamps and Helios Upton Enclosed Arcs Give BEST LIGHT with LEAST CURRENT  
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PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

The Canadian Manufacturer Publishing Co., Limited.

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Cable address: "CANAMAN." Western Union Telegraphic Code used.

MESSRS. DAVISON & CO.,

164 Federal Street, - Boston, Mass.  
AGENTS FOR UNITED STATES.

Index to Advertisers ..... Page 42

J. J. CASSIDY, - - - Editor and Manager

IMPORTS OF WOOLEN GOODS AND THE WOOLEN INDUSTRY.

The following tables, compiled from the Trade and Navigation Returns, show the imports of all descriptions of woolen goods into Canada during the fiscal years ending with June 30, 1896, 1897, 1898, 1899, 1900 and 1901. The first-named year, 1896, immediately preceded that in which the reciprocal tariff, otherwise known as the preferential tariff, went into effect; and the facts shown in the tables explain the origin, extent and value of our imports of woolen goods in that year.

The Customs' Tariff of 1897 provides that, "On and after the twenty-third day of April, 1897, until the thirtieth day of June, 1898, inclusive, the reduction (of duty) shall be one-eighth of the duty mentioned in schedule A;" by which it will be seen that the reduction of 12½ per cent. was in operation from April 23, 1897, to June 30, 1898. The Trade and Navigation Returns for 1896 and 1897 do not show the quantities and values of imports under the general tariff and under the preferential tariff, as in subsequent years; and the only means available for the purposes of this article is to show the quantities and values of imports from Great Britain and from all other countries, as therein given, taking it for granted that the imports from Great Britain were the products of that country, and that none of the imports from other countries were of British origin. It will therefore be observed that the facts relating to 1896 and 1897 are classified as imports from Great Britain and from "all other countries" respectively, while in the subsequent years they are classified as imports under the general tariff and under the preferential tariff.

In the 1897 tariff it is also provided that "On and after the first day of July, 1898, the reduction shall be one-fourth of the duty mentioned in schedule A;" by which it appears that the 25 per cent. preference, which went into effect July 1, 1898, was to be continued indefinitely unless subsequently changed. At the session of the Dominion Parliament held in 1900, the reciprocal or preferential feature of the tariff was amended so as to provide that on and after the first day of July, 1900, "The reduction shall be one-third of the duty mentioned in schedule A."

The 25 per cent. reduction was in operation two years, from July 1, 1898, to June 30, 1900, and the 33½ per cent. reduction, which went into effect July 1, 1900, completed its first year of operation with June 30, 1901. Bearing in

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Reaches all the Blast Furnaces, Iron and Steel Works, Rolling Mills, Manufacturers of Iron and Wood-Working Machinery, Steam Engines and Boilers, Pumping and Mining Machinery, Electric Machinery and Appliances, Machinery Dealers and Steam Fitters' Supplies, all Hardware Dealers, Cotton, Woolen, Knitting and Yarn Mills, Pulp and Paper Mills, etc., in Canada.

mind the growth of Canada, the prosperity with which we are blessed, and the increased demands growing therefrom during the six full years under consideration, a careful study of the tables will assist in determining the effect of the preferential duties upon the woolen industry of the country.

For more convenient reference to the facts set forth in the tables, the quantities and values are classified as follows:— A., carpets, with quantities in yards; B., other articles with quantities in yards; C., articles, with quantities in pounds; D., articles regarding which quantities are not given, and all other articles n.e.s.

The aggregate values of these four classes of textiles in the years named were as follows:—

	1896.		1897.		1898.	
	Great Britain.	All Other.	Great Britain.	All Other.	Preferential Tariff.	General Tariff.
A. ....	\$717,070	\$71,852	\$555,198	\$63,380	\$662,340	\$44,864
B. ....	2,598,433	137,739	2,103,857	111,816	2,084,273	145,980
C. ....	168,525	141,783	137,259	157,645	285,222	76,795
D. ....	3,444,541	1,390,402	2,780,545	1,216,048	4,085,488	589,865
Total	\$6,928,569	\$1,741,776	\$5,576,859	\$1,548,889	\$7,127,333	\$868,514

	1899.		1900.		1901.	
	Preferential Tariff.	General Tariff.	Preferential Tariff.	General Tariff.	Preferential Tariff.	General Tariff.
A. ....	\$876,459	\$55,329	\$945,735	\$41,633	\$892,298	\$38,133
B. ....	2,588,496	227,916	2,570,242	326,725	3,061,282	365,606
C. ....	359,052	201,119	334,174	270,790	318,237	282,037
D. ....	3,825,834	1,668,972	3,142,611	2,160,655	3,061,736	1,918,797
Total	\$7,649,861	\$2,153,336	\$6,998,762	\$2,802,703	\$7,339,543	\$2,604,572

An analysis of the tables having reference to some of the articles enumerated therein show interesting results. In 1896 the total imports of tapestry carpets amounted to 1,230,867 yards, of which 1,195,923 yards, valued at \$378,784, came from Great Britain, and 34,944 yards, valued at \$13,425, from all other countries. In 1901, the total imports of that article were 1,416,670 yards, of which 1,381,871 yards, valued at \$457,987, paid duty at the preferential rate, and 34,799 yards, valued at \$16,746, came in under the general tariff. The increase of imports in 1901 under the preferential tariff was 185,949 yards more than the imports from Great Britain in 1896; while the decrease of imports in 1901 under the general

IMPORTS INTO CANADA OF ALL DESCRIPTIONS OF WOOLEN GOODS  
ENTERED FOR HOME CONSUMPTION IN SIX YEARS

ARTICLES.	1896				1897				1898			
	GREAT BRITAIN.		ALL OTHER COUNTRIES.		GREAT BRITAIN.		ALL OTHER COUNTRIES.		PREFERENTIAL TARIFF.		GENERAL TARIFF.	
	Yards.	Value.	Yards.	Value.	Yards.	Value.	Yards.	Value.	Yards.	Value.	Yards.	Value.
<b>A</b>												
Brussels Carpet	560,954	\$312,254	4,646	\$3,585	363,379	\$221,425	18,936	\$12,077	444,846	\$260,831	25,715	\$15,385
Damask "	1,190	592	1,432	784	1,432	784	1,972	777	2,350	699	.....	.....
Dutch "	17,692	2,184	362	133	10,773	1,280	.....	.....	3,779	221	.....	.....
Tapestry "	1,195,923	378,784	34,944	13,425	1,030,654	313,548	45,399	20,195	1,190,709	383,559	41,191	19,524
Venetian "	361	163	1,135	786	1,917	656	.....	.....	1,007	548	4	2
Druggets "	.....	.....	5	1	.....	.....	.....	.....	.....	.....	.....	.....
Felt "	86	73	.....	.....	1,206	517	.....	.....	625	143	.....	.....
Smymna "	2,111	1,901	1,866	1,464	190	313	3,813	2,700	.....	.....	184	108
Turkish "	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ingrain—Wool	28,456	14,890	51,373	20,628	24,405	12,135	32,840	13,621	5,681	3,749	5,629	4,980
Ingrain—Other	18,624	6,220	132,455	31,830	13,279	4,540	53,688	14,010	19,829	11,171	8,458	3,287
Totals	.....	\$717,070	.....	\$71,852	.....	\$555,198	.....	\$63,380	.....	\$662,340	.....	\$44,864
<b>B</b>												
Casimeres	77,088	\$46,027	1,910	\$1,359	76,025	\$29,836	144	\$25	225,815	\$56,734	19,560	\$4,339
Cloths	2,267,423	1,516,968	81,442	50,386	1,745,360	1,132,809	90,475	58,438	1,806,554	1,034,560	104,028	59,386
Coatings	851,291	510,308	1,727	1,063	711,795	430,330	4,123	2,488	885,495	468,552	35,694	17,090
Doeskins	1,727	1,063	1,926	1,699	.....	.....	.....	.....	.....	.....	534	211
Overcoatings	59,198	35,117	130	45	32,430	15,670	.....	.....	8,746	4,002	5,803	2,400
Tweeds	560,483	393,926	19,680	14,079	562,326	399,650	19,852	12,363	726,264	399,210	31,168	14,143
Felt Cloths, n.e.s.	8,279	7,471	28,275	21,955	13,932	12,085	25,522	19,477	15,933	11,743	29,877	27,040
Fiannels	98,145	61,287	10,531	8,849	99,304	50,728	10,531	7,586	312,932	49,271	43,172	13,593
Dress Goods	135,673	26,016	175,811	26,564	187,335	32,386	74,809	11,115	421,752	60,201	67,513	.....
Winceys	2,822	250	157	41	1,729	363	2,476	324	.....	.....	.....	.....
Totals	.....	\$2,598,433	.....	\$137,739	.....	\$2,103,857	.....	\$111,816	.....	\$2,084,273	.....	\$146,990
<b>C</b>												
Blankets	56,079	\$18,600	4,652	\$2,394	53,569	\$17,497	2,857	\$2,038	110,805	\$36,906	9,396	\$4,575
Yarns	551	89	.....	.....	1,483	284	3,230	200	196,763	86,287	33,774	15,025
Yarns, n.e.s.	220,326	117,968	85,661	42,225	172,275	93,054	132,025	52,951	127,456	69,532	26,039	12,243
Felts—pressed	88,404	31,733	266,988	93,973	85,173	26,424	317,926	101,582	222,274	92,367	140,466	43,663
Shoddy	1,160	135	41,830	3,191	.....	.....	45,236	874	510	130	30,516	1,289
Totals	.....	\$168,525	.....	\$141,783	.....	\$137,259	.....	\$157,645	.....	\$285,222	.....	\$76,795
<b>D</b>												
Knitted Goods	122,819	\$152,635	61,337	\$87,406	97,568	\$108,041	48,233	\$54,633	.....	\$118,886	.....	\$39,872
Bed Comforters	.....	.....	.....	.....	.....	.....	.....	.....	2,045	1,689	1,121	658
Horse Clothing	54	90	179	149	13	17	182	124	.....	.....	.....	.....
Horse Collar Cloth	.....	.....	.....	.....	1,367	1,155	1,232	1,004	.....	.....	.....	.....
Shawls	.....	61,330	.....	11,003	.....	48,916	.....	10,179	.....	48,762	.....	5,660
Shirts	767	6,610	145	1,390	843	6,261	214	1,739	3,420	12,109	615	2,031
Shirts, n.e.s.	556	1,123	53	58	804	2,114	8	23	.....	.....	.....	.....
Socks and Stockings	2,915,460	459,979	525,772	44,702	2,496,983	372,343	445,712	41,971	293,326	476,642	7,962	11,036
Undershirts and Drawers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hosiery, n.e.s.	631	721	76	65	348	116	30	10	.....	19,248	.....	8,530
Blouses and Waists	.....	.....	.....	.....	.....	.....	.....	.....	.....	144	.....	1,502
Clothing, n.e.s.	424,660	451,344	314,382	379,799	356,626	375,791	345,744	432,794	.....	731,273	.....	167,024
All other Fabrics, n.e.s.	11,303,923	2,310,709	4,006,229	865,830	9,188,743	1,865,791	3,160,621	673,571	.....	2,654,913	.....	353,098
Totals	.....	\$3,444,541	.....	\$1,390,402	.....	\$2,750,545	.....	\$1,216,048	.....	\$4,095,498	.....	\$589,865

IMPORTS INTO CANADA OF ALL DESCRIPTIONS OF WOOLEN GOODS

ENTERED FOR HOME CONSUMPTION IN SIX YEARS

ARTICLES.	1899				1900				1901			
	PREFERENTIAL TARIFF.		GENERAL TARIFF.		PREFERENTIAL TARIFF.		GENERAL TARIFF.		PREFERENTIAL TARIFF.		GENERAL TARIFF.	
	Yards.	Value.	Yards.	Value.	Yards.	Value.	Yards.	Value.	Yards.	Value.	Yards.	Value.
<b>A</b>												
Brussels Carpet .....	648,431	\$403,384	26,861	\$18,836	791,854	\$477,945	26,646	\$18,806	651,755	\$407,302	13,110	\$9,831
Damask .....	1,562	546	673	458	1,010	299	37	22	3,807	2,278	.....	.....
Dutch .....	1,399,646	451,853	70,468	25,286	1,352,434	443,789	31,800	17,255	1,381,871	458,937	34,799	16,746
Tapestry .....	180	361	1,044	386	.....	.....	.....	.....	63	48	.....	.....
Venetian .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Druggets .....	1,022	420	254	174	.....	.....	47	22	.....	.....	1,208	1,550
Felt .....	.....	.....	188	164	.....	.....	65	58	.....	.....	32	85
Smyrna .....	5,956	4,374	5,876	4,567	7,577	4,226	5,423	4,564	19,184	11,273	2,381	7,436
Turkish .....	33,717	14,170	19,464	5,192	21,502	11,592	8,223	3,032	30,762	15,647	4,694	2,320
Ingrain—Wool .....	2,385	1,851	1,467	1,110	14,205	7,025	931	690	9,425	2,590	606	165
Ingrain—Other .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals .....	.....	\$876,459	.....	\$55,329	.....	\$945,735	.....	\$44,633	.....	\$898,288	.....	\$38,133
<b>B</b>												
Cassimeres .....	283,428	\$110,212	56,580	\$18,147	139,125	\$38,214	23,860	\$7,032	14,459	\$2,587	18,042	\$4,225
Cloths .....	2,308,616	1,327,399	215,225	113,426	1,981,904	1,152,703	289,958	154,717	3,350,370	1,731,430	335,777	152,157
Coatings .....	902,282	536,488	29,529	11,810	876,418	530,782	28,981	17,140	1,023,370	496,212	16,748	9,601
Doestings .....	.....	.....	.....	.....	4,008	253	9	17	.....	.....	.....	.....
Overcoatings .....	20,930	7,948	1,513	1,045	9,297	2,019	2,019	1,864	23,124	12,705	2,100	2,594
Tweeds .....	855,273	512,087	36,448	21,464	1,255,835	749,405	106,491	52,816	1,202,677	732,010	91,368	54,438
Felt Cloths, n.e.s. ....	15,504	5,738	40,965	34,477	2,439	27,598	27,598	24,816	10,753	6,627	51,983	43,674
Flannels .....	394,335	53,430	94,781	12,602	302,072	43,538	142,284	30,666	365,386	51,296	366,141	72,139
Flannel Shirting .....	.....	.....	.....	.....	17,100	5,315	.....	.....	165,448	28,405	136,970	26,777
Dress Goods .....	193,161	35,194	71,005	14,945	241,471	44,316	128,260	37,657	.....	.....	.....	.....
Totals .....	.....	\$2,588,496	.....	\$227,916	.....	\$2,576,242	.....	\$326,725	.....	\$3,061,272	.....	\$365,605
<b>C</b>												
Blankets .....	100,888	\$28,853	17,380	\$11,119	91,162	\$40,748	18,639	\$9,222	80,163	\$29,128	12,337	\$6,094
Yarns .....	288,093	129,806	87,527	44,829	432,492	188,341	111,042	68,283	442,316	177,743	165,175	66,534
Yarns, n.e.s. ....	206,198	93,721	104,514	25,354	162,259	70,527	148,610	46,799	156,828	86,987	145,335	47,687
Felts—pressed .....	248,789	106,672	311,843	119,100	84,497	28,700	344,982	142,920	57,524	21,221	432,514	161,329
Shoddy .....	.....	.....	6,111	717	40,216	5,858	38,626	3,556	24,134	3,178	19,543	393
Totals .....	.....	\$359,052	.....	\$201,119	.....	\$334,174	.....	\$270,790	.....	\$318,237	.....	\$282,037
<b>D</b>												
Knitted Goods .....	.....	Value.	.....	Value.	.....	Value.	.....	Value.	.....	Value.	.....	Value.
Bed Comforters .....	.....	\$100,317	.....	\$111,808	.....	\$58,350	.....	\$67,087	.....	\$54,498	.....	\$39,514
Horse Collar Cloth .....	229	638	786	696	1,460	2,894	1,352	1,514	920	827	988	891
Shawls .....	.....	65,063	.....	13,626	.....	52,787	.....	19,853	.....	69,546	.....	24,118
Shirts .....	3,422	15,042	5,538	19,255	17,407	13,496	3,123	13,496	2,064	12,368	819	4,641
Socks and Stockings .....	329,283	562,672	58,753	85,770	2,690,955	543,042	58,491	76,887	266,614	479,189	46,908	63,823
Undershirts and Drawers .....	.....	32,556	.....	40,049	38,167	46,502	.....	46,502	.....	79,870	.....	23,951
Hosiery, n.e.s. ....	.....	17,352	.....	3,310	.....	22,038	.....	9,009	.....	59,276	.....	7,467
Blouses and Waists .....	.....	113	.....	8,092	.....	2,457	.....	2,457	.....	5,555	.....	3,369
Clothing, n.e.s. ....	.....	508,344	.....	516,887	.....	356,070	.....	641,504	.....	371,764	.....	581,048
All other Fabrics, n.e.s. ....	.....	2,528,737	.....	877,581	.....	2,043,764	.....	1,282,346	.....	1,928,843	.....	1,169,975
Totals .....	.....	\$3,825,854	.....	\$1,668,972	.....	\$3,142,611	.....	\$2,160,655	.....	\$3,061,736	.....	\$1,918,797

tariff from the imports in 1896 from all non-British countries was only 145 yards.

Regarding "cloths," so called in the Returns, the total imports of that article in 1896 amounted to 2,348,865 yards, of which 2,267,423 yards, valued at \$1,516,968, came from Great Britain; and 81,442 yards, valued at \$59,886, from all other countries. In 1901 the total imports were 3,686,137 yards, of which 3,350,370 yards, valued at \$1,631,430, paid duty at preferential rates, and 335,767 yards, valued at \$152,157, at the general rate. The increase of imports in 1901 under the preferential tariff, over the imports from Great Britain in 1896 was 1,082,947 yards; and the decrease of imports in 1901 under the general tariff from the imports from all countries except Great Britain in 1896 was 254,325 yards.

The imports of yarns n.e.s. from Great Britain in 1896 amounted to 220,326 pounds, valued at \$117,958, and from all other countries 85,661 pounds, valued at \$42,225. In 1901 under the preferential tariff the imports of the article amounted to 156,828 pounds, valued at \$86,967, and under the general tariff to 145,335 pounds, valued at \$47,689. The increase of the imports of these yarns in 1901, under the preferential tariff, over the imports from Great Britain in 1896 was 221,900 pounds; and there was also an increase of imports in 1901, under the general tariff, over the imports from all non-British countries in 1896, amounting to 79,514 pounds.

The imports of all descriptions of woolen goods from Great Britain in 1896 were valued at \$6,928,569, and from all other countries at \$1,741,777, a total of \$8,670,346; while in 1901 the imports under the preferential tariff amounted to \$7,339,543, and under the general tariff to \$2,604,572, a total of \$9,944,115. The total value of all imports of woolen goods from Great Britain in 1901 was \$410,974 more than in 1896; and the total value of all such goods imported from all other countries in 1901 was \$862,796 more than in 1896.

#### A DISEASE AND A REMEDY.

The Dominion Government have been notified from the Home Office in London, that the favored-nation tariff treatment which has been extended by Germany to the products of Great Britain and to her colonies and dependencies has been refused to Canada. And this is because Canada gives a tariff preference to British goods entering this market that is not extended to Germany nor any other foreign country.

Our direct exports to Germany in 1900 were valued at \$1,715,903, and our direct imports \$8,383,498. Much dissatisfaction is felt in Canada at this time at the operation of our preferential tariff, chiefly because large quantities of German goods are imported from British ports and supposedly of British production. It is felt by our manufacturers and others that on many lines of merchandise our tariff rates are entirely too low, and should be increased, but if the change is not to be made, certainly the Government should take steps to restrain the operation of the preferential tariff strictly to those for whom it was intended. It was never intended to benefit Germany, although that country, as we have reason to believe, benefits largely by it, and the only remedy available for the disease is an amendment to the tariff which will prevent absolutely the import of any article made in whole or in part in Germany at a less rate of duty than that imposed in the general tariff. No article having its origin in Germany, although having been subjected to a finishing process of manufacture in Great Britain, should be allowed to enter Canada under the preferential tariff. Germany should

be dosed with some of her own medicine. The goods imported into Canada from Germany are of a character upon which much skilled labor has been bestowed, while our exports to that country are chiefly agricultural products. We have heard of the efficacy of cold justice in certain emergencies—we should administer that sort of medicine to Germany, to which she could not object, and if we are to have a continuation of the preferential tariff, let the operation of it be confined to British goods only.

#### VAGUE AND UNSATISFACTORY.

In the Toronto Globe of September 19 was an item to the effect that the imports of woolen goods into Canada during the fiscal year 1901 amounted to only \$9,944,805 as against \$9,801,565 for the previous year, an increase of only one per cent. In answer to this the secretary of the Canadian Manufacturers' Association writes The Globe, challenging the correctness of its figures, and gives what he calls the actual figures for the imports of woolen goods since the operation of the preferential tariff. No doubt the statement in The Globe was based upon the schedules and classifications as they appear in the Trade and Navigation Returns, in which are included shirts, blouses, and shirt waists, and ready-made clothing made from woolens, but which are rejected by the secretary.

Two tables are given by the secretary which he offers as covering such articles as he thinks should only be included in the woolen industry, one covering cassimers, doeskins, cloths, tweeds, coatings, overcoatings, felt cloth and horse collar cloth, flannels, and carpets; the other covering blankets, yarns, felt and shoddy; but no mention is made of dress goods; knitted goods, bed comforters, shawls, undershirts and drawers, socks and stockings, hosiery and all other fabrics n.e.s.; nor of the shirts, blouses and shirt waists, and ready-made clothing already alluded to. These are all woolen goods and should be included in the secretary's list. Including all these articles as they are given in the Trade and Navigation Returns, we find the values of the imports to be as follows:

	Great Britain.	All other countries.	Total.
1896.....	\$6,928,569	\$1,741,776	\$8,670,345
1897.....	5,576,859	1,548,889	7,125,748
	Preferential Tariff.	General Tariff.	Total.
1898.....	\$7,127,333	\$858,514	\$7,985,847
1899.....	7,649,861	2,153,336	9,803,197
1900.....	6,998,762	2,802,703	9,801,465
1901.....	7,339,543	2,604,572	9,944,115

In other words the increase in value of woolen goods in the four years subsequent to 1897, during which the preferential tariff was in force, was \$2,818,367; but it should be observed that the value of the imports during that term under the preference increased only \$1,762,684, and not \$2,670,303 as stated by the secretary; and it should also be observed that the increase under the general tariff during that term was \$1,055,683.

The secretary informs us that "from an accurate calculation made last year" the value of the total production of Canadian woolen mills in 1896 was \$9,750,000, and in 1900 only \$7,000,000; which decrease he accounts for by a statement to the effect that "a more reliable explanation is obtained by a comparison of the textile directories of the years 1895, 1899 and 1900, which show that machinery capable of making \$2,750,000 worth of woolen goods had ceased to operate in Canada during that time."

These are most remarkable statements which the secretary should explain. It would be interesting to know how and by whom his "accurate calculation" was made, which shows a decline in value of production in Canadian mills of \$2,750,000 since 1896, and the names of the textile directories referred to might also be given. Such assertions are vague and very unsatisfactory, and cannot possibly command much attention should they be presented to the forthcoming Montreal meeting of the Canadian Manufacturers' Association.

THE TRADE RETURNS.

