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## AUGUST 1912 <br> $\%$

## TWO THOUSAND SQUARE MILES OF COAL

An illosuated article dealing wint he var anthon:ar



## VICTORIA HARBORS

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The possibilities of the coming pow of Nowthern Britisit Columbia.

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Vol. VIII
No. 8

# Two Thousand Square Miles of Coal 

THE GROUND HOG MOUNTAIN DISCOVERIES

By Archibald Collins, F.G.S.

IN the annual report of the Minister of Mines of British Columbia for last year it is shown that the eutput of mineral products by this province equalled 52.9 per cent, of the mineral output of all the other provinces combined. In comparing our coal and coke production with that of the rest of Canada we show a total value of $\$ 8,071,747,00$, against the $\$ 18,439,128.00$ of the other provinces.

Considering the greater difficulties of transportation which we have to face and the greater expense of production on this coast, British Columbia well maintains her title of the Mineral Province.

The most notable addition to our visible mineral assets during the past two years has been the development of the vast coal beds near Stewart, the Ground Hog Mountain anthracite fellds

This deposit was discovered in 1893 by Mr. James McEvoy, B.Sc, formerly of the Geological Survey of Canada, but it is only during the past two years that the existence has been proved of a field far greater than was cven at first suspected. In 1903-4 Mr. MeEvoy staked sixteen square miles, and statutory assesment work has been done on that area each year since.

Subsequent stakings and discoveries proved that the field extended over an area 70 miles long and 30 miles wide, and is is estimated that this area of over 2,100 square miles does not mark the full limits of the deposits.

The area of the Pennsylvania anthracite felds, by the way, is 480 square miles, with an annual output of nearly $84,000,000$ tons. If, therefore, the Ground Hog anthracite proves of a high quality, it does not need any argument to demonstrate the possibilities of Northern British Columbia as a conl producer.

A new coal field requires time for development before the quality of the coal can be finally determined. The analyses that have been made up to the present are very high in ash, and samples from different parts vary widely in ash and fixed carbon. Practical mining men know that such discrepancies may be expected at the present time beause the samples are none of them free from surface impurities and excess of earthe matter. The andyses from the main coal body will be awaited with interest and all the indications are that they will compare favorably both with Welsh and Pennstrania anthtacite.


WUAKIXOS ON A EEAM OF ANTIRACITE AY THF RETHSII COLCMBI ANTHRACITE COML SYNDICATE, CONDUCTED USDEE THE MANAGEMRNT DE MR, 2. C. CAMPBELI. JOHNSON

Anthracite is the most highly mineralized form of coal, giving off little or mo smoke. It is very difficult to ignite, hut when burning gives off intense heat. This class of coal contains a very high percentage of carbon, the best qualities containing from 90 to 95 per cent.
Analyses of fifteen samples of the Ground liog anthracite have been brought to the notice of the writer, and they gave an average of 71.73 per cent. of carton. These camples were taken from twelve different scams and ranged from 56.53 per cent. to $86.7+$ per cent. in carbon.
A characteristic sample of Welsh anthracite gave 95.53 per cent. of earbon and a P'anglitania sample 80.8 per cent. to 86.4 per cenr. of carhon. Our readers mar draw their own conclusions from these figures. Remember, the smmples from Ground Hog Mombnin were not free from surface impurities or excess of earthy matter.

Having established the existence of this vast coal feld, the matter of transportation must he considered. At the prestent time the most accessible route is hy way of Haxelton, which has been for years at the head of navigation on the Skeena River. From Hazelton the trai? into the und fied is shout 140 miles long.
The map which we publish illuetrates the impretant relation which the part of semart bears to this coal field. It is the 38
nearest tidewater port. and the Stewart route is the one most favorably considered by people who know the country. The following remarks upon the Stewart route by Mr. Fleet Robinson, Provincial Mineralogist, may be quoted:
"A third ronte, and the shorest to tidewater. estimated at about 125 miles, would leave the coal fields through Courrier Pass on to the Naas, which river would be followed down for about seventy-five miles. where a tributary flowing from the west would be followed up to its source, which is in a pass on the diwide between this fork of the Naas and the headwaters of Bear River, the stream flowing into the upper end of the Portland Canal at the town of Stewart.
"At the Stecwart emi of this route Sir D. D. Mann has already constructed a line of railroad up the valley of the Bear River for a distance of about fifteen miles, and has constructed a pier capable of receiving ocean vessels.
"The hartor at Stewart presents some difficulties to the establishment of extensive dockage facilities, but these are not unsurmountable ; Portland Canal provides a good navigable waterway, but its inner end, at Stevart, is a long distance from the occan, about seventr-five miles, and these facts somewhat offer the alvantage of the shorter railroad rome."


MExIADEN t, ake, which lies between stewart AND THE GROUND HOG MOUNTAIN COAL FIEL.D
The lind for milen around this lake has been staked for agricultural purposes. There are plenty of trout here. At the head of this lake Sir Donald Mann has staked a very large waterpower, for the purpose, it is believed, of electrifying his road from Stewart to the lake Meziaden, a distance of thirty-five miles. This poreer would also be ample for supplying the mining operations in the Bear River Valley.

The fact that some time must necessarily elapse before the devclopment of the coal field reaches a point when the output must be handled allows of consideration of the best route for railways or roads to take into the coal basin. Not only the Canadian Northern Railway but the Grand Trunk Pacific Railway is laying sted in the north. and the people of Stewart are fully alive to their responsibilities. They are actively engaged in securing the construction of roads and trails into the Ground Hog district, and are also secing that the barbor at Stewart is made ready for this coming trade.

The following is an extract from a report of a meeting of the Stewart Citizens' Association:
"The following resolution was then hrought in by P. F. Godenrath:

That at a public meeting of the Stewart CitiTers' Asmelation we urge upon the executive conmittee to ose every effort in its power to secore additional financial support from the provincial government to guarantee the completion of the proposed Stewart-Ground Hog trall this senton. The said trail to follow the proposed youte of the government engineer, being a fontinuation of the present trail from Merisdin Lake to a point between Cabins Six and Seven on the Yokon telegraph trail.
"The mover pointed out that if the business interests of the town were to receive
any bencfit next stason from the development of the Ground Hog coal fields it was imperative that steps should be taken at once to secure from the public works department an additional appropriation to carry forward the pack trail now nearing completion to Mexiadin Lake, through to a point on the government elegraph trail between Cabins Six and Seven. He pointed out that as a result of Engineer Gillespie's survey an easy grade could be secured and between fifty-five and sixty miles would tap the telegraph trail, which would give direct connection with the different trails in the Ground Hog coal basin. He had been assured that there was practically no rock work after leaving Meziadin Lake and that it was mainly an open country all the way. The proposed roure would follow up the Hanna River a distance of ten miles, then cross to Cottonwood and direct east to a point between Cabins Six and Seven. Only one bridge of any length was needed, and he felt satisfied that with a reasonably large crew; if the appropriation was secured immediately, that the trail could be buil to the telegraph line before winter. In this event the merchants would reap a big share of the business next season. If, however, the trail was not built this year there could be no hope of any business until late next fall. Once the trail was put through it was up to the merchants and packers to meet any competition with Hazelton."

The following are reports from wellknown geologists and engincers. They are expert and unbiassed opinions on the largest conl area in British Columbia.

In a preliminary report of the Geological Survey of Canada issued at the end of the year, G. S. Malloch, of the staff of the Survey, who spent the summer of 1911 in the Skeena district, stated of the Ground Iog Mountain ficld:
"The coal measures as far as known have a northwestward extent of at least 70 miles, and a width at the southern end of 30 miles. The sediments have a thickness of upwards of 3,000 feet, but contain coal in commercial quantities near the top and bottom only, though there are a few thin seams in the intermediate beds. The upper horizon conw tains seven seams, with thicknesses varying frem 2 ft .6 in., and so far as is known, is limited to an aren of 20 square miles. The lower horizon contains at least three seams

+it. 106 it. thick, and extends over most of the area necupied by the coal measures. The wal is anthracite in character. Some of the sems are high in ash, but from one of them sume excellent analyses have been whained. Dhe basin is faulted considerably, and there are mumerous local Hexures assochated "ith the fauls. The development of a coal lich of this charater near the Pacific Comet would be of great importance to British Colambia."

1. F. Melion, fomerly of the staff of the (icolowical surver, and for some years Lcologist to the Crow's Nest Pass Coal Company. Lad., says, in his report dated Xorember 21, 1911, to the British Columhai Anthracite Syndicate, of Quebec: "I have no doubt, however, that a large market can be found for this coal at good prices.

The domestic market will be the most important at first, and, in this connection, as the coal is practically smokeless, and as it will not make dust and dirt all over the house in the way the soft coals of the West invariably do, it will be self-advertising. .. . The writer visited the property three times during the months of August and September this year. Prospecting work was going on under the direction of Mr. Camp-bell-Johnston, and was still carried on tor three or four weeks after the last visit.
"The coal seams were exposed by the removal of the covering of clay and gramel, and only surface coal could be seen. At the time of the last visit, slopes had been started, but they were only down three or four feer, so that the coal was still very dirty with clay introduced by surface waters. . . .


TYPICAL AGRICULTURAL, LAND NEAR GROUND HOG MOUNTAN. THOUSANDS OF ACRES ARE ONLY WAITING FOR THE PLOUGH
"The coal has crystalline fracture, is very bright and hard, without any pronounced jointage planes. It is not at all crushed or slickensided, and as a consequence it will be mined in strong, hard lumps, and will make little slack. It burns very well in a blacksmith forge, giving an intense heat. So great is the heat, in fact, that if a steel implement is left a few minutes too long in the fire the steel will be melted. The Hame is almost colorless and smokeless."
G. F. Monckton, of Duncan, Vancouver Island, who was associated with Mr. Camphell-Johnston last summer in the carrying out of development work, has also
made a report on the holdings of the B. C. Anthracite Syndicate. He says: "The strata present a regularity which is rarely found in association with anthracite beds outside of South Wales and Pemnsylvania. (On account of the rise in the strata to the northeast, as shown in the sections, it will be possible to work an area on this property of approximately twelve square miles without machinery by the simple expedient of driving tunnels into a mountain a little above the level of the Skeena, so as to intersect the Benoit and other seams immediately below it in turn, and each of these seams can then be worked to the rise as the management may desire. This would mean a saving in capital of about $\$ 600,000$ as compared with working the property on the west side of the Skeena by shafts, and would result in additional economy in the actual cost of mining."
R. Campbell-Johnston, M.ľ.. of V'ancouver, has done more than anyone delse to draw public attention to the prospectioc innportance of the Ground Hog Momentain coal field, and while the existence of coal there has been recognized for the past eight to ten years, it is only within the past six months that the extent of the area has been realized. Hitherto the knowledre of ant thracite coal in the West has been limited


THIS PHOTOGRAPH SHOWS THE OPEN CHARACTER OF THE RICH FARM IAND AIONG THE ROUTE FROM STEWART TO THE NEWIS DISCOVERED COAL BEDS AT GROUND HOG MOUNTAS.



A VIEW OF THE TOWN OF STEWART TAKEN IN THE WINTERTIME FROM THE END OF THE GOVERNMENT WHARF. THIS GIVES AN EXCELLENT IDEA OF THE HARBOR AND PROVES THE ABSENCE OF ICE dURING the winter months. It also shows the level. character of the townsite
to the Cascade area in Alberta and the Palliser area in British Columbia, covering forty square miles, and having an estimated content, according to Dowling, of 1,260 ,000,000 tons of semi-anthracite, anthracitic, and anthracite coals. The largest coal area in British Columbia was hitherto stated by Dowling to be the Nanaimo field, with 350 sumare miles of bituminous coal, estimated at 1,355,000,000 tons; while the most productive field, though of smaller area, has heen stated as Elk River, with 230 square miles, carrying 22,600,000,000 tons of bituminouss cosil. Now the Ground Hog Mountain field places all the hitherto known coal areas of British Columbia in the shade with an atea six times greater than the Namaimo field, hitherto recognized as the laresest of our coal areas. The discovery of the Growal Hog Mountain field is another testimony to the geological work in this provinuer of Dr. Davson. In looking over a paper which he contributed in 1881 to a British grological magazine, we find that so long ayo as that he suggested "the probable occurrence of valuable coal scams on the Skeena River." but the extent of the discovery outlined in this article must overshadow his most sanguine estimates.
Referring to the new ficld during the last stesion of the Legislature. Hon. Richard Merbrile. Minister of Mines, said: "And
it would seem from the development of the past year as though we had only touched the margin of our wonderful coal deposits. The year's developments include new and great coal fields in East Kootenay, other new and important deposits in the Similkameen, and last, but probably the greatest, is the determination of what promises to be the greatest anthracite or semi-anthracite field west of Pennsylvania, on the headwaters of the Skeena River. This field is only partly developed as yet, and if bui a fraction of the present promise is fulfilled it is bound to have a wanderfully stimulative effect upon the future of the province. The coal mines of Great Britain gave it its position as the manufacturing centre of the world, and our coal fields will unquestionably serve as a strong magnee to draw the manufacturing interests of the Pacific to our shores. Coal is a breeder of industries and its value to the country ines not by any means end with its disposal ! y the mining companies."

