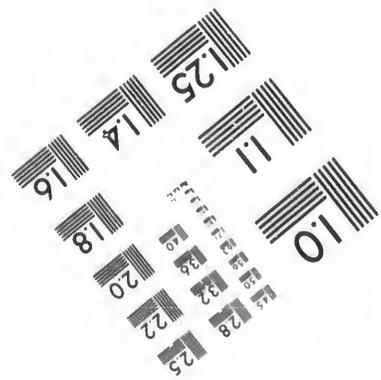
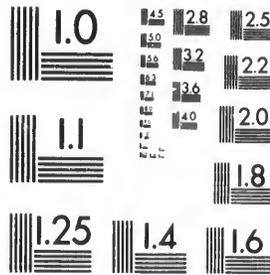


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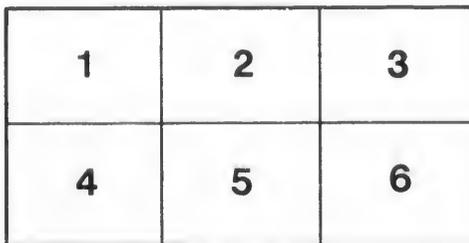
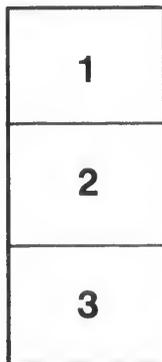
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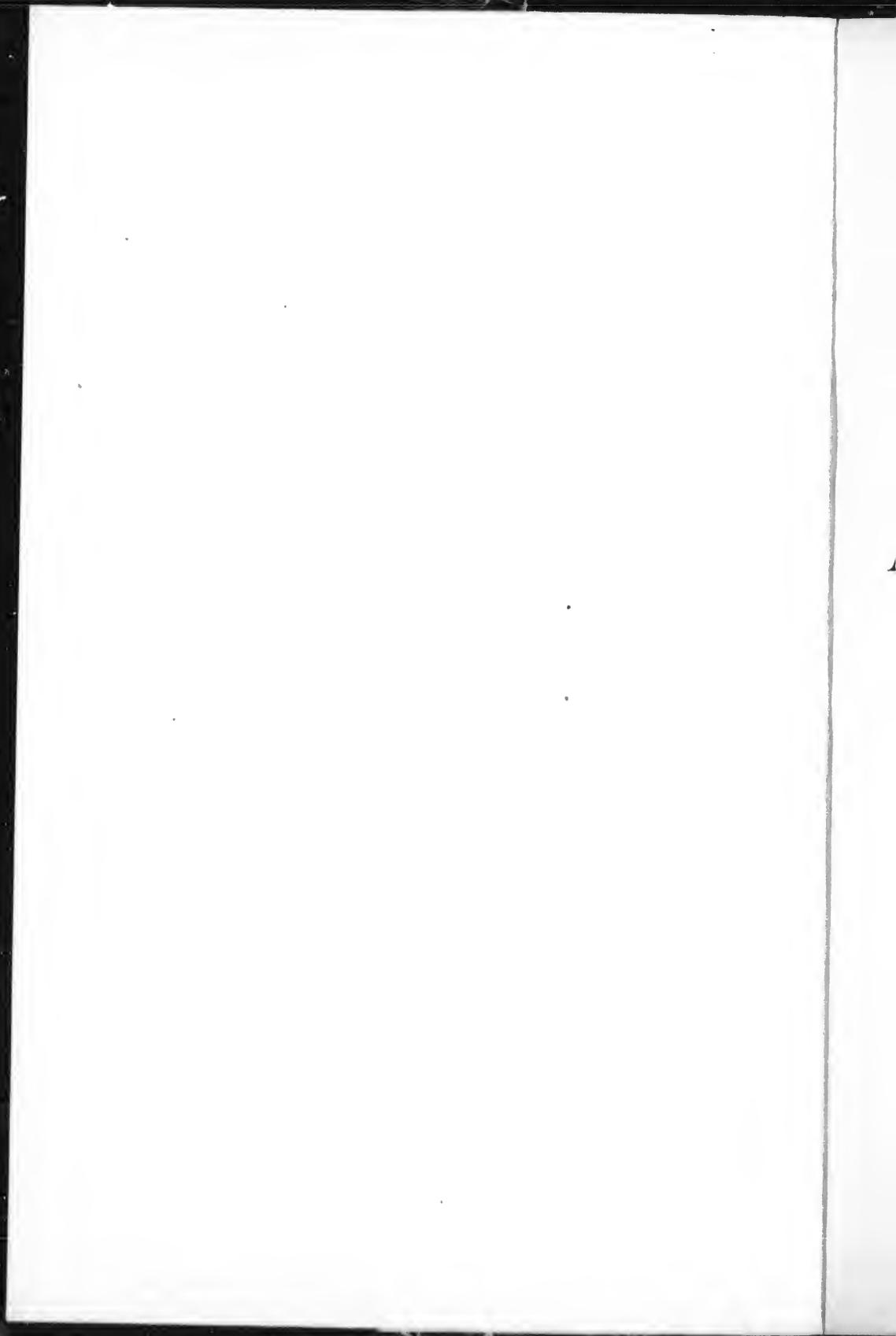
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Modern Transportation

AND

Atlantic Express Tracks.

BY GEO. H. DOBSON.

HALIFAX, N. S.
HERALD PRINTING HOUSE, GRANVILLE STREET,
1899.

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If Canada would make good the promise of her past record for future greatness, she must see to it that her forest, agricultural and mineral resources are rapidly developed.

If her almost unlimited virgin lands shall be filled up with industrious farmers, the working of her mines and forests will follow as a consequence. The secret of Canada's success is in the cultivation of her soil. By large expenditures the way has been opened for the development of this vital industry. The vast reaches of rich lands have been, by railroads, put within easy access of the immigrant.

Had there not been at the South a competing neighbor, Canada's extensive prairies would now be dotted with farmhouses, having thriving cities and towns for their centres. Immigration, however, goes largely to the United States. The greater part of the overflow from the Old World is contributed for the enlargement of that country.

So far as making adequate efforts to secure large immigration we have remained comparatively inactive for nearly half a century. It is now time that active, heroic measures were adopted to retrieve our lost fortunes and to secure success in the future.

Among the influences long at work and still working to produce this result, are the speed and conveniences of ocean travel. This can be made apparent by a statistical review of the past.

By a succession of leaps and bounds the population of the United States has gone up to 70,000,000. Canada stands to-day between 5 and 6 millions. How much of her increase in population does the Republic owe to her extra provisions for travel by sea from the Old to the New World? There may be at least, a partial solution of this question in a comparative statement of the statistics of the ocean travel of the two countries in the last sixty years. Both the character and extent of the accommodation and the speed must be taken into the account.

When the timber ships of England and Quebec stood first in their quick voyages and conveniences for passengers, Old Canada was far ahead of the United States in attracting emigrants. In

1826, Quebec claimed 39,000, the United States 22,000. About this time the United States awoke to the importance of increasing her inducements to immigrants. Regular lines of packets from New York and other principal ports in the United States to foreign countries were established. The larger part of the business was done with Liverpool. Twenty packet ships, divided into four lines, in 1836, did business with that port. A dozen made London their centre of trade; and fifteen sailed between New York and Havre. All these ships were American property and built under the stimulus of American enterprise. They were finely modelled and of the best workmanship, and fitted up in the most expensive style. They offered the best conveniences and accommodation to travellers. They varied in size from 460 to 880 tons, and had the reputation of being the finest ships in the world. They performed the voyages with regularity and expedition—34 days westward and 20 days eastward, being the average length of time in crossing the Atlantic. Among them were ships of great speed. The "Independence" and "Toronto" made trips from New York to Liverpool and Portsmouth in 14 days.

But in 1838 steam power came into operation and eclipsed the old-fashioned mode of travel. This was the beginning of the new era. Extra efforts were then made by the Republic to increase immigration to its shores. From this date until the present day there has been a regular advance made in the rate of speed in crossing the Atlantic.

In 1838, the "Great Western" crossed in	15 days	
In 1846, the Cunard "Europa" in	11 days	3 hrs.
In 1856, the Cunard "Persia" in	9 days	1 hr. 45 min.
In 1867, the Cunard "Russia" in	8 days	28 min.
In 1877, the White Star Line "Britannic".	7 days	10 hrs. 52 min.
In 1887, the Cunard "Umbria" in	6 days	4 hrs. 42 min.
In 1894, the Cunard "Lucania" in	5 days	7 hrs. 28 min.

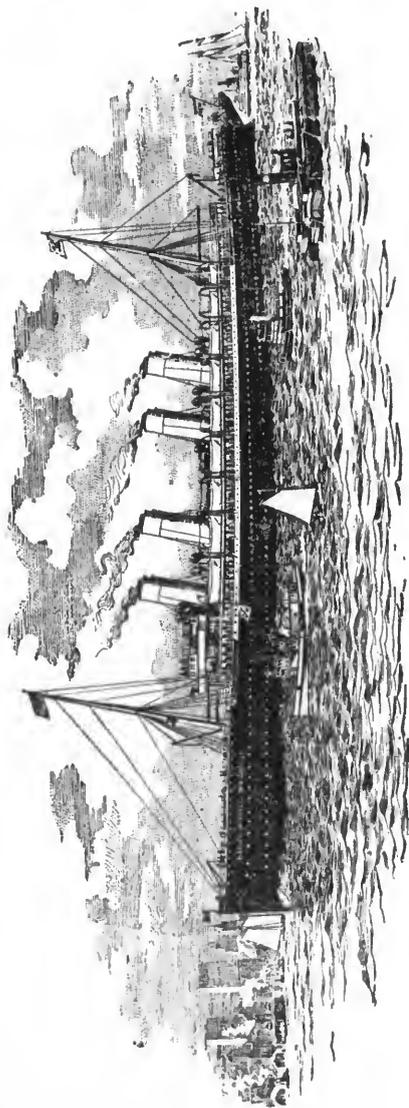
The new North German liner, "Kaiser Wilhelm der Grosse," made the run in November last from New York to Southampton, in 5 days, 17 hours and 8 minutes. Compare this time with the best previously made, that of the "Lucania," 5 days, 7 hours, 23 minutes, and add 18 hours, the time consumed from Queenstown to Euston Station, and it makes the time between New York and