The trade figures for the three months ended September 30 of the current year, show that the total imports for consumption into Canada and the exports during that period were \$97,158,908, as compared with \$98,935,189 for the first quarter of the last fiscal year, a decrease of \$1,776,281. These figures do not include coin and bullion or foreign merchandise exported from Canada. The imports for consumption amounted to \$47,024,713, an increase of \$1,113,397 over the same period of the previous year. The exports of domestic merchandise aggregated only \$50,134,195, a decrease of \$2,889,680 over the first three months of last year. Animals and their products exhibit the largest falling off in exports, the amount being \$1,730,168. No doubt this is due to the difficulty of getting cars for the shipment of cattle, owing to the enormous demands for rolling stock, caused by the immense crop in the West. As soon as the congestion in this direction is relieved, the cattle shipments will probably be greatly increased. Products of the mine decreased by over a million. On the other hand, it is gratifying to note that Canadian manufactures continue to exhibit a steady advance, the increase for last quarter being \$258,669. Following are the exports for the three months in detail:—

	1901.	1900.
The mines .....	\$12,127,061	\$13,212,396
The fisheries .....	2,407,610	2,595,021
The forest .....	11,957,131	11,823,851
Animals and their products .....	15,700,396	17,430,564
Agriculture .....	4,248,261	4,497,923
Manufactures .....	3,687,724	3,429,055
Miscellaneous .....	6,012	35,065
Total .....	\$50,134,195	\$53,023,875

EDITORIAL NOTES.

If northern Ontario proves to be a country adapted for manufacturing industry, there will be an exchange of products between it and the Prairie Province which will make the problem of transportation less formidable. The home market is the best of all.—The Toronto Globe.

For many long years Sir John Macdonald, backed by the manufacturers of Canada and the protective tariff party, preached that "the home market is the best of all," which policy The Globe combatted—until its party came into power—and now it is a leader in singing the praises of tariff protection to our manufacturing industries. Truly, as The Globe says, "The home market is the best of all."

We hope that editor King of The Labor Gazette will not lose his situation, nor even suffer from insomnia because the Canadian Manufacturers' Association refuses to renew its subscriptions to it, and have appointed a committee to investigate its policy. A warning notice having been given, we suppose Mr. King will be on hand at the forthcoming meeting of the Association at Montreal, backed up by all the influence the Department of Labor can muster for the occasion, to meet such charges as the Association's committee may prefer against his and the Gazette's policy.

The editor of The Electrician, Salisbury Court, Fleet Street, London, Eng., informs us that the twentieth edition of The Electrical Trades Directory and Handbook for 1902, is now in preparation, and will be published at the beginning of the coming year. It will contain a very carefully compiled list of names of British, colonial and foreign electricians, electrical engineers, electric light and power and electric railway and tramway engineers and contractors, electrochemists and metallurgists, electrical apparatus makers, plant and machinery builders, electrical, telegraph and scientific instrument makers, electric bell makers and fitters, electric supplies, telegraph and telephone companies, telegraph and telephone engineers, electric cable and wire manufacturers, and of all persons engaged in electrical pursuits throughout the world; also useful tables and data relating to electric light and traction, electric power transmission, electricity supply undertakings, telegraphs and telephones, home and foreign government departments, etc. Further particulars regarding this very useful book will be sent on application as above.

The metric system is to-day compulsory in twenty countries, representing more than 300,000,000 inhabitants—Germany, Austria-Hungary, Belgium, Spain, France, Greece, Italy, Netherlands, Portugal, Roumania, Servia, Norway, Sweden, Switzerland, Argentine Republic, Brazil, Chili, Mexico, Peru and Venezuela. Exporters in dealing with any of these countries should become familiar with the system.

A statement of the failures in Canada for the first nine months of this year, made by Bradstreet's, shows an increase in the number of insolvencies, and a considerable increase in the liabilities and the assets. But the increase is not likely to alarm business men and bankers thoroughly conversant with the situation. The fact that many more people and much more capital are now employed in business than in 1900 makes it clear that the same proportion of increase in insolvencies experienced in the last year would, if maintained, appear more formidable. Considering the large increase in mercantile and financial operations, and the increased capital that has gone into business the past year, it is somewhat remarkable that the increase in the figures do not show greater increases, compared with last year.

Canada's exports of pulpwood and woodpulp in 1901 amounted to \$3,335,265, of which \$966,920 were sent to Great Britain and \$2,302,215 to the United States, \$66,194 going to other countries. The total of \$3,335,265 is an increase of \$616,477 over the exports of 1900, those to Great Britain showing an increase of \$366,372, and those to the United States an increase of \$244,321. An increase of \$494,247 is apparent in the exports of pulpwood, the United States taking \$500,744 worth more in 1901 than in 1900, and Great Britain \$6,172 less, the difference (\$325) being sold to other countries in 1900. Of woodpulp the increased value disposed of is \$122,230, the details being: increase to Great Britain, \$372,544; increase to other countries, \$6,109; decrease to the United States, \$256,423. Thus, while the United States increased their purchases of pulpwood from us by over half a million of dollars and decreased their purchases of the manufactured article by over a quarter of a million, Great Britain's decrease was in the pulpwood, and that but small, while in the manufactured article, involving greater labor and employment of a larger amount of capital, the mother country took from Canada an increased amount, greater than the decrease of the United States by \$116,121.



An extensive trade sale of nearly \$15,000 worth of enameled ware was advertised to occur in Montreal a few days ago, comprising an assortment of almost everything made in enameled ware, including tea pots, coffee pots, tea kettles, sauce pans, cook pots, wash basins, cups, mugs, plates, pails, dippers, pudding pans, pitchers, chamber sets, etc. It was not published from what country these goods were imported, but it is fair to infer that they were "made in Germany," and are known in the trade as "seconds," that is, the culls and refuse obtained when the products of the factories were being assorted. The result of this sale will be to supplant similar goods made in Canada, and to that extent injure Canadian investments of capital and the wages of Canadian workmen. No better enameled ware is made anywhere in the world than that produced by the Thomas Davidson Mfg. Co., Montreal; Kemp Mfg. Co., Toronto, and McClary Mfg. Co., London, Ont., but an injudiciously arranged tariff subjects them to the unfair competition here alluded to.

One of the great secrets of the success of American manufacturers is their specialization. The average British manufacturer turns out implements and machines of varied types, oftentimes "just a few" of this machine and that. He introduces a new pattern and alters existing machinery in order to cope with the demand which he is experiencing. In this way he is handicapped, and the limited number he is able to produce with his limited plant and machinery is not sufficient to yield him profitable returns, or to warrant any great expenditure on production. In America they do things differently. When a manufacturer has got hold of a good thing he floats a huge undertaking; he builds workshops, and puts down a special plant of just the right type, to enable him to turn out large quantities of implements or machines at a minimum cost. He is content to make, say, binders and mowers only, and to concentrate all his energies on these, knowing that with the whole world open to him he can sell all he can make provided that the goods and price are right. Machines turned out in tens of thousands in works where thousands of men are employed can be produced more economically, material purchased cheaper, and management expenses made lighter than the competitor who runs a mixed business and sells smaller quantities. British manufacturers have not all the facilities for centralization and specialization possessed by their American competitors, but they can follow on their lines, and in many instances take a leaf out of their books, and so make some of their specialties pay better than they do at present, even if they do not come up to the standard of their trans-Atlantic competitors.—American Artisan.

The United States Government has made public a revision of the tariff laws of the Philippine Islands, to take effect November 15, 1901. Merchandise in transit at above date may be entered under the provisions of the law at time of shipment; this privilege not to extend, however, more than sixty days after enforcement of the revised tariff. Duties are payable in United States money, and weights and dimensions are calculated by the metric system. Articles not enumerated are dutiable at the same rate as the articles they most closely resemble, and if any non-enumerated article equally resembles two or more articles, it shall pay duty at the highest of the rates thus applicable to it. Articles composed of two or more materials shall be taxed according to the material chiefly determining their value. In the case of goods designated as dutiable upon their gross weight, such weight shall be held to include packing of all kinds. In the case of goods dutiable upon net weight, such weight shall be held to include interior receptacles, while exterior coverings of all kinds are dutiable separately under their respective paragraphs of the tariff.

Importations from the United States are dutiable at the same rates as those from other countries.

At the September meeting of the executive committee of the Canadian Manufacturers' Association, it was resolved, after full discussion, that the Association discontinue its subscriptions to The Labor Gazette, and a special committee was appointed to ascertain the views of the members with reference to the policy of The Gazette, and to prepare the same for report to the executive and to the annual meeting of the Association, to be held in Montreal in November. We do not know what The Gazette has been saying and doing to call down the disapprobation of the Association to the extent of the withdrawal of its subscriptions for it, and the appointment of a special committee to enquire into its policy; but possibly an explanation will be forthcoming with the report of the committee, and some definite and decided action will be taken at the Montreal meeting of the Association. We are reminded that perhaps a year ago the executive committee informed the members that The Labor Gazette had been subscribed for and that a copy of each issue thereof would be sent to them, and it is our understanding that this has been done until now. The Gazette is published monthly by the Dominion Department of Labor, by order of Parliament, and is supplied at the rate of three cents per single copy, or twenty cents per year; and we sincerely hope that this valuable Government publication will not collapse through loss of the support heretofore rendered it by the Association at the rate of twenty cents per member per year.

The Toronto Globe publishes the following communication re "The Woolen Industry," which explains itself:—

To the Editor of The Globe:—A recent issue of The Globe contains a letter from Mr. T. A. Russell, Secretary of the Canadian Manufacturers' Association, criticising a statement previously published by you having reference to the woolen industry of Canada. The September issue of Industrial Canada, the official organ of the Association, of which Mr. Russell is editor, contains an article substantially to the same effect.

Mr. Russell presents what he calls "actual facts" regarding the preferential tariff as affecting the woolen industry, in which he says that the figures given by The Globe include items which are not properly classed as woolen goods, but are only articles made from woolens, viz., shirts, blouses and ready-made clothing; and, having eliminated these very important items, he produces what he calls "actual figures" regarding the imports of woolen goods. It is, therefore, left for Mr. Russell to explain the difference, as far as woolen goods is concerned, between such goods as they come from the loom, and thus imported, and ready-made clothing constructed of such goods. His elimination of ready-made clothing should not have been made considering that if the cloth as it comes from the loom is to be manufactured into clothing it is important to know if the labor involved in the process is done in Canada, where it would give occupation to Canadian workmen, or abroad, giving employment to foreign labor. This is quite an important matter in the discussion, and it is fair to ask Mr. Russell why foreign woolens, meaning ready-made clothing, should not be considered in his argument.

Mr. Russell gives what he calls "a reliable explanation" of the situation by a comparison of some unnamed textile directories for the years 1895, 1899 and 1901, "which show," he says, "that machinery capable of making \$2,750,000 worth of woolen goods has ceased to operate in Canada during that time." This is very indefinite, and in justice to himself and the Association he represents, Mr. Russell should mention the names of the directories from which he quotes, and if possible vouch for the accuracy of his statement that between the years 1895 and 1901 machinery capable of making \$2,750,000 worth of woolen goods per year has ceased to operate; and he might also state whether the abandonment of his vast quantity of machinery was due to the adverse working of the preferential tariff or to its worn-out and inefficient condition. Would he kindly say if any of this machinery could truthfully be called first-class and up-to-date?

Mr. Russell also asserts that the total production of Canadian woolen mills in 1896 was valued at \$9,750,000, while in 1900 it was only \$7,000,000, which statement he should verify.

Toronto, Oct. 4.

Inquirer.

# 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.

If a new manufacturing enterprise of any kind is being started, or an electric lighting plant instituted, or an electric railroad, or a telephone, or a telegraph line is being constructed; or a saw mill, a woolen, cotton, or knitting mill; or if any industrial establishment has been destroyed by fire with a probability of its being rebuilt, our friends should understand that possibly there may be something in the event for them. Do you catch on to the idea?

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, belting, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalis, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

The Canada Electric Co., Montreal, has been incorporated with a capital of \$100,000. The incorporators include Lacasse Rousseau, St. Louis, Que.; Theophile Alain, Montreal, and Maurice Rousseau, Montmagny, Que.

"Power Transmission Economics" is the title of a very neat illustrated price list having reference to some of the many articles manufactured by the Dodge Mfg. Co., Toronto. Special reference is made to the Dodge patent chain oiling bearing, the accompanying illustrations showing the different modes of application. Reference is also made to their adjustable ball and socket drop hangers, adjustable ball and socket post hangers, adjustable pillow block and short drop head shaft hanger, counter shaft fixtures, rigid post or bracket boxes, patent split friction clutches, etc. Mention is also made of their patent Firmus Manila rope, blue strand, full supplies of which they carry in stock, and to their AA-A1 rope dressing, which, they say, increases tractional power, and keeps the rope soft and pliable. The Dodge Mfg. Co., Toronto.

The sawmill of Isaac Allan, at Mississippi, Ont., on the Kingston & Pembroke Railway, was destroyed by fire October 14.

Toronto shipbuilders are negotiating for the construction of a first-class ferry steamer to run between Indiantown and Gagetown on the St. John river, New Brunswick. She is to be a side-wheeler,

140 feet long, 25 feet broad, with a draught of 5 feet, driven by triple expansion engines of 1,000 h.p., and capable of giving a speed of eighteen miles an hour. The estimated cost is \$45,000.

The Canadian Bent Chair Co. will erect a factory at Listowel, Ont.

The Frost & Wood Co., Smith's Falls, Ont., will enlarge their works. A bonus of \$20,000 has been granted them by the town.

The Huntingdon Mfg., Milling & Power Co., Montreal, has been incorporated with a capital of \$99,900, to manufacture lumber, sashes and doors, etc. The charter members include G. F. E. G. Languedoc, A. P. McKenzie and L. D. Stone, all of Montreal.

The by-law at Beeton, Ont., to raise \$7,000 for the extension of the electric light system and street improvements has been carried.

The Michigan Land & Lumber Co. has acquired the mill and franchise of the Blind River Lumber Co., and has renovated and extended the premises.

The shingle mill of Roberts Bros., near St. John, N.B., was destroyed by fire October 14. Loss about \$2,000.

The Starke Cooperage Co., Montreal, has applied for incorporation with a capital of \$50,000, to manufacture lumber, etc. The applicants include Wm. Starke, Robert Starke, and A. N. Paxton, all of Montreal.

G. W. Ganong, Esq., M.P., St. Stephen, N.B., was in Toronto a few days ago, and stated that it was probable that Messrs. Ganong Bros., manufacturers of confectionery, etc., would start a branch factory in this city from which to supply their Ontario and western trade.

The ratepayers at Pakenham, Ont., have voted on a by-law to raise \$16,500 to pay for a new highway bridge at that place.

The council of Delorimier, Que., will vote on a by-law to appropriate \$16,000 as a bonus for a shoe factory, which is to be 600x188 feet, three storeys high, and give employment to 500 hands.

The village of Iroquois, Ont., has placed an order for the cast iron connections between their two 44-inch Little Giant Turbines and supply pipe, with J. C. Wilson & Co., Glenora, Ont.

The Dominion Iron & Steel Co., Sydney, N.S., are supplying rails to build 200 miles of railway to McKenzie & Mann in that province.

The Canadian Power Co., Montreal, has applied for incorporation with a capital of \$25,000, to generate electricity, water, hydraulic and other power, etc. The applicants include Roland Miller, Montreal, and V. V. Rogers and J. F. Warne, both of Ottawa.

The Robb Engineering Co., Amherst, N.S., has received an order from the Copp-Clark Co., Toronto, for a 40 h.p. engine.

The plans for the route of the Manitoulin and North Shore Railway for a distance of eighteen miles south-east from Sudbury, Ont., has been approved with the Department of Public Works, which has also approved of the plans of the Bruce Mines and Algoma Railway from Bruce Mines to Rock Lake—sixteen and a half miles.

The Toronto, Hamilton & Buffalo Railway, will build a line from Brantford, Ont., to Woodstock, to connect with the Canadian Pacific Railway.

The Dominion Laundry Soap Co., Toronto, has been incorporated with a capital of \$30,000, to manufacture soap. The provisional directors include J. W. Young and John Ausman, both of Toronto, and J. A. Ross, Detroit, Mich.

## Pneumatic Tools and Appliances ARE GREAT MONEY SAVERS.

Air Hoists, Baggage Handlers, for Agitating Liquids or Syrups in Refineries. Cushion and Carpet Cleaners, Clipping Tools for use by Machinists, Boiler Makers, Stonecutters and Marble Works. Calking and Drilling, Air Brushes

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Pneumatic Augers, Punches, Hammers, Rammers, Rotary Drills, and Augers. Reversible Boring Machine, Flue Cutters, Rollers and Welders, Air Lift Pumps, Jacks, Paint Spreaders, Bolt Nippers.

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The Petrie-Taylor Mfg. Co., Guelph, Ont., manufacturers of cream separators, are building an extension to their factory which will cover about an acre of ground. Their sales for the past year included about one thousand of their Magnet separators.

Nearly two years ago the Buffalo Forge Co., Buffalo, N.Y., shipped an important mechanical induced draft plant to Japan for the Osaka Water Works in that country. A recent letter has been sent to the company expressing the highest approval of that system of mechanical induced draft, together with a statement that the coal bills have been reduced fifteen per cent. With some proposed improvement in handling the firing, the engineers predict that there will be a still further saving in the amount of fuel burned. The plant has everywhere in the Far East excited a great deal of interest.

United States Consul-General Hughes reports from Coburg that according to the German press, the South American republics have of late imported large quantities of clay flagstones for flooring purposes. At one time the French makers held the market, but England now controls it, delivering a much lighter and stronger flagstone, which does not have to pay as much freight or duty as the French. The thickness of these flagstones, it is said, should not be more than one centimeter (0.39 inch). Canadian manufacturers of ceramics should note this fact, for they should certainly be able to manufacture this article and deliver it in South America quite as cheaply as their European competitors.

The Imperial Vise Co., Galt, Ont., are getting out a new vise which they will place upon the market at an early day.

The Buffalo Forge Co., Buffalo, N.Y., advise us that the London office of their company recently opened at 39 Victoria street, London, S.W., under the management of D. W. Roper, M.E., has recently closed an important contract in connection with the new plant of the British Westinghouse Electric & Mfg. Co., at Old Trafford Park, Manchester, Eng. This contract is for the apparatus to be used for heating and ventilating the machine shop, foundry, stores, carpenters' shop and box factory of the Westinghouse Company. The machine shop building is 900 feet long, 420 feet wide and 59 feet wide. To accomplish the

heating and ventilating of this area eight steel-plate fans, each one capable of delivering 60,000 cubic feet of air per minute, and driven by a separate induction motor, will be provided; also a separate heater for each fan, a total of more than ten miles of one inch pipe being used.

Messrs. J. C. Wilson & Co., Glenora, Ont., inform us they are now preparing plans for a flume wheel, in different sizes, which they intend to manufacture to cover the demand for that style of wheel, where the expense of preparing a wheel pit for other style wheels is an objection. They expect to have an up-to-date wheel of this type on the market this winter.

Waterloo, Ont., will spend \$5,000 on its waterworks system.

J. Dowling, Esq., Victoria, B.C., asks for tenders for the construction of a steel bridge 600 feet long by twenty-four feet wide.

The Canadian Pacific Railway is making surveys from Greenway to Holdner, Man., for a branch road to be about 100 miles in length.

The Richmond County Electric Co. will erect a bridge across the St. Francis river, connecting Richmond, Que., with Melbourne.

Messrs. Gray & Co., electrical contractors, Toronto, report a large shipment of electric fixtures to Charlottetown, P.E.I., for the Bank of Nova Scotia.

The Longford Quarry Co., Longford Mills, Ont., has been incorporated with a capital of \$50,000, to manufacture stone and lime. The provisional directors include George Thomson, J. B. Tudhope, and E. C. Wainwright, all of Orillia, Ont.

We understand that Messrs. J. C. Wilson & Co., Glenora, Ont., in order to keep pace with the increasing demand for the "Little Giant" water wheel and other machinery manufactured by them are increasing the size of their foundry, and are displacing their present cranes and putting in others having a capacity of ten tons each. With the improvements they are making they expect to be able to handle heavier work with much greater facility than heretofore.

McFarland, Gray & Southgate, Limited, Toronto, has been incorporated with a capital of \$200,000, to manufacture cloth-

ing, etc. The provisional directors include W. J. McFarland, Francis Gray and W. E. Southgate, all of Toronto.

The rate-payers of Victoria, B.C., will vote on a by-law to raise \$100,000 for the extension of the waterworks system of that city.

The rate-payers of Shawinigan Falls, Que., will vote on a by-law to raise \$65,000 for waterworks, sewerage system, erection of city hall, etc.

The Strathcona Rubber Co., Montreal, has been incorporated with a capital of \$50,000, to manufacture oiled and rubber clothing, etc. The charter members include E. L. Rosenthal, James Cranshaw and Wm. Campbell, all of Montreal.

Messrs. J. C. Wilson & Co., Glenora, Ont., report recent shipment of "Little Giant" turbines as follows:—14-inch Vertical to John Frederick, Halloway, Ont.; Simeon Howes, London, Eng., an 18-inch, also 24-inch Deep Vertical; Sloan & Brooks, Elora, Ont., 12-inch Deep Vertical; T. T. Linlott, Sparta, Ont., a 12-inch Standard Vertical; Simeon Howes, London, Eng., one Hallow 6-inch, one Standard 6-inch and one 14-inch Standard, all vertical wheels, and an 18-inch Standard Vertical to the Canada Machinery Agency, Montreal, for a customer at Labelle, Que.

The Garth Co., Montreal, has applied for incorporation with a capital of \$175,000, to acquire the business of Garth & Co., and to manufacture electric, gas and steam fixtures. The applicants include H. W. Garth, J. H. Garth and J. G. Smith, all of Montreal.

The Eastern Townships Brick & Mfg. Co., Sherbrooke, Que., has applied for incorporation with a capital of \$50,000, to manufacture bricks, etc. The applicants include W. B. Neil, W. R. Webster, S. W. Jenckes and George Long, all of Sherbrooke.

The Springfield Milling Co., Oakbank, Man., has been incorporated with a capital of \$12,000. The provisional directors include R. R. Dyerley, N. Morrison and Dougall Gillespie.

The Standard Carpet Co., Forest Ont., has been incorporated with a capital of \$40,000, to manufacture carpets, etc. The provisional directors include Andrew McGregor, and James Anty, both of Guelph, Ont., and N. C. McPhail, Toronto.

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The Morse Pumpkin Flour Milling Co., Leamington, Ont., has been incorporated with a capital of \$50,000, to manufacture pumpkin-flour. The provisional directors include S. G. Morse, Leamington, Ont., Alexander Turner, Hamilton, Ont., and Henry Bennett, Toronto.

Messrs. R. A. L. Gray & Co., Toronto, report a good-sized order of electric light fixtures for the Bank of Nova Scotia at Ottawa.

Kenney Bros., Sifton, Man., are erecting a large grain elevator at that point.

The Ontario Bureau of Mines has been notified that natural gas has been struck by P. J. Noxon on his farm near Bloomfield, Ont., at a depth of eighty-three feet.

The Fraser River salmon pack for the season just closed is without precedent in the history of the province of British Columbia. According to the statistics which have just reached the Fisheries Department, the total pack of sockeye salmon put up in the Fraser River canneries amounts to the enormous total

of 920,313 cases of forty-eight 1-lb. tins. The pack for the canneries on the northern rivers is estimated at 200,000 and this, added to the Umback and Ohee pack, will give a total for the season of nearly 1,250,000 cases. Last year the total pack of the Fraser was 316,522 cases and the highest year previous to this was 1897, when 860,459 cases were put up. During the last five years the average price paid to the fishermen has been about 12½ cents per fish. In years previous to 1897 each cannery contracted for its fish and the range of prices was a long one, depending almost entirely on the way the fish were running. According to official figures, there have been 3,985,088 of sockeye salmon packed on the Fraser in the last seven years. Calculating twelve fish to the case, something like 47,820,556 fish have been caught and canned in that period. With the exception of the present year's pack, this has been sent mostly to England.