The engineers who have examined the field have recognized the importance of bis question of transportation, and all hace given it their attention. Mr. Malloch ad Mr. McEvoy were probably in a positem to give the most disinterested opinion of t e transportation problem. They selected ti.s town of Stewart, at the head of Portla : 1

Canal, as the best ocean outlet for this field.
Mr. Malloch said: "In order to obtain a market for coal from this field many miles of railway will have to be built. The most direct route to the sea would reach it at the town of Stewart, situated at the head of Portland Canal."

The fact that Sir Donald Mann has secured control of over 500 square miles of coal land in the Ground Hog basin is a pledge of the active interest of the C. N. R. for providing railway facilities and opening up the coal field as soon as possible.

In order to prevent any misunderstanding concerning the present railway developments at Stewart, I may point out that the line is the personal property of Sir Donald Mann, and not of the Canadian Northern Railway Company.

This article would not be complete without some mention of the character of the country between Stewart and the Groundhog coal beds. As may be seen from the photographs, which illustrate the article, the country is open and ready for the
plough. In some places it is covered with light alder, which presents no difficulty in clearing.

This country is known to be one of the largest areas of available farm land in British Columbia, and only needs transportation to open it up for settlement. The combination of coal-mining and agriculture will make this portion of the province one of the busiest and most productive areas in the future.

At the present time the weather is ideal for making a trip to Stewart by the excellent service of boats run by the Grand Trunk Pacific. This trip is now made by a large number of tourists from Vancouver, Victoria and Seattle. The whole journcy from Vancouver to Stewart and back is about 1,500 miles, and takes a week. The vessel is all the time on land-locked waters, so that the discomforts which often accompany an ocean trip are absent. The scencry from Prince Rupert to Stewart, up the Portland Canal, is unrivalled on this coast.

## The September Number of the

## British Columbia Magazine

 will contain a full report of the paper entitled
## "Imperial Preference for British Investments"

which was read by the Editor, F. B. VROOMAN, B.Sc., Ph.D., F.R.G.S., before the London Chamber of Commerce, on July 30, 1912.

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## The Governor-General


H. R. H. TH: M I: of connaught In the rodes of a knight of the garter

TIIE Duke is soon 10 vinit British Columbia, where he will find a warm welcome awaitit: him. He has assuciatims in our minds which bring him very near our hearts. He is a so: of Queco Vicforia, brother of King Edward, and uncle of King George. In 1870 the Duke sa" active service in Canada luring the Red River Expedition and the Fenian Raid. He : Homorary Colonel of the Sixth "Duke of Commanght's Own Rifles," Vancouver. He is also the (irand Miaster of Freemasous in Great Britain, and a Mohawk Indian Chief. He is sixty-tw: years old.

## Victoria Harbors

VICTORIA harbors may properly be comprised under the category of the Outer Harbor, the Inner Harbor and Esquimault Harbor. While the latter is not included in the municipality, it will be in the not distant future, and is certain to be of vast importance in the harbor question as affecting the city of Victoria.
Recent official statements concerning Victoria's harbors emanating from the Department of Marine and Fisheries suggest a "fish story" of ample proportions. These naive errors have been fathered apparently on the principle of "where ignorance is bliss 'twere folly to be wise." While it may not always be hoped that government statistics can be made fairly reliable, it may not be too vain a desire to wish that hereafter, at least as to the harbors of Victoria, they may not be concocted in a manner so elaborately inaccurate.

Victoria has harbors, and is having tremendously important improvements added to these harbors. Victoria is having an additional Outer Harbor constructed on which the initial outlay will be close to one million and a half dollars. This will provide for 9,600 feet of berthing for oceangoing steamers, and will be of the latest and finest equipment in the way of machinery, warehouses and docks. It is being built on the location selected by the Dominion Government's expert, Mr. Louis Coste, and other expert engineers. When completed, it will be a magnificent occan harbor, with a straight, clear outlet to the Pacific.

The preliminary expenditure will indicate the magnitude of the undertaking. It will cost much more than this eventually: to give Victoria sufficient shipping facilitics, but this sum will give the city, in addition to its present Outer Harbor, a spacious and strictly modern harbor, thoroughly sheltered, and affording berthing for the heavily increasing ocean traffic which is coming to her wharves. In every respect this harbor will equal the finest harbors on the Coast, and will probably measure up to the
necessities of the Capital City until her population reaches the 200,000 mark. Four huge concrete piers, with adequate warehouses, will be built out into the Straits of Juan de Fuca, each warehouse equipped with up-to-date cargo-handling facilitics, and a railway slip constructed to enable car-ferries to load and disembark their trains at the wharves.
A stone breakwater, with concrete blocks topped by a concrete wall 2,500 feet long, will reach west into the straits from ()gden Point, with a concrete pier 1,100 feet in length on the inner side. Four additional piers of $800,730,700$ and 500 feet respectively will be constructed, and there will be room for thirty of the largest vessels alloat when the docks are finished. Seven warehouses in all, each of ample proportions, and all strictly modernized as to freighthandling, will be built, and a grain elevator is another addition planned for the direct handling of Western Canadian wheat. Railway connection with the present railways in Victoria and those now building into the city will be provided for, with or without bridge connection as circumstances require.
The Outer Harbor contains nearly 300 acres of water, varying in deptl, from thirty to eighty fect. Vessels lie in perfect safety in all weathers at the present docks, but the breakwater now being arranged for will not only shelter the additional piers provided for, but also protect the entrance to the Inner Harbor, thereby immensely benefitting the coasting vessels using this harbor.

There are thirty vessels at present which call at Victoria in the transpacific trade. Over 2,500 ships berthed at the ()uter Harbor in 191t, with a tonnage of over $3,000,000$ tons. The number of vessels has doubled in the past three years. The amount of freight and passenger traffic has likewise doubled in the same time. With the completion of this Outer Harbor it will not only be the finest occan harbor on the North Pacific coast, but it will be the most accessible to deep sea water, and the


oUTER HARBOR, VICTORIA, B. C.—BLUE FUNNEL LINER "TITAN" AND THREE-MASTI:D SHIP "Slievi: ROE"
least troubled by fogs of any North Pacific harbor. Only Esquimault Harbor can possibly compete with it for safety, comparative immunity from fog, and nearness to the Pacific, with an open and unimpeded run to ocean channels.
Victoria's Inner Harbor has a long and interesting history. Here the Hudson's Bay Company built in early days, and from here commerce has steadily and persistently been built up until today considerably over one hundred vessels of all kinds and classes use it regularly; while through the energetic efforts of the daily press of Victoria, the Victoria Board of Trade, the influential and active Inner Harbor Association and its able secretary, Mr. Thomas C. Sorby, a steady improvement has been carried on with regard to its facilities.
The improvements for this Inner Harbor provided for in Mr. Coste's plan include the dredging to a uniform depth of twenty feet, the removal of certain rock obstructions, and other changes which are a prime necessity not only to the city of Victoria itself but to the Island of Vancouver, the Province of British Columbia, to the Dominion, and the Empire.
Mr. Coste, in making his recommendations to the government, uses the following significant language, in part, in his report:
"The geographical position of that port
(Victoria), at the southeast end of the Island of Vancouver, almost at the point of junction between the Strait of Georgia and the Strait of Juan de Fuca, gives it a commanding advantage over any other port in the province in matter of trade and commerce with the ports of the United States on the Pacific coast, and the fact that it is the nearest Canadian port to the Panama Canal is bound to very materially increase its tonnage when the great canal is completed."

This is the testimony of a disinterested and expert witness, sent to Victoria by the Dominion Government to determine the question of harbor improvements. His language could not be more definite, positive, or illuminating.

The gist of it is, the geographical position of Victoria gives it a commanding advantage over any other port in the province-bound to increase its tonnage materially when the Panama Canal is completed.

Nothing in the way of human development can change geographical position. Nearness to the Pacific, absence of fogs to a very great extent, and straight and safe passage to the sea are guaranteed Victoria by nature.



OUTER HARBOR, VICTORIA, B.C.OOCEAN FREIGHTERS AND SCHOONERS GOMDING WHAI.E OH.

It is these advantages which settle positively Victoria's commanding advantage over any other port in the province, not only as to traffic with the United States, as Mr. Coste says, but as to all ports and all countries.

Esquimault Harbor, last but by no means least in Victoria's list of harbors. has been said by engineers to be the second best harbor in the world, the harbor at Sydney, Australis. being placed first. Probably this same opinion has been roiced by other experts as to various harbors. At any rate, lisquimault Harbor is a really superb harbor, land-locked, deep, casy and sate acees to and from the Straits of Juan de Fuca, and absolutely certain to be of the greatest possible importance both from the standpoint of commerce and from that of strategic importance in the event of war. It contains a dry-dock at present which provides docking for ressels needing reparing, but not of proportions to lloat the largest sea-going ships: but there is no doubt that dry-docks will presently be erected to provide for any wesels afluatt. It has ship-yards which are even now turning out ships of large size and which hod fair in time to build the largest craft. It
is the site of the former naral base, and the home harbor of H. II. (․ S. Rambow. the traming vessel stationed on the Pateific coast.

Dre-docks of the greatest magnitude. and ship-yards capable of turning out vessels equal to those of the Clyde and Shanom will be among the future developments of this great harbor, together with manufacturing enterprises of world-wide importance.

Victoria has harbors, and a harbor polics. Its harthors have been herein described, atthough inadequately and briefly. Its harther policy is one of steady improsement and perceptible progerses. Its dams hate beron recognized. not merely by word of mouth. but by appropriations. Both fath and works have characterized the Dominion Govermment's apprectiation of the ('apital City's needs. 'The P'anama ('amal will add very much to the requirements of Victoria' hartors, but outside and apart from sum additional needs, the volume of trathic, both occal-going and cont-wise, both in the matere of freight and pawengers, is increab ing rear be sear in stealy proportions, and makes the Guture of Victoria as a port of the first chatater an anured and prowahle fact.


BIUE FUNNEL IANER "TEUCER," CANADIAN-AUSTRAMAN LINER "ZEAIANDIA." AND HARRISON LINER "CROMN OF GALICIA," LOADING AT OUTER

## THE CHALLENGE OF THE MOUNTAINS



THE GREAT GLACIER, GLACIER, BRITISH COIUMBIA. IT IS THE CENTRE OF A GROUP OF GIACIERS COAERING: AN AREA OF MORE THAN I 57 SQUARI: MHIES IIKI AIJ. GREAT GIACHES IS THE NORTHERN HEMISPIERE IT IS GRADUAIIIY RECEDING. THE III.ECIIIBWAET GIACIER GOES BACK 35 FEET IWIRY YEAR

ONE of the first remarks made by travellers arriving at the coast of British Columbia by way of the Canadian Pacific Railway, through the Rockies, is that they have never seen such magnificent scenery before in their lives. These travellers are many of them familiar with all the famous beauty spots in the Enited States and Europe. Neither the Alps of Switzerland or the rugged beauties of \ellowstone Park can equal the majesty: and superb beauty of the Rocky Mountains in British Columbia.

By the courtesy of the Canadian Pacific Railway we are able to give our readers some idea of the great scenic treasure-house !
of this province which is attracting tourists from all parts of the globe.

A well-known American lady speaks with enthusiasm of what she calls the swit\%erland of the Amerian continent. She says:
"Europe has its Switarland, fanous throughout the world for the splendor and magnifience of its mountain sernery, which has lured thomsands of travellers because of its variety and charm, as well as becallse of its accessibility. Its scenery is und hamgingly bealutiful, and the Appine heights retain a ceaseless fascination for the momatainecr. let we turn with wonder and admiation to our own Swit\%erland. The paradise of our continent lies amone the rused Rocky Ifountains of Canada. For miles and miles

## THE CHALLENGE OF THE MOUNTAINS



LOOKOUT PONT, FROM THE CAVES OF NAKIMU. THESE CREAT CAVES ARE aIX MILES FROM CLACIER AND ARE AbOVR THE SNOW LINE. THEIR Whlls sparkie with oungtz crystals. The scenigy EROM THE TRALI. BY WHLCH THE CAVES ARE REACHED BEYOND DESCRIPTON
the train glides at their base, showing new wonders at every turn-the wonderful and fascinating glaciers; the number and enormity of the majestic ranges; the sharp precipices; the beautiful, snowy peaks; the deep green forests; the lovely clear lakes and peaceful valleys. The Canadian Government has set aside over 6,000 square miles of this region as a national park, and the Canadian Pacific Railway Company has built a number of hotels and chalets, each rivaling the other for comfort, service and fine location. The average traveller, howcver, spends too little time in this attractive country, as a rule only stopping off for a day or so between trains; while a stay of

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two or three days should be made at each of the resorts in order to fully note the evervarying changes of light and shadow, the glorious sunsets, and the rare experience of visiting the ice caves in the glaciers, in midsummer."- Miss Itma Schadee, in the Springfield "Republican."