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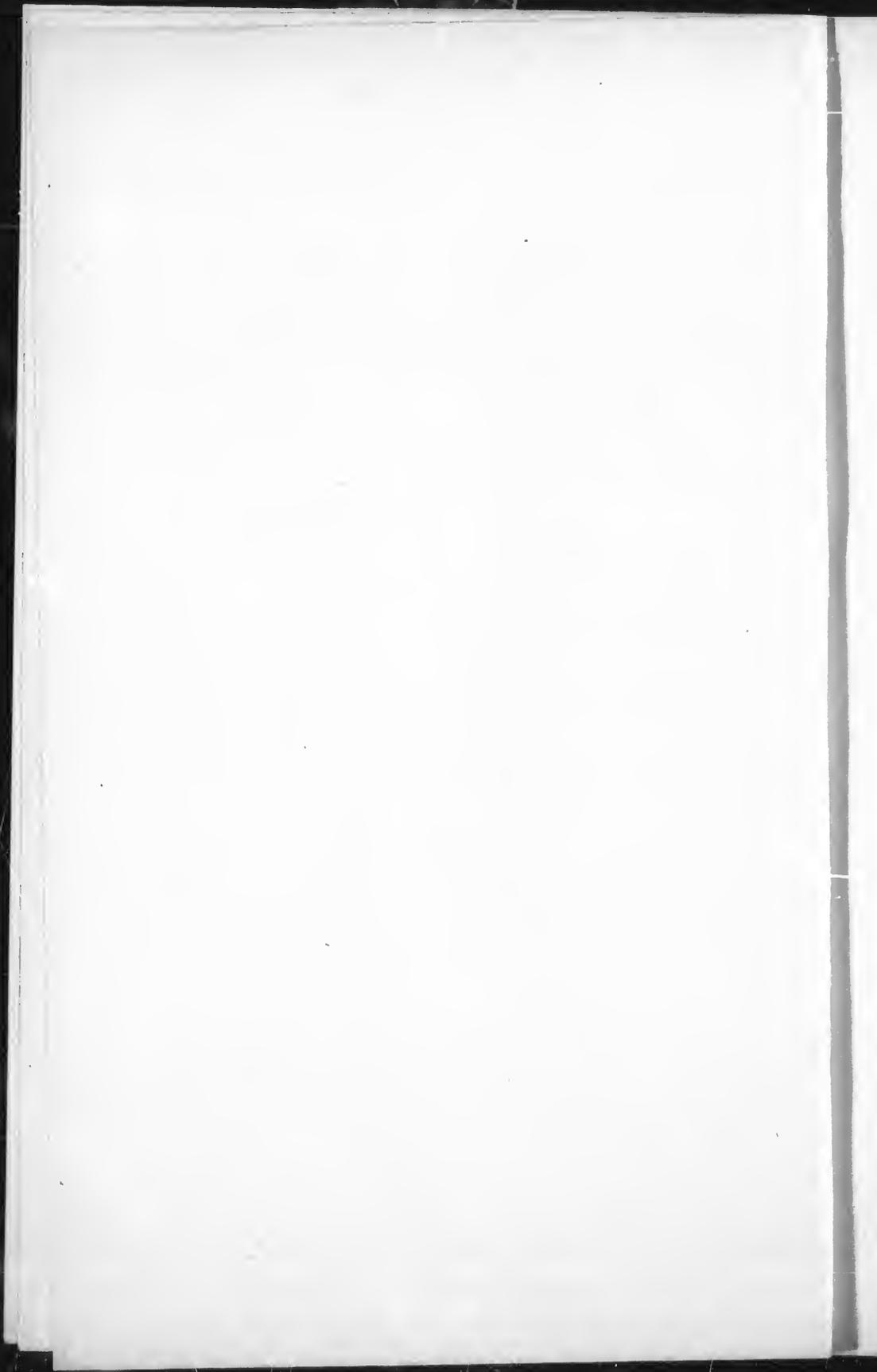
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Kaiser Wilhelm der Grosse, North German Lloyd's Liner.

Length, 625 feet; 13,800 tons; 28,000 I. H. P

The latest marvel and holder of the Atlantic record. Is improving her speed averages, and breaking her own record. Highest day's run 580 knots; 24.17 knots per hour, or 27.83 miles.



London 6 days and 4 hours. But by the "Kaiser" it has been reduced to 5 days and 20 hours.

The White Star Liner "Oceanic," soon to be launched, will be the largest ocean mail boat by several thousand tons. The prophecies in regard to her, lead the public to believe that she will make the passage across the Atlantic in still less time, possibly under 5 days. By these statistics, it will be seen that since 1838 there has been a reduction of time in crossing the Atlantic at the rate of over one day for each decade. This advantage has been enjoyed by the United States. But since the Allan contract for conveyance of Canadian mails in 1856, there has been but little improvement in speed on the St. Lawrence route.

The following show the quickest passages made by the Allan lines between Liverpool and Quebec. The 1897 figures are made from the Post Office Department records, Ottawa:—

In 1857—Allans	—"Anglo Saxon"	9 days, 13 hours.
In 1867—Allans	—"Austrian"	8 days, 17 hours.
In 1877—Allans	—"Sarmatian"	7 days, 20 hours.
In 1887—Allans	—"Parisian"	7 days, 18 hours.
In 1897—Dominion	—"Labrador"	8 days, 3 hours.

The average time occupied from Liverpool to Rimouski with the English mails was 220 hours, 35 minutes. Add 12 hours for the run from Rimouski to Quebec and it will make the average time between Liverpool and Quebec, in 1897, 9 days, 16 hours and 35 minutes.

What has been the result to immigration? In 1850 Canada received 32,292 immigrants; but the United States received 310,000. In 1880 Canada received 27,544, and the United States received 622,252. In 1891 Canada received 24,409, the United States received 665,000. To turn this tide of immigration the convenience and speed for ocean travel and transportation must be improved. Canada does not now even carry her own mails and passengers. They largely go by New York. There is one way and only one way to put an end to this state of things, and to attract immigrants in large numbers to fill up the new lands and develop the resources of the Dominion.

This will be made to appear in another article.

SPEED AND SUBSIDIES.

In my previous article I touched upon the rapid development of the United States by means of her increased facilities for ocean travel, and also upon the results of a slow service for Canada.

The mere knowledge of these facts will serve the purpose of begetting a feeling of weakness and shame; but the knowledge of them, which will lead to prompt and wise action, will be of incalculable service. Our danger now is not in ignorance, but in inaction. We sit by and see the rapid enlargement of the nation south of us as if this were the highest gratification of our national ambition. When carefully examined, the phenomenal increase in the population of the Republic is a proof that all things having been equal in the facilities for travel and other possible inducements to emigrants, Canada too would have enlarged in population as fast as her neighbor. But the means hitherto employed have been altogether inadequate.

A thorough and impartial examination of the whole question of building up the country by means of immigration requires a careful comparison of the means used by the two countries lying side by side. The tide will always flow in the open channels. The United States have the best of facilities for conveying people from the old to the new world. How was this secured? That is the question for the Dominion to-day.

Without state aid in subsidies the present success in ocean travel could never have been secured. But changes in this respect must be made if Canada would compete with her neighbor. When such measures have been adopted as are easily within reach of the Dominion, and such ocean routes chosen as are open to us, then it will be seen that the vacant lands of Canada, as well as those of the United States, will be filled up with an industrious and prosperous population. These two points I will undertake to discuss in an impartial manner and largely by the use of facts.

In establishing lines of fast ocean steamers, state subsidies have been essential to success. In 1840 the Cunard line was established on the strength of a liberal subsidy from the English government, supplemented by provincial and United States subvention. About

this time the great Peninsular and Oriental Company, known as the P. and O. Company, established steam communication between England, India, China and other eastern countries. It was aided by large subsidies from the home government, and by mail subventions from the East India Company and foreign states interested in this enterprise. The company now receives £350,000 annually. In 1856 the Allans commenced a fortnightly Canadian service on a subsidy of \$120,000; in 1857-8 it was increased to \$208,000 for a weekly service, and in 1858-9 to \$416,000. The International and Navigation Company (a new American line), has lately been established on the strength of liberal postal favors of \$4.00 per ton a mile for mail matter. The North German Lloyd has developed the finest fleet of Atlantic liners by means of state assistance. It receives 2,000,000 marks annually, and owing to recent improvements in ships as also in their speed, it is now asking the Reichstag for an additional subvention of 1,500,000 marks. This company also receives compensation from Washington for transportation of American mails.

The French government made a contract in July with the Compagnie General Trans-Atlantic Company for important improvements on the lines of speed in the mail service between Havre and New York. The contract is before the French Chamber of Deputies for ratification. The amount stipulated is £200,000. The company also receives additional compensation from Washington for carrying American mails.

I refer to the above to show the means employed by different countries to secure their share of travel and commerce. The competition is keen. With marked prescience, wise forecastings, and the adoption of measures justified by well known conditions already existing, and sure to exist in the future, the struggle goes on and great is the success. If Canada is to reap the harvest that is possible, there must be subsidies given, such as will secure lines of steamers equal in speed and convenience for the travelling public, to any that cross the Atlantic.

Anything less than this will fail of success. Subsidies that may be sufficient in amounts, may be so given as to fail of securing the desired results. Hitherto Canadian efforts to secure ocean speed have been largely a failure. The contracting company is sure of its

subsidies; but the highest speed is not obtained, and the tide of travel takes other channels. No provision is made for competition, and so there has been but little life in the business. Boats are slow and the service consequently unsatisfactory.

The same policy obtains with the admiralty in England in regard to the eastern mails. The Peninsula and Oriental Company, by reason of their heavy time subsidies, have a large fleet of ships and enjoy a monopoly of the mail service for the East Indies, China and other Oriental countries. But the boats are slow and the service unsatisfactory. Were it not for the peculiar conditions which make the monopoly possible, this company would be eclipsed by some competing company as Canada is eclipsed by the United States in trans-Atlantic travel.

The London "Syren and Shipping," commenting on the subsidy arrangements with the P. and O. mail service says: "It is their yearly mail subsidy which has enabled the company to build up its present fleet to the exclusion of outsiders. If other lines could but get a share of the mail subsidy, we are certain that they would speedily provide the boats necessary to conduct the service. In the United States a very different condition of things obtains. There the faster boats of the various lines in competition are commissioned to carry mails. The benefits of their system are obvious.

The public obtains a more frequent and efficient service by the respective lines keenly competing with each other to secure the mail subsidies.

We feel convinced that had the admiralty favors been more equitably distributed, the untrammelled enterprise of the British ship owner would have ensured speedier boats, cheaper rates, and consequently a larger trade, and more content and satisfaction all round."

The American system referred to is perhaps the best in vogue in any country. The following is from the Superintendent of Mails at Washington: "The entire trans-Atlantic merchant marine is freely tendered for the conveyance of United States mails at the rates of compensation offered by this department, consequently the mails for Great Britain and the continent of Europe are despatched by every fast steamer; and when two fast steamers sail on the same day or succeeding days, the mails are invariably assigned

to the one whose previous speed record gives reason to believe that it would deliver the mails sooner on the other side of the Atlantic. It is difficult to imagine a condition of affairs more satisfactory either from a postal or commercial standpoint, than the practice in vogue has built up; under it speedy transmission is the only condition considered in the despatch of mails."

It is thought that if the Canadian Government would offer 500 thousand dollars for a twenty-knot service, and 750 to 800 thousand dollars for twenty-two knot speed and upwards, to be supplemented by Imperial subsidy of 50 per cent. additional (these subsidies to be paid on the principle of bounties for speed development), the unrestricted enterprise of Canadian and British ship-owners would soon give Canada a service equal in speed to that of New York. Of course these subsidies would only be open to Canadian, British and Colonial competition.

But, if this country is not sufficiently advanced to adopt the American-Anglo-Atlantic system, which has proved so successful in giving New York the fastest ocean liners, trans-Atlantic travel and commerce, the new French contract has merits in it worth examining. The contract made in July, 1897, by the French government, with the Compagnie General Trans-Atlantic for the improvement of the French mail service, stipulates the building of three new steamers in France of the most improved type. If the boats fail to develop a minimum speed of 22 knots, they can be penalized for every one-tenth knot under, and should the speed prove to be less than 21 1/4 knots, they can be refused. Further, if on July 1st, 1905, it should prove that the annual average speed of those boats is, at that time, ten per cent. lower than that of the boats belonging to any one of the competing lines, the company will have to build a fourth steamer of the most improved type and place her in line at the latest by April 1st, 1908, and her speed is to be in every respect equal to that of her competitors. In addition to the £200,000 subvention, premiums which reach \$360,000 are offered for speed above the 22 knots contract.