The time of the Assize Court at

Windsor, Ont., was occupied a few days ago with the trial of the case of Crawford and others against the Windsor Salt Works for maintaining a nuisance by emission of smoke and cinders. The ladies of the neighborhood testified with many superlatives that bushels and hailstorms of soot were showered upon their premises, from defendants chimneys. Defendants showed that they have the latest smoke consuming appliances used in New York City, and they cast the blame upon the car ferries and the railway engines. They admitted, however, that from March to September, 1900, they had burned sixty tons a day of soft coal with ordinary hard firing, this being the period between the failure of natural gas and the erection of the smoke consumers. The jury gave damages for this period, \$650 to Crawford, \$125 to Hare, and \$75 to Buck. The Chancellor allowed full costs of suit. The plaintiffs had asked \$20,000.

Mr. John McKay, a prominent citizen of Sault Ste. Marie, Ont., was in Toronto

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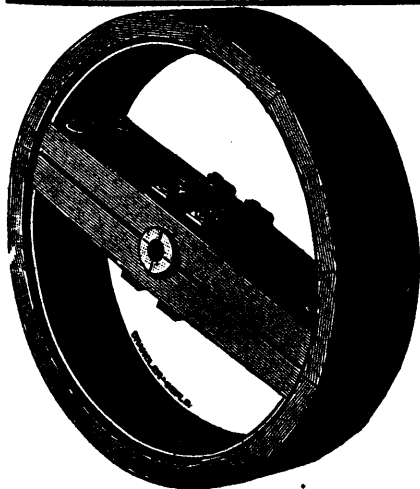
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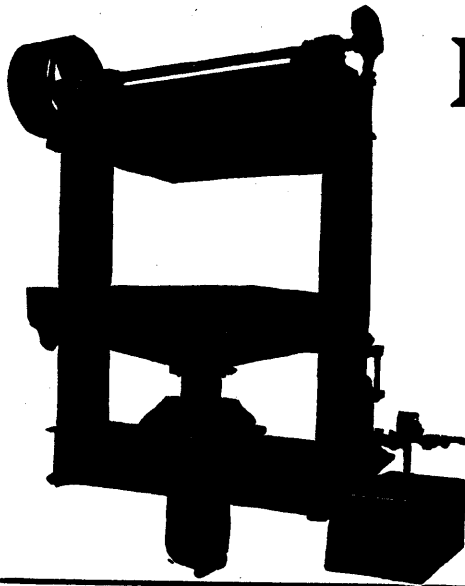
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## William R. Perrin & Company

TORONTO, - CANADA

last week, and is enthusiastic over the progress of development throughout Algoma. The work of locating the line of the Manitoulin & North Shore Railway is being pushed rapidly by a large staff of surveyors. The line is already located between Sudbury and Little Current, while the work is being prosecuted between Meaford and Tobermory and also between Sudbury and Sault Ste. Marie, on the western branch. This is expected to run thirty or forty miles north of the Soo branch of the C.P.R., and will tap what promises to be a rich mineral country. The Algoma Central Railway is also being rapidly constructed, the grading being nearly completed for sixty miles beyond the thirty-two miles now working from the Soo northward. About eight miles of the Bruce Mines and Algoma Railway will be graded by the latter end of this month, and the entire distance will be graded, ballasted and the rails laid on or before December 15. The Stobie Copper Mining Co., whose property is seven miles west of Bruce Mines, are putting in an air compressor, rock drills and other machinery, with the intention of rushing forward their development work. Another location in that vicinity is being bonded to American capitalists for \$100,000, and development operations are being carried on. Mr. McKay mentioned that the millionaire firm of Eddy Bros., Bay City,

Mich., have, as a result of the saw log regulations, removed one of the most complete saw mills on Lake Huron from Bay City to Blind River, in Algoma. What was a forest a year ago is now a town site, with a waterworks system, electric light system and sewerage, with connection by switch with the C.P.R. Dockage has been constructed, and a canal three miles long is being excavated to connect the mills with the Mississauga River. About half a million dollars is being expended, and the mills give employment to 150 men.

The new Canadian plant of the Pittsburg Reduction Co. has been placed in operation and the company have begun an aggressive effort to secure an export trade with Great Britain. The new plant will supply Canada. For the present the crude aluminum will be exported, but later it is expected that a rolling mill similar to that at New Kensington will be built near the new works. The total cost of the present plant has been about \$1,000,000. It is expected that aluminum will be made on October 10. The Pittsburg Co. began the erection of its Canadian works about two years ago, choosing a site on the St. Maurice river, about eighteen miles from its mouth. The town of Three Rivers is located at the mouth of the St. Maurice, and it is half way between Montreal and Quebec

on the St. Lawrence. The water power is said to be unsurpassed, and the plant will have the additional advantage of being in a territory central to most of its trade. The company has about 10,000 h.p. installed and it will manufacture about ten tons of aluminum daily. This product will be shipped down the St. Lawrence and it will be exported in the same way. No systematic effort has heretofore been made by the Pittsburg company to enter the export trade. The plant is not nearly as large as the one at Niagara Falls, but it is one of the most modern in existence. It is equipped with electrical apparatus made by the Westinghouse Electric & Mfg. Co. at East Pittsburg. The electrical furnaces were built by Alexander Laughlin, Pittsburg.

A very representative meeting of the mining industry of North Hastings was held in Madoc, Ont., a few days ago, the primary object being to arrange bringing before the Ontario and Dominion Governments the necessity for a bounty on refined arsenic. There are many large deposits of this material in that part of the country, but it requires much capital to put it on the market. About one-sixth of the refined arsenic used on this continent is now refined in Hastings County. As a result of the meeting a committee was appointed to bring the matter before the Dominion and Ontario Governments.

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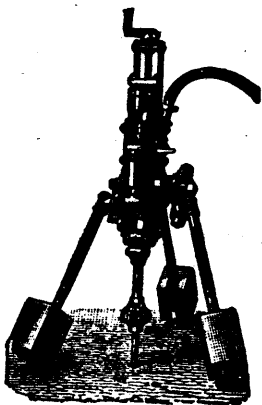
... NINE SIZES ...

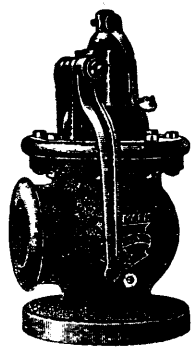
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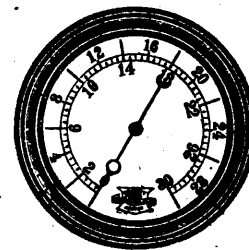


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Single Bell Chime Whistles.  
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### CROSBY STEAM GAGE and VALVE CO.

BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE IS THE ONLY GOOD GAGE



The Joseph Dixon Crucible Co., Jersey City, N.J., have sent us a brochure, having reference to their graphite preparations for steam, gas and electric automobiles, and containing some interesting letters from those who have used them. The question is frequently asked "What is Graphite?" The answer is given in the book as follows:—Graphite is one of the forms of carbon. It is sometimes called blacklead or plumbago. Graphite is not affected by acids, alkalies, or any known chemical. It is not affected by heat or cold, fire or water. It is used in a thousand different ways. Dixon's pure flake graphite, which is used in the manufacture of Dixon's lubricants, comes from the company's mines at Ticonderoga, N.Y., and is considered by machinists, engineers, and experts on friction as the most perfect solid lubricant known. It is therefore pre-eminently the most useful article ever offered as a lubricant for the working parts of automobiles. Mr. J. S. V. Bickford, a European authority on lubricants, who has lately been investigating the subject of graphite lubrication, says: It should be pointed out that there are very few graphites on the market in the least suitable for lubrication except in very rough work. The

only one with which I am personally acquainted is that sold by the Joseph Dixon Crucible Co., as Pure Flake. I have had this chemically examined, and what is not carbon appears to be mica, and the residue, after firing in a muffle seems still to possess high lubricating qualities. The above quotation is interesting as showing the value of Dixon's pure flake graphite as a lubricant and its world-wide reputation.

The Windsor Plaster Co., Windsor, N.S., are enlarging their plant and have ordered a 100 h.p. boiler and engine from the Robb Engineering Co., Amherst, N.S.

The Buffalo Forge Co. informs us that they have just received notification of the award to them of two gold medals and a silver medal for excellence of apparatus exhibited under the machinery classification at the Pan-American Exposition. A gold medal has been given them for a 500 h.p. high speed tandem compound engine operating in the service power plant, and for the Buffalo Fan System of heating and ventilating, using Buffalo blowers and fans. The silver medal was for Buffalo hand punches and shears, and for Buffalo forges, induced draft apparatus and blacksmith drills.

R. C. Barker is erecting a grist mill near Burford, Ont.

L. F. Purdy is erecting a roller flour mill at Magnetawan, Ont., the town corporation having granted a loan of \$2,500.

The Farmers' Elevator Co., Caron, Man., is erecting an elevator to have a capacity of 35,000 to 50,000 bushels.

The North River Lumber Co., will erect a pulp mill at St. Ann's, C.B., which will employ over 200 hands.

The Winkler Farmers' Elevator Co., Winkler, Man., has been incorporated with a capital of \$12,000.

Wm. Law and W. Alexander will erect a large, roller flour mill at Brandon, Man.

The new mill of the Ottawa Milling Co., Ottawa, which is being erected, will be 90x66 feet four storeys high, to cost about \$20,000. It will consist of a rolled oats and feed mill and a large elevator.

D. C. Thomson, Orillia, Ont., will enlarge his flour mill, and put in extra machinery.

The boot and shoe factory of C. Vinet & Son, Montreal, was destroyed by fire September 30. Loss about \$5,000.

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Wiping Solder  
Market  $\frac{1}{2}$  and  $\frac{1}{2}$  Solder  
Guaranteed  $\frac{1}{2}$  and  $\frac{1}{2}$  Solder

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Canadian Agents **The A. R. WILLIAMS MACHINERY CO. LIMITED**

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The Canadian Pacific Railway authorities have an immense irrigation scheme under consideration for the North-West, by which it is proposed to make a good farming and grazing country out of millions of acres that now lie dry and arid. These barren lands lie between Calgary and Medicine Hat, immediately north of the railway line. Mr. James Anderson, the leading irrigation engineer of the world, who has done such gigantic work in California, Egypt and other places, has recently been over this area and reports that there is nothing to prevent the great work being successfully carried out. His report is now before the Executive in Montreal, and it is understood that as an experiment 300,000 of the 3,000,000 barren acres will be put under irrigation.

The construction work of the Spanish River Pulp & Paper Co., at Webbwood Falls, Ont., is being pushed forward rapidly. The waterfall will be increased from thirty to sixty feet by the construction of a dam, thereby making a total capacity of 10,000 h.p. The mill will have a capacity of 100 tons of ground wood pulp daily.

Messrs. J. C. Wilson & Co., Glenora, Ont., report one of the busiest seasons in years. For a long time past they have had to run nights in order to keep pace with their orders and get them out in reasonable time. They are determined to be prompt in the fulfilment of their contracts.

A Chicago syndicate will erect a mammoth apartment block at Winnipeg, Man., at an estimated cost of \$250,000.

A large shipment of electric fixtures was lately made by R. A. L. Gray & Co., Toronto, to the Bank of Nova Scotia at St. John, N.B.

The Canadian Militia Department has received advice from England that the plant for the manufacture of live shells, which is to be added to the equipment of the Dominion arsenal at Quebec, has been constructed at the Armstrong & Whitworth Works, Newcastle-on-Tyne, has been shipped. At present the arsenal turns out iron shells for practice by the artillery, and also rifle ammunition. When the new plant is installed the arsenal will produce live shells made of steel for use in active service.

The Pure Gold Mfg. Co., Toronto, will erect a new brick factory, 185x60 feet, four storeys high, at an estimated cost of \$20,000.

Holtby Bros., Toronto, will erect a four storey warehouse, at an estimated cost of \$20,000.

Mr. F. H. Clergue, Sault Ste. Marie, Ont., has purchased the ice-crusher Algoma, with which he will test the feasibility of navigation through the channel from Quebec to the gulf of St. Lawrence during the winter months.

The Canadian Cold Storage Co., will erect a cold storage plant at Woodville, Ont., at an estimated cost of \$30,000.

### THE RIVAL ENGINE.

The Laurie Engine Co's new engine, the Rival, which has just been placed on the market and of which we have received a description, seems to be one which will, when it becomes better known, be in very great demand, as owing to the quite new design it has been possible to incorporate in it several features and improvements which the experience of the last few years and even the last few months have shown to be of value. A special point of superiority in this engine is the construction of the frame, in which the metal has been distributed very carefully in such a way as to provide for all working strains. The cylinders are proportioned with great care and exactness so as to develop the greatest power with a given amount of steam. The valves are of a plain slide type. A new feature of the Rival engine is the hollow shaft and pin as this construction gives much greater strength, and the circulation of the air through the shaft prevents heating to any great extent and the larger diameter gives much greater wearing surface than what is usually found.

The material used in the shafts is semi-steel. These engines are built in sizes from 5 to 50 h.p., and we understand they are sold at a low price. They are eminently suitable for use in small factories, creameries, cheese factories and other places where limited power only is required, and where the expenditure for plant has to be curtailed.

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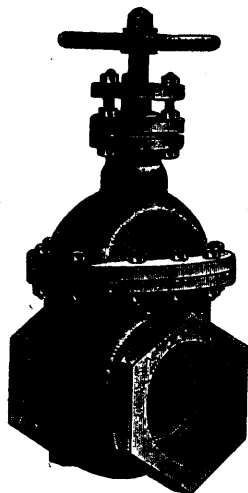
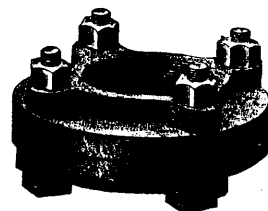
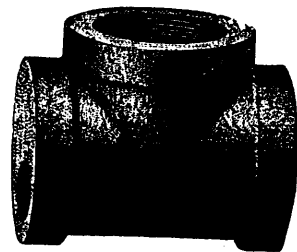
IF YOU ARE WE WOULD LIKE YOU TO GIVE US A TRIAL ORDER

WE KEEP A LARGE SUPPLY OF

**BLACK and GALVANIZED PIPE,  
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CAST and MALLEABLE FITTINGS,  
STEAM TRAPS and RADIATOR VALVES,  
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STEAM and HOT WATER BOILERS**

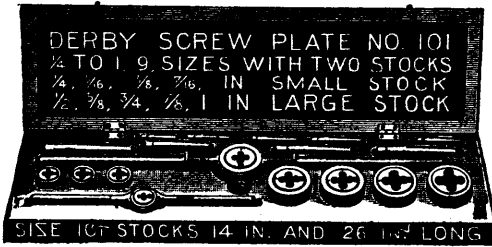
We can forward goods same day as we receive orders. Write for Latest Price List.

**THE DOMINION RADIATOR COMPANY, Limited,  
TORONTO, ONT.**



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The universal satisfaction given by our **DERBY and REECE SCREW PLATES**, cutting from 1/16 to 1/2 inch, including all the machine screw sizes, has created a demand for a plate made on the same principle, to cut bolts to 1 inch in diameter. To meet this demand we have brought out these sizes.



**BICYCLE SCREW PLATES, REECE SCREW PLATES, DERBY SCREW PLATES, BLACKSMITH'S STOCKS AND DIES, BLACKSMITH'S IMPROVED SCREW PLATES, HAND TAPS, MACHINE TAPS, PIPE TAPS, EVERY KIND OF TAPS AND DIES.**



**BUTTERFIELD & CO., - Rock Island, Que.**

The larger class of Laurie engines have always given satisfaction and are known all over Canada, and we have no doubt that in due time their small engines will also make a reputation for themselves, and add to the reputation of the builders.

**HAUGHTON'S METALLIC PACKING.**

The Haughton Patent Metallic Co., 6 Lombard Court, London, Eng., have sent us a specimen of their patent metallic packing, regarding which they inform us that they are now making it very largely for engines of all types, it being equally suitable for vertical, horizontal and other types of engines, and also for the highest pressures of steam up to 300 pounds to the square inch. The material is made in only one style, viz: in shaving form, and is suitable for glands and rods of all sizes. The manufacturers say, that to their knowledge this is the only packing that can be used for any gland, large or small, steam or hydraulic, high or low pressure, and will work equally well under any conditions whatever. This packing is of special value for use in connection with heavy machinery and in mining plants; and should at any time a gland give out the packing is always ready for immediate use, and when once applied will seldom give any trouble. It is of a highly durable character, and will last for three or four years without renewal. Engines having been packed with this material work almost entirely frictionless. It prevents wear or tear on the rods, and will not allow

the rods to become scored. It gives the greatest satisfaction when in use in winding engines, electric lighting and similar work when continuous running is necessary.

This packing is being used very extensively throughout Great Britain and many other countries. For further particulars apply as above.

**SIZES OF WIRE CLOTH.**

In referring to wire cloth for screening purposes the custom is to state the number of meshes per linear inch, but inasmuch as wire of various diameters is employed in making cloth of a certain number of meshes per linear inch, the character of the cloth cannot be determined unless the number of the wire from which it is woven is specified. It is important to specify the number of wire because, for example, a 24-mesh screen woven with fine wire may have larger apertures than a 20-mesh screen woven with coarse wire. There used to be a good deal of confusion with respect to wire cloth owing to the different wire gauges employed by the different manufacturers. The difficulty has, however, been happily obviated during the last two years, the Wire Cloth Manufacturers' Association having, on March 7, 1899, adopted the Washburn & Moen, or Worcester, gauge as the standard of all iron or steel wire cloth and the old English gauge as the standard for all brass or copper wire cloth. These gauges are to be found in almost any of the engineers'

pockets and from them the diameter of the apertures in a wire cloth of any mesh can be calculated readily if the number of the wire from which it is woven be specified. The mesh in wire cloth is always the number of openings in a linear inch measuring from centre to centre of wire. A linear inch will comprise, therefore, the same number of apertures and wires. Multiplying the diameter of a single wire in decimals of an inch by the number of wires in a linear inch, subtracting the remainder by the number of meshes per linear inch, will give the diameter of each aperture in decimals of an inch.—American Engineering.

**IRON AND STEEL AT THE CLOSE OF THE NINETEENTH CENTURY.**

Mr. James M. Swank, general manager of the American Iron and Steel Association, has favored us with a copy of a brochure bearing the above title, prepared by him for the Department of the Interior of the United States Government, and constitutes a part of the Twenty-Second Annual Report of the Geological Survey, Division of Mining and Mineral Resources. The monograph contains a general review of the progress of the industry in the United States, followed by a very comprehensive chronological record of important events from 1619, and winds up with statistical matter showing the condition of the industry at the present time. We reproduce a portion of the general review, as follows:

**THE BEST PIPE THREADING and CUTTING-OFF MACHINES**

Are Made by the **ARMSTRONG MFG. CO., BRIDGEPORT, CONN.**

Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES** and Water, Gas and Steam Fitters' Tools.  
Send for Catalogue 27. Factory: BRIDGEPORT, CONN. New York Office: 139 CENTRE STREET.

**RICE LEWIS & SON, LIMITED, Hardware and Metal**

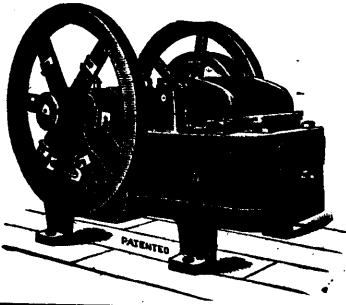
**MACHINIST TOOLS, PIPE FITTINGS, COMPLETE STOCK OF STOCKS AND DIES. PIPE VICES.**  
**STILLSON AND TRIMO WRENCHES. STEAM PIPE.**

**CORNER KING AND VICTORIA STREETS, TORONTO.**

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ROLL JAW CRUSHER.



# Crushes

Large Rock

# to 4 inch.

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**STURTEVANT MILL CO.,**

104 Clayton St.  
Boston, - Mass.

The progress of the world's iron and steel industries in the nineteenth century, full details of which have been presented in previous reports, is well illustrated by the statistics which show the measure of their development at the close of the century and which will presently be given. Every reader of these pages is already familiar with the fact that at the beginning of the last century comparatively little iron and steel was made in any country. There was but little demand for these products. In time, railroads became, as they still are, the greatest of all the consumers of iron and steel, yet the Stockton and Darlington Railroad in England, the first railroad in the world to be built for general freight traffic and passenger travel, was not opened until 1825. The street railway dates from 1832. The general use of iron and steel bridges and iron and steel steamships came later. Next followed the general use of steel in the construction of large buildings, especially buildings of great height. Last of all we have the steel car for general freight purposes. These are the most prominent uses of iron and steel to-day, but simultaneously with the development of these leading uses there has been a constantly increasing use of agricultural machinery, textile machinery, mining machinery, electrical machinery, machine tools, iron and steel pipe, hardware, stoves, shovels, tin plates, wire, and many other articles which are made wholly or in part of iron or steel.

The railroad era began at the close of the first quarter of the nineteenth century, but it was not until the third quarter of the century was well under way that an extraordinary demand for

iron and steel for railroads and for other than railroad purposes began to manifest itself in any progressive country. In our own country we built more miles of railroad in 1887 than in any year before or since. The building of iron and steel vessels received a great deal of attention, particularly in Great Britain, in the third quarter of the century, but it was in the fourth quarter that the greatest progress was made in substituting iron and steel ships for wooden ships. As late as 1868 only five iron steamships were built in one year in this country for ocean service. We have since built over one hundred steel merchant vessels in one year, and we have in late years built a magnificent fleet for the American Navy, the frames and hulls and armor being of American steel. Armor plate for warships was not made in Great Britain until after 1850, but its manufacture was not perfected in any country until within the last ten years, while the first contract for American-made armor was not made until 1887. Iron and steel buildings, already referred to, date from the third quarter, but they did not receive much attention from architects and builders until the fourth quarter, while steel cars were virtually unheard of until the century was nearing its end. The manufacture of tin plates was not introduced into the United States, except experimentally, until 1890.

In a word, while the nineteenth century witnessed the development of the iron age, which was succeeded before its close by the steel age, it would be more exact to say that the last year of the first quarter of the century, when the railroad era began, witnessed only the beginning of this development, and that the last

quarter has seen its ripest fruits, even the last few years of the last quarter.

The rapid growth of the world's iron and steel industries in the nineteenth century, particularly in its last quarter, could have been possible only by substituting improved methods of manufacture for the slow and expensive methods that were in use at its beginning. The railroads of to-day could not have been supplied with one-half of the rails they need, indeed the half of these roads would never have been built, if the invention in 1855 and 1856 of the Bessemer process for making steel had not resulted in giving to the world steel rails which would last longer and could be much more cheaply and rapidly made than the rails that were made of puddled iron. Nor could the steel that is used to-day in such large quantities for various structural purposes—bridges, buildings, ships, cars, etc.—have been made at all but for the invention of the Bessemer process and its companion, the Siemens open-hearth process, the latter process dating from 1864. Nor could the pig iron that has been required by the Bessemer and open-hearth processes have been supplied, not even the half of it, if reliance had been placed upon the small furnaces, the lean ores, and the charcoal fuel that were in common use less than a hundred years ago.

The modern blast furnace, with its immense blowing engines, its hot-blast stoves, its rich ores, and its mineral fuel to smelt them, has been a powerful factor in the present marvelous development of the world's iron and steel industries. It could not, however, have become this powerful agent if an abundance of iron ores and mineral fuel had not been



Capacity  
3-32 to 1 1/2  
inches.

Style "K."

## The "NEW YANKEE" Drill Grinder

SAVES 50 PER CENT. OF TIME IN ADJUSTMENTS

COMPLETELY  
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CONTAINED

OUR machines require no wrench, measuring instruments or gauge saws. We have entirely done away with them. Any amount of clearance desired can be obtained instantly. Drills can be ground to do more and better work. Send for Catalogue showing 10 styles, and full explanation of machines grinding from No. 60 to 5 inches.