The New York "Tribune" says: "It is not generally known that within four days' journey of New York City there are waiting for the sight-seer and scientific investigator some of the grandest and most impressive glacial streams in the world. Nothing in Switzerland is to be found more beatiful than the glaciers of the Canadian Rockics and Selkirks, and one of the chief

THE CHALLENGE OF THE MOUNTAINS


WHHE THE KOOTENAY DISTRICT OF BRITISH COLUMBAA HAS NOT THE SCENIC GRANDELER OF THE ROCKIES IT HAS ANOTHER BEAUTY OF VADLEYS, LAKES AND MOUNTAMS WHCH MAKB IT A SPOT OF varied atrkactiveness. this cave is one of the scenic features of the district
attractions of the trip is the fact that one may journey there and back in civilized luxurs, and while enjoying the scenes, at the very noses of the wonderful glaciers themselves, be comfortable and remain in close touch with the world."

The Canadian Pacific Railway line, above all others, merits the much-used description, "The scenic line of the world." From Calgary to Vancouver, a distance of six hundred and forty-two miles, the beauty and grandeur of the scenery is continuous. That "there is not a dull or uninteresting minute all the way" is the opinion of all who have made the journey.

Unfortunately, the average tomist is all too prone to stop over only between trains and thus catch but a hurried glance of these glorious peaks, which is regrettable, inasmuch as freguently the greater beauty is missed entirely, though thousands clam that travelling through these mountains without leaving the train has been the most enjoyable event and the greatest seenic treat of their lives.

In the mountain ranges, lakes and valleys of this district are not only the seenic beauties and wonders of Switzerland duplicated on a much wider and grander scale, but there is added a diversity of climate

## THE CHALLENGE OF THE MOUNTAINS



MOLST STEPHEN, ONE OF THE MONARCHS OF THE ROCKIES. AT ITS FOOT IS FIELD, A CENTRAL SPOT FOR fOlRESS WHO WISH TO MAKE EXCURSIONS AMONGST THE SCENIC SPLENDORS OF THE MOUNTANS GOKD MOUNTSTEPHIN TAKES HIS TITLE FROM THE LOFTY PEAK. AT GOLDEN, NEAR flein. Thl:RE is a modei swiss village with Characteristic chalets

IN WIILCII IINE SIVISS GUIDES SPECIALLY BROUGHT FROM EUROPE
In ASSIST TOURISTS IN THE ROCkY MOUNTAINS
noted for its purity of air, its freedom from malaria and an almost total absence of cetremes of heat and cold.

Prank leigh in his book, "Through the Hear of Canada," Writes: "The transition from the rolling sea of fertile lands to the se:a of mountains, is dramatic in the extreme. From the foothills of the Rockies ar Calgary to the mouth of the Fraser Can-
yon the splendid trains of the Canalian Pacific Railway curve to the tune the rivers have set, along the circuitous Bow, aiong the turbulent Kicking Horse, along and across the broad-breasted Columbia, aong the glacial waters of the Illecillewaet, aiong the blue-green Thompson, until its idertity is lost in the yellow Fraser."

The Rockies are visible before Calary

## THE CHALLENGE OF THE MOUNTAINS



THIS IS A SCENE NEAR THE GREAT DIVIDE IN THE ROCKIES. IT SHOWS A PARTY OF MOUNTMNA:AS AT LAKE HECTOR
is reached. Mightier and mightier they appear until the Gap, which is the eastern entrance to this mountain world, is reached. Here the track takes a sharp turn and on either side loom skywards the glorious peaks, and the passenger realizes that he has reached Nature's wonderland.

Banff, for romantic situation, stands perhaps unrivalled in America. In its rockribbed enclosure it is comparatively free from the high winds and dust storms so
common in some other resorts at certain seasons.

Located on the south bank of the Bow River, near the mouth of the Spray, a wonderful site of remarkably beauty, is the Banff Springs Hotel of the Canadian Pacific Hotel System. The refinement of its appointments, and the completeness of detail marking the whole establishment, makes this splendid hotel rank among the finest hotels to be found anywhere.

## THE CHALLENGE OF THE MOUNTAINS



TIIE BOW RIVER ANI BANFF SPRINGS HOTEL, ON THE BORDERS OF BRITISH COLUMBLA. THE IMMENSITY of the mountains dwarfs the hotel, and makes it look like a palace in lilliput


CHATEIL" AT IAKE IOCLSE, THE "l.AKE IN THE CLOUDS", NEAR LAGGAN. THIS IS ONE OF T." ACCOMMODATIOSS OF THE CANADIAN PACIFIC RALLWAY FOR THE TOURIST WHO

## THE CHALLENGE OF THE MOUNTAINS


 peak falls a trophy ro their belirgy and metitrrist


LAKES IN THE CIOUDS, LAGGAN, AMERTA, ON THE BORDERS OF BRITLSH COHUMBHA ONE OF THESE, MIRROR IAKE, HAS NO VISIBIE OUTLET, ITS WAT:RS ESCADING THROUGII AS UNDERGROUND CHANNEI INTO LAKF, IOULS!, J,OOO FEET BE:OW

## THE CHALLENGE OF THE MOUNTAINS



SWIMMING in THE WATERS of the Hot Springs is a favorite amusement at banff


Ghacier, showing the vilabee, the canadian pacific rallway station, and in the distance the

## THE CHALLENGE OF THE MOUNTAINS



THE CANADIAN PACIFIC HOTEL, BANFF. THIS IS THE HEADQUARTERS FOR MANY DH:ICHTHUG, TRIPS into THE ROCKIES, AND ONE OF THE MOST POPULAR HOIMDIY RESORTS IN CANAD.I


INDIANS HORSE-RACING AT bANFF, THE "NOBLE REDMAN" IS HERE SEEN IN SURROUNDINGS WHICH ARE MORE REMINISCENT OF HIS SAYAGE DAYS THAN THE RESERVATIONS NEAR THE CITIES AND TOWNS THAT HAVE SPRUNG UP ALL OVER HIS FORMER HUNTING GROUNDS

## THE CHALLENGE OF THE MOUNTAINS



## Prince Rupert

THE PACIFIC PORT OF THE GRAND TRUNK PACIFIC RAILWAI

PRINCE Rupert is the new city now being built on the northern British Columbia Coast. There have been acquired in the interest of the railway company twenty-four thousand acres of land at Prince Rupert and vicinity for the purpose of the townsite and the development of the port, a one-quarter interest of which belongs to the province of British Columbia, which is therefore jointly interested with the railway company in the development of this new seaport.

The first subdivision of the townsite covers an area of about two thousand acres.

Prince Rupert is situated 550 miles north of Vancouver and forty miles south of the Alaskan Boundary. It is in the same latitude as London, and has a climate the mean temperature of which is about the same as that of the metropolis of the British Isles.

The selection of the Pacific Coast terminus was one of the most important tasks with which the builders of this national highway had to do. The entire north coast was searched, and every harbor sounded before a final decision was made. The very satisfactory result is that the future metropolis of the north coast will look out upon a harbor that is all that could be hoped for. Although practically landlocked, it has a mile-wide channel, and is sulficient in size to shelter all the ships that are likely to come to it, great as are the possibilities of this new port.

Because Prince Rupert is at the end of the line, and the nearest port to Japan and the East; because it is on the shortest line from Liverpool to Yokohama, the shortest route around the world, it is bound to lie on the All Red Route. The city was planned in advance of any building, and nothing was overlooked which would add to the beauty and symmetry of this city to be.

Under the usual conditions of Crown

Grants one-quarter of all the land reverts to the prowince, as also one-guarter of the waterfront after the townsite has been laid out.

Probably never before has there been so much money and time expended in the planning of a new city as has beon devoted to the preliminary work at Prince Rupert, not only by the ailway company, but by the Dominion and Provincial Governments as well. This work was commenced in May, 1906, when the company's staff of engineers made a landing and clearing for the location of their camp preparatory to making the preliminary survey, after which time the work of surveying and clearing was carried on continuously until a complete topographical survey was made of all lands comprised in the townsite covering an area of 2,000 acres, and great care was taken with this work on accome of the important bearing it would have upon the final haying out of streets, ete.

The Dominion (Govemment Hydrograbpic Surver has made a complete sursey of Prince Rupert Harbor and approaches, which shows that the entire harbor from the entrance to the extreme end of the upper harbor, a distame of it miles, is centirely free from rocks or obstructions of any kind and of a suflicient depth to afford erood anchorare

The entrance is perfectly straisht, $2,(6 n)$ fect in width at the narrowest part with a minimum depth is so feet at low tide. and for a width of 1.50 fert the minimum depth is (o) teet. The British Suree Ship "Egeria." which made the surser of the outer approaches to the harbor. reported a splendid entrance through Brown's Pasage.

Mesirs. Brett © Hall, of Bostom, Mass.. were secured by the railway company w hay out the townsite. They have provided a plan which is eminently satisfactory and will ensure a practical development while preserving for the future city splendid opportunitics for parks, for municipal im-

graferal vew of harbor and townsite-prince rupert


STEEI, ON THE DOCKS AT PRINCE RUPERT FOR GRAND TRUNK PACHIC CONSHRUCIION
provements, and for architectural embellishment. It is believed by many who have studied this plan that Prince Rupert will be one of the most beautiful citics on the American Continent.

Two hundred thousand dollars were appropriated by the Provincial Government of British Columbia for preliminary improvements, which amount was expended in the construction of plank sidewalks and roadways, sewers and water mains, before the opening of the townsite, so that, unlike most new towns, ample provision was made in adrance for the sanitary welfare and comfort of a population of at least ten thousand people, as well as providing other accommodations which would be required until the population should have sufficiently increased to warrant the construction of extensions of these facilities.

U'pon the completion of the Grand Trunk Pacific Railway, the fishing industry at Prince Rupert and vicinity, which is now in its infancy, will be one of the greatest in the world, and will furnish employment, not only to the railway company and its employees, but to hundreds of fishermen and laborers who must necessarily establish their homes at Prince Rupert. At the present time, a large company is arraneing to engage in this industry, with headquarters at Prince Rupert.

The camned salmon industry ranks among the leading industries of this commtry, but, in the last few years, cold-storage plants have been installed, with excelleme results, and, by the time the (Brand Trounk Pacific Ralway is completed, refrigerators will hold and refrigerator cars will carry and deliver this, the king of bish foods. to the tables of the people of the United States and Comada in the East as well as the West, and, in fact, the markets of the world.
A license has been granted to mablish a whating station within a few miles of Prince Rupert, which will be am important industry and feeder to the new city, as it hats been found that more whakes abomend and have been taken in the waters off the coast of British Columbia, during the time the whaling stations have been in operation. than in any other waters of the world. In fact, during the winter months, whales abound in the waters of Prince Rupert harbor: these, with all other fish industries. including cod, herring, and oolachan, now only in their infancy are capable of immense growth and adrancement and will be a great factor, mot only in the building up of this city, but as a source of hucrative emplonment to the fisthermen, merchants. steambeat owners, laborers, and others who will purchase, rent, and have their homes


IIEW OF PRINCE RUPERT FROM OPPOSITE SHORE


PRINCE RUPIERT NN
in Prince Rupert. The value of these fisheries lying at the gateway of this, one of the finest harbors in the world, cannot be istimated.

The timber industry of this part of the country is also in its infancy, and, within a radius of one hundred miles, much good spruce, hemlock, and cedar are to be found. At the present time, a large steam saw-mill, costing $\$ 200,000$, located at Prince Rupert, and a water-power mill some few miles distant, are supplying the local markets at most reasonable prices. It is safe to say that the forests within this radius will produce timber enough to supply twenty-five mills with all the timber they can cut and market for the next twenty years.

Unless one is conversant with the development of the Pacific Coast, has seen its seaports grow, particularly Victoria, Sancouver, Tacoma, Seattle, Portland, San Francisco, and Los Angeles, to say nothing of some of the smaller ones, such as Bellingham, Everett, Aberdeen, Astoria, San Pedro, and San Diego, and has watched the commerce and shipping expand year by year, until the figures of each of the larger ones are simply astounding, one cannot fully realize the possibilities and probabilities of Prince Rupert, which has an em-
pire in itself tributary to it. What were Yancouver, Scattle, 'liacoma, Portland, and Los Angeles fiftern years ago? Some of them were hardly on the map. Look at them today-ach a splendid example of what energy, brains, and mones can and will do in the Golden West, and who can predict what Prince Rupert will be in the next fifteen or twenty years, or even in five or ten jears?

At the present time, nearly every line of business is represented, and mention can be made of only a few of them. A wholesale dry-goods house has been built and doing business for the past eighteen months; there are three daily and weekly news-papers-"Ihe Optimist," "The Empire," and "The Journal." There are a number of grocery stores and several carrying stocks of general merchandise, two hardware, two gents' furnishings, one or two furniture, and numerous fruit and cigar stores. A Board of Trade has been organized, and branches of the Canadian Bank of Commerce and the Union Bank of Canada have also been opened. A wholesale and retail meat and provision store has been doing business for over a year. There are two good hotels, the "Prince Rupert Inn" and "Annex," which belong to the Grand

Trunk Pacific Railway Company, with first-class accommodations, in addition to which there are numerous other hotels, lodging-houses, and restaurants.

The Provincial Government is making Prince Rupert its headquarters for the northern part of the province, and substantial buildings for its officers, court house and jail have been constructed. The Dominion Government is also making preparations for the erection of permanent and substantial Custom House and Post Office buildings and has under construction at the present time a Quarantine Station at the entrance to the harbor as well as a Wircless Telegraph Station. A large and commodious public school building has just been completed where competent teachers are in charge.