The old subsidy contract arrangement having failed in Canada, some better system should be devised in order to compete with the ever increasing speed on the New York route. To make a ten-

years' contract on the old system which, including the time for the construction of the boats, means twelve years, at a fixed speed of 20 knots, will not enable Canada to permanently compete with New York in trans-Atlantic travel. Now that new legislation is necessary for subsidizing boats for Canadian service, the Dominion should make such provisions as will require the contracting parties to guarantee not only a fixed speed for the delivery of mails, but provisions should also be made necessitating the company keeping the speed up to the fastest boats that may from time to time be found running on the Atlantic. With the usual fog and ice clause in the contract, which now virtually leaves the speed in foggy weather, in ice and in the vicinity of land, optional with the captain, we may have only a 10 or 12 knot service for a considerable part of the voyage.

An up-to-date service is necessary if Canada is to compete with other countries. As to the popularity of lines and routes, it is simply a question of speed and approved conveniences. The company with the fastest boats, for the time being, takes the largest share of travel; and a very little superiority in speed will do it.

In the beginning of the nineties the White Star boats "Teutonic" and "Majestic" were the fastest; and consequently the popular liners; but when the Cunarders "Taeannia" and "Campania" entered into competition with only a knot or two extra speed, they, in turn, became the favorites. In 1896 the latter carried 17,999 cabin passengers to 11,607 by the White Star boats. The Cunarders took \$141,877 American postal subvention, compared with \$25,975 by the White Star line. This is only an instance of what has been going on during the past four decades. Speed is the all important consideration for controlling trans-Atlantic travel.

The increase in swiftness of ocean travel has been chiefly made by North Atlantic liners. It is but two short decades ago that there were but six or seven steamers plying between England and America with a maximum speed of 16 knots. During the next eight or nine years the speed of some four or five reached 19 knots. It is but a decade ago that one or two boats reached 20 knots. Today there are eight or nine with a maximum speed that exceeds that figure; and some two or three have made day's runs exceeding 24

knots. The present average speed of the fastest boats is dangerously near 22 knots.

This is not a finality. Each new boat built for highest speed exceeds the previous one. The past two or three decades show an increase of nearly three knots for every decade. Let this increase go on for the next decade, and before the end of that time boats of 26 or 27 knots speed may be constructed, which means that Canada will be as far behind New York at the expiration of the next 10 or 12 years as she is now. The American lines in that case, will have the same proportion of travel as they have averaged during the past decade, about 500,000 to our 25,000.

In 1887, the Canadian government decided to subsidize a line of fast Atlantic steamships to carry mails in competition with New York, and advertised for tenders, insisting on an average speed of 20 knots an hour. At that time such a guaranteed speed would have placed Canada abreast of New York; but considering the advance made on the American routes since, it would be a mistake to build new boats of 20 knots at a very large outlay for the next 10 to 15 years. They would be too far behind New York in speed before half the time expires to be of any benefit as a fast service to the country. It would also be a mistake to tie up the postal subvention fund of the Dominion in the form of such a large subsidy on a 20-knot service, for the next 10 or 12 years. By the recent amendment to the contract even that speed is not guaranteed.

Germany, by means of state assistance, is now leading England in trans-Atlantic speed. The new contract with the French government calls for boats which will take less time between Havre and New York than that attained by Germany. But neither of these nations, with their large populations and strong navies, is nearly as much in need of a fast service as Canada; nor will they benefit by such a service as much as the Dominion.

Ten years have passed in fruitless efforts to establish a Canadian fast line. The uncertainty of who would get the contract prevented the Allans from improving their service, and in the meantime the cream of trans-Atlantic traffic has gone to the United States.

The failure in securing a Canadian fast service during the past decade will be dealt upon in another article.

ROUTES AND SPEED.

In the discussion of ocean speed, it is necessary to emphasize the importance of selecting tracks absolutely clear of every obstacle, hindrance and possible danger to fast steaming from port of reception of mails to port of delivery.

An eminent authority on rapid transit, Austin Corbin, says on this subject: "The introduction of some means of rapid transit between the two English speaking nations, wholly free from inconveniences, delays and hazards due to tides, fogs and storms, encountered in narrow and crowded water ways and along dangerous coasts, is of the utmost importance to all trans-Atlantic travellers, who look upon the voyage as a necessary means to an end. The universal demand is for the shortest possible sea passage for travellers and the quickest delivery of mails.

The question in projecting the best trans-Atlantic steamship line is how to secure a route which combines the merits of shortness and directness with safety and comfort to the traveller. In solving the question, ports having PARTICULARLY ADVANTAGEOUS GEOGRAPHICAL LOCATION FOR EMBARKATION AND DEBARKATION, and from which vessels can AT ONCE OBTAIN FULL SPEED, must be selected and ships must be run which have A MAXIMUM OF SPEED, coupled with all the modern conveniences of security and comfort."

In establishing a Canadian fast line, it is necessary to use ocean tracks, affording equal speed to that obtained on the New York routes; and in order to ascertain what is required, it is necessary to compare the merits of the respective American and Canadian routes; but it is not an easy task to compare them. So long as we are content to say one route is shorter than another, it is easy enough; but to express the comparative merits of the several routes by the maximum of speed, it is necessary to take as a basis of comparison, the speed attained on the respective routes, the regularity of ocean passages under all circumstances, and the hazards and accidents incurred.

To make this comparison of value, data are necessary, and it is essential that the data should be accurate. Notwithstanding the

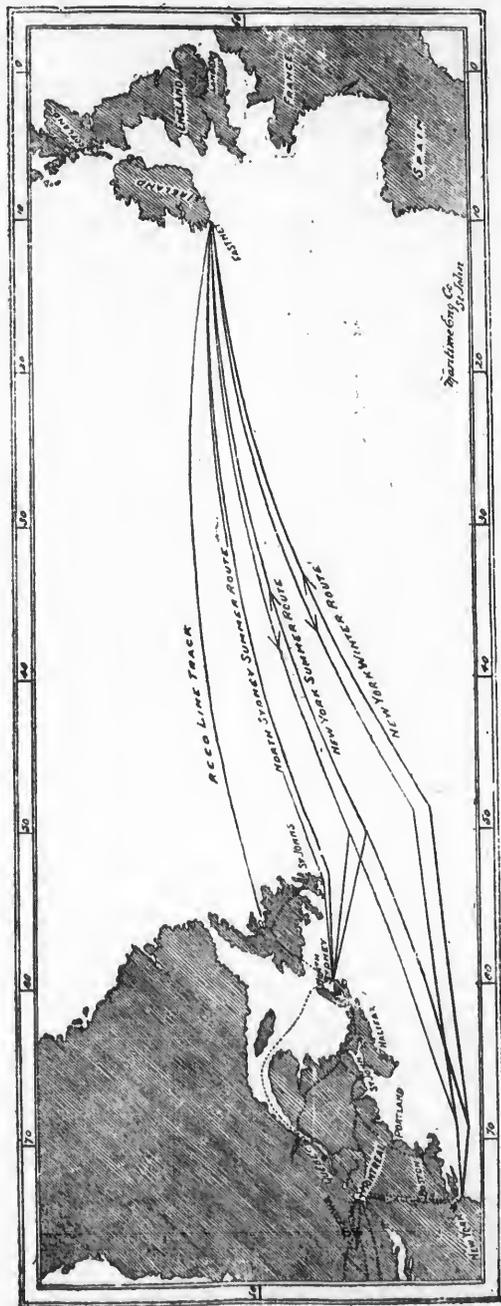
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ATLANTIC EXPRESS TRACKS.

New York Fast line Ocean Tracks showing Canadian routes to Quebec via. North Sydney, also North Sydney direct and the short Reid route across Newfoundland.

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chariness of some companies with regard to furnishing the time occupied during voyages, sufficient information has been obtained from the highest authorities, to show the degree of merit of the well-known American and Canadian mail routes.

AMERICAN ROUTES.

The routes used by the principal fast Atlantic liners to the United States are on tracks between Sandy Hook, Fastnet, Ireland and Bishop's Rock, Scilly Island, for Queenstown, Liverpool and Southampton respectively. After long experience and careful consideration, the fast line companies adopted expedient routes between those points known as "Lieutenant Maury's Lane Routes."

During the ice period southern lanes are used to take the vessel clear of icebergs; and during the summer, lanes on the Great Circle track are followed. In order to prevent collisions during fog and darkness, double tracks, upwards of sixty miles apart are used. The southern track in going east and the northern in coming west are followed. The Admiralty Hydrographic Office, London, and the Hydrographic Office at Washington, indicate the "Lane routes" on Atlantic charts; and in addition, pilot charts showing the lane tracks are distributed monthly, warning shipping to avoid the lanes of fast liners. As a result of expedient routes, Hydrographic Bulletins, Charts, etc., and the marvellous development in size and speed of steamships, ocean travel has become a safe luxury and a pleasure. The voyage of the New York liners can be more accurately timed than the run of a railway train across the continent. Of course there is more or less risk in ocean and all travel; but, considering the fleet of trans-Atlantic liners running to New York, numbering thirty, if not more, using two hundred and forty ships, besides tramps, sailing ships and the trans-Atlantic tonnage, trading at American ports, it is remarkable how few accidents occur through collisions, notwithstanding the high speed of the fast liners even in fogs and in the worst weather. It is evident by the published logs of the mail boats, that the "Rule of the Road" requiring moderate speed in fogs, is not observed. Speed on those lanes is apparently limited only by the horse-power and the progress of human invention and improved models.

The regularity in the delivery of mails between London and New York by the principal liners is remarkable. The following tables from the Superintendent of Foreign Mails, Washington, shew the closeness of time made.

Time occupied between London and New York via Queenstown by the S. S. "Campania" and "Teutonic":—

Years.	Ships.	No. Trips.	Avg'e Time. hours.	Quickest Time. hours.
1895—	Campania	9	162.5	157.4
1896—	Campania	12	163.9	158.1
1897—	Campania	12	163.7	156.9
<hr/>				
1895—	Teutonic	12	174.8	168.4
1896—	Teutonic	12	175.8	170.4
1897—	Teutonic	12	176.4	170.3

The "Campania," on the Queenstown route during three years of 33 trips, shows a difference in average of one hour and thirty minutes, and only one hour and twelve minutes between the quickest passages. The "Teutonic," one hour and fifty-six minutes in averages, and two hours difference in quickest passages.

In seven trips westward, the "Campania" during the last six months of 1897, shews a difference of time between the fastest and slowest passages of twelve hours and forty-two minutes; and for six trips eastward, the difference was eleven hours and nine minutes. With the S. S. "Teutonic," in seven trips westward, the difference was eleven hours; and for seven trips eastward, five hours and five minutes.

The closeness in averages, the slight difference of time between the quickest passages, and the comparatively small difference between the fastest and slowest trips, shew to advantage the merits of the "Lane Routes" used by the New York liners. But perhaps the absence of accidents shewn by Henry Fry, of Quebec, in his history of the North Atlantic Steam Navigation, best illustrates the advantage of expedient tracks south of the ice, and the wisdom of double tracks or "Lane Routes." He says: "The history of this company (Cunards) has been dwelt upon at length, because it was not only one of the pioneers in Atlantic steam navigation, but because its history is absolutely without parallel in the history of the world.

Of no other company can it be said, that in fifty-three years, it has never lost the life of a passenger; that for forty-four years it has never lost a letter, and in about 8,000 trips, amid hurricanes, fogs, ice, etc., only two ships have been lost." The above record of speed and absence of accidents between New York and Liverpool are certainly without parallel in the history of navigation.

