The INDUSTRIES Of BRITISH COLUMBIA

1918

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THE MANUFACTURERS' ASSOCIATION
OF BRITISH COLUMBIA

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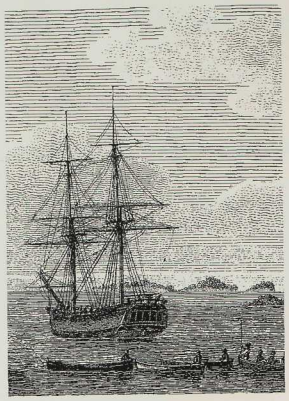

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The INDUSTRIES Of BRITISH COLUMBIA

EDITED BY J. H. HAMILTON

A Supplement will be issued every six months, bringing the list of Manufacturers up to date.

PUBLISHED FOR

The Manufacturers' Association of British Columbia

Progress Publishing Company, Limited
VANCOUVER, B. C.

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FOREWORD

IN October 1915 was published the first edition of "The Industries of British Columbia,"—the first attempt to collate and incorporate into one concise whole, a description of the industrial development of the province, with a view to presenting definite and accurate information regarding the capacity of the then existing industries, together with some indication of the facilities available for expansion.

At that time, one of the objects of the book was to bring to the front the detail of equipment and scope of firms within the province capable of manufacturing or producing munitions and equipment for war purposes, including shells, clothing, foodstuffs, etc. Since the publication of the first edition, the factories of British Columbia have played a worthy part in the manufacture and supply of war munitions, to the total value of many millions of dollars.

The 1915 edition was widely distributed by the Manufactures' Association of British Columbia and by the Government of the Province, both in Canadian and in foreign markets, and has certainly been productive of much interest in the industrial position of the province. The first edition becoming exhausted, numerous enquiries coming to hand necessitated the publishing of a second edition.

This edition is enlarged, both in scope and in the number published, and new features have been incorporated which it is hoped will make the book of use and value, not only as a field of information for outside the province, but also as a directory of commodities manufactured in British Columbia for the use of buyers within the province.

Every endeavour has been made to check all information and to bring all data up to date. Any further information relating to the industries and resources of British Columbia will gladly be furnished by the Manufacturers' Association of British Columbia, or by

THE PUBLISHERS

CLASSIFIED LIST OF COMMODITIES MANUFACTURED IN BRITISH COLUMBIA

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Compressed Gas Co., Ltd. ..... Vancouver

ACETYLENE—Welding

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Marine Iron Works ..... Victoria
Metal Welding Co. ..... Vancouver
North Coast Welding Co. ..... Vancouver
J. F. NEILSON ..... **New Westminster**
PACIFIC WELDING CO. ..... **Vancouver**
Standard Electric Welding Co. ..... Vancouver
E. W. Thompson ..... Vancouver
VANCOUVER ENGINEERING WORKS, LTD. ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD. ..... Victoria
VULCAN IRON WORKS ..... **Vancouver**
WALLACE SHIPYARDS, LTD. **North Vancouver**
YARROWS, LIMITED ..... **Victoria**

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Granby Consolidated Mining & Smelting Co., Ltd. ..... Vancouver
Nichols Chemical Co., Ltd. ..... Barnet
Victoria Chemical Co., Ltd. ..... Victoria

AERATED WATERS

(See Waters—Aerated)

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VICTORIA MACHINERY DEPOT CO., LTD. ..... Victoria
Ross & Howard Ironworks ..... Vancouver
Progressive Engineering Works, Ltd. Vancouver

ANGLES—Steel

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CANADIAN NORTHWEST STEEL CO., LTD. ..... Vancouver
J. COUGHLAN & SONS ..... **Vancouver**
Ross & Howard Ironworks, Ltd. ..... Vancouver
VANCOUVER ENGINEERING WORKS, LTD. ..... Vancouver

APPLES—Evaporated

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B. C. Evaporating Co. ..... Kelowna
Similkameen Canning Co. ..... Keremeos
Chilliwack Evaporating & Packing Co., Ltd. ..... Chilliwack
Western Canneries Ltd. ..... Kelowna

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ASBESTOS

H. BAILIE & CO. ..... **Vancouver**

ASPHALTUM

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BARRETT CO., LTD. ..... **Vancouver**
Sidney Rubber Roofing Co., Ltd. ..... Victoria

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Roote Auto Top Co. ..... Vancouver
Black Bros. ..... Vancouver
Cox & Perkins ..... Victoria
Brayshaw's Carriage Works ..... Victoria
Pioneer Carriage Factory ..... Vancouver
TUPPER & STEELE, LIMITED ..... **Vancouver**
HALL & WALLACE ..... **Vancouver**

AUTO CLEANSER

B. C. REFINING CO. LTD. ..... **Vancouver**
Souverain Mfg. Co. ..... Vancouver

AUTO and FLOOR DRESSING (Wax Paste)

B. C. Refining Co., Ltd. ..... Vancouver
Souverain Mfg. Co. ..... Vancouver

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MARITIME MOTOR CO. LTD. ..... **Vancouver**
SCHAAKE CO., LTD. ..... **Vancouver**
TUPPER & STEELE, LIMITED ..... **Vancouver**
WESTERN MACHINE WKS. LTD. ..... **Vancouver**

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AWNINGS

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F. Jeune ..... Victoria
P. Jeune ..... Victoria
E. Lipsett ..... Vancouver
Nugent & Co. ..... Vancouver
Prince Rupert Tent & Awning Co. Prince Rupert

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Fraser River Cooperage Co. .... South Vancouver
Prince Rupert Cooperage Co. .... Prince Rupert
J. R. Robertson ..... Vancouver
SWEENY COOPERAGE CO. ..... **Victoria**
Vancouver Cooperage Co. ..... Vancouver
WATSON BROS. ..... **Vancouver**

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Canada Metal Co., Ltd. ..... Vancouver
GREAT WESTERN SMELTING & REFINING CO. ..... **Vancouver**
Vancouver Brass Works ..... Vancouver

BABY CARRIAGES

Shaw & Company ..... Vancouver

BACON

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Vancouver-Prince Rupert Meat Co. Ltd. Vancr.
James Reid ..... Vancouver
Reid and Millar ..... Vancouver

BADGES—Metal

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Van Stencil & Seal Co. ..... Vancouver
BAGLEY & SONS ..... **Vancouver**
Sweeney & McConnell ..... Victoria
Jacoby Bros. ..... Vancouver
Birks & Sons ..... Vancouver
O. B. Allan ..... Vancouver

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P. Jeune ..... Victoria
C. H. Jones & Son, Ltd. ..... Vancouver
E. Lipsett ..... Vancouver
Nugent & Co. ..... Vancouver
Prince Rupert Tent & Awning Co. Prince Rupert
Canada Bag Co. Ltd. ..... Vancouver

BALE TIES—Wire

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BARS—Steel

Aetna Iron & Steel Co., Ltd. ..... Port Moody
CANADIAN NORTHWEST STEEL CO., LTD.
J. COUGHLAN & SONS ..... **Vancouver**
Ross & Howard Ironworks, Ltd. .....1 Vancouver
VANCOUVER ENGINEERING WORKS, LTD. ..... Vancouver
WESTMINSTER IRON WKS....**New. Westminster**

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Pride of the West Knitting Mills, Ltd. Vancouver
Universal Knitting Co., Ltd ..... Vancouver
VANCOUVER KNITTING CO., LTD.....**Vancouver**

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B. C. MFG. CO., LTD. ..... **New Westminster**
PACIFIC BOX CO. LTD. ..... **Vancouver**
BRUNETTE SAW MILLS LTD., ...**New West'r**
LUMBER PRODUCTS LTD. ....**New Westminster**

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E. J. Wakefield ..... North Vancouver

BEDDING

Alaska, B. C. Bedding Co., Ltd. ..... Vancouver
Nelson Mattress Works ..... Nelson
Restmore Mfg. Co., Ltd. ..... Vancouver
Victoria Mattress Co. ..... Victoria

BEDS—Camp

Alaska, B. C. Bedding Co., Ltd. ..... Vancouver
C. H. Jones & Son, Ltd. ..... Vancouver
Restmore Mfg. Co., Ltd. ..... Vancouver

BEDSTEADS—Iron and Brass

Alaska, B. C. Bedding Co., Ltd. ..... Vancouver
Cope & Son, Ltd. ..... Vancouver
Restmore Mfg. Co., Ltd. ..... Vancouver

BELTING—Lace

Western Tanneries Ltd. ..... Grimmett

BELTING—Leather

Shultz Canadian Co., Ltd. ..... Vancouver

BISCUITS

Hampton Bros. ..... Vancouver
National Biscuit & Confection Co., Ltd. ....Vancr.
Ormonds, Ltd. ..... Victoria
Ramsay Bros. Co., Ltd. ..... Vancouver

BLOCKS—Building, Hollow

Anvil Island Co., Ltd. ..... Vancouver
Baker Brick & Tile Co. ..... Victoria
Cloverdale Brick & Tile Co., Ltd..... Cloverdale
JOHN COUGHLAN & SON.....**New Westminster**
Nelson Brick Works ..... Nelson
Port Haney Brick Co., Ltd., ... **Vancouver**
Sidney Island Brick & Tile Co., Ltd.....**Victoria**

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Dominion Creosoting Co., Ltd. ..... **Vancouver**
Vancouver Creosoting Co., Ltd.....North Vancouver

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Carstens, Limited ..... Vancouver
Garments, Ltd. ..... Vancouver
J. Goldstone ..... Vancouver
United Ladyware, Ltd. ..... Vancouver
John R. Morrison ..... Vancouver

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Cope & Sons, Ltd. ..... Vancouver
GLOBE IRON WORKS ..... **Vancouver**
J. K. Miller Co. Ltd. ..... Vancouver

BLUESTONE—(Copper Sulphate)

Canadian Consolidated Mining & Smelting Co., Ltd., ... Trail

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B. C. Drafting & Blue Print Co..... Vancouver
City Map & White Print Co. ..... Vancouver
Electric Blue Print & Map Co. ..... Victoria
Dominion Drafting & Blueprint Co. ....Vancouver
Vancouver Map & Blueprint Co. ..... Vancouver

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V. DaFoe ..... Vancouver
Hoffar Motor Boat Co. ..... Vancouver
A. W. LePage ..... Vancouver
A. Linton ..... North Vancouver
W. R. Menchions ..... Vancouver
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Marine Iron Works ..... Victoria
J. F. NEILSON ..... **New Westminster**
NORTH SHORE IRON WORKS, LTD., N. Vanc'r
Prince Rupert Drydock & Engineering Co., Ltd., ... Prince Rupert
J. W. Patterson ..... Vancouver
Ross & Howard Iron Works ..... Vancouver
Vancouver Boiler Works ..... Vancouver
VANCOUVER ENG. WKS., LTD. ..... **Vancouver**
VANCOUVER FORGE CO., LTD. .... **Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
VULCAN IRON WORKS, LTD. ..... **Vancouver**
Wallace Shipyards Ltd. ..... North Vancouver
YARROWS LIMITED, ESQUIMALT ..... **Victoria**
Wallace Shipyards Ltd. ..... North Vancouver

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B. C .MARINE LTD. ..... **Vancouver**
A. Blain ..... Vancouver
Empire Mfg. Co. Ltd. ..... Vancouver
MAINLAND ENGINEERING CO. ..... **Vancouver**
J. F. NEILSON ..... **New Westminster**
Nelson Iron Works ..... Nelson
NORTH SHORE IRON WKS., LTD. .... **N. Vancr.**
J. W. Patterson ..... Vancouver
Vancouver Boiler Works ..... Vancouver
VANCOUVER ENG. WKS., LTD. .... **Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
VANCOUVER FORGE CO. LTD. ..... **Vancouver**
VULCAN IRON WORKS LTD. ..... **Vancouver**
WALLACE SHIP YARDS, LTD. .. **N. Vancouver**

BOLTS—Iron and Steel

Aetna Iron & Steel Co., Ltd. ..... Port Moody
B. C. MARINE LTD. ..... **Vancouver**
Hafer Machine Works ..... Victoria
HEAPS ENGINEERING CO., LTD., New West'r
IDEAL IRON WORKS ..... **Vancouver**
MAINLAND ENGINEERING CO. ..... **Vancouver**
Marine Iron Works ..... Victoria
OLSON IRON WORKS ..... **Vancouver**
Pacific Steel Co., Ltd. ..... Eburne
Robertson Iron Works ..... Victoria
Ross & Howard ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
WEBB & GIFFORD ..... **New Westminster**
WESTMINSTER IRON WORKS .... **New Westmin.**

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Clarke & Stuart ..... Vancouver
EVANS & HASTINGS PRINTING CO., ... **Vanc'r**
Lane & Son ..... Victoria
PACIFIC PRINTERS ..... **Vancouver**
G. A. Roedde, Ltd. ..... Vancouver
Sweeny & McConnell ..... Victoria
Western Specialty, Ltd. ..... Vancouver

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EVANS & HASTINGS ..... **Vancouver**
Fugler & McKinnon ..... Vancouver
Lane & Son ..... Victoria
G. A. Roedde ..... Vancouver
Sunset Presses, Ltd. ..... Vancouver
Vancouver Bindery ..... Vancouver

BOOKCASES

(See Cabinet Makers)

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National Paper Box Co., Ltd. ..... Vancouver

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B. C. Mills Timber & Trading Co. .... Vancouver
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Canadian Western Lumber Co., Ltd. Fraser Mills
Canyon City Lumber Co. ..... Creston
Cornish & Cooper ..... Vancouver
Cottonwood Lumber Co., Ltd. ..... Vancouver
Wm. Crawford & Sons ..... Kelowna
East Kootenay Lumber Co., Ltd. ..... Jaffray
Georgetown Sawmill Co., Ltd. ..... Prince Rupert
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Kelowna Sawmills ..... Kelowna
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LEMON, GONNASON & CO. ..... **Victoria**
Nicola Valley Pine Lumber Co. ..... Canford
O. K. Lumber Co., Ltd ..... Kelowna
Otis-Staples Lumber Co., Ltd. ..... Wycliffe
PACIFIC BOX CO., LTD. ..... **Vancouver**
Penticton Lumber Co. ..... Penticton
Summerland Lumber Co., Ltd. West Summerland
Varseveld Bros. Lumber Co. ..... Fruitvale
Wattsburg Lumber Co, Ltd. ..... Wattsburg
Western Box & Shingle Mills, Ltd. ..... Nelson

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Marine Iron Works ..... Victoria
OLSON IRON WORKS ..... **Vancouver**
VANCOUVER ENG. WORKS. LTD. .... **Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria

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SUMNER METAL WORKS ..... **Vancouver**

BRASSES—Memorial

GEO. H. HEWITT CO. LTD. ..... **Vancouver**

BRASS—Spun

Cope & Sons, Std. ..... Vancouver

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Cope & Sons, Std. ..... Vancouver
Hafer Machine Works ..... Victoria
Vancouver Brass Works ..... Vancouver
WESTMINSTER IRON WORKS .... **New Westmin.**

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Shelly Bros., Ltd. Vancouver, Victoria, N. West.
UNITED BAKERIES, LTD. ..... **Vancouver**
H. Brewer ..... Vancouver
Stevenson Bros. ..... Vancouver
Rennie & Taylor ..... Victoria
Golden West Bakery ..... Victoria
Griffith Bread Co., Ltd. ..... Vancouver

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Kilgard Fireclay Co, Ltd. ..... Kilgard

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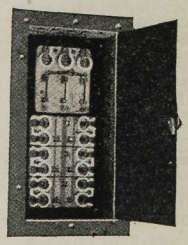

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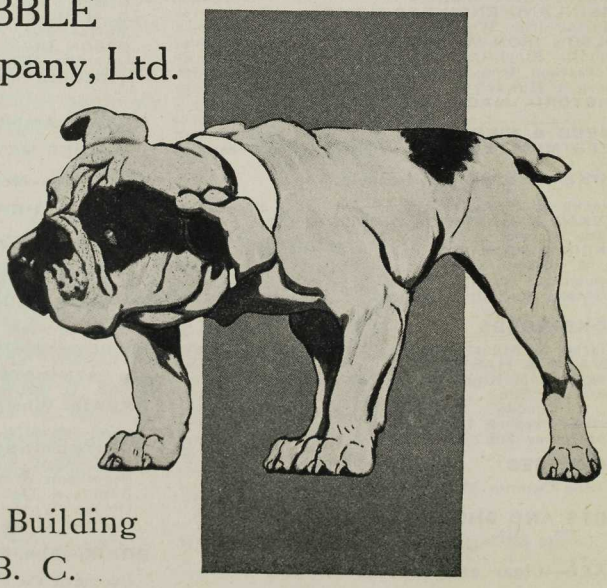

PHOTO
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DESIGNERS
ELECTROS

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VANCOUVER, B. C.

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Clayburn Co., Ltd. ..... Clayburn
Bazon Brick & Tile Co. ..... Victoria
B. C. POTTERY CO., LTD. ..... Victoria
Clayburn Co., Ltd. ..... Clayburn
Clement-Riggs Ltd. ..... Kelowna
Cloverdale Brick & Tile Co. ..... Cloverdale
Coast Shale Brick Co., Ltd. ..... Vancouver
Columbia Clay Co. ..... Vancouver
COUGHLAN, J. & SON ..... Vancouver
Cowichan Repressed Brick Co. ..... Cowichan
Cranbrook Brick Co., Ltd. ..... Cranbrook
Crowell, T. E. ..... Vernon
Dominion Brick Co., Ltd. ..... Nanaimo
Dominion Stock & Bond Co. ..... Vancouver
Doukhobor Society ..... Grand Forks
Enderby Brick & Tile Co. ..... Enderby
Fernie Brick Co. ..... Fernie
Johnston Co., Ltd. ..... Kamloops
Kilgard Fire Clay Co. ..... Kilgard
Lock Tie Brick Co. ..... Vancouver
Larson, A. ..... Castlegar
Mayne Island Brick Co., Ltd. ..... Victoria
Mountain District Brick & Tile Co., Ltd. .....
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Nelson Brick Works ..... Nelson
Okanagan Valley Clay Co. ..... Armstrong
Pacific Lock Joint Pipe Co. ..... Victoria
Penticton Brick Works ..... Penticton
Pioneer Brick Works ..... Victoria
Port Alberni Lime & Brick Co. ..... Port Alberni
Port Haney Brick Company, Vancouver, P. Haney
Shale Products Ltd. ..... Victoria
Sidney Island Brick & Tile Co., Ltd. ..... Vancouver
Smith Brick Co. ..... Albion
Tyee Shale Products Ltd. ..... Vancouver
Victoria Brick Co., Ltd. ..... Victoria
Whonock Brick & Tile Co. ..... Vancouver

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Enterprise Brewing Co. ..... Revelstoke
L. Forschiner ..... Merritt
Grand Forks Brewing Co. ..... Grand Forks
F. Hartinger ..... Grand Forks
Imperial Brewing Co. ..... Kamloops
Lansdowne Brewing Co. ..... Nanaimo
A. Mueller ..... Trail
WESTMINSTER BREWERY ..... NEW WEST'R
Pilsener Brewing Co. ..... Victoria
Silver Spring Brewing Co. ..... Victoria
Vancouver Breweries, Ltd. ..... Vancouver
Victoria, Phoenix Brewing Co., Ltd. ..... Victoria

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..... Vancouver
J. COUGHLAN & SONS ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.
..... Victoria
WESTMINSTER IRON WORKS ..... New Westmin.

BROOMS—Carpet, Factory, Etc.

B. C. BRUSH WORKS, LTD. ..... Vancouver
Crown Broom Works, Ltd. ..... Vancouver
Ideal Broom Works ..... Vancouver
Western Broom Works ..... Vancouver

BRUSHES

B. C. BRUSH CO., LTD. ..... Vancouver
Dust Control Co. ..... Vancouver

BUCKETS—Mine and Dredge

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VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
YARROWS LIMITED, ESQUIMALT ..... Victoria

BUILDING PAPER

BARRETT CO., LTD. ..... Vancouver
Sidney Rubber Roofing Co., Ltd. ..... Victoria

BUTTER

(See Creameries)

CABINET MAKERS

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Dixon & Murray ..... Vancouver
Dowling Mfg. Co. ..... Vancouver
Garret & Son ..... Vancouver
Ideal Furniture Company ..... Vancouver
Johnson & Allen ..... Vancouver
C. O. Morlock ..... Vancouver
N. Nelson ..... Vancouver
P. A. Pepin ..... Victoria
D. C. Timewell ..... Vancouver
Weiler Bros. ..... Victoria
Western Wood Works ..... Vancouver

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Colonist Printing Co., Ltd. ..... Victoria
Grant & Son, Ltd. ..... Vancouver
Sunset Presses ..... Vancouver

CANS—Tin

AMERICAN CAN CO., LTD. ..... Vancouver

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Orr Foundry Co. ..... Vancouver
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Ramsay Machine Works ..... Victoria
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WALLACE FOUNDRY LTD. ..... Vancouver
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Marine Iron Works ..... Victoria
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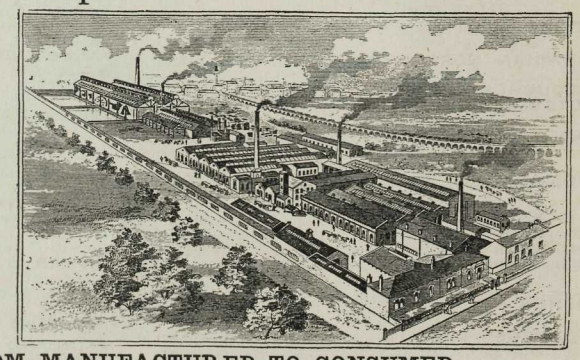

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Grandview Toy Co. ..... Vancouver

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Smith Brothers ..... Victoria
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Vancouver Brass Works ..... Vancouver
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Industrial Iron Works ..... Vancouver
LETSON & BURPEE, LTD. ..... **Vancouver**
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Marine Iron Works ..... Victoria
Marsland Brass & Iron Works ..... Vancouver
NORTH SHORE IRON WORKS LTD. ..... **N. Vancr.**
Prince Rupert Drydock & Engineering Co., Ltd., ... Prince Rupert
Progressive Engineering Works, Ltd. ..... Vancouver
Ross & Howard ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
TERMINAL CITY IRON WORKS ..... **Vancouver**
VANCOUVER ENG. WORKS, LTD. ..... **Vancouver**
Vancouver Stove Works ..... Vancouver
Victoria Brass & Iron Works ..... Victoria
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
VIVIAN GAS ENGINE WORKS ..... **Vancouver**
VULCAN IRON WORKS LTD. ..... **Vancouver**
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Vancouver Milling & Grain Co., Ltd. ..... Vancouver

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(See Sheet Metal Workers.)

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Granby Consolidated (Acids) ..... Anyox
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Nichols Chemical Co., Ltd. ..... Victoria
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Booth, Geo. ..... Vancouver
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Gable, P. & Co. ..... Nanaimo
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Parsons & Reynolds, ... Vancouver
Province Cigar Co. ..... Victoria
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Schnoter, Chas. ..... New Westminster
Schnoter, D. ..... New Westminster
Schnoter, F. H. ..... Nanaimo
Thelin, J. C. ..... Nelson
Stein, C. A. ..... New Westminster
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The Western Cigar Mfg. Co., Ltd. ..... Kamloops
Wilberg & Co., B. ..... New Westminster
Winch, P. K. ..... Nanaimo

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Nanoose Collieries ..... Nanoose Bay
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Rogers Chocolates ..... Victoria
Stevenson Brothers ..... Victoria

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J. R. Robertson ..... Vancouver
SWEENEY COOPERAGE CO., LTD. ..... **Victoria**
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Cox & Perkins ..... Victoria
Grimm Bros. ..... Victoria
Roote Auto Top Co. ..... Vancouver
Tupper & Steele Ltd. ..... Vancouver

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Broder's Cannery ..... Nanaimo

CREAM—Evaporated

(See Milk—Condensed)

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P. BURNS & CO., LTD. ..... **Vancouver**
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Clayburn Creamery Co. ..... Clayburn
Comox Creamery Assoc., Ltd. ..... Courtenay
Courtenty Milk Condensing Co., Ltd. ..... Courtenay
Cowichan Creamery Ass'n., Ltd., ... Duncan
Cranbrook Butter Co., Ltd. ..... Cranbrook
Curlew Creamery Co., Ltd. ..... Grand Forks
Curlew Creamery Co., Ltd. ..... Nelson
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Heffley Creamery ..... Heffley Creek
Kamloops District Creamery Assoc. ..... Kamloops
Kelowna Creamery Co., Ltd. ..... Kelowna
Meadowbrook Creamery Co. ..... Vancouver
Nanaimo Creamery Assoc., Ltd. ..... Nanaimo
New Westminster Creamery Co. ..... N. Westminster
Northwestern Creamery, Ltd. ..... N. Westminster
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Salt Spring Island Creamery Assoc., Ltd., ... Ganges Harbour
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Vancouver Creamery Co., Ltd. ..... Vancouver

CREOSOTING WORKS

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B. C. Mills, Timber & Trading Co.....Vancouver
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Cameron Lumber Co., Ltd. ..... Victoria
Canadian Western Lumber Co., Ltd. Fraser Mills
Cranbrook Sash & Door Co. ..... Cranbrook
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Jas. Leigh & Sons ..... Victoria
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MOORE, WHITTINGTON LUMBER CO. Victoria
New Ladysmith Lumber Co. ..... Nanaimo
Penticton Lumber Co. ..... Penticton
RAT PORTAGE LUMBER CO. ..... Vancouver
Robertson & Hackett ..... Vancouver
South Shore Lumber Co. ..... Vancouver
Vancouver Creosoting Co., Ltd North Vancouver
Victoria Mfg. Co., Ltd. ..... Chemainus

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Johnson & Allen ..... Vancouver
Western Woodworks ..... Vancouver

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Chilliwack Evaporating & Packing Co., Ltd., ... Chilliwack
Dried Products Ltd. ..... Vancouver
R. J. Graham Co., Ltd.....Vernon, ...Armstrong, ... Grand Forks, Marpole
Orchard City Evaporating Co. ..... Kelowna
B. C. Evaporating Co. ..... Kelowna
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DOMINION PRODUCTS CO., LTD., N. Westm'r
FOOD PRODUCTS, LTD. ..... Vancouver
Sabulite, Ltd. ..... Vancouver

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Hanscome & Gehrke, Ltd. ..... Vancouver
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Canada Sash & Door Factory ..... Vancouver
Canadian Puget Sound Lumber Co., Ltd. Victoria
Canadian Western Lumber Co., Ltd. Fraser Mills
Cedar Cove Sash & Door Co., Ltd.....Vancouver
Cornish & Cooper ..... Vancouver
Cranbrook Sash & Door Co., Ltd. .....Cranbrook
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RAT PORTAGE LUMBER CO. ..... Vancouver
Robertson & Hackett ..... Vancouver
W. G. Scrim Lumber Co., Ltd. ..... Vancouver
Spencer Sash & Door Factory ..... Vancouver
Superior Sash & Door Factory ..... Vancouver
Wattsburg Lumber Co., Ltd. ..... Wattsburg
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Muir Electric Co. ..... Vancouver
R. Hoffmeister ..... Vancouver
Crossman Electrical Machinery Co. Ltd., Vanc'r

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Columbia Block & Tool Co. ..... Vancouver
Columbia Iron Works ..... Vancouver
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Cowie Machine Works ..... Nanaimo
GLOBE IRON WORKS ..... Vancouver
Hafer Machine Works ..... Victoria
HALL MACHINE WORKS ..... Vancouver
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HODGSON & KING ..... Vancouver
HUTCHISON BROS. & CO., LTD.....Vivtoria
IDEAL IRON WORKS ..... Vancouver
Imperial Machine Works ..... Prince Rupert
LETSON & BURPEE, LTD. ..... Vancouver
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
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Nelson Iron Works ..... Nelson
NORTH SHORE IRON WORKS LTD.....N. Vancr.
Pacific Iron Works ..... Vancouver
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CONSULT INDEX FOR FURTHER DETAILS OF FIRMS WHOSE NAMES ARE IN HEAVY TYPE

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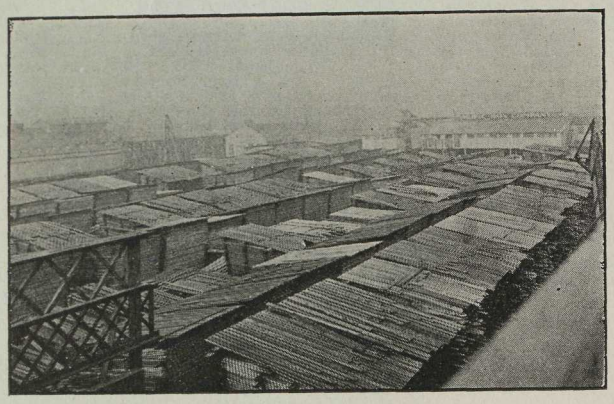
VANCOUVER, B. C.



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TERMINAL CITY IRON WORKS.....**Vancouver**
TUPPER & STEELE, LIMITED ..... **Vancouver**
VANCOUVER ENG. WORKS, LTD......**Vancouver**
Victoria Brass & Iron Works ..... Victoria
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VIVIAN GAS ENGINE WORKS.....**Vancouver**
VULCAN IRON WORKS LTD. ..... **Vancouver**
WALLACE FOUNDRY LTD. ..... **Vancouver**
WEBB & GIFFORD ..... **New Westminster**
WESTERN MACHINE WORKS, LTD.....**Vanc'r**
WESTMINSTER IRON WORKS.....**New Westm'r**
VANCOUVER MACHINERY DEPOT, LTD......
..... Vancouver
YARROWS LIMITED ESQUIMALT.....**Victoria**

ENGINES—Gas and Gasoline

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GLOBE IRON WORKS ..... **Vancouver**
Hafer Machine Works ..... Victoria
HALL MACHINE WORKS ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
HUTCHISON BROS. & CO., LTD......**Vivtoria**
Ideal Iron Works ..... Vancouver
HALL MACHINE WORKS ..... **Vancouver**
Marine Iron Works ..... Victoria
MAINLAND ENGINEERING CO. .... **Vancouver**
Progressive Engineering Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
TUPPER & STEELE, LIMITED ..... **Vancouver**
VIVIAN GAS ENGINE WORKS.....**Vancouver**

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Empire Mfg Co. ..... Vancouver
GLOBE IRON WORKS ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
HUTCHISON BROS. & CO. LTD. .....**Victoria**
LETSON & BURPEE, LTD. ..... **Vancouver**
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
NORTH SHORE IRON WORKS LTD.....**N. Vancr.**
Progressive Engineering Works, Ltd.....Vancouver
Ramsay Machine Works ..... Victoria
SCHAAKE CO., LTD. ..... **Vancouver**
TERMINAL CITY IRON WORKS.....**Vancouver**
VANCOUVER ENG. WORKS. LTD......**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
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Marine Iron Works ..... Victoria
Nelson Iron Works ..... Nelson
Progressive Engineering Works, Ltd.....Vancouver
SCHAAKE CO. LTD. ..... **Vancouver**
VANCOUVER ENG. WORKS. LTD......**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS, LTD. ..... **Vancouver**
YARROWS LIMITED ESQUIMALT.....**Victoria**

ENGINES—Marine

B. C. MARINE LTD. ..... **Vancouver**
W. J. Ellis ..... Kamloops
HUTCHISON BROS. & CO. LTD. .....**Victoria**
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
Prince Rupert Drydock & Engineering Co., Ltd.,
..... Prince Rupert
Progressive Engineering Works, Ltd.....Vancouver
Ramsay Machine Works ..... Victoria
Ross & Howard ..... Vancouver
TERMINAL CITY IRON WORKS .... **Vancouver**
VIVIAN GAS ENGINE WORKS ..... **Vancouver**
Wallace Shipyards Limited .... North Vancouver
WESTERN MACHINE WORKS, LTD......**Vancr.**
YARROWS LIMITED ESQUIMALT.....**Victoria**

ENGINES—Marine, Steering

ALLAN & McKELVIE ..... **Vancouver**
GLOBE IRON WORKS ..... **Vancouver**
HEAPS ENG. CO. LTD. ..... **New Westminster**
SCHAAKE CO. LTD. ..... **Vancouver**

ENGRAVERS—Brass

(See Name Plates.)

ENGRAVERS—Jewelry and Silverware

E. L. Allen ..... Vancouver
O. B. Allan ..... Vancouver
Birks & Son, Ltd. ..... Vancouver
E. R. Flewelling ..... Vancouver
Jacoby Bros. ..... Vancouver
Chas. Pearsall ..... Vancouver

ENGRAVING—Photo

Angell Engraving Co. ..... Vancouver
CLELAND, DIBBLE ENG. CO., LTD., Vancouver
Colonist Printing & Pub. Co., Ltd. ..... Victoria

EVAPORATED FRUITS

(See Fruit Canners)

EXCELSIOR—(Wood Wool)

Alaska B. C. Bedding Co., Ltd ..... Vancouver
Restmore Mfg. Co., Ltd. ..... Vancouver

EXPLOSIVES

Canadian Explosives, Ltd. ..... Vancouver
Giant Powder Co., Ltd. ..... Vancouver

EXTRACTS—Flavoring

Empress Mfg. Co., Ltd. ..... Vancouver
Kelly, Douglas Co., Ltd. ..... Vancouver
W. A. Jamieson Coffee Co. ..... Victoria
W. H. Malkin Co., Ltd. ..... Vancouver
Leeson, Dickie Gross Co., Ltd. ..... Vancouver

FANS—Ventilating

Cope & Son, Limited ..... Vancouver
J. K. Miller & Co., Ltd. ..... Vancouver
J. R. Tacey & Son ..... Vancouver

FENCE—Ornamental Iron and Wire

Artistic Wire and Fence Co. ..... Vancouver
B. C. Anchor & Fence Co., Ltd. ..... Vancouver
HUTCHISON BROS. & CO. LTD. .....**Victoria**
S. M. Morris & Co. Ltd. ..... Vancouver
WESTMINSTER IRON WORKS,....**New Westm'r**

FERTILIZER MATERIAL

P. BURNS & CO., LTD. ..... **Vancouver**
Bamfield Fish Products Co. ..... Victoria
Consolidated Fish & By-products Co., Ltd.....
..... Vancouver
International Chemical Co., Ltd. ..... Victoria
Pacific Lime Co., Ltd. ..... Vancouver
Vancouver-Prince Rupert Meat Co., Ltd. Vancr.
Victoria Chemical Co., Ltd. ..... Victoria
Victoria Whaling Co., Ltd. ..... Victoria
Wallace Fisheries, Ltd. ..... Vancouver

FIRECLAY PRODUCTS

Clayburn Co., Ltd. ..... Clayburn
Kilgard Fireclay Co., Ltd. ..... Kilgard

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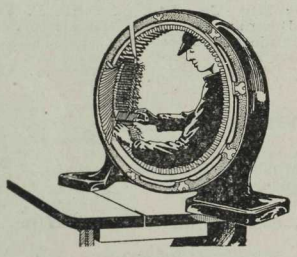

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FISH—Canned

(See Salmon—Canned)

FISH—Frozen

New England Fish Co. Ltd. ..... Vancouver
Canadian Fish, Cold Storage Co., Ltd. N. West.
St. Mungo Cold Storage Co., Ltd. N. Westmin'r
Columbia Cold Storage Co., Ltd. N. Westmin'r
Canadian Fish Cold Storage Co., Ltd. Pr. Rupert
Atlin Fisheries, Ltd. ..... Prince Rupert
Booth Fisheries, Ltd. ..... Prince Rupert
Wallace Fisheries, Ltd. ..... Vancouver

FISH MERCHANTS—Wholesale

* Are also Canners and Packers.
Atlin Fisheries, ... Prince Rupert
B. C. & Labrador Fisheries ..... Victoria
*Booth Fisheries ..... Prince Rupert
Butterfield & Mackie ..... Vancouver
Butterfield & Mackie ..... Port Alberni
*Canadian Fish & Cold Storage Co. .....Vancouver
*Canadian Fish & Cold Storage Co. Prince Rupert
*Canadian Fishing Co. ..... Vancouver
*Clayoquot Sound Canning Co. ..... Victoria
*Columbia Cold Storage ..... Steveston
*Crown Fish Co. ..... Vancouver
*Dominion Fish Co. ..... Vancouver
*Findlay, Durham & Brodie ..... Victoria
London Fish Co. ..... Vancouver
*Lummi Bay Packing Co. ..... Nitinat
Martin Monk & Co. ..... New Westminster
*Nanaimo Canners & Packers ..... Nanaimo
National Independent Fisheries .... Prince Rupert
New England Fish Co. ..... Vancouver
*Nootka Packing Co. ..... Nootka Sound
Pacific Coast Fishing Co. ..... Vancouver
Pacific Fisheries, Limited ..... Prince Rupert
*Quathiaski Canning Co. ..... Quathiaska Cove
*Redonda Canning & Cold Storage....Redonda Is.
Royal Fish Co ..... Prince Rupert
Royal Fishing Co. ..... Vancouver
Sellees, Peter ..... Vancouver
Shrubsall, W. ..... Prince Rupert
*Sidney Canning Co. ..... Sidney
R. Spoune ..... Victoria
St. Mungo Cold Storage ..... New Westminster
Tabata, R. ..... Nanaimo
*Todd & Sons, H. H. ..... Victoria
Urquhart & Mills ..... Vancouver
*Victoria Fish Co. ..... Victoria
WATSON BROS. ..... **Vancouver**
Western Packers, Limited ..... Vancouver

FISH—Smoked

Anderson Fishing Co. ..... Vancouver
Aberdeen Fish Co. ..... Vancouver
Canadian Fishing Co. ..... Vancouver
International Fisheries, Ltd. ..... Vancouver
WATSON BROS. ..... **Vancouver**

FLAGS

C. H. Jones & Son, Ltd. ..... Vancouver
E. Lipsett ..... Vancouver

FLOORING—Sanitary

B. C. Hardwood Floor Co., Ltd. ..... Vancouver

FLOUR—Rice

Imperial Rice Milling Co., Ltd. ..... Vancouver
MOUNT ROYAL MILLING & MFG. CO., LTD.,
..... Victoria
Asahi Rice Milling Co. Ltd. ..... Vancouver

FLOUR—Wheat

Brackman-Ker Milling Co., Ltd. ..... Victoria
Canada Whole Wheat Flour Co. ..... Vancouver
Easterbrook Milling Co. ..... Eburne
Vancouver Milling & Grain Co., Ltd.....Vancouver

FLOUR—Whole Wheat

Canada Whole Wheat Flour Co. ..... Vancouver

FORGINGS—Bronze

B. C. MARINE LTD. ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
Marine Iron Works ..... Victoria
SCHAAKE CO., LTD. ..... **Vancouver**
SUMNER METAL WORKS ..... **Vancouver**
Vancouver Brass Works ..... Vancouver
VANCOUVER ENG. WORKS ..... **Vancouver**
VANCOUVER FORGE CO., LTD. .... **Vancouver**
YARROWS LIMITED ..... **Victoria**

FORGINGS—Iron and Steel

Ballard Drop Forge Co. ..... Vancouver
B. C. MARINE LIMITED ..... **Vancouver**
Burrard Iron Works ..... Vancouver
Columbia Block & Tool Co. ..... Vancouver
Gilchrist Manufacturing Co. ..... Vancouver
HALL MACHINE WORKS ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
LETSON & BURPEE, LTD. ..... **Vancouver**
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
Olson Iron Works ..... Vancouver
Prince Rupert Drydock & Engineering Co., Ltd.,
..... Prince Rupert
Robertson Iron Works ..... Victoria
Ross & Howard ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
TUPPER & STEELE, LTD. **Vancouver**
VANCOUVER ENG. WORKS, LTD.....**Vancouver**
VANCOUVER FORGE CO., LTD. .... **Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS, LTD. ..... **Vancouver**
Wallace Shipyards Limited .... North Vancouver
WEBB & GIFFORD ..... **New Westminster**
WESTMINSTER IRON WORKS,...**New Westm'r**
YARROWS LIMITED, ESQUIMALT.....**Victoria**

FOUNDRIES—Iron

ALBION STOVE WORKS LTD. ..... **Victoria**
ALLAN & McKELVIE ..... **Vancouver**
Boundary Iron Works ..... Grand Forks
W. J. Ellis ..... Kamloops
Fernie Foundry ..... Fernie
HEAPS ENGINEERING CO., LTD., New West'r
Hendry Patterson Foundry Co. ..... Vancouver
HUTCHISON BROS. & CO. LTD. .....**Victoria**
Industrial Iron Works ..... Vancouver
LETSON & BURPEE, LTD. ..... **Vancouver**
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
Marsland Iron & Brass Works ..... Vancouver
Nanaimo Foundry ..... Nanaimo
Nelson Iron Works ..... Nelson
NORTH SHORE IRON WORKS, LTD., N. Vancr.
Progressive Engineering Works, Ltd.....Vancouver
Ross & Howard ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
VANCOUVER ENG. WORKS. LTD.....**Vancouver**
TERMINAL CITY IRON WORKS .... **Vancouver**
Vancouver Stove Works .....Vancouver
Victoria Brass & Iron Works ..... Victoria
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VIVIAN GAS ENGINE WORKS ..... **Vancouver**
VULCAN IRON WORKS, LTD. ..... **Vancouver**
WALLACE FOUNDRY LTD. ..... **Vancouver**
WESTMINSTER FOUNDRY CO. LTD. N. West'r
YARROWS LIMITED, ESQUIMALT.....**Victoria**

FRAMES—Window and Door (Wood)

((See Doors and Sash.)

FRAMES—Window, Metal

B. C. Ceiling and Roofing Co. ..... Vancouver
Pacific Sheet Metal Works ..... Vancouver
WESTMINSTER IRON WORKS.....**New Westm'r**
Western Sheet Metal Works ..... Vancouver
(See Sheet Metal Workere.)

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FISH
PULP
LUMBER
RAILS
STEEL
TIN PLATE
BUILDING MATERIAL
SHIP BUILDING MATERIAL
ETC.