There is an abundant supply of fresh wattr from mountain streams and lakes having a sufficient flow for a population of more than one hundred thousand people.

Prince Rupert is also on the route of the celebrated "Sail up the Sound" which, for wild grandeur, excels almost anything to be found in the world from the deck of a seagoing ship, while the trains of the Grand 'Trunk Pacific Railway will traverse some of the finest scenery to be found on the American Continent. From the wooded lake-lands of Quebec and Ontario, across the wide and fertile fields of the Prairie provinces, by the banks of the mighty rivers of the North, through Yellowhead Pass, through deep, dark canyons, where in midsummer, from beneath the north windows oi a west-bound train, will come the sweet Pragrance of wild roses, while from the south windows, the traveler can look out upon a glinting glacier whose cold shroud trails to the margin of the mountain stream, along the banks of which the trains will travel over this short cut across Canada. And this same train will take the traveler hy the base of Mt. Robson, said to be the highest mountain in the Dominion.

And ower these rails, and down to Prince Rupert, will flow the commerce of all that new West, bound for the East by the Western way, as surely as the waters of the Pacific slope flow into the Pacific Ocean: but this commercial water-shed will extend hundreds of miles further east than the natural water-shed extends. The mineral wealth of all that vast mountain region,
the forest products, the coal, the copper and iron ore of Northern British Columbia and the Yukon, as well as the food products of the Prairie provinces, and the fish and fur of the far North-in short, all the export wealth of that resourceful region, westbound, must find its outlet to the sea at Prince Rupert.

Prince Rupert is surrounded by a country whose natural resources are more rich and varied than those of any other country known to the present generation. And her sphere is ever widening, her natural trade zone is daily being extended north and still further north.

It is but a little over half a century since a Congressional Commission, sitting in Chicago, declared that the State of IIlinois marked the Northern limit of the profitable wheat growing area of this continent. In spite of this the little pink bread-berry spread north and west to Minnesota, the Dakotas, crawled up the Red River of the North, to Portage Plains, spread over Saskatchewan to Alberta where the miller came into competition with the flour of the Peace River, and where, not having heard of the Chicago Commission, men had been sowing and reaping for a generation or more.

Every traveler and explorer who goes into the far North comes out with new stories of that much maligned land until their song of praise swells into a sublime chorus, compelling us by the more preponderance of evidence to listen and to learn.

Only the other day, before the Royal Geographical Society in London, I!r. A. Harrison told some startling stories of the Northwest. He had been in search of an Arctic continent but had traveled ar the most part through a land of green fields and running brooks. The fields wer unfenced and "far flung" to be suri" but wherever he found a Hudson's Ba! ?ost, a mission, or the habitation of man, there he found vegetables "such as are grown in one's garden at home," wheat and la ley, marsh grass on the moorlands, and anch grass on the plateaus. He found muci raluable timber and endless indications o: val and oil. He suggests a railway from Fdmonton north to the Athabasca, ar: her from Prince Rupert to Fort McMur ray, and a third to the Peace River, which w...nid

open a waterway 600 miles to Great Slave Lake.

From Fort Providence to the (Arctic) Red River (Lat. 67 deg. 26 min., long. 134 deg. 4 min .), a distance of 900 miles, Mr. Harrison found the navigation exceedingly simple and the whole stretch of country thus irrigated, he found "full of vegetation." "It will, in my opinion," he said, "one day be settled."

Another feature in favor of Prince Rupert is the great saving of time affected by the northerly route. The distance from Liverpool to Yokohama by this route is 10,031 miles, as against 10,829 miles via New York and San Francisco. Moreover, ships sailing from Prince Rupert pass, with a few strokes from the landlocked harbor to the high seas and begin their journey across the Pacific 500 miles nearer the East than a ship would be sailing at the same time from another Pacific port.

As an illustration of the advantage in distance which will be realized via the Grand Trunk Pacific route, it has been estimated that a traveler from China, Japan or Alaska may board a passenger train on the Grand Trunk Pacific Railway at Prince Rupert and be in Winnipeg within a few hours of the time the steamer from which he discmbarked could reach Vancouver. In addition to the shorter distance across the Pacific Ocean will be the much faster time that can be made by rail over the practically level grades of four-tenths of one per cent. thic Grand Trunk Pacific has obtained through the mountains, which will enabie trains to be moved at the rate of two miles for every one mile over the heavier grades of more than two per cent. on other railways.

Because it has been held back; because settlers were not suffered to rush in before there was need of settlement, to scuffle and scramble and squat in picturesque con-
fusion, Prince Rupert is building up rapidly. Unlike an oil-town or a mining camp, its stability, its future is, by reason of the railway, and the richness of the surrounding country, already assured.

The Grand Trunk Pacific Coast Steamship Company, Limited, placed in service in June, 1910, between Seattle, Victoria, Vancouver and Prince Rupert, the handsome new twin-screw steamships "Prince Rupert" and "Prince George," which were specially constructed for this service and are the finest and most luxurious steamships in the North Pacific service, containing all the latest improvements for the comfort of passengers. They provide a biweekly service between Prince Rupert and Puget Sound. There are also other lines of steamers between Prince Rupert and Vancouver so that there are almost daily sailings between these ports.

Prince Rupert has many advantages. It has a mild climate. It is new and attractive. It is to be a model city in every sense of the word. It guards what is said to be the finest natural harbor on the Coast, if not in the world. It is the terminal town of a trans-continental railway, which bids fair to surpass anything ever attempted in the way of railway construction on this continent, crossing from ocean to ocean without a single mile of mountain grade, or grade that can, by any stretch of imagination, be considered an obstacle to the economical operation of the road.

To this new port will come the ships of the Seven Seas. Ships of the east, laden with silk and rice, will soon be riding at anchor in this splendid harbor, to sail away laden with lumber; ships from the West with the wares of the West; ships from: the shores of far-off continents trading through the new and picturesque port of Prince Rupert.


## The Man Who "Saws Wood" for Canada



THE HONORABLE GEORGE EULAS FOSTER, Minister of 'lrade and Commerce in the Borden Cabinet, is one of the most interesting personalitics: in the Dominion. In the first place he is without doubt the orator of the Horse of Commons, and in the second place he knows just when to orate and what he is orating about. Before entering upon a political career he was a schoolmaster, and there are those who say that he still suggests the pedagogue by his manner, and mode of speaking. Since 1882, Mr. Foster has been a factor to be reckoned with in Canadian politics. He has been a minister in several administrations since he took office as Minister of Marine and Fisheries and Minister of Finance under Sir John Macdonald. His predecessor in the office of Minister of Trade and Commerce declared it a sinceure, hut Mr. Foster has already demonstrated that it is an important department of the Dominion Government.

Better trade relations with the Mother-country, the West Indies, Australia and other parts of the Empire have become live issues since Mr. Foster took the matter in hand, and no Canadian, no matter what his political views may be, can begrudge him the right to be considered a valuable asset to this country.

Mr. Foster, unlike most successful politicians both here and south of the border, is very diffident about mixing with "the boys" in moments of relaxation. He dows rot "play when he is out of school," and he has been known to express regret that his temperament has created for him a reputation for "aloofness" which is more apparent than real. One well-known humorist, at least, has given him advice on the point. "George," he said, "trim your whiskers and get drunk now and then."

Taken in a Pickwickian sense this might prove the very solution that Mr. Foster is looking for. Mr. Foster will soon pass through this Province on his way to Australia, and when he comes it is hoped that he will spend some time in Vancouver, :o that we can show him that a statesman who "saws wood" is appreciated by all good Camadians in the West.

## Vancouver Cadets in Australia



WE herewith reproduce photographs of Sydney, the capital of New South Wales, showing the waterfront and harbor and a glimpse of the famous Botanical Gardens overlooking the finest harbor in the world. Sydney had a population of over 630,000 in 1910. New South Wales has a population of $1,700,000$, and an area of 310,372 square miles. The area of British Columbia is 395,000 square miles, with a total population not much more than half that of Sydney. Every man and woman in New South Wales over twenty-one has a vote. Ninetyseven and one-half per cent. of the people are of British extraction. The climate resembles that of Southern France and Italy. In 1909 the industries of New South Wales produced $\$ 294,780,000$. In 1910 her overseas trade amounted to $\$ 276,037,220$, of which over $\$ 160,000,000$ were exports. In 1910 Canada bought $\$ 384,330$ worth from New South Wales and sent her five times as much. New South Wales was first settled in 1788 . Gold was discovered in $18+2$. The Torrens system of land registration is in force. When a person dies intestate, owning land, it is divided amongst his next of kin instead of descending to his heir. Indigent persons over sixty-five who have resided in the state for twenty-five years continuously receive a state pension of $\$ 2.50$ a week. School children are allowed to travel free by rail to the nearest school. Sydney has four large graving docks, five floating docks and four patent slips. Twenty-four million passengers were carried by the Sydney harbor ferries in 1910 .


# The Smuggler’s Curse 

By ALFRED HUSTWICK

Drawings by Graham Hyde
Oh! the muse and the booze and the talk How free, So I'll sing you a song of the bounding sea. (Yo-ho! for the bounding sea.)
l'll sing you the ballad of the smuggler's curse, With a dipsey burden in every verse.
(Yo-ho! for the smuggler's curse.)
Now Marlinspike Dave was a smuggle brave, And he was the skipper of the "Ocean Wave." (Yo-ho! and a bucket of suds.) A better sailor never trod poop Of a finer, faster or stauncher sloop. (Yo-ho! and a bucket of suds.)


Marlinspike Dave, with an angry frown,
On the poop of the sloop paced up and down.
(Yo-ho! and a bucket of suds.)
The breeze was light and he wished for a gale, For a strange ship showed on the weather rail. (Yo-ho! and a bucket of suds.)

It was plain to him that the sloop was chased,
And he cursed his luck as the poop he paced.
(Yo-ho! and a bucket of suds.)
He cursed at the sky and the bounding sea,
And he cursed at the whole ship's company.
(Yo-ho! and a bucket of suds.)
For cursing to Dạe didn't seem a vice,
And he never employed the same words twice.
(Yo-ho! and a bucket of suds.)
He strove of the practice an art to make,
And he cursed things chiefly for cursing's sake.
(Yo-ho! and a bucket of suds.)

He checked for a second his angry stride, And he kicked the ship's cat over the side. (Yo-ho! and a bucket of suds.)
He cursed at the mate as he turned again, And he cursed each link in the anchor chain. (Yo-ho! and a bucket of suds.)

He cursed at the rigging, he cursed the sails,
He cursed at the decks and he cursed the rails.
(Yo-ho! and a bucket of suds.)
He cursed at the cutter which chased him, and
He cursed at his cargo of contraband.
(Yo-ho! and a bucket of suds.)

He cursed them in German and Japanese,
In Arabic, English and Portuguese.
(Yo-ho! and a bucket of suds.)
He cursed in a dozen different tongues,
Till his breath gave out, then he cursed his lungs.
(Yo-ho! and a bucket of suds.)


Oh! faster and faster his curses flew
Till the atmosphere turned to Prussian blue
(Yo-ho! and a bucket of suds.)
And a great, thick wall of profanity
Rolled out, like a fog, o'er the bounding sea
(Yo-ho! and a bucket of suds.)

When his voice was gone, in the alphabet
Of the deaf and dumb he was cursing yet.
(Yo-ho! and a bucket of suds.)
Till a mist enveloped the other ship
And the "Ocean Wave" gave her the slip.
(Yo-ho! and a bucket of suds.)

## SCENES ON VANCOUVER ISLAND



FIRST RYE CROP IN MAY—VANCOUYER ISIAND FARMING






[^1]

# In the Indian Past 

RAPIDLY VANISHING INDIAN LORE

By O. B. Anderson


#### Abstract

Emrors Nore-The following interesting article and drawings have been specially prepared for ut by Mr. O. B. Anderson. For two years Mr. Anderson lived at Port Simpson as a misitonary among the Timpshean Indians, and for another whole yeat was engaged in feaching, During this time he made a careful study of the Indians and their tribal customs and folklore. He made very exhaustive notes and his records of the ancient Indian mysteries are prohably the mote extensive and complete in existence. All the drawings art copies of achual dengns that came under Mr. Anderson's petsonal notice. The Indians never draw in the syle which we know as freehand. They use the old bark forms and elaborate their designs by laying these forms on bide, or woven material, and tracing them in outline. These forms are very yaluable and are handed down from generation to generation. As the modern Indian is loulag his old chatacteristics by coming into contact more and more with the white man it in probable that in another generation very few of them will possess or understand the meaning of hese curioun relics of their ancestors.


I$N$ the redman's long ago, so the old shimoigets (Tsimpshean chiefs) tell us, Indian life was alim ahm (very good indeed). Deep down in the bosom of the unsophisticated Indian patriarch, there lives this unswerving allegiance to the ancient fetishism of his fathers, which no sacrificial missionary effort can ever whally eradicate. It is there to stay. Irresistibly he harks back to the clinging shadow of a half-forgotten or unknown past.