**JOHN LUMSDEN & CO.,** 375 St. James St.  
MONTREAL

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readily obtainable. Great Britain early found at home the coke she needed for her blast furnaces; her Durham coke is not excelled anywhere; and when she began to make steel in her Bessemer converters and open-hearth furnaces, she drew upon Spain and other Mediterranean countries for a large part of the ores that would make pig iron suitable for these new processes. Germany has found within the last twenty years that she could make pig iron from her phosphoric ores that could be converted into steel by the basic modification of the Bessemer process; and she has well utilized her resources. Other continental countries have built up extensive steel industries by the Bessemer and open-hearth processes, some of them, like Great Britain, largely importing their supplies of iron ore, and some of them also importing coal and coke. But in the United States nature has been lavish in her supply of all the raw materials that are needed in the manufacture of steel, except perhaps the ores of manganese and of nickel. Iron ores and bituminous coal are found in many States, and anthracite coal is found in Pennsylvania, all in most generous quantities. In the second quarter of the nineteenth century we successfully introduced anthracite coal and bituminous coke in the blast furnace, and in the same period the iron ores of Lake Superior were discovered. Our Lake Superior and Cornwall ores were early found to be well adapted to the manufacture of Bessemer steel by the original process and also of open-hearth steel, and our Connellsville and Pocahontas coke are equalled in physical and chemical properties only by the Durham coke of England.

Steel rails afford a good illustration of the marvelous energy and superior skill which have been displayed in the manufacture of iron and steel in our country in the last quarter of the nineteenth century. The first experimental steel rails ever made in the United States were rolled at Chicago in 1865, but our Bessemer steel industry at first made such slow progress, owing to foreign competition and the prejudice in favor of iron rails, that the whole country made only 259,699 tons of steel rails in 1875. Soon afterwards, however, American energy and skill produced most wonderful results. In 1879 we made more Bessemer steel rails than Great Britain. In 1881 we made 1,187,770 tons of steel rails, and in 1887 we made 2,101,904 tons, and we have since increased these figures. Great Britain's largest production of Bessemer steel rails was in 1882, when she made 1,235,785 tons. From 1867 to 1900, both years included, we made 33,064,467 tons of Bessemer steel rails, an average of almost 1,000,000 tons a year, of which 15,668,101 tons were made in the last ten years.

Speaking of Canadian iron and steel bounties, Mr. Swank says:

The progress of the Canadian iron and steel industries in recent years has been greatly promoted by the action of the Dominion parliament in enacting the bounty act of June 29, 1897, which provides for the payment of liberal bounties

## Toronto Elevator Co.

**MILLWRIGHTS AND  
ELEVATOR SPECIALISTS**

Estimates Given and Losses  
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OUT-OF-TOWN WORK PROMPTLY ATTENDED TO.

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Limited

### CAST IRON PIPE

3 in. to 60 in. diameter.

For Water, Gas, Culverts and Sewers

Special Castings and all kinds of

FLEXIBLE AND FLANGE PIPE.

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SCHEEFFER RECORDING WATT METERS

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**WANTED**  
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**The Grimsby Manufacturing Company**  
Grimsby, Ont. LIMITED  
A MANAGER FOR AGRICULTURAL  
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MANUFACTURERS OF  
**Wood Working Machinery**

Our Foundry is equipped  
with the best material, and  
our Machine Shop with the  
Latest Improved Tools.

OFFICE AND WORKS:  
Directly South of C.P.R. Station,  
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**The Wm. Hamilton Mfg. Co.**  
Peterboro, Ont., Can.

Acting as the Patentee's Licensee  
Are prepared to manufacture  
and supply

**SAVERY'S PATENT  
SHAKE FRAMES**

FOR  
*Fourdrinier Paper Machines,*  
AS DESCRIBED IN  
Canadian Patent No. 57,819.

—ALSO—

**SAVERY'S PATENT  
COMBINED  
DRYER STEAM JOINT  
AND  
SAFETY VALVE**

AS DESCRIBED IN  
CANADIAN PATENT No. 68,098.  
ABOUT 2,000 NOW IN USE.



**BALE'S  
Fire Cement**

FOR  
LINING AND REPAIRING  
STOVES, FURNACES, RETORTS

And all work where  
great heat is required.

**BALE & CO.,** Newgate St., LONDON, ENG.

GAS PURIFICATION and GENERAL  
IRON MERCHANTS

**Trimo Giant**



This Chain Pipe Wrench  
has interchangeable jaws. Improved method of  
holding and releasing chain. No locking. Send for  
catalog.

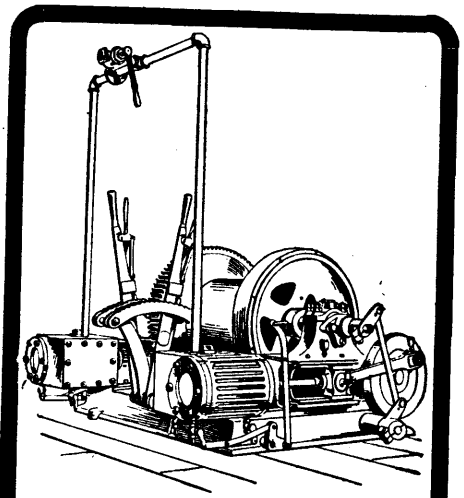
TRIMONT MFG. CO., Roxbury, Mass., U.S.A.

by the Dominion government to the manu-  
facturers of steel ingots, puddled iron  
bars and pig iron, \$3 per ton to be paid  
on steel ingots manufactured from in-  
gredients of which not less than fifty per  
cent. of the weight thereof consists of  
pig iron made in Canada; \$3 per ton  
on puddled iron bars manufactured  
from pig iron made in Canada; \$3 per  
ton on pig iron on the proportion pro-  
duced from Canadian ore; and \$2 per  
ton on pig iron on the proportion pro-  
duced from foreign ore. By the terms of  
the act referred to, these bounties were to  
terminate on April 23, 1902, but an act of  
the Dominion parliament, dated August  
11, 1899, extended the bounty provisions  
to June 30, 1907, provided, however,  
that they should be annually reduced  
after April 23, 1902, as follows: From  
that date to June 30, 1903, ninety per  
cent. shall be paid; from July 1, 1903, to  
June 30, 1904, seventy-five per cent.; from  
July 1, 1904, to June 30, 1905, fifty-five  
per cent.; from July 1, 1905, to June 30,  
1906, thirty-five per cent.; from July 1,  
1906, to June 30, 1907, twenty per cent.  
The act of August 11, 1899, also provided  
that "notwithstanding anything in the  
statutes of 1897, or in this act, no bounty  
shall be paid under this act on steel  
ingots made from puddled iron bars  
manufactured in Canada. The bounty  
provisions of the act of June 29, 1897,  
were held to have come into force on  
April 23, 1897. We have quoted from an  
official copy of the acts of the Dominion  
parliament. The above information is  
given here because of the recent rapid  
progress in the development of the iron  
and steel industries of Canada.

**ELECTRICITY AND POPULATION.**

It is noticeable to those who study the  
statistics of the census that the rate of  
increase of our larger cities is becoming  
less, and while the ratio of urban popula-  
tion is larger than it ever was before in  
the history of the country, yet if one  
puts aside the false data due to the  
enlargement of city boundaries and the  
absorption of suburban districts within  
municipal limits, it is very noticeable  
that the rate of increase of population in  
the denser centres has become less.

The reason for this is found in the  
general extension of two applications of  
electricity, while a third has played no  
inconsiderable part. The trolley car has  
been perhaps the largest agent in the  
re-distribution of population, making it  
possible for the people who work in the  
crowded districts of cities to live at con-  
siderable distances away and enjoy the  
very great advantages of suburban life.  
This is particularly noticeable in cities  
of the intermediate size. Twenty years  
ago cities of the second class were much  
condensed in area, for the reason that  
practically every one walked to and from  
his place of work, and for this reason the  
residence areas crowded upon the busi-  
ness districts as closely as possible. The  
horse car of those days was at best a  
poor thing, and it was not until the  
coming of the swifter trolley that it was  
possible for the ordinary man of business  
or laborer to live more than half a mile,



**BACON'S 1901**

**Hoisting  
Engines**

These engines are designed  
with special reference to  
efficiency, durability and  
convenience in operation.

Besides various standard  
sizes and styles, modified  
types are built, specially ad-  
apted for underground use,  
contractors, bridge builders,  
ships and docks, operating  
cableways, etc., etc.

Whether your requirements  
are small or large, we shall be  
glad to receive your inquiries,  
and to submit attractive  
figures for your consideration.

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MACHINE  
COMPANY.**  
SHERBROOKE, QUE.

Branch Offices in  
Principal Canadian Cities.

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or such a matter, from the scene of his daily task. To-day all this is changed, and as a consequence the residence district in all such cities has vastly extended, and people not uncommonly live anywhere from ten to twenty miles away from their places of business.

To double the radius of a city means to increase its area four times. The trolley, by its duplication and triplication of the city radius, has enabled very large territories to be included in the suburban districts of towns, with the result that houses have plenty of room around them, the people are no longer compelled to live close together, and to this degree a very important social revolution has been wrought, and, indeed, is still in process of extension. No one can deny the benefits of a freer life and the immense social, sanitary and other advantages which have followed the introduction of the trolley car, and the consequent extension of residence neighborhoods.

But another agency has not been idle. The principal objection to country life has been its loneliness and the absence of those conveniences which differentiate the city house from the country residence. The loneliness, by which is meant the lack of intercourse with neighbors, has been in a great degree removed by the telephone. Perhaps the best work that the independent telephone movement has accomplished has been the popularization of the telephone and its introduction at low rates into sparsely settled

neighborhoods, thus removing the bugbear of isolation which has been so long a complaint of the rural resident. But the telephone has done more for those living in the country and in the country districts surrounding cities than to furnish them a means for social conversation. It has proved itself a very practical and valuable addition to the farmer's means for making a living. By putting him in immediate touch with his markets, whether for selling or for buying, it enables him to conduct his business in a much more businesslike way than formerly, when the isolated gardener or truckman loaded his vehicle in the early hours of the morning with the produce of his fields and drove to town without the slightest idea of what he would receive for it or whether he could sell it at all.

With the telephone nullifying the isolation of the country districts and the trolley car providing quick and inexpensive means of transit, the suburbs have become, in a sense, part of the town. The town has gone into the country and carried with it those two important agencies, while not far behind comes the electric light, making at once more pleasant and more safe the highways and lanes of the country districts. —Electrical Review.

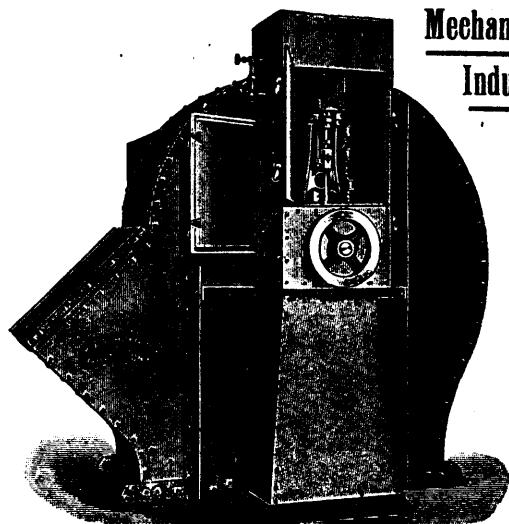
### AS TO CHIMNEYS.

A writer in a daily paper said something not long ago that shows a better

grasp of a semi-technical subject than most writers of his class are capable of holding. He said: Mankind contrived to exist thousands of years without chimneys. Smoke found its way out through a hole in the roof. But for centuries they have served the world. The art of heating houses seems to be still in its infancy. We are still wasting a great portion of our heat up the chimney, and what future generations will think of us may be inferred from our estimates of the ancients. Chimneys will stay, but they will simply provide a draft for poisonous gases; that they will long continue to be a funnel to carry off the heat that should be diffused through the house we cannot believe.

I will venture to endorse every sentiment he expresses, with one exception. The art of heating houses is not in its infancy. It has made very long strides toward completeness, especially in late years, and if the scientists and manufacturers have not succeeded in accomplishing better results, it is simply because the people who are offered the benefit of their skill are so contrary that they will not take advantage of it. It is simply a case where most people who buy furnaces or heating stoves do not know how to use them.

If a dealer sells a heating stove and it fails to produce the results expected of it, the chances are ten to one that the buyer will place the blame on the stove and on the dealer who sold it. The stove is not at fault. It is built on exactly the same



Bottom Angular Up Discharge Right Hand Fan.

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Quotations Supplied  
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lines as thousands of other stoves of which no complaint has been made, and it is certain to do good work if only given a fair chance. It probably was obliged to contend with a flue that was too small or with improper piping, and the best stove ever made can not overcome these

difficulties. The owner might reasonably argue that he is not in the heating business, and so he lays the fault on the dealer, where, I believe, that it really belongs in a great majority of cases.

Every dealer who sells a stove ought not only to know how to set it up, but

should see that it works all right before he leaves it. The very first point for him to consider is the chimney. It should never be so large that it will carry too much heat up into the outer air, or so small that it chokes and gasses. If it is too large, the user can be shown how to adjust the dampers so as to regulate the draft, or if it is too small it will be necessary to run a pipe up from the top or even to put on a ventilator so as to create a draft. If it is an old chimney it should be thoroughly cleaned out before the new stove is set up, not only above the pipe hole but also below it, and the sides should be made as free from obstructions as possible. Even the bits of hard mortar projecting into the inside of the chimney will interfere with a good draft.

It is probable that some dealers will object to all these details on the ground that they do not own the house or the chimney, and that their obligation ceased when they sold the stove and put it up. They owe it to themselves to see that every stove they sell shall do good work, unless this kind of work is prevented by conditions which they cannot overcome. Then, too, there are many stoves sold by dealers which are put up by the buyers. But it is not a difficult matter to set up the stove so that all that is in it can be brought out. In almost every manufacturer's catalogue are directions about stove installations, with pointers on pipes and chimneys. These directions are very easily understood. They can be given to the buyer, and if he fails to understand and use them it is not the dealers' fault. But it is his fault in most cases when a stove fails to give satisfaction, unless the chimney is irretrievably bad or the user has failed to follow instructions. The stoves are almost always better than the chimneys, but in most cases they can be adapted to the conditions, or the chimneys can be fixed to make a better draft.—M. P. Person, in Stoves and Hardware Reporter.

#### A NEW FUEL.

One problem which municipal authorities of all countries have been seeking to solve is how to best dispose of the city's garbage. A process has been discovered in France by which garbage is converted into briquettes. It consists of mincing the refuse from abattoirs, fish markets, etc., straw, paper, and the like, and adding tar and naphthalene. The whole mass is then mixed in a kneading apparatus, dried and pressed into briquettes. The director of the Paris Municipal Laboratory says:

These briquettes have a slight odor of gas, burn brightly, and engender heat slowly. With a more highly perfected method of manufacture, they will engender less ash, and the heat-producing qualities will be about the same as those of common coal. They will also possess the advantage of burning slowly and developing no smoke.

If this report is true, municipalities, instead of having to cremate their garbage—a method which can not be said to be entirely successful—will receive money therefor.

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AND DOES THEM THOROUGHLY

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NOTHING EQUALS IT...

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**THE CUBAN TARIFF.**

On October 1, the United States War Department through Governor-General Wood promulgated in Havana the revised schedules of the Cuban tariff. As no further changes are to be made in the tariff and no revisions will be authorized by the Secretary of War, the rates now announced will remain in force until the independent government of Cuba is installed May 1, 1902. Following is the text of the order as issued by the War Department including Spanish equivalents as given in the original, but altering the order of explanatory notes for the sake of increased clearness:—By direction of the President, it is hereby ordered and directed that Group 2, Class 11, paragraphs numbered 214 to 226 inclusive, and paragraphs numbered 286 and 318 of the "Customs Tariff for Ports in the Island of Cuba," promulgated by Executive order dated March 31, 1900, be modified so as to read as follows:

**APPARATUS AND MACHINES.**

**NOTE I.**—For the classification of parts of machinery the following rules must be observed:

**First**—A separate piece of a machine is understood to be any object which is not expressly specified by name under some heading of the tariff, and which by its shape and by the manner in which it is presented for clearance in the custom house, though not completely finished, may be considered as exclusively destined to a machine and can have no other application. If it be imported completely finished it must pay under one of the headings of the tariff referring to machinery.

**Second**—Tubes, bars, axles, screws, bolts, sheets, plates, boiler bottoms, wire and other articles expressly taxed in the tariff must pay duty accordingly, though they be destined to machinery.

**Third**—Tools, instruments and utensils employed in the arts, agriculture and industry cannot be considered as parts of machinery for the application of duty, and must pay according to the materials of which composed.

214—All weighing machines, including scales and detached parts thereof, per cent. ad valorem ..... 20

215—Machinery and apparatus for making sugar and brandy, per cent. ad valorem ..... 10

**Note.**—The articles included in paragraph No. 215, which shall be imported within twelve months from the date of the promulgation of this order, shall be entitled to a rebate of 50 per cent. of the duty specified in said paragraph, under such conditions and guarantees as the chief of the customs service, with the approval of the Military Governor, may direct. This concession is limited exclusively to those articles enumerated in subdivisions a and b of note given below.

For the application of duty under this paragraph it should be observed:

a—That the machine must be complete. Complete machines include tubes (flues), belting, etc., which form an integral part of such machines, but no spare parts.

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b—That spare parts are dutiable, according to No. 222 when of copper, and to No. 226 in all other cases.

c—That to be considered as complete, machines must be imported in one sole shipment. Machines imported in two or more shipments shall be liable to the duties stipulated in Nos. 222 and 226, except in the case when a previous and special authorization has been granted by the chief of the customs service. Paragraph 215 includes :

a—The following articles, whoever be the importer :—Weighing machines (platforms) for weighing sugar cane ; complete machines of every kind for grinding cane ; cane shredders ; sugar clarifiers ; complete apparatus for diffusion ; purifying apparatus ; filters and filtering apparatus ; apparatus called "trenes Jamaquinos," complete ; furnaces for making animal black ; steam dessicators (trampas) and granulators : centrifugal machines, mixing and lifting (subidores) machines, with their motors ; vessels called "bombonas" and "cachimbas" ; skimmers, distributors and sugar moulds ; apparatus triple effect or vessels (tachos) acting in vacuum, also their machines, pipes and cocks, of copper or iron ; polarimeters ; skimming pails (cacherceras) ; sugar crushers ; cars (porta templa) ; sulphurous gas apparatus ; dumping apparatus for cars (porto-templa) ; cane transporting apparatus, furnaces for burning bagasse ; automatic circulator and regulator for vacuum kettle apparatus ; apparatus for compressing sugar.

b—Also the following articles when they are imported directly by or for planters, on proof of the installation thereof in their establishments :—Beltings for granulators, centrifugals and lifters (subidores) ; tubes, flues, cocks, shafts, crowns and rolls for sugar mills ; boilers, steam plows, donkey engines, with or without pumps ; carts for the conveyance of cane and the output of the works ; stills ; gasometers for lighting the works ; electric plants and apparatus for use exclusively in lighting the works of a sugar estate or farm.

Note—If the plant or apparatus is for any other use than that pertaining to a sugar plantation or farm, it will be dutiable under paragraph No. 223. Fire brick for the installation of boilers and furnaces : portable rails, plantation railways.

Note—By railways are understood the articles and materials mentioned for railways under the special provision to paragraph No. 318, and which are intended for the exclusive use of railways for sugar plantations.

216—Agricultural machinery and apparatus per cent. ad valorem 10

Note—The articles included in paragraph No. 216, which shall be imported within twelve months from the date of promulgation of this order, shall be entitled to a rebate of 50 per cent. of the duty specified in said paragraph, under such conditions and guarantees as the chief of the customs service, with the ap-

proval of the Military Governor, may direct.

[The machines and apparatus mentioned in this paragraph are those employed by farmers and agriculturalists for preparing the ground and gathering the crops ; also, those employed in order to clean the crops and improve them without essentially changing their nature].

217—Steam motors, stationary, per cent. ad valorem ..... 20

218—Marine engines, steam pumps, hydraulic, petroleum, gas and hot or compressed air motors. 20

219—Boiler (a) of sheet iron (b) tubular ..... 20

[Articles corresponding to paragraphs Nos. 218 and 219, and which are expressly imported by ship owners, and on proper verification, intended for use in the repair of registered steam vessels of this island, will be dutiable at the rate of eight per cent. ad valorem.]

220—Locomotives and traction engines ..... 20

221—Turntables, hydraulic cranes and columns ..... 20

222—Machines of copper and its alloys, detached parts of the same metals ..... 20

[Machines and separate pieces of same, of copper and its alloys, with part of other materials, shall also be taxed under this heading, provided the above materials predominate in weight.]

223—Dynamo electric machines, inductors and detached parts ..... 20

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- 224—Sewing machines and detached parts thereof ..... 20
- 225—Velocipedes, bicycles and detached parts and accessories thereto, including bicycle lamps.. 20
- 226—Machines and apparatus, other, or of materials not specially mentioned, also detached parts of all kinds other than of copper or its alloys ..... 20

[It will be necessary to prove to what manufacture or to what industry spare woolen hose and filters are destined in order to be assessed according to this number.]

**COFFEE AND CHICORY.**

286—Coffee in the bean or ground; chicory roots and chicory, T. (Disp. III, rule 5), 100 kilos ..... \$12 15

**SPECIAL PROVISION.**

318—The following articles, when imported direct by a steam or street railroad company of the island of Cuba, for the exclusive use of said railroad within twelve calendar months from the promulgation of this order, shall be entitled to entry at five per cent. duty ad valorem under such conditions and guarantees as the chief of the customs service may exact or direct:

Passenger coaches, complete, erected or knocked down.

Freight cars, complete, erected or knocked down.

Pine wood prepared especially for freight cars.

Locomotives and tenders, locomotive boilers and locomotive furnaces, locomotive boiler plates and tubes, locomotive and tender frames, and tanks for locomotive tenders.

Turntables, transfer bridges, iron or steel bridge work, riveted or rolled, iron or steel rails, points, crossings, signals, gate crossings, and metal ties.

Trucks for cars, tenders and locomotives, complete and parts thereof, including all the running gear.

Splices, fishplates, fishplate bolts, spikes, frogs, semaphores, switches, steam shovels complete, rock crushers complete, steam hammers complete.

Dumping cars, hand cars, small motor cars, railway velocipedes, derrick railway cars complete, ballast cars.

Air brakes, automatic couplings, railroad ties of wood.

Castings and springs for railway cars, coaches, tenders and locomotives.

Electric motors and dynamos and machinery, exclusively used for furnishing power and light for railways. If at any time after importation the plant is used to furnish power or light for any other purpose, it shall thereby become liable to duty under the respective paragraphs of Group 2, Class XI.

Stationary pumps and boilers for repairing shops, including transmission shafts, pulleys and belting for same.

This concession to railway material is limited exclusively to the enumerated articles mentioned.

This order shall take effect upon promulgation in Cuba, October 1, 1901.

This order shall be duly promulgated and enforced in the island of Cuba.

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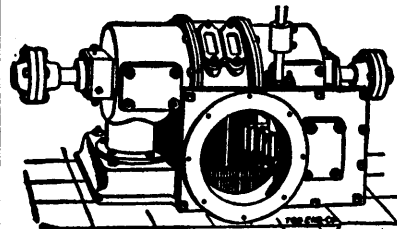
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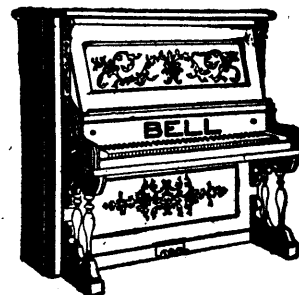
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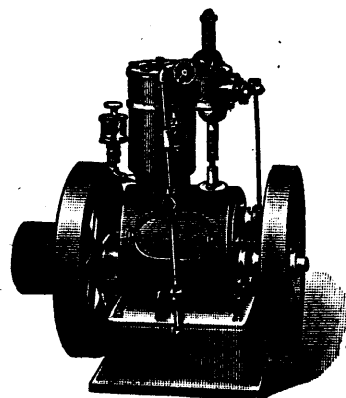
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CUPOLAS

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## ADVANTAGES OF TIN ROOFING.