Tamura Building **VANCOUVER, B. C.**

FRUIT—Canned

Arrow Lakes Canning Co. ..... Burton
Empress Mfg. Co. ..... Vancouver
Chilliwack Evaporating & Canning Co., Ltd. ..... Chilliwack
J. Broder & Co. ..... New Westminster
KING BEACH MFG. CO. ..... **Mission**
Dominion Canners, Ltd. ..... Vernon
Occidental Fruit Co. ..... Okanagan Centre
Orchard City Evaporating Co. ..... Kelowna
Similkameen Canning Co. ..... Keremeos
Sidney Canning Co. ..... Sidney
Western Canners, Ltd. ..... Penticton

FUNNELS—Ship

B. C. MARINE, LIMITED ..... **Vancouver**
Marine Iron Works ..... Victoria
VANCOUVER ENG. WORKS, LTD......**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
VULCAN IRON WORKS, LTD. ..... **Vancouver**
Wallace Shipyards Limited .... North Vancouver
YARROWS LIMITED, ESQUIMALT.....**Victoria**

FURNACES—Hot Air

ALBION STOVE WORKS LIMITED .... **Victoria**
EARLE, W. B. ..... **Vancouver**
Vancouver Stove Works ..... Vancouver

FURNITURE—Manufacturers

Alaska B. C. Bedding Co., Ltd. ..... Vancouver
Chalmers Cabinet Works ..... Vancouver
Cope & Son, (Brass Beds) ..... Vancouver
Dixon & Murray ..... Vancouver
Dowling Mfg. Co. ..... Vancouver
Ideal Furniture Co. ..... Vancouver
Johnson & Allen ..... Vancouver
N. Nelson ..... Vancouver
Nelson Mattress Works ..... Nelson
P. A. Pepin ..... Victoria
Restmore Mfg. Co., Ltd. ..... Vancouver
Rock Bay Showcase Co. ..... Victoria
D. C. Timewell ..... Vancouver
Victoria Mattress Co. ..... Victoria
Weiler Bros., Ltd. ..... Victoria
Western Wood Works ..... Vancouver
J. R. B. Wilson ..... Vancouver

GALVANIZERS

T. Watt ..... Vancouver
YARROWS LIMITED, ESQUIMALT.....**Victoria**

GASOLINE

Imperial Oil Co., Ltd. ..... Vancouver
Shell Co. Ltd. ..... Vancouver

GEARING—Machine Cut

HALL MACHINE WORKS ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
HUTCHISON BROS. & CO. LTD. .....**Victoria**
LETSON & BURPEE, LTD. ..... **Vancouver**
MARITIME MOTOR CO. LTD. ..... **Vancouver**
TUPPER & STEELE, LTD. ..... **Vancouver**
VANCOUVER ENG. WORKS, LTD.....**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria

GIRDERS—Iron and Steel

CANADIAN NORTHWEST STEEL CO. LTD. ..... Vancouver
COUGHLAN & SONS, J. ..... **Vancouver**
Ross & Howard ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
WESTMINSTER IRON WORKS,....**New Westm'r**

GLASS—Bevelled, Silvered and Leaded

Bogardus, Wickens, Ltd. ..... Vancouver
W. Holt ..... Vancouver
Melrose Co., Ltd. ..... Victoria
Pilkington Bros., Ltd. ..... Vancouver

GLOVES—Canvas

HAMILTON, CARHARTT COTTON MILLS, LTD. ..... **Vancouver**

GLOVES—Leather

B. C. Grinnell Glove Co. ..... Vancouver
Howard Glove Co. ..... Vancouver
Sandell Mfg. Co. ..... Marpole
Vancouver Glove Co. ..... Vancouver

GREASE—Lubricating

B. C. REFINING CO., LTD. ..... **Vancouver**
Imperial Oil Co., Ltd. ..... Vancouver

GUNPOWDER

Canadian Explosives, Ltd. ..... Vancouver
Giant Powder Co., Ltd. ..... Vancouver

HANDLES—Broom

D. A. Strachan ..... Vancouver

HARNESS AND SADDLERY

B. C. LEATHER & FINDINGS CO., Ltd., Vanc'r
B. C. Saddlery Co. ..... Victoria
D. C. McLaren ..... Vancouver
Storey & Campbell ..... Vancouver

HATS

Paris Ladies Hat Mfg. Co. ..... Vancouver
Victoria Hat Factory ..... Victoria

HEATERS AND HEATING APPARATUS

ALBION STOVE WORKS, LTD. ..... **Victoria**
B. C. MARINE, LIMITED ..... **Vancouver**
EARLE, W. B. ..... **Vancouver**
GLOBE IRON WORKS ..... **Vancouver**
Pacific Sheet Metal Works ..... Vancouver
Terminal Sheet Metal Works ..... Vancouver
VULCAN IRON WORKS, LTD. ..... **Vancouver**
Vancouver Stove Works ..... Vancouver

HONEY

(Principal Producers)
John Reagh ..... Ladner
L. Harris & Son ..... Vernon
L. C. Grieve ..... Enderby
G. D. McDonald ..... Rutland
Sprott & Schan ..... Burnaby Lake
Doukhobors Ltd. ..... Grand Forks
J. L. Gill ..... Cranbrook
W. H. Lewis ..... Edmonds
H. Langdon Johnstone ..... Chilliwack
Tom Lehman ..... Mt. Lehman
F. E. White ..... Abbotsford

ICE—Artificial

Mainland Ice, Cold Storage Co. ..... Vancouver
Royal Ice & Storage Co. ..... Vancouver
Vancouver Ice Co. ..... Vancouver
Victoria Ice Co. ..... Victoria
Wilson Co., Ltd. ..... Victoria

INK—Printing and Lithographing

B. A. Paint Co., Ltd. ..... Victoria
COLUMBIA PRINTING INK & ROLLER CO...... Vancouver

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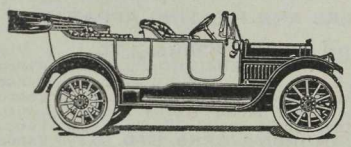

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IRON GOODS—Galvanized

T. Watt ..... Vancouver
YARROWS LIMITED, ESQUIMALT.....**Victoria**

IRON—Merchants, Bar

Aetna Iron & Steel Co., Ltd. ..... Port Moody
Pacific Steel Co., Ltd. ..... Eburne
Ross & Howard Iron Works, Ltd.....Vancouver
VANCOUVER ENG. WORKS, LTD.....**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria

IRON—Work and Ornamental

S. M. Morris & Co. ..... Vancouver
South Vancouver Iron & Wire Co.....S. Vanc'r
WESTMINSTER IRON WORKS,....**New Westm'r**

JAM

Doukhobor Society,. Ltd. ..... Brilliant
Empress Mfg. Co , Ltd. ..... Vancouver
KING-BEACH MFG. CO., LTD. ..... **Mission**
J. A. McDonald & Co. ..... Nelson
Summerland Jam Co. ..... Summerland
M. Mackintosh ..... Vancouver
Irwin Billings Canning Co. ..... Vancouver
Western Canners ..... Kelowna

JEWELLERS—Mfg.

O. B. Allan ..... Vancouver
H. Birks & Sons, Ltd. .....Vancouver
E. R. Flewelling ..... Vancouver
Jacoby Bros. ..... Vancouver
McIntosh & Read ..... Vancouver
Chas. Pearsall ..... Vancouver

KALSOMINE

B. A. Paint Co., Ltd. ..... Victoria

KNITTED GOODS—Woollen

Pride of the West Knitting Co., Ltd. Vancouver
Universal Knitting Co., Ltd. ..... Vancouver
VANCOUVER KNITTING CO., LTD.....**Vancouver**

LABELS

B. C. PRINTING & LITHO, LTD......**Vancouver**
Nicholson, Ltd. ..... Vancouver
Grant & Son, Ltd. ..... Vancouver

LABELS—In Rolls

Nicholson, Ltd. ..... Vancouver

LADDERS—Step

Alright Ladder Co. ..... Vancouver

LAMPS—Gasoline

R. M. MOORE & CO. ..... **Vancouver**

LARD AND COMPOUND

P. BURNS & CO., LTD. ..... **Vancouver**
Vancouver-Prince Rupert Meat Co., Ltd. Vancr.

LATH—(See Lumber Mills)

LEAD—Bullion and Pig

Canadian Consolidated Mining, Smelting & Power Co., Ltd. ..... Trail
Canada Metal Co., Ltd. ..... Vancouver
GREAT WESTERN SMELTING & REFINING CO., LTD. ..... **Vancouver**

LEAD, WHITE

Pacific White Lead Co. Ltd. ..... Vancouver

LEATHER BELTING

Shultz Canadian, Ltd. ..... Vancouver

LEATHER LACE

Western Tanneries Ltd. ..... Grimmett

LEATHER AND LEATHER GOODS

B. C. LEATHER & FINDINGS CO., Ltd., Vanc'r
B. C. Saddlery Co. ..... Victoria
J. Leckie & Co., Ltd. (Shoes) ..... Vancouver
Leckies Tannery ..... S. Westminster
D. C. McLaren ..... Vancouver
J. T. Pyott (Fancy Goods) ..... Vancouver
Shultz Belting Co. ..... Vancouver
Storey & Campbell ..... Vancouver
Western Tanneries, Ltd. ..... Grimmett

LIGHTING SYSTEMS

R. M. Moore & Co., Ltd. ..... Vancouver

LIME

PACIFIC LIME CO., LTD. ..... **Vancouver**

LITHOGRAPHERS

B. C. PRINTING & LITHO, LTD......**Vancouver**
Colonist Printing Co., Ltd. ..... Victoria
Grant & Sons, Ltd. ..... Vancouver

LOGS—(The Principal Logging Companies)

Abernethy & Lougheed ..... Port Haney
A. P. Allison & Co. ..... Vancouver
B. C. Mills Timber & Trading Co. ....Vancouver
Bloedel, Stewart & Welch ..... Vancouver
Booth Logging Co. ..... Vancouver
Brooks, Scanlon & O'Brien ..... Vancouver
Clark & Lyford, Ltd. ..... Vancouver
Comox Logging & Rly. Co. ..... Vancouver
J. M. Dempsey ..... Vancouver
Fraser & Macauley ..... Vancouver
C. W. Gower ..... Vancouver
Gordon Development Co. ..... Vancouver
M. R. Hartfield ..... Vancouver
Howe Sound Timber Co. ..... Vancouver
W. H. Higgins ..... Vancouver
International Timber Co. ..... Vancouver
Iowa Lumber & Timber Co. ..... Vancouver
Lamb Lumber Co. ..... Vancouver
Mainland Cedar Co. ..... Vancouver
D. J. O'Brien ..... Vancouver
Powell River Company ..... Vancouver
Prentiss, Ramsden & Mack ..... Vancouver
Squamish Timber Co. ..... Vancouver
George C. Salt ..... Vancouver
Turnour Island Logging Company .... Vancouver
Wilson-Brady, Ltd. ..... Vancouver

LUMBER MILLS

* Planing Mills Operated.
† Shippers to Overseas Markets.
*Abbotsford Timber & Trading Co. .... Abbotsford
Acorn Lumber & Shingle Co., Ltd. N. Westmin.
*Adams River Lumber Co., Ltd. ..... Chase
*Adolph Lumber Co. ..... Baynes Lake
Alberni Pacific Lumber Co., Ltd. .... Port Alberni
*Alberta Lumber Co., Ltd. ..... Vancouver

LUMBER MILLS —(Continued)

A. P. Allison & Co. ..... Green Point Rapids
G. M. Annable Lumber Co. ..... Annable
*Arrow Lakes Lumber Co., Ltd. ..... Kamloops
*Baker Lumber Co. ..... Waldo
*Beaver River Lumber Co. ..... New Westminster
*B. C. Fir & Cedar Lumber Co., Ltd. ....Vancouver
†*B. C. MFG. CO., LTD. .....New Westminster
†*B. C. Mills, Timber & Trading Co. ....Vancouver
Brooks-Bidlake Cedar Co., Ltd. ..... Vancouver
†*BRUNETTE SAWMILLS CO., LTD., New. West.
*Bulman Lumber Co. ..... Victoria
*Burrard Lumber Co., Ltd. ..... Vancouver
†*Cameron Lumber Co., Ltd. ..... Victoria
Campbell River Lumber Co., Ltd. .... Vancouver
Canada Lumber & Timber Co., Ltd. ....Vancouver
*Canadian Pacific Lumber Co., Ltd. ....Vancouver
†*Canadian Western Lumber Co., Ltd., Fraser Mills
Canyon City Lumber Co., Ltd. ..... Creston
*Craig-Taylor Lumber Co. ..... Bradner
*Cranbrook Sash & Door Co., Ltd. .... Cranbrook
*Crow's Nest Pass Lumber Co., Ltd. ....Wardner
†*ROBERT DOLLAR CO., LTD. ..... Vancouver
*The East Kooteney Lumber Co., Ltd. ....Jaffray
*Eburne Sawmills, Ltd. ..... Marpole
*The Edgewood Lumber Co., Ltd. ..... Castlegar
*False Creek Lumber Co. ..... Vancouver
Fernridge Lumber Co., Ltd. ....New Westminster
*Forest Mills of British Columbia, Ltd. Revelstoke
†*Genoa Bay Lumber Co., Ltd ..... Genoa Bay
†*JOHN HANBURY & CO., LTD. ..... Vancouver
Huntting-Merritt Lumber Co., Ltd..... Vancouver
*Island Lumber Co., Ltd. ..... Duncan
The Kelowna Saw Mills Co., Ltd. ..... Kelowna
*M. B. King Lumber Co. ..... Vancouver
King Lumber Mills ..... Cranbrook
A. G. Lambert Co., Ltd. ..... Nelson
Laminated Materials Co., Ltd. N. Westminster
*James Leigh & Sons ..... Victoria
†*LEMON, GONNASON & CO., LTD. ..... Victoria
†*MOORE - WHITTINGTON LUMBER CO., LTD.,
..... Victoria
*The Mount Lehman Lumber, Timber & Trading Co. ..... Mount Lehman
New Ladysmith Lumber Co., Ltd. ..... Nanaimo
*The Nicola Valley Pine Lumber Co. .....Canford
*The O. K. Lumber Co., Ltd. ..... Kelowna
*Okanagan Saw Mills, Ltd. ..... Enderby
*Otis Staples Lumber Co., Ltd. ..... Wycliffe
*Penticton Lumber Co. ..... Penticton
†*RAT PORTAGE LUMBER CO., LTD., Vancouver
*Robertson & Hackett ..... Vancouver
*Rock Creek Lumber Co., Ltd. ..... Flagstone
*The Shawnigan Lake Lumber Co., Ltd. Victoria
*Shields Lumber Co., Ltd. ..... Kamloops
Frederick M. Singer Co. ..... Vancouver
SMALL & BUCKLIN LUMBER CO., LTD.,
..... New Westminster
*South Shore Lumber Co., Ltd. ..... Vancouver
*Summit Lake Lumber Co., Ltd. ....Summit Lake
*Thurston-Flavelle Lumber Co. ..... Port Moody
*Timberland Lumber Co., Ltd. .. New Westminster
*United Lumber & Shingle Mills ..... Vancouver
Vancouver Cedar Mills, Ltd. ..... Vancouver
†*Vancouver Lumber Co., Ltd. ..... Vancouver
†*Victoria Lumber & Mfg. Co., Ltd. .. Chemainus
*Wattsburg Lumber Co. ..... Wattsburg
*Western Canada Timber Co. ..... Gerrard
*Western Pine Lumber Co., Ltd. ....Grand Forks
*E. W. Whittington Lumber Co., Ltd. .. Victoria
Willow River Lumber Co. ..... Willow River
*Yahk Lumber Co. ..... Wasa

LYE AND CLEANSERS

W. J. Pendray & Sons, Ltd. ..... Victoria
Royal Crown Soaps, Ltd. ..... Vancouver

MACHINERY

B. C. MARINE, LIMITED ..... Vancouver
W. J. Ellis ..... Kamloops
HEAPS ENGINEERING CO., LTD., New West'r
LETSON & BURPEE, LTD. ..... Vancouver
MAINLAND ENGINEERING CO., LTD., Vanc'r
J. F. NEILSON ..... New Westminster
Nelson Iron Works ..... Nelson
Prince Rupert Drydock & Tngineering Co., Ltd.,
..... Prince Rupert
Progressive Engineering Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... Vancouver
VANCOUVER ENG. WORKS, LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
Wallace Shipyards Limited .... North Vancouver

MACHINERY—Canning

HEAPS ENG. CO. LTD.....New Westminster
LETSON & BURPEE, LTD. ..... Vancouver
MAINLAND ENGINEERING CO., LTD., Vanc'r
J. F. Neilson ..... New Westminster
Progressive Engineering Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,.
..... Victoria
WESTMINSTER FOUNDRY CO. LTD. N. West'r

MACHINERY—Electrical

Crossman Electrical Machinery Co. Ltd. Vanc'r
ELECTRICAL MFG. CO. ..... Vancouver
GRAHAM ELECTRIC CO. ..... Vancouver
R. Hoffmeister ..... Vancouver
MAINLAND ENGINEERING CO. ..... Vancouver
Progressive Engineering Works, Ltd.....Vancouver
RELIABLE ELECTRIC CO. ..... Vancouver

MACHINERY—Logging

Columbia Block & Tool Co. ..... Vancouver
W. J. Ellis ..... Kamloops
Empire Mfg. Co., Ltd. ..... Vancouver
Gilchrist Mfg. Co., ... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
NORTH SHORE IRON WORKS, LTD. N. Vancr.
OLSON IRON WORKS ..... Vancouver
Progressive Engineering Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... Vancouver
VANCOUVER ENG. WORKS. LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
WESTMINSTER FOUNDRY CO. LTD. N. West'r
YARROWS LIMITED, ESQUIMALT.....Victoria

MACHINERY—Mining

Columbia Iron Works ..... Vancouver
W. J. Ellis ..... Kamloops
Faust Concentrating Co. ..... Vancouver
HALL MACHINE WORKS ..... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
MARITIME MOTOR CO., LTD. ..... Vancouver
Nelson Iron Works ..... Nelson
Progressive Engineering Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VANCOUVER ENG. WORKS, LTD.....Vancouver
WESTMINSTER FOUNDRY CO. LTD. N. West'r

MACHINERY—Saw, Shingle and Planing Mill

W. J. Ellis ..... Kamloops
HALL MACHINE WORKS ..... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
IDEAL IRON WORKS ..... Vancouver
MAINLAND ENGINEERING CO., LTD., Vanc'r
LETSON & BURPEE, LTD. ..... Vancouver
J. F. NEILSON ..... New Westminster
Nelson Iron Works ..... Nelson
Progressive Engineering Works, Ltd.....Vancouver
Ross & Howard Iron Works, Ltd.....Vancouver
VANCOUVER ENG. WORKS. LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD..
..... Victoria
W. J. Ellis ..... Kamloops

MACHINERY—Saw, Shingle and Planing Mill —(Continued)

HALL MACHINE WORKS ..... **Vancouver**
Ideal Iron Works ..... Vancouver
MAINLAND ENGINEERING CO., LTD., Vanc'r
J. F. NEILSON ..... **New Westminster**
Nelson Iron Works ..... Nelson
Progressive Engineering Works, Ltd.....Vancouver
Ross & Howard Iron Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
VANCOUVER ENG. WORKS, LTD.....**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
WEBB & GIFFORD ..... **New Westminster**

MACHINERY—Woodworking

HALL MACHINE WORKS ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
MAINLAND ENGINEERING CO., LTD., Vanc'r
Progressive Engineering Works, Ltd.....Vancouver
Ross & Howard Iron Works, Ltd.....Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**

MACHINISTS

Akerberg, Thomson & Co. ..... Prince Rupert
ALLAN & McKELVIE ..... **Vancouver**
B. C. Construction & Engineering Co., Ltd.,
..... New Westminster
B. C. MARINE, LIMITED ..... **Vancouver**
Burrard Iron Works ..... Vancouver
Columbia Block & Tool Co. ..... Vancouver
Columbia Iron Works ..... Vancouver
Cope & Son, Ltd. ..... Vancouver
J. COUGHLAN & SONS ..... **Vancouver**
Cowie Machine Works ..... Nanaimo
W. J. Ellis ..... Kamloops
Empire Mfg. Co., Ltd. ..... Vancouver
GIBBS TOOL & STAMPING WKS.....**Vancouver**
Gilchrist Mfg. Co. ..... Vancouver
Hafer Machine Works ..... Victoria
HALL MACHINE WORKS ..... **Vancouver**
HEAPS ENGINEERING CO., LTD., New West'r
Heaton Machine Works ..... Vancouver
HUTCHISON BROS. & CO. LTD. .....**Victoria**
IDEAL IRON WORKS ..... **Vancouver**
Imperial Machine Works ..... Prince Rupert
LETSON & BURPEE, LTD. ..... **Vancouver**
Lofts & Bosustow ..... Victoria
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Engineering Co., Ltd. ..... Vancouver
Marine Iron Works ..... Victoria
MARITIME MOTOR CO., LTD. ..... **Vancouver**
Morton Pump Co., Ltd. ..... Vancouver
J. F. NEILSON ..... **New Westminster**
Nelson Iron Works ..... Nelson
NORTH SHORE IRON WORKS, LTD. N. Vancr.
Pacific Iron Works ..... Vancouver
Prince Rupert Drydock & Engineering Co., Ltd.,
..... Prince Rupert
Progressive Engineering Works, Ltd.....Vancouver
Ramsay Machine Works ..... Victoria
Robertson Iron Works ..... Victoria
A. Rogers & Co. ..... Vernon
Ross & Howard Ironworks, Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
Standard Engineering Co., Ltd. ..... Vancouver
J. D. Stout ..... Vancouver
TERMINAL CITY IRON WORKS .... **Vancouver**
TUPPER & STEELE. LTD. ..... **Vancouver**
Vancouver Brass Works ..... Vancouver
VANCOUVER ENG. WORKS, LTD.....**Vancouver**
VANCOUVER MACHINERY DEPOT, LTD......
..... Vancouver
Victoria Brass & Iron Works ..... Victoria
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VIVIAN GAS ENGINE WORKS ..... **Vancouver**
VULCAN IRON WORKS LTD. ..... **Vancouver**
Wallace Shipyards Limited .... North Vancouver
WEBB & GIFFORD ..... **New Westminster**
WESTERN MACHINE WORKS, LTD......**Vancr.**
WESTMINSTER FOUNDRY CO. LTD. N. West'r
WESTMINSTER IRON WORKS,....**New Westm'r**
YARROWS LIMITED, ESQUIMALT.....**Victoria**

MACARONI AND VERMICELLI

Fernie Macaroni Co. ..... Fernie
Ramsay Bros. & Co., Ltd. ..... Vancouver
KELLY CONFECTION CO., LTD......**Vancouver**

MAPS

City Map & White Print Co. ..... Vancouver
Electric Blueprint & Map Co. ..... Victoria
Vancouver Map & Blueprint Co. .....Vancouver

MARBLE

B. C. Marble Terazzo Co. ..... Vancouver
Continental Marble Co., Ltd. ..... Vancouver
Malaspina Marble Co., Ltd. ..... Vancouver
Stewart Marble Works ..... Victoria
Vermont Marble Co., Ltd. ..... Vancouver

MATCHES

Hall Match Co. ..... Vancouver

MATTRESSES

Alaska B. C. Bedding Co., Ltd. ..... Vancouver
Nelson Mattress Works ..... Nelson
Restmore Mfg. Co., Ltd. ..... Vancouver
Victoria Mattress Co. ..... Victoria

METAL—Electrotype and Stereotype, Linotype and Babbitt

Canada Metal Co., Ltd. ..... Vancouver
GREAT WESTERN SMELTING & REFINING CO., LTD. ..... **Vancouver**

METAL POLISH

Souverain Mfg. Co. ..... Vancouver

METAL—Spinners

Cope & Son, Limited ..... Vancouver

METAL—Stamping

GEO. H. HEWITT CO. LTD. ..... **Vancouver**
GIBBS TOOL & STAMPING WORKS, Vancouver

METALS AND MACHINERY

Metal Trades Employers' Ass'n of B. C.....
..... Vancouver and Victoria

MILK AND BUTTER

(See Creameries.)

MILK—Condensed

B. C. Milk Condensing Co., Ltd., Sardis, Vanc'r
Courtenay Milk Condensing Co., Ltd. Courtenay
..... and Vancouver
PACIFIC MILK CO., LTD. Ladner, Vancouver

MONUMENTAL WORKS

Wm. Bertram ..... Vancouver
C. Marega ..... Vancouver
J. Mortimer & Sons ..... Victoria
J. B. Newall ..... Vancouver
Patterson, Chandler & Stephen, Ltd. ..Vancouver
Stewart & Willey ..... Vancouver

MOPS

Dust Control Co. ..... Vancouver
B. C. BRUSH CO., LTD. ..... **Vancouver**

MOTION PICTURE FILMS

A. D. Keen ..... Vancouver

MOTORS—Gasoline

Hafer Machine Works ..... Victoria
HEAPS ENGINEERING CO., LTD., New West'r
MARITIME MOTOR CO., LTD. ..... **Vancouver**
SCHAAKE CO., LTD. ..... **Vancouver**
TUPPER & STEELE, LTD. ..... **Vancouver**
VIVIAN GAS ENGINE WORKS ..... **Vancouver**

MOULDINGS—(See Lumber Mills)

NAILS—Wire

MORRISON STEEL & WIRE CO., LTD., Vancr.

NAME PLATES—Brass

A. G. BAGLEY & SONS ..... **Vancouver**
HANSCOME & GEHRKE LTD. ..... **Vancouver**
GEO. H. HEWITT CO. LTD. ..... **Vancouver**
Sweeny & McConnell ..... Victoria
Vancouver Stencil & Seal Co. ..... Vancouver

NECKWEAR—Silk

B. C. Cravat & Regalia Co., Ltd. ..... Vancouver
J. R. Morrison ..... Vancouver

NETTING—Wire

Artistic Iron & Wire Co. ..... Vancouver
B. C. Anchor and Fence Co. ..... Vancouver

NURSERY STOCK

B. C. NURSERIES LTD. ..... **Vancouver**
Brown Bros. ..... Vancouver
Layritz Nurseries ..... Victoria
Royal Nurseries ..... Vancouver

NUTS

Aetna Iron & Steel Co., Ltd. ..... Port Moody
HEAPS ENGINEERING CO., LTD., New West'r
VANCOUVER ENG. WORKS, LTD. ..... **Vancouver**

OFFICE AND SHOP FIXTURES

Dixon & Murray ..... Vancouver
Johnson & Allen ..... Vancouver
Rock Bay Showcase Co. ..... Victoria

OIL—Fish

Victoria Whaling Co., Ltd. ..... Victoria

OIL—Floor

B. C. REFINING CO., LTD. ..... **Vancouver**
Dust Control Co. ..... Vancouver
Milne Mfg. Co. ..... Vancouver
Red Seal Mfg. Co. ..... Vancouver
West Disinfecting Co. ..... Vancouver

OIL FUEL BURNERS

B. C. MARINE ..... **Vancouver**
Fess System ..... Vancouver
GLOBE IRON WORKS ..... **Vancouver**
YARROWS LTD. ..... **Victoria**

OIL—Fuel, Petroleum

B. C. REFINING CO., LTD. ..... **Vancouver**
Imperial Oil Co., Ltd. ..... Vancouver

OIL—Lubricating

B. C. REFINING CO., LTD. ..... **Vancouver**
Imperial Oil Co., Ltd. ..... Vancouver

OVERALLS

B. C. Shirt & Overall Co. ..... Vancouver
Gault Bros., Ltd. ..... Vancouver
HAMILTON, CARHARTT COTTON MILLS, LTD. ..... **Vancouver**
Hermans Uniforms ..... Vancouver
Jas. Thomson & Co., Ltd. ..... Vancouver
McKay, Smith & Blair ..... Vancouver
TURNER BEETON & CO., LTD. ..... **Victoria**

OXYGEN

Compressed Gas Co., Ltd. ..... Vancouver

PACKING—Asbestos

H. BAILIE & CO. ..... **Vancouver**

PAINT—Mfrs.

AYRES VARNISH CO. ..... **Vancouver**
British America Paint Co., Ltd. ..... Victoria
Brandram, Henderson, Ltd. ..... Vancouver
Crown Paint Co. ..... Vancouver
Henry Darling ..... Vancouver
Martin, Senour, Ltd. ..... Vancouver
Melrose Co. ..... Victoria
N. A. G. Paint Co. ..... Victoria
Staneland Mfg. Co. ..... Victoria

PANS—Bakers' and Confectioners'

Gawne & Daly ..... Vancouver

PANTS—Working

B. C. Shirt & Overall Co., Ltd ..... Vancouver
HAMILTON, CARHARTT COTTON MILLS, LTD. ..... **Vancouver**
Gault Brothers Ltd. ..... Vancouver
Jas. Thomson & Sons, Ltd. ..... Vancouver
TURNER BEETON & CO., LTD. ..... **Victoria**

PAPER—Book and Newsprint

Pacific Mills, Ltd. ..... Vancouver
Powell River Co., Ltd. ..... Vancouver
Rainy River Pulp & Paper Co., Ltd. ..... Vancouver

PAPER—Kraft

Rainy River Pulp & Paper Co., Ltd. ..... Vancouver

PAPER—Pulp

(See Wood Pulp.)

PAPER—Rulers

Clarke & Stuart, Ltd. ..... Vancouver
G. A. Roedde, Ltd. ..... Vancouver
Vancouver Bindery ..... Vancouver

PATTERN MAKERS

ALBION STOVE WORKS, LTD. ..... **Victoria**
ALLAN & McKELVIE ..... **Vancouver**
Benson Pattern Works ..... Vancouver
B. C. MARINE, LIMITED ..... **Vancouver**
COUGHLAN & SONS, J. ..... **Vancouver**
F. Dawson ..... Vancouver
GLOBE IRON WORKS ..... **Vancouver**
Hafer Machine Works ..... Victoria
HALL MACHINE WORKS ..... **Vancouver**
HUTCHISON BROS. & CO. LTD. ..... **Victoria**
LETSON & BURPEE, LTD. ..... **Vancouver**
MAINLAND ENGINEERING CO., LTD., Vanc'r

PATTERN MAKERS—(Continued)

Marine Iron Works ..... Victoria
MARITIME MOTOR CO., LTD. ..... **Vancouver**
NORTH SHORE IRON WORKS, LTD. N. Vancr.
Progressive Engineering Works, Ltd.....Vancouver
Ramsay Machine Works ..... Victoria
Ross & Howard Ironworks, Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
TERMINAL CITY IRON WORKS .... **Vancouver**
Vancouver Brass Works ..... Vancouver
VANCOUVER ENG. WORKS. LTD.....**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS LTD. ..... **Vancouver**
WALLACE FOUNDRY LTD. ..... **Vancouver**
Wallace Shipyards Limited .... North Vancouver
WEBB & GIFFORD ..... **New Westminster**

PEANUT BUTTER

CANADA NUT CO., LTD. ..... **Vancouver**
Foley Co. ..... Vancouver

PENSTOCKS

CANADIAN NORTHWEST STEEL CO., LTD.
..... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
Ross & Howard Ironworks, Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
VANCOUVER ENG. WORKS, LTD.....**Vancouver**
VULCAN IRON WORKS LTD. ..... **Vancouver**

PHARMACEUTICAL PREPARATIONS

(See Druggists, Mfg.)

PHOTOGRAPHS—Industrial and Commercial

DOMINION PHOTO CO. ..... **Vancouver**
Canadian Photo Co. ..... Vancouver

PICKLES

Empress Mfg. Co., Ltd. ..... Vancouver
Eureka Pickle Works ..... Arrow Park
Hobson Mfg. Co. ..... Vancouver
KING-BEACH MFG. CO., LTD. ..... **Mission**
Vancouver Pickle Co. ..... Vancouver
Western Pickling Works, Ltd. ..... Victoria
Irwin Billings Packing Co. Ltd. ..... Vancouver

PILES AND POLES

Abbotsford Timber & Trading Co., Ltd. Abbotsfd.
Adams River Lumber Co., Ltd. ..... Chase
A. P. Allison & Co. ..... Green Point Rapids
Arrow Lakes Shingle Co. ..... Nakusp
Baker Lumber Co., Ltd. ..... Waldo
B. C. Mills, Timber & Trading Co. .... Vancouver
Cottonwood Lumber Co., Ltd. ..... Vancouver
Crow's Nest Pass Lumber Co., Ltd. .... Wardner
East Kootenay Lumber Co., Ltd. ..... Jaffray
Empire Lumber Co. ..... Victoria
Forest Mills of B. C., Ltd. ..... Revelstoke
Genoa Bay Lumber Co., Ltd. ..... Genoa Bay
J. H. Hayes ..... Fort Steele
McKay-Brown Lumber Co. ..... Port Coquitlam
McNair & Graham ..... Rosedale
Otis-Staples Lumber Co., Ltd. ..... Wycliffe
Peers & Anderson ..... Vancouver
Roberts & Winsor ..... Elko
Seymour Lake Lumber Co., Ltd. ..... Smithers
United Lumber & Shingle Co. .... Nanoose Bay
Vancouver Lumber Co., Ltd. ..... Vancouver
Victoria Lumber & Mfg. Co., Ltd. .... Chemainus

PIPE—Cast Iron

ALLAN & McKELVIE ..... **Vancouver**
Hendry Patterson Foundry Co. ..... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
HUTCHISON BROS. & CO. LTD. .....**Victoria**
LETSON & BURPEE, LTD. ..... **Vancouver**
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
NORTH SHORE IRON WORKS, LTD. N. Vancr.
Progressive Engineering Works, Ltd.....Vancouver
Ross & Howard Ironworks, Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... **Vancouver**
TERMINAL CITY IRON WORKS .... **Vancouver**
VANCOUVER ENG. WORKS. LTD.....**Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS LTD. ..... **Vancouver**
WESTMINSTER FOUNDRY CO. LTD. N. West'r
YARROWS LIMITED, ESQUIMALT.....**Victoria**

PIPE—Concrete, Sewer

Dominion Glazed Cement Pipe Co.....S. Vanc'r

PIPE—Earthenware and Cement

B. C. POTTERY CO., LTD. ..... **Victoria**
Dominion Glazed Cement Pipe Co., Ltd., Vanc'vr
Pacific Lock Joint Pipe Co., Ltd. ..... Victoria

PIPE—Lead

MAINLAND ENGINEERING CO., LTD., Vanc'r
TERMINAL CITY IRON WORKS .... **Vancouver**

PIPE—Rivetted

B. C. MARINE, LIMITED ..... **Vancouver**
CANADIAN NORTHWEST STEEL CO., LTD.
..... Vancouver
NORTH SHORE IRON WORKS, LTD. N. Vancr.
VANCOUVER ENG. WORKS LTD.....**Vancouver**
VANCOUVER FORGE CO., LTD. .... **Vancouver**
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS, LTD. ..... **Vancouver**
YARROWS LIMITED, ESQUIMALT.....**Victoria**

PIPE—Wood Stave

Canadian Wood Pipe Co., Ltd. ..... Vancouver
Pacific Coast Pipe Co., Ltd. ..... Vancouver
Vancouver Wood Pipe Co., Ltd. ..... Vancouver

PLANING MILLS—(See Lumber Mills)

PLATERS—Brass, Copper, Nickel and Silver

ALBION STOVE WORKS LTD. ..... **Victoria**
O. B. Allan ..... Vancouver
B. C. Plating Co. ..... Vancouver
Cascade Plating Co. ..... Vancouver
Cope & Son Ltd. ..... Vancouver
Henry Birks & Sons, Ltd. ..... Vancouver
Superior Plating Co. ..... Vancouver

POLES—(See Piles)

POLISH—Furniture

B. C. REFINING CO., LTD. ..... **Vancouver**
Milne Mfg. Co. ..... Vancouver
Dust Control Co. ..... Vancouver
Red Seal Mfg. Co. ..... Vancouver

POLISH—Shoe and Leather

Charlton-Lee Co. ..... Vancouver

PORK AND PORK PRODUCTS

P. BURNS & CO., LTD. ..... **Vancouver**
Vancouver-Prince Rupert Meat Co., Ltd. Vancr.
Jas. Reid ..... Vancouver
Reid & Millar ..... Vancouver

POSTERS—Hand-Painted

H. Duker Ltd. ..... Vancouver
Wm. DuMoulin, Ltd. ..... Vancouver

POTTERY

B. C. POTTERY CO., LTD. ..... Victoria

POWDER—Blasting, Sporting and Stumping

Canadian Explosives, Ltd. ..... Vancouver
Giant Powder Co., Ltd. ..... Vancouver

PRINTERS—(Abridged List)

B. C. PRINTING & LITHO, LTD. ..... Vancouver
Clarke & Stuart ..... Vancouver
Colonist Printing & Pub. Co., Ltd. ..... Victoria
EVANS & HASTINGS PRINTING CO. Vanc'r
Grant & Sons, Ltd. ..... Vancouver
Hanscome & Gehrke, Ltd. ..... Vancouver
Nicholson, Ltd. ..... Vancouver
PACIFIC PRINTERS ..... Vancouver
PROGRESS PUBLISHING CO., LTD.....Vancouver
Sweeney & McConnell, Ltd. ..... Victoria
Sunset Presses, Ltd. ..... Vancouver
A. H. Timms, Ltd. ..... Vancouver
Victoria Printing & Pub. Co. ..... Victoria

PRINTERS—Copper Plate

Grant & Son, Ltd. ..... Vancouver
Hanscome & Gehrke, Ltd. ..... Vancouver

PRINTERS ROLLERS and SUPPLIES

Columbia Printing Ink & Roller Co.....Vancouver

PRINTERS—In Rolls

Nicholson, Ltd. ..... Vancouver

PUBLISHERS—Book

PROGRESS PUBLISHING CO., LTD.....Vancouver
Victoria Printing & Publishing Co. ..... Victoria

PULLEYS—Iron and Steel

W. J. Ellis ..... Kamloops
Columbia Block & Tool Co. ..... Vancouver
GLOBE IRON WORKS ..... Vancouver
HALL MACHINE WORKS ..... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
OLSON IRON WORKS ..... Vancouver
LETSON & BURPEE, LTD. ..... Vancouver
Ramsay Machine Works ..... Victoria
SCHAAKE CO., LTD. ..... Vancouver

PULLEYS—Split Wood

COLUMBIAN PULLEYS Ltd. ..... Vancouver
LETSON & BURPEE, LTD. ..... Vancouver
SCHAAKE CO., LTD. ..... Vancouver

PULP—(See Wood Pulp.)

(See Wood Pulp.)

PUMPS—Air

GLOBE IRON WORKS ..... Vancouver
HUTCHISON BROS. & CO. LTD. .....Victoria
Marine Iron Works ..... Victoria
Morton Pump Co., Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... Vancouver
TERMINAL CITY IRON WORKS .... Vancouver

PUMPS—Iron, Force and Lift

HUTCHISON BROS. & CO. LTD. .....Victoria
Morton Pump Co., Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... Vancouver

PUMPS—Ship

ALLAN & McKELVIE ..... Vancouver
Marine Iron Works ..... Victoria
Morton Pump Co., Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... Vancouver
TERMINAL CITY IRON WORKS .... Vancouver

RAILINGS—Iron (Bank, Office and Balcony)

S. M. Morris & Co. Ltd. ..... Vancouver
WESTMINSTER IRON WORKS,....New Westm'r

REFRIGERATORS

Aeronui, Ltd. ..... Vancouver
Linde Canadian Refrigeration Co. Ltd., Vanc'r
Rock Bay Showcase Co. ..... Victoria

RICE AND RICE PRODUCTS

(See Flour—Rice)

ROLLERS—Printers'

COLUMBIA PRINTING INK & ROLLER CO. ..... Vancouver

ROOFING—(Prepared) Asphalt, Tarred Rubber, Etc.

BARRETT CO., LTD. ..... Vancouver
Sidney Rubber Roofing Co. ..... Victoria

RUGS

Pacific Coast Fluff Rug Company.....Vancouver

SAILS

C. H. Jones & Son, Ltd. ..... Vancouver
E. Lipsett ..... Vancouver
F. Jeune ..... Victoria
Prince Rupert Tent Co. ..... Prince Rupert

SALMON— Canned

(See full list of Canneries, page 26.)

SASH—(See Doors and Sash.)

SASH—Weights, Lead

Hendry Patterson Foundry Co. ..... Vancouver
Ross & Howard Ironworks, Ltd. ..... Vancouver
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria

SCIENTIFIC INSTRUMENTS

W. T. Watson ..... Vancouver

SHEET METAL WORKS

ALBION STOVE WORKS ..... Victoria
Ansell Sheet Metal Works ..... Vancouver
Barker, A. J. ..... Vancouver
British Columbia Ceiling & Roofing Co., Vanc'r
Campbell & Grill ..... Vancouver
Central Sheet Metal Works ..... Vancouver
Cooley, H. & Son ..... Victoria
Fourth Avenue Heating Co. ..... Vancouver
Gordin Sheet Metal Works ..... Vancouver
Grandview Sheet Metal Works ..... Vancouver
Gawne & Daly ..... Vancouver
H. & H. Sheet Metal Works ..... Vancouver
Hamilton, F. N. ..... Vancouver
Hatch, J. H. ..... Vancouver
Hecla Heating Co. ..... Victoria
Henry, Wm. ..... Vancouver
Hodgson Plumbing & Heating Co. .... Vancouver
Hollingsworth, W. D. ..... New Westminster
Jones, A. Y. ..... Vancouver
Kitsilano Sheet Metal & Plumbing Wks., Vanc'r
Lee, Johnson ..... Vancouver
Little, Frank ..... Vancouver
Matheson, J. A. ..... Vancouver
Miller & Co., John ..... Vancouver
Mitchell, A. H. ..... Vancouver
New Ideal Sheet Metal Works ..... Vancouver
Pacific Sheet Metal Works ..... Victoria
Schwan, A. ..... W. Vancouver
Sidney, H. ..... Vancouver
Smith, W. W. ..... Vancouver
Tacey, J. R., & Son ..... Vancouver
Terminal Sheet Metal Works ..... Vancouver

SHINGLES—Cedar

Abbotsford Timber & Trading Co. .. Chilliwack
Allison & Co. ..... Green Point Rapids
Arrow Lake Shingle Co. ..... Nakusp
B. & K. Shingle Co. ..... Mount Lehman
Banner Shingle Co. ..... White Rock
Barclay Shingle Mills, Ltd. ..... Vancouver
Brooks-Bidlake Cedar Co., Ltd. ..... Vancouver
BRUNETTE SAW MILLS CO., LTD., N. West.
Burnaby Lake Lumber & Shingle Co. Vancouver
Canada Shingle Co., Ltd. ..... Vancouver
Canadian Western Lumber Co., Ltd. Fraser Mills
Canyon City Lumber Co., Ltd. ..... Creston
Cedar Cove Sash & Door Co., Ltd. ....Vancouver
Joseph Chew Lumber Co., Ltd. ..... Vancouver
Cloverdale Milling Co. ..... Murrayville
Cook & Craig Lumber Co., Ltd. ..... Vancouver
Albert Cotton ..... Vancouver
Dominion Shingle o., ... New Westminster
Fernridge Lumber Co., Ltd. .... New Westminster
Forest Mills of B. C. ..... Revelstoke
Galbraith & Sons ..... New Westminster
Genoa Bay Lumber Co., Ltd. ..... Genoa Bay
Hastings Shingle Co. ..... Vancouver
Huntting-Merritt Lumber Co., Ltd. .... Marpole
Thos. Kirkpatrick ..... Vancouver
Kootenay Shingle Co. ..... Salmo
Lulu Shingle Co., Ltd. ..... Eburne
Robert McNair Shingle Co. ..... Vancouver
Marsh-Hutton Powers Co. .... New Westminster
Munn & Murphy Shingle Co. ..... Hatzic
Peers & Anderson ..... Vancouver
Port Moody Shingle Co. ..... Port Moody
RAT PORTAGE LUMBER CO., LTD., Vancouver
C. M. Robertson ..... Aldergrove
Robertson & Hackett ..... Vancouver
Shull Lumber & Shingle Co., Ltd. N. Westminster
Standard Shingle Mills, Ltd. ..... Vancouver
Stoltz Mfg. Co., Ltd. ..... Ruskin
United Lumber & Shingle Co. ..... Vancouver
Thurston-Flavelle Lumber Co. ..... Port Moody
Vancouver Cedar Mills, Ltd. ..... Vancouver
Victoria Lumber & Mfg. Co. ..... Chemainus
Western Box & Shingle Mills, Ltd. ..... Nelson
Westminster Mills Co., Ltd. .... New Westminster

SHIPBUILDERS

B. C. Construction and Engineering Co., Ltd. ..... New Westminster
B. C. Marine, Limited ..... Vancouver
British Pacific Engineering Co , Ltd.....Vancouver
Cameron-Genoa Shipbuilders, Ltd. ..... Victoria
Coughlan, John & Sons .....Vancouver
Fraser River Shipbuilding Co., New Westminster
Foundation Co., Ltd. ..... Victoria
Lyall Shipbuilding Co., Ltd. ..... North Vancouver
Pacific Shipbuilding Corporation, Ltd.....Vanc'r
Prince Rupert Drydock & Engineering Co., Ltd., ... Prince Rupert
Star Shipyards ..... New Westminster
Standard Shipbuilding Co. ..... Vancouver
Vancouver Shipyards Limited ..... Vancouver
Victoria Machinery Depot Co., Ltd. .... Victoria
Wallace Shipyards Limited ..... North Vancouver
Western Canada Shipyards, Ltd. ..... Vancouver
Yarrows, Limited ..... Esquimalt

SHIRTS—Cotton, (Men's)

B. C. Shirt & Overall Co., Ltd. ..... Vancouver
Gault Bros., Ltd. ..... Vancouver
TURNER BEETON & CO., LTD. ..... Victoria

SHIRTS—Work

B. C. Shirt & Overall Co., Ltd. ..... Vancouver
HAMILTON, CARHARTT COTTON MILLS, LTD.. ..... Vancouver
Gault Brothers Limited ..... Vancouver
Jas. Thomson & Sons, Ltd. ..... Vancouver
TURNER, BEETON & CO., LTD. ..... Victoria

SHOE RIVETS

MORRISON STEEL & WIRE CO., LTD., Vanc'r

SHOES—(See Boots))

SHOOKS—Box (See Boxes)

SHOWCASES

Dixon & Murray ..... Vancouver
Johnson & Allen ..... Vancouver
Rock Bay Showcase Co. ..... Victoria
(See Cabinet Makers.)