But in turning to Canada, the great difference of time in ocean travel between Quebec and Liverpool and between New York and Liverpool must strike the mind of the merest tyro in nautical matters. I do not wish to intimate that the Canadian boats are so much behind the American lines in accommodations and equipment. The Allan and Dominion companies have good, commodious boats. The difference referred to is not of comfort nor altogether of speed; but the great difference in the time occupied on the voyages. Here it must be admitted that there is a great difference between the averages and regular passages of the American boats and the averages and the difference of time occupied by ships carrying the Canadian mails. In fact it would almost appear that we had not only stood still, but when compared with the United States had gone backwards during the two or three past decades.

For this condition of things there must of course be good reasons. The subsidy system of the United States stimulates competition and increases speed. In that respect Canada is behind; but other reasons more potent must be looked for. They are to be found in the climate and geographical difficulties of the Belle Isle and St. Lawrence route—difficulties insurmountable to securing a high rate of speed.

Canada uses two—a summer and winter route. The summer route is from Liverpool to Quebec by Belle Isle, receiving the mails at Merville and landing them at Rimouski, on the St. Lawrence. The winter route is from Liverpool and Merville to Halifax, the boats usually proceeding to a second port. As most of the travel and emigration across the Atlantic are in the summer, it is the summer navigation Canadians are most interested in.

The shortest distance from Liverpool to Quebec is 2,633 knots; but the usual distance, calling at Merville, is 2,665 knots. As there are difficulties in the Belle Isle track, not experienced on any other fast line routes, the run may be divided as follows: Liverpool to

the eastern side of the Arctic current via Merville, 1,627 knots; from the eastern side of the Arctic current to Belle Isle, 300 knots; Belle Isle to Rimouski, 581; Rimouski to Quebec, 157 knots.

The first obstruction to fast steaming is met on this route in crossing the Arctic current. On the New York route during the ice season tracks south of the ice are used. But the use of Belle Isle for a Canadian route compels the boats to cross the Atlantic in a high latitude. The fog stations near the entrance to Belle Isle report from 100 to 300 icebergs seen at one time; but not only in crossing the Arctic current but at the entrance and in the Straits, ice is found. Sometimes the icebergs are so numerous that the mail boats have to come to anchor, and at times have been delayed in Belle Isle for 24 to 30 hours.

The official reports from the fog stations for 1893 and 1894:—

June 4th	360	icebergs	seen
June 16th	163	“	“
June 20th	129	“	“
June 27th	113	“	“
June 29th	121	“	“
August	23	“	“ daily
September	6	“	“ daily
October	4	“	“ daily
November	2	“	“ daily

The Washington Atlantic Pilot Chart, July, reports the S. S. "Etolia," on her voyage through the Straits, June 27th, passed 200 icebergs. The September issue reports the Straits of Belle Isle full of icebergs early in August, especially along its southern side, and many were seen E. N. E. during the first week.

✓ The second obstacle to speed is the long run from Belle Isle to Rimouski, a distance of 581 knots.

In this whole distance the course of ships is confined between lines of rocky coasts on both sides. The currents are irregular, the waterways somewhat winding, and the channel narrow in places the nearer the approach to Quebec. The waterways from Belle Isle to Quebec are so narrow that double lanes are impossible. The danger is increased by vessels of all kinds in the coasting and foreign trade. Added to these dangers is the prevailing fog. See the fog alarm station at Cape Bauld—the eastern entrance to Belle Isle—reports for 1892-93.

1894, the maximum duration of fogs for five open months:—

July	309 hours.
August	262 hours.
September	110 hours.
October	215 hours.
November	105 hours.

The above statement shews that during the months when ice is most prevalent in the Straits the greatest number of fogs prevail.

Commodore Curtis, after years of observation and experience in Belle Isle, gives it as his opinion that fogs prevail there about one-third of the time during navigation.

Those obstacles have a detrimental effect on the Canadian mail service. They cause long delays, as will be seen by data from the Post Office Department, Ottawa. The following is the average time occupied by the "Parisian" between Liverpool and Rimouski:

Years.	No. Trips.	Average time, hours.	Quickest trips, hours.
1895	6	210.2	194
1896	5	198.14	183
1897	4	217.48	188

This table shews a difference in averages on this route of nineteen hours and thirty-four minutes; and between the quickest passage and the slowest, average of thirty-four hours and forty-eight minutes. But the following statement of the quickest and slowest passages from the same authority, is a better index of the delays that the route is subject to. ✓

The S. S. "Parisian's" passages between Liverpool and Rimouski:—

Year.	Fastest Trips, hours.	Slowest Trips, hours.
1895	194.25	220
1896	183.35	210
1897	188	286

In the above will be found a delay of ninety-eight hours between the fastest and slowest trips of 1897; and a difference of one hundred and three hours and twenty-five minutes between the quickest trips in 1896 and the slowest in 1897. This is too much time to lose—more than enough to cross the Atlantic from an Atlantic port of call by the southern route.

The following is the S. S. Labrador's time, from the Post Office Department, Ottawa:—

Passages from Liverpool and Rimouski:—

Yera.	Trips.	Fastest Trips, hours.	Slowest Trips hours.
1895	4	177.15	195
1896	6	186	200
1897	4	183	219

The difference between the fastest passage of the "Labrador" in 1895 and the slowest in 1897, is 41 hours and 45 minutes. The "Syren and Shipping," London, reports the "Labrador's" eastward passage, August, 1897, as follows: The Dominion Liner "Labrador," from Montreal to Liverpool, suffered a lengthy detention through the inconsiderateness of Canadian fog and ice. One day she steamed 89 knots and another 145, instead of the average of 320 knots. The smartest passage the "Labrador" has made homeward is six days and twenty hours, that is from Rimouski to Londonderry. The whole voyage occupied eight days, nine hours. The actual detention due to fog and ice was thirty-seven hours and forty minutes.

But the S. S. "Scotsman" (Dominion), had the greatest detention on the St. Lawrence route. During four trips, 1896, she made a comparatively good average of 199 hours and 38 minutes; but in one trip in 1897, she took 319 hours, a difference between her average time in 1896 and one trip of 1897, of 119 hours and 22 minutes. The Allan and Dominion Steamship Companies are not responsible for those delays. They are attributable to the climatic and geographical difficulties of the Belle Isle and St. Lawrence route.

This view is sustained by Henry Fry, of Quebec, one of the best informed and highest authorities on the St. Lawrence route, a friend and promoter in his time of Quebec's interests. In the History of North Atlantic Steam Navigation (1896), commenting on the losses sustained by the Allans, he says: "But the history of this company for the first ten years of its existence was a very remarkable and sad one. There was no lack of skill or experience on the part of the owners or captains, and no serious defects in the ships. Yet they lost eight ships in eight years, besides minor accidents, and what was far worse, the loss of life was very

heavy and distressing. Disaster after disaster occurred, apparently without end. It is difficult to account for these disasters, even now. Something was probably due to the heavy penalties imposed by the government for delaying the mails. The Straits of Belle Isle were often blocked with ice, and the currents changed with the winds, while the soundings were not to be trusted." ✓

It is no wonder that the Allans, who had suffered such severe losses, when speed was insisted on, demanded the insertion of the following clause in negotiating for a 20-knot service, in 1896:

"It is understood, however, that speed may be reduced during fogs, snow-storms, or tempests, or to avert danger in the vicinity of land, and dangers arising therefrom, shall not involve the contractors in penalty, nor be deemed a breach of contract."

With such a clause in the Fast Line contract by the Belle Isle, with the experience of shipping and the mail service on the route during the past three or four decades, it seems mere nonsense to talk of Canada having a 20-knot service. The clause protects the company and captains of the Fast Line boats in lying at anchor, as in the past, or in proceeding at any speed, from one knot upwards. ✓

The Allans have had long experience on the St. Lawrence route, and have always maintained that a twenty knot speed was impracticable and dangerous, owing to ice, land-bound waters, and fog. In their correspondence in the London Times on the Huddart Fast Line contract, 1894, they expressed their views very clearly.

The difficulties and hazards of the St. Lawrence for high speed are well-known to English capitalists, and this accounts for the failure of every attempt to raise the necessary funds to float a 20 knot, guaranteed speed. Samuel H. Fry, of London, tendering, in 1894, for a Canadian 20-knot service "Atlantic Steamship Line," (See Canadian Blue Book.) says: "I think the ports in Canada should be left for me to decide; if only to accelerate the despatch of the mails. In the summer, very often, dense fogs prevail in the Gulf of St. Lawrence, when it would be absolutely unsafe to run a steamer at 20 knots per hour. I have known the steamers of the Allan Line detained in the Straits of Belle Isle for two days by fogs and ice. What I would propose is, to load the steamers at Montreal and Quebec, and then sail or steam

very slowly down the Gulf of St. Lawrence, unless the weather was very clear, and call at Halifax for the mails." Mr. Fry here, not only points out the difficulties of the St. Lawrence, but makes an Atlantic port of call a condition of his tender for a guaranteed speed. It would be a waste of public funds to pay a large subsidy for a line of fast boats on a route that will only permit of an average speed of freight boats on New York tracks.

The favourite form of opposition to the route south of the ice, is that between Quebec and Liverpool, the Belle Isle route is geographically shorter. (See Admiral Hopkins on this point.) The northern route is about 150 miles shorter than the southern; but the time spent in the water carriage of the mails, via Belle Isle is several hundred miles in favor of the southern route. The long run of one thousand miles through ice and coasting waters would be avoided, and the extra distance between Quebec and Liverpool by the southern route is more than compensated by the quick and regular passages by the free ice route. The average passage from Moville, or Tory Island, Ireland, to the Arctic ice is good; but on the thousand miles from the Arctic current to Quebec is where the detention occurs. If there is any doubt in the public mind with regard to these delays, the actual detention can be obtained from the captains' sworn statements of each voyage at the Post Office Department, Ottawa, as required by the mail contracts. It was suggested that fast tenders might be used to pilot the mail boats in fogs to facilitate despatch. On interviewing captains of the St. Lawrence mail boats at Halifax this winter, as to the prospect of despatch by the use of such boats, one replied, "Pilot boat nonsense;—what good would they be in fogs, or in the ice area, when at times it is impossible to see the length of the ship ahead?"

An ex-St. Lawrence mail boat captain speaking on the fast pilot boat question said, "I've seen icebergs only about a third of a mile apart, apparently in every direction. At times I have had to go dead slow in clear weather; at other times, stop my ship, and again, when winding through them and approaching bergs with considerable under water surface, I have had to back my ship and seek another opening. Under such circumstances pilot boat would be useless." Continuing, he said, that at times, in

the Straits of Belle Isle, he found it very difficult to locate the fog whistle. Very frequently his officers and look-out all differed as to the direction of the whistle, which effect he thought was caused by the rising ground in the rear.

On March 30th, I interviewed Captain Evans, of the Royal Mail boat "Lake Winnipeg." In speaking of fast pilot boats as a means of rapid transit on the St. Lawrence, he replied, "That pilot boat story is a fairy tale. No thinking person would suggest such a thing." And as to the question of differences in averages and speed between the New York and St. Lawrence routes he said: "It was remarkable the high speed and regular averages made on the New York route." As to the St. Lawrence and Belle Isle, the trouble in regard to speed was the ice until after mid-summer, and again the long tract of coasting water on the route. Good speed could be made in fine, clear weather to a certain point, but he considered the St. Lawrence route very uncertain for high speed boats. He said further that in thick and foggy weather they would have to feel their way by soundings, or jeopardize life and property."