We may find him some fine day squatting in the hot sun on a long stretch of parched sea-beach chanting a dolorous monotone to the wash of the ripples which break gently at his feet. His head is bowed; his aged frame shaking. He is moving again annong his tribesmen as one of the bravest chieftains out of a thousand long gonc to the happy hunting ground. Utterly lost in the romantic past, be lives over the days full of fighting, fishing, painting wandering grotesque totem carving-the days when the glamor of alheid (Indian deviltry) was potent; when shamens (Indian medicinemen) with their bone and wooden rattles, shoot soundness into the limbs of sick men or by their weird incantations sent straying far away the souls oi bad men. In fancy he revels again in the solemn orgies of the dogetaters and the human-eaters-dances again in the red fire-light of the long winter feasts or lies on the green sward at nighttime under the dome of a summer sky
listening to the whisperings of Shimoiget ga Lahagn (God) the great Spirit-Chiei of the Above, who spoke to the redmen from the stars, from the trees and winds and waters, revealing many secrets.

I had been a missionary among the Tsimpsheans for about a ycar, when one day I talked long with Comx Clah, a renowned old Indian chief, about the traditions, superstitions and fetish practices of his early tribesmen. He proved to be full of native lore, but a real Indian in that he was unwilling to talk about it.

I asked him why the older Tsimpsheans had not a deeper desire to forget all the bad past forever.
"I cannor tell," he answered simply, and then added: "Indian man not live like white man because he want to, but only tecause Indian man think maybe white man's way is right."

I opened my sketch book and showed him drawings that I had made of totems and war canoes, and various mative designs imitated with infinite pains. This confidence picased him. I besought him then to explain to me the meaning of some of the more hideous designs-to tell me how at first such figures came to be wrought ont on wooden surfaces and skiss or woven into mats of beaten bark.

His face lit up. He leaned thoughtfully upon his tall walking staff, the end of which was buried deeply in the sand. A
strange gleam kindled in the dim old eyes. A legend was forthcoming.
"Long, long time ago," he began softly, "maybe long before any white man in world-long before Tsimpshean viliages came-when only few of our people lived here first of all, a great young chief-died-"

His voice grew stronger and clearer as his story grew, telling me how the spirit of the young chief appeared one night, rudely awakening the widowed squaw out of her sleep. The spirit bade her hie quickly to the forest and gather an armful of fresh young cedar bark. Out of this she was to cut certain reniform, spherical and other shapes which he had outlined on the wall in her absence. Then the spirit took the bark forms, about forty in all, bent over them and placed them together in many ways upon a large deer hide, chanting softly to himself all the while. With a brittle piece of charcoal he quickly made many outlines of designs, explaining each to his widow, by his weird song. When the morning dawned he vanished. In honor of this early chief it has ever been the custom to weave such designs into mats and baskets, to paint them on skins and canoes, and to carve them upon totems or boxes. To this day, though the arrangement may vary greatly, no other forms appear in a Tsimpshean design except those given by that wonderful spirit.
"That young chief and me," concluded the old Indian pointing to himself with hizh pride, "we belong to same clan-we trlicums (relatives)."

As he ended his story Com. Clah ambled off to a canoc shanty standing near by. He beckoned me to follow. From a cache in the low roof he took a little bundle wrapped in buckskin.
"These the Indian patterns" he said, displaying the contents of his bundle on a patch of carthen flow fooded with sunlight.

The accompanying illustrations are a few reproductions from the pages of the author's sketch book. The notes in connection do not do them justice. In some cases very incomplete data could be obtained and in cuery case a good deal of the Indian romance is lackiner in the absence of the unique personality of the Indian himself, who by his attitude and expression more than supplies what may be lost through his broken English. Unfortunately the young


Figure $\mathbf{x}$
generation who may have mastered English. perfectly are most ignorant of ancient lore.

Figure I represents the whale. This conventional design has been found on food boxes, variously painted and carved to the taste of the craftsman. The significance of the design depends largely on its position in the entire decoration and in the arrangement of the colors, if it is painted. As seen by the author it was placed at the very bottom of one side of a high food box, with two raven eyes above the hollow of the whale's back. The main lines appeared in black, the cross hatching and spotting in green, and the arrows, fins and spout in red. The design was said to read thus:
"I am a great chief of the whale crest, and this is my food box, which shall always be full. So full will it be that should a strong whale be concealed in its bottom, the weight of the food always resting above him, will make him spew out all that is inside (hence the arrows in the open mouth). I fish in the nighttime and slecp in the daytime upon green grass. Atove are the criss-cross branches to shade me (indicated by the cross hatching). Around me good spirits are hovering in kindnces. and I paint this great picture for the spirits to look at when no danger is near me."

Figure 2 is a conventional design used in the remote past to decorate root woven


Figure 2
hats, dancing gear and native blankets. The colors again appeared in red, green and black, and could be arranged in harmony with the thought that was to be expressed. Red standing alone would suggest warmth of affection; if rimmed with black, fiery indignation. Black standing by itself suggested night; if dotted with red, trouble; if surrounded by green, death or decay. Green was usually the symbol of growth or enlargement, when not in contact with any other color. The design is said to have been suggested by a crosssection of a salmon head, the wing-like appendages being a combination of fins added to emphasize the significance of the head. The design standing out in plain black, just as we see it in the illustration, would read: "Everything seems like night. Just as the salmon exist in silence and


Figure 3
darkness, but yet are alive (with their mouths open), so are we of the salmon clan. We cannot see our way, but we are not asleep. What we say is true (hence the wings), but it will not always be so."

Figure 3 represents halibut eyes. Here we see the fish eye design shorn of the wing-like appendages. On boxes and skins it seems to have been regarded as an especially good figure, but on native mats less desirable. As in Figure 2, the meaning of the design is clear only when we have the coloring before us and note the position of the eyes in the entire decoration.

Figure 4 is a rough drawing of a native woed basket such as the North Pacific Coast


Figure 4

Indians used long before the Hudson's Bay Company were on the ground to supply them with the more modern metal cooking utensils. This basket took the place of our up-to-date stew kettle and was used in boiling soups and in the preparation of various entrees. It was fashioned by scooping out a single piece of wood. It might be over two feet long by more than a foot and a half wide. As it could not be placed over the fire an ingenious means was cmployed to heat the contents. Smooth round stones were made hot in the embers of the family fire, and dropped by twos and threes into the partially-filled vessel. Thus a vigorous bubbling was effected and at the same time a smoky savour was infused into the food, which was thought most desirade in these particular dishes. The figure on the front of the basket represents the face of an honored chicf. The rigzag and other lines on the sides were intended to distract evil spirits, who might be inclined to poison the contents by casting a malignant spell over it. The holes in the handles were not placed there for the fingers in lifting the basket, as might readily be supposed, but were hollowed out for the convenience of good spirits, who were thought to be desirous of perching in some secluded place very near, to inhale the rich aroma rising from the hot food.


Figure 5
Figure 5 represents another type of feod dish. Like the first it was wrought from a single piece of wood. Being shallow it was used more particularly to warm up foods or to keep them hot after they had been prepared by heating in the decper dishes. Sand and hot stones were placed underneath and a light slab of bark laid over the dish to serve as a cover. The design in this instance is again of somewhat uncertain significance. It consists of a pair of "slecping cyes" on the sides and one "half-slecping (drowsy) eye" on the ends.

Since there is only one time when a live Indian may not eat, namely, when he is asleep, some have tried to make the design suggest limited rations. Then it might read to those around the board, something like this: "Help yourselves very sparingly, my friends, just as though you were already full and about to sleep." If this were the case the dish could only be used at times of straitened circumstances. When we remember, however, that such a suggestion would constitute an insult never to be forgotten by an Indian we are ready to put the more likely construction upon the design and read it as the greater number do: "Eat my good friends till you are so full that you cannot help sleeping."

ligure 6


Figure 8
the cross-hatching is that of the bear. Figure 8 represents the single eye of the beaver. Painted on boxes or skins it signifies an aggressive disposition in the owner.

Figure 9, the Indian adze and stone mallet. Here are two of the most useful implements in a native tool-kit. The forest and sea beach supply the crude raw materials. The blade of the adze is formed of a hard flintlike stone of a grayish green
Figure 6 shows a long boat-like food dish unadorned in any way. It was used especially in connection with dried foods, such as dulse, fish egges, dried salmon and halibut and shell-fish. When "pilot bread" was introduced into the Indians' diet by the Hudson's Bay Company this long wooden dish became at once a suitable receptacle.

Figures 7 and 8 are both conrentional designs again. The former represents the salmon just about to spawn. The ege over the cross-hatching is that of the raven; the eye to the right of


Figure 7


Figure 9
color. Probably many weary days of searching have revealed it at last among the unfrequented crags of a far-away forstfringed shore beyond treacherous waters. With infinite pains it has been properly shapec: and ground to an edge, then fastened to the well-seasoned hardwood crook with tough root fibres and doubly-strong native spun marsh twine. The India: atze is
employed in the finer work of scooping out canocs and large food boxes, in the carving of great totems to do honor to the dead and in the building of the well-known native house. The handle of the stone mallet is usually carved or painted-sometimes both. The one in the illustration is carved only. As the head of the wolf is represented here, we know that this mallet is of the kind that might serve the double purpose of a hammer for building or a weapon in battle.


Figure 10
Figure 10 is a drawing of a native halibut hook. The two pieces of wood are bound together at the end by root thongs. The bone spur is fastened in place likewise. The carving represents the raven with closed wings-a symbol of cunning. Figures carved thus on the great hooks are believed to aid greatly in catching the halibut.
Figure 11. Here is a sketch of a cedar bark device used by the Indian to bail water out of his canoe. It is made by gathering together the beaten ends of a strip of young cedar bark and tying them firmly together


Figure ${ }^{11}$
with roots. This forms a scoop. The bound ends are then brought upward and fastened to a stick of wood, as shown in the illustration; this serves as a handle. The Indian woman gathers the bark but the man executes the work of making.


Figure 12
Figure 12 is a drawing of an Indian cradle. It is a highly decorated type. The great face at the high end is the moon face. It assists the child that may repose in the cradle, to slumber peacefully. The smaller


Figure 13
face at the other end of the cradle is the wolf face. No danger can befall the sleep)ing inmate while this face guards so faithfully. The side decoration consists of various cyes and a few foot-marks so combined as to express tender wishes and a number of dates of births.

Figure 13 is another conventional design. It is made up of the salmon head and two wolf heads one on either side. The design has been found on food boxes and long narrow root baskets, and is said to tell a weird story about a beautiful Indian chicftainess of the salmon clan, who married a brave chief of the wolf clan. They


Figure $\mathrm{I}_{4}$
had been living happily together only a short time, when the young chief was treacherously murdered by his own brother, who immediately forced a marriage with the beautiful widow. Driven to despair by ill-usage, the woman threw herself into the sea one stormy night and was never heard of again, except through the spirits.

Figure 14 is an unusually elaborate design composed of the twin figures (hu-loimo shimoigatze), the raven face, crab legs and various other vague symbolism. The twin figures are properly fit adornment for a food box, since the only significance conceded to them is that of a double invitation to eat (fill onesclf full of food). The same figures, however, are found carved at the base of one of older totems in the southern borders of Alaska, and also painted ia bright colors on a chief's door, in a village on the west coast of Vancouver Island. The raven face, which constitutes the upper central portion of the design, signifies that the chicf in possession of the article on which the design was found, was of the raven crest and very rich in blankets, copper and green stone. The little heads under the fists of the twin figures give us to understand that two very powerful chiefs,
possibly of the eagle clan, have been completely subdued by the single daring of the chief of the raven clan. The crab eyes, bear eyes, copper representations and other symbols comprising the lower middle part of the design, speak volumes, but as explained before, must appear in colors before their meaning is at all clear. The colors used would be red, green, black and blue, the same rule holding good in regard to the significance of arrangement as in Figure 2.

Figure 15. When a canoe is in need of repairs or put by for any other reason, a rude roof is usually constructed over it, in some such way as shown in the accompanying sketch. Native bark-woven mats are thrown over this to keep the rain out. But it is often the case that the wind blows away the bark covering, and then all winter the canoe is more or less subject to the inclemency of the weather, in spite of the trouble taken at first. Owing to the long graceful prow and the pointed stern of the Indian canoe it cannot easily be overturned.

Figures 16 and 17 picture to us two hideous wooden dancing masks. The former represents the bear, the latter a hybrid of the wolf and eagle. They werc both


Figure $\mathrm{I}_{5}$


Figure 16
carved, and painted to produce a most gruesome effect by a young native craftsman. The following is the story told concerning them: A long time ago a strong man of the Hydah tribe was taken in war and made a slave to the Tsimpshean people. Always he wanted to go hunting but he was never allowed any great freedom, lest he might escape and return to his island home. One day, however, he succeeded in reaching the outskirts of the village, alone, and a friendly bear (who previous to this time had been a blue-bottle li:) crept quietly around the corner of a deserted long-house bordering the forest, and spoke thus to him:
"Good friend, you are now only a slave. Your people should have come over long ago and fought for your freedom. You are really one of their strong men. They have not done so. Therefore they must he punished. What can be worse than being only a slave! If you will come close to me and let me squecze you tight with my great paws, you will become a spirit. Then you can appear before your forgetful people with a big bear's face and wide-open human hands like wings. This will frighten them in their feasts and in their dances. They will then be punished."