SIGNS

Abbot & Castleton ..... Vancouver
Baker Sign Co. ..... Vancouver
Eagle Sign Works ..... Vancouver
Hopps Sign Co. ..... Vancouver
Keown Bros. Sign Co. ..... Victoria
Manser Sign Co. ..... Victoria
Overton Sign Co. ..... Vancouver
Shepard & Willey ..... Vancouver

SMELTING COMPANIES

Britannia Mining & Smelting Co., Ltd., Britannia
Canadian Colsolidated Mining & Smelting Co., Ltd. ..... Trail
Granby Consolidated Mining & Smelting Co., Ltd. ..... Vancouver
Ladysmith Smelting Corporation, Ltd. ....Victoria

SMOKE STACKS

B. C. MARINE, LIMITED ..... Vancouver
Burrard Iron Works ..... Vancouver
CANADIAN NORTHWEST STEEL CO., LTD. ..... Vancouver
W. J. Ellis ..... Kamloops
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
J. F. NEILSON ..... New Westminster
Pacific Sheet Metal Works ..... Vancouver
J. W. Patterson ..... Vancouver
Robertson Iron Works ..... Victoria
Ross & Howard Ironworks, Ltd. ..... Vancouver
VANCOUVER ENG. WORKS LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
VULCAN IRON WORKS, LTD. ..... Vancouver
Wallace Shipyards Limited .... North Vancouver
YARROWS LIMITED, ESQUIMALT.....Victoria

SOAP—Laundry and Toilet

B. C. REFINING CO. LTD. ..... Vancouver
B. C. Utility Soap Co , Ltd. ..... Vancouver
W. J. Pendray & Sons, Ltd. ..... Victoria
Royal Crown Soaps, Ltd. ..... Vancouver

SOLDER

GREAT WESTERN SMELTING & REFINING CO. ..... Vancouver

SPICES—Whole and Ground

Wm. Braid & Co., Ltd. ..... Vancouver
Empress Mfg. Co., Ltd. ..... Vancouver
W. A. Jameson Coffee Co. ..... Victoria
Kelly, Douglas & Co., Ltd. ..... Vancouver
Leeson, Dickie, Gross & Co., Ltd. ..... Vancouver
W. H. Malkin Co., Ltd. ..... Vancouver
Pioneer Coffee & Spice Mills ..... Victoria

STAIRS—Iron

CANADIAN NORTHWEST STEEL CO., LTD. ..... Vancouver
S. M. Morris & Co., Ltd. ..... Vancouver
VULCAN IRON WORKS, LTD. ..... Vancouver
WESTMINSTER IRON WORKS,....New Westm'r

STAMPS—Metal and Rubber

A. G. BAGLEY & SONS ..... Vancouver
GIBBS TOOL & STAMPING CO. ..... Vancouver
GEO. H. HEWITT CO. ..... Vancouver
Insley Press & Rubber Stamp Works, N. West.
Sweeney & McConnell, Ltd. ..... Victoria
Vancouver Stencil & Seal Co. ..... Vancouver

STAMPS—Steel

GIBBS TOOL & STAMPING WORKS Vancouver
OLSON IRON WORKS ..... Vancouver

STANDARDS—Cast-Iron (Street Lighting)

HEAPS ENGINEERING CO., LTD., New West'r
HUTCHISON BROS. & CO. LTD. .....Victoria
MAINLAND ENGINEERING CO., LTD., Vanc'r
Progressive Eng. Works Ltd. ..... Vancouver
Ross & Howard Ironworks, Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... Vancouver
TERMINAL CITY IRON WORKS .... Vancouver
VANCOUVER ENG. WORKS LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS LIMITED .... Vancouver
WALLACE FOUNDRY LIMITED ..... Vancouver
WESTMINSTER FOUNDRY CO. LTD. N. West'r

STAPLES—Wire

MORRISON STEEL & WIRE CO., LTD. Vancr.

STEEL CASTINGS

Aetna Iron & Steel Co. Ltd. ..... Port Moody
HEAPS ENGINEERING CO., LTD., New West'r
VANCOUVER ENG. WORKS LTD.....Vancouver

STEEL PLATE—Construction

B. C. MARINE LTD. ..... Vancouver
CANADIAN NORTHWEST STEEL CO., LTD.
..... Vancouver
COUGHLAN & SONS, J. ..... Vancouver
VANCOUVER ENG. WORKS LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
Wallace Shipyards Ltd. ..... North Vancouver
WESTMINSTER IRON WORKS,....New Westm'r
YARROWS LIMITED ESQUIMALT.....Victoria

STENCILS—Brass

(See Stamps—Rubber.)

STONE—Artificial, Building

Monarch Art Stone Co., Ltd. ..... Vancouver

STONE—Crushed

Coast Quarries Ltd. ..... Vancouver
Granite Quarries Ltd. ..... Vancouver
Gilley Bros., Ltd. ..... New Westminster

STONE CUTTERS

Denman Island Stone Co. ..... Vancouver
Keast & Allan ..... Vancouver
Phillips Stone Works ..... Victoria

STOVES—Heating and Cooking

ALBION STOVE WORKS ..... Victoria
Vancouver Stove Works ..... Vancouver
W. B. EARLE ..... Vancouver

STUMP PULLERS

Columbia Block & Tool Co. ..... Vancouver
HUTCHISON BROS. & CO. LTD. .....Victoria
OLSON IRON WORKS ..... Vancouver

SULPHITE PULP

(See Wood Pulp)

SWEATERS AND SWEATER COATS

Pride of the West Knitting Co., Ltd., Vancouver
Universal Knitting Co., Ltd. ..... Vancouver
VANCOUVER KNITTING CO., LTD., Vancouver

SWITCH BOARD and STEEL CABINETS

Electrical Manufacturing Co. ..... Vancouver

SYRUP—Sugar

B. C. Sugar Refining Co., Ltd. ..... Vancouver
KELLY CONFECTION CO., LTD. .. Vancouver
Ramsay Bros. & Co., Ltd. ..... Vancouver

TANKS—Steel

B. C. MARINE, LIMITED ..... Vancouver
CANADIAN NORTHWEST STEEL CO., LTD.
..... Vancouver
COUGHLAN & SONS, J. ..... Vancouver
W. J. Ellis ..... Kamloops
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
J. F. NEILSON ..... New Westminster
NORTH SHORE IRON WORKS LTD. N. Vanc'r
Pacific Sheet Metal Works ..... Vancouver
J. W. Patterson ..... Vancouver
Prince Rupert Drydock & Engineering Co., Ltd.,
..... Prince Rupert
Robertson Iron Works ..... Victoria
Ross & Howard Ironworks Ltd. ..... Vancouver
Vancouver Boiler Works ..... Vancouver
VANCOUVER ENG. WORKS LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD.,
..... Victoria
VULCAN IRON WORKS LTD. ..... Vancouver
YARROWS LIMITED, ESQUIMALT.....Victoria

TANKAGE

(See Fertilizer....Material)

TANKS—Wood

(See Wood Tanks.)

TARPAULINS AND TENTS

C. H. Jones & Son, Ltd. ..... Vancouver
E. Lipsett ..... Vancouver
P. Jeune ..... Victoria
F. Jeune ..... Victoria
Prince Rupert Tent Co. ..... Prince Rupert
Nugent & Co. ..... Vancouver

TEA BLENDERS

Wm. Braid & Co., Ltd. ..... Vancouver
Empress Mfg. Co., Ltd. ..... Vancouver
G. F. & J. Galt, Ltd. ..... Vancouver
W. A. Jameson Coffee Co. ..... Victoria
Kelly, Douglas & Co., Ltd. ..... Vancouver
W. H. Malkin Co., Ltd. ..... Vancouver
Leeson, Dickie, Gross Co., Ltd. ..... Vancouver
Pioneer Coffee & Spice Mills ..... Victoria

TENTS

(See Tarpaulins.)

TIES—Railway, Creosoted

Dominion Creosoting Co., Ltd. ..... Vancouver
Vancouver Creosoting Co., Ltd. North Vancouver

TILE—Drain

Baker Brick & Tile Co. ..... Victoria
Bazan Brick & Tile Co. ..... Victoria
Clayburn Co., Ltd. ..... Clayburn
Clement-Riggs, Ltd. ..... Kelowna
Kilgard Fireclay Co., Ltd. ..... Kilgard
Port Haney Brick Co., Ltd. ..... Vancouver
Victoria Brick & Tile Co., Ltd. ..... Victoria

TILE—Hollow, Structural

(See Block—Building.)

TINS

AMERICAN CAN CO., LTD. ..... Vancouver

TOOLS—Machine

Columbia Block & Tool Co. ..... Vancouver
GIBBS TOOL & STAMPING WORKS Vancouver
Hafer Machine Works ..... Victoria
HALL MACHINE WORKS ..... Vancouver
MAINLAND ENGINEERING CO., LTD., Vanc'r
Marine Iron Works ..... Victoria
Ramsay Machine Works ..... Victoria
Robertson Iron Works ..... Victoria
SCHAAKE CO., LTD. ..... Vancouver
WESTMINSTER IRON WORKS,.... New Westm'r

TOYS AND SMALL WOODENWARE

B. C. Mfg. Co., Ltd. ..... New Westminster
B. C. Toy Co. ..... North Vancouver
Brookes Woodworking Co. ..... New Westminster
GEORGIA TOY CO. ..... Vancouver
Grandview Toy Co. ..... Vancouver
Lumber Products Ltd. ..... New Westminster
VANCOUVER TOY & NOVELTY CO., Vancouver

VACCUUM PUMPS

GLOBE IRON WORKS ..... Vancouver

VALVES—Automatic

Chace Automatic Valve Co. ..... Vancouver

VARNISH

AYRES VARNISH CO. ..... Vancouver
Brandram, Henderson Ltd. ..... Vancouver
B. A. Paint Co., Ltd. ..... Victoria
Martin, Senour Ltd., ... Vancouver
N. A. G. Paint Co. ..... Victoria

VEGETABLES—Canned

Arrow Lakes Canning Co. ..... Burton
J. Broder & Co. ..... New Westminster
Dominion Canners, Ltd. ..... Vernon
FOOD PRODUCTS CO., LTD. ..... Keremeos
M. Mackintosh ..... Vancouver
Similkameen Canning Co ..... Keremeos
Vantoria Canning Co., Ltd. ..... Vancouver
Western Canners, Ltd. ..... Kelowna

VEGETABLES—Dessicated

(See Dessicated Vegetables.)

VENEERS

B. C. MANUFACTURING CO., LTD., ... New Westminster
BRUNETTE SAW MILLS CO., LTD., New West.
Canadian Western Lumber Co., Ltd. Fraser Mills
Laminated Materials Co., Ltd. New Westminster

VENTILATORS

B. C. MARINE LTD. ..... Vancouver
J. K. Miller & Co., Ltd. ..... Vancouver
J. R. Tacey & Son ..... Vancouver
Wallace Shipyards Limited.... North Vancouver
YARROWS LIMITED, ESQUIMALT..... Victoria

VINEGAR

B. C. VINEGAR WORKS, LTD. ..... Vancouver
Hobson Mfg. Co. ..... Vancouver
W. J. Pendray & Sons, Ltd. ..... Victoria
Western Pickling Works ..... Victoria

WAGONS—Delivery (Automobile)

Black Bros. Ltd. ..... Vancouver
HALL & WALLACE ..... Vancouver
Pioneer Carriage Works ..... Vancouver
TUPPER & STEELE ..... Vancouver

WATER—Aerated

Almonds, Limited ..... Vancouver
Acme Soda Water Works, ... New Westminster
Cross & Co ..... Vancouver
Crystal Spring Water Co. ..... Victoria
East Kootenay Bottling Works ..... Cranbrook
Fairalls, Ltd. ..... Victoria
Graham Aerated Water Co. ..... Vancouver
J. Henley ..... Victoria
Kirk & Co. ..... Victoria
Pioneer Bottling Works ..... Nanaimo
Regal Mineral Works ..... Victoria
Salmon Arm Aerated Water Co. ..... Salmon Arm
Thorpe & Co., Ltd. Vancouver, Victoria, Nelson
Vancouver Breweries Co. ..... Vancouver
Victoria Botanic Beverage Co. ..... Victoria
White Seal Bottling Works .... North Vancouver

WAX—Bees

(See Honey.)

WELDING

(See Acetylene Welding)

WHALE MEAT

Victoria Whaling Co., Ltd. ..... Victoria

WHALE OIL

Victoria Whaling Co., Ltd. ..... Victoria

WHEELBARROWS—Wooden

Brown, Fraser & Co. Ltd. ..... Vancouver

WHEELS—Trolley

Marine Iron Works ..... Victoria
Smith Brothers ..... Victoria
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
Vancouver Brass Works ..... Vancouver
Wilson's Brass Foundry ..... Vancouver

WHITE LEAD

Pacific White Lead Co., Ltd. ..... Vancouver

WINCHES

B. C. MARINE, LIMITED ..... Vancouver
HEAPS ENGINEERING CO., LTD., New West'r
HUTCHISON BROS. & CO. LTD. .....Victoria
LETSON & BURPEE, LTD. ..... Vancouver
MAINLAND ENGINEERING CO., LTD.....Vanc'r
Marine Iron Works ..... Victoria
NORTH SHORE IRON WORKS LTD., N. Vanc'r
Ramsay Machine Works ..... Victoria
Ross & Howard Ironworks, Ltd. ..... Vancouver
SCHAAKE CO., LTD. ..... Vancouver
TERMINAL CITY IRON WORKS.....Vancouver
TUPPER & STEELE, LTD. ..... Vancouver
VANCOUVER ENG. WORKS LTD.....Vancouver
VICTORIA MACHINERY DEPOT CO., LTD., ... Victoria
WEBB & GIFFORD ..... New Westminster
WESTMINSTER FOUNDRY CO. LTD. N. West'r
YARROWS LIMITED, ESQUIMALT.....Victoria

WINDOWS—Fireproof

SCHAAKE CO. LTD. ..... Vancouver
(See Sheet Metal Workers.)

WIRE—Coiled

MORRISON STEEL & WIRE CO., LTD., Vanc'r

WIRE—Goods

Artistic Wire and Fence Co. ..... Vancouver
B. C. Anchor & Fence Co., Ltd. ..... Vancouver
MORRISON STEEL & WIRE CO. LTD., Vanc'r

WOOD PULP

Pacific Mills, Ltd. ..... Vancouver
Powell River Co., Ltd. ..... Vancouver
Rainey River Pulp & Paper Co., Ltd. Vancouver
Whalen Pulp & Paper Mills Co., Ltd. Vancouver

WOOD TANKS

Canadian Wood Pipe Co., Ltd. ..... Vancouver
Pacific Coast Pipe Co., Ltd. ..... Vancouver
Vancouver Wood Pipe Co., Ltd. ..... Vancouver

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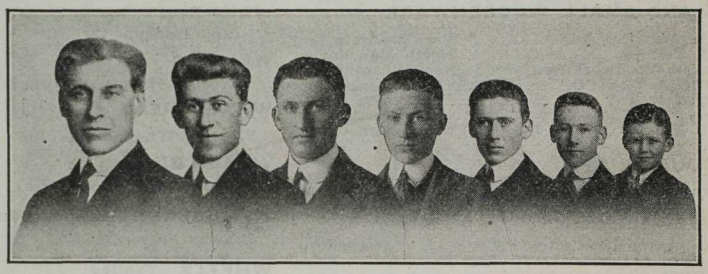

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THE INDUSTRIES OF BRITISH COLUMBIA

In the following pages will be found a description of the basic industries of British Columbia, with condensed information regarding the natural resources upon which these industries are dependent. In addition to a description of the mining, timber, agriculture, and fisheries of the province, some details are also given regarding the present development of manufacturing industries, such as shipbuilding, engineering, metal trades, foodstuffs, clothing, etc.

The descriptions of the plants of the individual firms engaged in these various lines of industry will give the reader a very fair idea of the general scope of operations in British Columbia at the present time. The first section of this book, the classified list of commodities, gives the names of manufacturers of each particular line, and the reader is referred to that list for full information of that nature.

The object of the following pages is to treat the industries as a whole in each particular line.

PRODUCTION OF B. C. BASIC INDUSTRIES

	Minerals	Timber	Agriculture	Furs	Fisheries
1912—	$32,440,500	$30,000,000	$23,323,269	$2,000,000	$13,677,125
1913—	30,148,288	33,650,000	26,222,033	2,000,000	14,445,488
1914—	26,388,825	28,250,000	30,184,100	2,000,000	13,891,398
1915—	29,299,584	29,150,000	30,500,000	2,000,000	11,515,086
1916—	42,970,555	35,528,000	32,259,157	2,000,000	14,538,000
1917*	37,182,570	42,000,000	35,000,000	2,000,000	16,000,000

*The figures for 1917 are subject to slight correction when detailed returns are available.

TOTAL PRODUCTION

1912	$101,441,194
1913	106,475,809
1914	100,714,323
1915	102,464,660
1916	127,295,712
1917	132,182,570

LUMBER

BRITISH COLUMBIA FOREST FACTS.

What We Have.

1. Commercial Forest Area—Over 65,000,000 acres, or about one-fifth the total of Canada.

2. Stand of Saw-timber.—Over 400,000,000,000 feet B.M., or more than half the total amount of Canada.

3. The annual growth is about 6,000,000,000 feet B.M., or about one-sixth the total annual cut of the United States.

Who Owns It.

1. Commercial Forest Area.—The public owns five-sixths of it outright; nine-tenths of the other sixth it owns in partnership with timber lease and license holders.

2. Stand of Saw-timber.—The public owns one-half of it outright; four-fifth of the other half in partnership with timber lease and license holders.

3. The public has an equity in nearly every foot of timber in the Province. For every thousand feet of timber cut and sold (except from land Crown-granted before 1887) a royalty of 50 cents or upward must be paid to the public treasury.

What Is Used.

The present cut is about 1,500,000,000 feet B.M. This is only one-fifth the estimated growth of the forests.

What It Brings.

1. Yet the annual direct revenue to the Public Treasury from the forests is $2,500,000. It is one-quarter the total public revenue. It helps build roads and schools. It keeps the taxes down.

2. The wood-using industries now distribute $30,000,000 per year in the Province. Over 80 per cent. of that is spent for labour and supplies. They contain over half the capital invested in the Province; they employ over half the labour; they pay over half the wages.

3. Utilization of the total annual growth would bring in and distribute $150,000,000 yearly in the Province. Utilization of the total stand would bring in and distribute over $5,000,000,000 altogether.

BRITISH COLUMBIA FOREST TREES

The Principal Trees Indigenous to British Columbia—Their Ranges and Uses.

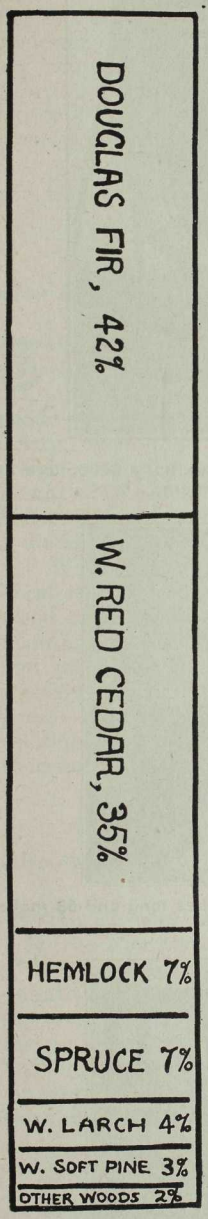
DOUGLAS FIR.

(Pseudotsuga Taxifolia)

Also Known as Red Fir, Yellow Fir, Oregon Pine, Columbia Pine, Douglas Spruce.

DOUGLAS FIR, named after David Douglas, botanist, is widely distributed, being found along the Pacific Coast from Northern British Columbia down to Mexico, covering a range of over one million square miles.

The total quantity of Douglas Fir timber is estimated to be greater than that of all the hardwood timber in North America. With the single exception of the Sequoias of California, it is the world's largest timber tree. The



Showing proportion of Wood cut in B. C. in 1917.

average height is 150 to 225 feet, with a diameter of 3 to 6 feet. Exceptional trees reach over 300 feet in height and 15 feet in diameter.

The wood of Douglas Fir is comparatively light, but very strong; it is the strongest wood in the world for its weight that is obtainable in commercial sizes and quantities. It is moderately hard, but easy to work, straight grained, tough, resilient and durable. It varies in texture and color from a fairly soft, fine grained straw yellow in narrow-ringed, slow-growth trees, to a harder, coarse-grained reddish brown in fast-growing timber. It takes stain well in any shade or color. It holds nails firmly, is practically impervious to water, and is durable. When sawed tangentially (slash grain) the grain of the wood is shown in a most beautiful figuring, which makes it very attractive and widely used for interior finish of every description.

Douglas Fir is the ideal building and structural timber, because it combines the requisites of great strength, light weight and ease of handling and working, durability, beauty and cheapness more than any other commercial timber; moreover, on account of the great size of the trees, the timber can be furnished in extraordinary large dimensions.

The wood of Douglas Fir is equally strong and much lighter than that of its nearest commercial competitor—Long-leaf Pine, also known as Pitch or Southern Pine. Bridge and mining timbers, heavy frame and strong planking for ships, scows, dredges, railway cars, elevators, stage deals, and shores in shipbuilding yards; piling for wharves; spars; these are forms in which Douglas Fir gives superb service, for, as a structural timber it is unsurpassed.

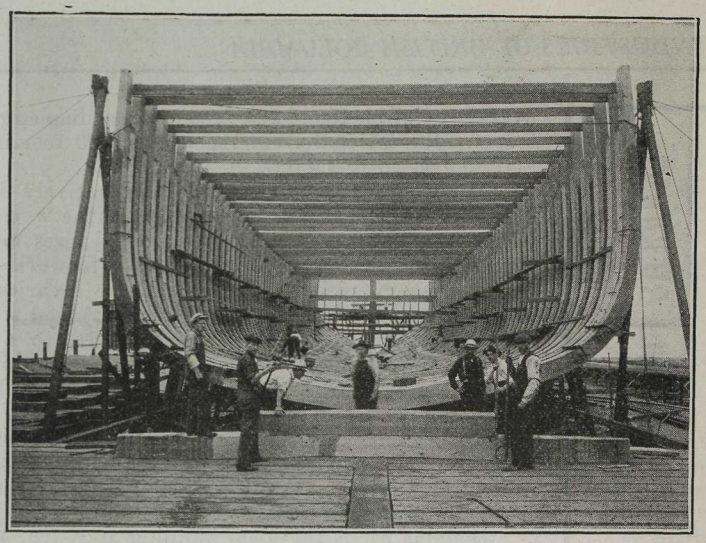
The enormous beams manufactured by British Columbia sawmills have long been a feature of the export lumber trade of the province.

WESTERN HEMLOCK.

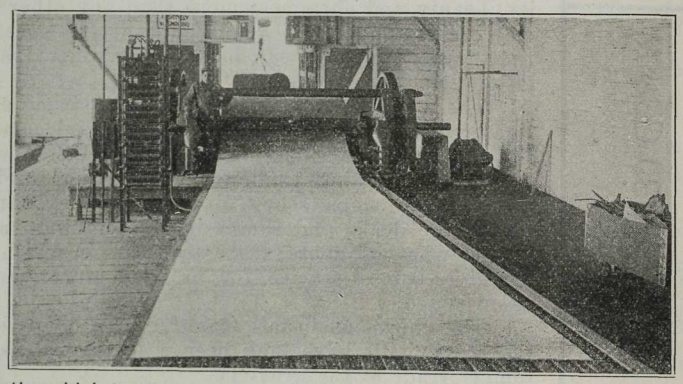
(Tsuga Heterophylla)

Also Called Gray Fir, Alaska Spruce, Western Hemlock Fir, Western Hemlock Spruce, Hemlock Spruce, Prince Albert Fir.

THE wood of Western Hemlock is light, fairly soft, strong, tough, straight grained, not splintery, odorless and tasteless. It contains no pitch or resin and is usually light in color, but often reddish brown in the interior of the tree. Its strength, ease of working, and freedom from warp or shake, distinguish it sharply from



B. C. Fir as a Shipbuilding Material. Thirty-nine Steamers and Auxiliary Schooners are being built of these heavy, substantial fir timbers.



Veneer Lathe which turns out a sheet of veneer from a log 100 inches long and 68 inches diameter.

Fir Planking is the best material for Wharves.

the Eastern species. Although Douglas Fir is superior for very heavy construction work, Western Hemlock is but little less strong, and for all ordinary building purposes is equally useful. The wood shows a very handsome figuring or pattern when sawn slash grain. It can easily be stained or painted, and takes a high polish. For these reasons it is well suited and largely used for interior finish and trim of all kinds.

Although thinner than that of the Eastern species, the bark of the Western Hemlock is exceedingly rich in tannic acid.

WESTERN RED CEDAR.

Also Called Giant Cedar, Arborvitae, (Thuja Plicata) Pacific Red Cedar, Canoe Cedar, Western Cedar, Shingle Cedar.

THERE are four true Cedars, two in Asia and two in America. Western Red Cedar is by far the biggest of them all, and its wood is also better, and obtainable in the largest dimensions. From the most ancient times cedar wood has been famous for its remarkable durability and resistance to decay, even under the most severe conditions. Trees which fell in damp woods centuries ago are found to day sound and fit for lumber. The usual height of Western Red Cedar is from 100 to 150 feet, with a diameter, breast high, of from 3 to 8 feet. Exceptional trees attain to a height of 200 feet and a diameter, breast high, of 15 feet.

Where durability, lightness of weight, or ease of working are essential, Western Red Cedar is unsurpassed by any other wood. It is the great shingle wood of North America. It is used for exterior siding, flume construction, framing, drains, posts, poles, canoes, rowboats, trellis work, hothouse frames and sash, and other purposes in which the material used is exposed to the weather or in contact with damp soil. Cabinet makers use it for many purposes—the backs and sides of drawers, shelves, boxes and partitions. Its excellent working qualities make it an ideal wood for all kinds of mouldings, trim and interior finish.

SITKA SPRUCE.

Also Called Giant Spruce, Silver Spruce, (Picea Sitchensis) Tideland Spruce, Alaska Spruce.

THE spruces are very valuable forest trees found in every country in the Northern Hemisphere. They yield excellent lumber, and are unsurpassed for the building of aeroplanes, for which purpose very large quantities are now being cut. Sitka Spruce, the giant of the genus, both in size and quality, grows only on the Pacific Coast. Mature trees average 150 feet in height and 4 feet in diameter, while some trees grow to over 200 feet in height and 10 to 15 feet in diameter. The tall, straight poles, with their moderate taper, furnish saw timber of the best quality and in largest dimensions, unusually clear and free from defects.

PRESERVATIVE TREATMENTS OF WOOD

This industry has been established in British Columbia for seven years, during that time the demand for treated cross-tiers, or sleepers, posts, poles, piling, paving blocks, bridge, trestle, wharf, dock, mine, and other dimension

timbers of all kinds has greatly increased, particularly in export markets. There are two creosoting plants in operation in the Province, the Dominion Creosoting Company, Ltd., and the Vancouver Creosoting Company, Limited, at Vancouver and North Vancouver respectively. During the last few years British Columbia has made shipments to India of creosoted Douglas fir ties, which have given excellent satisfaction. In regard to creosoted Douglas Fir piles for marine use, is has been shown that they remain sound, and give good service for upwards of twenty-five years. Creosoted Douglas fir paving is the only wood block material used in British Columbia, and is rapidly coming into favor in Eastern America, and as Douglas fir becomes better known where wood block is extensively used, it will replace to a considerable extent the woods now used, owing to its hardness, elasticity, durability and cheapness.

USE OF B. C. WOODS.

Aeroplane Construction—Spruce
Car Stock—Douglas Fir
General Construction—Douglas Fir, western Hemlock, Larch, Spruce, Western White Pine
Dimension Timbers—Douglas Fir, Larch
Doors—Douglas Fir, Red Cedar, Larch, Mountain Pine.
Flooring—Douglas Fir, Larch, Western Hemlock
Interior Finish—Douglas Fir, Hemlock, Western White Pine, Larch, Western Mountain Pine.
Panelling—Douglas Fir, solid and veneer, Red Cedar.
Poles—Red Cedar
Roofing—Red Cedar Shingles
Shipbiulding—Douglas Fir
Siding—Douglas Fir, Red Cedar, Western Mountain Pine, Spruce

TO IMPORTERS ABROAD.

The Forest Branch of British Columbia pays particular attention to market questions, and endeavours to encourage in every way possible the British Columbia export trade in lumber and forest products. The Branch will supply exact information on the strengths and other qualities of British Columbia woods, the uses to which they are adapted, and the general run of prices and stocks obtainable.

The position which this Branch occupies enables it to be particularly useful to both buyer and seller in distributing trade inquiries or requests for quotations. Importers or buyers can be assured that their enquiries will reach immediately all British Columbia manufacturers who might be interested. The service is, of course, free, and the timber trade is requested to take full advantage of it.

Letters should be addressed :

CHIEF FORESTER, VICTORIA, BRITISH COLUMBIA

The Progress Publishing Company Limited, Vancouver, publish a very concise hand-book and annual, giving detailed information regarding the lumber trade of British Columbia, which is regarded as the standard hand-book of the trade. It is published under the title "A.B.C. Lumber Trade Directory and Year Book of British Columbia." (See index for advertisement.)

Some Statistics of the Lumber Trade

1. SAW AND SHINGLE MILLS—

There are at the present time 290 sawmills with an approximate yearly capacity of two and a half billion feet, also some 70 shingle mills, with an approximate capacity of two and a quarter billion.

2.—LOG SCALE IN B. C. FOR THE YEARS 1915, 1916, AND TEN MONTHS 1917.

1915	1916	1917 (ten months)
1,017,683,000 ft. B.M.	1,280,263,000 ft. B.M.	1,303,625,000 Ft. B.M.

The ten months of 1917 already show a large increase over the two previous years.

3.—VALUE OF PRODUCTION OF B. C. TIMBER. (Estimated.)

1915	1916
$29,150,000	$35,528,000

4. THE PULP AND PAPER INDUSTRY.

	1915	1916
Paper manufactured	50,307 tons	65,229 tons
Sulphite wood pulp	13,000 tons	14,389 tons

For the year 1917 the output should be considerably increased, as the large new plants of Swanson Bay and Ocean Falls have been working continuously. It is expected that the pulp and paper mill now building at Port Alice, will be in operation early in 1918.

5. COMPARATIVE TABLE BY SPECIES FOR 1915, 1916, AND 10 MONTHS 1917.

DISTRICT	1915	1916	1917, 10 Mos.
Douglas Fir	426,232,000	564,691,000	553,533,000
Red Cedar	354,702,000	385,096,000	380,566,000
Spruce	74,676,000	85,329,000	89,671,000
Hemlock	79,392,000	101,315,000	122,742,000
Balsam Fir	1,260,000	21,406,000	20,387,000
Yellow Pine	29,766,000	71,783,000	80,520,000
Larch	38,597,000	38,706,000	42,297,000
Yellow Cedar	30,000	75,000	25,000
Jack Pine	6,914,000	3,088,000	7,908,000
Cottonwood	1,045,000	1,944,000	2,410,000
Alder	12,000	———	———
Birch	———	11,000	6,000
Maple	———	3,000	———
White Pine	5,057,000	6,816,000	5,560,000
	1,017,683,000	1,280,263,000	1,305,625,000*

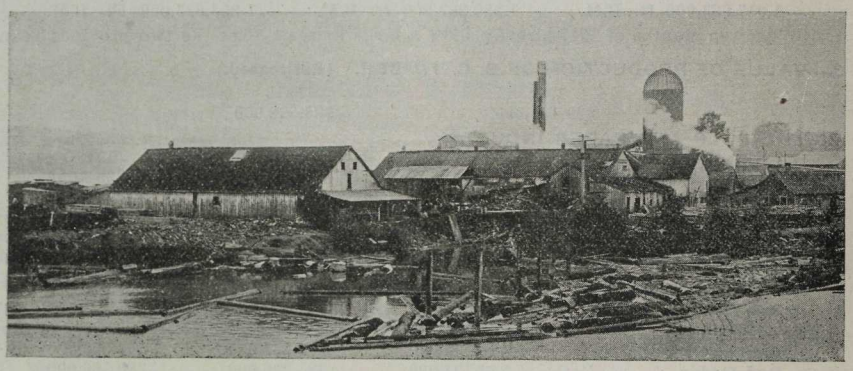
6. COMPARATIVE TABLES BY DISTRICTS FOR 1915, 1916, AND 10 MONTHS 1917.

DISTRICT	1915	1916	1917, 10 Mos.
Vernon	19,578,000	35,166,000	37,711,000
Island	128,258,000	145,953,000	167,300,000
Prince Rupert	10,583,000	33,681,000	67,203,000
Vancouver	691,328,000	832,418,000	808,517,000
Lillooet	2,668,000	1,149,000	1,885,000
Cranbrook	100,086,000	142,939,000	133,482,000
Fort George	21,151,000	5,873,000	9,430,000
Hazelton	844,000	1,858,000	
Kamloops	5,867,000	24,547,000	25,130,000
Nelson	37,320,000	56,680,000	54,967,000
	1,017,683,000	1,280,263,000	1,305,625,000*

Note—*10 Months only, showing a large increase over the whole 12 month period of the two preceding years.

BRITISH COLUMBIA MANUFACTURING COMPANY LIMITED, NEW WESTMINSTER.

This Company was established in 1900 and did business in a small way until reorganized in 1913, since which time substantial progress has been made and today it is one of the largest box and fruit basket manufacturing companies in Western Canada. The plant has been practically rebuilt during the past three years and the most modern machinery known to the trade has



Sawmill and Plant of B. C. Manufacturing Co., Ltd.

been installed. During 1915 one of the largest Veneer Lathes, with a capacity to peel a log 100 inches in length and 68 inches in diameter has been installed. The plant is equipped with two machines of this type, providing the largest output of veneer of any one firm in Canada. The works cover an area of 10 acres and is fully equipped for the manufacture of everything in wooden boxes, veneer, berry baskets and crates, egg cases, net floats, etc., for local eastern or foreign markets.

In addition to a large local business the firm is making extensive shipments to overseas markets. The Officers of the Company are, — R. L. Cliff, President; J. W. Welch, Vice President; J. H. McDonald, Managing Director, and P. J. McMurphy, Secretary-Treasurer.

BRUNETTE SAWMILL COMPANY LIMITED. NEW WESTMINSTER.

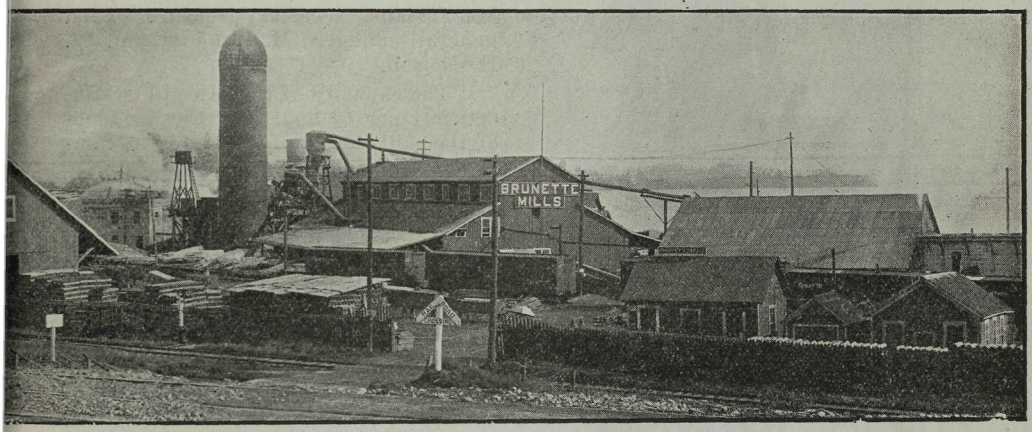
This very complete Plant, comprising saw-mill, planing mill, shingle-mill and box-factory was established in 1878, and occupies a 30 acres site within the City of New Westminster, having 5000 feet frontage on the Fraser River with a dockage for the largest sea-going lumber carriers. L. A. Lewis is president and general manager, Geo. B. Cross secretary and sales manager, and T. J. Lewis treasurer.

The daily capacity at ten hours is 100,000 feet of lumber, 180,000 shingles and 5000 boxes.

The plant is electrically operated from the firm's own power plant.

A specialty is made of spruce boxes and clear spruce lumber, but fir and cedar are also largely manufactured. A large business is done with the prairie provinces of Canada, the lumber being manufactured into flooring, siding, ceiling and interior house-finishings and mouldings, ready for the builder's hands.

The boxes are either cut into the correct sizes and shipped in bundles or are nailed or dovetailed as required.



Mills of the Brunette Sawmill Co. Ltd., New Westminster

A considerable business is also done with the United Kingdom in spruce and fir, and with foreign countries.

About 250 men are employed at the saw-mill. The work in the logging camps requires about 100 more.

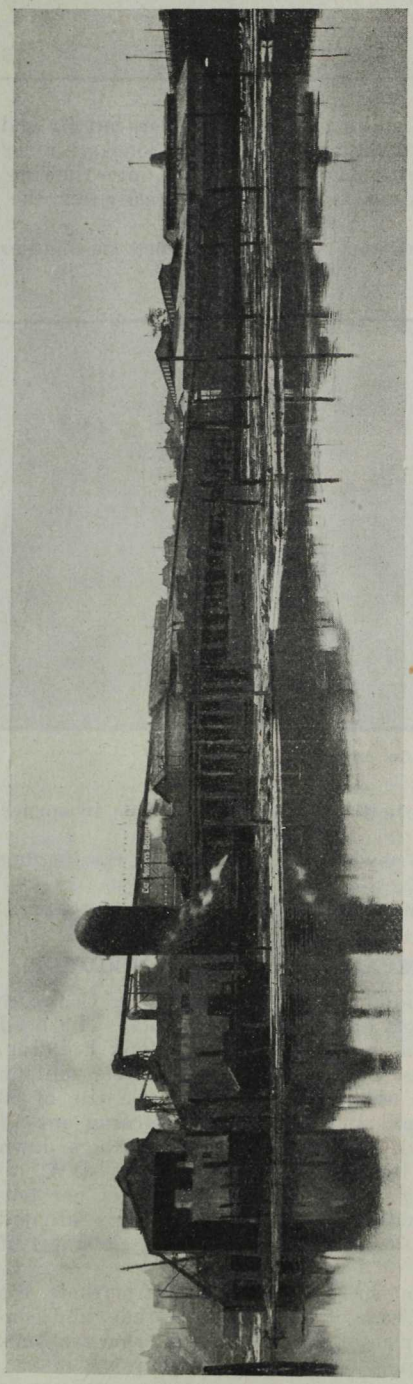
The firm own their own sea-going tug boats for bringing logs to the mill.

CANADIAN ROBERT DOLLAR COMPANY LIMITED, VANCOUVER.

This company is the Canadian subsidiary of the Robert Dollar Company of San Francisco, ship owners and import and export merchants. The head office of the Canadian Robert Dollar Co. is in the Standard Bank Building, Vancouver, and the firm operate a large and well-equipped lumber mill on the North Arm of Burrard Inlet. This mill and yard occupies a site of 80 acres, and is fully equipped as a saw-mill and planing-mill, turning out all grades of fir, spruce, cedar and hemlock lumber, from heavy timbers down to dimension lumber. They also have a logging camp at Union Bay, B. C., to supply the mill with logs. The capacity of the mill is 175,000 feet per ten-hour day, about 100 men being continually employed. The mill is situated on the waterfront, with loading berths for deep-sea steamers at all states of the tide.

While a considerable business is done in Western Canadian markets, the mill has been specially designed to take care of the over-seas trade, and considerable shipments are being made to Oriental, Australian and other markets.

The president of the Canadian company is A. Melville Dollar.



Sawmill and Factory of J. Hanbury and Co., Ltd., Vancouver.

J. HANBURY & COMPANY, LIMITED VANCOUVER

The annexed photograph shows the Vancouver sawmill and plant of J. Hanbury & Company Limited, situated on False Creek, a portion of Vancouver Harbour bisecting the city. The mill, erected in 1911 covers an area of 14 acres and commenced operating in 1912.

The company is capitalized at $1,250,000, the officers and directors being John Hanbury, president; A. R. MacFarlane, secretary-treasurer and general manager; M. Hanbury and W. H. Nelson.

The capacity of the sawmill is 125,000 feet per 10 hour day, the products of the mill including all kinds of lumber in fir, cedar, spruce and hemlock. A specialty is made of selected fir-finished lumber, fir doors, sash, frames and interior woodwork. A considerable part of the output is absorbed by the prairie provinces, but an export trade in doors is being worked up, several shipments having recently been made to New Zealand and elsewhere.

In addition to this a large business has been done in supplying timbers for bridges, snowsheds and heavy framing timber for shipbuilding. The mill also supplies large quantities of lumber for the construction of freight and box-cars for the railroads.

About two years ago the firm added a modern box factory to their plant and during the last year have turned out some hundreds of thousands of special munition boxes for the Imperial Munitions Board.

In connection with the lumber business is run a fuel and teaming department employing 75 men and 40 teams. A large business is done in South Wellington coal and all kinds of mill wood.

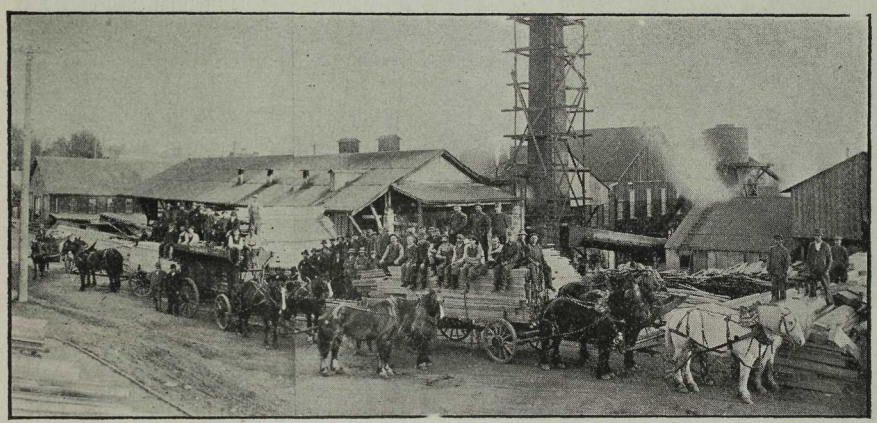
J. Hanbury & Company's mill was one of the first on the continent to be electrically operated throughout, the mill being in every respect regarded as of the most modern in type and equipment.

The firm is also looking to increase their overseas trade in doors, box shooks and finished lumber, and are prepared also to ship ties and timbers.

LEMON, GONNASON & COMPANY LTD., VICTORIA.

This firm was established in 1891; capitalized $150,000. A Gonnason, President; B. Gonnason, vice-president; and F. Nickells, secretary-treasurer. The mill situated on Rock Bay, North Government St., covers an area of two acres and employs 100 hands 10 hours a day. The equipment is that of a general saw and planing mill, sash door and box factory, extensions having recently been made.

The products of the factory are interior finish, store fixtures, stair work, window frames, sash, doors, and mouldings, as well as turned and veneer work. Some of the recent important jobs for which this establishment supplied the mill work, are the Empress Hotel, the Victoria High School, the Victoria Normal School, and the addition to the Parliament buildings, which were all



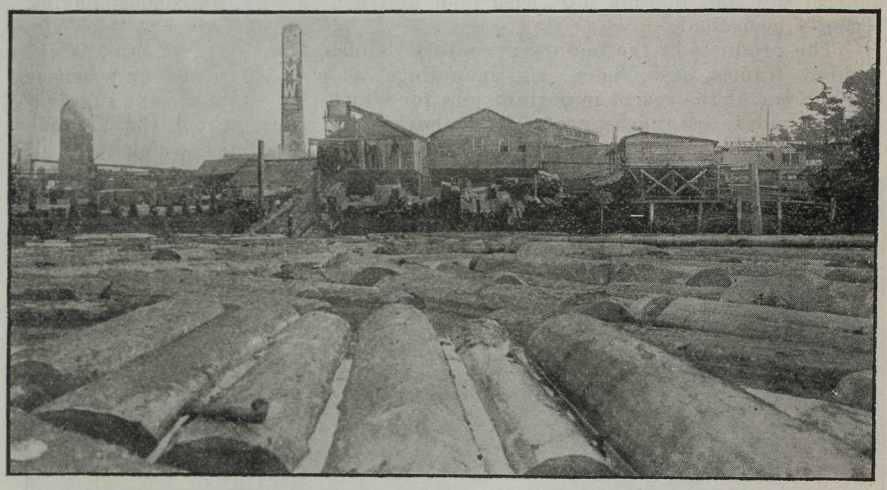
Mill and Factory of Lemon, Gonnason and Co., Ltd., Victoria.

carried on and completed in 1914 and 1915. They also operate a box factory, turning out a complete line of boxes of every description for local and export trade. Their goods are of high grade and although they cater principally to the local trade, they have lately made several shipments to the Antipodes and to England, in doors, boxes, etc. and as soon as shipping facilities improve they expect this trade to greatly increase.