The experience of the Allans in accidents and loss of life when heavy penalties were imposed by the Canadian Government for delaying the mails; the refusal of English capitalists and companies to undertake the running of a guaranteed high speed line on the St. Lawrence, from 1887 to 1894; the failure of the Hud-darts from 1894 to 1896; the refusal of the Allans in 1896 to close such a contract; and now the failure of the Petersens to raise a company for a guaranteed speed of 20 knots, 1896 to 1898, should open the eyes of Canadians to the difficulties of the route and lead to a thorough consideration of the matter. ✓

If Canada is to have a 20-knot service, not a 20-knot speed, ice, land-bound waters and fogs permitting, a route must be adopted, avoiding ice, coupled with an Atlantic port of call to obviate the necessity of trying to steam up the St. Lawrence at high speed in fogs.

In the past the whole trouble which has caused such a loss to Canada in travel, commerce, and national development, has resulted from the use of an ocean ice track and an inland port of call.

Canada is the only country in the world that uses an inland port for the delivery of mails, the only country which ignores the advantages of open ocean ports of call. The universal custom with fast liners is to use the first headland, or port, for the delivery of mails, etc., to railways and fast steam connections on the coast.

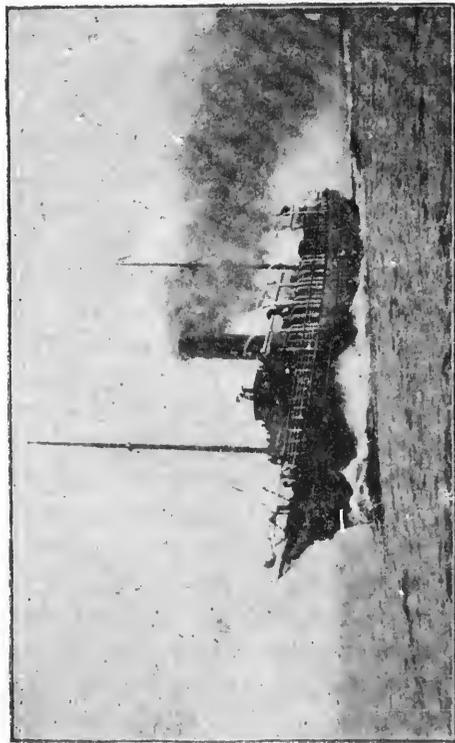
The Canadian mail boats for Liverpool, use Merville as a port of call; and the New York boats for Liverpool use Queenstown. Both these ports are first on their respective open ocean routes. Between these ports of call and Liverpool there is no ice and few fogs, no narrow channels to prevent the boats from proceeding direct to Liverpool bar. The mails landed at Merville and Queenstown are subject to water-carriage of 57 knots from Kingstown to Holyhead. There is very little time saved in the despatch of mails to London by using these ports of call. In fact, the fast Cunarders might deliver them via Liverpool as quick, by running a little risk in speed. Still, for the safety of the ships and the possible time of the delay of mails, these ports are used. In considering what is required for Canada, Plymouth is the best port of call for us. Some twenty-eight lines arrive and call there for the landing of mails. Boats from almost every ocean and every continent for European destination land their mails at Plymouth. The same system prevails with the far East. The P. and O. boats land their mails for Bombay, Calcutta and the Pacific at Colombo.

But in Canada the first port of call for the landing of mails is Rimouski—hundreds of miles inland, through a waterway subject to more obstacles and hazards than are found on any other ocean mail route.

A glance at the North Atlantic Chart will show that a Canadian expedient route for a Fast Line between Quebec and Milford or Liverpool, can be adopted by using North Sydney or Louisburg as ports of call. This will avoid the delays to mails caused by the ice, etc., by Belle Isle, and the dangers of fast steaming in fogs on the St. Lawrence. ✓

The distance from North Sydney to Milford Haven is 2,183 knots; to Queenstown, 2,067 knots. From Merville to Rimouski, 2,480 knots by Cape Race, but from Queenstown to New York it is 2,815 knots.

The proposed Canadian route would meet the universal de-

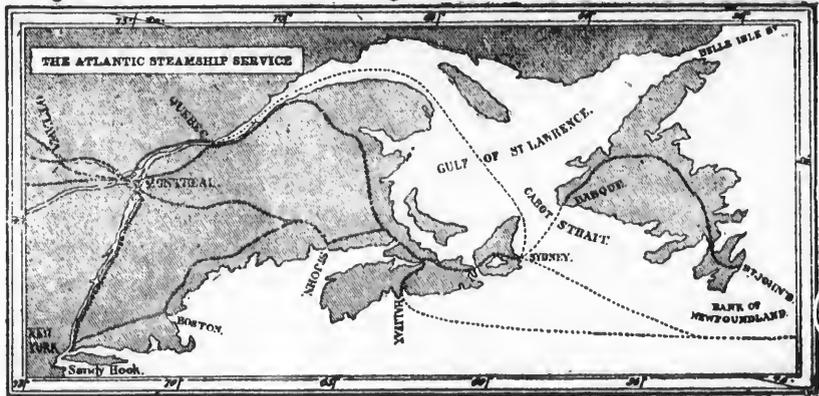


R. M. S. BRUCE.

Fast powerful boat connecting St. John's, Nfld., with Canada by the Reid railway system, Port Aux Basque and North Sydney. The Bruce was the first to make semi-weekly trips from Newfoundland to North Sydney throughout the entire winter, and is said to be the first link of the Reid European Air Line over Newfoundland (per chart opp. page 12)
—the Shortest Atlantic Route.

5

mand, not only as an expedient route, affording the highest possible ocean speed, and quickest delivery of mails; but also the shortest sea passage. In regard to speed and safety it possesses all the advantages of the New York route. The same lane routes on which the fast and regular passages between New York and Liverpool are made could be used by Canadian lines to the meridian of Cape Race.



From the point of divergence, from the established lanes to North Sydney the distance is short, the course direct, and through absolutely unobstructed waters. As a Canadian port of call, North Sydney possesses many advantages. It is one of the finest harbors in the world, and possesses an unlimited supply of excellent coal. It is in the centre of the Cape Breton coal fields. It is the nearest first-class port to Europe, and is on the best track between Liverpool and Quebec, and easily accessible at all times during the St. Lawrence navigation. It is the eastern terminus of the Inter-colonial Railway, and possesses in the highest degree all the advantages of a port of arrival and departure. Arctic ice is never found on the Cape Breton coast. After the light gulf ice passes out in the early spring, the coast is entirely free for the remainder of the year. Newfoundland turns the Arctic ice away from Cape Breton, and the Reid mail boats running between North Sydney and Newfoundland in 1898 made semi-weekly trips throughout the entire winter. The use of an Atlantic port of call would be simply for the despatch of mails, the boats proceeding to Quebec and Montreal, as

usual. After landing the mails the ship could proceed at greater leisure, which means greater safety to life and property.

For the purpose of determining the relative merits of the New York routes with the proposed route it is necessary to adopt a standard of ocean speed. The fastest steaming yet made by Atlantic liners has been done by the North German Lloyd's "Kaiser Wilhelm der Grosse." Her average run from New York to Southampton was 22.35 knots, but for computation we will adopt the French standard of 22 knots, which will soon be the speed of the French line to New York. This standard assumes, for the purpose of comparison, that steamers plying between British and North American ports during corresponding periods of the year, shall use tracks permitting the assumed standard speed. It is only necessary to compare the distance and time on the New York-Southampton route, with the proposed Canadian route having an Atlantic port of call.

Routes.	Distance. Knots.	Time. Hrs.
New York to Southampton	3,128	142.11
New York to Queenstown	2,815	127.37
North Sydney to Queenstown	2,067	93.57

The despatch of mails and passengers from North Sydney westward is simply a question of railway speed. Fast transit can be much cheaper and safer over-land than through fogs on the ocean. The short ocean voyage of less than four days would make the Canadian route and line popular, and would attract both American and European travel.

The gain in time in the transit of mails between Ottawa and London, G. B., by North Sydney over New York will show to advantage the favourable geographical position of the Dominion. We will base the comparison on the actual time occupied by the "Lucania" on her fast trip of five days, seven hours and 22 minutes.

VIA NEW YORK.

Description of route.	Time.	
	Hrs.	Mins.
Ottawa to New York	13	00
Detention at New York	4	00
Time occupied by "Lucania" on her quick trip in delivery of mails, from New York to London	156	42
	<hr/>	<hr/>
	173	42

Equals—7 days, 5 hours, 42 min.

VIA NORTH SYDNEY.

Description of route.	Distance.	Time.	
		Hrs.	Mins.
Ottawa to North Sydney	1,015	25	15
Detention at North Sydney		2	00
North Sydney to Queenstown	2,067	93	30
Detention at Queenstown		2	30
Queenstown to London		17	00
		<hr/>	<hr/>
		140	15

Equals—5 days, 20 hours, 15 mins.

This shows how the Ottawa mails can be delivered in London 33 hours, 27 min. less time than by New York. This gain is based on the assumption that steamers can run at full speed the whole distance to their respective ports. It can be safely assumed that the boats on the New York route can not maintain as high averages as can be obtained on the shorter route to North Sydney.

In stormy and foggy weather, the extra distance from the meridian of North Sydney to New York, 861 miles, the average speed must be materially reduced, particularly in approaching Sandy Hook Bar and up to the New York piers. The Hydrographic Office Statistics show that the average time of ocean liners from the meridian of Montauk to the New York piers is only about 8 knots per hour, while the run from the summer lane tracks of the New York liners to North Sydney the reduction in speed would mean a very little loss of time, if any, as the course is straight, with entire exemption from sunken rocks or dangerous bars.

The "Lucania" has made a day's run of 562 miles, equal to 23.42 knots an hour. She can be considered, on a short route, a 22-knot boat. A fair comparison of the new route, with an assumed speed of 22 knots to North Sydney. Her average in the delivery of mails between New York and London, according to the Superintendent of Foreign Mails, Washington, for thirty-four voyages, 1895-6-7, was 162 hours and 43 minutes.

The new route, therefore, would show the following gain over the fastest New York averages:

OTTAWA TO LONDON VIA NEW YORK.

Ottawa to on board ship, New York	17 hours, 00 min.
New York to London	162 hours, 43 min.

179 hours, 43 min.

Equals—7 days, 11 hours, 43 minutes.

OTTAWA TO LONDON VIA NORTH SYDNEY.

Ottawa to on board ship, North Sydney	27 hours, 15 min.
North Sydney to London	113 hours, 02 min.

140 hours, 17 min.