The slave, willing to become a spirit, advanced. But before the bear had time to take hold of him, a fierce wolf (who had been hopping about in the form of a toad


Figure 17

When the big bear face appeared, he quickly put on the bear mask; when the wolfeagle face presently showed itself he masked himself with the second mask. So terrified was the spirit at his own hideous
likeness that he disappeared, never again to return. The two famous masks are guarded jealously by one of the early missionaries, who counts them among his most valuable curios.

## Editorial Comment

## THE GOVERNOR-GENERAL

THE approaching visit of the Duke of Connaught to British Columbia provides us with an opportunity for definitely fixing in our minds the relationship of a governor-general to the national life of Canada. A governor-general is sure to be welcomed and honored by us because by virtue of his office he represents whatever of national dignity, power and worth Canada possesses as a result of the patriotism, commonsense and rightmindedness of her citizens-no more and no less.

In acclaiming him we are indirectly setting the seal of our approval upon those of our fellow-citizens, past and present, who have done something worth while for this country as a whole. The labors of the Fathers of Confederation (one of whom, we are proud to note, is spending the evening of his days in this province-the veteran Sir Charles Tupper), as well as the labors of such men as Laurier and Borden, and others still with us, find expression through the office of the governor-general. When our cousins in New York recently honored the Duke of Connaught they were paying a tribute to the Canada which public-spirited citizens have built up and made a mighty nation.

It is inevitable that here and there are individuals amongst us whose mental development has been arrested and warped so that they cannot grasp this fact. They could not be patriotic if they tricd. Their cyes are turned inward so that they do not see Canada, British Columbia, or even the city in which they live. They see only themselves. These are the men who rush in where true Canadians fear to tread, and they humiliate only themselves by proposing "resolutions" that public funds should not be used for entertaining "royalty." Being self-centred they do not realize that
by withholding honor from the representative of their country they are publishing the fact that they themselves have never done anything for their country worthy of honor. These men supply the inequalities in human society, where they loudly claim only equality should exist. When these little men step up to the level of those who have by their patriotism and self-sacrifice made it possible for Canada to have a governor-general, all men will become more nearly equal.

Instead of carrying their own little private horizon about with them they should learn to look at the broad horizon of national life, the hindmost boundary of which is marked by the heroic labors of the Fathers of Confederation and those who preceded them in the task of laying the foundations of Canada, and the foremost boundary of which, the point towards which the eyes of all true Canadians are turned, is illumined by the rising sun of a glorious future of might, majesty, power and dominion.

The occasion of the visit of the governor-general-any governor-general-provides an acid test which these thoughtless citizens apply to themselves in the same reckless way that the untutored savage slashes his body with a knife for the good of his soul, and so demonstrate to us that they are not pure gold. The visit of the Duke of Connaught should remind us of the labors of those who made Canada a factor amongst the nations, and a growing influence for the good of our fellowmen throughout the world.

## EARL GREY ON THE LABOR UNREST

EARL Grey's recent presidential address to the Labor Co-partnership Association contains much material of much more than the usual speech-making value. It is a matter of interest to every Canadian when Lord Grey has anything to say on any public question. The wisdom and generosity of his public service in Canada, the warm and sympathetic appreciation he has shown toward us and our institutions during the whole period of his public service here from 1904-I9II, to say nothing of his larger and wider experience as an Imperial administrator, make it a matter of some moment when he advances an opinion on the subject of the national crisis.

The Daily Mail quotes from this presidential address some interesting selections. The first thing which would strike a disinterested observer in Lord Grey's attitude toward the labor problem is his willingness to face the facts in a thoroughly democratic spirit and with a broad outlook which entitle his words to profound consideration. He calls attention to the fact that since 1900, owing to the results of better education, the average standard of living has been considerably raised, and that while wages have risen only 3 per cent., the retail prices of food have risen 9.3 per cent. "Consequently," he says, "the manual workers find themselves in straitened, pinched, and most dis-
tressing circumstances
The problem before us is how to organize our industry on lines the fairness of which will be generally admitted. Fair play is the keynote of our British character, and I am satisfied if employers and employed are properly approached, that wherever a feeling of mutual sympathetic regard exists between them they will both be prepared to consider fairly, and to meet fully, each other's just requirements. This is the belief on which we build our hopes of the future greatness of this country. Remove this belief and the outlook is one of blackest gloom."

Lord Grey deplores the fact that labor and capital in the industries of today are organized, not in one, but in opposing camps, "with the object not so much of promoting the common well-being of all connected with industry as of securing whatever advantage can be obtained in the prosecution of their common industry for themselves. The members of each camp consequently regard each other with distrust and suspicion. The capitalist is inclined to give the minimum that is necessary to secure the labor which he requires, and the worker in return considers that all that should be required from him is the minimum of labor which will save him from dismissal.
"Then not only have we to consider the limiting effect on the efficiency of industry caused by the fact that capital and labor are ranged, not in one, but in opposing camps; but we have also to consider the effect on the attitude of the men towards the management caused by the growing tendency of the small business to be swallowed up by the large combine. In such cases, the old feeling of mutual affection, confidence, and esteem, which in the past bound together employer and employed, has been destroyed, and it must be obvious that unless we can adopt methods which will restore in a new and perhaps in a more satisfactory manner the old spirit, the efficiency of industry and the prosperity of the nation will both suffer."

In answer to the question of what is to be done, Lord Grey presents the answer of co-partnership, and as to the ideal of this he says it is a system under which worker and consumer shall share with capitalists in the profits of industry.
"Under our present system the whole of the surplus profits go to capital, and it is the object of capital to give the worker the least wage for which he will consent to work, and to charge the consumer the highest price he can be persuaded to give; conversely it is the object of labor to give as little as possible for the wage received.
"Now that is a system which cannot possibly satisfy the requirements of a civilized and well-organized society. What we want is a system which will safeguard the consumer, and also provide the worker with a natural, self-compelling inducement to help the industry with which he is connected. That system is provided by copartnership. Co-partnership insists that the workers have a right to participate in the net profits that may remain after capital has received its fixed reward. In a co-partnership business, just as the re-
ward of labor is fixed by the trade union rate of wages, so the reward of capital is fixed by the amount which it is necessary for the industry to give. That amount will vary correspondingly with the security of the risk attending the industry in question. If the industry is a safe one, it will be able to obtain the capital required by giving a small interest; if the industry is a risky one, it will be necessary to offer capital better terms.
"Then if there should be surplus profits available for division after labor has received its fixed rewards, namely, trade union rate of wages, and after capital has received its fixed reward, namely, the rate of interest agreed upon as the fair remuneration of capital; I say, if, after these two initial charges have been met, there should still be left surplus profits to distribute, that instead of their going exclusively to capital they should be distributed between labor and capital on some principle of equity."

Lord Grey proceeds to mention a number of cases illustrating the different phases of the co-partnership idea which have been attended by great economic success, and he comments upon them as follows:
"Now in these cases I have quoted, and I could refer to many others, a unity of interest is established between labor and capital, with the result that there is a general atmosphere of peace and of mutual brotherhood and goodwill.
"Capital receives the advantage of greater security. Labor is secured the highest rate of wage the industry can afford.
"Now what does the substitution of such conditions for the conditions generally prevailing today in England mean for our country? Who shall estimate the difference between the value of willing and unwilling service? The Board of Trade will tell you that a man paid by piece-work is generally from 30 to 50 per cent. more effective than a man paid by time.
"If the co-partnership principle, which is better than piece-work, because it tends to produce identity of interest between capital and labor, were to increase the efficiency of time-paid workers from 30 to 50 per cent., just think of the result, and yet the fact that copartnership might add from 30 to 50 per cent. to the efficiency of the worker is urged by many trade unionists as a reason against copartnership. They seem to fear that the result of making men copartners will be to cause them to give 25 per cent. better labor and to receive only 50 per cent. more wage. No system can be right which is based on the assumption that self-interest calls for a man to give his worst instead of his best. When I compare Canada with England I am struck by the fact that whereas Canada's greatest undeveloped asset is her natural resources, England's greatest undeveloped asset is her natural resources, England's greatest undeveloped asset is man himself. How to get each man to do his best is the problem before England today. It is because co-partnership harnesses to industry not only the muscle but the heart and the intelligence of the worker
that we are justified in regarding it with reverence and enthusiasm as the principle of the future."

The frank recognition of the situation and the keen desire for fair play for everybody concerned, the recognition of the claims of all, and the reprobation of class feeling and class struggle are all indications of those elements of mind and heart (for the time has not come that both these elements are not essential in Imperial statecraft) which show Lord Grey as a statesman of the first quality as well as the first magnitude.

There are capitalists in the British Empire and their parliamentary representatives (generally lawyers) who would have the Empire run as to its politics and its business by the capitalist. There are laborites who also have their representatives in Parliament who would have the Empire controlled by the workingman. In other words, we find in industry the same narrow partisanship which we find in politics, and we estimate the outcome in a legal enactment which may be considered a counting of noses or a resultant of forces. The attitude of the real statesman in anything like a national crisis, as that for example which is admittedly the cause of the vast national labor unrest, is to find if possible some broader outlook or some broader foundation than anything which can be offered by class trouble for the solution of our national problems. This broader outlook is the one which is given by Lord Grey. In it he upholds the finest traditions of the British aristocracy in its treatment of the working classes who have been under them, in marked distinction some times and not to the advantage of the industrial classes.

Earl Grey is the type of statesman we should like to see prime minister of Great Britain. He is a friend of the operatives of Great Britain.


## World Politics

# The Panama Canal and Its Relation to the British Empire 

By VaUGHaN CORNISH, D.Sc., F.R.G.S., F.G.S.

IN 1910, when I paid my third visit to the works of the Panama Canal, I was advised by the engineers to be there before May 1, 1912, in order to see the last of the excavations before the closing of the spillway, by which the waters of the Chagres River have hitherto escaped to the Atlantic Ocean.
Accordingly I sailed on March 27 last by the R.M.S.P. Oruba for Colon, and spent from April 15 to May 7 upon the works.

Sailing for England on the latter date, I only arrived at Southampton on May 3I, the ship having been accidentally detained. Thus I have had little time before the last mecting of the session on the inth inst. for the preparation of a written paper, the royage itself being sacred to the observation of waves. By the aid of lantern slides, prepared from photographs taken by myself last month, I shall, however, be able to explain viza voce the latest stage of the canal works.
The plan of the completed canal is as follows: First, the formation of a sheltered basin ia Limon Bay by means of one, and perhaps two, breakwaters. That from the fortified Toro Point on the west is nearing completion. The dredging of a channel, with a depth of forty feet of water from that depth in the Atlantic Ocean to the shore, and through the low swampy ground as far as Gatun. Here is a double flight of three locks, and abutting on their walls to the west an immense earthen dam which blocks the lower valley of the Chagres River. Through the centre of this great carthen mound is the concrete-lined spillway which is the controlling apparatus of the canal. The gates of this spillway were closed during my visit on April 30, and the waters of the Chagres and its tributaries are now rising behind its concrete wall and
flooding the low-lying country at the back, which will ultimately form Lake Gatun, a sheet of water which will cover more than 164 square miles. The final level of its surface will be +87 fect, that is to say, 87 feet above mean tide. I shall describe later the stages by which this level will be reached. For the present I am speaking of the finished canal. The three locks will raise vessels to this maximum height of eighty-seven fect and they will proceed under their own steam and at a good rate of speed across the broad waters of the lake for about twenty-two miles to Gamboa. From here to Pedro Miguel, a distance of of about eight miles, is a great artificial canon, the celebrated Culcbra Cut. At Pedro Miguel a single-flight lock, in duplicate, lowers the ship to the surface of the artificial lake of Miraflores, about a mile and a half in length, and fually a double flight of twin locks lowers the ship to the level of the Pacific Occan, and cight miles through low swamps and out to sea brings the vessel to deep water in the Pacific beyond the new port of Balboa, situated west of Panama. The Naos Island dyke protects this part of the canal from silting currents and connects the mainland with fortified islands. The total length from deep water in the Atlantic to deep water in the Pacific is about fifty miles. The Culcbra Cut is being got out to +40 feet, that is to say, 40 fect above mean tide. This gives a depth of forty-seven fect of fresh water when the lake is full at the end of the wet season, and it is intended to maintain a minimum depth of forty-one fect of fresh water in the cut throughout the dry seasen. The usable length of the locks is 1,000 feet, their width ino fect, and the minimum bottom width of the Culebra Cut will be 300 feet in the straight. The greater width
at the curves will allow even large ships to turn under their own steam.

So much for the canal as it is to be. I proceed to describe its present condition and the steps by which its completion will be attained.

At Gamboa the river Chagres first crosses the line of the canal. There is at present a dyke here, the summit of which is at +79 feet. The waters of the Chagres are being allowed to accumulate at the back of the spillway until a depth of fifty feet is reached, which will flood all the valley as far as this dyke and will raise the water against the dyke ten feet above the level of the bottom of the Culebra Cut, which it protects from flooding by the Chagres River. The water will be held at this level until the end of the dry season, 1913. Meanwhile the concrete dam of the spillway will be built up to +69 feet, and the gates fitted above so that the surface of the water can rise to its full height. As soon as the lake has risen to +79 , the height of the dyke, which it is calculated will be the case by August, 1913, the dyke will be dynamited and the water let into the cut.