B. C. Woods excellent Box-making material.

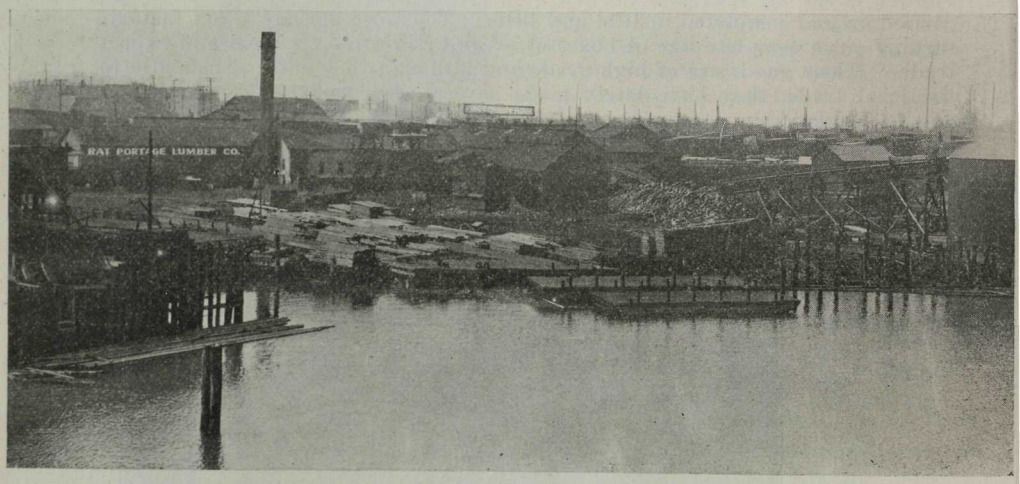
MOORE-WHITTINGTON LUMBER COMPANY LTD., VICTORIA.

This lumber mill was established in 1896 and the company incorporated in 1903, with a capital of $50,000. The officers are H. T. Knott, president; Wm. Moore, managing director, and E. H. Whittington, secretary. The mill has



The Moore-Whittington Company's Mill at Victoria.

an output of 40,000 feet per ten hour day, of fir, cedar, spruce and hemlock, giving employment to 60 men in the saw and planing mill. The markets supplied are the local, western Canadian, United States and export.



Mill of the Rat Portage Lumber Co., Ltd., Vancouver.

THE RAT PORTAGE LUMBER CO. LIMITED, VANCOUVER.

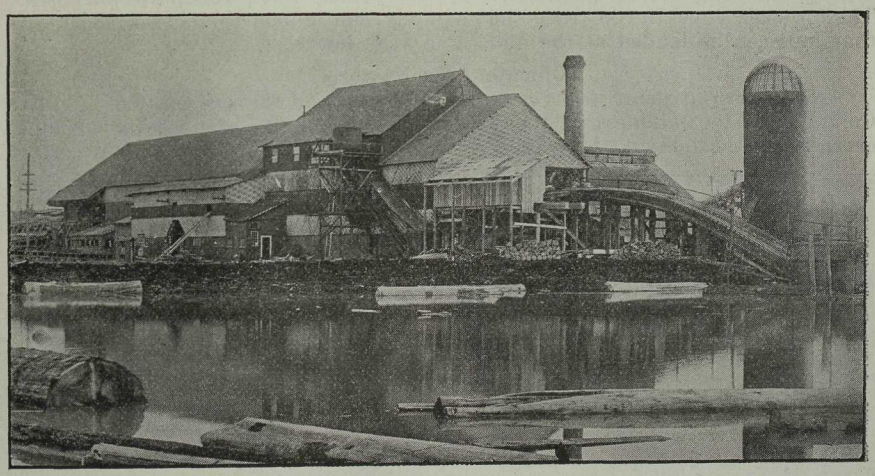
This company has two large sawmills in British Columbia located at Vancouver and Harrison Mills with a combined capacity of 225,000 feet per day. The Vancouver plant was established in 1903 and comprises saw mill also shingle and lath mill. This plant is fitted with modern machinery and for the past ten years has proved itself very efficient in turning out all kinds of lumber, from large timbers down to the smallest finish required for building purposes. Timbers up to 100 feet in length can be manufactured without difficulty.

Since the commencement of the war the company has been largely engaged in manufacturing Douglas Fir timbers for shipbuilding purposes and Sitka Spruce for the construction of aeroplanes. The President of the company is Sir Douglas Cameron, K. C. M. G. and Mr. Charles A. Millener is vice-president and general manager.

THE SMALL AND BUCKLIN LUMBER COMPANY LIMITED, NEW WESTMINSTER.

This lumber mill was established in 1904 with a capital of $200,000. The officers are E. H. Bucklin, president; C. R. Beardslee, vice-president; and Waldo F. H. Bucklin, secretary-treasurer and general manager.

The mill and yard occupies an area of 30 acres, with 1600 feet frontage on the Fraser River. All kinds of fir, cedar, spruce and hemlock lumber are manufactured, the capacity being 100,000 feet daily. A specialty is made by



The Small and Bucklin Co.'s lumber mill.

this mill of ships' timbers, in which a large business is being done at the present time in connection with shipbuilding in British Columbia.

About 200 men are employed at the mill. The firm does a large business in the local and western Canadian markets.

PULP and PAPER

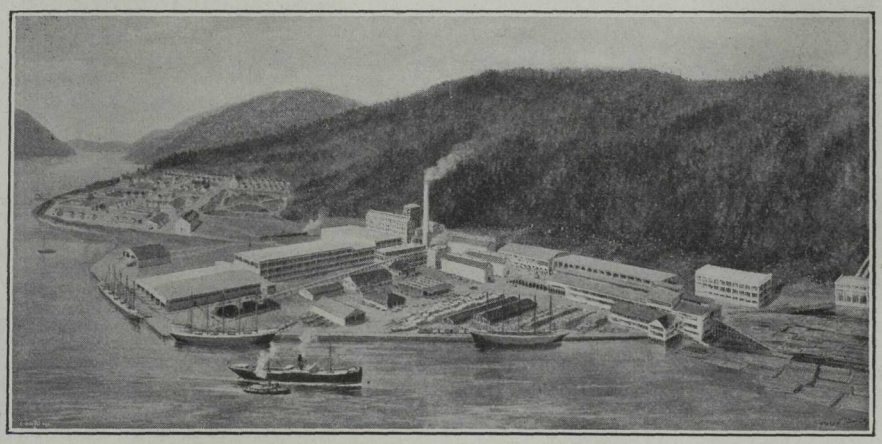
The shortage and consequent high prices ruling in the paper markets have stimulated interest in British Columbia's resources of timber suitable for the manufacture of pulp and paper. During the last twelve months there have been a number of new developments which will, when completed, place this industry among the foremost of the Province.

Possessing an immense quantity of paper-making woods, British Columbia offers a promising future for the paper maker. Pulp-wood forests border the ocean and many navigable streams supplying transportation, and there are numerous water-powers to supply motive power to the mills. The rapid denudition of the pulp areas of the United States of America is compelling it to look to Canada for its supply of wood pulp. According to the regulations now in force in this Province, pulp wood must not be exported in an unmanufactured state and, therefore, mills for its conversion into pulp and paper are likely to increase in number and output during the coming few years.

Along the coast line of the mainland of British Columbia and Vancouver Island practically inexhaustible areas of pulpwoods can be found. South of Knight's Inlet the most abundant wood is Douglas fir, which is successfully used for the manufacture of chemical pulp. Its suitability for mechanical pulp is not so certain. North of Knight's Inlet is the spruce and hemlock belt, affording enormous supplies of excellent pulp-wood; the Sitka spruce especially being unexcelled by any other wood for pulp purposes. These woods cover large tracts immediately contiguous to the sea coast, so that logs can be landed at the mills at a very low cost.

Climate As a Factor.

An important point in favor of the industries on the sea coast of British Columbia is the mildness of the winters, which admits of operations being carried on throughout the whole year. The forests of this Province are



The Port Alice plant of the Whalen Pulp and Paper Mills, Ltd., on Quatsino Sound.

much more densely wooded than those of Eastern Canada, 500 cords per acre being not uncommon, while from 100 to 150 cords may be taken as a fair average of good timber lands. With proper husbanding the forests are practically inexhaustible for pulpwood purposes. This is essentially a timber country. Atmospheric conditions are especially favorable to tree growth, which is very rapid, and the extent of otherwise valueless country along the coast that can be devoted to forestry is enormous. Owing to its wealth of raw material, excellent water powers and geographical position, British Columbia occupies a position of eminent advantage for the pulp and paper trade of the Pacific.

Operating Companies.

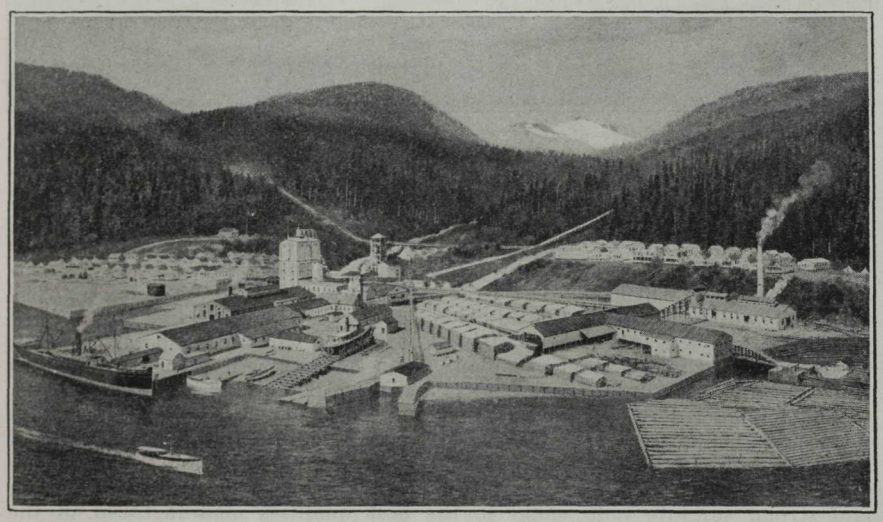
On the 1901 legislation of the Government, four companies availed themselves of the facilities offered. Of these only one is to-day in operation under the original ownership, the others having passed into other hands.

The output of both pulp and paper has increased enormously during the past two years, reaching 50,000 tons of paper and 13,000 tons of pulp during 1915 and rising to 65,000 tons of paper and 15,000 tons of pulp in 1916. These figures have, however, been entirely eclipsed during 1917, and in 1918 there should again be a considerable increase.

Following is a short description of the companies now engaged in this industry:

WHALEN PULP & PAPER MILLS LIMITED.

Prominent among the mills devoted to the pulp and paper industry in British Columbia are those of The British Columbia Sulphite Fibre Company



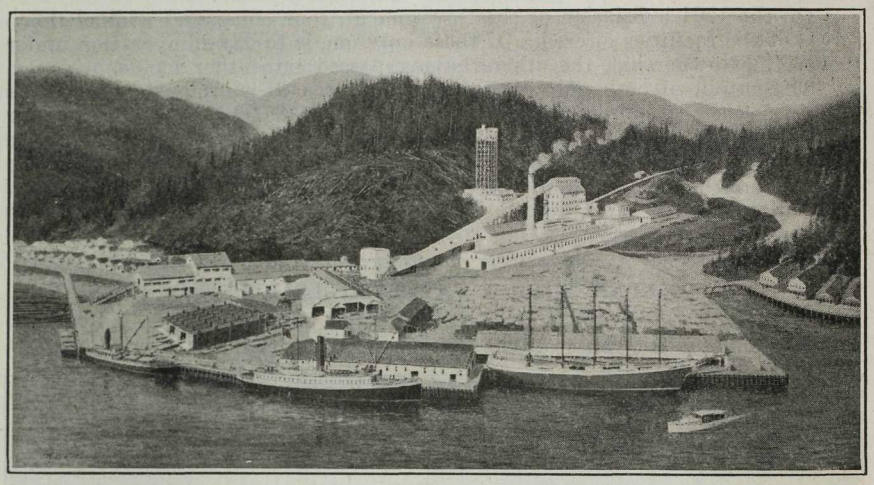
The Mill Creek Plant of the Whalen Pulp and Paper Mills, Ltd., on Howe Sound.

Limited, The Empire Pulp and Paper Mills Ltd., and Colonial Lumber and Paper Mills Ltd. These three big plants have only recently been amalgamated into one organization under the name of the Whalen Pulp and Paper

Mills Ltd., with a capitalization of $10,102,500.00, forming what is probably one of the largest pulp and paper manufacturing industries in the Dominion of Canada.

The head office of the company is in Vancouver.

The growth of these concerns has been no less remarkable than the progress made by the Province itself during the past few years. It was in 1909 that the British Columbia Sulphite Fibre Company, Ltd., was first organized. A mill was erected at Mill Creek on Howe Sound, about 30 miles from Vancouver, having a capacity of thirty tons of high-grade sulphite fibre daily. This was gradually enlarged until the present capacity is in the



The Swanson Bay plant of the Whalen Pulp and Paper Mills, Ltd.

neighborhood of 80 tons per day, and equipment is now being installed which will bring the daily output up to 100 tons.

The Empire Pulp and Paper Mills, Ltd., started operations in 1916, with a capacity of 50 tons of pulp daily. This mill, located at Swanson Bay, turns out, in addition 600,000 shingles, and 200,000 feet of lumber daily. The Colonial, which is the latest addition to the company's interests, is now being built at Port Alice on Quatsino Sound and will be in operation about December, 1917. This immense plant when finished will turn out 100 tons of sulphite fibre, 300,000 feet of lumber and 500,000 shingles daily.

The Whalen Pulp and Paper Mills, Ltd., in the operation of their various plants give employment to some 2,500 men all the year around. A fleet of steamers and tugs is also employed in conveying the raw and finished product to and from the mills. Each plant manufactures both easy bleaching and strong sulphite pulp equal to the best qualities manufactured in the Scandinavian and other European mills. This pulp which is used principally for the manufacture of high grade bond and writing papers, is exported to Japan, Australia, United States and South America.

British Columbia has every reason to be proud of such industries and of the men who have made them possible. That they will continue to

grow is beyond question and in the near future the citizens of this Province will point with pride to the fact that a large portion of the world's paper supply has its origin in the vast forests of British Columbia.

THE PACIFIC MILLS LIMITED, VANCOUVER.

This company was incorporated in 1915 with a capital of $9,500,000. The president is Mr. J. H. Lawson, and A. B. Martin, managing director. The company took over the undertaking of the Ocean Falls Co Ltd., a concern backed by English capital, incorporated in 1909.

The new company, The Pacific Mills Ltd., have practically reconstructed the plant and instaled machinery for the manufacture of news print, wrapping and book papers. A large force of men have been employed during the past year on construction work, the installation of machinery, and in the woods cutting timber.

The first unit of the plant commenced operations May 29th, 1917, and is now turning out 75 tons of news print per day. The second unit of the plant will be in operation early in 1918, having a capacity of 120 tons per day, making a total production of the two units of 195 tons daily, constituting, therefore, one of the largest newspaper plants in the Dominion of Canada. About 400 men are employed in the mills and in the woods. The head office of the company is in Vancouver. The mills cover a very considerable area on tide water and it is regarded as probable that there will be extensions to the equipment and a still further increase of production before long.

THE POWELL RIVER COMPANY LTD.

The head office of the company is at Vancouver. It was incorporated in 1911, with a capital of $5,000,000.

The mills are situated at Powell River and have an output daily of 225 tons of news print. They are giving employment to upward of 600 men. The plant is noted for completeness of equipment, manufacturing its own chemicals, electric power, owning its own tugs and scows, stores, boarding houses, etc.

THE RAINY RIVER PULP AND PAPER COMPANY LTD.

Incorporated in 1917, taking over the plant previously owned by a company of the same name at Port Mellon on Howe Sound. The head office of the company is at Vancouver, and the paid up capital is $1,000,000. The president of the company is Mr. Robert Sweeney, of New York, Mr. E. L. Mohn, vice-president and managing director, and J. M. McCrary, formerly of the Inland Empire Paper Co., of Spokane, general manager. The plant is equipped for the production of Kraft pulp, being the only one of its kind in the Province. The output at the present time is 10 to 12 tons per day, which will be increased immediately to 20 tons with further developments probable. Sixty-five men are at present employed, but this number is likely to be increased in the near future.

The Future of the Industry.

The pulp and paper industry in British Columbia may be considered to be in its infancy, but the above figures are an indication of the substantial growth which may be expected in the early future. It must be borne in mind that these developments are taking place at a time of great commercial unrest and difficulty, and there is little reason to doubt that with the return of more staple conditions after the war, that the pulp resources of this Province will be more largely availed of by the paper maker.

WATER POWERS OF B. C.

THE development of hydro-electric plants on a fairly large scale began in British Columbia as early as 1897. The first plants of any magnitude were those at Bonnington Falls on the Kootenay River, near Nelson, B. C., and the Goldstream plant of the British Columbia Electric Railway on Vancouver Island. These plants were under construction simultaneously, but the Bonnington Falls plant can claim priority as it was placed in operation early in 1898, while the Goldstream plant was first operated in September of the same year.

Estimates have been made as the result of careful exploration work that within reasonable distance of the cities of Vancouver and Victoria, there are possibilities of the economic development of water powers aggregating 750,000 H. P. These water powers are all situated within an area of 20,000 square miles, thus representing thirty seven and a half H. P. for each square mile of territory. Outside of this area a rough estimate of the water power possibilities of the province would bring this figure up to 3.000,000 H. P., or nearly equal to the estimate for Ontario, and that estimate is conservative, although until much further investigations have been made, such an estimate is merely an intelligent guess.

The capitalist and manufacturer seeking for opportunities of developing new industries will find a fertile field in British Columbia for utilizing these water powers in addition to their use in supplying electrical energy for cities and towns. Already large Portland cement plants using 8 000 H. P. of electrical energy are in operation on Vancouver Island, paper pulp is being manufactured on a large scale, smelting plants are being operated by water-powers.

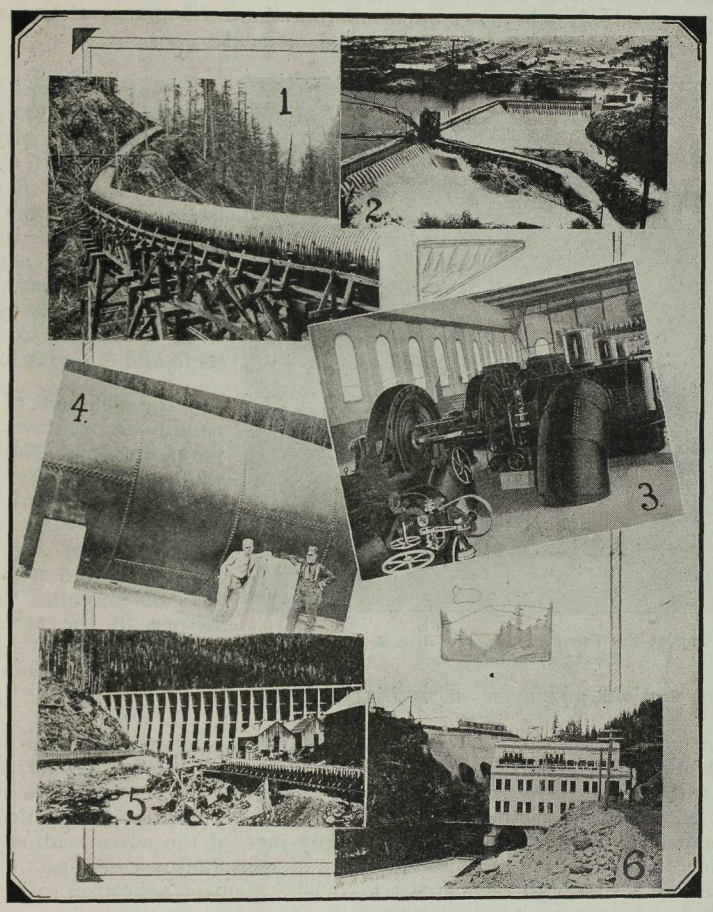
In view of these water-powers it might be useful to refer to some of the more important uses to which they may be applied.

In the field of pulp manufacturing, Canada is a great paper making country, and the following figures indicate to what extent:-

Mechanical Pulp	800,000	$12,400,000	210,000
Chemical Pulp	272,000	10 336,000	7,500
News Paper	480,000	18,240,000	20,000
Total	1,552.000	$40,976,000	237,500

Of that output British Columbia at the present time produces in value about 8 per cent. Bearing in mind the vast forests in the province, and in many places the existence of large water powers in close proximity to unlimited areas of spruce, hemlock and balsam from which fibre is produced, that industry alone is an inviting one. It is, however, in the field of electro-chemistry and electro-metallurgy that some of the greatest opportunities are offered, but in these industries it must be borne in mind that the construction of hydro-electric plants must be carried out, so as to produce electrical energy as economically as in done in the large plants in Norway, Sweden, and Switzerland. In British Columbia, however, there are in many of the waterpowers somewhat similar conditions to those that obtain in Scandinavian territory, i.e., powers that can be developed economically under high heads.

In the opinion of experts, excluding the cost of transmission lines, many of these, including some low head plants, can be developed as complete installations from $60 to $100 per horse power, and those powers nearer the lower



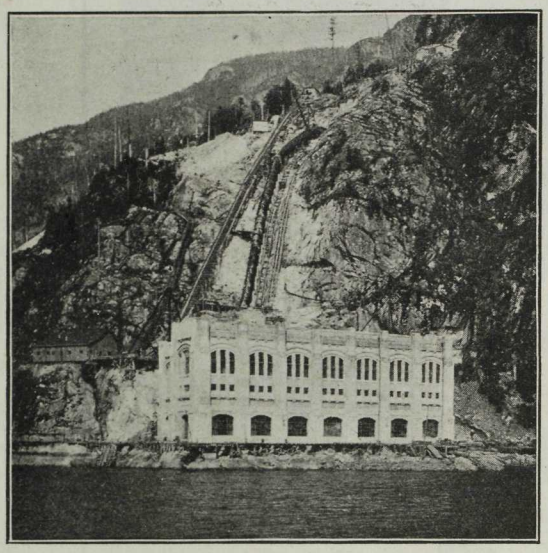
SOME OF B. C.'s DEVELOPED HYDRO-ELECTRIC POWER PLANTS.

1. Granby Co.'s plant at Anyox. 72 in. wood stave pipe.
2. Powell River Paper Co., Dam and Intake Works.
3. Kootenay Power Co. Generator Room.
4. Ocean Falls (Pacific Mills.) Sixteen-foot Pipe Line.
5. Vancouver Island Power Co. Jordan River Dam.
6. Western Power Co. Stave Falls Power House.

figure make them an economical possibility for successfully undertaking electro-chemical industries. Considering this fact together with the wonderful possibilities of transport by water freight to the markets, the advantages in competing with less favorable districts is obvious.

BRITISH COLUMBIA ELECTRIC RAILWAY COMPANY, LTD.

When the necessity for conserving the coal and oil supplies of the world is being emphasized, it becomes apparent that the development of the natural sources of power in a country is of special moment.



One of the Power Houses of the B. C. Electric Railway Co.

Water powers in the vicinity of Vancouver have been unusually well developed. The B. C. Electric Railway Company has 84,000 horse power available at the Lake Buntzen plants and the energy is distributed through power lines and railway lines over a district 20 miles wide and 80 miles long.

Independent of labor conditions, weather, transportation or anything else that makes the supply and the cost of coal or oil fluctuate, electric power travels along the wires constantly and unceasingly. Everything that is known in the art works towards reliability — duplicate transmission systems, sub-stations and even an auxiliary plant in the city.

The main difference between electric power and any other, however, is that when you buy current, you buy power and not something that is converted into power. A given amount of electric current will do a certain amount of work. Electric power, moreover, is elastic, for it may be called upon to the capacity of the power plant, or at any rate, of the wires leading to the consumer. The saving is apparent when a manufacturer wishes to add a machine but hesitates to reconstruct his whole plant. Likewise, in overtime work, it is unnecessary to start the whole plant in operation when only one machine is to be used. The individual electric drive solves this problem economically.

Besides distributing its power over a large territory, the B. C. Electric Railway company brings thousands of industrial sites within reach of a market. There are 286 miles of electric railway line in the company's system tributary to Vancouver, along which numerous sidings tap industries already located near Vancouver.

Practically every lumber mill along the Fraser Valley line of the company uses electric power. The company maintains a department for advising manufacturers as to the most economical arrangement of their plant in the matter of power.

CAPACITY OF THE PRINCIPAL WATER POWERS AS AT PRESENT DEVELOPED IN THE PROVINCE OF BRITISH COLUMBIA.

OWNER	SITUATION	Present capacity installed H.P.	Purpose for which Energy is utilized.
West Kootenay Power & Light Co., Limited	Kootenay River and Kettle River, near Nelson	23,000	Mining, smelting, light and industrial power.
B. C. Electric Railway Co., Limited	Goldstream, near Victoria	3,000	Light, industrial power and street railways.
B. C. Electric Railway Co., Limited	Lake Buntzen, Burrard Inlet	84,500	Light, industrial power and street railways.
Western Canada Power Co., Limited	Stave Lake, near Ruskin	26,000	Industrial power (26,000 H.P. now being added.
B. C. Electric Railway Co., Limited	Jordan River, Vancouver Island	25,000	Light, industrial power and street railways.
Pacific Mills, Limited	Link River, Ocean Falls	11,200	Wood pulp and lumber manufacture.
Canadian Collieries (Dunsmuir) Ltd.	Puntledge River, near Nanaimo	9,400	Coal mining.
Powell River Co., Limited	Powell River	24,000	News print paper manufacture.
Granby Consolidated Mining, Smelting & Power Co., Limited	Falls Creek, Granby Bay	7,325	Copper mining and smelting.
City of Nelson	Kootenay River, near Nelson	4,000	Mining, industrial power, light.
City of Kamloops	Barriere River, near Kamloops	2,800	Light and industrial power.
Britannia Mining & Smelting Co., Ltd.	Britannia Creek, Howe Sound	2,735	Copper mining and reduction.
Hedley Gold Mining Company	Similkameen River, near Hedley	2,650	Gold mining.
City of Prince Rupert	Woodworth Lake, near Prince Rupert	1,650	Light and industrial power.
Whalen Pulp & Paper Mills, Limited	Swanson Bay	1,250	Wood pulp and lumber manufacture.
City of Revelstoke	Illicilliwaet River, near Revelstoke	600	Light and industrial power.
Other Small Developments	.....	890	Mining, municipal and hotel lighting, salmon canning.

TOTAL HORSE POWER AT PRESENT INSTALLED, 230,000.

AGRICULTURE

The agricultural industry of British Columbia, while it has not increased at the rapid rate of the other basic industries, has exhibited a gratifying growth withn recent years. The important question of land settlement is receiving considerable attention on the part of the Government and there is little doubt that shortly after the war settlers will come into the country in greatly increased numbers.

British Columbia has an area of approximately 252,000,000 acres, with a wide variation of climatic conditions. A very considerable area is suitable for agriculture, particularly in the rich interior valleys, the southern part of Vancouver Island, the Delta and Lower Fraser River district and valleys of southern British Columbia.

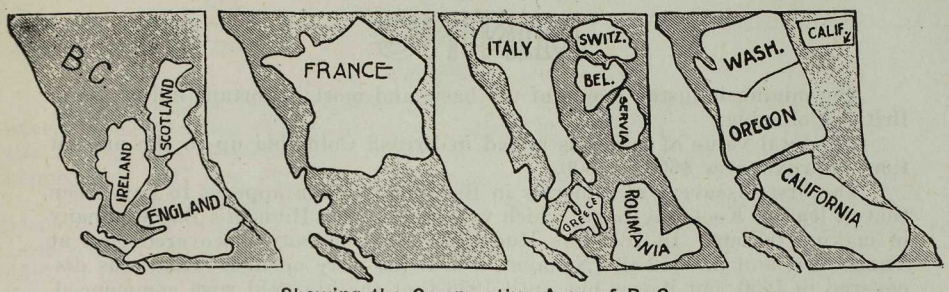
The chief agricultural industries of the Province are fruit-growing, dairying, livestock, hops, vegetables, hay and grain. The following table shows the agricultural production for the fiscal years 1914 to 1916.

For the year 1917 detailed figures are not yet available but the estimate of the department of agriculture is that an increase of $3,000,000 was reached for 1917, making the total value of agricultural products $35,000,000.

Fruits show an increase, not only in quantity but in market value, while field crop products, although showing a falling off in quality, have brought better returns than last season. Dairy products fell off in quantity but went up in price. Livestock figures are encouraging.

Viewing the crop situation as awhole, while the late wet spring and subsequent drought held down yields of grain and vegetables, yet prices realized by the growers have been high enough to well offset decreased production, so that the total value will undoubtedly be greater than 1916. The cost of farm operation has, however, been very high. Labor has not been very scarce during harvest periods, but wages demanded by all classes were high. The cost of both human and animal food commodities, where it was necessary to procure these off the farm, has greatly increased, so that notwithstanding high prices secured for farm products, the cost of operation has limited the margin of profit.

	1916 Value.	1915 Value.	1914 Value.
Livestock	$ 8,703,136	$ 8,797,875	$ 8,123,359
Meats	1,405,872	1,864,673	1,211,600
Poultry and Eggs	2,324,307	1,464,720	2,410,022
Dairy Products	3,251,856	3,034,340	3,012,000
Fruits, etc.	2,176,662	1,642,300	996,071
Vegetables	3,374,517	3,063,092	3,233,542
Fodders	5,741,979	5,899,283	6,578,039
Grains, etc.	3,294,013	3,626,330	2,770,985
Miscellaneous	356,492	232,208	389,278
Totals	$32,182,915	$31,127,801	$30,184,100



Showing the Comparative Area of B. C.

THE BRITISH COLUMBIA NURSERIES CO. LTD.

The British Columbia Nurseries Co., Ltd., of 1493 Seventh Ave. West, Vancouver, B. C., is the largest and best equipped nursery company in the Province and their fruit and ornamental trees are known for their excellence and reliability. Their nurseries at Sardis are under the superintendence of Mr. H. M. Eddie, F.R.H.S. Everything is grown without irrigation and it is one of the ideal spots of the Province for a nursery.

Besides the nursery stock, flower and vegetable seeds are grown for the wholesale trade and in the summer, tons of small fruits are shipped to the Alberta and British Columbia markets. Cantaloupes and everbearing strawberries are two specialties, the latter in particular having a peculiarly lingering taste in October.

The large business the company does in Alberta and Saskatchewan is cared for from their Calgary office, 407 P. Burns Building, the hardy stock necessarily being grown at Coaldale, nearby. Mr. C. D. Smith is in charge of the prairie end of the business. Mr. Charles L. Trotter, the President and Managing Director, shares his time between the two offices, the Secretary and B. C. Sales Manager, Mr. W. J. Hugo, being a fixture at the head office at Vancouver.

Business has never been better with this firm than in the season of 1917-1918, and the company has rendered a service by being on hand to supply planters with reliable fruit trees, at a time when planting was never more essential, and when the canneries were crying out that they could only make 50 per cent. packs consequent on the demand for fruit far exceeding the supply. The Company spends a lot of money in the west and gives employment to a considerable number of men and women workers.

A busy scene on one of the nurseries of the B. C. Nurseries Co.

MINING

The mining industry is one of the basic and most important industries in British Columbia.

The total value of minerals mined in British Columbia up to the present time approximates $600,000,000.

The first discovery of minerals in British Columbia appears to have been that of lead at Kootenay Lake, which was used by the Hudson's Bay Company in making bullets. In 1835 the Hudson's Bay Company discovered coal at Vancouver, and in 1852 the Nanaimo coal fields were opened. Gold was discovered in 1850, but it was not until 1858 that the big gold rush commenced, and British Columbia came into existence as a mining country.

The aggregate value of the minerals produced in this province since the mining industry was inaugurated up to the present is as follows:

Gold, placer	$75,170,103
Gold, lode	93,794,784
Silver	43,730,365
Lead	39,469,407
Copper	131,252,401
Zinc	9,762,872
Coal and coke	174,348,099
Building materials	27,697,835
Miscellaneous	517,419
Total	$595,743,285

Output in 1917.

Despite the drawbacks, which the mining industry of British Columbia had to face during 1917, the results were generally satisfactory, and the year was, with one exception, the most active in the history of the industry in British Columbia.

It is true that the value of mineral production shows a decrease of $5,000,000 from the previous years, but it must be borne in mind that 1916 was far and away the biggest year in mineral production in British Columbia, being $10,000,000 higher than the previous record.

One of the most interesting features of the mining industry at the present time is the greatly increased activity in coal mining.

The year just past exhibited a slight decrease from 1916, but the new mines being opened, both on Vancouver Island and the Mainland, are likely to increase the output during the coming year, provided the industry is not too severely handicapped by the shortage of coal miners, which is already the limiting factor.

Gold.

The gold production in 1917 totalled 118,239 ounces, as against 221,932 ounces for the year of 1916. Gold production, in all forms, has suffered from the war, due to the increased cost of labor and supplies, while the price of the product remains stationary. Due to the greatly enhanced value of the baser metals, such mines operating on the sliding scale of wages, regulated by the price of the metals, have been paying abnormally high wages, which have drawn miners away from the gold mining, both placer and lode. About 75% of the gold production of the province is obtained from the smelting of copper-bearing ores and the remainder mainly stamp-milling. The production

of placer gold is comparatively small, totalling only about one-tenth of the production of the total.

Copper.

The amount of copper produced in 1917 was the highest in any year except 1916, totalling 64,416,617 pounds, valued at $16,693,037, compared with the 1916 figures of $65,000,000 valued at $17,750,000. The average price of copper over 1917 was slightly lower than for 1916.

During the past three years copper-mining has become the most important form of mining in British Columbia and probably will maintain this position. Last year it formed 60% of the total value of the metalliferous mines, and 45% of the total mineral production. In the working of the large, low-grade deposits, and smelting of ores produced, a great number of men are employed and a large proportion of the money value is retained in the province in the payment of wages and purchase of supplies.

Silver.

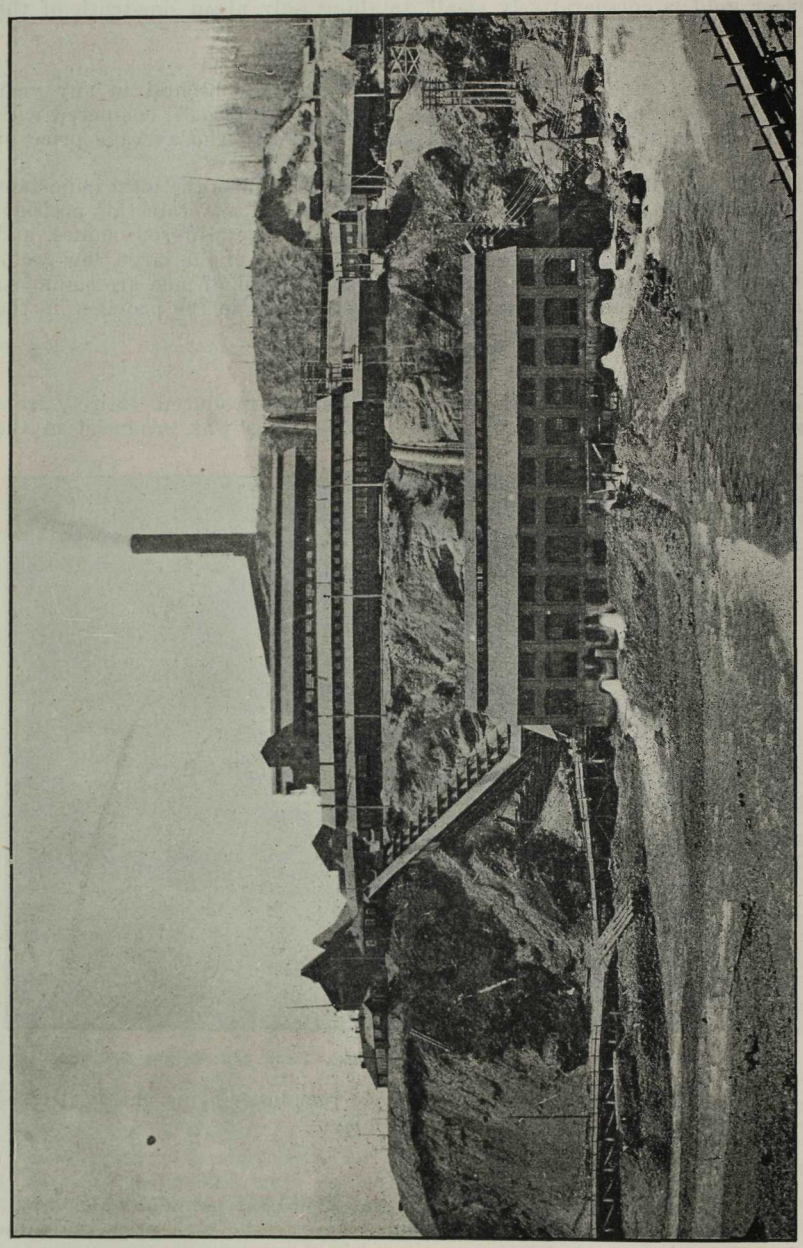
In 1917 a total of 3,069,021 ounces of silver was produced, entirely from the silver-lead and copper ores. About 56% of this was produced in the

Blister Copper ready for shipment at Anyox. Each pig weighs 320 lbs.

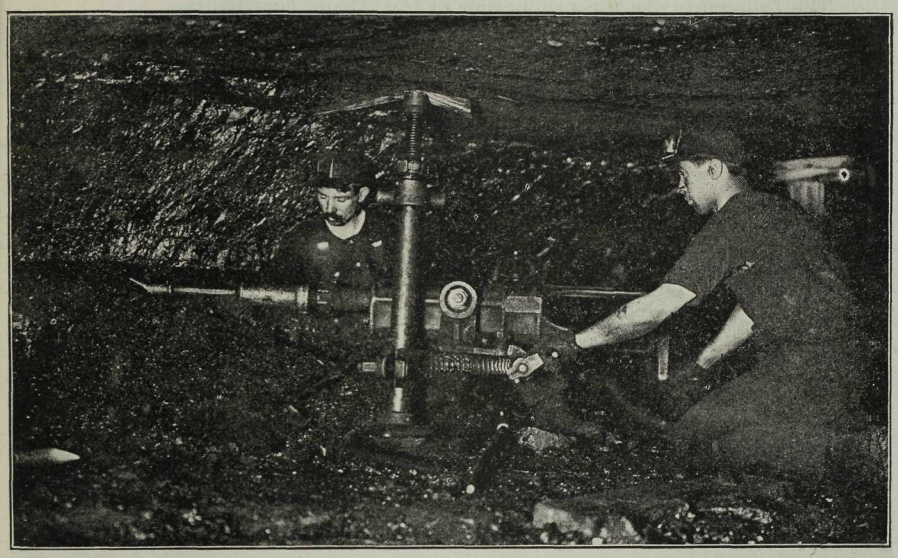
Slocan district from argentiferous galena, the remainder being chiefly derived from the smelting of copper ores carrying silver.

Lead.

The total production of lead in 1917 was 38,661,811 pounds, which was a slight decrease over the previous year, but owing to the high price the value of the 1917 output was the highest on record in the province.



The Granby Smelter at Anyox, to which large additions have recently been made—Power House in foreground.



Compressed-air drill used in coal mining—Western Fuel Company, Nanaimo.

Zinc.

The output of zinc for 1917 was slightly less than for the previous year. The high prices paid for zinc in 1915 and 1916 resulted in such an increased production that the supply far exceeded the demand, with the inevitable result that the market declined very considerably in 1917.

Coal.

The value of coal produced in 1917 shows an increase of $267,000. The coal production of the coast district was considerably greater than in 1916, but labor troubles materially decreased the output in the Crow's Nest mines of both coal and coke.

The returns for the past year show that Vancouver Island mines made the best record in their history, aggregating 1,698,235 tons. The following figures show the comparative production of the various properties for 1916 and 1917, respectively:

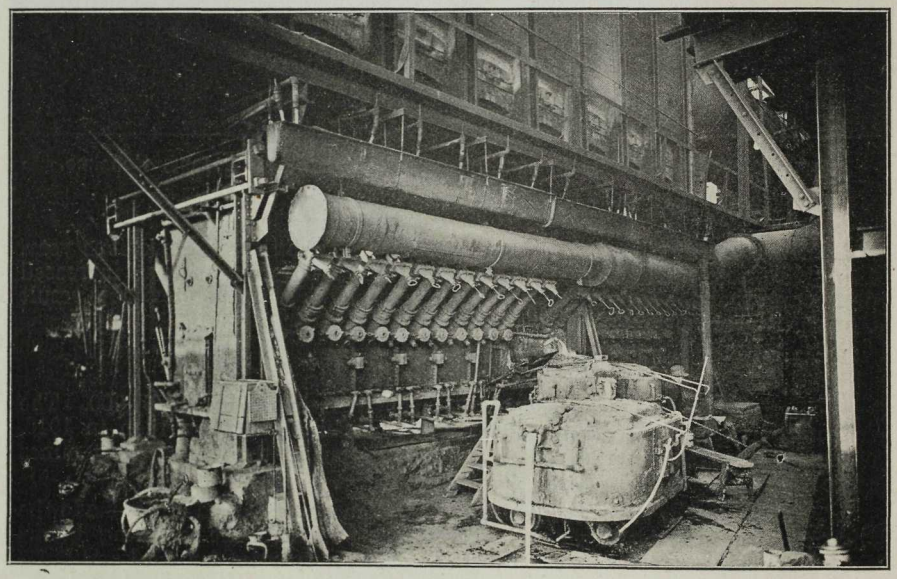
	Tons	
	1916	1917
Canadian Collieries Limited	705,966	800,348
Western Fuel Company	554,610	658,001
Pacific Coast Coal Mines	153,112	150,517
B. C. Mining Co	78,443	61,547
Nanoose Colleries	630	27,822
Total	1,492,761	1,698,235

The following was the production in the Nicola coal fields:

	Tons	
	1916	1917
Middlesboro Coal	49,005	95,000
Inland Coal & Coke	31,748	6,000
Diamond Vale	338	7,184
Princeton Coal and Land	29,548	46,916
Total	110,761	155,100

The production of the Crow's Nest field shows a falling off. The following shows the production of the two companies operating in that field:

	Tons	
	1916	1917
Crow's Nest Pass Coal Co. Ltd.	813,250	745,283
Corbin Coal and Coke Co.	69,020	113,717
Total	882,270	859,000



A blast-furnace at the Trail Smelter.—The molten metal may be seen flowing in a white stream from the covered truck in the centre. The smelter is now refining gold, silver, copper, zinc and lead.

Smelting Companies.

The following companies operate copper, lead and zinc smelters in the province:

The Granby Consolidated Mining, Smelting and Power Co., Ltd., head office, Vancouver, operate smelters at Grand Forks and Anyox, B. C.

The Canadian Consolidated Mining & Smelting Company of Canada, Limited, whose extensive plant at Trail is one of the largest in the British Empire.

The Ladysmith Smelter Corporation, Limited, operating copper smelters at Ladysmith, Vancouver Island.

The Britannia Mining & Smelting Company, Limited, operating the Britannia Mines on Howe Sound, near Vancouver, the largest copper mines so far developed in the British Empire.

Iron Ore.

In the coast district of British Columbia very large bodies are known to exist of iron-ores, and of recent years several properties have been proved up, and it is estimated that some 12,000,000 tons of ore is available in this district.

The demand for iron and steel products would undoubtedly have led to development work, and probably the establishment of an iron and steel industry, but unfortunately the ore available is mainly Magnetite, and so far as is at present known there is on the coast no developed body of haematite or other ore of iron which would be desirable to mix with the magnetites for blast-furnace smelting.

Deposits of Haematite are, however, known to exist in the province and limestone of excellent quality is available, and it is stated by experts that several of the coals of the province are highly suitable for making blast-furnace coke.

Considerable interest has been manifested during the past year in regard to iron deposits generally, and it is hoped that a start may be made during the current year in the installation of an iron-smelting plant.

Blast-furnaces on a large scale are to be established on Puget Sound, Washington, which will use a considerable proportion of British Columbia iron-ore, mixed with Mexican iron-ore as a flux.

The installation of electric furnaces on an experimental scale in British Columbia is mooted and the project should meet with success, since the ores are of a very similar nature to those treated in Sweden by this process.

FISHING INDUSTRY

The coastal waters of British Columbia abound with fish of many varieties. Up to the present time the principal branches of the industry developed on a large scale, are the canning of salmon, the halibut fisheries, and the salting and canning of herring.

There are 21 varieties of fish commercially fished for in British Columbia. A considerable development in general fisheries is likely within the next year or two, owing to the increased demand for fish foods.

The present output of the industry averages $15,000,000 annually, of which $10,000,000 represents the salmon fisheries, $2,000,000 halibut, and $1,000,000 herring.

Salmon heads the list in the value of fish caught in British Columbia, accounting for nearly 75 per cent. The five varieties of salmon caught on the Pacific Coast are as follows:

The Sockeye is a small fish, ranging from four to twelve pounds; flesh firm, and intensely red in color.