Every one is more or less anxious to live under his own roof, but in spite of this desire most people in planning their houses pay less attention to the kind of roof that is to cover them than to any other part of the house. This should not be. The roof is a very essential part of the house. It is the top, the cover, the protector of the rest of the building. It is far more exposed than the walls. When the roof is damaged, all the other parts are more or less affected, hence the advice, "Look well to the roof in erecting the house," cannot be too strongly impressed on the builder.

When constructing the roof of a building the material used should always be of the best quality and of the most serviceable kind. Terne plates (roofing tin), of good trustworthy quality, are the ideal roofing material, embodying all the characteristics that are requisite for a perfect roof covering. Roofing tin is practically impervious to all the external and internal attacks to which a roof is exposed. Roofing tin will not freeze in cold weather, it will not get soft in the hot sun. It withstands the destructive ravages of a storm. It is noncombustible. The licking flames of a conflagration cannot feed on it. Roofing tin is light in weight and therefore adapted equally well for stone, brick or frame buildings. It does not absorb dampness. It will not break if a stone or the limb of a tree falls upon it. It is suitable for roofing under all possible conditions, and from the flat to the steepest pitched roof. The greater safety of a tin roof is well proved by the fact that the insurance rates on buildings covered with tin are less than on buildings covered with any other material. None of the many other materials which are offered for roofing purposes possess the universal advantage of tin roofing; the inflammable wooden shingle, the heavy and porous tile, the breakable slate, the dangerous paper, and the cheap gravel all possess disadvantages which are fully overcome by terne plates of good quality. A large majority of architects and builders strongly favor terne plates (roofing tin) as the best material for roofing, provided that they can be assured that the quality is first-class and that

good workmanship is employed in the construction.


With the establishment of the fact that a roof constructed of good terne plates is far superior to any other kind of roof, it must, nevertheless, not be overlooked that even a tin roof may, under certain circumstances, prove to be a bad one. There are two causes which may produce such a result: either the terne plates were bad, or the workmanship in laying the roof was not good. Some years ago, when a craze for cheap material had taken hold of the people, it was not unusual for large quantities of the most inferior material to be dumped on the market and used for roofing in order to reduce the cost. The evil results of this craze have made themselves apparent. The cheaply constructed roofs are decaying by reason of the false economy practiced in their construction. Proof is furnished that material higher in price and first-class in quality would have been the cheapest. Fortunately, conditions have changed again. The general prosperity of the country and the practical spirit which is animating the American public is now more than ever manifesting itself, and the general demand is for materials of the highest grade.

The American tin plate manufacturers, who in the short space of ten years have succeeded in building up a tin plate industry as large as, or even larger, than that of any other country in the world, are ever anxious to satisfy the demands

of the people. American products in this line are admitted to be the most excellent the world over, which fact was recognized by the International Board of Judges of the "Exposition Universelle" at Paris, when they awarded to American tin and terne plates the first prize.

Anyone who desires to have a perfect roof can obtain it if he but goes to the trouble of making sure that he gets the proper quality of material, put down by experienced workmen. The American tin plate manufacturers, with their unequalled facilities in their vast resources, and the best obtainable skill in the manufacture of terne plates at their command, have made a special study of the roofing plate branch of the business. The result is that to-day American tin plates stand pre-eminent. Different qualities of terne plates may be used in different districts. A quality of roofing plate suitable for one district may be totally unadapted for another district. But to meet all conditions terne plates are made to-day that will stand any climate. For a standing seam roof a poorer quality may be used than for a flat seam roof, but observing the truism that the best is the cheapest in the end, none but the best quality should be used in all cases, and if this rule were adopted universally, all objections and prejudices which may exist in some localities against tin roofing would soon disappear.

Roofs made from good plates, however, may be spoiled by bad workmanship. To guard against this a few hints are



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INTERNATIONAL  
DICTIONARY**

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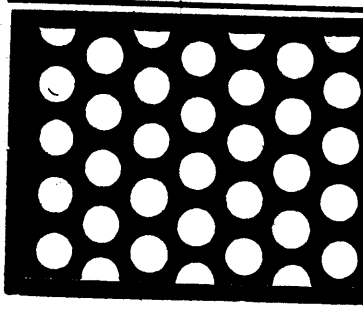
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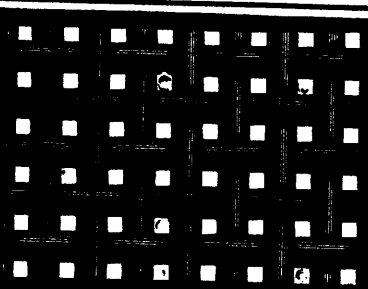


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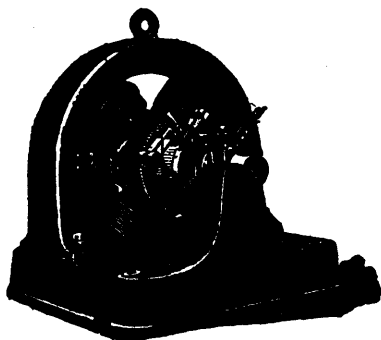
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**SILICIA BRICKS**  
 Highest Grade for all Purposes  
**MAGNESIA BRICKS**  
 FOR LINING  
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**MOTORS and DYNAMOS**

MODERATE and SLOW SPEED OF HIGH EFFICIENCY.  
 EITHER BELTED OR FOR DIRECT CONNECTION.

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 Capital and Surplus, \$1,500,000

Offices Throughout the Civilized World.  
 EXECUTIVE OFFICES,  
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Correspondence Invited.  
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THOMAS C. IRVING, Gen'l Manager Western Canada, TORONTO.  
 JOHN A. FULTON, Gen'l Manager Eastern Canada, MONTREAL.

given here, the observance of which is of the utmost importance in the proper construction of a tin roof.

Roofs with less than one-third pitch are made with flat seams, and should preferably be covered with 14x20 sheets of roofing tin rather than with 20x28 sheets, because the larger number of seams stiffens the surface and helps to prevent buckles and rattling in stormy weather. For flat seam roofs one-inch barbed and tinned roofing nails should be used, not over six inches apart, well under the edge. The nails must never be exposed.

Steep tin roofs should be made with standing seams, and from sheets 20x28 inches, fastened down with cleats not over two feet apart. One end of the cleat is folded into the seam and the other nailed down. Nails should be driven in the cleats only.

While it is always cheapest to use the best material, a lesser coating is permissible on steep standing seam roofs than for flat seam roofs with small pitch. IC roofing plates, in which the iron body weighs about fifty pounds per one hundred square feet, are more suitable than IX plates, which weigh about 62½ pounds per square foot, because the seams in the lighter plates will not suffer as much from contraction and expansion as the thicker plates. The amount of terne coating on the lighter sheets should in all cases be fully as heavy as on the heavier plates.

For spouts, valleys and gutters heavily coated IX plates should always be used.

The use of acid in soldering seams in a tin roof is to be carefully avoided. Acid coming in contact with the bare iron on the cut edges and corners where the sheets are folded and seamed together will cause rusting. No other soldering flux than good resin should be used.

Every roof should be carefully cleaned and all resin spots and detrimental substances should be removed as the tinner's work is being finished. Lumps of resin left on the roof will melt in the sun, stick to the roof, cause blisters in the paint, and prevent it from adhering.

For valleys, spouts and gutters of a tin roof no other metal than terne plates should be used, because the galvanic action produced by different metals coming in contact with each other will cause disintegration under atmospheric influences.

The sheeting boards underlying the roofing tin should be put close together. The wood should be well seasoned, dry, and all knots should be culled out. It is also advisable to cover the boards with good building paper before the tin is laid on. When no paper is used the tin must in all cases be painted before it is laid and fastened to the roof. The outside should receive two coats of paint as soon as the roof is finished.

To make tin roofs last for generations they should be repainted every three to five years with good iron oxide and linseed oil paint, while the frequency of the intervals will depend largely on the climatic conditions of the country.—Tin and Terne.

**W. J. McGUIRE & CO.,**  
 TORONTO and MONTREAL.

THIS COMPANY makes complete installations of either the "International" Head.



The Best!

WET or DRY SYSTEMS OF **AUTOMATIC ...FIRE... EXTINGUISHING APPARATUS**

Systems, Devices and Workmanship fully approved by Insurance Companies and Bodies. Systems in extensive use, and have stood the test of time.

Write for full particulars and Catalogue.

**40 to 70% OF INSURANCE SAVED**

**Dominion Oil Cloth Co.**

(LIMITED)

Manufacturers of....

**OIL-CLOTHS** of Every Description

Floor Oil-Cloth, Table Oil-Cloth, Carriage Oil-Cloth, Enamelled Oil-Cloth, Stair Oil-Cloth, etc.

Office and Works:

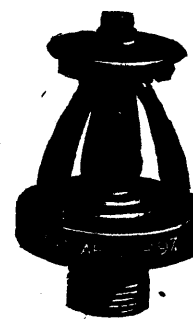
Cor. St. Catherine and Parthenais Sts. MONTREAL, Que.

**Protection Against Fire**

Apart from the protection it affords, it pays as an investment to use an

**AUTOMATIC SPRINKLER SYSTEM**

From 40 to 70 per cent. of cost of insurance saved by putting in an



**AUTOMATIC SPRINKLER EQUIPMENT**

No charge for estimating. Endorsed by Insurance Companies.

**The General Fire Equipment Co.**  
 72 Queen Street East, TORONTO.



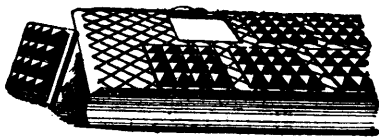
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References kindly permitted to the Editor  
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Telegrams: "Bierenate, London," A B C code used.  
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**THE PATENT INTERCHANGEABLE  
RUBBER TREAD**

14 Gold Medals &  
other Awards.



Slip-Resisting  
Interchangeable

For Public Institutions, Warehouses, Offices, etc.  
The Treads consist of a metallic keeper, fitted with  
pieces of rubber (specially prepared), which form  
the wearing surface, and can be renewed when  
worn, by anyone in a few minutes.

**WILLIAM GOODING, Manufacturer,**  
North Road Works, Holloway, London, N. Eng.

**OPPORTUNITIES.**

The following enquiries have been re-  
ceived at the offices of the High Com-  
missioner for Canada in London, and  
at the Canadian Section of the Imperial  
Institute, London, England.

**NOTE.** Those who may wish to corre-  
spond with any of those enquirers can  
obtain the names and addresses by  
applying to **THE CANADIAN MANUFAC-  
TURER, Toronto.** No charge for giving  
information. When writing refer to the  
numerals opposite the enquiries.

569. A north country firm desires to  
know whether cellulose is made in Can-  
ada and would be pleased to hear from  
producers of same.

570. A Liverpool correspondent wishes  
to be placed in communication with a  
Canadian manufacturer of built up veneer  
who wishes to open up trade in the  
United Kingdom.

571. A London wholesale dealer asks  
for names of Canadian shippers of hay.

572. An important manufacturing com-  
pany invites samples and quotations of  
good quality prepared Canadian flake  
graphite.

573. A Glasgow house asks to be  
placed in communication with Canadian  
manufacturers of mineral water wood  
caps.

574. A London merchant reports an  
opening for a good line of roll toilet  
paper and would be pleased to hear from  
Canadian makers able to supply same.

575. A Rotterdam agent asks to be  
referred to Canadian exporters of baled  
hay and to other firms desiring a repre-  
sentative in Holland.

576. The names of the leading cigar  
buyers in Canada are asked for by an  
English firm of manufacturers.

577. Enquiry is made for the names of  
principal importers into Canada of such  
small leather goods as laces, straps, belts,  
etc.

578. An agent in Genoa is open to take  
up the representation of Canadian firms  
exporting goods suitable for the Italian  
market, viz., lumber, etc. He is also  
desirous of appointing an agent in Canada  
for the sale of a well-known brand of  
olive oil.

579. A broker and agent at Durban,  
Natal, South Africa, desires to be placed  
in communication with some good Cana-  
dian houses manufacturing goods suitable  
for the South African markets.

580. A correspondent in Winnipeg,  
Man., asks to be placed in communica-  
tion with wholesale dealers in pictures,  
lithographs, chromos, toys, novelties, and  
other small wares, and to be furnished  
with price catalogues.

581. A Bristol (New Brunswick), corre-  
spondent asks to be referred to parties in  
England requiring turned or shaped  
wooden goods, such as handles, dowels,  
window poles, etc., of maple, beech, or  
birch woods.

582. Enquiry is made by a Toronto  
firm for names of English houses manu-  
facturing photo-jewelry. Also for a  
wholesale novelty firm who would be  
prepared to handle their novelties in the  
United Kingdom.

**KINLEITH PAPER COMPANY**

MANUFACTURERS OF

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AND SPECIALTIES

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TORONTO

**MAKE** Gas or Gasoline Engines from 1 h.p. to 6 h.p.  
Stationary or Marine and Electric Motors from 1/2 h.p. up.  
Motor Carriages for Pleasure or Business. One cent spent for a postal  
will bring you any informa-  
tion you wish.

**"GENUINE OAK" BELTING**

More SOLID LEATHER to the Foot than any Belt made.

**"LANCASHIRE" HAIR BELTING**

FOR EXPOSED SITUATIONS

**ENGLISH CARD CLOTHING**

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Head Office and Factory, - MONTREAL.

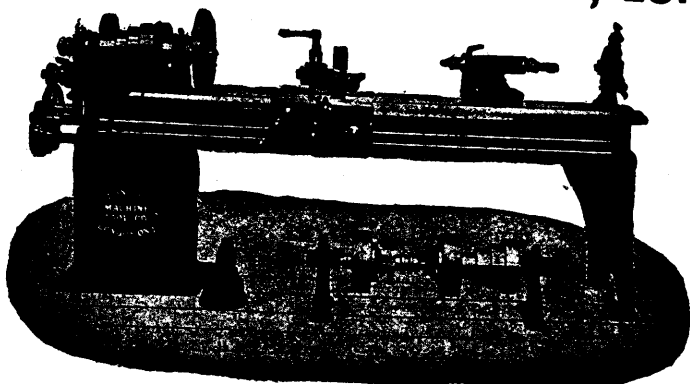
Western Trade, - TORONTO STOCK DEPOT, 88 Bay Street.

**The London Machine Tool Co., LONDON, ONT.**

MANUFACTURERS  
OF

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Machinery**

LATHES,  
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SHAPERS,  
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TRY.. **VULITE**

As used by His Majesty's Government.

**VULITE** is a powerful vegetable disin-crustant. No acids. No alkali.

**VULITE** will not affect the naked steam in color, taste or smell.

**VULITE** will save you time, money and vexation.

**VULITE** is what Canada wants.

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## Vulite Syndicate, Limited

40 William Street,  
Finsbury, London, E.C., Eng.

Wanted—An Active Representative for Canada

## The Firstbrook Box Co. Limited

**PACKING CASES.  
DOVETAIL BOXES.  
Bottlers' SHIPPING CASES.  
BOX SHOOKS, Etc.**

**TOP PINS, SIDE-BLOCKS & CROSS-ARMS**  
Write for prices. **TORONTO, Canada.**

## CARBONIZER

A neutral substance, harmless to animal fibre or tissue, while it destroys burrs, etc., as efficiently as acid. It leaves the wool in fine condition. Manufactured by the

**Merrimac Chemical Co., 13 PEARL ST. BOSTON.**

## THE PATENT CLOTHBOARD CO. OF PARRY SOUND

Limited

**PARRY SOUND, ONT., CANADA.**

*Clothboards, Lapping, Rolling and Bailing Boards  
Veneers of Ash, Birch, Bass and Elm, all thicknesses  
Cheese Box Bands and Rims  
Box Shooks (Small and Light) also Crating Material*

## MARKETS.

Following are reports and observations relating to the markets of Canada and elsewhere, having reference to hardware, metals, paints, oils and such specialties as are usually handled by jobbers and dealers in such goods. Following these items will be found current market quotations of such goods, and the trade are requested to suggest to the publishers any improvements by which it is believed the quotations may be rendered as correct and valuable as possible.

TORONTO, OCTOBER 18TH.

During the latter part of last week business in this and in the larger Western Ontario cities was practically at a standstill, due to the visit of the Duke and Duchess of Cornwall and York. In this city the festivities covered a period of three days and the only firms which manifested signs of activity were those engaged in decorating the various business houses along the route of the Royal procession. It is roughly estimated that during the three days over \$40,000 was spent in the various playhouses, and outside of the decorators the theatrical people were the only ones who could report "business booming."

A noticeable feature of the Royal reception was the willingness with which large industries allowed their employees to absent themselves from work, although their absence entailed considerable loss on contracts which should have been completed at the end of the week. The outlook, however, is so bright for a good season in all lines that many neglected to seriously consider the holidays, and this naturally added greatly to the general good feeling which existed among all classes.

In speculation circles there is an increased trading, caused, no doubt, by the narrower fluctuations in the prices of securities. Canadian stocks are holding firm and brokers report a good demand from investors. The members of the Montreal Stock Exchange will vote in a few days on a proposition to raise the membership limit from forty to fifty, thus creating ten new seats. As the ruling price of seats is now \$12,000, the sale of ten seats would net something like \$120,000, which it is suggested

## GALVANIZING

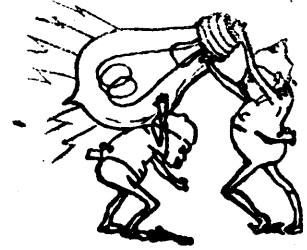
We are prepared to attend to all orders **Promptly and Economically.**

**WINDMILLS, PUMPS, TANKS, Etc.**

**ONTARIO WIND ENGINE and PUMP CO.**

LIMITED,

**95 ATLANTIC AVE., TORONTO.**



## Everything Electric

Our business includes everything Electric, from a bell for your house to a lighting or power plant for your town. But small or great, our work is always done well and at close prices.

**R. A. L. GRAY & CO.**

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The Publishers announce the preparation of the Sixteenth Edition of the Directory of

## MERCHANTS, MANUFACTURERS & SHIPPERS of GREAT BRITAIN & THE WORLD

Containing Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the World. The work contains nearly 4,000 pages, and includes in addition to the above the Customs Tariffs for every Country and all classes of Goods.

HIGHEST AWARD, GOLD MEDAL, PARIS, 1900.

Also in course of preparation, the ninth edition of

## THE BUILDING TRADES DIRECTORY OF GREAT BRITAIN

Comprising every trade and profession in any way connected with Architecture and Building. The only work of its kind published.

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**W. P. DENT, - Manager.**

Branches at Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Dunedin, etc.



**NOTICE**—The following are the Factory Inspectors for the Province of Ontario:

**JAS. T. BURKE**, Parliament Buildings, Toronto.

**JAS. R. BROWN**, Parliament Buildings, Toronto.

**MARGARET CARLYLE**, Parliament Buildings, Toronto.

**O. A. ROCQUE**, Orleans, Ont.

Persons having business with any of the Inspectors will find them at the above address.

**JOHN DRYDEN**, Minister of Agriculture.

**W. G. McNEILL THOMPSON**  
CONSULTING ENGINEER

M. Inst. C. E.,  
M. Can. Soc. C. E., M. Am. Soc. C. E.  
59 JAMES ST., - ST. CATHARINES, ONT.

Manufacturing Concerns will find it to their interest to correspond with

**ULRICH PETERS, M.E.**  
3527 N. 17th St.  
FOR PHILADELPHIA, PA.  
DESIGNS OF PULP and PAPER MACHINERY

might be used as the nucleus of a building fund.

The disappearance of a package of gold coin from the express department at the Custom house, has resulted in the authorities increasing the staff in that department. The enormous amount of goods that passes through this part of the Government service, necessitates the appointment of an increased staff. And now that the Government has had an object lesson in operating a department without a sufficient force, the recent loss will result to the advantage of business firms, and goods will be more quickly received.

The grain dealers of the Province are complaining loudly of the dearth of freight cars at their disposal. It is estimated that between 200,000 and 300,000 bushels of Manitoba wheat are lying in the elevators at Port Huron, Goderich, Midland and the lake ports, awaiting distribution to millers. The situation has been like this for about a month and millers with stocks exhausted are unable to obtain delivery for grain contracted for a month ago. The railways have at present the large portion of their rolling stock engaged in the export business.

**BUFFALO PIG IRON MARKET.**—Office of Rogers, Brown & Co., Buffalo, N. Y., October 16, 1901.

The distinctive feature of the foundry iron market of the past week has been the purchasing for the first half of next year, several contracts having been let for deliveries January to June, inclusive.

The demand for deliveries on contracts already booked continues as urgent as for several weeks past, practically absorbing all that is available for the remaining months of 1901, so that new transactions are of necessity principally to provide for future wants.

Prices are firm and are about as follows, f.o.b. cars Toronto, in bond:

Lake Superior Charcoal	\$19 75
No. 1, X. Tonawanda Scotch iron	17 00
" 2, " " "	16 50
" 1, " Niagara iron	17 00
" 2, " " "	16 50
5% Silicon Mannie Charcoal softener	17 00
3% Silicon Mannie Charcoal softener	16 50
Connellsville 72 hour Foundry coke	4 85

**CABLE ACROSS THE PACIFIC.**—John W. Mackay's proposition to lay a cable across the Pacific Ocean, submitted in behalf of the Postal Telegraph and Commercial Cable companies, indicates a great change in sentiment. At the last session of the United States Congress two companies were competing for this privilege, but each wanted Government subsidies. A bill was finally drawn in which the Government agreed to pay not to exceed \$300,000 a year for twenty years for its

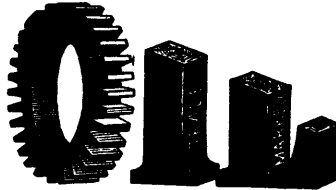
# "Capitol" Cylinder

"RENOWN" ENGINE

"ATLANTIC" RED

RELIABLE WELL-KNOWN BRAND

ALL ORDERS PROMPTLY FILLED



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## THE EUGENE F. PHILLIPS ELECTRICAL WORKS

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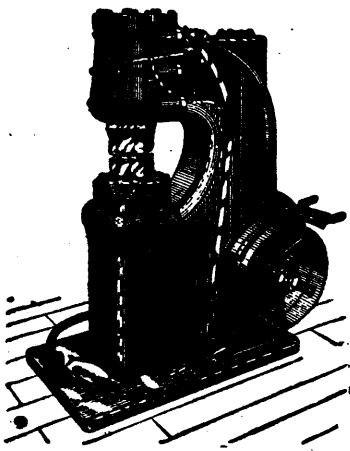
**BARE and INSULATED ELECTRIC WIRE**

ELECTRIC LIGHT LINE WIRE,  
INCANDESCENT AND FLEXIBLE CORDS,

**RAILWAY FEEDER and TROLLEY WIRE**

RUBBER-COVERED, MAGNET, OFFICE AND  
ANNUNCIATOR WIRES.

**CABLES FOR AERIAL and UNDERGROUND USE.**

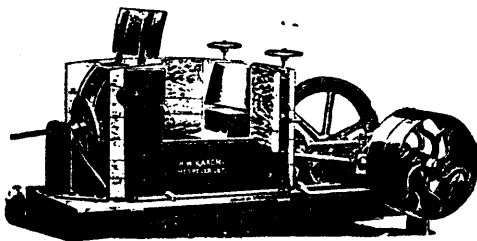


The "**YEAKLEY**"  
**Vacuum HAMMER**, Patented

Is unique and unequalled by any other Power Hammer for its Simplicity, Power, Ease in Operating and Fewness of Parts; Nothing to Break, no Steam to Leak, no Pipes to Freeze, no Delays, no Expense for Repairs. SEND FOR CATALOGUE.