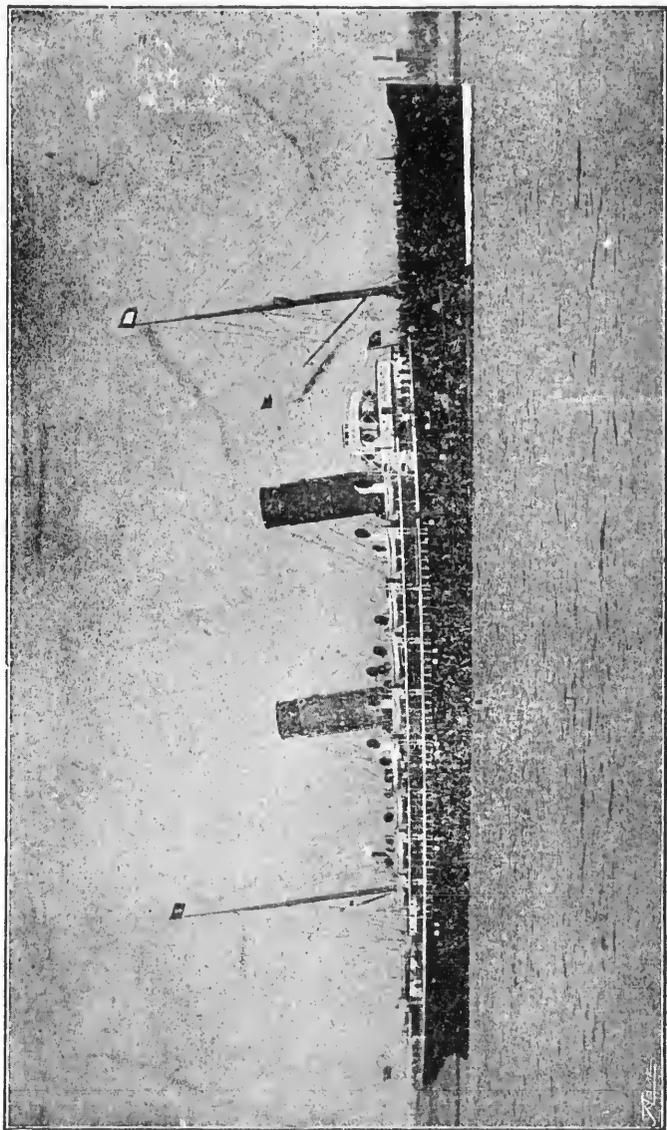
Equals—5 days, 20 hours, 17 minutes.

A total gain of 39 hours, 26 minutes.

Equals 1 day, 15 hours, 26 minutes, whereas the gain to the maritime provinces, the military and navy at Halifax and the West Indies would be double this time.

With improved railway time, the gain would be greater. It would be still greater if the ocean speed was based on a twenty-knot or slower service.

In no way can a saving of time be accomplished without increasing the speed of ships above the present rate, which would be an expensive experiment, or by shortening the length of the ocean voyage and substituting as much railway travel as possible. The saving of time by shortening the ocean voyage calls for the selection of an Atlantic port of call, which with a 22-knot service and fast train connection, will enable Canada to compete with the United States for the Atlantic travel, immigration and commerce.

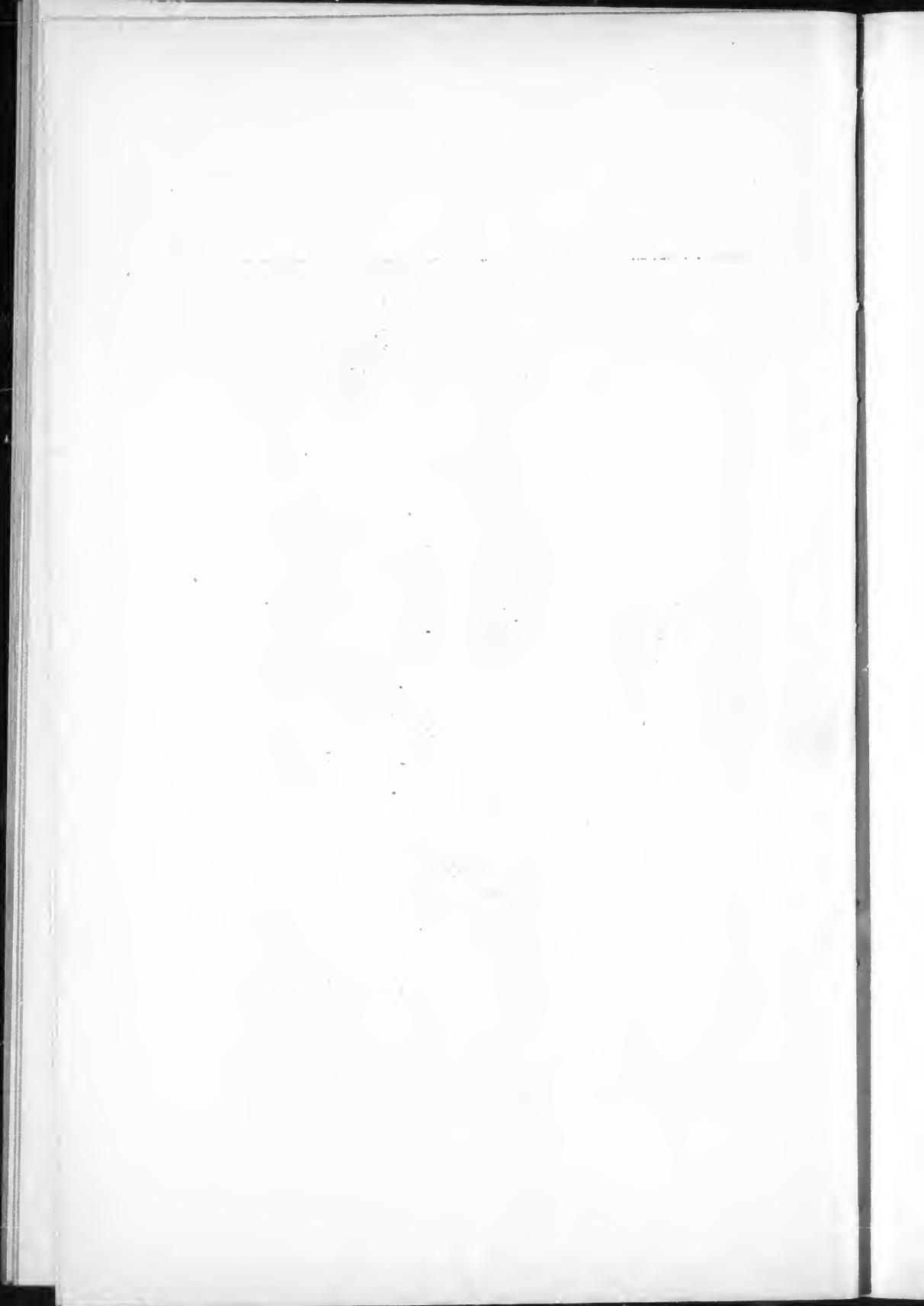


The Cunard R. M. S. "Campania" and "Lucania," 12,950 Tons.

RECORD PASSAGES AND FASTEST OCEAN STEAMING.

"LUCANIA" 5 days, 7 hours, 25 minutes. Average speed per voyage 22.01 knots. Highest day's run 562 knots; 23.42 knots per hour, or 26.96 miles.

"CAMPANIA" 5 days, 9 hours, 6 minutes. Average speed per voyage 21.88 knots. Highest day's run 553 knots; 23 knots per hour, or 26.48 miles.



PACIFIC COMMERCE AND FAST MAIL SERVICE.

But in addition to the importance to Canada of participation in the trans-Atlantic passenger and immigration traffic the events transpiring in the East, which are likely to involve the commerce of China, are of great significance to the Dominion. This vast empire, endowed with greater natural resources than India or Africa, and possessing greater population than either, presents a tempting field for Canada and the States fronting on the Pacific. The nations of the world, Christian and Pagan, are ceaseless in effort to secure supremacy in commerce, wealth, and dominion. And to secure these results, the patriotism, strength and resources of nations must at times be taxed to their utmost in maintaining armies and navies, and in systems of transportation and intercommunication. This struggle for domain and commerce beyond the seas has caused Great Britain to expend five hundred million dollars on her present navy. Germany is expending two hundred millions on naval improvements. France, the United States, and particularly Russia, are following the lead of England. The little kingdom of Japan has recently provided a large sum for additions to her navy, which, when completed, will place her fleet third among the navies of the world.

While the nations are being heavily taxed in construction of navies, and sustaining fleets and armies for commercial and political advantages, we are fortunate to have England secure us markets free of such heavy burdens, leaving us only the light work of building lines of transportation for the development of Canadian industries and commerce.

In the establishment of rapid and economic transit, there are three questions of importance to Canada to be considered.

1. The boats should not only be suitable for mails, travel and traffic, but of a type to meet the requirements of first-class auxiliary cruisers. In the event of a general European war, requiring England's fleet abroad, Canada's large foreign commerce on two oceans without means of keeping open communication across the sea, would be seriously hampered. The speed question in this connection is one of first importance. The maritime powers in the construction of modern fleets are making this a special feature.

In 1885 the natural draught speed of the fastest British cruisers was 16 to 16 1-2 knots. But of the cruisers and ships since designed, 14 have a natural draught speed ranging from 20 1-2 to 22 1-2 knots, and 69 from 18 1-2 to 19 1-2 knots, and higher speed can be attained for short periods. There is no standstill in naval steam propulsion. The nations are seemingly trying to outdo each other. In the present Spanish-American war it is the fast boats that are in demand as auxiliary cruisers. A 22 or 23 knot liner would soon run down a 20 knot boat, and in view of Canada's large interests in maritime matters, and the importance of the safe delivery of mails, this feature of the question should be carefully considered in the establishment of ocean mail services.

2. Cheap transportation is the great requirement of Canada. The country which reduces to the lowest figure the cost of transferring tonnage from point to point, whether sea-borne or inland, all other things being equal, will have the greatest industrial and commercial development. This is seen by the wonderful growth of England's commerce, and the rapid increase of German and American domestic and foreign trade since the introduction of modern steam propulsion.

The wonderful competition that our great staple export crops are now obliged to meet in England and the markets of the world is well known. The competition from the immense increase of output, at low cost of food supplies and other products of industry,—an increase which has more than kept pace with the growth of population,—and from wheat areas having ocean navigation, and from the ever-increasing economies in transportation, has reached a stage that production is almost unprofitable to farmers in our western provinces.

The farmers in the Western States have the advantage of competing railway lines and water transit to the seaboard. In the over-sea carriage, the competition between the great ocean lines with their modern freight carriers has reduced the cost of transit to a minimum. The principal fast line companies on the New York route are building huge cargo boats for handling the heavy freight of their passenger traffic, and for general cargo purposes. The North German Lloyds and the Hamburg-American Companies in addition to their fine fleets of modern boats are building half a

dozen each of the most improved cargo boats. The new White Star "Cymric," one of the most improved cargo vessels afloat, is over 12,000 tons gross and 23,000 tons displacement. Besides her cargo and dead-meat capacity, she is fitted to carry 830 head of cattle, as well as a large number of horses. The same company will soon launch the "Oceanic," 17,000 tons gross. Nor is the end of economies in ocean transportation in sight. Boats of 20,000 tons gross, exceeding 30,000 tons displacement, are in the order of events. These huge ships, owned by the fast line companies, steam from 11 to 16 knots on a small coal consumption and comparatively light running expenses.

This competition between the fast steamship lines, with their modern freight carriers on the New York route, gives American industries a decided advantage over Canadian, which are yet without competing fast liners and the larger improved freight boats on unobstructed ocean routes. A recent writer on modern economies of transportation says:

"This has resulted in developing a system of sea carriage almost as perfect as that of land carriage. The sailing vessel of limited tonnage and high risk has grown into the steam vessel of ever-increasing size and freight capacity, sailing from port to port on schedule time, and well nigh irrespective of wind and tide. Such a development has called into existence a number of auxiliaries—harbors, docks, warehouses, and an immense and complicated machinery for prompt and safe handling and forwarding of goods. IT HAS ALSO SELECTED OCEAN PATHS FROM CONTINENT TO CONTINENT, WHICH OFFER, IF NOT THE SHORTEST ROUTE, THAT WHICH EXPERIENCE SHEWS TO BE LEAST FRAUGHT WITH DANGER OR DELAY."