The Tyee or Spring Salmon averages about 22 pounds in weight, but often much heavier, from pale pink to deep pink in color and rich in flavor.

The Cohoe or Silverside averages about 6 pounds in weight, flesh firm, much paler in color than the Sockeye.

The Humpback averages about four pounds and its flesh is pale pink and soft.

The Chum averages eight pounds and is yellowish in color, with fair flavor.

In British Columbia the bulk of the fish used for canning is the Sockeye and it is during its run, usually in prodigious numbers at the height, that the pack is made up. As many as 2,000 boats are seen at the mouth of the Fraser at one time, and in big runs they will average from 100 to 500 fish each in a night.

The official statistics issued by the Salmon Canners' Association show the total capacity of canneries existing in British Columbia as 8,592,000 cases of 48 lbs. each, in the season.

A full list of the salmon canners at present in operation is given on the next page.

Frozen Fish. A very large business has been developed during the past few years, there now being engaged in the shipping of frozen fresh fish, principally halibut, a number of large firms, operating extensive plants and conducting their own fishing with a large fleet of fish boats, steam schooners and carriers. The centres of this industry are Vancouver and Prince Rupert, the northern city having rapidly come to the fore since the completion of the transcontinental Grand Trunk Pacific Railway. Large shipments are made by refrigerator train bi-weekly, going to the chief eastern distributing centres, both in Canada and the United States.

Experimental shipments of frozen British Columbia fresh fish to Europe having turned out very successfully, regular and large quantities are now being sent forward, and this trade is expected to develop into permanent and large business.

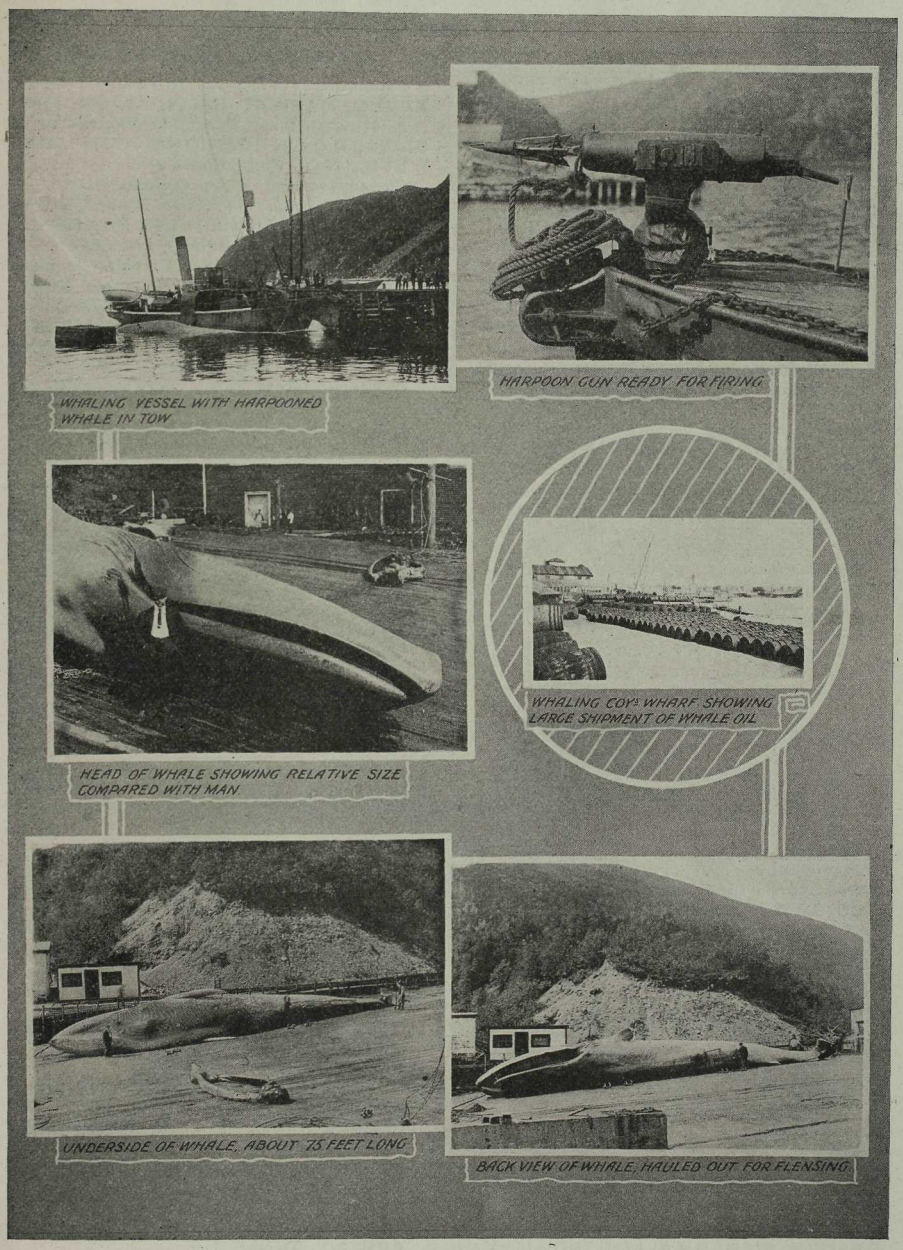
Fish Oils and Fertilizer. With the exception of whale oil and fertilizer, the fish oil industry is not greatly developed in British Columbia. Two firms are operating in the manufacture of fertilizer from waste, one on the Fraser River and the other north. Other companies have been incorporated for the manufacture of fish oil, including dog-fish oil, seal oil and salmon oil, but it would appear that this industry is capable of extension if conducted on the large, modern, commercial scale which has proved successful elsewhere.

Whaling is conducted at five stations employing eight whaling steamers, the value of whale-oil produced approximating $125,000 each season, not including the value of whale-bone and fertilizer.

Seals are caught commercially for their oil, but latterly the hides are being tanned and make excellent leather. This industry is capable of development and will be welcomed by the Government, since the seals are very destructive to the salmon fisheries.

Curing and Smoking. Salmon was formerly "mild cured" in salt for the German market, but the catch is now entirely packed in cans. Salmon, cod, and herring are smoked and are finding a growing market both locally and in Western Canada and the United States.

"Scotch Cured" Herring are now manufactured on a large scale, the principal firm in this line being described on the following page.



Views of the British Columbia Whaling Industry.

SALMON CANNERIES.

The following is a list of the salmon canneries operating during the 1917 season.

ANGLO B. C. PACKING CO. LTD., Vancouver. H. Bell Irving & Co. Agents.
Canneries—Phoenix, British America, Britannia, Canoe Pass, Wadhams and British Columbia ..... Fraser River
British America and North Pacific.... ..... Skeena River
Good Hope ..... Rivers Inlet
Port Nelson and Arrandale, Naas River
Knight Inlet ..... Knight Inlet
Seymour Inlet (Warner Bay)..... ..... Seymour Inlet

B. C. CANNING COMPANY LIMITED, c/o Findlay, Durham & Brodie, Victoria.
Canneries—Deas Island..Fraser River
Oceanic ..... Skeena River
Rivers Inlet and Victoria..Rivers Inlet

B. C. PACKERS ASSOCIATION, 517 Granville Street, Vancouver.
Canneries—Acme, Terra Nova, Imperial, Brunswick, Curries, Ewens, Celtic, Dinsmore Island, Atlas, Albion, Colonial, Canadian Pacific, Pacific Coast and Anglo American ..... Fraser River
Balmoral, Cunningham, Dominion and Alexandria ..... Skeena River
Brunswick and Wadhams..Rivers Inlet
Naas Harbor ..... Naas River
Lowe Inlet ..... Lowe Inlet
Bella Coola ..... Bella Coola
Alert Bay ..... Alert Bay

BOOTH FISHERIES LIMITED OF CANADA, Steveston.
Cannery—Scottish Canadian ..... Fraser River

C. L. PACKING COMPANY LIMITED, 810 North West Trust Building, Vanc'r.
Canneries—Lighthouse .. Fraser River
Jervis Inlet ..... Jervis Inlet

CANADIAN FISH AND COLD STORAGE CO. LTD., Prince Rupert.

CASSIAR PACKING COMPANY LTD., 120 Pacific Building, Vancouver.
Cannery—Cassiar ..... Skeena River

CLAYOQUOT SOUND CANNING COMPANY LTD., Victoria.
Cannery—Clayquot, .. West Coast of ..... Vancouver Island

DEFIANCE PACKING COMPANY, Standard Bank Building, Vancouver.
Canneries—Great Northern ..... Near Howe Sound
Port Renfrew ..... Vancouver Island

M. DESBRISAY & COMPANY, 609 Dominion Trust Building, Vancouver.
Canneries—Wales Island..Wales Island
Gulf of Georgia ..... Fraser River

DRANEY FISHERIES LIMITED, R. V. Winch & Company, Vancouver.
Canneries—Namu ..... Namu, B. C.
Kimsquit ..... Dean Channel

EAGLE HARBOR CANNING CO., 163 Hastings Street West, Vancouver.

GLEN ROSE CANNING COMPANY LTD., New Westminster.
Cannery—Glen Rose (Industrial) ..... Fraser River

GOSSE MILLERD PACKING COMPANY Molsons Bank Building, Vancouver.
Canneries — Burrard, Vancouver and Fraser River ..... Fraser River
Bella Bella ..... East Bella Bella
Sunnyside ..... Skeena River

GREAT WEST PACKING COMPANY LTD., New Westminster.
Cannery—Great West.....Fraser River

GULF ISLAND FISHING & CANNING CO., LTD., Lasqueti.

KILDALA PACKING COMPANY LTD., 193 Hastings Street East, Vancouver.
Canneries—Harlock Isl...Fraser River
Carlisle ..... Skeena River
Kildala ..... Rivers Inlet
Manitou ..... Dean Channel

KINCOLITH FISHERIES LIMITED, c/o R. V. Winch & Co., Vancouver.
Cannery—Mill Bay ..... Naas River

LIPTONS LIMITED, Allford Bay, Queen Charlotte Islands.

LIVERPOOL CANNING COMPANY, New Westminster, and 718 Granville Street, Vancouver.

LUMMI BAY PACKING COMPANY, Vancouver Island.
Canneries—Nitinat and Crofton ..... Vancouver Island

NANAIMO CANNERS & PACKERS LIMITED, Nanaimo.
Cannery—Nanaimo ..... Nanaimo

NOOTKA PACKING COMPANY LTD., Nootka Sound, West Coast Vancouver Island.

OCEAN PRODUCTS COMPANY, Pacofi, Q.C.I., Stobart-Pease Block, Victoria.

PRESTON PACKING COMPANY, Charles Creek, Kingcombe Inlet, and 504 Winch Building, Vancouver.

PORTLAND FISHERIES LIMITED, Wales Island, c/o R. V. Winvch & Co., Vancouver.

PROVINCIAL CANNING COMPANY LIMITED, office, Victoria.
Cannery—Provincial ..... Rivers Inlet

QUATHIASKI PACKING COMPANY, LIMITED, Quathiaski Cove.
Canneries—Quathiaski and Blind Channel ..... Cortes Island

REDONDA CANNING & COLD STORAGE CO., Deceit Bay.

SIDNEY CANNING COMPANY LTD., Sidney, Vancouver Island.

SKEENA RIVER COMMERCIAL CO. LTD. c/o R. V. Winch & Co., Vanc'r.
Cannery—Hermons ..... Skeena River

ST. MUNGO CANNING COMPANY LTD., New Westminster.
Cannery—St. Mungo .... Fraser River

STAR CANNERY LIMITED, Molsons Bank Building, Vancouver.
Cannery—Star ..... Fraser River

STEVESTON CANNING COMPANY LIMITED, Yorkshire Bldg., Vancouver.
Cannery—Steveston .... Fraser River

TALHEO FISHERIES LIMITED, Bella Coola, R. V. Winch & Co., Vancouver.

J. H. TODD & SONS, Victoria.
Canneries—Richmond ... Fraser River
Empire ..... Victoria, B. C.
Inverness ..... Skeena River
Beaver ..... Rivers Inlet

WALLACE FISHERIES LIMITED, Vancouver Block, Vancouver.
Canneries—Claxton .... Skeena River
Strathcona ..... Rivers Inlet
Hickey ..... Smith's Inlet
Kildonan ..... Uchucklesit
Quatsina ..... Quatsina Sound
Naden Harbor .. Queen Charlotte Is.

WESTERN PACKERS LIMITED, 1414 Standard Bank Building, Vancouver.
Canneries—Shushartie, Shushartie Bay
Butedale ..... Work Island
Smith Inlet (Chambers Pkg. Co.)
..... Smiths Inlet

WATSON BROTHERS, VANCOUVER.

This firm was established in 1907, the proprietors being James W. Watson and John E. Watson. The head office and principal plant of the firm are situated on Front Street, Vancouver, with water-frontage on False Creek.

Watson Brothers are the largest packers of pickled and smoked fish in British Columbia, and operate packing stations at Vancouver, Pender Harbor, Nanaimo, and Barclay Sound. In 1916 they packed 10,000 barrels of pickled herring and 50,000 cases smoked. In addition to supplying the local market they export to the United States, Europe, Australia, New Zealand and the Orient, shipping in addition to their pickled and smoked fish, frozen and canned fish of various kinds.

Packing Scotch-cured Herring at the plant of Watson Brothers.

They also operate in Vancouver a well-equipped barrel factory, making all their own barrels and supplying in addition, to the rest of the trade. They operate their own fishing boats at their various fishing stations, and give employment to about 250 hands.

A specialty is made by the firm of Scotch-cured herring for which line they employ a large number of men and women, who are experts in this line.

SHIPBUILDING

A little over a year ago there was not a single ship of any description building or projected in British Columbia. The lumber trade was suffering severely from the lack of tonnage to carry the considerable foreign business offering and there was strong agitation for some form of government subsidy or assistance which would enable the industry to get a start. The Pacific Coast states had under construction a large number of wooden schooners of one to two thousand ton capacity, the majority having auxiliary power in the form of interior combustion engines, and the proposal was put forward that similar ships could be built in British Columbia.

The passing of "The Aid to Shipping Act" of the Provincial Government in the earlier part of 1916, focussed attention on the facilities existing for wooden shipbuilding on the coast of British Columbia, and as a direct result, contracts were placed for 12 auxiliary-power wooden schooners of the "Mabel Brown" type, all of which have now been launched, 9 having already left the shores where they were built with cargoes of lumber for Australia, India and South Africa, and the earlier ones have already engaged in general carrying trade on the world's ocean highways.

Wooden ships have been built in British Columbia for many years past. The first recorded instance being in 1788 at Nootka Sound, where a wooden schooner was constructed by Capt. Mears, since which time a number of small vessels have been constructed at one time and another. With the growth of Victoria and Vancouver, shipbuilding and ship-repair yards were established and several steamers and sailing vessels of medium dimensions have been constructed locally, although up to the present very few ocean-going ships have left the local ways. Among the more notable ships of local construction are several coasting steamers for the C. P. R., Terminal Steamship Company and the Union Steamship Company, the Government steamer "Kestrel" and quite a number of large schooners, ocean-going tugs, and other craft of similar nature.

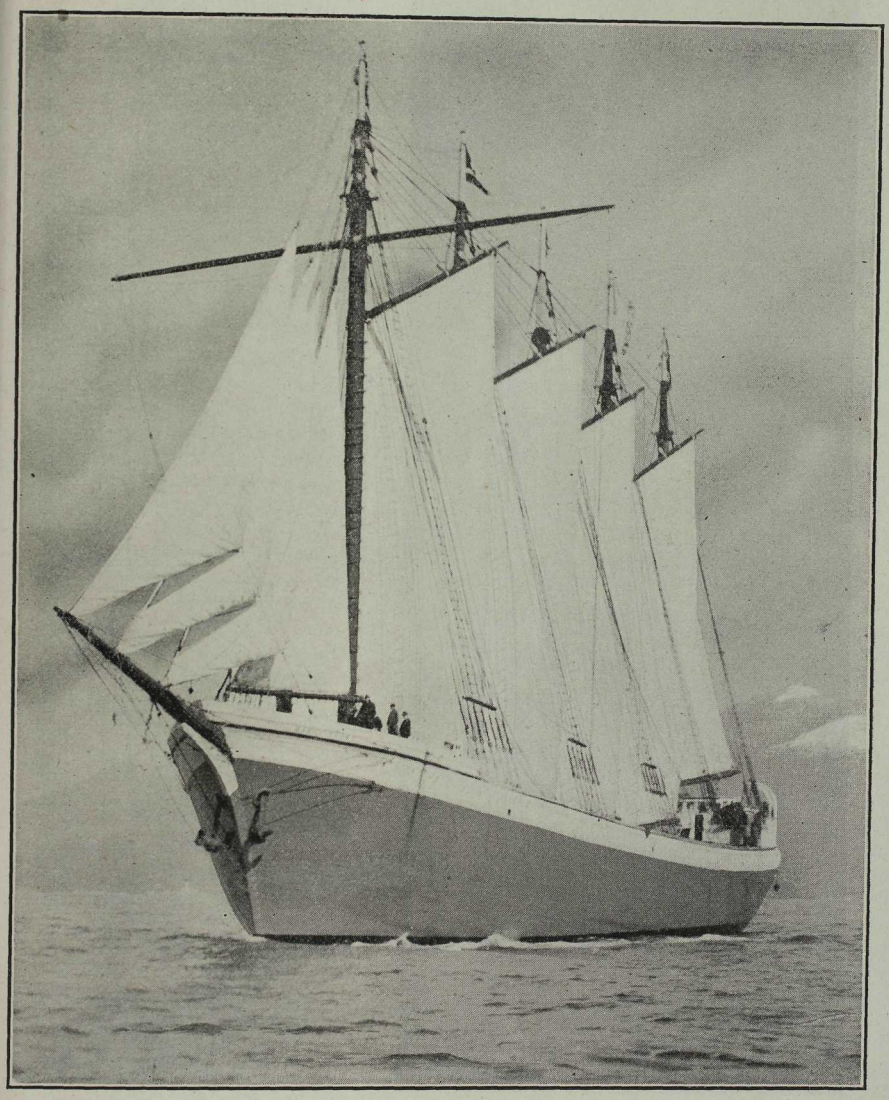
The Tonnage Famine.

The acute shortage of commercial tonnage, which so far has been entirely unrelieved by the world's new construction, accentuated by the vast requirements of the Allied governments for war purposes, such as troop and supply transport, has been brought to a climax in recent months by the depredations of the submarines.

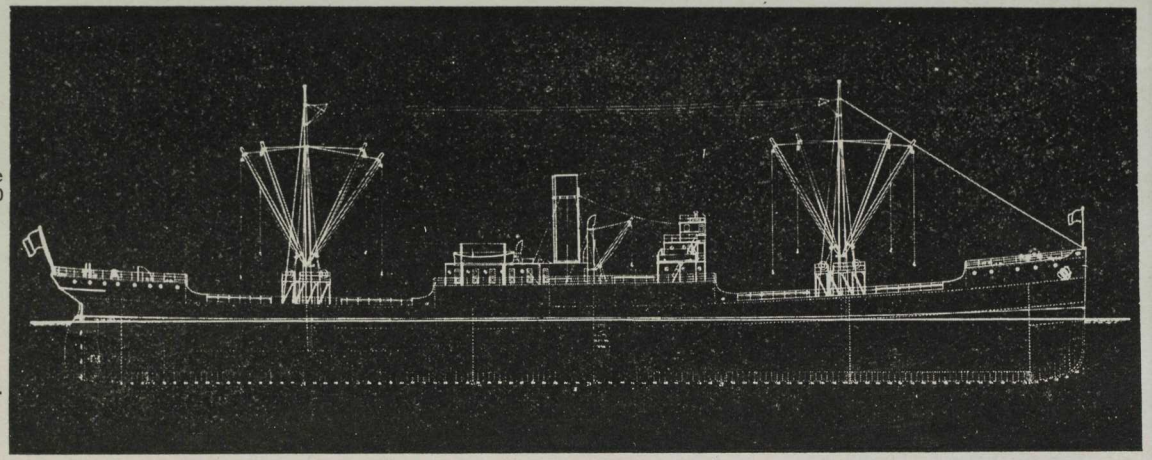
Ordinarily, Great Britain would have undertaken by far the larger portion of this new construction, but many of her yards were not available for commercial work, and furthermore, the price of steel has risen rapidly, owing to the demand for war purposes. The position of the British yards as the cheapest market for steel shipbuilding a year or so ago arrived at a point where other countries could compete on terms of equality.

The Opportunity of New Shipbuilding Centres.

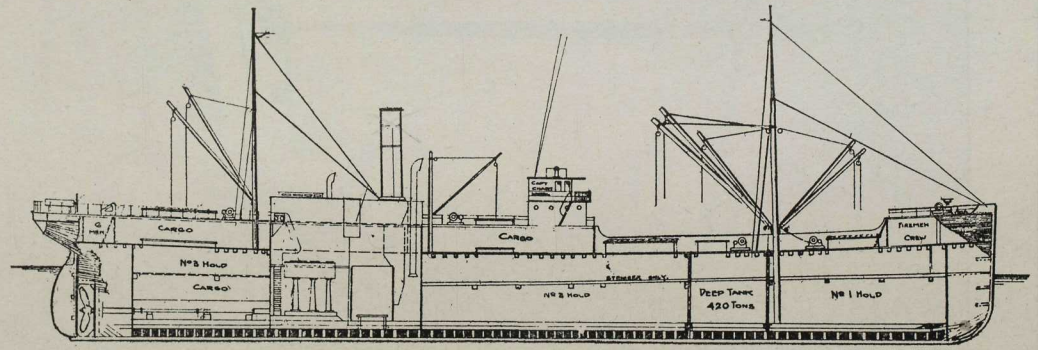
At this point came the opportunity of shipyards in other countries to secure orders for ships, and the yards on the Atlantic Coast of the United States were the first to benefit. The orders rapidly filled up all available facilities for shipbuilding, and other sources had to be found. To-day it



Auxiliary-power schooner "Mabel Brown" in full sail. 12 of these vessels were launched in Vancouver and Victoria during 1917. They are 225 ft. long, 44 ft. beam and 22 ft. depth, equipped with 2 160 H.P. Diesel engines.



Section of the 8,800 ton steel steamers being built by J. Couglan & Sons, who have a contract for 10 at the present time. The first, the "Alaska" was launched Jan. 19th, 1918, and four others are building. These steamers are 425 ft. long with 54 ft. beam.



Section of the wooden steamers of which 27 are being built in British Columbia for the Imperial Munitions Board. These vessels are 250 feet in length, 43 feet 6 inches beam, and 25 feet depth, with a deadweight capacity of 2,800 tons. The first two were launched in January 1918.

is no exaggeration to state that every established shipyard capable of constructing steel ships at prices which the owners are willing to pay is full up with orders for one or two years ahead.

Under normal conditions the British yard could build steel freighters of eight to ten thousand tons at about $40 to $50 per ton, whereas today many ships of this class are under construction at prices as high as $160 per ton, and for early delivery owners are offering a bonus which considerably enhances the price.

The Problem of the Future.

The problem confronting the shipbuilders in British Columbia is to convert what is now an anomalous position into a normal one. When there are many insistent buyers and few sellers, it is possible to secure orders under conditions which would absolutely preclude the business under reversed circumstances. Not that there is any doubt that the shipyards established and to be established on the Canadian Pacific coast will not lack business for the next two or posibly three years; of that question orders already placed and now under construction effectually dispose. The true problem is to study the basic situation in an endeavor to create conditions which will enable these yards to retain a portion of the shipbuilding business when conditions revert to normal, as revert they will, and must, within a few years.

To all students of economics and commerce, the fact is apparent that iron and steel are the basic industries upon which are pivoted all the great manufacturing countries of the world. With her iron-ore resources and coal-bed deposits fully developed, British Columbia would rapidly become a manufacturing country in a degree at present impossible. "Iron and Coal," these two small words are an epitome of the industrial strength of Great Britain. They have been the foundation of the industrial development of the United States, France, Germany and Japan. There is no reason that they should not become the foundation of industrial prosperity in British Columbia.

Steel Must Be Imported.

It would be far better if the steel and construction material for these ships could be obtained from Canadian sources entirely, but at present the steel mills of Canada are practically full to capacity with war orders for steel. For the present, at least, the structural shapes, plates, etc., must be brought in from south of the line, and it is to be hoped that by the time these ships on order are completed some start will have been made in producing in British Columbia from our own ores, the requisite materials for further construction.

Each ship built affords more experience to the builders, greater economy of construction, reduction of operating costs and added prestige. The Government of Canada should plainly make it their duty to do everything in their power to place this industry on at least an even competitive basis with Pacific Coast cities south of the international boundary. It is not certain that Vancouver will be in a position always to compete with British and other shipbuilding centres, but it should be certain that she would be placed in a position to equal Seattle and other coast cities.

WOODEN SHIPBUILDING.

It is hardly necessary to point out the advantages possessed by British Columbia in the construction of wooden ships, both steamers and sailing ves-

sels. The two main types being constructed in British Columbia at the present time are auxiliary-power schooners of about 2,000 tons, 5 masted, engine with two 160 H.P. internal combustion engines; the other being the standard wooden steamship of the Imperial Munitions Board, for which orders for 67 have been placed in British Columbia. These vessels are 2,800 tons deadweight capacity.

British Columbia fir as a shipbuilding material is now recognized as the finest in the world and there is little doubt that as long as wooden ships are built, this industry will flourish in British Columbia.

Shipbuilding Programme in B.C.—1917-18

The following details show the position in regard to shipbuilding in this Province in January, 1918.

The shipyards operating are as follows:

B. C. CONSTRUCTION & ENGINEERING COMPANY LTD.

This Company was organized in 1917 for the purpose of constructing wooden steamers for the Imperial Munitions Board. Their shipyard is on Poplar Island, New Westminster, and they have been awarded a contract for four of the standard steamers, three of which are now under construction.

CAMERON-GENOA SHIPBUILDERS LTD.

This company was incorporated in Victoria in 1916 and received a contract for the construction of six auxiliary-power schooners of the "Mabel Brown" type. The sixth of these ships was launched in December, 1917. The company have also a contract with the Imperial Munitions Board for the construction of four standard wooden steamers, three of which are now under construction at their Victoria Shipyard.

JOHN COUGHLAN & SONS, VANCOUVER.

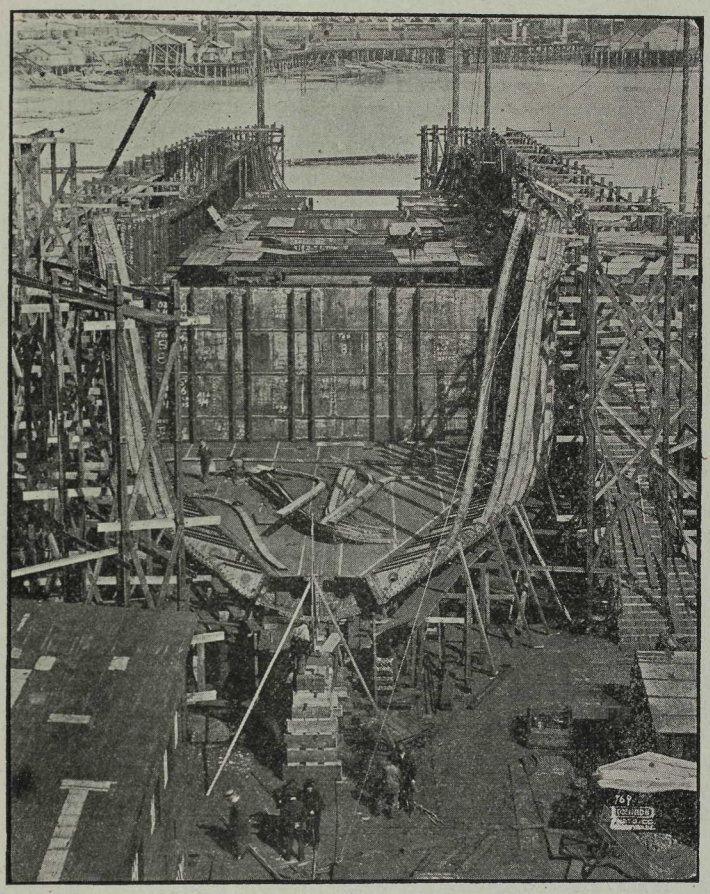
This old established firm of structural steel fabricators entered into the shipbuilding business in 1916, establishing on False Creek, Vancouver, an extensive plant for the construction of steel steamships.

The first contract was for three steel steamers of 8,800 gross tonnage, for Norwegian interests, subsequently two being transferred to the British Government. Further contracts have been placed for similar steamers for the Imperial Munitions Board and the programme at present comprises 10 steel steamers, all of 8,800 tons gross, the first of which was launched in January, 1918, and four others under construction. It is expected to launch four at least of these vessels during 1918.

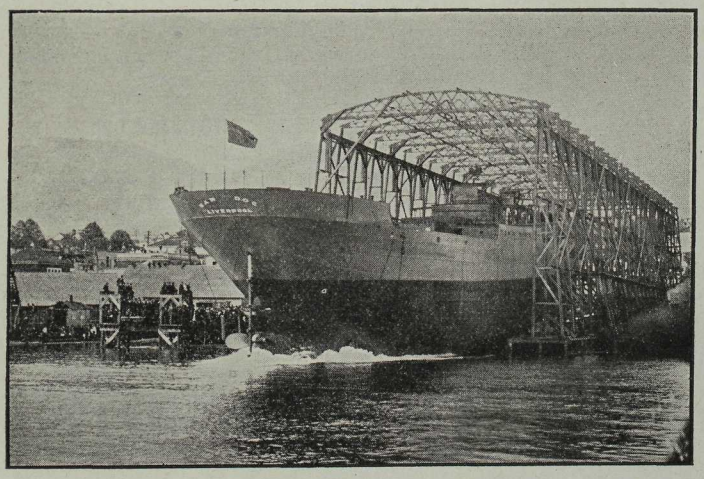
This firm employs about 1800 men at their shipyards.

FOUNDATION COMPANY (BRITISH COLUMBIA) LIMITED.

This company was incorporated in 1917 and is a branch of the Eastern Canadian company of the same name. They have a contract with the Imperial Munitions Board for the building of five standard wooden steamers,



Building the S.S. "Alaska" 8,800 tons the largest steel vessel built in Canada, at the Coughlan yards, Vancouver.



Launch of the S.S. "War Dog" at the Wallace yards, No. Vancouver, May 1917.

the first having been launched in December, 1917, and three others now under construction. Their shipyards at Point Hope, Victoria Harbor, are the product of less than six months.

The company is now employing 650 men.

LYALL SHIPBUILDING COMPANY LIMITED, NORTH VANCOUVER.

This company, incorporated in 1917, is a branch of the Lyall Construction Company of Montreal. They took over the Number 2 shipyard of the Wallace Shipyards Limited at North Vancouver and have made considerable additions and extensions. This company have a contract with the Imperial Munitions Board for six wooden steamers, three of which are at present under construction.

Three hundred and fifty men are employed by this company.

PACIFIC CONSTRUCTION COMPANY LIMITED, COQUITLAM.

This company was awarded a contract by the Imperial Munitions Board for two standard wooden steamers, and took over the shipyard at Coquitlam formerly operated by the Coquitlam Shipbuilding Company. One of the steamers is at present on the ways.

WALLACE SHIPYARDS LIMITED, NORTH VANCOUVER.

This old-established shipyard has had considerable experience in the building and repairing of steel and wooden vessels having constructed a large number of craft now in coastal service. In 1916 they were awarded a contract for six auxiliary-power wooden schooners of the "Mabel Brown" type, the entire programme having now been completed. They also have contracts for three steel steamers of 3,500 tons deadweight, the first of which, the "War Dog," was launched in May, 1917; the second being now under construction.

The Wallace Shipyards employ 800 men.

WESTERN CANADIAN SHIPYARDS LIMITED, VANCOUVER.

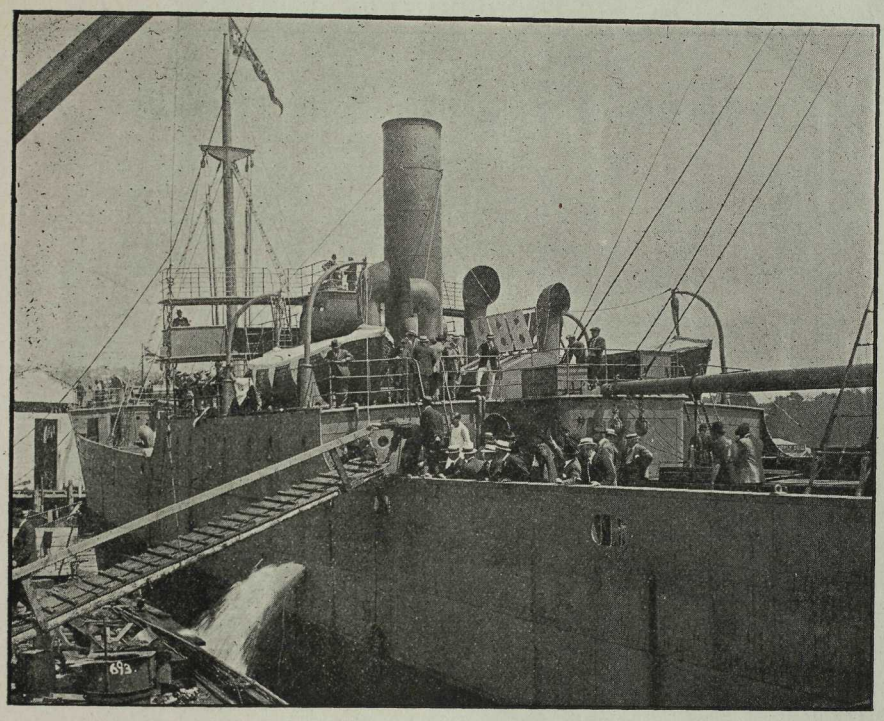
This company was established in 1917 and laid down an extensive shipyard on False Creek, Vancouver, having received a contract for six Munitions Board wooden steamers, three of which are under construction, one already having launched in January, 1918.

YARROWS LIMITED, ESQUIMALT.

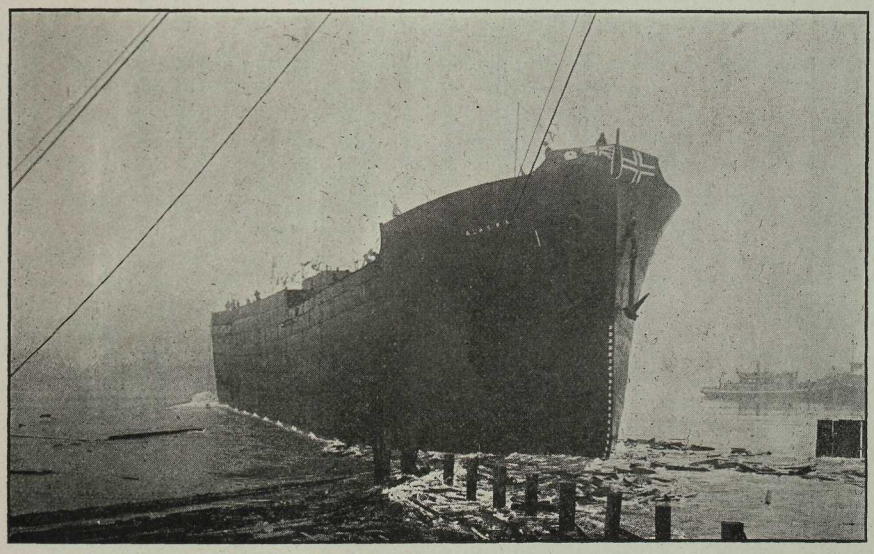
This company, of whose plant a full description will be found elsewhere in this book, are building four shallow draft steel steamers for river service in India, all about 1,500 tons deadweight each. Two have already been completed and the other two are under construction.

The following is a summary of the present shipbuilding programme in this Province and exhibits at a glance the number of vessels, tonnage, and number of men employed and progress of construction at the present time (January, 1918):

It is expected that further large orders for wooden and steel vessels will be awarded to British Columbia shipyards in the near future. At the present time negotiations are pending for the awarding of contracts for several large vessels, and new companies are projected for the establishment of more shipyards.



SS. "War Dog" leaving for trial trip, September 1917.



Launch of the S.S. "Alaska" at the Coughlan yards, Vancouver, January 1918.

SHIPBUILDING PROGRAMME IN BRITISH COLUMBIA, JANUARY 1918

Firm	Type of Vessel	No. of Ships	Combined Gross Tonnage	Combined Dead Weight	Progress of Construction: Afloat	Progress of Construction: Building	Men Employed
B. C. Construction Co. Ltd. New Westminster.	Munition Board Steamers	1	7,200	11,200	—	3	350
*British American Shipbuilding Co., Ltd., Vancouver.	Munition Board Steamers	20	36,000	56,000	—	—	—
Cameron-Genoa Shipbuilders Ltd. Victoria.	Auxiliary-Power Schooners	6	9,600	15,300	6	—	—
	Munition Board Steamers	4	7,200	11,200	1	3	750
Coughlan & Sons, Vancouver	Steel Steamers	10	57,000	88,000	1	4	1,800
Foundation Co. Ltd., Victoria	Munition Board Steamers	5	9,000	14,000	1	3	650
Lyall Shipbuilding Co. Ltd. North Vancouver	Munition Board Steamers	6	10,800	16,800	—	3	350
Pacific Construction Co. Ltd. Coquitlam.	Munition Board Steamers	2	3,600	5,000	—	1	160
*Victoria Shipbuilding Co. Ltd. Victoria.	Munition Board Steamers	20	36,000	56,000	—	—	—
Wallace Shipyards Ltd., North Vancouver	Auxiliary-Power Schooners	6	9,600	15,300	6	—	—
	Steel Steamers	3	9,000	14,100	1	1	800
	Steel Steamers	4	24,000	40,000	—	—	—
Western Canada Shipyards Ltd., Vancouver	Munition Board Steamers	6	10,800	16,800	1	3	350
Yarrows Ltd., Esquimalt	Steel Steamers	4	3,600	6,000	2	2	250
	TOTALS	104	233,400	365,700	19	23	4,960

*New Companies awarded contracts Feb. 1918.

THE METAL TRADES

In the establishment and extension of machinery and metal-working plants in British Columbia, the past few years have seen considerable development. These industries are dependent, in the main, on the development of the basic industries of the Province, such as mining, lumbering and fishing, but this development within the past two years has been greatly stimulated by the demands of the shipbuilding industry.

The scope and equipment of the metalworking plants of the Province was very creditable prior to this period, but the large amount of new business offering induced very considerable extensions, and we have to-day in this Province many modernly equipped and extensive plants manufacturing machinery, equipment and supplies.

The beginning of the year 1917 saw most of the machine shops busy on the manufacture of shells for the Imperial Munitions Board, while the close of the year showed a change in this respect, only a few shops still being engaged on this work, while a great many are busy in the manufacture of auxiliary machinery, fittings, etc., to be used in connection with the shipbuilding programme of the Province.

The new plants actually established by no means represent the advance made duirng the period under review, since several of the shipyards have added to their equipment large and well-organized machine and boiler shops, which in themselves would constitute industrial establishments.

As mentioned in other chapters in this book, the establishment of an iron and steel industry in British Columbia, smelting iron ores of the Province, would mark a new era in the metal trades. At the present time there are three plants in the Province manufacturing steel from scrap and pig iron, two of them turning out steel angles and channel, and the other steel castings.

There are a number of plants manufacturing machinery and supplies, many of them specially designed to meet local requirements. The shipbuilding industry calls for the supply of marine engines, auxiliary machinery, winches, and other hoisting engines. The great majority of the machinery required for the ships being built in British Columbia is being manufactured in the machine shops of the Province.

Sawmill, logging and shingle machinery is manufactured in wide variety, and several firms are beginning to enter the export market in special lines. Several firms are manufacturing hoisting, logging, gasoline, crude oil, steam and marine engines. The greater part of the special mining machinery and equipment required by the very large mining industry of the Province is now being manufactured.

Other hardware manufactures include wire nails of all kinds, baleties, staples, metal windows, steel pipe, boilers of all kinds, ornamental iron fences, structural iron and steel, furnaces and stoves. There are a number of modernly-equipped foundries capable of handling anything required in the Province in steel, iron, brass and bronze castings.

The classified section of this book indicates the wide variety of products manufactured in the metal trades industries, while the following description of several of the prominent firms in this line will be further indication of the facilities afforded.

METAL TRADES.

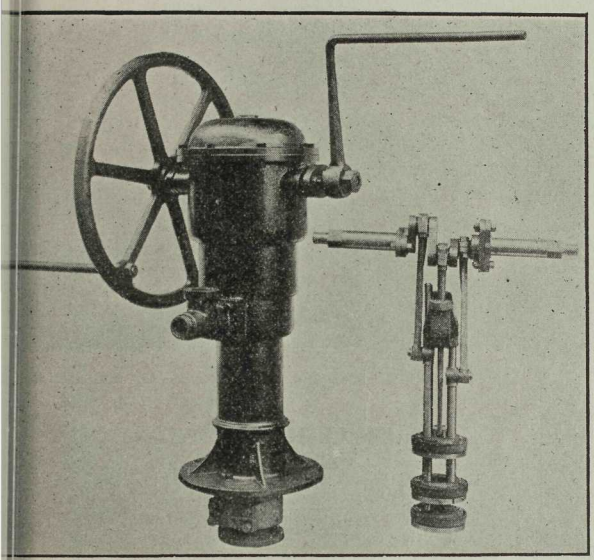
Foundries—Machine Shops—Steel Shipbuilders—Structural Steel — Electrical Machinery, etc., etc.

For detailed classification of lines manufactured, see the classified section of this book.

Aetna Iron and Steel Co., Ltd. Port Moody
Akerberk, Thomson & Co..Prince Rupert
Albion Stove Works, Ltd. ..... Victoria
Allan & McKelvie ..... Vancouver
Ballard Drop Forge Co. ..... Vancouver
B. C. Construction & Engineering Co., Ltd. ..... New Westminster
B. C. Marine, Ltd. ..... Vancouver
Blain, A. ..... Vancouver
Boundary Iron Works ..... Grand Forks
Burrard Iron Works ..... Vancouver
Canada Metal Co., Ltd. ..... Vancouver
Canadian Northwest Steel Co., Ltd..... ..... Vancouver
Chace Automatic Value Co. ..Vancouver
Columbia Block & Tool Co....Vancouver
Columbia Iron Works ..... Vancouver
Columbian Pulleys, Ltd. .... Vancouver
Cope & Son, Ltd. ..... Vancouver
Coughlan & Sons, J. ..... Vancouver
Cowie Machine Works ..... Nanaimo
Cranbrook Foundry ..... Fernie
Earle, W. B. ..... Vancouver
Electrical Manufacturing Co...Vancouver
W. J. Ellis ..... Kamloops
Empire Manufacturing Co., Ltd...Vanc'r
Fernie Foundry ..... Fernie
Gibbs Tool & Stamping Works..Vanc'r
Gilchrist Manufacturing Co. .. Vancouver
Globe Iron Works ..... Vancouver
Graham Electric Company .. Vancouver
Great West Smelting & Refining Co... ..... Vancouver
Hafer Machine Works ..... Victoria
Hall & Wallace ..... Vancouver
Hall Machine Works ..... Vancouver
Heaps Eng. works Ltd. New Westminster
Heaton Machine Works ..... Vancouver
Hendry Patterson Foundry Co. ..Vanc'r
Hutchinson Bros. & Co., Ltd....Victoria
Ideal Iron Works ..... Vancouver
Imperial Machine Works..Prince Rupert
Industrial Iron Works ..... Vancouver
Letson & Burpee, Limited ... Vancouver
Lofts & Bosustow ..... Victoria
Marine Iron Works ..... Victoria
Mainland Eng. Works Ltd. .. Vancouver
Marine Navigation & Engineering Company, Ltd. ..... Vancouver
Maritime Motor Co., Ltd. .... Vancouver
Marsland Brass & Iron Foundry..Vanc'r
Moore, R. M. & Co., Ltd. ... Vancouver
Morris, S. M. & Co. ..... Vancouver
Morrison Steel & Wire Co., Ltd...Vanc'r
Morton Pump Co., Limited .. Vancouver
Nanaimo Foundry ..... Nanaimo
National Machinery Co., Ltd...Vancouver
Neilson, J. F. ..... New Westminster
Nelson Iron Works ..... Nelson
North Shore Iron Works, Ltd., N. Vanc'r
Olson Iron Works ..... Vancouver
Pacific Galvanizing Company..Vancouver
Pacific Iron Works ..... Vancouver
Pacific Steel Co., Ltd. ..... Eburne
Pacific Welding Co. ..... Vancouver
J. W. Patterson ..... Vancouver
Prince Rupert DryDock & Engineering Company, Ltd. ..... Prince Rupert
Progressive Engineering Works, Ltd.... ..... Vancouver
Ramsay Machine Works ..... Victoria
Reliable Electric Co., Ltd. ... Vancouver
Robertson Iron Works ..... Victoria
A. Rogers & Co. ..... Vernon
Ross & Howard Iron Works Co., Ltd... ..... Vancouver
Schaake Co., Ltd. ..... Vancouver
South Vancouver Iron & Wire Works.. ..... South Vancouver
Smith Brothers ..... Victoria
Standard Engineering Co., Ltd....Vanc'r
J. D. Stout ..... Vancouver
Sumner Metal Works ..... Vancouver
Terminal City Iron Works .. Vancouver
Tupper & Steele, Ltd. ..... Vancouver
Vancouver Boiler Works .... Vancouver
Vancouver Brass Works ..... Vancouver
Vancouver Engineering Works, Ltd..... ..... Vancouver
Vancouver Forge Co., Ltd. .. Vancouver
Vancouver Machinery Depot, Ltd., Vanc'r
Vancouver Stove Works ..... Vancouver
Victoria Brass & Iron Works..Victoria
Victoria Machinery Depot Co. Ltd. Vict'a
Vivian Gas Engine Works .. Vancouver
Vulcan Iron Works, Ltd. .... Vancouver
Wallace Foundry, Ltd. ..... Vancouver
Wallace Shipyards, Limited..N. Vanc'r
T. Watt Galvanizing Works..Vancouver
Webb & Gifford .... New Westminster
Western Machine Works, Ltd.....Vanc'r
Westminster Foundry Co., Ltd., N. West.
Westminster Iron Works.... New West.
Wilson Brass Foundry ..... Vancouver
Yarrows Limited, Esquimalt .. Victoria

ALLAN AND MCKELVIE ENGINEERING COMPANY, LTD., VANCOUVER.