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**IRON FOUNDER and MACHINIST**

Manufacturer of

**WOOLEN MACHINERY,**

Rotary Fulling Mills, Kjeker Fulling Mills, Soaping Machines,  
Cloth Washers, Wool and Waste Dusters, Rag Dusters, Drum Spool Winders  
Reels, Spooling and Doubling Machines, Ring Twisters, Card Creels  
Dead Spindle Spooler for Warp or Dresser Spools,  
Patent Double-Acting Gig Dyeing Machines.

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**The Diamond Machine and Screw Co., Limited**

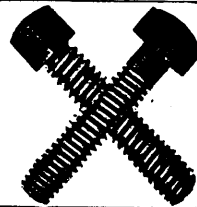


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**Finished and Semi-Finished Nuts**

TORONTO, - CANADA



**The Rehder Plating & Mfg. Co.,**

THOROLD, - ONT.

Manufacturers of

**Stove and Piano Trimmings and Novelties**

Fine Grey Iron Castings a Specialty.

Nickel, Copper and Brass Electro Plating.

WRITE FOR PRICES.

business, or a total of \$6,000,000, half of the estimated cost of construction. But nothing came of this. Now Mr. Mackay simply asks that authority be given his company to land cables on the shores of the United States, Hawaii and possessions in the East. No concessions, subsidies or indemnities are asked. The companies agree to begin at once the work of construction, and will give a guarantee to have the cable in working order between San Francisco and Honolulu within nine months from the time work is begun. The entire cable is to be maintained without cost to the United States, the company agreeing that the business of the Government shall have at all times the right of way, and in case of war or other public necessity the line may be taken over by the Government. It is also agreed that the present rates shall be reduced from forty to sixty per cent. It is claimed that it is competent for the executive department to grant the privilege sought of landing cables without the intervention of Congress. The matter has been laid before the State Department, and if it be found that the authority

sought can be granted, it probably will be.

**TRADE WITH JAPAN.**—The Marquis Ito, former Premier of Japan, arrived at Victoria, B.C., a few days ago from his native country en route to Europe. Speaking of the commercial relations of Japan with other countries, Marquis Ito said, that things political in Japan are fast approaching a satisfactory basis, and a short time before leaving Japan the Marquis was the leader in the formation of a new party of progress called the Seiyu Kaia, which is a coalition of old and new elements, and although there was some friction among the several members, the party is now in a firm position and will do much for Japan.

The revised treaties are working most satisfactory, and the marquis says he has found every reason to congratulate himself for his share in their revision.

Japan is now, he says, on most friendly relations with every nation of the world, Russia included. There is no question between Japan and Russia.

Asked regarding the reported purchase

of the Chinese fleet by Russia, he said it was unlikely that Japan would offer any objection to the purchase. The financial position, which is not yet on a firm basis, was fast approaching that position. The present trip through the United States and Europe, the fifth which he has made, is a personal journey, but any useful information to Japan will be promptly forwarded, and now that the Orient is engaging so much attention in the occident, the Japanese statesman says he hopes to gather much valuable information in the United States and Europe.

**TRADE WITH CHINA.**—Lord Minto, the Governor-General of Canada was, a few days ago, in receipt of a despatch from the British Colonial Office, as follows:

By protocol, signed September 7, the powers have consented to Chinese import duties being placed on a treaty basis of an effective five per cent. on all goods brought into China by sea, including articles hitherto free, with the exception of rice, cereals and flour of foreign origin. The reduced tariff will come into force two months after September 7, and ex-

**Northrop Iron Works**

**IRON and BRASS  
FOUNDERS**

**Heating and Ventilating Engineers,**

OFFICE and SHOWROOMS :

296

ST. JAMES STREET,  
MONTREAL

'Phone Main 4180



WORKS and HEAD OFFICE :

Valleyfield, P.Q.

Canada

'Phone No. 2

MANUFACTURERS OF

"HANDY" ELEVATORS  
STEAM, HOT WATER  
and GAS RADIATORS

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DUMB WAITERS

SECTIONAL HEATING  
BOILERS . . . . .

PLAIN AND  
AUTOMATIC LOOMS  
SPOOLERS, WARPERS

FIRE . . . . .  
DOOR FIXTURES

SANITARY OUTFITS  
FOR MILLS AND  
FACTORIES . . . . .

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EXHAUST FANS . . . . .

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MACHINERY . . . . .

NICKEL AND BRONZE  
PLATING . . . . .

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AND COUPLINGS . . . . .

MODEL AND PATENT  
MACHINERY . . . . .

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When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

*The centrifugal motion of wet steam in the*


**STURTEYANT  
EXHAUST HEAD**

*causes the water to be thrown outward with*

**1600  
TIMES**

*the force acting on the steam*

**SEPARATION IS ABSOLUTE**



NO BAFFLE PLATES  
TO WORK LOOSE

NO BACK PRESSURE

NO SPRAY

NO ROTTING ROOFS

**B. F. STURTEYANT  
COMPANY**

**BOSTON, MASS.**

NEW YORK  
PHILADELPHIA  
CHICAGO  
LONDON

ception has only been made in case of merchandise en route ten days at latest after September 7. Duties will be levied ad valorem, pending conclusion of specific duties.

All duties in China are specific, but from above it is evident they will be fixed so as to equal five per cent. ad valorem.

**BRITISH PIG IRON PRODUCTION.**—The statistics of British pig iron production in the first half of this year, just collected, show a decline of 14.4 per cent., as compared with the first half of 1900. The

## THE CANADIAN COLORED COTTON MILLS COMPANY.

Cottonades, Tickings, Denims,  
Awnings, Shirtings,  
Flannelettes, Gingham,  
Zephyrs, Skirtings,  
Dress Goods, Lawns,  
Cotton Blankets,  
Angolas, Yarns, etc.

Only Wholesale Trade Supplied.

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MONTREAL and TORONTO.

I BUY all Minerals at Mines by contract or otherwise. Mineral Lands and Timber Properties bought and sold.

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### TALISMANIC BELT DRESSINGS WILL INCREASE YOUR POWER



Prevents Belts Slipping.

Prolongs Life of Belts.

"What We're On We'll Cling To."

TALISMANIC BELT CLINCH—For Leather Belts  
TALISMANIC RUBBER FACING—For Rubber Belts  
TALISMANIC ROPE PRESERVER

**JOHN W. BOWDEN & CO.**  
330 Clinton Street. Toronto, Ont.

production in the United States showed a slight increase in the same periods.

The British production of pig iron in the first half of 1901 was as follows, in long tons:

Forge and foundry .....	1,765,184
Bessemer .....	1,657,957
Basic .....	374,707
Spiegel, etc .....	86,696

Total.....	3,884,544
First half, 1900.....	4,540,403

Decrease .....

Each district in Great Britain showed a decrease except Shropshire, reporting an increase of 496 tons. The greatest proportional decrease was in North Wales, where the production fell from 39,159 tons to 20,422 tons, or nearly half. Next came north Staffordshire, then Lincolnshire, and then South Wales, where the production dropped from 448,593 tons to 350,846 tons, 21.8 per cent. The greatest tonnage decrease was in the Cleveland or Middlesbrough district, which has the greatest production of any district, the drop being from 1,054,682 tons to 923,904 tons.

The average number of furnaces in blast in the half year was 339½, making an average production for each furnace in blast of about 1,900 tons a month, or sixty-three tons a day. In the first half of 1901 the United States produced 7,674,613 tons of pig iron, with 232 furnaces in blast, December 31, 1900, and 259 June 30, 1901, making roughly an average of 5,210 tons per furnace per month, or 174 tons per day. Of course, the average per furnace in each country is pulled down by the charcoal furnaces, which have very small outputs.

**TO DEVELOP TRADE WITH MANCHESTER.**—To further the development of direct trade between Canada and Manchester is the object of Mr. Herbert M. Gibson, traffic superintendent of the Manchester Ship Canal, who is at present in Canada.

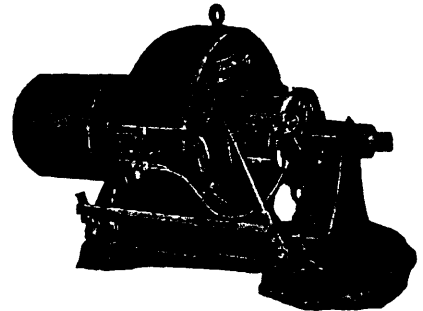
Owing to the building of this canal, ships of large size are enabled to reach Manchester, and thus the freight is saved over the thirty miles of railway between Manchester and Liverpool. The trade through this canal last year reached the total amount of three million tons. Regular services exist to Manchester from New York, Savannah, New Orleans and Galveston.

Canada has already a fine trade established direct with Manchester. The Manchester liners have, for three years, given a splendid service between Quebec and Montreal and Manchester in the summer and St. John in winter. Some of the vessels employed in that service have a dead weight capacity of 8,500 tons, have accommodation for about 700 head of live cattle, and are fitted with cold storage. The operations of the line have been very successful in opening up an increased outlet for Canadian produce.

As an example of the saving in the cost of transportation by way of the canal as compared with the railway from Liverpool, Mr. Gibson mentions the following: In the case of the Vienna, from New

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We manufacture Direct Current Machinery in all sizes and for any purpose.

20 and 22 ADELAIDE W., TORONTO.

## KERR'S

## "WEBER" VALVES

ARE THE GENUINE VALVES OF THAT NAME.

ALL OTHERS ARE IMITATIONS.

BE SURE AND GET THOSE MADE BY

## THE KERR ENGINE CO.

LIMITED

WALKERVILLE, - ONTARIO

## MILL TELEPHONES

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## PATENTS

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York, with a mixed general cargo of 5,878 tons, the total saving on the cargo equalled \$6,769, or 5.10 cents per 100 pounds. The steamship Manchester Corporation, from New Orleans, with 5,916 tons of cotton, with large quantities of grain and lumber, showed a saving of \$6,893, or 5.19 cents per 100 pounds. The Manchester Port, with 6,258 tons general cargo and live stock from Montreal, \$7,229, or 5.19 cents per 100 pounds. The equipment of the docks at Manchester is described by Mr. Gibson as the most perfect yet in use. The cargoes are discharged direct from the railways into the steamers, and vice versa, thus saving all costs of trans-shipment, and minimizing the amount of labor necessary for moving merchandise to the towns in the interior.

On the docks there are upward of one hundred hydraulic and steam cranes of from one to ten tons capacity. The new transit sheds for the receiving of cargo from ships have fine floors. There is a grain elevator with a storage capacity of 1,500,000 bushels. The marine leg, which will discharge grain from full holds at the rate of 350 tons an hour, has been supplemented by pneumatic apparatus capable of drawing 200 tons an hour.

The corporation of Manchester has erected the most complete abattoirs in the country to receive live stock direct from the steamers on arrival at Manchester. There is accommodation for 1,000 head of cattle and ample space for great enlargement. There are also cold air stores at the docks, into which meat and fruit can be discharged direct from the steamer. There are four installations for the tank oil trade, with an aggregate storage capacity of 2,000,000 gallons.

Along the whole thirty-five miles of canal there is a uniform depth of twenty-six feet, and besides there is connection direct with all the systems of inland canals.

The growth of the trade since the building of the canal is evinced by the following figures of the tons of 2,000 pounds of merchandise handled at the port of Manchester: 1894, 925,659; 1895, 1,358,875; 1896, 1,826,237; 1897, 2,085,-

815; 1898, 2,595,585; 1899, 2,778,108; 1900, 3,060,516.

**THE VANCOUVER ASSAY OFFICE.**—Significant proofs of the wisdom displayed in establishing an assay office at Vancouver, as well as of the excellence of the plant in operation there, have just been received at Ottawa. Three shipments of gold to be assayed were sent by the management of the Cariboo Hydraulic Mines to Vancouver, New York, and the Selby Co., San Francisco, respectively. Returns have been received from the first two offices, but not from the third. At the New York office there was a loss of no less than thirteen ounces during the melting, as compared with a loss of slightly less than one-quarter of an ounce in the Canadian office at Vancouver. Moreover, the New York assay was somewhat lower than that at Vancouver. Approximately, the shipment to each office was worth \$17,000, and the difference gained by the company in the shipment to Vancouver was in the neighborhood of \$300. The loss of gold in melting at New York, as compared with that at Vancouver, seems to show that the plant of the former institution is inferior to the machinery at the latter, or that the American officials do not exercise the same degree of care in melting gold as do the Canadians. Dr. Haanel, Superintendent of Mines for Canada, has written to the officials at Vancouver, complimenting them on the results shown in the assay office referred to. The melter at the Vancouver office was formerly chief of the C.P.R. shops there, and the excellent work performed by him has abundantly justified his appointment to that office. A crusher has lately been added to the plant at the Vancouver office in order to pulverize the solid residue left in the flux after the gold has been melted. The material so crushed will then be washed in order to extract any particles of gold which may be disseminated throughout the flux. By this means it is hoped to reduce the loss of gold in melting to the lowest possible minimum.

**BUSINESS CHANGES.**

FROM BRADSTREETS.

**ONTARIO.**

- BURLINGTON—Handy Crate & Basket Co. (Estate of), factory advertised for sale.
- FOREST—Standard Carpet Co., obtained charter.
- GALETTA—G. C. Whyte, woolen mill, sold out.
- GODERICH—Francis Smeath, planing mill, business advertised for sale.
- KILLALOE—Patrick C. Donogan, lumber, assigned.
- LEAMINGTON—Morse Pumpkin Flour Milling Co. of Leamington, obtained charter.
- LONGFORD MILLS—Longford Quarry Co., obtained charter.
- ST. CATHARINES—Co-Operative Cycle & Motor Co., assets advertised to be sold.
- TORONTO—Dominion Laundry Soap Co., obtained charter.
- WHITEVALE—Taylor & Lount, mfrs. brush handles, etc., burned out.
- WINDSOR—Morton & Christie, hardware, dissolved, Robert Morton continues.

**QUEBEC.**

- CHAMPLAIN—Canadian Spice Mills Co., registered.
- FARNHAM—Wilson & Sons, tanners, registered.
- HEDLEYVILLE—Edmond Julien, mfr. patent leather, real estate to be sold.
- HULL—George Dalglish, Sr., mfr. matches, real estate in Ontario to be sold.
- MONTRÉAL—Canadian Power Co., applied for charter.
- Canada Electric Co., applied for charter.
- Canadian Wrapper Mfg. Co., dissolved, new partnership registered.
- Dominion Subway Co., applied for charter.
- Electric Wiring & Meter Co., Wm. A. Verge registered.
- Hughes Owen Co., registered as incorporated.
- Imperial Waterproof Paper Co., damaged by fire.
- R. Jellymen & Co., mfrs. paper boxes, assigned.
- Arthur Paquette, sawmill, burned out.
- Standard Asbestos Co., registered.
- Telfer, Telfer & Co., electrical supplies, etc., Lorenzo V. Telfer, registered.
- PERIBONCA—La Compagnie de Pulpe de Peribonca, capital increased to \$1,000,000.
- ROBERVAL—Roberval Pulp & Paper Co., obtained charter.
- ST. HENRI DE MONTRÉAL—Terreault Steel and Malleable Iron Co., registered as incorporated.
- ST. PAUL DE CHESTER—Roberge & Frere, sawmill, dissolved.
- WINDSOR MILLS—Drouin & Plourde, tinsmiths, dissolved.

**NEW BRUNSWICK.**

- GAGETOWN—C. H. Brown, grist mill, burned out.

**NOVA SCOTIA.**

- METEGHAN STATION—Blackader & Co., sawmill, burned out.
- SYDNEY—Cruise & Cummings, electricians, etc., stock damaged by fire.
- WEST PUBNICO—Le Blanc Mfg. Co., Wm. A. D'Entremont appointed curator.

**MANITOBA.**

- WINNIPEG—Manitoba Water Power Electrical Co., applying for charter.

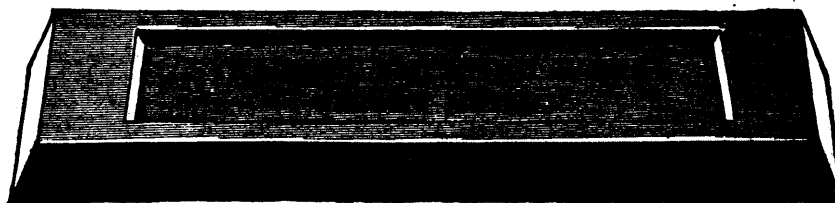
**BRITISH COLUMBIA.**

- HAZELMERE—James B. Kinney, sawmill, loss by fire.

**THE BEST IS NONE TOO GOOD.**

The largest machinery builders in Canada and United States use our Babbitt Metal. Is this not sufficient proof of its superiority over other anti-friction metals? If the largest users are satisfied with our Babbitt Metals, why should it not suit you? We can furnish you with numbers of testimonials.

Importers and Dealers in  
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 TYPE METALS  
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 AND  
 ALL OTHER WHITE METAL MIXTURES**

**SYRACUSE SMELTING WORKS**

**WILLIAM AND ST. THOMAS STREETS, - - MONTREAL**

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**SYRACUSE**

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**BABBITT**

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**BEATS  
THEM ALL**



# HARDWARE, METALS, PAINTS and OILS

Current Prices, Revised October 18, 1901.

The following quotations represent the prices current in the market, as obtainable by the trade, whether from the manufacturers or the jobbers. Small orders and broken packages usually command higher prices, while lower prices are usually given to larger buyers. The Canadian Customs Duties imposed upon all imported articles enumerated in these lists are published in full in the 1900 Tariff Edition of THE CANADIAN MANUFACTURER. Price 50 cents per copy. The publishers request the trade to suggest any changes and improvements which might be made in these lists, with a view to rendering quotations as correct and useful as possible.

ADZES.—Duty 30%. \$13 to \$20 per doz.	BARROWS.—Duty 30%. See Wheelbarrows.	BUCKLES.—Duty 30%. Double Grip Trace, three loop, tinned and japanned, put up a dozen in a box, 1 1/2", 55 cents per doz.; 1 1/4", 65 cents per doz. Harness, japanned or tinned, 12 cents per lb. Shoe, japanned or tinned, 12 cents per lb.
AMMUNITION.—Duty 30%. Caps, Gun, gross. Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list. Cartridges, B.B. Cap, Amer., 40% discount, Amer. list. Cartridges, Central Fire, Military and Sporting, Amer., add 5% to list. Cartridges, Central Fire, Military and Sporting, Dom., 15 & 5% discount. Cartridges, Central Fire, pistol size, Dom., 30% discount. Cartridges, Central Fire, pistol size, Amer., 10% discount. Cartridges, Central Fire, rifle size, Amer., 10% discount. Cartridges, Rim Fire, pistol, Amer., 40% discount. Cartridges, Rim Fire, pistol, Dom., 50 & 5% discount. Powder, sporting, Can., \$4.50 per keg 25 lbs. Eng. " " Amer., \$5.50 per keg 25 lbs. " blasting, \$2.50 per keg. Primers, Dom., 30% discount. Shells, Brass, Shot, 55% discount. " Trap, loaded or empty, 25% discount. " Rival and Nitro, net. Shot, Buck, Seal or Ball, \$6.62 1/2 per 100 lb. net. (duty 35%). " Chilled, \$6 per 100 lb. net. " Common, \$5.50 per 100 lb. net. Prices are f.o.b. Toronto, Hamilton, Montreal, St. John and Halifax. Terms 3% cash, freights equalized.	BELLS.—Duty 30%. Church, 35 cents per lb. Cow, 60% discount. Door, \$5.50 to \$12 per doz. Farm, \$1.75 to \$4.50 each.	BUTTS.—Duty 30%. Cast Butts, 60% discount. Loose Pin, Bronze, 60 cents to \$2 per pair. Loose Pin, B. Bronze, 30 cents to \$1 per pair. Loose Pin, wrought, 50% discount. Wrought Brass, 50 Wrought Iron, 60
ANCHORS. Small, 30 to 50 lbs., \$7.00 per 100 lbs. 100 lbs. and larger, \$5.00 per 100 lbs.	BELLOWS.—Duty 25%. Blacksmiths', Canadian, 10% discount; Amer., 50% discount. Moulders', \$9.50 to \$15 per doz.	CANT DOGS.—Duty 30%. \$10 per doz.
ANVILS.—Duty 30%. Boker & Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb.	BELTING (Leather).—Duty 20%. Amer., Hoyt's, regular, 35% discount. Canadian, 55% discount.	CARBIDE, Bicycle.—Duty 25%. In Cases containing 2 doz. 1 lb. cans, \$1.75. " " " 2 " " 2 " " 2.75. " " " 1 " " 5 " " 3.00. In Cans " " 100 lbs., \$3.25.
AUGERS.—Duty 30%. Eye Augers, 60% discount. Forstner's, 20 Gilmore's, 50 Irwin's, 30 Jenning's, 30 Nut Augers, 60 Ship Augers, 10	BELTING (Rubber).—Duty 20%. 50 to 60% discount.	CASTINGS (Iron).—Duty 30%. Carriage, in 5 ton lots, 5 cents per lb. " " " 3 " " 5 1/2 " " " " " " 2 " " 6 1/2 " " " " " " 1 " " 5 1/2 " " " " " " 1 1/2 " " 5 1/2 " " "
AXES.—Duty 25%. Bench, \$6.50 to \$14 per doz. Broad, \$26.25 to \$40 per doz. Double-bitted, \$11 to \$13 per doz. Handled, \$8.50 to \$12 per doz. Regular, \$6 to \$10 per doz. Ship Carpenters, \$22 to 25 per doz.	BLANKETS.—Duty 35%. Horse, \$18 to \$36 per doz.	CASTINGS (Brass)—Duty 20%. 21 to 25 cents per lb.
AXLE GREASE.—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross.	BLOCKS.—Duty 30%. Gin, \$3.50 to \$5 each. Hyper Acme, 15% discount. Weston Chain, 25 Wood Pulley, 60% discount. Wrought Iron, 25	CASTINGS (Phosphor Bronze)—Duty 20%. 22 cents per lb.
AXLES.—Duty 35%. Half patent, short beds, 60% discount per set. " " long " 60% " "	BLUE STONE. Cask lots, for spraying, 7 cents per lb. 100-lb. lots, for spraying, 7 1/2 cents per lb.	CASTORS.—Duty 30%. Bed, 55% discount. Plate, 55 Truck, Payson's, 60% discount.
BAGS.—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.	BOLTS.—Duty 1/2 cents lb., & 25%. Bolt Ends, 62 1/2% discount. Carriage, 60 Coach Screws, 70 Elevator Bolts, 45% discount. Machine, 60 Plow, 60 Shaft, 45 Sink, 50 Sleigh Shoe, 72 1/2 Stove, 60 Tire, 55	CEMENT.—Duty 12 1/2 cents per 100 lbs. Belgian, Portland, \$2.50 to \$2.75. Canadian, hydraulic, \$1.25 to \$1.50. Canadian, Portland: Rathbun's, "Star," \$2.35 to \$2.75. " "Beaver," \$2.10 to \$2.50. " "Ensign," \$1.90 to \$2.30. The smaller figures represent car load lots, and the larger less than car loads, f.o.b., Toronto. English, Portland, \$3.
BANDS.—Duty 30%. Carriage Hub, 2" x 1 1/2", \$13.00 per set. " " " 2 1/4" x 1 1/2", 14.00 " " " 2 1/2" x 1 1/2", 15.00 " " " 2 3/4" x 1 1/2", 16.00 " " " 3" x 1 1/2", 17.00 " " " 3 1/4" x 1 1/2", 18.00 " " " 3 1/2" x 1 1/2", 19.00 " " " 3 3/4" x 1 1/2", 20.00 " " " 4" x 1 1/2", 21.00 " " " 4 1/4" x 1 1/2", 24.00 " " " 4 1/2" x 1 1/2", 25.00 " " " 4 3/4" x 1 1/2", 26.00 " " " 5" x 1 1/2", 27.00 " " " 5 1/4" x 1 1/2", 28.00 " " " 5 1/2" x 1 1/2", 29.00 " " " 5 3/4" x 1 1/2", 30.00 " " " 6" x 1 1/2", 31.00	BOOT, CAULKS.—Duty 20%. Small or Medium, ball, \$4.25 per M. Heel, \$4.50 per M.	CHALK. Carpenters', colored, 45 to 75 cents per gross. Crayon, 14 to 18 cents per gross. Red, 5 to 6 cents per lb. White Lump, 60 to 65 cents per 100 lbs.
	BOOT HEELS or Lifts (Leather).—Duty 25%. Large Size, \$1.15 doz. pairs. Medium Size, \$1.05 doz. pairs.	CHAIN.—Duty 5%. Brass, Jack, 30% discount. Coil, 3-16, \$11.00 per 100 lb.; 1/2 \$8.75 per 100 lbs.; 5-16, \$5.50 per 100 lbs.; 1/2 \$4.90 per 100 lbs.; 1/4 \$4.40 per 100 lbs.; 1/8 \$4.00 per 100 lbs.; 1/16 \$3.60 per 100 lbs. Iron, Jack, 25% discount. Safety, 55
	BOOT HEELS (Rubber).—Duty 35%. Sizes 6 to 11 (Men's), \$3.50 doz. pairs. " 4 to 5 (Boys'), \$3.35 " 0 to 3 (Women's), \$3.25 doz. pair.	CHISELS.—Duty 30%. Calking, Socket, Framing and Firmer. P.S. & W. Extra, 60, 10 & 5% discount. Warnock's, 70% discount.
	BOOT SOLES (Leather).—Duty 25%. Heavy, \$3.60 doz. pairs. Medium, \$2.90	CLEAVISES.—Duty 30%. Screw, \$2.50 per doz.
	BORAX. Lump, 8 cents per lb. Powdered, 10 cents per lb.	COLORS.—In oil, see Paints. " —Dry, see Paints.
	BRACES AND BITS (Carpenters)—Duty 30%. Barber's best, 70 and 10% discount. Spofford's, 50 and 5% discount. Improved, 50 and 5% discount.	CORD.—Duty 25%. Sash, Silver Lake (A), 50 cents per lb.; (B), 40 cents per lb. Baltic, 25 cents per lb. Hercules, 30 cents per lb.
	BRICK (Fire).—Duty 20%. Circular, \$35 per M. Square, \$30 per M.	COTTON DUCK.—Duty 22 1/2%. 36 in. wide, 38 cents per yd. 48 in. wide, 45 cents per yd. 60 in. wide, 57 cents per yd.
	BRUSHES.—Duty 25%. Canadian list, 50% discount.	