Let us now see what has to be done meanwhile in the cut. Both ends are now down to the final depth of +40 feet. There is at the bottom a long, low mound three and a half miles long and twentyseven feet high in the middle, which still has to be shaved off; and the full width at the bottom is not yet excavated for some miles. The main part of the work, howcver, which has to be done is the removal of "top weight" from the sides of the cut. This is the crux of the whole matter. Originally the sides of the cut were got out as for a bottom width of 200 feet, but in the midst of the operations an administrative order was received by the Isthmian Canal Commission instructing them to make the bottom width of the canal 300 feet. The means which were adopted to meet this sudden change of plan were not so judicious as those relating to other problems which had been claborated with due forethought and carc. The commission endeavored to achieve the object by steepening the sides of the cut. Since then the slopes of the Culebra Cut have been in a continual state of disintegration and collapse. I saw the whole process at its worst in 1910. It is still going on, but with diminished intensity. The most disquieting
feature was, and to a diminished extent still is, the bulging of the bottom of the canal owing to the weight of the high and steep banks, which attain in one place an altitude of 494 feet above canal bottom. My recent visit was undertaken largely for the purpose of forming an independent judgment as to whether the difficulties of these peculiar landslides, for which I propose the term "isostatic landslides," can be overcome by the date officially stated for the opening of the canal. The whole subject of landslides, isostatic and otherwise, is complex and difficult; and although of the very greatest interest I feel that its adequate treatment would be out of place in a paper for this institute, it being purely a matter of physical science. I therefore content myself here with the following statement, namely, that in the course of three weeks on the spot I carefully examined and estimated the difficulties of completing the Panama Canal, particularly those due to the phenomenon for which I propose the name of isostatic landslides in the Culebra Cut. I also studied the means which the commission possesses for coping with these difficulties; and, having had nearly six years' experience of the progress of Panama, it is my opinion that in the hands of the chief engineer, Col. G. W. Goethals, U.S.A., the difficulties will be so far surmounted that there will be a practicable waterway for ships some time during the autumn of 1913.

I will ask the reader to carry his mind back for a moment to the position of the dyke at Gamboa at the northern end of the cut, in order to follow the further stages by which this end will be achieved. The water of Lake Gatun having risen, as I have said, to +79 by August, 1913, and the dyke having been dynamited, the cut will be filled to a depth of thirty-nine feet. Meanwhile the spillway at Miraflores and the Pedro Miguel dam will have been completed. Dredgers will be brought from the Pacific, particularly the large dredger sent out from Scotland via Cape Horn, through the Miraflores and Pedro Miguel locks and will finish up any further excavation which is required in the Culebra Cut. As soon as the water is in, a ship will be passed through as experiment.

I draw attention to the circumstance that the confusion as to the dates assigned for the opening of the canal is largely due
to the fact that it is required for military as well as commercial purposes. The canal will be commercially usable before it is "finished"; for it is a military canal and will not be "finished" until it can fulfil the military purposes for which it is being constructed, which are the continuous and expeditious transportation of the whole of the United States fleet, with or without a number of large transports. For this the waterway must be cleared of, and safe from, obstructions, the machinery must be tuned-up to concert pitch, and the operating staff organized and trained to work the whole thing with clockwork-like precision. The canal will not be declared "open" until it is finished in the military sense, hence the confusing discrepancy of dates. The autumn of 1913 will be an experimental stage, scarcely suitable perhaps for passenger ships which cannot brook delay. 1914 will be a year of commercial use, during which all the traffic which comes along will be efficiently handled, though perhaps at times somewhat slowly. From January 1, 1915, the day of official opening, everything should work with promptness and précision.
A singular piece of work will have to be done when the level of the waters of Lake Gatun have risen to +80 feet. Materials will then be taken in vessels far away into the recesses of the tropical forest on the upper waters of the river Trinidad. Here there is a low saddle in the hills, Cano saddle, the crest of which is at +87 and by which the waters of the lake might escape to the Atlantic Ocean. Here a dyke 150 fect long will be built up to a height of +105 feet, which is the height finally decided upon for the summit of the Gatun dam.
It will not be necessary for me to repeat here the story, which has been now so often told both by others and myself, of the complete stamping out of yellow fever in Panama, but for which the canal would probably not have been made. I will, however, mention some of the latest researches which have been carried out on the Isthmus in regard to malarial fever. The distance which mosquitoes fly is a very important feature in deciding upon means of prevention, and one very difficult to estimate. The sanitary department, having hatched the larvar of anopheles albamanus, stained the adults and let them fly. It was found that
many flew 1,000 yards against a light breeze, and some as much as a mile. It has been found, however, that where breeding places cannot be done away with over a sufficient area much can be done to reduce the malarial rate by catching quickly the mosquitoes which enter the dwelling house. The importance of promptitude arises from the fact that every anapheles mosquito is harmless when she first comes from the forest. To facilitate catching, a low roof and light-colored walls are advisable. 'The following is an example of what can be done in this way. On a low marshy spot a gang of colored men were living in disused carriages of the Panama railroad. 'They were not supplied with quinine. A hundred yards horizontally distant from them, but on the summit of rising ground, in carcfully screened buildings, was a camp of United States marines, who were daily dosed with quinine. In the railroad carriages the mosquitoes were collected twice a day; in the screened barracks of the marines there was no collection. The malarial rate was very much higher among the marines than among the men living in the old railroad carriages. Progress is also being made in the designing of mosquito traps.

In concluding this portion of my paper I must express the great delight and satisfaction with which I have revisited the Panama Canal works and met again those able and devoted men under whose care this great work will undoubtedly reach a successful conclusion. It is unnecessary for me again to testify to the remarkable yualities displayed by the chairman of the 1sthmian Canal Commission, my friend Colonal Goethals, for they are now widely reconnized and appreciated.

The Panama Canal is owned and will be operated by the government of the United States, and will be fortified and garrisoned by them. The forcign relations of the Republic of Panama, in which the canal is situated, are undertaken by the United States. By the Hay-Pauncefote treaty (1901) with Great Britain, the United States undertakes that the canal shall be open on terms of entire equality to ships of all nations, whether merehant vessels or ships of war, during times of peace and during hostilitics.

The permanent relation of the Panama Canal to the British Empire is geographical,
and consists in the reduction of sea distances which it effects. These I proceed to summarize. I shall not attempt to deduce the consequences which may be expected, with more or less certainty, to follow in the future as effects of the relation; but I anticipate that this is the line which will be followed in a discussion which can hardly fail to be of considerable interest.

The following reductions of actual steaming distances are mostly based upon the figures originally published on the authority of the United States Hydrographic Bureau. For Vancouver, and all other ports north of Panama on the West Coast of North America, a reduction of 8,400 miles to New York, about 7,000 miles to Montreal, and 6,000 miles to Liverpool. The reduction to New Orleans is even greater than that to New York. The reduction to Antwerp and Hamburg is nearly the same as to Liverpool.

For ports on the West Coast of South America the reductions of distance vary from the above maximum at Panama to zero near the southern extremity of the continent. The average reduction is about 5,000 miles to New York and 2,600 to Liverpool. The distance from Yokohama to New York is diminished by 3,700 miles, the reduction to Montreal being about 1,000 miles less. Shanghai is brought 1,600 miles nearer to New York. The distance from Hong Kong to New York is not reduced, but Manila is sixteen miles nearer by Panama than by Suez. The only part of Asia which is brought nearer to Europe is part of the Siberian coast.

Sydner is brought 3,800 miles nearer to New York, by way of Tahiti and about 2,500 miles nearer to Montreal. Omitting the call at Tahiti the reductions are 400 miles areater. The distance from Melbourne to New. York is reduced by 2,600 miles via Tahiti, and from Wellington, N.Z., by 2,500 miles. The distance to Wellington is reduced by a further 360 miles if the call at Trahiti be omitted. Yokohama, Sydney and Melbourne, at present nearer to Liverpool than to New York, will, after next year, be nearer to New York than to Liverpool.

Australia is peculiarly placed with reference to the routes by Suez and Panama respectively. Both will serve her trade with the manufacturing districts of Europe and of the eastern part of North America.

Thus, for Perth and Fremantle the Suez and Panama routes are about equidistant to New York, whilst Adelaide is about as far from Liverpool via Suez as it is from New York via Panama. East of Australia runs a north-and-south line in which all points are at an equal distance from New York, whether the Panama or Suez route be taken. Japan, Korea, the Philippines, and New Guinea, as well as most of Australia, are in the zone or band for which the Suez and Panama routes offer rival advantages. If we examine these distances from the point of view of a trader in the United Kingdom we shall be apt to note, probably, that although there is an absolute advantage for him, yet there is relatively a disadvantage as compared with the trader in the United States. This apparent disadvantage is, at all events for the present, discounted by the fact that the Americans do not carry their goods to foreign countries, but leave this profitable task to ships flying other flags, of which ours come first. We may look forward with confidence to the establishment by the great British and European steamship companies of services from European waters to New York and San Francisco via the Panama Canal, and on to Asia, connected, I presume, with other ships of the same companies at Hong Kong. Thus for the first time circumnavigation will be practicable north of the equator. The British West Indies are no longer at the entrance to a cul de sac but are placed on a highway of commerce. All are brought near to British Columbia. Jamaica becomes a position of first-class strategic importance to the whole Empire. Trinidad is on a new line of communication from the North Pacific countries to the ports of Brazil and the Argentine.

Although the engineers are so well advanced with their work at Panama, Congress is somewhat late in fixing the tolls and the conditions for the operation of the canal when made. The rate of one dollar per ton net register has been so invariably used as a basis of calculation by the experts that it is generally supposed this rate will be adopted; still nothing can be certain until Congress has said the last word, and, partly for this reason, it is likely that the amount of shipping passing through the canal at the time of its first opening may not be very great, for these things require time and preparation. But that the amount
of shipping which ultimately will make use of the canal will be very great is, I think, certain. The growth of the world's trade has gone on at such a rapid and increasing rate of late years that a canal which serves half the world is sure to be kept busy, and I have little doubt that ultimately this Canal, although built primarily for a military purpose, will bring in a handsome revenue to the American Government. As a great engineering people ourselves, we shall, I trust, extend a generous appreciation to the magnificent feat which the Americans have performed at Panama.
As friends and admirers of the French nation we shall not forget that the plan which has been followed for a high-level
canal is substantially that which was so skilfully drawn up by the French engineers; nor should it be forgotten that when they handed over the work to the Americans they had already excavated more material than the whole of that required for making the Suez Canal.

As a sea-going people we may congratulate ourselves on the approaching completion of a work which gives new advantages to sea transportation; and as rulers of a maritime empire we must look with satisfaction to the opening of a waterway which will diminish the formidable distances by which the unsociable sea separates the shores of our constituent countries.

## British Columbia and the Panama Canal*

ISHOULD be very glad to say a few words if Mr. Cornish has not said all I wanted to say about the relations between the British Empire and this ample ditch. We are in danger that its real significance will pass by us, by reason of that curious freak of human nature that makes it almost impossible for any person to understand the full meaning of what is going on in his immediate time and in his immediate presence. One of the regrettable limitations of the human family which statesmen must reckon with is the inability of most men and women correctly to gauge the value of present and immediate events. They are likely to be long-sighted or short-sighted; they seldom see straight. What I mean is that it is very easy to overestimate the value of tomorrow's game of golf, and it is very easy to underestimate the importance of a project like the Panama Canal. Carlyle once quoted somebody to the effect that men look before and after; and he added the observation that the thing he wondered at was that they never looked round about them. Sometimes we take the trouble to anticipate, but mostly our faces are turned towards the past, and it is good for us to ponder the homely philosophy of Adam Bede, "I never knowed any good to come of a'watering of last year's crop."

To the seeing and thinking, several new and vastly important problems are presented by this canal, and several old ones are thrust with insistent persuasion upon all those who will have power to give serious attention to serious things.

[^2]Speaking generally, the Panama Canal, aside from its political aspect, bears a direct relationship to every natural resource of the British Empire on the Pacific Ocean, and that both industrially and commercially. Just what that relationship is today does not matter so much as what it will be when these vast resources shall have been discovered and developed, principally, so far as this argument is concerned, in Australasia and British Columbia, and when the new trade routes have been opened and occupied by British shipping.

We are also indirectly related, commercially, through the New Era inaugurated by this canal, to such resources of the United States as in the future shall be exported, and for which the United States has no shipping facilities. In other words, as to both the exports and imports of the United States, probably ninetenths of which will be carried in foreign bottoms; and a goodly share of that is open to the competition of British commerce. All this means that if we like we may have our share in the natural resources of our own Empire on the Pacific, and a lion's share of the world's commerce on the Pacific, provided we have not definitely abandoned the Pacific Ocean to the yellow man.

Briefly stated, the relation of the Panama Canal to the British Empire is the relation of the sea to supremacy, of ships to the sea.

Nothing is more certain than that if we hope to profit by this new commercial world movement now beginning we must have an Imperial navy on the Pacific Ocean, not only worthy of the best traditions of the British race, but which will be adequate to protect all our new interests on that ocean, as well as all our old ones. But how are we facing this situation in this, the second decade of the twentieth century? We have withdrawn our navy and left our commercial interests to flourish by courtesy of the nation which is destined to be, and is already, our keenest rival on Western waters. If this is good statesmanship it is at least very bad business, for Japan has set out for the mastery of the Pacific, and she has assumed that role by our leave.