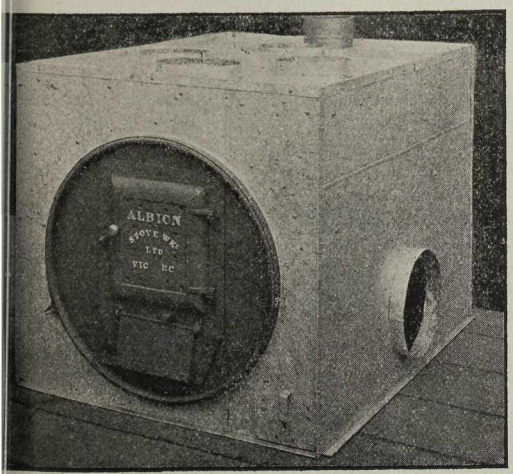
This firm of engineers occupy a well equipped works at 1214 Pender Street East, Vancouver, their main machine shop being 66 x132 ft., with a similar area embracing their foundry. The lines manufactured consist largely of ships' equipment for which the firm have large orders on hand at the present time. These lines include automatic ash-hoists, horizontal steering engines, steam captains, Downton pumps and life-boat pumps. In addition to supplying local shipyards, the firm are also equipped for export business in these lines. They also manufacture mill and mining machinery, and make a specialty of Flanged Pipe Fittings. The average number of men employed by the firm is 40 to 50.



nton ships' pumps, manufactured by Allen & McKelvie.

ALBION STOVE WORKS LIMITED, VICTORIA.

This old established firm was founded in 1867 and has had a very successful and progressive career.



ot air furnaces for coal and wood, manufactured by Albion Stove Works, Ltd., Victoria.

The capital of the company is $50,000, the officers being J. A. Mara, chairman, Thos. E. Wood, manager. The foundry building is 100 by 40 feet and the factory building 120 by 40 feet with ample warehouse and show room accomodation also.

The products manufactured cover a large range of stoves, ranges and furnaces, and in addition to the local and western Canada markets, an export business is being worked up in China, Japan, Burmah, and shipments are also being made to eastern Canada as far as Fort William.

About forty men are employed, the products of the plant including stoves, ranges, hot-air furnaces, castings of light iron and aluminum castings.

General view of plant of B. C. Marine, Ltd. Vancouver.

B. C. MARINE LIMITED, VANCOUVER

The business of the B. C. Marine Limited was established 20 years ago as a branch of the British Columbia Marine Railways Company Limited. Upon the sale of the Esquimalt branch of the business the present Company was incorporated in 1914.

George G. Bushby is Managing Director, Innes Hopkins, Director and Business Manager and John K. McKenzie, Director and General Superintendent.

The plant is situated at the foot of Victoria Drive on Vancouver Harbour, and comprises a Railway Drydock with capacity of 1700 tons deadweight; a well equipped general engineering shop designed to handle expeditiously all classes of marine repairs and general engineering work,—including coppersmith-work, boiler repairs, forge work. oxy-acetylene welding and cutting, etc.

The Company also operate a floating derrick, equipped with electric lights and air compressor, service power launches and small lighters. Divers and complete diving equipment are kept available for salvage work and submarine surveys.

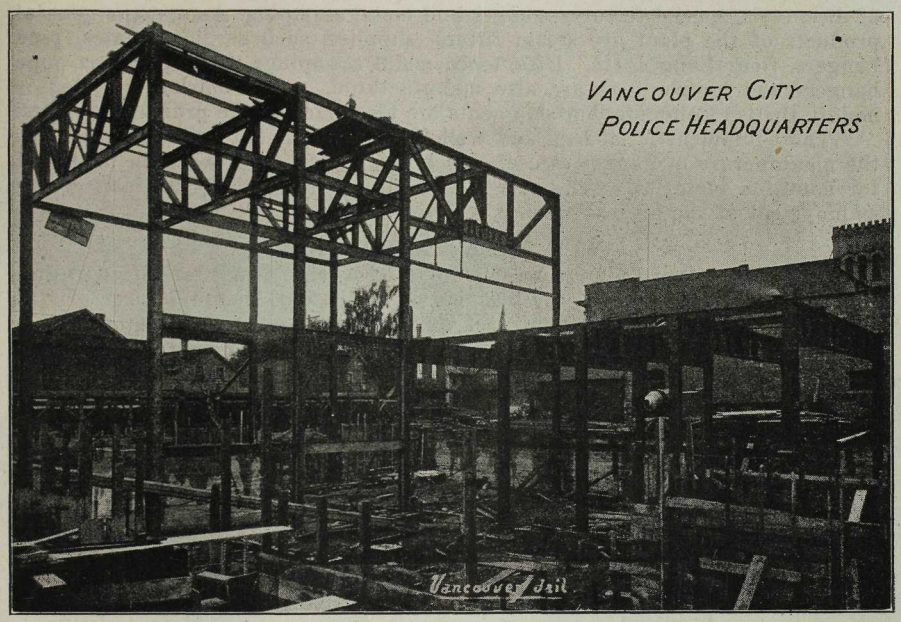
CANADIAN NORTHWEST STEEL COMPANY LIMITED, VANCOUVER.

This firm has upwards of $500,000 actually invested in plant and stock. They operate an up-to-date structural-steel plant in Vancouver, occupying an area of 120x870 feet. The main shop (see illustration) is 100x450 feet, and there are several other buildings.

The products of this plant are steel columns, girders, trusses, towers, tanks, buildings and bridges, the capacity being 800 tons of fabricated material per month.

The equipment consists of the necessary machinery of the latest and most approved type, tools for the fabrication of structural-steel for bridge and general construction work, and includes the usual punches, shears, drills, lathes, reamers, handling equipment and pneumatic rivetting machines

There is a well equipped machine shop, which can be extended as occasion warrants. This plant specializes in steel bridges, having turned out a large number of bridges during the past three years, including several for the various transcontinental railways operating in British Columbia; also steel viaducts in the city of Vancouver, including Burrard Street viaduct and viaducts over cut in Grandview; steel work for copper smelters at Trail and Anyox, B.



One of the many buildings in British Columbia for which steel-work has been supplied by the Canadian Northwest Steel Company, Ltd.

C. also for the paper mills of Pacific Mills Limited at Ocean Falls, B. C.; and also the structural-steel for a number of important buildings including public structures, in the Coast cities. The firm was incorporated in 1912, W. F. Martin being manager. About 200 men are employed when operating to capacity.

THE ELECTRICAL MANUFACTURING COMPANY, VANCOUVER.

Under the management of Mr. G. W. Embree, this business was established in 1911. The products manufactured include switchboards, panel boards, steel cabinets and switches, designed and built for special work. The plant equipment includes shears of ¼-inch capacity, taking in any size sheet of copper, iron or soft steel; punch presses for making all die work and stampings of metal parts, lathes, drills and presses, making it one of the best equipped electrical manufacturing plants in the West.

Among the recent important jobs undertaken by this firm may be mentioned the equipment of the Government wheat elevator, Vancouver; Government buildings at Victoria, the new C. P. R. Pier D, Vancouver, and the new Union Depot and freight sheds, Vancouver. They have also installed a

large number of distribution panels and other electric equipment at shipyards and other recent industrial buildings on the mainland. The goods manufactured by this firm are finding an increased market from the local wholesale electrical houses.

GIBBS TOOL AND STAMPING WORKS, VANCOUVER.

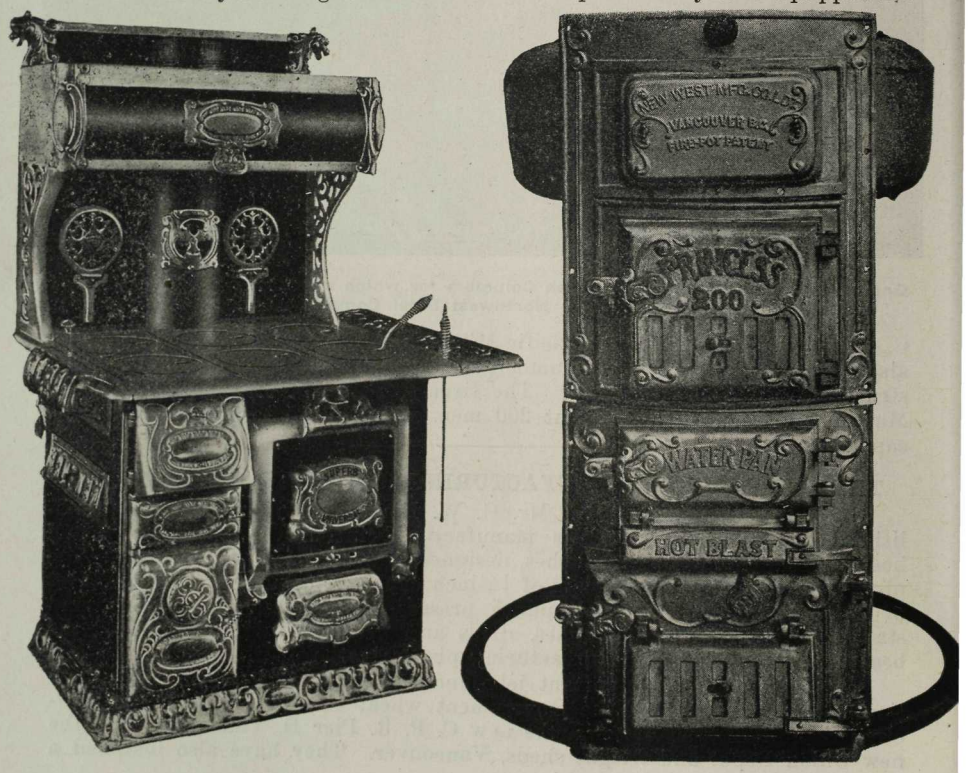
This business was established in 1910 by R. C. Gibbs, for the manufacture of dies, tools, special fixtures, gauges and metal stamping. Among the general products of the plant are steam fitters' supplies, such as floor plates, pipe hangers, floor flanges, etc. Dies, tools, metal stampings, fishing spoons, pipe hangers and hanger bars are also manufactured. The market supplied is mainly British Columbia, but shipments are also made to the prairie provinces.

The equipment is modern and well fitted to turn out fine work such as the maunfacture of gauges etc., of which large numbers have been produced for munition factories. The size of the main shop is 25 by 90 feet, giving employment at the present time to 6 men.

W. B. EARL. VANCOUVER.

The well equipped plant formerly operated by the New West Mfg. Co. Ltd. since 1915 has accomodated the business of W. B. Earl, manufacturer of Hot Blast, smoke and soot consuming Hot-air furnaces, Stoves and Heaters.

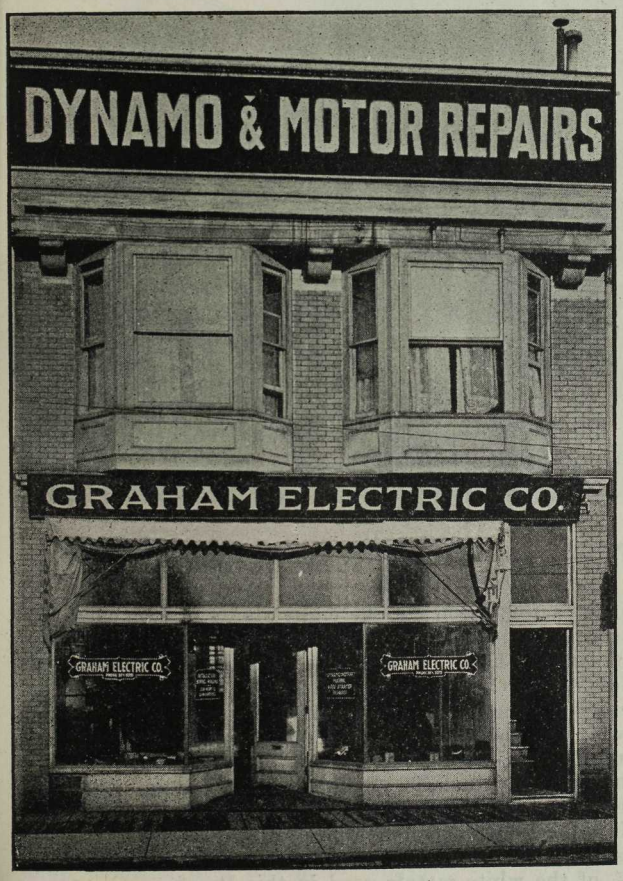
The factory building is 350X125 ft. and is particularly well equipped for



the lines of manufacture handled. The markets supplied are mainly local, but foreign business is being sought. In addition to the manufacture of stoves and heaters, light Casting work is also undertaken, the firm at present being busy on the manufacture of 20 tons of row-locks for the boats to be used on ships now building in British Columbia.

THE GRAHAM ELECTRIC COMPANY. VANCOUVER.

This electrical motor and generator rewinding business was established in 1909 under the management of W. K. Graham, who had many years' experience in the Westinghouse and General Electric manufacturing plants. The factory, located at 929 Pender St. West, is 30x120 feet and is equipped with lathes, drills, grinders, coil-winders, and testing apparatus.



The work undertaken includes the rebuilding and repairing of electric motors and generators of any size and also the general business of electric installation and wiring.

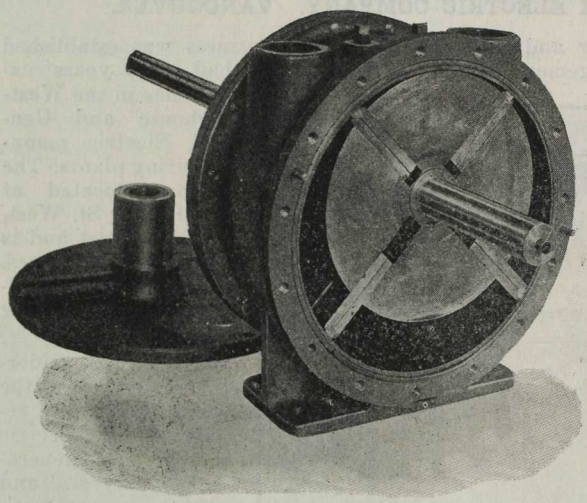
Considerable success has been attained at this work and the firm is considered one of the best equipped in Vancouver in this line.

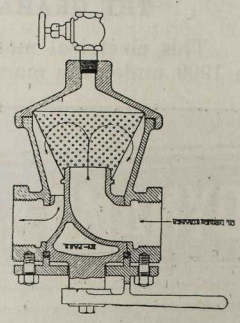
The installation and equipment of the shipyards in British Columbia during the last two years has called for a considerable amount of expert electrical work. Practically all the machinery employed in the shipyards is electrical and the Graham Electric Co. have handled all the re-winding and repairing work (which has been very considerable) in connection with this equipment.

GLOBE IRON WORKS. VANCOUVER.

This firm of engineers and machinists was established in 1912 with a capital of $25,000 under the management of Robert McIntyre and Wm. Taylor. The factory is 50x120 feet, and is well equipped with lathes, planers, drill presses, shapers, etc.

The firm manufactures several special lines of machinery and equipment and operates several patents. A specialty is made of Positive-Blowers, Rotary Air Compressors, Vacuum Pumps, Oil and Water Pumps, and Fuel Oil Equipment. In addition to this, general machinery work and repairing is undertaken. The firm export a considerable number of their special pumps to the United States Markets.





Rotary air-compressor and vacuum pump, and oil or water strainer, made by Globe Iron Works.

THE GREAT WESTERN SMELTING AND REFINING COMPANY, VANCOUVER.

The Vancouver branch factory is one of the eight plants of this company, whose headquarters are in Chicago. The company is the largest in point of size of plants and equipments in their line of business on the North American continent, having business connections in many parts of the world.

The Vancouver factory is situated at 146 Dufferin Street East, to which premises the factory was removed in 1915 from smaller quarters occupied since their establishment in Vancouver in 1909.

The products of the company include all non-ferrous metals. The best known locally being their xxxx Nickel Babbitt, Special Number One Railroad Babbitt, also Copper Hardened, Diadem, and Wheel Brand Babbitt, Peerless Plastic Metal, as well as all hardware grades of Babbitt Metals.

Approximately 90% of the white metals used in this Province are manufactured by this company, their chief consumers being ship-yards, machine shops, saw mille, and allied trades, who use annually large quantities of Babbitt metals.

The products manufactured by this company comprise, Babbitt Metals, Guaranteed Solders, Newspaper Type Metals, Pig Tin, Pig Lead, Antimony, Spelter, Ingot Copper, Ingot Brass, Ingot Aluminium, Manganese Copper, Silicon Copper, Phosphor, Phosphor Tin and other non-ferrous metals, and other alloys.

On account of ambiguity of trade bands of solders, this firm guarantees their solder as to tin contents. The largest users of solder in their territory insist on Great Western Guaranteed Solder on account of its absolute uniformity and high quality.

The Western Canada, Alaska and Yukon markets are supplied from this branch.

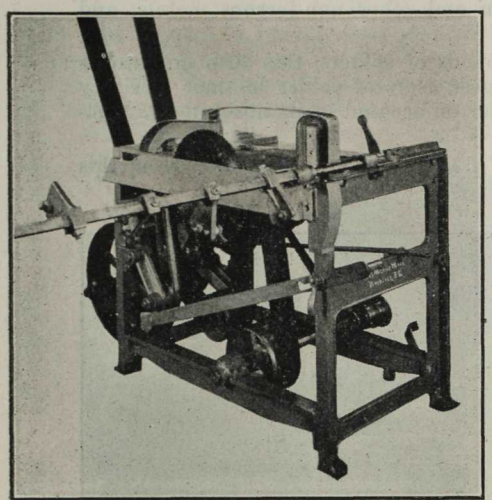
The company specializes in SERVICE. It is not unusual on rush orders from city customers to have the material at the customer's door in fifteen minutes. Out-of-town customers are given the same rapidity of service.

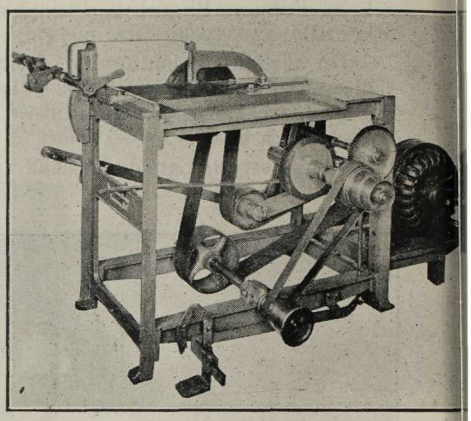
Working to full capacity the plant is capable of turning out 15,000 tons of new metals annually. The local plant is under the management of A. A. Neiman, who, together with the majority of the employees has been with the company for a number of years past.

HALL MACHINE WORKS. VANCOUVER.

Established in 1903 with a capital of $15,000 this well equipped machine shop manufactures automatic cut-off saws for box making, cut gearing of brass, iron and steel of all classes. The illustrations depict a box-shook making machine recently perfected and put on the market by this firm. This machine has a number of modern features and is single or automatic in

action, which have led to considerable success, although it has been on the market only a short time. In addition to their box-making machinery, which





Cut-off saw with single and automatic action manufactured by Hall Machine Works, Vancouver.

is supplied both to the local and export markets, the firm have a large business in gears for the automobile and other industries.

HEAPS ENGINEERING COMPANY LIMITED, NEW WESTMINSTER.

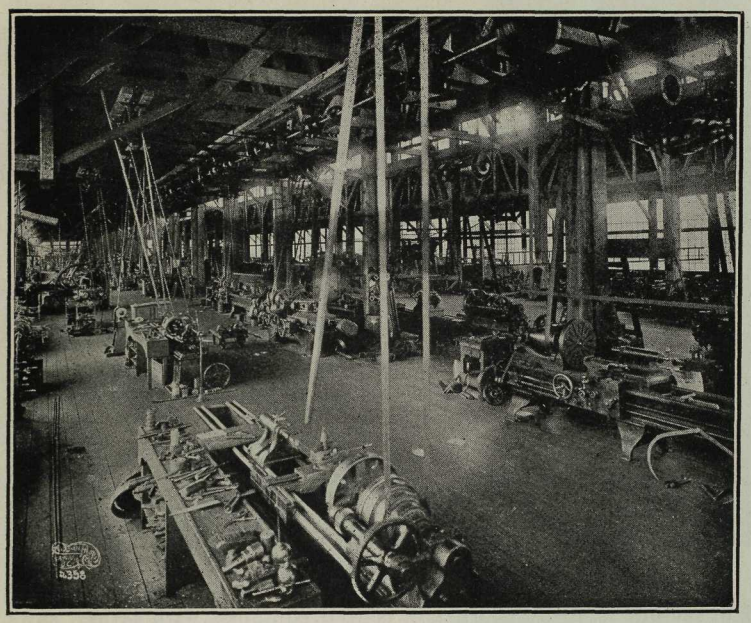
This company was established in 1912 with a capital of $100,000. They occupy one of the most modern and complete machine shops in the province, erected in 1915 at a cost of $300,000, replacing the older plant in New Westminster previously occupied by the firm. The total area of the works is five acres; size of machine shop 90x410 feet; foundry 100x90 feet; blacksmith shop 60x40 feet; pattern shop 100x60 feet.

One of the unique features of the buildings is the large quantity of glass used in their construction, making them, without exception, the best lighted plant in the west. The machine shop is very fully equipped with the latest pattern lathes, including heavy lathes, 48x48 inches open side planer, 72 inch. boring mill, milling machines, shapers, drills hydraulic presses, and varied tool equipment.

The foundry is well equipped to handle iron and brass castings.

The products of the firm are a general line of saw, shingle, lath-mill and canning machinery; gasoline engines, special machinery, machine parts, and general engineering work.

At the present time an average of one hudred men are employed. A large business is done in British Columbia in supplying machinery and re-



View of Main Machine Shop of Heaps Engineering Company Limited, New Westminster.

pairs to the lumber, canning and fishing industries, and export business is sought in these lines.

HUTCHINSON BROTHERS COMPANY LIMITED. VICTORIA.

Established in 1906; capital $40,000; Robert Hutchinson president; D. C. Hutchinson, general manager, and W. Dixon, secretary-treasurer.

This engineering and machine shop plant occupies a factory at Bay St., Victoria; the main machine shop is 50x80 feet and is equipped with 10 lathes, 1 head lathe 16 feet capacity, 48x12 planer, 3 drills, 1 radial, 2 drill presses, 16 in. shaper, 2 thread cutting machines, 1 milling machine, 5 ton travelling crane, and other general machine shop equipment.

The foundry is 50x40 feet and is equipped with cupola and usual tools for handling 5-ton castings. The products of the plant, including general machine work, are light stands, water works castings, hydrants and valves and a general run of grey iron castings, including special work for underground electric installation. The average number of men employed is 50.

At present the plant is largely engaged on the manufacture of cargo winches for ships building in the province.

IDEAL IRON WORKS, VANCOUVER.

This firm was established in 1915. Under the management of L. E. Smith. the products manufactured being gas engines and parts, and gas engine repairing.

Main shop of Ideal Iron Works, Vancouver.

The factory is 40 by 60 ft. and is well equipped with lathes, saws, drill presses. boring machines etc.

The average number of employees is 10.

MAINLAND ENGINEERING COMPANY LIMITED. VANCOUVER.

This metal working business was established in 1915 with a capital of $50,000. The officers are C. R. Gordon, president, W. C. Brown and L. T. Wood, directors; W. S. Compston, secretary.

The foundry is located on Powell St. and occupies an area of 75x100 ft. and the machine shop on Railway St. is 100X120 ft. The plant is fully equipped and includes machine, boiler, forge, and pattern shops, giving employment to 50 men.

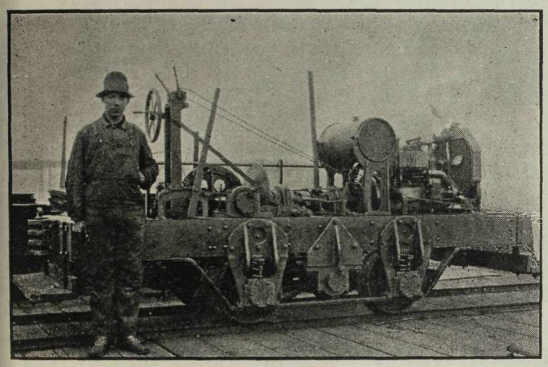
The lines manufactured by the Mainland Engineering Co. Ltd., are the following:—anchors, boilers, marine and stationary, horizontal and vertical; bolts, capstans, mine cars, castings, brass and iron, hauling engines, gas and marine engines, forgings, logging machinery, saw and wood working machinery, cast iron pipe, light standards, steel tanks and machine bolts.

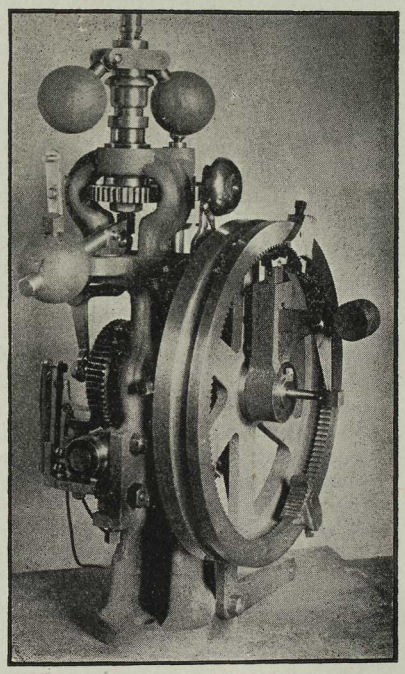
THE MARITIME MOTOR CAR COMPANY, LIMITED, VANCOUVER.

This firm of engineers was established in 1912 with a capital of $50,000, the officers being H. H. Logan, president; W. S. McQuat, vice-president and Geo. Wade, secretary-treasurer. The factory is located on 13th Ave. West, Vancouver and occupies an area of 50x122 feet with storage accommodation of

30x50 feet. The equipment of the factory consists of lathes 16 inches by 10 ft., 14 to 24 inches by 10 ft., 13 inches by 8 feet, milling attachments, shapers, drill-press, speed-drills, power-saws, tools, reamers, etc. The products manufactured consist of special machinery for mining, logging and railway use.

A specialty is made of gasoline-operated locomotives of which a large number have been built and are in successful operation in British Columbia. The illustration herewith shows an engine of this type built for shipyard use. These locomotives have also been very successful in mining and logging operations for hauling purposes.





Gasoline propelled yard locomotives built by the Maritime Motor Company Ltd. On right, "The Lilly Hoisting Engine Controller," another specialty of the firm.

Another specialty of the firm is the "Lilly Hoisting Engine Controller," which is a machine that automatically prevents the hoisting engine from running mine cages into the sheaves at the top of the pit or bumping it into the sump at the bottom, and automatically slows down the engine as it nears the top or bottom of the wind. It rings an alarm for overspeed and stops the engine.

This ingenious machine has been in continuous use in the mines of the Anaconda Copper Company of Butte, Montana for the past three years, and it is highly spoken of by them. The largest companies in British Columbia have taken up the question of installing controllers and have decided to adopt them. As soon as business becomes normal the company will extend their business to Eastern Canada. The Company are seeking to develop export business, particularly in their line of locomotives and mining machinery. They also manufacture special machines of varied types for the mining industry.

MORRISON STEEL & WIRE CO. LTD.

Nails & Wire Products.

This industry has been established in British Columbia for ten years, the products having been extensively supplied in the development of the province.

It is the only large industry on the Pacific Coast manufacturing wire products, and they have in view extension of their operations along all lines of wire and kindred products as soon as the market possibilities are favorable.

The plant and machine shop are fully equipped with modern machinery, electrically operated for cold drawing the wire from rods to any size for their mill products, consisting of common wire nails, cement coated and barbed box finishing nails, etc.; drawn wire, bright and annealed; bale ties, cross head and single loop; shoe rivets; stables, bright and galvanized wire hoops.

The Company recently acquired the Laidlaw Bale Tie & Hoop business at New Westminster, and removed the machinery to their plant at Vancouver.

Wire bale ties are being used more extensively all the time, the cross head for baling hay only, the single loop for baling hay, pulp, box shooks, salmon cases, and many other purposes of this nature, for which bands were formerly used.

In addition to supplying the British Columbia Market, the Company have made export shipments to the Orient, Australia and New Zealand, and as soon as shipping facilities improve, expect to greatly increase this trade.

The monthly capacity of the mill is 500 tons drawn wire; 10,000 kegs wire nails; 1,000 kegs stables; 500 kegs shoe rivets; 500,000 bale ties; and 150,000 wire hoops. The average number of employees is from 80 to 100. The capital of the company is $300,000, and the directors are Frank Wilkinson and Henry H. McDougall.

J. F. NEILSON, NEW WESTMINSTER.

The machine shop and brass and iron foundry of J. F. Neilson was established in New Westminster in 1895.

Mr. J. F. Neilson is the managing director of the business, the factory occupying a building of 30x60 feet. fully equipped with the necessary machinery for the manufacture and repair of canning and sawmill machinery, marine and stationary engine boilers, smoke-stacks and tanks. In conjunction with the machine-shop, a brass and iron foundry is operated and also a welding plant capable of undertaking acetylene welding of all kinds.

The machines manufactured by this plant are mainly supplied within the province, in addition to which a large repair business is carried on, a specialty being made of the replacing of special parts and the rebuilding of worn machines.

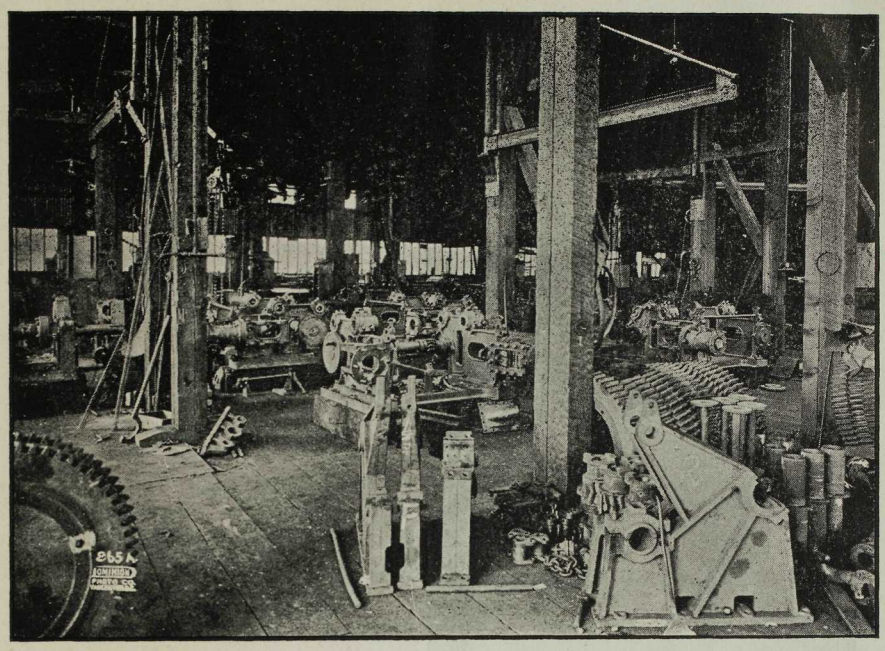
NORTH SHORE IRON WORKS LIMITED. NORTH VANCOUVER.

This firm was incorporated in 1909 taking over the plant formerly operated by McDougall-Jenkins Engineering Company Limited, steel shipbuilders, boiler makers, iron and brass founders and general engineers.

The capital of the company is $100,000; president, Hon. F. Carter-Cotton; directors Cecil Cotton, managing director E. V. Young.

The products manufactured include winches, windlasses, marine and stationary boilers, tanks, iron castings, brass castings, and general engineering work.

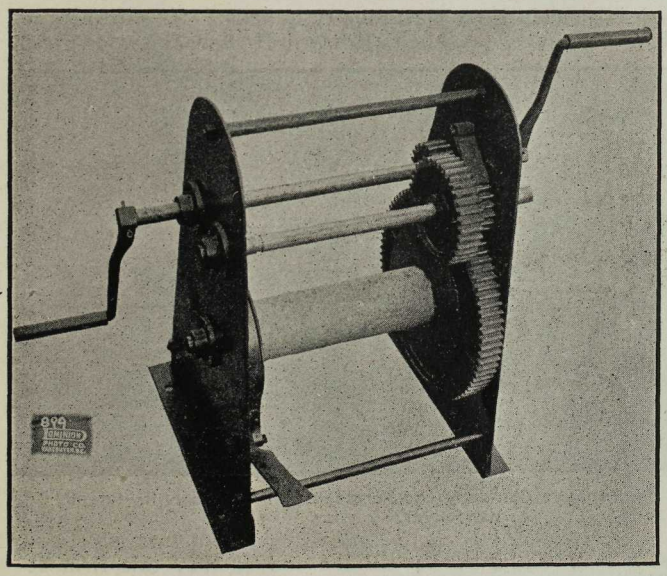
At the present time the firm is busy on the manufacture of winches and windlasses for the Imperial Munitions Board steamers. The equipment includes a foundry of five ton capacity; boiler shop capable of handling plates one half inch thick by 10 feet wide; machine-shop with lathes swinging up to 10 feet; pattern shop and blacksmith shop. The average number of men



View of main shop of North Shore Iron Works Limited.

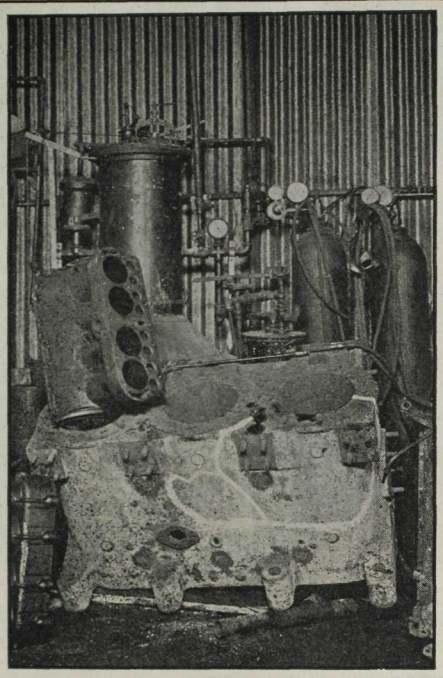
employed is 100. The markets principally supplied are the local demand for marine and mining work, but export business is also sought in these lines.

M. O. OLSON IRON WORKS, VANCOUVER.



Double-purchase hand winch used largely in mining and logging, made by Olson Iron Works.

Under the management of M. O. Olson, this concern was established in 1904 occupying a factory at 309 Alexander St., Vancouver, B. C., equipped with lathes, shapers, drill presses, shears and punch machines and forges. The special products manufactured are logging tools of all kinds, including several lines designed by the firm, ship's winches, mill work, log brands and stampings.



PACIFIC WELDING COMPANY, VANCOUVER.

This oxy-acetylene welding plant was established in 1913. It is located at 1142 Granville street, Vancouver, and there is a complete equipment for oxy-acetylene welding of steel, mallable and cast iron, brass, aluminum and other metals; also for acetylene cutting of iron and steel both in the shop and outside. While a specialty is muade of repair of automobile parts, cylinders, etc., a large business is also done in the repair of heavy castings and machinery parts of all kinds on which work considerable success has been attained by this firm. The illustration shows a recent welding job executed by this firm.

SCHAAKE COMPANY LIMITED. VANCOUVER.

This firm was established in New Westminster in 1899. The officers of the company are Henry Schaake, president, Howard H. Schaake, vice-presi-

The new plant of the Schaake Company Ltd., erected 1917 on Granville Island, Vancouver.

dent; Tom Smith, secretary-treasurer. Up till the end of 1917 this firm occupied fairly extensive premises in New Westminster, but at that time re-

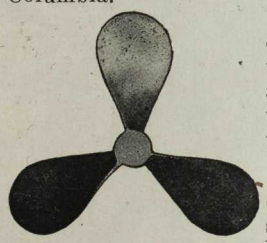
moved to a more modern and convenient factory building which they had constructed for them on Granville Island, Vancouver.

The new works occupy an area of nearly one acre, the main machine shop being 120 by 300 feet. This shop is very fully equipped with modern machinery and there is in addition a pattern shop, foundry, blacksmith shop and steel plate shop. The lines manufactured include shingle and saw mill machinery, transmission machinery, canning machines, gasoline engines, steam ships' steering engines, in addition to general machine work.

In addition to their large local business the firm are exporters of several of their special lines of manufacture.

SUMNER METAL WORKS, VANCOUVER.

This plant was established in 1912 by Geo. B. Sumner, who is president, and N. A. Newman, secretary-treasurer. The factory, which is located at 1705 Georgia Street West, is one of the largest and best equipped brass foundries in B. C., for the manufacture of all kinds of brass, bronze and aluminium castings. This firm has turned out some fine specimens of ornamental architectural bronze castings for many of the public buildings in British Columbia.



A large business is done in special bronze and brass castings for many of the machine shops, engineering works, mines and mills in the province, and considerable success has been attained in the quality and quantities of such castings. The plant is specially equipped to handle heavy and large brass and bronze castings.

A specialty is made of bronze propellers and especially manganese bronze propellers in all sizes, for the smallest motor boat up to the largest steamers can be handled by this firm.

VANCOUVER FORGE COMPANY LIMITED, VANCOUVER.

The Vancouver Forge Company Limited was established in 1917, and is located on Stewart Street near Victoria Drive, on the C. P. R. main line and close to the waterfront of Vancouver Harbour.

George G. Bushby is Managing Director, Innes Hopkins, Director and Business Manager, and John K. McKenzie, Director and General Superintendent.

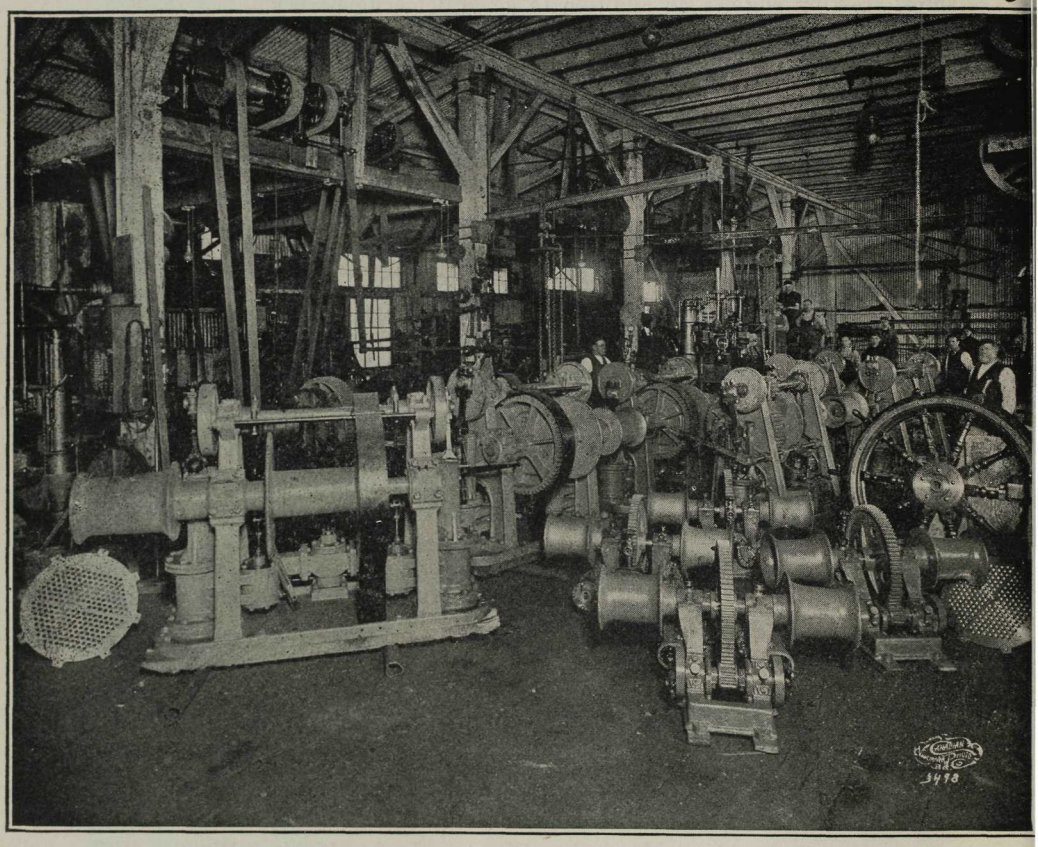
The plant is a modern one with one 4000 pound Steam Hammer, one 2000 pound Nazel Hammer and one 350 pound Steam Hammer, 2 oil furnaces and 9 open fires and is served with 2—10 ton travelling cranes, 2—3 ton swinging jib cranes and 1—2 ton jib crane.

The Company makes heavy and light forgings of all kinds, and carries a large stock of forging billets at all times.

TERMINAL CITY IRON WORKS, VANCOUVER.

Established in 1907, the officers of this company are H. J. Littler, James Mason and T. W. Littler.

This metal-working plant occupies a building 100x132 feet, fully equipped as a machine shop, foundry and pattern shop. The products manufactured



Shipment of winches and windlasses made in the shops of the Terminal City Iron Works.

include marine and hoisting engines, water-works, hydrants, valves and special castings. At the present time the firm is fully engaged on the manufacture of winches, windlasses and capstans for the steamers being built in British Columbia by the Imperial Munitions Board.

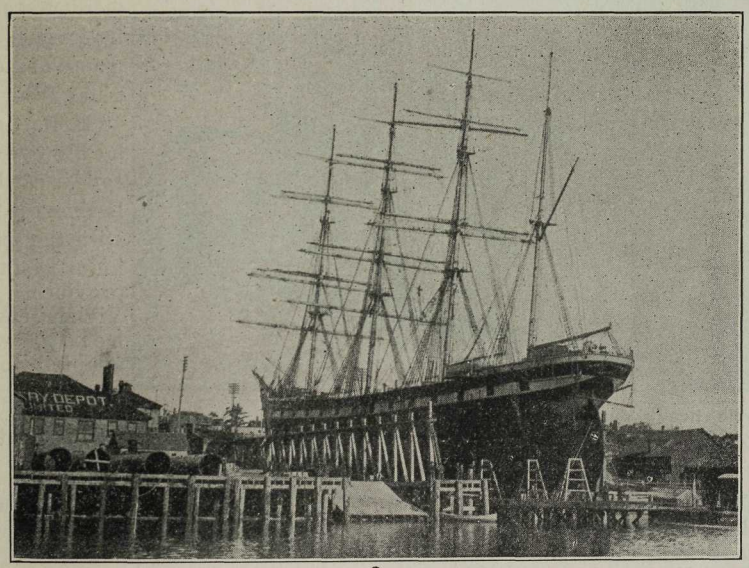
About fifty men are employed on an average at the present time.

VICTORIA MACHINERY DEPOT CO. LIMITED, VICTORIA.