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**CROW BARS.**—Duty 30%.  
5 cents per lb.

**CRUCIBLES.**  
Dixon's, 7 cents per number.

**DRILLS.**—Duty 25%.  
Blacksmiths' \$6 to \$15 each.  
Jardine's, \$7.50 to \$20 each.

**DYES (Aniline).**

**DYNAMITE.**  
36 to 50 cents per lb.

**EMERY.**  
Coarse, 7 cents per lb.  
Fine, 5 cents per lb.

**EMERY CLOTH.**—Duty 25%.  
Beader & Adamson, 40% discount.

**EMERY HONES.**—Duty 25%.  
\$3 to \$5 per doz.

**EMERY STEELS.**—Duty 25%.  
\$2 per doz.

**EMERY WHEELS.**—Duty 25%.  
65% discount.

**EXPANDERS.**—Duty 30%.  
Tube, Dudgeon, 33½% discount.

**FAUCETS.**—Duty 30%.  
Brass, \$2.50 to \$5 per doz.  
Wood, 60c. to \$1.00 per doz.

**FENCING.**  
Barb Wire, \$3.05 per 100 lbs.

**FENCING (Wire).**—Duty 15%.  
Galvanized, barb, f.o.b. Toronto, \$3.05.  
Galvanized, plain twist, f.o.b. Toronto, \$3.05.  
Galvanized, barb, f.o.b. Cleveland, \$2.82½ in less than car lots, and \$2.70 in car lots.  
Mesh, 5½x10½, 20 rod rolls 55% discount, Can. list.  
" 4 x8, 20 " 50 & 5% "  
" 3 x6, 20 " 55 & 5% "

**FERRULES.**—Duty 30%.  
Tool handle, 5c. & 6c. per lb.

**FILES.**—Duty 30%.  
Black Diamond, 50 and 10% discount.  
Globe, 70% discount.  
Grobet, net.  
Jowitz's, 25% discount.  
Nicholson, 50 & 10% discount.  
Stubbs', 15% discount.

**FITTINGS (Pipe).**—Duty 30%.  
Bushings, 55% discount.  
Cast Iron, 55% discount.  
Cocks, 60  
Elbows, tees, crosses, couplings, lock nuts, re-turn bends, 50% discount.  
Flanges, 55% discount.  
Nipples, 55 " "  
Plugs, 55 " "  
Unions, 55 " "  
Wrought Iron, 50% discount.

**FLUE SCRAPERS.**—Duty 30%.  
Engineers' Favorite, 40% discount.  
Inglis, 20% discount.  
Wire, 50 "

**FORKS, HOES AND RAKES.**—Duty 25%.  
50, 10 and 5% discount.

**FUSE.**  
Blasting, Single tape, \$3.75 per M ft.  
Double tape, \$5 per M ft.

**GASKETS.**—Duty 35%.  
Rubber Insertion, 60 cents lb.

**GAUGE GLASSES.**—Duty 30%.  
Water, 25% discount.

**GAUGES.**—Duty 30%.  
Steam, 50% discount.

**GLASS.**—Duty 20%. (Window—Box Price).  
Star, under 26 in., \$2.15 per 50 ft., \$4.15 per 100 ft.; 26 to 40 in., \$2.30 per 50 ft., \$4.45 per 100 ft.; 41 to 50 in., \$4.85 per 100 ft.; 51 to 60 in., \$5.15 per 100 ft.; 61 to 70 in., \$5.50 per 100 ft.; 71 to 80 in., \$6 per 100 ft.; 81 to 85 in., \$6.50 per 100 ft.  
D. Diamond, under 26 in., \$6 per 100 ft.; 26 to 40 in., \$6.65 per 100 ft.; 41 to 50 in., \$7.50 per 100 ft.; 51 to 60 in., \$8.50 per 100 ft.; 61 to 70 in., \$9.50 per 100 ft.; 71 to 80 in., \$10.50 per 100 ft.; 81 to 85 in., \$11.70 per 100 ft.; 86 to 90 in., \$14 per 100 ft.; 91 to 95 in., \$15.50 per 100 ft.; 96 to 100 in., \$18 per 100 ft.  
Glass Demijohns or carboys, empty or filled, bottles, decanters, flasks, phials, glass jars, lamp chimneys, glass shades or globes, cut, pressed or moulded crystal or glass tableware, decorated or not, and blown glass tableware—Duty 30%.

**GLASS LAMP CHIMNEYS.**—Duty 30%.  
Common Crimp, per doz. O, 43 cents.  
" " " A, 45 "  
" " " B, 65 "  
Lead Glass, " A, 60 "  
" " B, 75 "

**FRUIT JARS.**—Duty 30%.  
Standard pints, \$7.25 per gross.  
quarts, \$7.75 per gross.  
half gal., \$10.00 per gross.  
Imperial pints, \$7.75 per gross.  
quarts, \$8.75 per gross.  
half gal., \$12.00 per gross.

**GLUE.**—Duty 25%.  
Cabinet, sheet, 12 to 13 cents per lb.  
Common, 8½ to 9 cents per lb.  
Coopers', 19 to 20 cents per lb.  
French Medal, 14 to 14½ cents per lb.  
Gelatine, 22 to 30 cents per lb.  
Huttner, 18 cents per lb.  
Strip, 18 to 20 cents per lb.  
White, extra, 18 to 20 cents per lb.  
LaPage's, 25% discount.  
Progressive, 25 "

**GOVERNORS.**—Duty 25%.  
Gardners', 25% discount.

**GRANITEWARE.**—Duty 35%.  
Firsts, 50% discount.

**GRAIN CRADLES.**—Duty 25%.  
With Scythes complete \$33 per doz.  
Without scythes, \$18.50.

**GRINDSTONES.**—Duty 25%.  
Large, \$1.75 per 100 lbs.  
Mounted, \$3 to \$3.50 each.  
Small, \$1.50 per 100 lbs.

**HALTER MOUNTINGS.**—Duty 30%.  
1x1½ inch, 10c. per lb.  
(Evans), 1x1½ in., doz. set packages, \$8.00 per gross.

**HALTERS.**—Duty 30%.  
Leather, 1 in. strap, \$3.87½ to \$4 per doz.  
Leather, 1½ in. strap, \$5.15 to \$5.20 per doz.  
Rope, 1, \$9 per gross.  
Rope, 1 to 1½, \$14 per gross.  
Web, \$1.87 to \$2.45 per doz.

**HAMMERS.**—Duty 30%.  
Blacksmiths', 10 cents per lb.  
Carpenters', Madoles', \$6.40 to \$8.75 per doz.  
Carpenters', Warnock's, \$4 to \$7.50 per doz.  
Machinists', 22 cents per lb.  
Sledge, 10 cents per lb.  
Tack, 60 cents to \$1.20 per doz.  
Tinners', \$4 to \$6.50 per doz.

**HANDLES.**—Duty 25%.  
Axe, \$1.50 to \$2.50 per doz.  
Chisel, \$3.50 to \$5 per gross.  
Cross-cut saw, \$2 to \$3 per doz.  
File, \$2 to \$2.50 per gross.  
Hammer, 50 cents to \$2 per doz.  
Pick, \$1.50 to \$2.50 per doz.  
Plane, \$3.50 per gross.

**HANGERS.**—Duty 30%.  
Barn Door, round groove, \$4.50 to \$6.50 per doz.  
Lanes, \$6.75 to \$12 per doz.  
Parlor door, \$3 to \$6 per set.  
Stearns, \$5.50 to \$6.50 per doz.

**HARVEST TOOLS.**—Duty 25%.  
Forks, 50 & 10% discount.  
Rakes, 50 & 10 "  
Hoes, etc., 50 & 10 "

**HATCHETS.**—Duty 30%.  
Canadian, 40 to 42½ discount.

**HAY KNIVES.**—Duty 25%.  
50, 10 and 5% discount.

**HINGES.**—Duty ½ cents per lb., & 25%.  
Blind, Parker's, 50 & 10 to 60% discount.  
Heavy T and strap, 4 in., 6½ cents per lb.  
" " 5 in., 6½ " "  
" " 6 in., 6 " "  
" " 8 in., 5½ " "  
" " 10 in., 5½ " "  
Light T and strap, 65 & 5 off.  
Screw hook and hinge, 6 to 12 in., \$4.50 per 100 lbs.; 14 in. up, \$3.50.  
Spring, \$12 per gross pairs.

**HOES.**—Duty 25%.  
Grub, \$5 to \$6 per doz.

**HOOKS.**—Duty 30%.  
Brush, \$7.50 to \$9.  
Reaping, 50, 10 and 5% discount.  
Chain, wrought, round or grab, \$3 & \$4.50 per doz.  
Lumber Piling, \$7 to \$19 per doz.  
Malleable, wardrobe, \$1.50 to \$2.50 per gross.  
Wire, \$1.25 to \$2

**HORSE NAILS.**—Duty 30%.—See Nails.

**HORSE SHOES.**—Duty 30%.  
Lt. Med. & H., \$3.40 per keg.  
Snow, \$3.95 per keg.  
Steel, \$3.80 to \$5.25 per keg.  
Toe weight steel, \$6.15 per keg.

**HOSE.**—Duty 35%.  
City Standard, 70% discount.  
Phoenix, 60% discount.

**INJECTORS.**—Duty 30%.  
Pemberthy, 65% discount.  
I. J. C., 65% discount.

**IRON.**—See Metals.

**JACKS.**—Duty 30%.  
Lifting, 40% discount.

**KEYS.**—Duty 30%.  
Carpenter, 50 cents to \$1.25 per doz.  
Desk, 25 to 35 cents per doz.  
Mortise Lock, 25 cents to \$1 per doz.  
Padlock, 25 to 35 cents per doz.  
Rim Lock, 25 cents to \$1 per doz.

**KNIVES.**—Duty 30%.  
Butcher, \$2 to \$5 per doz.  
Pocket, \$1 to \$5 per doz.

**KNOBS.**—Duty 30%.  
Door, Bronze, \$7 to \$12 per doz.  
" White Porcelain, 90 cents per doz.  
" Wood, \$4.50 per doz.

**LACING.**—Duty 15%.  
Belt (Raw Hide Cuts), \$1 per lb.  
" (Leather Side Cuts), 75 cents per lb.

**LADDERS.**—Duty 25%.  
Step, 10 cents per foot.  
Rung, 10 cents per foot.

**LAND ROLLERS.**—Duty 20%.  
\$12 to \$15 each.

**LANTERNS.**—Duty 30%.  
Cold Blast, \$7 per doz.  
Dashboard, cold blast, \$9 per doz.  
Japanned, 50 cents per doz. extra.  
No. 0, \$5.75 per doz.  
No. 3 "Wright's," \$8.50 per doz.  
Ordinary, with O burner, \$4 per doz.

**LAWN MOWERS.**—Duty 35%.  
Pennsylvania, 50% discount.  
Stearns, 50 "  
Woodyatt, 40 "

**LEAD (Bar and Strip).**—Duty 25%.—See Metals.  
Lead, pig.—See Metals.

**LEAD.**—Duty 5%.  
Red and White, dry.—See Paints.

**LINES (Cotton).**—Duty 25%.  
Chalk, \$2 to \$3.50 per gross.  
Wire, clothes, \$2.50 to \$4.50 per M ft.

**LOCKS.**—Duty 30%.  
Cupboard, \$1.50 per doz. up.  
Desk, \$1.50 per doz. up.  
Drawer, \$1 per doz. up.  
Padlocks, 75 cents per doz. up.  
Rim and Mortise, Peterboro, \$1.50 per doz. up.  
Amer., \$1.50 per doz. up.

**MALLEABLES.**—Duty 30%. See Castings.

**MALLETS.**—Duty 30%.  
Carpenters', hickory, \$1.25 to \$3.75 per doz.  
Caulking, 60 cents to \$2 each.  
Lignum Vitae, \$3.85 to \$5 per doz.  
Tinsmiths', \$1.25 to \$1.50 per doz.

**MATTOCKS.**—Duty 30%.  
Canadian, \$5.50 to \$6.50 per doz.

**MEAT CUTTERS.**—Duty 30%.  
Amer., 25 to 30% discount.  
German, 15% discount.

**METALS.**  
Ingots.—Aluminium, 35 to 50 cents per lb.  
Antimony (Cookson's), 10½ to 11 cents per lb.  
" Copper, "English," 18 cents per lb.  
" Bar, 25 cents per lb.  
" Tin, "Lamb & Flag," 32 cents per lb.  
" Straits, 32 cents per lb.  
" Bar, 33 cents per lb.  
" Zinc, 6 to 6½ cents per lb.; sheets, 7 cents per lb.  
Babbit Metal (duty 10%).  
Lewis, 7 to 10 cents per lb.  
Magnolia, 25 cents per lb.  
Post's Zero, 25 cents per lb.  
Spooners' Copperine, No. 2, 12½ cents per lb., finest, 25 cents per lb.  
Syracuse Smelting Works, dynamo, 29 cents per lb.; special, 25 cents per lb.  
Sheets, Black, Duty \$7 per ton.  
" 10—\$2.65, 100 lbs.  
" 12—\$2.75, "  
" 14—\$3.10, "  
Sheets, Black, Duty 5%.  
" 17—\$3.10, 100 lbs.  
" 18—\$3.20, "  
" 20—\$3.25, "  
" 22—\$3.30, "  
" 24—\$3.50, "  
" 26—\$3.75, "  
" 28—\$4.00, "  
Sheets, Tinned—7½ cents per lb., Base price.



**METALS—Continued.**

**Sheets, Galvanized Iron.**  
 " 17—\$3.80 per 100 lbs.  
 " 18—\$3.90  
 " 20—\$3.90  
 " 22 to 24—\$4.10 per 100 lb.  
 " 18 to 24—\$4.50  
 " 26—\$4.25 per 100 lb.  
 " 28—\$4.50  
 " 16—(Queen Head), \$3.90 per 100 lb.  
 " 18-22-24—(Queen's Head), \$4.15 per 100 lb.  
 " 26—\$4.40 per 100 lb.  
 " 28—\$4.65

**Sheets, Corrugated—Galv., \$4.50 per 100 sq. ft.**  
**Shafting, Bright Steel.—\$3.50 per 100 lb.**  
**Shingles, Galv. Iron, Ordinary, \$4.90 per sq.**  
 " " " Medium, \$5.45  
 " " " Best, \$5.80  
**Painted Steel, Ordinary, \$3.15 per sq.**  
 " " " Medium, \$3.35  
 " " " Best, \$5.80

**Iron (duty \$7 per ton).**  
 " Angle.—\$2.75 per 100 lb.  
 " Bar (Common).—\$1.90 per 100 lb.  
 " Bar, "Swedes."—\$4.50 per 100 lb.  
 " Lowmoor.—\$6.50 per 100 lb.  
 " Refined Bar.—\$2.60 per 100 lb.  
**Iron, Planished Sheet (duty 5%)**  
 " "A"—\$6.00 per 100.  
 " "B"—\$5.00  
 " Russia—\$10.00 per 100 lb.  
**Iron, Galv. Sheet, see Sheets.**  
 " and Corrugated, see Sheets.  
**Pig Lead (duty 15%).—Domestic, \$3.75 per 100 lb;**  
 " pigs, imported, \$4.25 per 100 lb.; bars, \$5 per 100 lb.; sheets, \$5.50 per 100 lb.  
**Solder bar (duty 25%).—1st, refined, 18 cents per lb.;**  
 " half-and-half, 18 cents per lb.  
**Iron, Pig (duty \$2.50 per net ton). \$16.50 @ \$17 per ton.**  
**Iron, English Horse Shoe.—\$2.85 per 100 lb.**  
**Iron, Band.—\$2.05 per 100 lb.**  
**Iron, Hoop.—\$2.90 per 100 lb.**  
**Beams, Steel.—\$3 per 100 lb.**  
**Rods.—Brass, 24 cents per lb., base price; hard sheets, 20 to 30 cents per lb.; soft sheets, 20 to 30 cents per lb.**  
**Rails, Small Steel.—\$3 per 100 lb.**  
**Steel, Cultivator.—\$4.50 per 100 lb.**  
 " Channel.—\$3 to \$4 per 100 lb.  
 " "Firths."—12 cents per lb.  
 " "Crescent."—9 cents per lb.  
 " Cant Hook.—74 cents per lb.  
 " Machinery (in the rough).—\$2.25 per 100 lb.  
 " Machinery.—\$2.75 per 100 lb.  
 " Mild.—\$1.90 per 100 lb.  
 " Sleigh Shoe.—\$1.90 per 100 lb.  
 " Spring.—\$3.00 per 100.  
 " Tire.—\$2.05 per lb.  
 " Toe Caulk.—\$2.20 per 100 lb.  
**Steel, Cast.—Firth's, 12 cents per lb.**  
 " Jessop's, 14 cents per lb.  
 " Black Diamond, 12 cents per lb.  
 " Silver, 15 cents per lb.  
 " Mushets.—55 cents per lb.  
**Steel, Blister.—124 cents per lb.**  
**Steel, Hammer.—7 cents per lb.**  
**Steel, Decarbonized Sheet—7 cents per lb., base.**  
**Steel, Black Sheet, Duty \$7 per ton.**  
 " 10—\$2.65, 100 lbs.  
 " 12—\$2.75. "  
 " 14—\$3.10.

**Sheets, Black, Duty 5%.**  
 " 17—\$3.10, 100 lbs.  
 " 18—\$3.20.  
 " 20—\$3.25.  
 " 22—\$3.30.  
 " 24—\$3.50.  
 " 26—\$3.75.  
 " 28—\$4.00.

**Tank Steel Plate (duty \$7 per ton). -3-16, \$2.60 per 100 lb.**  
**Plates, Steel Boiler (duty 10%).—1 and larger, \$2.50 per 100 lb.**  
**Steel Boiler Heads (duty 10%).—\$2.60 per 100 lb.**  
**Canadian Plates.—All dull, 52 sheets, \$2.90; half polished, \$3.**

**MOPS.—\$1 per doz.**

**NAIL PULLERS.—Duty 30%.**

German and American, \$1.85 to \$3.50 each.

**NAILS.—Duty, cut, 1/2 cent per lb.; wire, 3-5 cent per lb.**

Chair nails, 35% discount.  
 Clout nails, blued, 65 and 5% discount.  
 Coopers', 35% discount.  
 Copper nails, 52 1/2% discount.  
 Cut, 2d \$3.65; 3d \$3.30; 4 & 5d, \$3.65; 6 & 7d, \$2.95; 8 & 9d, \$2.90; 10 & 12d, \$2.75; 16 & 20d, \$2.70; 30, 40, 50 & 60d (base), \$2.65.  
 Flour barrel nails, 30% discount.  
 Galvanizing, 2 cents per lb. net, extra.  
 Horse (C brand), 50 & 74% discount.  
 M brand, 50 & 10% discount.  
 Steel cut nails, 10 cents extra.  
 Trunk nails, black, 65 and 5% discount.  
 Trunk nails, tinned, 65 and 10% discount.  
 Wire, 2d \$3.85; 3d, \$3.50; 4 & 5d, \$3.25; 6 & 7d, \$3.15; 8 & 9d, \$3; 10 & 12d, \$2.95; 16 & 20d, \$2.90; 30, 40, 50 & 60d (base), \$2.85; fine, 3d, \$3.85.  
 Wire nails in car lots, \$2.77.  
 Miscellaneous wire nails, 70 & 10% discount.

**NAIL SETS.—Duty 30%.**

Assorted sizes, \$1.20 per doz.

**NETTING—Wire.—Duty 30%.**

Galvanized, 50% discount.  
 Green wire, \$1.50 per 100 sq. ft.  
 Poultry, 2x2 mesh, 150 ft. roll, 55 off Canadian List.

**NOZZLES.—Duty 30%.**

Hose (Brass), \$3.50 to \$5 per doz.

**NUTS.—Duty 1/2 cent per lb. & 25%.**

Finished, tapped, 25% discount.  
 Rough, square head, 4 cents per lb. from list.  
 Rough, hexagon head, 41 cents lb. from list.  
 Semi-finished, tapped, 25% discount.

**OAKUM.**

Navy, \$7.80 per 100 lb.  
 Spun, \$9.30 per 100 lb.

**OIL.—Duty 25%.**

Bolled Linseed Oil, bbls., 86 cents per gal.  
 Cylinder Oil, from 40 cents up.  
 Lard Oil, bbls., 90 cents per gal.  
 Machine.  
 Prime White (Can.), 14 cents per gal.  
 Prime White (U.S.), 15 1/2 cents per gal.  
 Raw Linseed Oil, bbls., 83 cents per gal.  
 Sperm Oil, bbls., \$1.75 per gal.  
 Water White (Can.), 15 cents per gal.  
 Water White (U.S.), 16 1/2 cents per gal.

**OILERS.—Duty 30%.**

\$1 per doz. up.

**PACKING.—Duty 35%.**

Rubber Insertion, 60 cents per lb.  
 Rubber Sheet, 22 cents per lb.