And as the cost of transportation determines the margin our farmers and producers have on their products, and in a sense the value and settlement of our great prairies, is it not a question that should be considered in the establishment of fast ocean services? Should not the subsidies be sufficiently liberal to induce Canadian capitalists who are in sympathy and in touch with Canadian interests, to join with British capitalists in giving Canada a well-equipped service, a line with speed to draw ocean travel, which

means traffic, and large modern freight carriers for facilitating economic transportation. The marvellous growth in population and wealth of the neighboring Republic has been assured from improved facilities of transportation, without which its 70,000,000 of population could not exist. Canada's position and requirements being similar, the conclusion must be irresistible that along the lines of cheap transportation and speed lies the highway of her industrial development.

3. The events transpiring in the Pacific, the awakening of nations to its future commerce, and the opening of China for industrial enterprise, indicate coming changes in the world's commerce. The prophecy of William H. Seward is being fulfilled. In addressing the United States Senate on the political and commercial activities of Europe, he said: "They would ultimately sink in importance, while the Pacific Ocean and its shores, its islands and the vast region beyond, would become the chief theatre of events in the world's great hereafter." Germany, France and Russia are occupying ports in the Celestial Kingdom as bases for commercial purposes. To secure the full benefit of its commerce, they are improving their communication with the Orient. The Reichstag has just voted to the North German Lloyds an extra 1,500,000 marks' subsidy for higher speed service and for new boats (four) of improved type, for immediate use on the Chinese route. France is improving her Eastern service.

The Oriental and Peninsula S. S. Co., British, are building boats with wider speed radius, to meet the new element of competition in the East. Russia is pushing her trans-Siberian railway to an early completion. The line with its connection will cost the Empire 175 million dollars. Eight steamship lines will connect its eastern terminus with Pacific Asiatic ports. Already the Russians are talking of trans-Pacific lines with termini at American ports for a line of travel around the world without touching on Canadian-British soil. Canada, with her western seaboard fronting on the Pacific a near neighbor to China, is more interested in her trade than either France or Germany; and through England's long standing treaty and trading rights, have stronger claims there than even Russia. The possibilities of the Orient for commercial development, having an area of five million square

miles, rich in material resources, abounding in coal and economic minerals, and with a sea coast of 800 leagues, and an estimated population of 400 millions, affording almost unlimited markets, easily explains the struggle of the nations for possessions, trading and railway privileges.

"It is impossible to overrate the gravity of the issue. It is speech, emphasized the importance of the Chinese trade. He said: not a question of a single port in China—that is a very small matter. It is not a question of a single province; it is a question of the whole fate of the Chinese Empire, and our interests in China are so great, our proportion of the trade is so enormous,

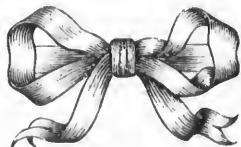
The Hon. Joseph Chamberlain, in his recent Birmingham and the potentialities of that trade are so gigantic, that I feel that no more vital question has ever been presented for the decision of a government and for the decision of a nation, and for my part I have tried to-night to state clearly and without exaggeration the conditions of the problem that we have before us."

It has been said that, "with the development of the marine engine, the sea unites, rather than divides, widely separated lands." We are at the gateway of the Middle Kingdom and with England to secure us an entrance, and commercial and political prestige, we should improve the present opportunity by following the example of other nations in establishing necessary means of transportation to take advantage of the situation, which if neglected now may be lost to us through the strivings of the nations whose political or commercial interests are antagonistic to our own.

European-Asiatic travel through the Dominion has been the ambition of Canadians. Its realization would so quicken the pulse of trade as to cause a permanent commercial advancement. Our geographical position, where the Atlantic and the Pacific, respectively, furnish the shortest and easiest access from America to Europe and Asia, affords splendid opportunity for its accomplishment; but transit facilities are wanting. The European nations are increasing speed on the Suez route to Chinese ports. Six fast express Atlantic lines connect New York with European ports. Three lines of railway connect the Atlantic with the Pacific; and five trans-Pacific lines ply between American, Pacific

and Asiatic ports. For Canada to compete with these systems, equal rail and ocean speed is required. A twenty knot service, which means about an average speed of 16 to 17 knots by Belle Isle, will leave us far behind in the race; but should a twenty knot average speed be attained, even that will not enable us to compete with 22 and 23 knots, which will soon be realized on the New York route; nor will it enable us to compete with the improved European lines by the shorter Suez route, not to mention the great Russian-Siberian railway and its connections.

The securing for Canadian industries and enterprise the markets, the potentialities for commerce with trans-Pacific communities, and also the trans-continental travel, would produce industrial expansion, allied with prosperity and national growth, surpassing all that present imagination can anticipate. In view of the struggle for these markets, delay in carrying to an early completion a system of the most improved transportation between the United Kingdom and the Orient through Canada, would be nothing short of a national calamity.



CANADIAN BOARDS OF TRADE ON THE ATLANTIC
MAIL SERVICE.

Toronto, January 16th, 1893.

The Board of Trade of Toronto, having considered the question of Transportation from a Canadian standpoint, and having regard to the enormous resources of the country, both as to its providing and purchasing ability, as shown by its steadily increasing exports and imports, especially to and from Great Britain, and

To vast sums expended by the Dominion in developing our system of Railways and Canals, and

To the fact that this system makes direct connection with Canadian Ports much nearer to Liverpool than New York is; Quebec being four hundred and seventy miles nearer, St. John three hundred and eighty miles nearer, and Halifax six hundred and fifty miles nearer, while other even more suitable Ports may be found still nearer, and

To the further fact that our Canadian Atlantic Service is inadequate to the wants of the country;

Therefore be it resolved, that in order to obtain the full benefit of our already enormous expenditure, and our great natural advantages, and render the nation independent of foreign ports for Atlantic transportation, a fast Canadian Steamship Service is a necessity, and should be encouraged by the Canadian people and by the Dominion Government.

And be it further resolved that this Board of Trade is of opinion that a first-class Canadian Fast Atlantic Steamship Service would materially increase the value of our European exports, and decrease the cost of delivery of our European imports, largely augment the volume of our passenger travel, improve our Foreign Postal Service, and otherwise be of great national importance, and would, therefore, strongly urge the Government and Parliament of Canada to render such assistance and make such arrangements as may be required to secure such a service, and give it control of a railway service as the proposed steamship line would require.

Office of the Quebec Board of Trade,
Quebec, 20th October, 1898.

The Quebec Board of Trade would again respectfully place on record its opinion that any permanent arrangement for the Atlantic mail service should be based upon the speed of the fastest steamers carrying the mails to New York. In no other way can Canada benefit by the immense advantages for future development which the saving of nearly 500 miles in distance should give to the St. Lawrence as compared with the New York route. In this connection it may not be inopportune to point out that three fast steamers could maintain a weekly service between Quebec and Liverpool, whereas the negotiations would have been unsuccessful were they based upon the contractors being obliged to furnish four such steamers, etc.

Office of Montreal Board of Trade, Nov. 14th, 1898.

Resolved—"That the Council is unanimous in approving the principle of a handsome subsidy being paid to secure a quick and regular mail service between Canada and Great Britain, but it is strongly opposed to the renewal of the mail contract upon the old terms, and it would therefore urge instead that a good subsidy should be paid for a weekly service of steamers with a guaranteed speed of sixteen knots, the contract to provide that the full amount of the subsidy shall not be paid when such speed is not maintained throughout the trip, unless reasonable cause for the delay be shown.

"That the Council would further suggest that as there are not available here at the present time sufficient sixteen knot steamers to perform a weekly mail service, the arrangement for the trans-Atlantic mail service shall, pending that much needed consummation, be on the poundage basis upon which the Canadian mails via New York are now carried."

North Sydney, C. B., Nov. 22, 1898.

"Recognizing the importance to Canada of modern ocean transportation, the Council would respectfully urge upon the attention of the Government the necessity of an Atlantic Mail Ser-

vice, based upon the speed of the fastest steamers carrying the mails to New York.

"The old contract system, having failed to meet the requirements of the country, the Council is opposed to its continuance; and that pending the required improved service, the arrangement for the trans-Atlantic mail be on the poundage basis upon which the Canadian mails via New York are now carried. It would also beg to further suggest that the postal subvention be paid on the rate of speed; and that the Council strongly favors such liberal subsidy inducement as may be necessary for more speedy and frequent mail communication between Canada and Great Britain."

IMPROVED TRANSPORTATION.

There are scarcely any subjects receiving more attention than that of Transportation. The modern advance in industrial expansion is largely ascribed to improved uniform rates of transit. The present importance of transportation as a factor in national growth is owing to the phenomenal improvement in steam propulsion.

It is well understood that the position of Great Britain as the heart of the world's industry, finance and commerce, is largely attributable to her excellent system of merchant steam services, which has cost her in subsidies \$250,000,000 in fifty years. On the other hand the industrial progress of Russia would have been impossible had not the government provided railway transportation, and promoted industries such as iron works, whenever individuals could not act advantageously. The completion of her railway extension to the Yellow Sea, and the establishment of steamship lines connecting it with American, Australasian, Indian and European ports will make Russia's position in Asia second only to that of Great Britain.

France with a large merchant marine, which is costing the nation over \$6,000,000 annually in subsidies and bounties, has had a Parliamentary committee studying the subject of improved Transportation, for more than a year. In its report the Committee says:

"The result of their enquiries and deliberations is that they consider the present condition of the French Merchant Marine a critical one, especially in regard to its ability to successfully compete with that of other nations. This is notably the case with lines of steamships. Its relative inferiority, already demonstrated, becomes more and more apparent each day, and with each advancing stride made by steamship lines of other foreign countries. This state of affairs, if prolonged would lead to the most disastrous commercial, social, military and political results, and it is quite natural that the government should give its attention to the best measures for remedying such a serious situation, the power to ameliorate which from the nature of things cannot emanate from private sources."

The London, G. B., "Siren and Shipping" says:—

"The French Compagnie Transatlantique have determined to outdo the Hamburg American line which is building a boat designed to beat everything afloat. France is resolved not to be left behind, and the Compagnie Transatlantique have been ordered by the Government to take the shine out of the Germans. Therefore they are contracting for two masters to steam twenty-two and one half knots at sea, which is about six knots more than the records of this line hitherto. Their mean record is 16.71 knots, as against 19.25 of the Cunard line, 18.76 of the American line, 18.72 of the Hamburg American line, and 17.24 of the White Star line. The two new French boats are to be ready by 1900, and are to be followed by two others [excelling all other boats afloat. Meanwhile, the American line are negotiating with Messrs. Cramp and Son for a new boat to beat both the new Hamburg-American and the North German Lloyd's boats."

The industrial success of Germany, the extension of her commerce—more recent and more rapid than in the case of other nations—are largely ascribed to cheap and uniform transportation, through State ownership of railways, and aid [to foreign steam communication.

A foreign exchange commenting on the recent Imperial Government contract with the Lloyd Steamship Line, says:

* The Deutschland, 686½ feet long, 67½ feet broad, 44 feet, 16,000 tons, 35,000 h. p., 23 knots average speed.

“Asiatic commerce is a golden prize for which the nations of the earth are about to enter into a mighty struggle. The imperial government of Germany has been the first to come to the aid of its merchants, and by the expenditure of more than \$1,000,000 a year has provided them with steamship lines that will carry their goods to the distributing centres of the Orient. The line to receive this subsidy is the German Lloyd, and the agreement is to run for fifteen years. Special vessels are to be built for the trade, and that they are going to strictly serve German interests is proved by a clause in the subsidy agreement, which gives in all instances the preference to German goods. Germany's exports to the Asiatic countries have been increasing by leaps and bounds, and by this latest move it is hoped to gain a lead that no other nation will ever be able to overcome.”

The Lloyd and Hamburg American lines are to receive \$1,320,420 subsidy for which they are to establish five services to Asiatic and Pacific ports.