This engineering and ship-repairing firm was established 30 years ago, and incorporated in 1898. The present investment in the plant is about $300,000. The officers of the company are C. J. V. Spratt, President; R. R. Neild, General Manager, A. J. Ormerod, secretary. The works occupy three acres and include a marine railway or slip of 3,000 tons, death weight capacity, of which the steel dock is a feature.

Machine shop has 23 lathes from 10 inches swing to 84 inches; horizontal boring machines, planing and slotting machines; universal milling machine; screwing machine; wheel press; general tools and equipments.

Boiler shop 100 ft. by 300 ft.; equipped with 30 ft. planer; 20 and 10 ton overhead crane; hydraulic rivetter; 100 ton power hydraulic flanging press; 12



Part of the plant of the Victoria Machinery Depot Company Limited, Victoria, showing marine ways.

ft. rolls horizontal beam. Bending, punch, angle, cutting machines and general equipment of punches, shears, and other boiler machinery. The largest 6 spindle drilling machine on the Coast.

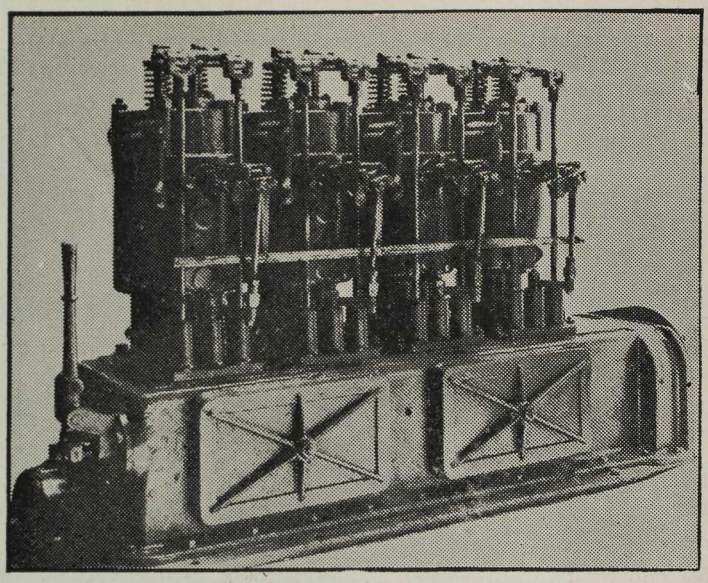
Foundry has two cupolas; brass furnace; 10 ton travelling crane and the necessary equipment for iron and brass casting of all kinds.

Blacksmith shop has 750 lb. steam hammer, with 5 forges and is capable of doing any kind of forge work.

The work handled by this plant comprises a complete range of steel and iron plate work, from small tanks to Scotch marine boilers, water-tube boilers, of which they are at present building a number for the ships building in British Columbia for the Imperial Munitions Board, and machine work, from

the smallest screw to large marine engines. The average number of employees is from 300 to 450. The products of the firm find a market in British Columbia and the Yukon Territory, but the business is capable of development in export markets in many lines.

VIVIAN GAS ENGINE WORKS, VANCOUVER.



Four-Cycle heavy duty gasoline engine, of which the Vivian Gas Engine Works turns out large numbers.

This engineering business was established in 1910 by Wm. Vivian. The principal line of manufacture being marine gasoline engines from 6 to 40 H. P., 4 cycle heavy duty type. A large business is done with the fishing industry in this province, the Vivian engines being well adapted to the conditions met with by local fishing boats.

VULCAN IRON WORKS LIMITED, VANCOUVER, B. C.

Established in 1907 with a capital of $50,000, this boiler and metal working plant has made rapid strides and to-day stands in the first rank in their line in British Columbia.

The officers of the Company are J. A. Cunningham, President, John R. Duncan, Managing Director and Secretary, W. L. Johnson, Vice-President.

In the latter part of 1917, the main plant of the firm was moved from New Westminster, where they occupied waterfront premises, to a site on Granville Island, Vancouver, covering an area of about two acres.

The slogan of the firm is "anything in steel," the main products of the plant being Boilers of Return Tubular and Scotch Marine type, stationary, horizontal and vertical; mine cars, castings, logging engines, forgings, penstocks, riveted pipe, heaters, pulp-mill equipment, all classes of steel plate work.

The average number of employees is 65, and the new location and increased facilities of this firm are causing them to seek outlets in overseas markets, in addition to their considerable British Columbia business.

The equipment of the plant includes 200 ton hydraulic presses and 12 feet 6 inch. gap rivetters, 18 feet bending rolls for one and a half inch plates, plate

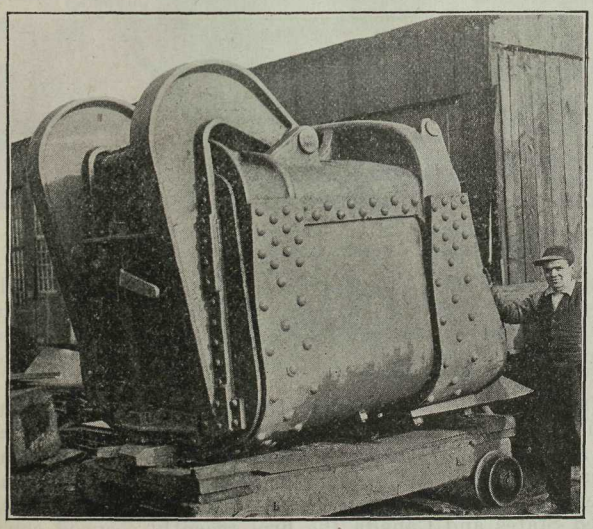
New plant of the Vulcan Iron Works Ltd., on Granville Island, Vancouver. Erected 1917. Hodgson & King, contractors.

planer, punches, shears, cranes, etc. Air equipment and electric power are used exclusively.

The firm manufactured and installed the penstocks at Lake Buntzen power station of the B. C Electric Railway Company, which are 8 feet 6 inches diameter and one and one-eighth inch thick. 1200 tons of steel was used in this work, and the company also supplied and erected the penstocks for the Powell River Paper Co's works, using 3,000 tons of steel.

VANCOUVER ENGINEERING WORKS LIMITED, VANCOUVER.

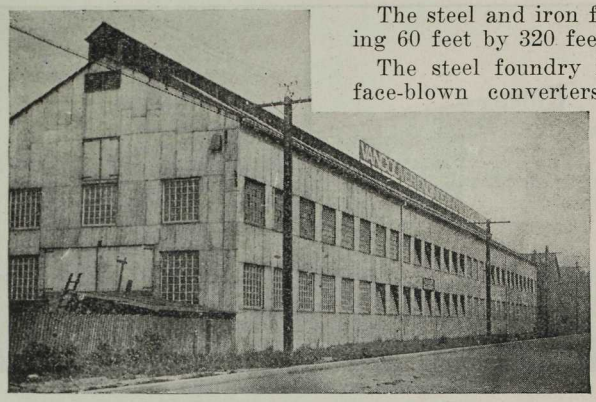
This firm was established in 1900, taking over an existing small plant and removing to their present premises on Sixth Avenue West, in 1907.



Heavy Steel Castings recently made by the Vancouver Engineering Works for Dominion Government dredges.

The area occupied by the works of the Company is approximately four acres. With a capital of one million dollars, of which seven hundred thousand dollars is paid up, the provincial directorate consists of George Giles, general manager, and Eric Davies, secretary-treasurer; the English directorate being Chas. Lancaster, H. F. Fernie and Hugh Gallaway.

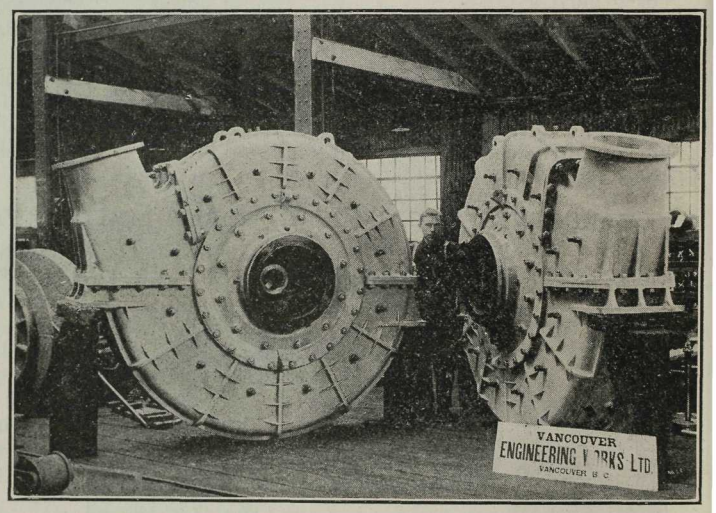
About 300 hands are employed at the present time. The principal products are steel and iron castings, riveted steel pipe, boilers, and mining and logging machinery in general.



The steel and iron foundry occupies a building 60 feet by 320 feet.

The steel foundry is equipped with a surface-blown converters, with a capacity for making steel castings up to 5½ and 6 tons each. This is the only steel plant in Canada west of Owen Sound, Ont., in which steel is manufactured from pig-iron by the Bessemer process.

In the iron foundry castings up to 10 tons are handled, the equipment including Rock - over, power squeezers and jar machines, a 10-ton 40-foot span electric crane, 5-ton 40-foot span crane and two 5-ton pneumatic jib cranes.



Steel Dredge Dipper—Steel Foundry of the Vancouver Engineering Works Ltd., Vancouver.

All kinds of steel are made, including chrome, chrome nickel, high carbon, vanadium, titanium and tungsten. Some very heavy steel-casting work is handled, particularly in dredge and mining machinery. A considerable amount of heavy machinery is built for the various smelters in the Province, but the market for the steel products of the Vancouver Engineering Works, Ltd., is by no means limited to the local demand. A large consignment of steel dredge-buckets has been shipped as far east as Halifax, N.S., and recently an order was secured in open competition for 45 aerial-tramway buckets of one yard capacity, for the South African Cement Association, Durban. A contract has recently been entered into by the company for a large tonnage of steel castings for a Seattle firm, and shipments are being made daily. Also in competition with the whole of the Unnited States and Canada the firm recently secured contracts for 39 logging and hoisting engines for shipment to Europe.

The illustrations on this page will show some of the recent heavy steel work constructed in these shops. Heavy marine engines and marine and stationary boilers are also specialized in.

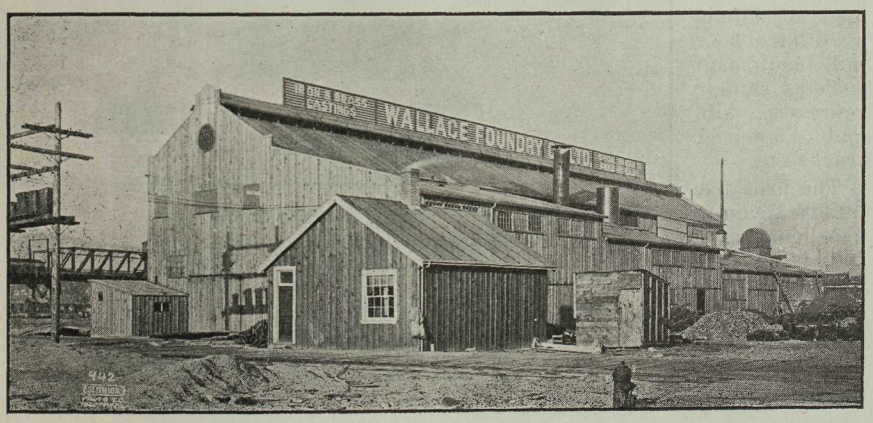
The machine shop is 60 feet by 240 feet with galleries, and is thoroughly equipped with lathes up to 60 inches swing with 26 feet between centres in addition to a heavy general equipment of large capacity.

The other buildings of the works comprise a pattern shop 40 feet by 60 feet, blacksmith shop 40 feet by 60 feet, light plate shop 100 feet by 120 feet, boiler shop 65 feet by 200 feet, bolt shop 40 feet by 75 feet, a large store building, dipping plant, power plant and offices. An electric-power equipment of 500 horsepower provides part of the energy, having in addition a steam plant comprised of three horizontal boilers. This plant is undoubtedly splendidly equipped for the class of work undertaken and has a capacity well adapted for expansions which may take place in the immediate future, and may be looked upon as a great asset to the industries of British Columbia.

Under the management of Mr. Geo. Giles and an efficient staff of chemists, draughtsmen and engineers, this plant forms a valuable unit in the industrial undertakings of this Province.

WALLACE FOUNDRY LIMITED, VANCOUVER.

This recently established concern is a subsidiary company of the Wallace Shipyards Limited, North Vancouver. The new company was incorporated in 1917 with a capital of $75,000, the directors being A. Wallace, C. Wallace and W. E. Hodges; A. Stewart being manager. The factory is located on a site on Granville Island, Vancouver, the main building being 200x75 feet.



New Plant of Wallace Foundry Limited, Granville Island, Vancouver. Erected 1917. Hodgson & King, contractors.

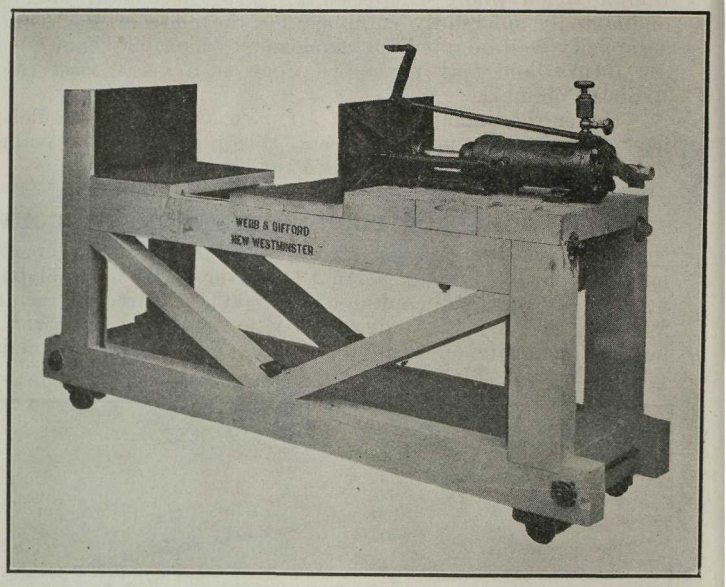
Modern foundry equipment has been installed, including cupolas of 15 and 7 tons capacity, a 20-ton overhead electric crane and other necessary equipment. The pattern-shop is well fitted and complete. The foundry is busily working on the manufacture of gray iron, brass and other metal castings, a specialty being made of manganese bronze propellers.

The capacity of the foundry is approximately 25 tons per day and a considerable business is being done with local shipyards as well as with the mining and lumbering industries.

About 100 men are normally employed.

WEBB & GIFFORD MACHINE WORKS, NEW WESTMINSTER.

This firm of engineers and machinists was established in 1910. The officers are, H. W. Webb and J. S. Gifford.



A well equipped factory is occupied by the firm on Front St., New Westminster, carrying on the business of general engineers and machinists, specializing on steam winches, sawmill, shingle mill and logging machinery A specialty is made of shingle and lumber mill equipment such as shingle represses, kiln and lumber trucks etc.

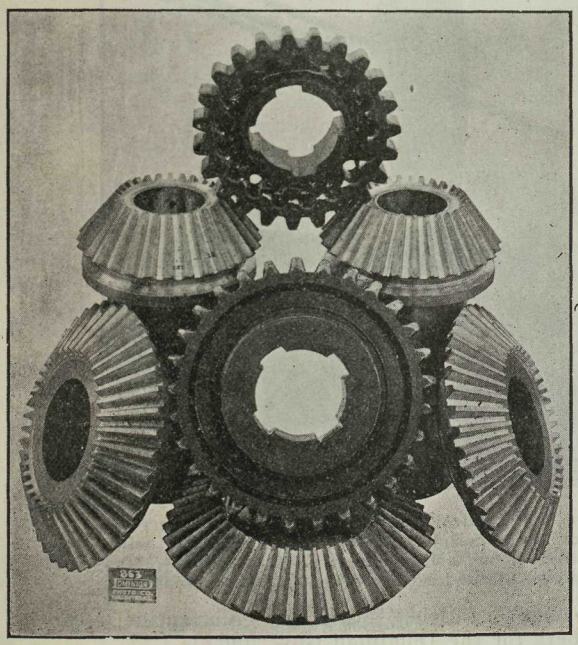
The firm also builds steam turbines, gasoline engines, and special machinery and have excellent facilities for marine and gasoline engine repairs. A large business is done in gasoline and steam engine repairs for fishing boats on the Fraser River.

WESTMINSTER FOUNDRY COMPANY LTD., NEW WESTMINSTER.

This business was established in 1912, the officers of the company being John R. Duncan, president; Robt. Bruce, director; and G. Brogren, secretary-treasurer.

The factory building is fully equipped for foundry work and has a capacity of six tons daily, giving employment to 20 men. A large foundry business is conducted, including the manufacture of cast-iron pipe, street lighting

standards, and castings for mining, logging and saw-mills, for which a wide variety of patterns is kept on hand.



Gears manufactured by Western Machine Works Ltd.

WESTERN MACHINE WORKS LIMITED, VANCOUVER.

Established in 1909 and incorporated in 1916 with a capital of $25,000, the officers of this company are A. H. Thatcher, president and general manager; L. H. Beer, director; G. P. Sleigh, secretary-treasurer. The business of general engineers and machinists is carried on, a specialty being made of engine parts and supplies for the fishing industry. A special line of manufacture of this plant is the power gurdy for halibut-fishing boats, a machine operating in conjunction with the power plant for hauling in the halibut lines. A specialty is also made of steel, brass and cast iron gears, both for marine, automobile and general work, and the firm also manufacture spare parts and repairs for marine and stationary gas engines, in which line they do a large business as agents.

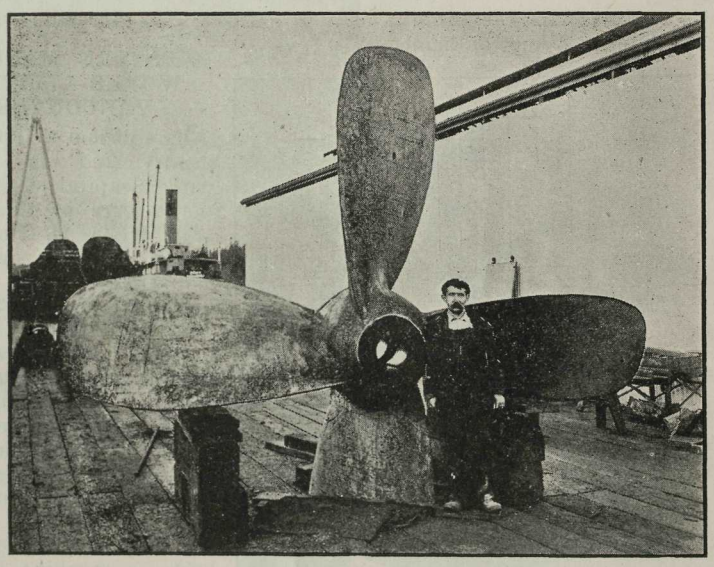
YARROWS, LIMITED, VICTORIA.

In January, 1914, Yarrows Limited, an off-shoot of the famous Old Country shipbuilding firm, took over the shipbuilding yard of the B. C. Marine Railways Co. Ltd., established in 1893 at Esquimalt, near Victoria.

The plant of Yarrows Ltd,. Shipbuilders, Engineers & Ship Repairers, is situated on Lang's Cove, Esquimalt Harbour, adjoining the site of the Government Drydock, and covers an area of 8 acres.

This yard is specially equipped to cope with the ship repairing requirements of the port. The facilities of the plant have been steadily improved and added to and comprise a marine railway for the accomodation of vessels up to 312 feet in length and 3000 gross tons, larger vessels being docked in the Government Drydock; a wharf over 500 ft. long on both sides of which vessels can be accomodated for overhaul and repairs. The wharf is equipped with shearlegs, capable of lifting 60 tons, and there is also a 10 ton Floating Derrick, with a 90 ft. boom; a Floating Compressed Air Plant, and other equipment.

Several vessels have been built at this plant, including the steamers "Princess Beatrice," "Princess Royal," Princess Maquina," Tug "Nanoose" and two large steel transfer barges, all for the C. P. R. coast service.



The type of propeller being turned out at the plant of Yarrows Limited, Esquimalt, for the Imperial Munitions Board steamers being built in British Columbia. It has a diameter of 14 ft. 6 inches, weighs nearly seven tons. Yarrows Limited are making 30 of these propellers.

The hydrographic steamer "Lillooet," and the quarantine steamer "Madge" were also built there for the Dominion Government.

During the past year, two sternwheel shallow draft vessels have been shipped to India, and there are two more nearing completion, and one of larger dimensions just commencing construction.

A large amount of important Naval repair work has been executed for the Imperial, Canadian, and Japanese Governments, and at the present moment, the yard has considerable amount of Naval repair work in hand for the British Admiralty.

Apart from this, the firm has executed a good quantity of other important repair work, among which may be mentioned the case of the Grand Trunk Pacific Coast Co's steamer "Prince Rupert" that had been ashore on Genn Island. This vessel was repaired at Esquimalt, the work necessitating the renewal of practically the whole of the ship's bottom for a length of 180 ft.

Another case was that of the S. S. "Mariposa" a fine passenger steamer of the Alaska Steamship Co., which had her interior completely rebuilt, after being wrecked and submerged.

In the case of the S. S. "Niels Nielsen, an 8,800 ton cargo vessel, this boat was repaired after sustaining heavy damage due to stranding.

Another case is that of a fully laden cargo vessel of 8,800 tons, which was brought back from sea in a disabled condition, and fitted with a new 18 ft. diameter Manganese Bronze Bladed Propeller. This propeller was cast, fitted, and the ship made ready for sea again within a week, without docking or disturbing the cargo, the work being carried out by building a wooden cofferdam round the vessel's stern.

In addition to the above, there have been a large number of vessels drydocked for repairs and general overhaul.

Propeller Manufacture.

The firm has made a specialty of the manufacture of cast iron and manganese bronze propeller blades. They have made a very large quantity of these, some weighing as much as 8 tons.

Oil Fuel Installations.

A specialty has also been made of the conversion of vessels from coal to oil burning, one of the most recent jobs being the Cable Ship "Restorer" which was fitted out to carry 10,000 barrels of fuel oil. Several of the C. P. R. Coast fleet and the Grand Trunk Pacific, and various local Dredgers have all been converted by the firm from coal to oil burning.

Foundry Castings.

During the last year, the firm has made many large marine engine and other castings, bed plates, H. P., I. P., and L. P. cylinders being made for large marine engines; also some large Nitric Acid retorts, weighing as much as 8 tons each. Castings up to 10 tons in weight have been made.

Oxy-acetylene welding.

The plant is equipped with an up-to-date oxy-acetylene welding and cutting plant, and they also handle a large amount of special copper-smithing and pipe work.

Galvanizing is also another specialty.

The yard is equipped with up-to-date machine shops, boiler shops and joiner shops. The average number of employees at the present time is 400.

Mr. N. A. Yarrow is Managing Director of the firm.

WESTMINSTER IRON WORKS, NEW WESTMINSTER.

This old established metal working plant was founded by John Reid, the present proprietor, forty years ago. The products include general machine work, structural and ornamental iron work, wrought iron gates, fencing, stairs, elevator enclosures, fire escapes, folding gates, office fittings, flat and round wire work and similar work.

The main shop is 132 by 132 feet in size and is equipped with six modern engine lathes, five drill presses, planer, shaper, and 10 ton overhead crane and the usual general machine shop equipment.

The blacksmith shop has four forges, steam hammer, bolt threading machine, punch and shears. There is another large punching and shearing machine in the ornamental iron shop and a good range of wire and iron working tools and equipment. There is also a well-equipped pattern shop.

The average number of employees is 30.

CLOTHING

The manufacture of clothing of various kinds is an industry which, although firmly established in British Columbia, is capable of much greater development in several lines.

The factories which have established in the Province have done well, and in the majority of cases have been enabled to extend their capacity and output within the past two or three years. The labor employed in this industry is female.

Knitted Goods are represented by four factories, turning out a good range of sweaters, sweater coats, bathing suits and similar lines, both in cheap qualities and also in the best grades. Large quantities of sweaters

for army use have been turned out. The better grade goods find markets not only locally but throughout Canada as far east as Montreal, and an export trade to Australasia is being developed.

There are well-equipped factories turning out work shirts, overalls, men's cotton shirts, men's clothing ,women's suits, shirtwaists, cotton duck clothing, men's and women's neckwear, aprons, canvas and leather gloves, men's and women's hats, etc.

Some of these factories are on a large scale, others employ only a few hands. Many of the concerns have exhibited remarkable growth during the few years they have been established.

The following is a description of a few of the prominent firms engaged in this line.

GEORGE A. CAMPBELL AND COMPANY, VANCOUVER.

This clothing business was established at the beginning of the year 1916, the partners being Geo. A. Campbell and Gordon F. Campbell. The factory at 500 Beatty St. Vancouver is fully equipped for the making of first class men's clothing for the trade.

A wholesale business only is done, the markets supplied being local and as far east as Winnipeg. 60 to 80 hands are employed and the business has rapidly become soundly established and is increasing its volume of trade in these markets.

VANCOUVER KNITTING COMPANY LTD. VANCOUVER.

This manufacturing business was established seven years ago by F. A. and C. B. Quigley, who commenced in a small way to manufacture knitted wool sweater-coats. In 1910 it was found necessary to extend the scope of operations, and the business was incorporated as the Vancouver Knitting Company Limited, capital $100,000, with D. F. Quigley,president; C. B. Quigley, vice- president; J. W. Curran, secretary-treasurer and manager, and F. A. Quigley sales manager.

The firm now employ five travellers and cover territory as far east as Montreal. Outgrowing their premises on Hastings St., Vancouver, a move was made in November, 1914, to more commodious and modern factory accommodations on Dufferin St., in which was set up additional machinery of the latest type, a special feature being made of the arrangement of the various departments whereby the garments progress regularly from stage to stage without being needlessly handled, and similar time-saving and labor-saving devices. The factory is admirably suited to the requirements of a knitting mill, being well-lighted and substantially built.

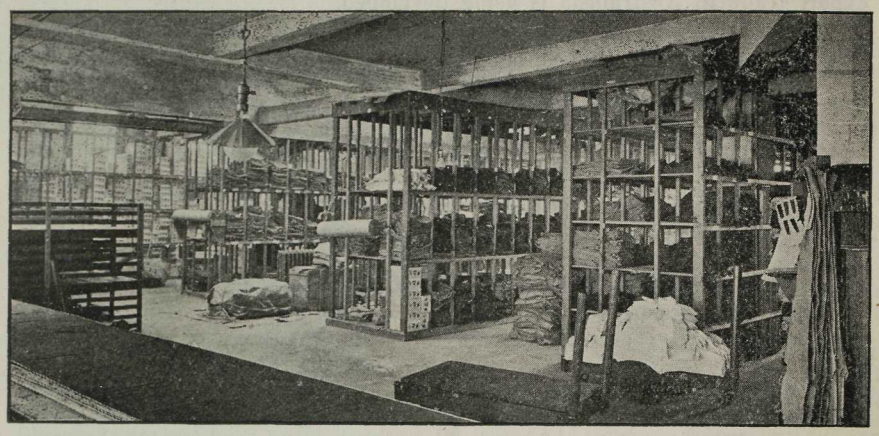
The works employ, when running full time about fifty hands and have a capacity of 300 knitted garments per day.

In addition to Canadian markets from British Columbia to as far East as Quebec, the firm also have a considerable shipping trade to New Zealand and Australia.

HAMILTON-CARHARTT COTTON MILLS LIMITED, VANCOUVER, B. C.

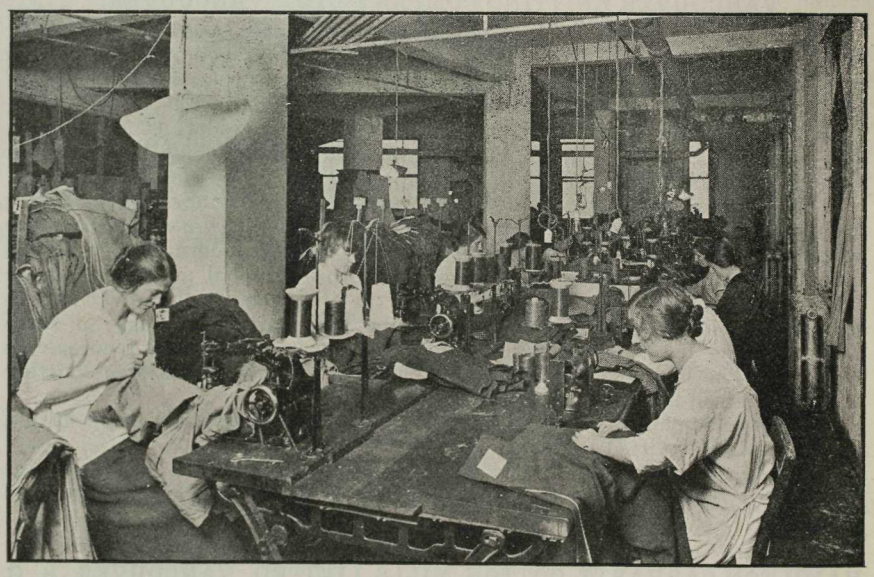
This factory has been operated since February, 1914, and is a branch factory of a Toronto firm, but arrangements have now been made for the formation of an independent western company under the present management.

The Carhartt factory was started in a small way located in Grandview, Vancouver, and at the outset the results were not very encouraging, it ap-



Part of the wareroom of the Hamilton Carhartt Cotton Mills Limited, Vancouver.

pearing at one time likely that the factory would close down. A change in management, however improved the business to such an extent that it was



One of the machine tables in the Hamilton Carhartt Mills.

soon necessary to move to more central and larger premises now occupied on the 8th floor of the World Bldg., Beatty St., Vancouver. Under the capable

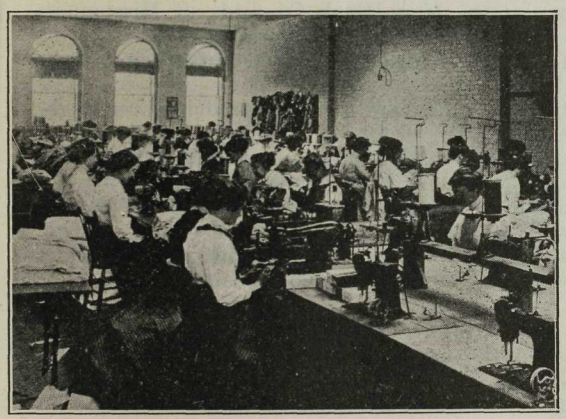
management of W. A. Ryrie the local factory has been steadily gaining ground and reputation. and a large quantity of new machinery installed which renders the plant one of the best equipped on the coast.

The lines manufactured include overalls, khaki and cottonade pants, the capacity being 35 to 50 dozen per day.

At the present time the factory employs 35 hands and is supplying the markets of British Columbia and Alberta, the equipment and capacity, however, being sufficient to enable this firm enter the export market.

TURNER, BEETON & COMPANY LIMITED, VICTORIA.

This firm was established in 1863, and incorporated in 1902, the directors being Hon. J. H. Turner, Lawrence Kirk, G. A. Kirk, Henry Thomson, and Percy Criddle.



One of the work rooms in the factory of Turner-Beeton & Company Limited.

The products of the factory are shirts, overalls, mackinaws and tents. There is a full equipment of sewing-machines, buttonholing, and button-sewing, pleating and electrical cutting machines. The number of hands employed at the present time is 100. The factory occupies about 12,000 sq. ft. of floor space and is capable of producing forty to fifty thousand garments per month. The plant is worked as an adjunct to the extensive wholesale and drygoods business carried on by the firm.

The trade mark of the Turner-Beaton goods is "Big Horn" brand, which is well and favorably known in the western market.

FOODS

Apart from the production of foodstuffs, such as grains, fruits, vegetables, fish, hogs and cattle, the production of manufactured food products is an important part of national economy which has exhibited considerable development in British Columbia.

There are still large quantities of products which could well be manufactured locally, from locally grown raw materials, still brought into the Province from outside sources, but the demand for all kinds of foodstuffs during the war, has greatly stimulated the extension of established industries in this line, and also has induced the commencement of several others.

Dessicated Vegetables. One of the most notable developments has been in this industry, which was practically undeveloped prior to 1914. Owing to

ease of transportation and good keeping qualities, these products have found large use as army rations, and large orders have been available, which have caused the estblishment in British Columbia of a number of well-equipped factories on a large scale. There are now no less than nine companies operating factories, some of them as many as four in different localities. A description of the Westminster plant of Dominion Products Ltd., and the Keremeos and Wallachin plants of the Food Products Co. Ltd. will be found in the following pages.

Fruit Canning and Jam Making is well established and has been considerably developed in the past three years, largely owing to lessened competition of imported lines, which has enabled British Columbia manufacturers to obtain a better footing in local and Canadian markets, besides commencing a considerable export business. Large quantities of canned fruits and vegetables have been shipped to Europe.

A description of the factory of the King-Beach Co. Ltd., at Mission, is given in the following pages.

There are nine fruit-canning firms, and five jam-manufacturing concerns in British Columbia.

Biscuits of excellent quality and variety are manufactured in three modern and well-equipped factories.

Confectionery of all kinds, from the highest grade hand-made chocolates to boiled sugar goods, is manufactured on a large commercial scale by thirteen factories in British Columbia. The chocolates of the firm of R. C. Purdy Ltd., Vancouver, are well known, and of the highest quality. The Kelly Confection Co. Ltd., Vancouver, are manufacturers on a large scale of candies of all kinds, as well as syrups, macaroni, peanut butter and other lines.

Sugar is refined in Vancouver by the B. C. Sugar Refining Co. Ltd., one of the largest sugar refineries on the continent, and shipped by them to all the Western Canadian market.

Condensed Milk is produced in three factories, sufficient to supply the entire local market in addition to considerable business in Western Canada, and the plants are well equipped to enter the export trade. The plant of the Pacific Milk Company is described on another page.

Cider, Cider Vinegar and **Malt Vinegar** of excellent quality are manufactured by the B. C. Vinegar Company, of whom a description follows.

Flour Milling and **Cereals** are manufactured by four modernly-equipped mills in British Columbia, and a considerable export trade has been done.

Rice is cleaned and milled by two large mills, besides a few small mills supplying mainly local requirements. The Mount Royal Milling Company's plant is described.

Packing Houses. The two chief firms in this line are P. Burns & Co. Ltd., whose plant is described, and the Vancouver-Prince Rupert Meat Co. Ltd.

Peanut Butter manufacture is a line which has grown largely during recent years, and is manufactured in British Columbia by three factories. The Canada Nut Co.'s plant is described.

Breweries in British Columbia are modern and well equipped, and in many cases of large capacity. For local consumption non-alcoholic beers only are manufactured, but a considerable export trade in light beers and stout has been developed. The Westminster Brewery and the B. C. Breweries, Vancouver, are among the largest plants.

Aerated Waters are now manufactured by many of the breweries, and also by several soft-drink factories.

Bakeries in the Coast cities exhibit a very modern tendency in construction and equipment, and have been stated by authorities to be equal in equipment, sanitation and cleanliness to the largest and most modern on the continent. The Vancouver plant of United Bakeries Ltd. is described.

Manufactured Groceries, such as pickles, sauces, ground spices, flavoring extracts, jellies, etc., are produced by a number of firms on a large scale and the Province is well served in this respect.

B. C. VINEGAR WORKS, VANCOUVER.

This is an auxiliary company of the B. C. Distillery Co. Ltd. of New Westminster, B. C., and was established in the year 1904. J. H. Falconer is the manager of the vinegar works at Vancouver, also of the cider and vinegar works at Vernon, B. C.; the directors of the company are all B. C. men of high commercial and financial standing and influence.

The area of the Distillery Company's plant at New Westminster is 15 acres.

The vinegar works occupies a three-storey building at 1365-7 Powell Street, Vancouver, and is equipped with over 100 generators for distilling vinegar, receiving, distributing tanks, and scores of storage tanks, holding from 3,900 to 8,627 gallons capacity each and operated with electric pumps. The factory produces brown vinegar and white vinegar made from grains, having a manufacturing capacity of 30,000 gallons monthly. The sweet refined apple cider is made and pressed at their own factory at Vernon, B. C., from choice Okanagan apples and this year the firm purchased hundreds of tons of selected apples for this purpose.

The Vernon plant occupies one main building four storeys high, and other buildings and covers two acres, with railway sidings, etc., producing all kinds of apple products, such as their famous "O.K. Apple-O" beverage, and apple butter, boiled, and concentrated cider, pectine and cider vinegar. The raw materials used in their vinegar plant at Vancouver is carefully prepared, and fermented from high class grains at their distillery in New Westminster, where several excise Inland Revenue officers are employed, and is shipped in bond to their Vancouver factory for manufacturing pure vinegar where also an officer of the Inland Revenue Department under pay is stationed in charge of the bonds, and in which the raw material as above stated is stored until used up in the manufacture of vinegar.

In addition this firm at their Vancouver factory manufacture annually many tons of fine sauerkraut, they also carry in stock car load quantities of sweet apple cider, which they get from their Vernon factory.

The markets covered are British Columbia, Yukon, Alberta and Saskatchewan.

The works at Vernon employ ten men, and at Vancouver about 20, and the distillery at New Westminster about 50 men. They have established overseas connections in Great Britain, Australia and New Zealand, and in other places, where large shipments have already been made.

Mr. William Braid is managing director of the B. C. Distillery Co. Ltd., Mr. Donald Stalker, secretary-treasurer, and Mr. Fred Filjano, assistant manager.

This business was established in 1904.

CANADA NUT COMPANY LIMITED.

Established in 1915 with a paid up capital of $17,000, this business has very rapidly assumed an important position in the manufacture of foodstuffs for the Canadian market.

The products of this factory are peanut butter and salted peanuts manufactured under their trademark "Squirrel Brand."

Modern premises, 90x75 feet, are occupied with the necessary roasting, blanching and grinding machinery.

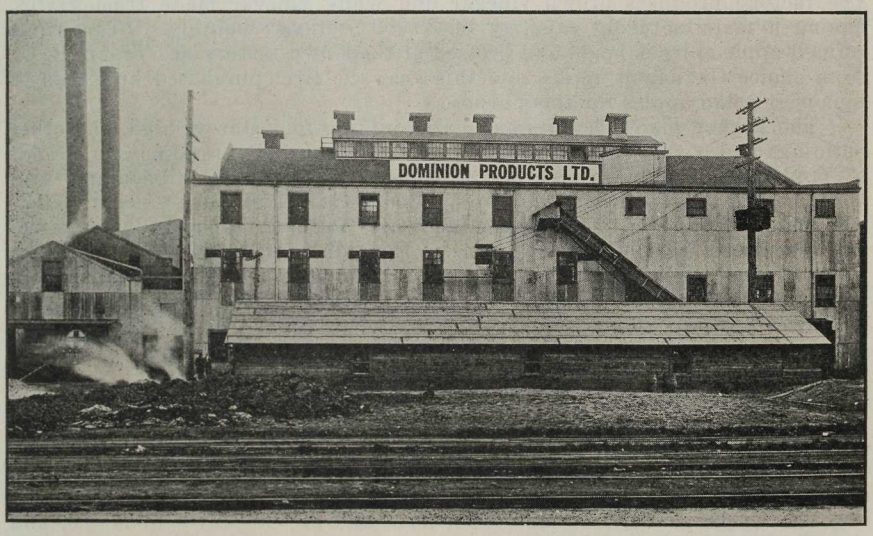
Through the use of the choicest peanuts and being free from any filler or adulteration whatever, the neanut butter is of a very high standard and both smooth in texture and full flavored.

The present capacity of the factory at present is six tons of peanut butter daily, which is packed for the trade in 11-lb tins, 5-lb. tins, 15-lb. pails, 65-lb. tubs, and 300-lb. barrels.

The firm being desirous of extending connections, enquiries are solicted from reputable brokers and importers abroad.

DOMINION PRODUCTS LIMITED, VANCOUVER.

The accompanying cut shows the Evaporating Plant of the Dominion Products Limited, New Westminnster, B. C. the head office of which is at 1522



The New Westminster Factory of Dominion Products Limited.

Standard Bank Building, Vancouver. At this plant all kinds of vegetables are dried; the raw material used being the highest grades only of the Province of British Columbia.

The buildings — located a short distance from the B. C. Electric Railway Station — are built on piles driven into the Fraser River, and, as will be seen, are most substantial. The main one, being 150 ft. by 115 ft., has the support

of concrete pillars and is covered with corrugated iron, as is also the boiler house immedaitely adjoining, the dimensions of which are 60x38 ft. In this building are six huge boilers of the most modern type. The ground area occupied by the plant covers 198 by 130 feet.

The British War Office has taken all the finished product turned out by this Company since the plant was erected, and the demand has been so great from various sources that it was deemed advisable to build considerable additions to both the main building and boiler house during the summer of 1917. These additions mean that the capacity has practically been doubled. The daily run of raw material amounts to 300,000 lbs. and the average number of employees engaged in this large plant number 210, of which considerable are female, since the work is suitable for them.

The Company is now in a position to take care of any domestic or export business which might be offered.

THE FOOD PRODUCTS COMPANY LIMITED, VANCOUVER.

This firm was established in 1916 and operate a factory at Keremeos and Walhachin, B. C., for the manufacture of canned tomatoes, string beans, apples, tomato-pulp and tomato puree, their capacity being 100,000 cases per annum. Their average number of employees is 75 and their goods are shipped to the western Canada and also export markets.

THE KELLY CONFECTION CO. LTD., VANCOUVER.

The Vancouver factory of the Kelly Confection Co. Ltd.

Established in 1912 with a capital of $100,000, the Kelly Confection Co. is one of the important industries in this line in the province.

Their factory at 1106 Mainland Street, Vancouver, affords 33,000 square feet of floor space and has a capacity of two cars syrup and molasses weekly, 2,000 pounds paste daily, 4,000 lbs. confectionery daily, and 2,000 lbs. peanut butter daily.

The average number of employees is 40 and the goods manufactured are distributed throughout the Western Canadian provinces. The products include syrup and molasses, macaroni and various pastes, confectionery, mincemeat, peanut butter, etc., and the firm also pack honey, salad oil and other lines for the wholesale grocery trade.

KING-BEACH MANUFACTURING COMPANY LTD. MISSION CITY.

This firm was established in British Columbia in 1915, taking over the plant formerly operated by the Kootenay Jam Co. Ltd. The officers of the company are F. W. Bobbett, president; R. P. King and H. Beach, directors.

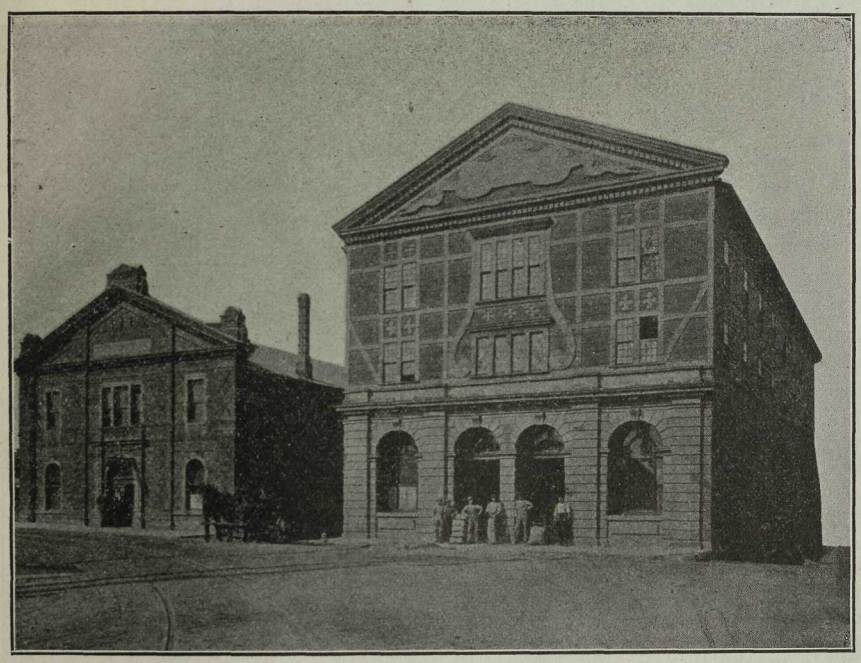
King-Beach Manufacturing Company's plant at Mission.

Since the establishment of the firm a large business has been built up in jams, jellies, and marmalade and a sound footing has been gained in Western Canada markets. The factory occupies an area of one half acre and includes a two story building 300x40 feet, modernly equipped with improved steam plant. The average number of employees is 40, this number being of course exceeded during the busy packing season.