Unless the Empire is ready to go out of business there is no sane policy which may stop short of building battleships-and more of them. It is time for every Briton to understand that we are not confronting an easy situation. There are no possible solutions for our problems which do not involve expenditure and sacrifice. We must keep on building ships as long as we have iron to use, or gold to buy it with, and it is time we understood that all the British money which is now going into Japanese warships should be building British warships. We must come to this policy or lose the game. Indeed, I believe that we are approaching once more a heroic age in British history when we shall be called upon squarely to face again the "categorical imperative" involved in that word
made glorious and made British by many a national hero, the simple, plain, homely word DUTY.

But instead of facing the inevitable what are we doing? Instead of pursuing the policies which upheld Nelson and Wellington we are adopting a policy of economy, retrenchment and retreat. We have taken to farming out our defences. I wonder how many of us appreciate the humiliation of our position; but the humiliation of our position is not the only factor, there is the danger of it. We are drifting along in our lotus-eating policy toward slow Imperial suicide. We have called home our ships from the seven seas, and I remember the warning of Mr. Garvin a few weeks ago that the calling home of the legions heralded the downfall of Rome. You have withdrawn your fleet from the Pacific Ocean and left the defences of British Columbia and Australasia to the fleet of Japan. You are withdrawing your fleet from the Mediterranean and you are keeping your corn routes open by courtesy of France. 'The next logical step in this un-British programme is to turn over to Russia the defence of the Indian Empire.

This monstrous situation is raising in more than one breast the question "Is the Empire to break of its own weight? Are we no longer equal to the tasks of Imperial defence?" There is something shameful in such a situation, while there are men and money available in the Empire. There is something shameful in your putting British money in Japanese warships, if you have not enough money to put into British warships with which to defend the Empire.

We need once more an Imperial programme; indeed, we must have an Imperial programme if we are to remain an Empire. Let Canada and Australia co-operate with Great Britain at once in the construction of an adequate Pacific navy and an adequate Pacific mercantile marine to keep pace with the new expansion of trade and industry on the Pacific Ocean to be opened through Panama.

This Canal promises this Empire-if we are equal to the opportunity-an extension of its commerce beyond anything known in the history of the world before, beyond the prosperity of those days when seventy per cent. of all the ships which sailed the soa flew the British flag. But our present policies of Imperial detence will not only make all this impossible, but will render us uncopual ti competing even as a second-rate nation in the new birth of world trade, in the New Era of the New Pacific.

This canal promises this Empire an opening up in Australasia and British Columbia of harbors and citics which today are wild wooded inlets with here and there a fishing village or huniting camp. But if these harbors are to be defended by a Japanese fleet, they will become Japanese assets, and we shall live to sec the fullillment of that weird and doleful prophecy of Dr. Pearson lwenty years
ago, who foresaw the gradual widening of the yellow zone around the Pacific Ocean, until white supremacy had passed away.

It is only too easy for us to rest on our laurels and to assume that is confronting the British Empire at the present moment and every moment, and which we must not forget, and dare not forget, that because we always have been secure and prosperous that we always shall be. We find it only too easy religiously to observe our holidays and enjoy our sport, and as assiduously to ignore the fact is the problem of the survival of the British Empire itself. It is all very well to turn proudly to our history and conclude from the great achievements of the past that we are to be invincible in the future; but the first thing required of every Briton just now is to face the new situation of a new world. We do not have to go back to Babylon to find evidence of the mutability of human affairs. We need not revert to the Middle Ages to find that national supremacies do not last forever. Gladstone and Disraeli had won their niches amongst the immortals before the creation of the German empire out of unorganized populations aggregating twenty-five millions of people, but which already has driven the British people to the strait of abandoning the defences of the Empire in the interests of the defences at home. Practically within two decades Japan has had its meteoric rise among the racial groups of men, and has forced a disturbing factor into the political equilibrium of the world.

Five years ago there was no government on earth more safely and securely entrenched in its institutions, its finance, its autocratic ruler than that of Mexico. The man who for half a century has dictated its affairs became an outcast from home, a fugitive from his native land, weltering in chaos. Five years ago no human being would have had the hardihood to predict a successful revolution in China; but this world's wonder has been accomplished and the ancient dynasty has been overthrown. One revolution may follow another, and who may prophesy what will be the outcome.

Whatever may be the millenial dreams of kindly and wellintentioned sentimentalists of that good time coming when every man shall love his neighbor as himself, and when the political arrangements of nations shall be conducted according to the golden rule, that time has not yet come. We are told of it in increasing armaments and in new national ambition; in wars and rumors of war and preparations for war. On the whole nations are still ruled by force, and the world is run by force. If this is true, then we must be that force. The Panama Canal is an insistent reminder that our supremacy is afloat, and that now, as before, and as it ever shall be, "England's fleet is her all-in-all."

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## Land Settlement in British Columbia

By J. HERBERT JENKINS

ARADICAL change, or, in other words, a revolution, is certainly taking place in the Old Country at the present time, and during the transition period the feeling of uncertainty and unrest is naturally causing large numbers of Britishers to seek fresh homes in over-sea lands, preferably under the Old Flag. In any case, Great Britain is overcrowded, or, rather, the towns and rities are, and there is little hope for improvement within a decade; but eventually affairs in the United Kingdom will be put on a better basis, and the rejuvenated nation will fully maintain its old ground in the place of power, for the benefit of humanity in general and its own people in particular.

In the meantime the tide of emigration is flowing strongly, and Canada, being the nearest of Great Britain's daughters, has, or should have, the advantage over the
other colonies. Whether it is good policy to rush unduly the settlement of the Dominion is a matter that can be discussed and discussed, and only posterity will prove the correctness or otherwise of the present system.

Of all the provinces, the climate of British Columbia is the most congenial, which is a big factor in the matter of settling the land; and, undoubtedly, British Columbia is the Mecca of all new-comers who are in a position to choose for themselves. Other provinces may have to assist settlement for their lands, but British Columbia has no need to assist settlers, as sufficient come of their own accord; and usually they are of the right sort, because they know the expense is greater to reach British Columbia than elsewhere.

The towns and cities of British Columbia are extending rapidly, and much is being done for the settlement of the lands. In the general order of things the wealth of the cities should reflect the prosperity of the country proper, but such is not the case in British Columbia today. Here we have very little in the shape of real industrics to

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support our cities, which are thriving on the abnormal prosperity due to the huge amounts being spent on railway construction for the opening up of the country. To some, that would appear to be a danger, but I am of the opinion that the whole of the prosperity is warranted and can be maintained, because the resources of British Columbia are unlimited, and as the country is opened up the tremendous areas of available land will not long remain untouched, so that revenue from products will more than equal the present heavy spending on new lines when railway construction begins to fall off.

British Columbia today is riding high on the wave of prosperity, and its credit stands second to none. It must, however, be borne in mind that this country is only an infant, and an infant whose growth is abnormal. There is so much to do that I am sure our statesmen must often feel that their best efforts are all too little. New towns are springing up on all sides, and every help must be given to foster the spirit of emulation. Rivalry is healthy, and each step in reclaiming wild lands and bringing them to the producing stage not
only means advancement for that particular district but also for the province as a whole.

All power to the splendid efforts of the government toward settling the land, and to those who are instrumental in doing the actual work. And all the more power to such efforts when the aim is to people the lands of this province with sons and daughters of the (Old Country, members of our own race. We can be proud to welcome them, and they can be happy through the opportunities that British Columbia alfords.
At one time I used to picture Canada as a huge sheet of clean blotting paper, and the stream of newcomers ats a bottle of ink being poured over the blotter. Today, and each day, I realise that Canada is still the shect of blotting paper, but each year's toral of new settlers represents merely a serateh of the pen on the blotter, the Dominion is so vast.
And Vancouver, the port of British Columbia, will, as sure as the sun rises and sets, prove in time to be the New York of the West-with this distinction and advantage to the Britisher: he will still be living under his own flag.

## The Western Route

CANADIANS have a hazy idea of the great development of Pacific trade to be expected from the operation of the Panama Canal. But few realize the great effect it is bound to have upon the transportation of Western grain, and, consequently, upon the profits reaped by Canadian growers. As things are at present, every hundred miles further west that the wheat grower is located means a reduction of a cent or so in his net returns. It is calculated that had the Panama route been in operation during last year's shipping season. Alberta farmers would have received at least $\$ 3,000,000$ more for their crop. Calgary is 1,250 miles from Fort William and only half that distance from Vancouver. From Calgary to Montreal is 1,000 miles more, and the rate is $\$ 8.80$ per ton, or, roughly, 40 c for each 100 miles. At the same rate the haul from Calgary to Vancouver would be $\$ 2.60$ per ton. It is claimed that one ton of freight can be carried by water 1,000 miles for a dollar. From Alberta by the eastern route, the present rate is 28 c in summer, or 35 c in winter, and it is calculated that with the Panama Canal open the rate would be only 23 c all the year round, an average saving of 5 c in summer and 12 c in winter. From Saskatchewan the saving would not be so marked, the present rate of 24 c being retained in summer, but reduced from 3IC to 27 c in winter, while from Manitoba probably the reduction would be scarcely anything. A!! this is on the assumption that eastern freights would remain as they are now, whereas it is altogether probable that a general reduction would be deemed advisable by the railroads and eastern shipping agencies.

Another very important point is that there would be no dead season. Pacific ports are open all the year round and there Would be no necessity for the present terriffic haste to get grain away before the close of navigation. In this connection, however, there is one doubt which comes to
our minds. Greate1 care would need to be taken in shipping wheat by the Panama route, as the constant heat would tend to damage the grain unless properly dried.


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## Civic Growth

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|  | 1912 | 1911 |  |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| Customs | $810,184.00$ | $\$$ | $519,451.00$ |
| Land Registry | $-\cdots-$ | $24,493.62$ | $20,280.02$ |
| Buildings | $-\cdots$ | $2,074,012.00$ | $1,108,378.00$ |
| Clearings | $-\ldots$ | $53,840,212.00$ | $43,239,102.00$ |

The building returns for the seven months of 1912 totalled $\$ 10,206,732.00$, representing 1,370 permits.

In the Land Registry Office during June and July more mortgages were released than ever before in the history of the city.

## Manufacturers

pay no taxes on their buildings, on their machin. cry, or on their stock in Vancouver. Two powet companies supply electric heat, light and power al competitive rates. Water and rail transportation facilities assure Vancouver a place among the great commercial centres of the world.

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## Who We Are Where We Work, and What We Are Doing

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HE name of this Company correctly and exactly indicates the sphere and scope of its business. It was organized to develop, and to bring to the attention of people of large or small capital, the investment opportunities offered by the Natural Resources of British Columbia.

Agricultural lands in large or small tracts, timber limits, waterpowers, mineral claims, townsites-these and kindred properties form the field of our operations.

In every case the money of the Investor is backed and secured by physical values, rigorously investigated, authenticated and guaranteed by us.

This is the Company that first foresaw the future of FORT GEORGE, and that made the name of British Columbia's future city a household word throughout the Continent.

Hundreds of its clients, from Vancouver to Maine and. Mexico, will testify to the profit-making character of the investments recommended by the Natural Resources Security Company, Limited.

The upbuilding of the organization of the Company has been the work of years. It is today the largest and most efficient of its kind in Canada, and for the development and sale of investments based on Natural Resources is rivalled only by those of governments and the great railways.

Central British Columbia is today the Land of Opportunity for men of large and small capital. Railways are racing into this rich region. Settlement is pouring in. Cities are being built. The foundations of fortunes are being laid.

On September ist, the Head Office of the Company will move from Vancouver tò Fort George-the Railway Centre and Natural Trading Place of British Columbia's Inland Empire.

This transfer will keep us in even closer touch with development and investment opportunities, and enable the Company to serve, with even greater success, the clients it has interested in the district's growth and progress.

The Company's organization and its direct, intimate and specialized knowledge of Central British Columbia are at your disposal. A letter requesting information regarding investments will have our prompt and careful attention.

## Natural Resources Security Co. Limited

FORT GEORGE, B. $\mathfrak{c}$.

## SALE

## Prince Rupert Lots

ACTING under instructions from the Government of British Columbia, I will hold an auction sale of Prince Rupert lots on Wednesday, August 28th, 1912. The sale will be held at Prince Rupert, and will commence at 3 p.m., and will be completed on Thursday, the 29th.

The lots to be offered will be in Sections 1, 5, 6, 7 and 8 , about 300 in all, and the list comprises some of the choicest lots in the townsite.

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# C. D. RAND 

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hamein lort Geor: - and buid up be future city.

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[^0]:    "One of the most important contributions ever made to the increasing knowledge about Canada amongst British Investors."

[^1]:    

[^2]:    *Speech made by Dr. F. B. Vrooman (Editor of the British Columbia Magazinc) at the Royal Colonial Institute, London, on the occasion of the reading of Dr. Vaughan Cornish's paper on "The Panama Canal and Its Relation to the British Empire." (Sce Page 63r.) Lord Brassey was chairman on this occasion.

[^3]:    W
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