**PACKING.—Duty 25%.**

Asbestos, 35 cents per lb.  
 Flax, 35 cents per lb.  
 Hemp, 124 cents per lb.  
 Jute, 8 cents per lb.

**PAILS.—Duty 25%.**

Galvanized Iron, \$2.50 to \$3.50 per doz.

**PAINTS.—Duty 25%.**

Elephant Snow White, 8 to 9 cents per lb.  
 Pure White Zinc, 8 to 9 cents per lb.  
 No. 1, 6 to 74 cents per lb.  
 No. 2, 5 to 64 cents per lb.  
 Prepared, in 1, 1/2 and 1-gallon tins, \$1.25 per gal.  
 Barn, in barrels, 75 to 85 cents per gal.  
 Canada Paint Co's Pure, \$1.25 per gal.  
 Second qualities, \$1.10 per gal.  
 Sherwin-Williams Paints, \$1.45 per gal.  
 Toronto Lead & Color Co's Pure, \$1.25 per gal.  
 Zanzibar, all colors, 75 cents per gal., f.o.b. Toronto or Windsor.

**PAINTS.—Duty 30%.**

Copper, \$3.50 per gal.

**LEAD, DRY WHITE.—Duty 5%.**

Pure, in casks, \$5.75 per cwt.  
 Pure, in kegs, \$6.25 per cwt.  
 No. 1, in casks, \$5.50 per cwt.  
 No. 1, in kegs, \$5 per cwt.

**LEAD, WHITE.**

Pure, \$6.37 per 100 lb.  
 No. 1, pure, \$6 per 100 lb.  
 No. 2, pure, \$5.62 1/2 per 100 lb.  
 No. 3, pure, \$5.25 per 100 lb.  
 No. 4, pure, \$4.87 1/2 per 100 lb.  
 Elephant and Decorators' Pure, \$7.12 1/2 per 100 lb.  
 Brandram's B.B. Genuine, \$9 per 100 lb.  
 " " Decorative, \$7.55 per 100 lb.  
 " " No. 1, \$6.85 per 100 lb.  
 " " No. 2, \$6 per 100 lb.

**LEAD, RED.—Duty 5%.**

Genuine, 560 lb. casks, \$5.50 per cwt.  
 Genuine, 100 lb. kegs, \$5.75 per cwt.  
 No. 1, 560 lb. casks, \$5.25 per cwt.  
 No. 1, 100 lb. kegs, \$5 per cwt.

**COLORS (Dry).—Duty 25%.**

American Oxides, \$1.75 to \$2 per 100 lb.  
 Brussels Ochre, \$2 per 100 lb.  
 Burnt Sienna, pure, 10 cents per lb.  
 " Umber, pure, 10 cents per lb.  
 Raw, 9 cents per lb.  
 Canadian Oxides, \$1.75 to \$2 per 100 lb.  
 Chrome Greens, pure, 12 cents per lb.  
 Chrome Yellows, pure, 18 cents per lb.  
 Drop Black, pure, 9 cents per lb.  
 English Oxides, \$3 to \$3.25 per 100 lb.  
 English Vermillion, 80 cents.  
 Fire Proof Mineral, \$1 per 100 lb.  
 Genuine English Litharge, 7 cents per lb.  
 Golden Ochre, 34 cents per lb.  
 Mortar Color, \$1.25 per 100 lb.  
 Pure Indian Red, No. 45, 90 cents per lb.  
 Super Magnetic Oxides, \$2 to \$2.25 per 100 lb.  
 Ultramarine Blue, in 28-lb. boxes, 8 to 24 cents per lb.  
 Venetian Red (best), \$1.80 to \$1.90 per 100 lb.  
 "Whiting, 12 cents.  
 Yellow Ochre (J.C.), bbls., \$1.35 to \$1.40 per 100 lb.  
 Yellow Ochre (J.F.L.S.), bbls., \$2.75 per 100 lb.  
 Yellow Ochre (Royal), \$1.10 to \$1.15 per 100 lb.

**COLORS (In Oil).—Duty 25%.**

25 lb. tins, Standard Quality.  
 Chrome Green, 8 cents per lb.  
 Chrome Yellow, 11 cents per lb.  
 French Imperial Green, 104 cents per lb.  
 French Ochre, 5 cents per lb.  
 Golden Ochre, 6 cents per lb.  
 Marine Black, 9 cents per lb.  
 Marine Green, 9 cents per lb.  
 Venetian Red, 5 cents per lb.

**PAPER.—Duty 25%.**

Brown Wrapping, 2 1/2 to 4 cents per lb.  
 Manila Wrapping, No. 1, 4 cents per lb.  
 " " " No. 2, 5 1/2 " "  
 Carpet Felt, \$45 per ton.  
 Plain building, 35 cents per roll.  
 Tarred lining, 45 cents per roll.  
 Tarred roofing, \$1.65 per 100 lbs.

**PEAVEYS.—Duty 30%.**

Round and Duck bill, \$2.50 and \$13 per doz.

**PIKE POLES.—Duty 30%**

\$10.50 per doz.

**PICKS.—Duty 30%.**

\$4.50 to \$7 per doz.

**PITCH.**

85 cents 100 lbs.

**PIPE.—Duty, \$8 per ton.**

Cast Iron Soil, Medium and Heavy, 65% discount  
 Light, 60% discount.

**PIPE.**

Brass, 25 to 35 cents per lb., base price.  
 Copper, 25 cents per lb., base price.

**PIPE.—Duty 30%.**

Galvanized Iron.  
 1/2, \$5.15 per 100 ft.; 3/4, \$5.50 per 100 ft.; 1, \$7.95 per 100 ft.; 1 1/4, \$10.30 per 100 ft.; 1 1/2, \$12.95 per 100 ft.; 2, \$17.35 per 100 ft.

**PIPE, BLACK IRON.—Duty 30%.**

1/2, \$4.65 per 100 ft.; 3/4, \$3.40 per 100 ft.; 1, \$3.45 per 100 ft.; 1 1/4, \$3.50 per 100 ft.; 1 1/2, \$7.40 per 100 ft.; 2, \$9.30 per 100 ft.; 2 1/2, \$12.75 per 100 ft.; 3, \$22.75 per 100 ft.; 3 1/2, \$37.50 per 100 ft.; 4, \$42.75 per 100 ft.; 4 1/2, \$51.50 per 100 ft.; 5, \$57.50 per 100 ft.; 6, \$74.50 per 100 ft.

**PIPE.—Duty 30%.**

Wrought Iron, 1 inch, per ft. 16 1/2 cents.

**PIPES.—Duty 30%.**

Stove, 5 and 6 in., \$7 per 100 lengths.  
 7 in., \$7.50 per 100 lengths.

**PLANES.—Duty 30%.**

Bailey's, 40% discount.  
 Canadian wood, 25% discount.  
 Mathieson wood, 20

**PLUMBERS' BRASS GOODS.—Duty 30%.**

Check Valves, 60% discount.  
 Compression Cocks, 50% discount.  
 Gate Valves, 55% discount.  
 Genuine Jenkins' Valves, 45 " "  
 Imitation Jenkins' Valves, 55 " "  
 Radiator Valves, 55% discount.  
 Standard Angle Valves, 65% discount.  
 Standard Globe Valves, 65 " "  
 Stop Cocks, 65% discount.

**POLISH.—Duty 25%.**

Liquid Stove, \$5 per gross.  
 Paste, \$5 per gross.

**PULLEYS.—Duty 25%.**

Awning, 25 to 60 cents per doz.  
 Clothes Line, 50 cents per doz.  
 Dodge wood split, 50% discount.  
 Sash, 25 to 27 cents per doz.

**PUMP CYLINDERS.—Duty 25%.**

Regular patterns, 65% discount.

**PUMPS.—Duty 25%.**

Cistern, 50% discount.  
 Force, 50 " "

**PUNCHES (centre)—Duty 30%.**

Assorted sizes, \$1.80 per doz.

**PUTTY.—Duty 20%.**

In bbls. (Bladders), \$2.10 per 100 lbs.  
 In kegs, boxes or loose, \$2.25 per 100 lbs.  
 In 25-lb. tins, \$2.35 per 100 lbs.  
 In 12 1/2-lb. tins, \$2.65 per 100 lbs.  
 In bulk or tins less than 100 lb., \$2.90 per 100 lbs.  
 Bulk, in bbls., \$1.90 per 100 lbs.  
 " in less quantity, \$2.05 per 100 lbs.

**RASPS.—Duty 30%.**

Blacksmiths, Woodworkers, etc., see Files.

**REGISTERS.—Duty 30%.**

Floor and Wall, 50% discount.

**RIVET SETS.—Duty 30%.**

Canadian, 35 to 37 1/2% discount.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**RIVETS AND BURRS.—Duty 30%.**  
 Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.  
 Extras on Iron Rivets in 1-lb. cartoons, 1 cent per lb.  
 Extras on Iron Rivets in 1/2-lb. cartoons, 1 cent per lb.  
 Extras on Tinned or Coppered Rivets, 1/2-lb. cartoons, 1 cent per lb.  
 Iron Rivets, black and tinned, 60 & 10% discount.  
 Iron Burrs, 55% discount.

**ROPE, ETC.—Duty 25%.**  
 Cotton, 3-16 in. and larger, 16 cents per lb.  
 " 5-32 in., 21 cents per lb.  
 " 1/2 in., 22 1/2 cents per lb.  
 Crucible Steel Rope, 25% discount.  
 Galvanized Wire Rope, 25% discount.  
 Jute, 8 cents per lb.  
 Lath Yarn, 9 1/2 cents per lb.  
 Manila, 7-16 in. and larger, 13 1/2 cents per lb.  
 " 1/2 in., 14 1/2 cents per lb.  
 " 1/4 and 5-16 in., 15 1/2 cents per lb.  
 New Zealand Rope, 10 cents per lb.  
 Russia Deep Sea, lines 154 cents per lb.  
 Sisal, 7-16 in. and larger, 10 cents per lb.  
 " 1/2 in., 11 cents per lb.

**RUBBER.**  
 Reclaimed.

**RULES.—Duty 30%.**  
 Boxwood, 75 and 10% discount.  
 Ivory, 37 1/2 to 40% discount.  
 Lumbermans'.

**SAD IRONS.—Duty 30%.**  
 Mrs. Potts', No. 55, polished, 62 1/2 cents per set.  
 " No. 50, nickel-plated, 67 1/2 cents set.  
 "Sensible," 55 and 60 cents set.  
 "Toy," \$13.00 gross.

**SAND AND EMERY PAPER.—Duty 25%.**  
 B. & A. Sand, 40 & 5% discount.  
 Garnet, 5 to 10% advance of list.

**SAP SPOUTS.—Duty 30%.**  
 Bronzed iron, with hooks, \$9.50 per 1,000.

**SASH WEIGHTS.—Duty 25%.**  
 Sectional, \$2.75 to \$3 per 100 lb.  
 Solid, \$1.25 to \$2.25 per 100 lb.

**SAWS.—Duty 30%.**  
 Crosscut, Disston's, 35 to 55 cents per foot.  
 Hack, complete, 75 cents to \$2.75 each.  
 Hack, frame only, 75 cents each.  
 Hand, Disston's, 12 1/2% discount.  
 S. & D., 40% discount.  
 S. & D., 35 off on Nos. 2 and 3.

**SCALES.—Duty 30%.**  
 Champion, 60% discount.  
 Gurney's, 40 " "  
 Troenmer's, 30 " Canadian list.

**SCREEN'S.—Duty 30%.**  
 Door, \$7.50 to \$12 doz.  
 Window, \$1.75 to \$2.75 doz.

**SCREWS.—Duty 35%.**  
 Bench, iron, \$4.25 to \$5.75 per doz.  
 " wood, \$3.25 to \$4 per doz.  
 Drive Screws, 87 1/2 & 10% discount.  
 Hexagon Cap, 45 " "  
 Set, case-hardened, 60 " "  
 Square Cap, 50 & 5 " "  
 Wood, F. H., bright and steel, 87 1/2 & 10% discount.  
 " R. H., bright, 82 1/2 & 10% discount.  
 " F. H., brass, 80 & 10 " "  
 " R. H., brass, 75 & 10 " "  
 " F. H., bronze, 75 " "  
 " R. H., bronze, 70 " "

**SCREWS, (Machine, Iron and Brass)—Duty 35%.**  
 Flat head, 25% discount.  
 Round head, 20 " "

**SCYTHES.—Duty 25%.**  
 Grass, \$8 to \$10.  
 Grain, \$12 to \$14.

**SHEARS.—Duty 30%.**  
 Tailors, 30 % discount Amer. list.

**SHELLS (Cartridge).—See Ammunition.**

**SHOT, See Amunition.**

**SHOVELS AND SPADES.—Duty 35%.**  
 Burns', 40 and 5% discount.  
 Ely's, " " "  
 Gray's, " " "  
 Jones', " " "  
 Steel, Snow, \$2.45 @ \$2.60 per doz.  
 Wood, " " "

**SKATES.—Duty 35%.**  
 American Hockey.  
 Canadian 40 cents to \$2.50 pair.

**SNAPS.—Duty 30%.**  
 Harness, 40% discount.

**SNATHS.—Duty 25%.**  
 Sythe, \$5.25 to \$8 per doz.

**SOLDER (Plumbers').—See Metals.**

**SOLDERING IRONS.—Duty 30%.**  
 20 to 90 cents each.

**SPIKES.—Duty 1/2 cent per lb.**  
 Rail, 20% discount.  
 Ship, \$5 per 100 lb.

**SPRINGS.—Duty 35%.**  
 Bright Carriage, 6 1/2 per lb. net.

**STAPLES.—Duty 30%.**  
 Barb wire, \$3.75 per 100 lb.  
 Bed, 50% discount.  
 Blind, 25 " "  
 Wrought iron, 75% discount.

**STEEL—see Metals.**

**STOCKS AND DIES.—Duty 30%.**  
 Blacksmiths', Lightning, 25% discount.  
 " Green River, 25 " "  
 " Reece, 30% discount.  
 " Jardine, 35% " "  
 Pipe, Solid, 70 & 10% discount.  
 " Duplex, 33 1/2% discount.  
 " Jarecki, 33 1/2% " "  
 " Oster, 30% " "  
 " Armstrong, 35% " "  
 Wiley & Russell's, 25% discount, Canadian list.

**STONES.—Duty 30%.**  
 Arkansas, \$1.50 per lb.  
 Hindostan, 6 to 7 cents per lb.  
 " slip, 9 cents per lb.  
 Labrador, 13 cents per lb.  
 " axe, 15 cents per lb.  
 Scythe, \$3.50 to \$5 per gross.  
 Turkey, 50 cents per lb.  
 Washita, 28 to 60 cents per lb.  
 Water-of-Ayr, 10 cents per lb.

**TACKS, BRADS, etc.—Duty 35%.**  
 Carpet tacks, blued, 80 & 15% discount.  
 " " tinned, 80 & 20 " "  
 " " in kegs, 40% discount.  
 Cheese-box tacks, blued, 85 & 12 1/2% discount.  
 Copper tacks, 50% discount.  
 Cut tacks, blued, in dozens only, 80% discount.  
 " 1/2 weights, 60% discount.  
 Fine finishing, 40% discount.  
 Leather carpet tacks, 55% discount.  
 Lining tacks, in papers, 10% discount.  
 Patent brads, 40% discount.  
 Picture frame points, 10% discount.  
 Strawberry box tacks, bulk, 75 & 10% discount.  
 Swedes, cut tacks, blued and tinned, in bulk, 80 & 10% discount; in dozens, 75% discount.  
 Swedes, upholsterers', bulk, 85, 12 1/2 & 12 1/2% dis.  
 " brush, blued and tinned, bulk, 70% dis.  
 " gimps, blued, tinned and japanned, 75 & 12 1/2% discount.  
 Trunk tack, black and tinned, 85% discount.  
 Zinc tacks, 35% discount.

**TAGS.—Duty 25%.**  
 Shipping, 50 @ 70 cents per M.

**TAR.**  
 Coal \$2.75 bbl.  
 Refined, \$4 per bbl.

**TENTS.—Duty 30%.**  
 Canadian list, 20% discount.

**TONGS.—Duty 30%.**  
 Ice, \$9 per doz.  
 Pipe, "Brown's," net.  
 " "Brook's," 25% discount.  
 " "Trimo," 25 " "

**TRAPS.—Duty 30%.**  
 "Hawley & Norton's," 65% discount.  
 "Newhouse," 45% discount.  
 "Victor," 75% discount.

**TRUCKS.—Duty 30%.**  
 1, \$3.75; 2, \$5; 3, \$6.75 each.  
 "Handy" Canadian, \$16 to \$18.

**TUBES FOR BOILERS.**  
 1 1/2, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4  
 15, 12, 12, 10 1/2, 13, 14, 14 1/2, 18 1/2, 24 1/2 ft.

**TURNBUCKLES.—Duty, 1 cent per lb., 25% & 33 1/2% discount.**

**TURPENTINE.—Duty 5%.**  
 55 cents per gal.

**TWINES.—Duty 25%.**  
 Bag twine, 3-ply, 20 cents per lb.  
 4-ply, 20 cents per lb.  
 Binding, 12 1/2 cents per lb.  
 Colored, 27 cents per lb.  
 Cotton bag, 30 cents per lb.  
 Cotton, White, 20 to 30 cents per lb.  
 " Colored, 30 to 40 " "  
 Hemp, 20 cents per lb. "  
 Jute, 20 cents per lb. "  
 Mattress, 45 cents per lb. "  
 Sewing, 45 cents per lb. "

**TWINE—Continued.**  
 Tarred Lath, 11 cts.  
 Wrapping, 22 to 27 cts.

**VARNISHES.—Duty 20 cents per gal.**  
 20% off 5-gal. lots.  
 Black Japan, \$2 per gal.  
 No. 1, 75 cents to \$1.50 per gal.  
 Brown Japan, \$1.50 to \$2.50 per gal.  
 Carriage, No. 1, \$2 to \$3 per gal.  
 " body, \$4 to \$6 per gal.  
 " rubbing, \$2.50 to \$4 per gal.  
 Demar, \$2 to \$2.50 per gal.  
 Elastic Oak, \$1.50 to \$2.50 per gal.  
 Furniture Brown Japan, \$1.25 to \$2 per gal.  
 Furniture, extra, \$2 to \$2.50 per gal.  
 " No. 1, 75 cents to \$1.50 per gal.  
 Gold Size, Japan, \$1.50 to \$2.50 per gal.  
 Hard Oil Finish, \$1.50 to \$2.50 per gal.  
 Light Oil Finish, \$1.50 to \$2.50 per gal.  
 Shellac, orange, \$2 to \$2.50 per gal.  
 " white, \$2 to \$2.50 per gal.

**VICES.—Duty 30%.**  
 Amer., 13 1/2 cents per lb.  
 Brooks', 13 1/2 cents per lb.  
 Peter Wright's, 15 cents per lb.

**WASHERS.—Duty 1/2 cent per lb., 25%.**  
 Buggy, 75% discount.  
 Wrought iron, 40% discount.

**WASHING MACHINES.—Duty 35%.**  
 Re-acting square, \$51.00 per doz.  
 " Round, \$48.00 "  
 Rocker, \$48.00 per doz.  
 Popular Brands, \$30.00 to \$42.00 per doz.  
 Dowsell, \$3.75 each.  
 Re-acting (Dowsell), \$5 each.

**WIRE.**  
 Barbed Wire, see Fencing.  
 Brass Wire, (duty 10%), 50 to 50 & 2 1/2% discount.  
 Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.  
 Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:  
 No. 6 to 8 gauge, \$2.50 per 100 lbs.  
 " 9 " 2.50 " "  
 " 10 " 2.37 " "  
 " 11 " 2.50 " "  
 " 12 " 2.95 " "  
 " 13 " 3.15 " "  
 " 14 " 3.37 " "  
 " 15 " 3.50 " "  
 " 16 " 3.65 " "

Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.50, base, with extras as before. The prices for Nos. 9 to 13 include the charge of 10 cents for oiling. Extras net per 100 lb.: coppered wire, 60 cents; tinned wire, \$2; oiling, 10 cents; special hay-baling wire, 30 cents; spring wire, \$1; best steel wire, 75 cents; bright soft drawn, 15 cents; in 50 and 100-lb. bundles net, 10 cents; in 25-lb. bundles net, 15 cents; bagged or papering, 10 cents.

Fine Steel Wire, 17 1/2 off. List of extras, in 100 lb. lots, No. 17, \$5; No. 18, \$5.50; No. 19, \$6; No. 20, \$6.65; No. 21, \$7; No. 22, \$7.30; No. 23, \$7.65; No. 24, \$8; No. 25, \$8; No. 26, \$8.50; No. 27, \$10; No. 28, \$11; No. 29, \$12; No. 30, \$13; No. 31, \$14; No. 32, \$15; No. 33, \$16; No. 34, \$17. Extras net: tinned wire, Nos. 17-25, \$2; Nos. 26-31, \$4; Nos. 32-34, \$6; coppered, 5 cents; oiling, 10 cents; in 25-lb. bundles, 15 cents; in 5 and 10-lb. bundles, 25 cents; in 1-lb. hanks, 50 cents; in 1/2-lb. hanks, 75 cents; in 1-lb. hanks, \$1; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 to \$3.95; No. 11, \$3.70 to \$4.10; No. 12, \$3 to \$3.30; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.60 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57 1/2 f.o.b. Cleveland.

Clothes Line Wire, solid 7 strand, No. 17, \$4.25; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

**WASTE (Cotton).**  
 Colored, \$5.50 to \$6 per 100 lb.  
 White, \$7.75 per 100 lbs.  
 " extra, \$8 per 100 lb.

**WHEELBARROWS.—Duty 30%.**  
 Garden, \$2 to \$4.50 each.  
 Navy, \$19 per doz.  
 Iron wheel, \$22.50 per doz.  
 Steel tubular, \$7.50 to \$10.50 each.

**WRENCHES.—Duty 30%.**  
 Agricultural, 60% discount.  
 Alligator, 50 " "  
 Coes', 30 " "  
 P.S. & W., 30 " "  
 Stillson's, 25 " "  
 Trimo, pipe, 25 " "

**WRINGERS (Clothes).—Duty 35%.**  
 Ajax, \$66 per doz.  
 Crescent, \$26 to \$30 per doz.  
 Crescent, \$17.50 to \$20 per doz.  
 Leader, \$30 per doz.  
 Novelty, \$23 to \$27 per doz.  
 Popular Brands, \$16.50 to \$22 per doz.  
 Royal American, \$26 to \$30 per doz.  
 Royal Canadian, \$26 to \$30 per doz.

**ZINC.—See Metals.**

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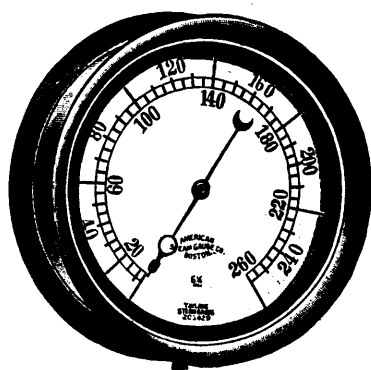
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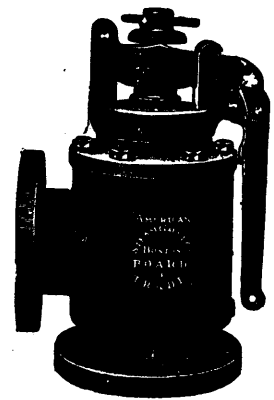
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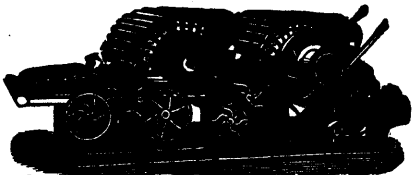
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