This industry has proved a valuable one to the Fraser Valley fruit growers, providing a steady market for small fruits in season, a large quantity of which is delivered by river. Cans, labels, sugar, and boxes used by the firm are all manufactured in British Columbia. In addition to the local market a large business is done in the prairie provinces. Mason & Hickey of Winnipeg are the general agents for that section of the country.

MOUNT ROYAL MILLING & MANUFACTURING COMPANY, VICTORIA.

This rice-milling plant was established in Victoria in 1907 and is operated by the Mount Royal Milling Company of Montreal, which firm was established in 1882.



Main buildings of the Mount Royal Milling & Manufacturing Company.

Rice is imported from China, Japan and Siam, and is manufactured into table-rice, rice-flour, ground rice, etc., and the by-products prepared into cattle and poultry food.

The mill is equipped with the most modern machinery and is situated on the inner Victoria harbor, with ample wharfage and warehouse accommodation. The mill and warehouse are both substantial brick and stone buildings.

The products of this mill are sold in British Columbia and western Canada.

PACIFIC MILK COMPANY LIMITED, VANCOUVER.

This milk-condensing company was established in 1916 and operates a plant at Ladner, B. C. in the Fraser Valley, the centre of the most closely settled milk-producing district in British Columbia. Their products, canned milk, evaporated and sterilized have rapidly assumed an important place in the markets of western Canada.

The capacity of the factory is 200,000 cases per month and when market conditions are favorable, the firm are well equipped to enter into the export business.

The advertisement of the Pacific Milk Company will be found in the advertising pages of this book.

R. C. PURDY, VANCOUVER.

As a manufacturer of fine chocolates and confectionery, R. C. Purdy has established an enviable reputation in the few years in which he has been operating. A large business has been built up for confectionery of the highest class and the lines turned out exhibit in many respects originality as well as excellency of quality.

The factory operated by the firm is splendidly equipped with the most modern machinery and appliances and gives employment to an average of 20 people.

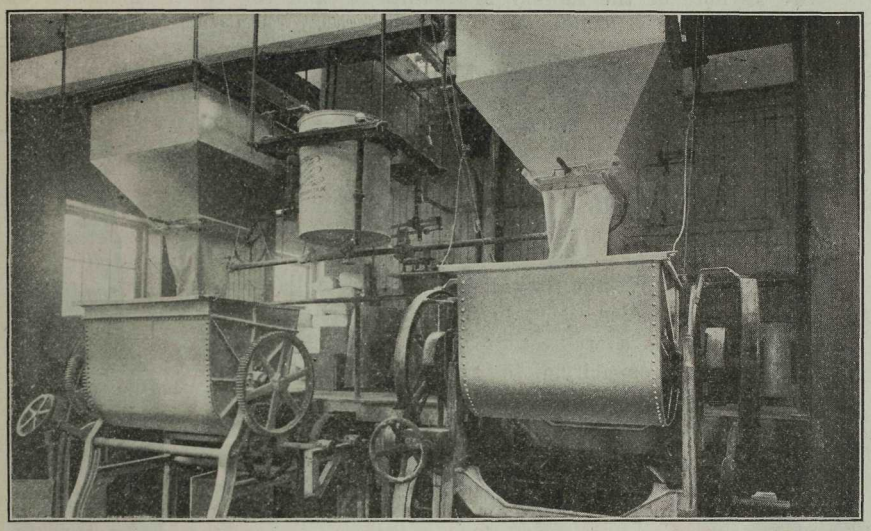
View of retail department of R. C. Purdy, Vancouver.

A large retail store operated by the firm at 675 Granville St., Vancouver takes care of the very large private customers' business, and in addition to this a large mail order trade has been worked up. The rapid growth of this business is undoubtedly due to the unfailing excellent quality of its products.

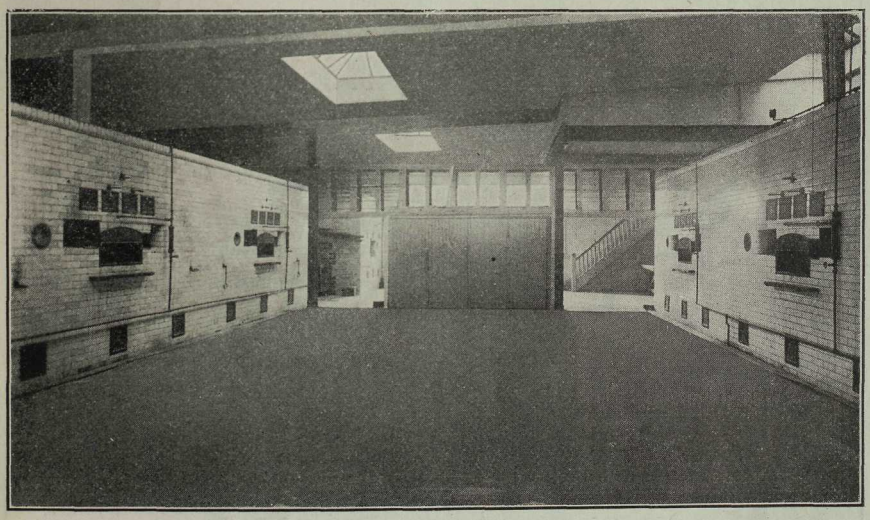
UNITED BAKERIES LIMITED, VANCOUVER.

In addition to being one of the largest, this is also one of the oldest established manufacturing bakery concerns in British Columbia, the business having been established some 15 years ago and incorporated as a company in 1900 under the management of Mr. W. E. Pinchin, who was for many years connected with a prominent Toronto concern. The present officers of the company are W. E. Pinchin and A. C. Coulter, joint managing directors, an amalgamation having taken place in 1917 between the United Bakeries Ltd.

and the Womans' Bakery, Vancouver, the latter business being owned by A. C. Coulter. The Womans' Bakery have the largest wholesale cake business



(Above)—Mixing machines in Vancouver plant of United Bakeries Limited. (Below)—Part of the oven room.



west of Winnipeg, in addition to being large manufacturers of bread. The factory of United Bakeries Limited, on Lansdowne St. Vancouver, is a sub-

stantial brick building, equipped with the most modern machinery for the manufacture on a large scale of bread and cakes.

The keynote of the factory is cleanliness, and the entire operation of bread manufacture is conducted by machinery, without being touched by hand.

The firm also operate a branch factory in New Westminster. In addition to their large bread and cake business in Vancouver and New Westminster, the firm also serve a large trade in the surrounding districts for a considerable distance.

WESTMINSTER BREWERY, NEW WESTMINSTER.

The Westminster Brewery was established in 1896 under the management of Nels Nelson. This is a well-equipped and well-built plant with a capacity of 75 barrels daily. Non-intoxicating beers, conforming with the British Columbia Prohibition Act, are brewed in addition to the regular qualities for export. The products of this brewery are well and favorably known and comprise "Britannia" ale, "Premier" and "XXX" stout.

British Columbia Lumber Trade Directory and Year Book

Issued Annually.

THE "ABC" Trade Directories

Contents

Part I.—The Forest Branch, Lumber Trade Associations.
Part II.—Lumber and Shingle Manufacturers: Alphabetically arranged showing lines manufactured, capacity, ownership and management.
Part III.—Classified List of Manufactures.
Part IV.—Logging Companies: Mills operating Camps: Shingle Bolt Cutters.
PartV.—Lumber Wholesalers: Log Brokers: Timber Cruisers.
Part VI.—Towing Companies: Tug Boats and Rates.
Part VII.—Foreign Tariffs: Excerpts showing duty on Lumber Products.
Part VIII.—Lumber Buyers in Foreign Markets.
Part IX.—Timber Laws of B. C.:—The Forest Act; the Timber Royalty Act; the Forest Act Relief Act.
Part X.—Technical and Statistical Information regarding Woods of B. C.; Forest Department Charges, Fees, Royalties, Taxes and Penalties, etc.

Published by Progress Publishing Co., Ltd., Vancouver, B. C. Price, $2.00 postpaid.

P. BURNS & COMPANY LIMITED, VANCOUVER.

This headquarters, British Columbia branch of P. Burns & Co. Limited, of Calgary, was established in 1881. The extensive plant and stockyards located at the foot of Woodland Drive, Vancouver, cover an area of four and one-half acres and is equipped with all the most up-to-date appliances for the manufacture of packing-house products.

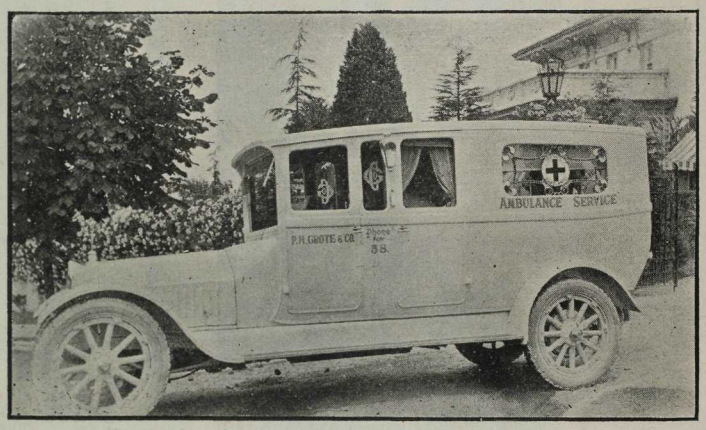
The capacity of the plant is 250 cattle, 1,000 hogs and 500 sheep daily, and the lines turned out include hams, lard, cooked meats, etc., under the well-known "Shamrock" brand. These goods are shipped all over British Columbia and their manufacture gives employment at the local plant to an average of 200 hands.

AUTOMOBILE TRADE

In addition to the usual repair-shops for automobile work, there are several firms who manufacture auto bodies, tractors, trailers and commercial trucks. An idea of the work turned out in this line is afforded by the description of the firms of Hall & Wallace and Tupper & Steele. There are also firms making auto-tops, upholstery, trimmings, etc.

HALL & WALLACE, VANCOUVER.

Established in 1892, this plant has attained considerable success and growth, under the management of Jas. W. Hall and J. A. Wallace. A four-floor brick factory building 50x120 feet is occupied and is well equipped with woodworking and machine-shop machinery.



Motor ambulances built by Hall & Wallace, Vancouver.

The products of this plant are auto trucks, auto and truck bodies, hearse and ambulance bodies, truck attachments, auto wheels, etc., in addition to which general auto repairs and painting are undertaken.

A large number of light and heavy auto-trucks built by this firm are now in use in British Columbia.

TUPPER & STEELE LIMITED, VANCOUVER.

This firm of auto truck builders and machinists was established in 1908 with a capital of $25,000, the directors being A. B. Steele and W. B. Tupper. The products manufactured are auto trucks, tractors, trailers, delivery bodies, ambulances, hearses, auto-tops, seat covers, trimmings, and wheels.

Two of the types of trucks built by Tupper & Steele Limited.

The specialty of the firm is cars for commercial purposes. A three floor factory 50 by 120 feet is occupied and equipped with blacksmithing, forging,

Tractor specially designed for the lumber trade built by Tupper & Steele Limited.

wood and iron working machinery. At the present time the local market only is supplied, but the firm contemplate developing an export business.

BOXES

Wood Box factories in British Columbia are many and extensive. The trade done is very large, and supplies not only local markets but also a large export trade to Europe, Australia and the Orient. For shipment abroad, shipments are made mainly in knock-down form or shooks.

Large quantities of shell boxes have been turned for the Munitions Board, and considerable shipments are being made of veneer three-ply boxes to various markets.

Among the larger firms engaged in this line are the B. C. Manufacturing Co. Ltd., The Brunette Sawmill Co. Ltd., and J. Hanbury & Sons Ltd., whose plants are described in the lumber section of this book (see index). The Pacific Box Co. Ltd. are one of the larger firms engaged specially in this line (see index).

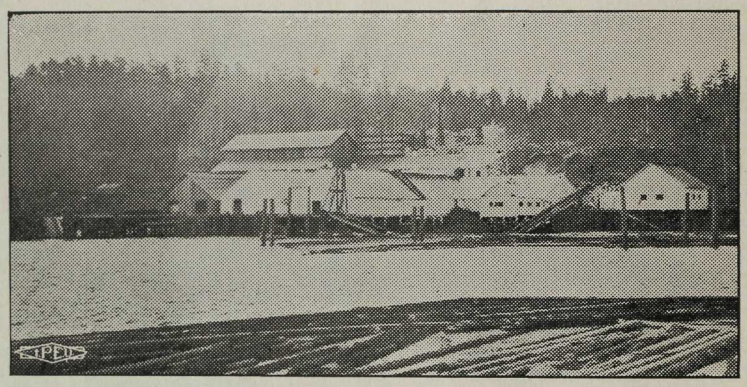
BUILDING MATERIALS, Etc.

BRICK, TILE, STONE, CEMENT, LIME AND ALLIED TRADES.

Bricks and Clay Products. There are 28 concerns, large and small, operating clay products in British Columbia, with an invested capital of about $2,000,000. From 800 to 1,000 men were employed in 1912-13 with a payroll of about $500,000, but the majority of the works are now closed down, owing to the slack demand for building material.

The products turned out are common pressed and facing bricks, partition tile, agricultural drain tile, fire-brick, non-absorbent vitrified brick, fire-clay, furnace linings, refractory smelter block, vitrified sewer pipe, etc.

Cement is manufactured in two plants, the quality of the product being very high, the majority of the demands of the Province being filled by the local product.



Plant of the Pacific Lime Company Ltd., Blubber Bay.

Lime of very high quality is manufactured by the Pacific Lime Co. Ltd., who have developed a very large export business in addition to the local demand.

Pottery, such as drain-tile, flower pots, vases, and similar clay goods is manufactured by the B. C. Pottery Co., Ltd., Victoria.

Sewer Pipe is made both in pottery and glazed cement.

Artificial stone for ornamental and industrial purposes, marble cutting and stone working are other lines produced in British Columbia.

BRITISH COLUMBIA POTTERY COMPANY LIMITED, VICTORIA.

This industry was established in 1890 and occupies extensive premises in Esquimalt Municipality, adjoining the City of Victoria.

The principal products manufactured are, glazed sewer pipes, fire bricks, milled fire clay and agricultural drain tiles. The business of the Company has been of a progressive nature and the ware finds a market all over B. C. — The number of men usually employed is about fifty.

BRUSHES AND BROOMS

There are three firms manufacturing brooms and one brushes in British Columbia. The brooms are made from imported broom-corn, the handles being all locally manufactured, and the brushes are almost entirely of local material and in wide variety. Another firm is making wool mops for household use.

B. C. BRUSH WORKS LIMITED, VANCOUVER.

The B. C. Brush Works Limited, whose advertisement appears in this number, is one of Vancouver's newest industries, the Company having been incorporated just one year ago. Already their product comprises many types of brooms and brushes and their lines are being steadily augmented. All kinds of bristle, hair and fibre brooms and brushes are made, including floor, street, mill, warehouse and stable brooms; automobile, brewers,' bakers,' moulders,' dairy, and others too numerous to mention. Special attention is given to the manufacture of machine brushes. The company also executes orders for wood-turning of every description, deck plugs, etc. Only the most skilled workmen are employed. "Quality" being the maxim. The business is under the direction of Mr. F. A. Brodie, who is also President and chief owner. Mr. R. C. Johnston is Secretary.

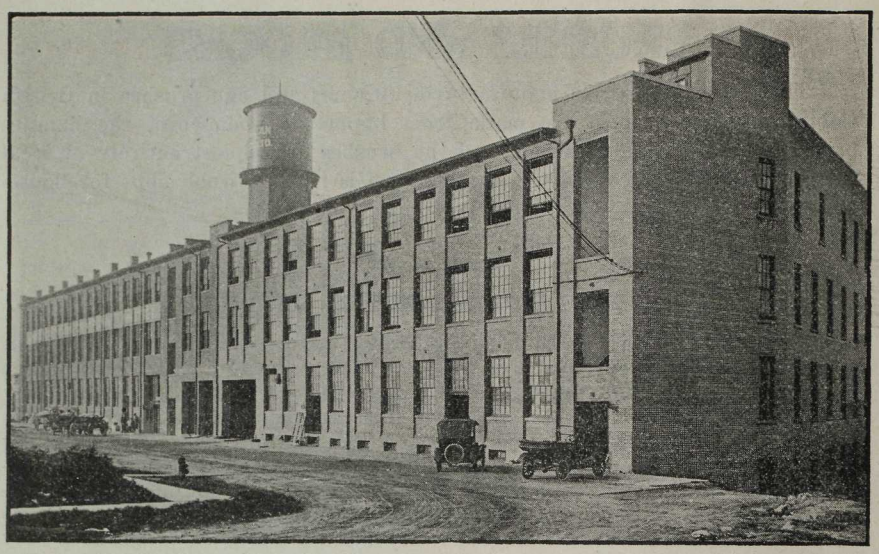
CANS

The very large demands of the salmon, fruit, and vegetable canning industries in British Columbia are met by the output of the important factory of the American Can Company Ltd., Vancouver. Prior to the establishment of this firm, the great majority of the cans used had to be imported.

THE AMERICAN CAN COMPANY LIMITED, VANCOUVER.

Incorporated in British Columbia in 1912, with a capital of $250,000 and commencing building operations the following year, the American Can Company Limited is well prepared for the present and future developments of the local market for cans of every description. The British Columbia Company is a subsidiary of the American company which operates three factories in Eastern Canada. The officers of the local company are, F. S. Wheeler, president; F. P. Kendall, vice-president, and H. J. Bigger, secretary-treasurer.

The output of the factory consists of cans of various kinds, making a specialty of sanitary cans for the fruit growing and fish packing industries. The average number of employees is 350 .



The Vancouver factory of the American Can Co. Ltd., which was recently doubled in size.

The markets supplied are British Columbia and Western Alberta. On account of their bulk, cans do not lend themselves well to the export trade, but this factory is in any case well equipped to handle any business offering.

CHEMICALS AND EXPLOSIVES

Explosives for commercial use are manufactured in two large plants in British Columbia, one of which has turned out great quantities of Trinitro Toluol during the war.

The chemicals manufactured on a large scale include sulphuric acid, from Japanese and Louisiana sulphur, nitric acid, hydrofluoric acid, zinc chloride and white lead.

The manufacture of potash and fertilizer from kelp is a new industry which promises well.

The manufacture of coal distillation by-products is capable of great development, the demand for coke being great. A plant is being installed by the Granby Company and others should follow.

CIGARS

The manufacture of cigars in British Columbia has shown a considerable increase during the past two years. There are some 26 firms engaged in this industry employing altogether fully 700 hands. One of the largest firms in this line is the Stettler Cigar Company, Vancouver, whose plant is described.

STETTLER CIGAR FACTORY LIMITED, VANCOUVER.

This company, which was formerly located in Alberta, started a branch factory here in the Fall of 1916, but in the spring of this year moved their entire plant to Vancouver. The industry is centrally located on Georgia Street, two blocks from the Vancouver Hotel, and occupies a three-storey, fireproof building with 18,000 feet floor space. The factory, which is the

largest west of the Great Lakes, is fully equipped with all the latest appliances, and is said to be one of the most up-to-date cigar factories in the Dominion. The average number of employees is 150, 100 of whom are skilled male union cigarmakers. The company manufactures the Van Loo brand only, 22,000 of which are made and marketed daily—the entire output being absorbed by the four western provinces.

FURNITURE

There are seventeen firms manufacturing furniture in the Province, several of the factories being on a large scale, capable of turning out big lines of standard goods for the home and export markets.

Many of the lines manufactured use British Columbia woods, but imported hardwoods are also largely used.

The larger factories are equipped with modern machinery and economy devices, enabling these firms to produce competitive lines in brass and iron beds, mattresses, upholstered goods and wood furniture. In addition, there are a number of smaller firms specializing in dining room and bedroom furniture, office fixtures, etc., including high class goods made to order.

GASOLINE LIGHTING SYSTEMS

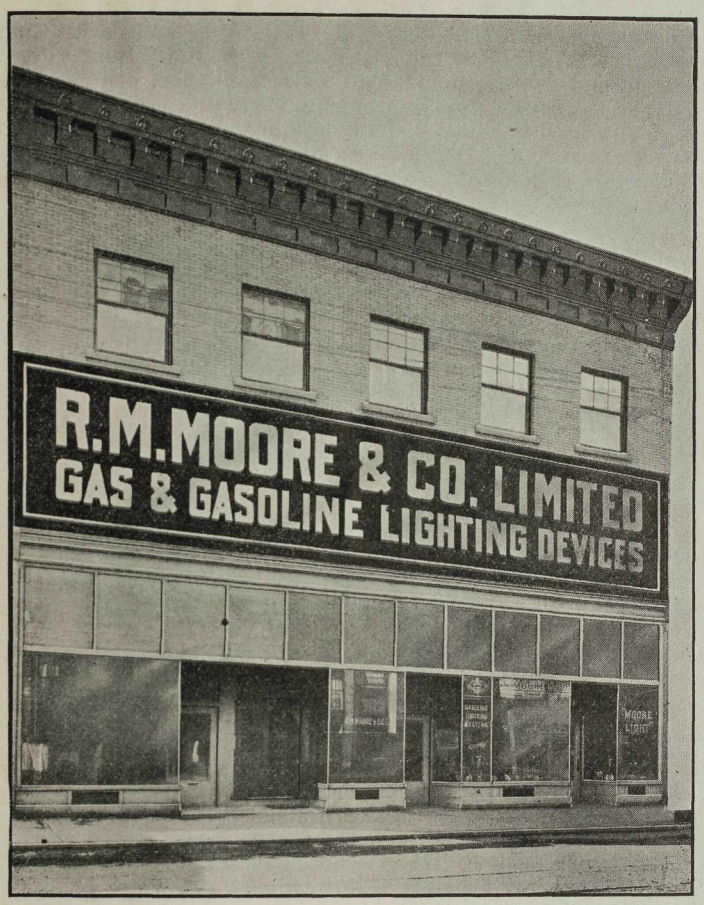
The value of gasoline for lighting is very great in a Province such as British Columbia, where there are many small communities and industrial plants too far removed from centres where electricity is available. The firm of R. M. Moore & Co. fill a very useful place in the business of the Province in supplying these systems in large and small installations. The following is a description of the firm:

R. M. MOORE & COMPANY LIMITED, VANCOUVER, B. C.

This firm was established in 1907 and has progressed until it is now recognized as the leading manufacturer of gasoline lighting and heating devices, as fixtures, air-gas systems, hollow wire lighting systems, incandescent mantles and general lighting supplies for gas and gasoline in the Dominion. Consolidating The Pacific Coast Mantle Factory with the business of Robert M. Moore & Company it was incorporated in 1915 with W. H. Syer as managing director who was manager of the former business, and has been associated with the gasoline lighting industry since its introduction into Canada. The head office of the company is located at 916—918 Pender Street West and their various interests are well equipped to take care of the ever increasing business.

"MOORE LIGHT" is well known throughout the Dominion and provides an excellent means of lighting houses, churches, schools, stores and in fact every kind of building in country districts with a self contained system which supplies any number of Incandescent gas lights that may be required in any building. The moderate cost of installation, combined with the lowest cost of operating of any form of artificial light has brought all the advantages of the city to country points at less expense. This firm also manufactures fixtures and incandescent mantles for coal-gas and natural gas and self contained devices for lighting and cooking.

In addition to the local markets this industry is exporting its products to Australian, Chinese and Japanese markets, where they are meeting with every success.



OIL REFINING

The refining of petroleum on a large scale in the Province is sufficient to meet the demands of the local market and to supply largely also to the Prairie Provinces.

Of the two refineries the older is that of the B. C. Refining Co. Ltd., at Port Moody.

BRITISH COLUMBIA REFINING CO. LTD., VANCOUVER.

Established in 1909 with a capital of $200,000, this firm of oil refiners is entirely locally capitalized and managed.

The officers are: F. R. Begg, president; C. B. Sword, vice-president; J. A. Cunningham, managing director and treasurer; R. J. Kenmuir, secretary.

The oil-refinery plant is situated at Port Moody and covers an area of two acres. The products of the plant are, fuel oil, distillates, asphaltum, lubricating oil and greases, liquid soap, linseed oil soap, disinfectants, metal polishes, furniture polish, asphaltic paint and other specialties.

The equipment consists of four refining stills, compounding plant, agitators, retorts and other machinery; also storage tanks, capable of holding 60,000 barrels. There is also a complete cooperage plant. The number of men employed is 40.

IMPERIAL OIL CO., LTD., Vancouver.

This extensive plant near Vancouver is equipped for the refining of crude petroleum, which is brought in from Peru direct in tank steamers, and pumped into the company's tanks at the refinery. The site is 33 acres in extent, and the construction of the plant has cost approximately $1,500,000 up to the present time. The products refined at the Ioco plant are gasoline, kerosene, fuel oil, naphtha and benzine. Asphaltum is not produced, as the Peruvian oil does not contain that base.

PAINTS AND VARNISHES

Of the nine firms manufacturing these lines in British Columbia several are operating on a large scale, turning out a complete range of paints, including marine paints and varnishes, shingle stains, etc. The geographical position of the coast of British Columbia will make this Province the paint and varnish manufacturing centre of Western Canada, and new factories have recently been established.

AYRES VARNISH AND PAINT COMPANY, VANCOUVER.

This plant was established in 1912, the partners being T. W. and A. J. Ayres. The factory at Raymur and Parker Streets, Vancouver, occupies a main two-story building, 50x50 feet, with additional buildings for storage and mixing departments. The equipment comprises two varnish furnaces and a full range of machinery for grinding, mixing and thinning paint of all kinds. The capacity of the plant is 400 gallons of varnish or lacquer and 250 to 300 gallons of paint per day.

In spite of the unfavorable conditions of the past few years, this business has exhibited a continual growth and is to-day improving its position in local markets. The manufacturing department is under the charge of Mr. A. J. Ayres, who has been for the past forty years connected with the manufacture of varnishes and paints.

PRINTING AND ALLIED TRADES

Printing, Lithographing, Photo-etching, Commercial Photography, Motion Pictures, Rubber Stamps, Stationery, Paper Boxes.

Throughout British Columbia there are probably about 280 print-shops, large and small. In the coast cities several of the plants are excellently equipped with the most modern presses and machinery, and are able to turn

out high class, artistic work. The equipment in the larger cities is ample to take care of any printing work required in the Province, including specialty printing, such as tickets, car transfers, etc. The three lithographing plants manufacture on a large scale salmon and fruit canning labels, in four and five colors, and produce also high-class bond and share certificate work.

Printer's Ink is manufactured both in news-print quality and fine job quality. The ink with which this book is printed was manufactured by the Columbia Printing Ink and Roller Co. of Vancouver, who also make high class printers' rollers of all kinds and supply the trade in British Columbia and Alberta.

Writing Ink is manufactured by one firm.

Photo-etching and engraving cuts of high quality, including three and four color work, are manufactured in up-to-date, well-equipped shops, of which there are three in the Province. The majority of the cuts used in this book were made by the Cleland-Dibble Engraving Co., Ltd., who also make three and four color cuts.

Commercial Photography is undertaken by several firms, the Dominion Photo Company, of Vancouver, specializing in industrial work; this firm having featured the preparation of industrial record photographs showing the progress of work from week to week or month to month.

Motion Picture Films are produced by A. D. Kean, who has turned out some splendid films of British Columbia activities and happenings.

The manufacture of rubber stamps, stencils, seals, badges, etc., is carried on in factories, the equipment of which is sufficient to take care of all business in this line offering in the Province.

In addition to the usual printed stationery, embossing and engraving work is produced by several firms, who also manufacture calendars, Christmas cards, and similar lines.

Paper Boxes are produced by three plants and the whole of the demand of the Province, including the highest-class packages for confectionery, is supplied.

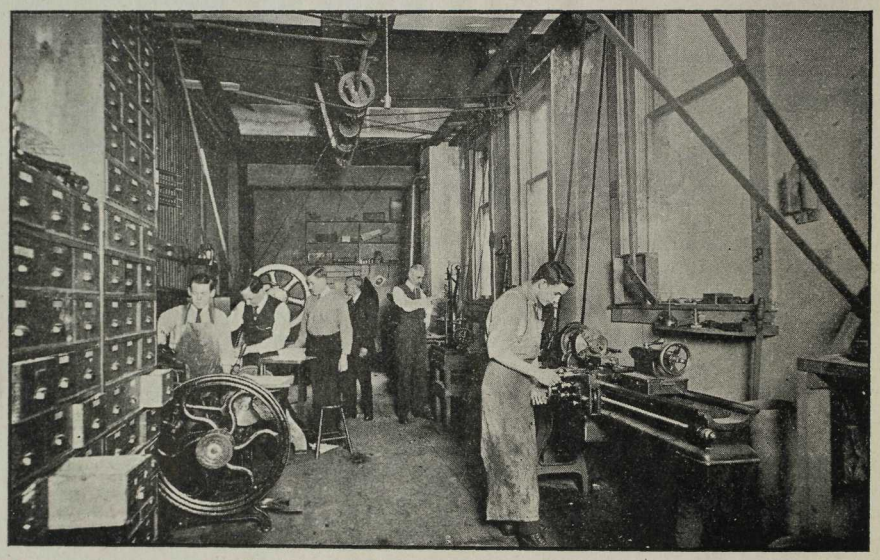
The largest firm in this line is the Davies Paper Box Co. Ltd., Vancouver.

The following description of some of the firms in these lines will indicate the scope of the industry at the present time.

THE GEO. H. HEWITT COMPANY LIMITED, VANCOUVER.

This business was established by Mr. Geo. H. Hewitt in 1900, but the manufacturing department of the business was not commenced until 1904.

The products manufactured comprise rubber stamps, brass stencils, seals,



Workshops of Geo. H. Hewitt Company Ltd.

badges, medals, brass signs, memorial tablets, raised letter signs, burning brands, steel stamps, box printing dies and log hammers.

The equipment for the manufacture of these goods is of a modern kind and includes Becker milling machines, drop hammer, power press, screw press, drills and a large assortment of blanking and cutting dies.

The average number of employees is 10.

KEANS CANADA FILMS.

A. D. Kean, the pioneer in British Columbia of a modern industry, established in 1913 the oldest strictly Canadian production of motion pitcure films

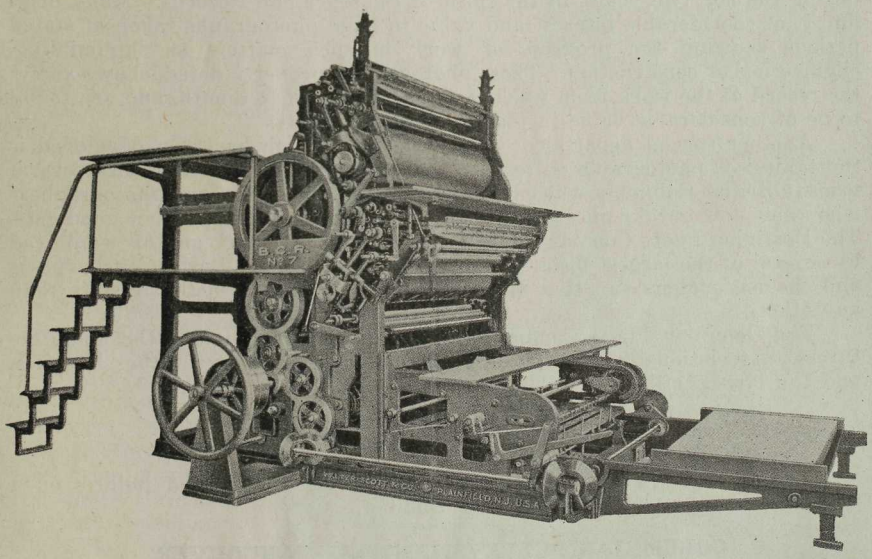
in the Dominion. Under his capable management and well known ability, the public have been presented with many interesting reels, including a complete

The Trade mark and the Man.

historic record of the military activities in the province since August 1914; comedy and drama, with typical Western atmosphere; educational, such as "The Whale," "The Sea Lion," "Hunting the Grizzly" and other similar nature studies; also scenic and commercial subjects in great variety.

His work is appreciated on the Coast and films he has made for the C. P. R. and Dominion government have been widely exhibited throughout Canada, U. S. A. and the British Empire.

Mr. Kean has in Vancouver a complete plant and laboratory equipment for the production of up-to-date motion pictures.



One of the big Two-color Rotary Litho Presses operated by the B. C. Printing & Litho. Limited, Vancouver, in the production of salmon, fruit and other labels. Prints 2,000 sheets per hour 44 x 64 inches in two colors.

PACIFIC PRINTERS, VANCOUVER.

This completely equipped printing plant was established in 1912, and is today under the management of S. Chas. Graham and Thos. J. Currell.

Their plant is very complete and has a large equipment, comprising three cylinder presses, one of which is the largest in British Columbia, linotype machines, platen presses, etc., enabling the firm to turn out a large volume of commercial and high class printing and bookbinding.

This book was printed by Pacific Printers, and may be taken as a sample of their work.

EVANS & HASTINGS, VANCOUVER.

This old-established printing house is one of the best equipped in B. C. and produces a number of periodicals in addition to general commercial and fine printing. Their advertisement will be found in the advertising pages of this book. (See Index.)

THE DOMINION PHOTO COMPANY, VANCOUVER.

This firm of commercial photographers has rapidly assumed a premier position in this line in British Columbia. Under the management of Mr. P. Bentley, a specialty has been made of photographing industrial plants and commercial products.

Their studios at 618 Granville Street, Vancouver, are fully equipped with up-to-date appliances to handle this work on an extensive scale. The majority of the photographs illustrating this book were specially taken for us by the Dominion Photo Company.

A novel feature of considerable interest has been introduced by the firm during the last two years, in the form of Photographic Records. Many firms find it of considerable interest and value to have photographs taken at stated periods showing the progress of work in such matters as shipbuilding, engineering or construction. These photographs, properly dated, show exactly the record of the work from week to week, or month to month, and are found to be of considerable value in placing fresh contracts.

Another special department of the business which has been developed is the taking of photographs especially for catalogue work. There are several firms in British Columbia who can make good cuts but not many photographers who know how to take photographs of merchandise so as to produce good cuts. The Dominion Photo Company have specialized in this work and are employed by several of the largest firms to photograph articles for illustration purposes and the cut makers say that the Dominion photos give better results than any other.

The Dominion Photo Company are official phtographers of the Manufacturers' Association of British Columbia, and also to many of the shipyards and the larger mills and smelting companies.

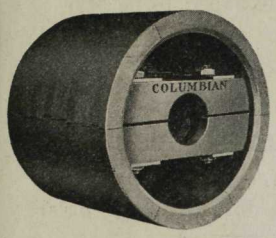
PULLEYS

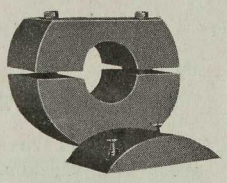
The only firm in the Province manufacturing split wood pulleys on a large scale is the Columbian Pulleys Limited.

COLUMBIAN PULLEYS LIMITED, VANCOUVER.

This firm was established in 1908 as the "Columbian Pulley Manufacturing Company" for the manufacture of wood split pulleys, solid web, solid

rim pulleys, and rims for iron pulleys. They incorporated in 1912 when they built their own factory at 18th and Fraser Ave. This factory is 32x80 ft. and fully equipped for the work. Pulleys up to 90 inches in diameter have been made and larger could be made if required. Their larger wood split pulleys are equipped with a wrought iron clamp, which grips the shaft as substantially as any iron pulley, set screws being possible if required. The rims are of B. C. spruce, which is generally accepted as among the best belt-gripping materials, thus combining the best features of both wood and iron pulleys.





In addition to the British Columbia and Alberta markets, shipments are also made to Australia and it is hoped to build up a demand in other overseas markets.

SOAP

Soap is manufactured by three factories, one recently established. The majority of the soap used in British Columbia is the product of the local industry, which produces common soap and also toilet, shaving and fine soaps. Extensions are contemplated by one of the larger concerns in the near future.

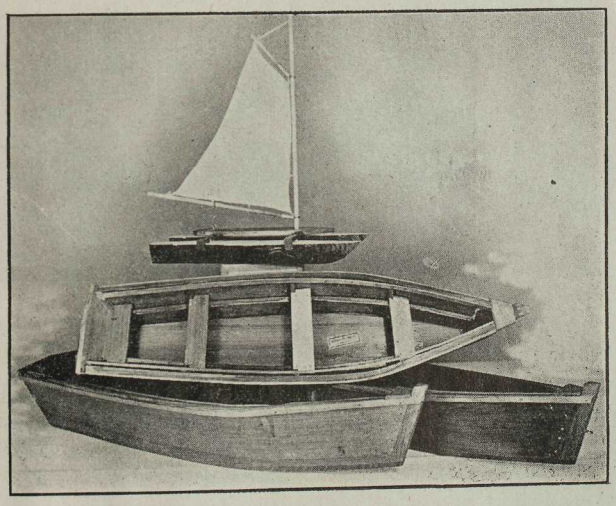
TOYS

The making of toys is practically a new industry, developed since the war. The products at present made are mostly wooden toys of simple design but, as further experience is gained, it is expected to develop into a wider field. New firms are entering the business and considerable trade has already been developed in local and Canadian markets.

GEORGIA TOY COMPANY. VANCOUVER.

Established in 1916, the Georgia Toy Company is another successful business built up to supply the demand for wooden toys of all kinds, formerly filled by the German market.

Satisfactory progress has been made and the goods turned out are exhibiting much ingenuity and the quality is now well able to compete with any goods offering in the market.



The lines manufactured include wooden toys of all kinds, such as model boats, wheel-barrows, sleighs, dolls' beds, etc.

The firm have installed a full equipment of small wood-working machinery and applances and the volume of business being done bids fair to establish this business on a permanent and increasing basis. Up to the present only the local market has been supplied but later on it is hoped to be able to enter the export markets in some lines.

VANCOUVER TOY AND NOVELTY COMPANY LTD., VANCOUVER.

This firm was established in 1915 with a capital of $100,000. The officers are H. M. Walker, President and superintendent; J. T. Johnston, vice-president; V. C. James, secretary, and C. H. Walker, treasurer.

The firm has been very successful in rapidly organizing their business to take care of some of the trade in toys formerly filled by German manufacturers. Their factory on 20th Ave. W. Vancouver is a three storey building 132x50 feet and gives employment to an average of 35.

The capacity of the factory is upward of $100,000 per annum and their goods are shipped all over western Canada.

After the war they hope to be able to enter export markets in several of their lines.

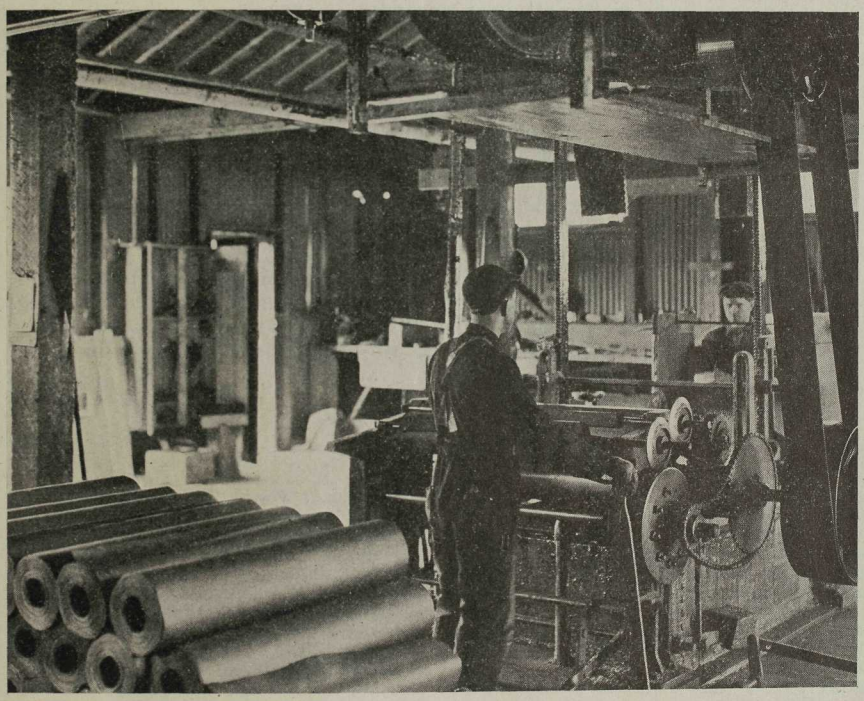
The factory is equipped with electric power and the most modern toy machinery has been installed. Among the lines of modern toys turned out are wagons, sleighs, kindergarten sets, carts, toy rockers, rocking horses, dolls' furniture, etc.

PATENT ROOFING

The well known "Barrett Specification" roofing felt, roofing pitch and "Tarvia," the road preserver and dust layer, are manufactured in British Columbia at the Vancouver factory of the Barrett Company, Limited.

THE BARRETT COMPANY LIMITED, VANCOUVER.

The British Columbia plant of this company occupies a whole city block lying between Yew, Arbutus, 10th and 11th Avenues, Vancouver. The firm manufactures all kinds of coal-tar products, such as pitch, creosote, disinfec-



tants, paints, etc. as well as building papers, roofing felts and ready-roofings. They are also the local distributors for the well-known "Congoleum" Rugs and Beaver Board. The illustration shows a saturating machine at this plant which can turn out from five hundred to seven hundred rolls of roofing-felt per day. The Company also manufacture at this plant "Barrett Specification" roofing-felt, "Barrett Specification" roofing-pitch, and "Tarvia" the road preservative and dust layer, all of these being materials with a nation-wide reputation. The plant is fully equipped with stills, saturating machines, etc., and occupies an area of three acres.

BARRELS, CASKS, Etc.

The five principal firms in this line of manufacture are well equipped to produce barrels and casks of all kinds to fill the local demand. A number of the lumber mills are manufacturing cooperage stock, of which considerable quantities are exported.

The Sweeney Cooperage Company, Limited, manufacture barrels in all stages from the tree to the finished product.

THE SWEENEY COOPERAGE COMPANY LIMITED, VICTORIA.

Established in 1889 and incorporated in 1912, with a capital of $50,000, this cooperage business has attained considerable success.

The officers of the company are, M. L. Sweeney, president; W. H. P. Sweeney, treasurer and managing director.

The cooperage occupies a building 60x250 feet and is equipped with complete plant for the manufacture of barrels, tanks, cooperage stock, staves, heading, etc., and comprises sawing and planing equipment and dry kilns, in addition to the usual modern cooperage machinery.

The firm cut their own lumber and have a capacity of 25,000 feet per day. They also operate their own logging camp and their business is probably unique in the respect that they manufacture barrels in all stages "from the tree to the finished product."

A very large business is done in British Columbia and the prairie provinces, but up to the present the firm have not entered the export market, although they are well equipped for such business. Their barrels are chiefly made from Douglas Fir and are used in the meat packing, salt salmon and herring, and brewing industries.

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INFORMATION

Information regarding British Columbia industries, resources and opportunities for development may be obtained from the various government departments, trade associations and civic information bureaux.

The following will serve as a guide:—

INDUSTRIES IN GENERAL—

The Manufacturers Association of B. C. J. Hart, Sec., 744 Hastings St. W., Vancouver.

LUMBER—

The Forest Branch, Lands Department, Victoria.
B. C. Lumber and Shingle Mfrs. Assoc., Metropolitan Bldg., Vancouver.
Mountain Lumber Mfrs. Assoc., Nelson, B. C.
Shingle Agency of B. C., 1026 Standard Bank Bldg., Vancouver.
B. C. Loggers' Assoc., Rogers Bldg., Vancouver.

MINING—

The Department of Mines, Victoria.
Vancouver Chamber of Mines, 207 Hastings St. W., Vancouver.

FISHERIES—

The Department of Fisheries, Victoria.
Dominion Fisheries Dept., F. H. Cunningham, Chief Inspector, New Westmnster, B.C.
Fraser River Canners' Assoc., 615 Pender St. W., Vancouver.

AGRICULTURE—

Department of Agriculture, Victoria.

CHEMICAL INDUSTRY—

Society of Chemical Industry, Canadian Pacific Branch, J. H. Hamilton, Hon. Sec., 703 London Bldg., Vancouver.

INFORMATION RELATIVE TO VANCOUVER and District in General—

Vancouver Board of Trade, W. A. Blair, Sec., 402 Pender W., Vancouver.
City Industrial Commissioner, J. R. Davison, 402 Pender W., Vancouver.

VICTORIA AND VANCOUVER ISLAND—

Victoria Board of Trade, Board of Trade Bldg., Victoria.
Victoria and Island Development League, C. L. Armstrong, Sec., Victoria.

Local information relating to the principal cities throughout B. C. may be obtained from the respective Boards of Trade.

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OFFICIAL ORGAN OF THE MANUFACTURERS' ASSOCIATION OF BRITISH COLUMBIA

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