Japan, following the lead of European nations, in 1882 adopted the policy of encouraging foreign commerce, by aiding steamship lines, and in 1892 extended the system. A phenomenal increase in her trade and shipping has been the result. By the most liberal tenders of government support the Japanese National steamship company—Nippon Yusen Kisha, will operate six lines next season (1899); a fortnightly service to Honolulu and Seattle, monthly to Hong Kong, Colombo, Marseilles, London and Antwerp, and lines to Australia, Bombay, Manila and Shanghai, for which services the company receives \$2,500,000. Japan pays annually \$4,000,000 in promoting her merchant marine.

Perhaps the best example of the result of modern transportation is seen in the industrial expansion and growth of the United States. The European competition for American carrying trade dates back to 1860. Since then the merchant shipping of Europe built up by twenty million dollars in annual subsidies, has developed a system of cheap Atlantic transportation that has improved values east of the Rockies, and so altered the conditions of life as to promise an incomparable future for the United States.

Hanna's Merchants Shipping Bill, before the Commerce Committee of the United States Senate, “To promote commerce

and increase the foreign trade of the United States, and to provide auxiliary cruisers, transports, and seamen, for government use when needed," is a measure to promote ocean liners and freight carriers. Its operation will give the United States the lead in the carrying trade and markets of the Pacific, if not the world.

The Commissioner of Navigation estimates the annual expenditure under the bill will amount to \$5,000,000 in the fifth year, and \$8,000,000 in the tenth year of its existence. It provides aid for all American shipping in the foreign trade of the United States, on the basis of tonnage, mileage and speed. Its liberal provision is shewn in the subsidy the New York-Southampton "International" Line will receive under it. The present subsidy is four dollars a mile, equal to \$750,000; under Hanna's Bill the subsidy would be increased to six dollars a mile, or \$1,125,000. The measure may be delayed one or two years owing to the opposition existing in the western states in the face of the splendid Atlantic transit facilities, but that prejudice will no doubt be easily overcome by the recent imperial policy which includes the merchant marine.

The bill plainly indicates that not being satisfied with the upbuilding of their commerce by British shipping and British subsidized lines for more than half a century AT THE EXPENSE OF CANADA, the United States are about to enter upon a new era of American-Anglo competition for the carrying trade and supremacy of foreign markets.

CANADA.

The measures that have resulted in the awakening and development of nations should have weight in this country. How long improvements in modern transportation will continue, is difficult to foresee; but the increase in size of modern freighters from 9,000 to 11,000 and 13,000 tons, and the improvement in speed of national subsidized express lines from 20 to 22 and 24 knots, may be followed from year to year, and judging by the past some estimate may be formed of the competition that confronts Canada in the development of her European-Asiatic trade. On the Pacific our trade compares favorably with that of the United States. No foreign fleets as yet exploit the American Pacific business, and

relatively Canada leads. But on the Atlantic the situation is not promising. Scores of European subsidized steamships traverse the Atlantic, performing the United States mail service and carrying trade, and attracting to the American seaboard western products that should be handled at Canadian ports. Six express lines, (only one American) provide a daily ocean ferry between New York and European ports, patronized by their flags and receiving state aid from their respective governments to the extent of \$4,000,000 annually. These long-established European lines have been going on increasing in size, speed, and cost, in numbers and competition, so that only a company in a position to control traffic and utilize every coign of advantage, colonial, imperial, foreign and geographical, the situation affords, can make the Canadian fast line a success.

Under the heading of "subsidies," the Canadian blue books show \$200,000 in round numbers paid annually to trans-atlantic boats. The service was characterized as useless by the Post Master General and Lord Jersey, at the 1894 Colonial Conference at Ottawa, and it has not improved since. The course pursued by Canada, in continuing to subsidize boats of 9 and 10 knot speed is a matter of amazement in Great Britain and other progressive States. Pending the much-needed fast service, the recommendation of the Montreal Board of Trade would improve the Atlantic mail service. By resolution, the board strongly opposes the renewal of the English mail contract on the old system, and urges that no subsidy be paid to a weekly service without a guaranteed speed of 16 knots; failing to obtain that speed, "the adoption of the poundage basis upon which the Canadian mails via New York are carried." This means the frequent despatch of English mails by the fastest boats of respective lines sailing from Canadian ports. American system is given on pages 8 and 9.

But the adoption of the American postal system to "foreign steamship lines" will not meet the requirements of the country. Our trans-atlantic and prospective Asiatic trade is passing more and more into the hands of foreigners. Canada must determine whether she will continue to cling to conditions which no longer fit the time, and thus stagnate, or whether she will vigorously

grasp the changed condition of development, and thus become prosperous and great.

The Quebec Board of Trade, in an official letter dated February 4th, 1899, to the Right Hon. Sir Wilfrid Laurier, remarks:

"They respectfully beg leave, sir, to here textually quote the statements made by Sir William Van Horne: 'I am sure that there is no economic heresy in the doctrine that the trade of the country should be carried by that country's own land and water routes. . . . Looking at Canada all over it seems to me that she, of all countries, ought to keep her carrying trade in her own hands if she can. For a like reason she ought to keep her seaboard provinces in closer touch with the rest of the country, by establishing a winter port there. Were I a Canadian Minister, I would not vote a dollar to Canadian fast Atlantic service except on condition that it filled the end here outlined. In my judgment the Canadian Pacific Railway is the only agency that can establish and successfully operate a steamship line capable of doing this, simply because it alone has the machinery to work with—a trans-continental route all the way from Vancouver and Winnipeg to Montreal and St. John, affording unequalled facilities for feeding Canadian ocean steamships, and for carrying the cargo from the place of origin to Europe at low cost. . . I would provide Canada with a better ocean service than exists anywhere else in the world. . . They would be the fastest and most sumptuous and the most comfortable vessels afloat. . . I would make the line on the Atlantic so splendid that it would be talked of the world over. This would give Canada a most magnificent advertisement. For such a service, the country could afford to pay a million dollars.

"If it is intended by the Dominion Government to place this country in a position to successfully compete with American lines, if this country of ours wants to make the very best out of its superior geographical position, and become the main highway between the European and Asiatic continents, it may become imperative on their part to grant a subsidy as above referred to, viz: \$1,000,000."

This service, which includes modern freight carriers, would benefit the country in two respects. First in its carrying trade

it is claimed the most likely way of recovering the Manitoban traffic for the St. Lawrence route is for the Canadian Pacific Railway Company to handle the grain from the place of growth to the markets of Europe, by putting large grain steamers, with barge consort, between Fort William and Owen Sound, running them in connection with the railway at Fort William, and with the ocean service at Montreal or Quebec, so that the Manitoba shipper can get a through rate and through bill of lading from elevators in the west to Liverpool. At present the C. P. R. ceases to have any interest in the grain once it reaches Fort William. The low rates by the large American lake boats, carrying 175,000 bushels of wheat from Duluth and Fort William to Buffalo, and the supply of modern ocean carriers at U. S. ports, give the American route an advantage over the Canadian. Unfortunately the St. Lawrence route lies outside of the deep water area; vessels of only 14 feet draught, and 60,000 to 70,000 bushels capacity can pass the Welland-St. Lawrence route.

"The Canadian Pacific Railway," says a high authority on the question, "could carry wheat from the place of growth in Manitoba to Fort William and thence to Liverpool on its own steamships from Montreal at a rate which no other route or combination of transportation interests that I knew of could touch."

This through Canadian Pacific service, it is believed, would give the St. Lawrence in summer and the Canadian Maritime ports in winter, a pull over the United States route they can hardly hope to get in any other way.

Second, it should give Canada the handling of British-American mails, and with branch lines, perhaps some of the West Indian and Pacific, as well as place the Dominion and her Atlantic provinces in the line of European-American Pacific travel. British statesmen, including the Rt. Hon. Joseph Chamberlain, have strongly urged not only a fast Atlantic service, but also a first-class Canadian-European Asiatic line. And further they have also given an assurance of imperial aid should the service be of that high character that will enable the British Government to use it as a mail route. When considering improved mail service for the empire at the Colonial conference in 1894, Lord Jersey, the British delegate, made particular enquiries of Mr.

Huddart, the fast line contractor, of the prospects of his scheme competing with New York lines, and as to delays, if his boats would use more northerly routes than the steamers to New York take, and if the obstacles in the way of dispatch on the Canadian route could be overcome. Lord Jersey assured the conference that the subsidy paid to the New York lines for conveyance of British mails were open to Canada when her route afforded equally quick despatch. He said: "I wish to clear away a misconception in Mr. Playford's mind. The British Post Office has no preference for New York route, which it only uses because the fast steamers go there and not because it is the wish to subsidize the mail route to the United States. Sir Adolph Caron has clearly stated that at the present time Canada could not expect the British Post Office to send their letters by the existing route. But the whole question will be altered the moment a new route is made between Canada and Great Britain."

The route referred to by Lord Jersey means two requirements—the class of service Sir William Van Horne designates as "Canada's greatest need," and an ocean route such as Austin Corbin describes on page 12. The relative merits of the Canadian and New York routes for dispatch are better known in England than in Canada. The London Post Office keeps a record of the time used in the transit of American and Canadian mails, also the delays and cause of delays. These data are open to the press and are published in Parliamentary returns. The comparison of the two routes as published in the English shipping papers, shows the disadvantage, and the recent action of Lloyds', the hazard of Canada's present route.

The carrying out of the measures recommended by British statesmen and Canadian Boards of Trade, (page 33) which also includes equally important measures advocated by Admiral Sir J. Hopkins, and Sir Sandford Fleming, (page 43), would remove the barrier at Lloyds' to our Atlantic commerce, place us ahead of New York for rapid transit, and be moving along lines that would ensure Canada imperial aid and success in spite of apparent difficulties from European-American competition at New York.

Great Britain pays annually in subsidies and admiralty subventions to her merchant marine over \$5,000,000. The mail sub-

sidies to the New York lines exceed \$600,000; to the West Indies, \$448,000; and South America \$250,000; to Newfoundland, \$10,000; and to the Asiatic and Pacific lines the amount is over \$2,300,000.

These subsidized lines are the feeders to Great Britain's foreign commerce, as are also the subsidized lines of all maritime nations shown in the table of ocean services annexed.

The extent of the commercial interests of Canada in Pacific and on the Atlantic, are not to be measured by a nominal subsidy. We must elect whether we will provide the measures for industrial growth or remain relatively stationary. There is a possibility of aid by joining subsidies with Great Britain, or speaking broadly Great Britain and Pacific communities co-operating with Canada in the establishment of a through line that, while serving imperial interests, would also develop Canada and thus strengthen the Empire.

Note: The press reports as to the withdrawal of British subsidies to New York mail boats, only refer to Admiralty subventions, £15,000 to the Cunard line, and £14,661 to the White Star, and not to the postal subsidy of £107,694 paid these lines for the New York mail service.

SIR SANDFORD FLEMING ON THE CANADIAN SERVICE.

Sir Sandford Fleming, one of the most eminent authorities on transportation, has made Canada's needs a study, and has given the conclusion reached in three articles in Queen Quarterly in which he points out that "while cheap transportation is the great problem for Canada there is another only second to it, and that is rapid transit; but they are two very different things and all attempts to combine them must in the end fail. Cheap transportation will not be obtained by greatly increasing the running expenses and the consumption of coal of ocean ships and by running them at high speed in dangerous navigation." He points out that "the St. Lawrence is the proper and the natural route for the transportation of the staple products of the country and for all heavy merchandise, but it should be carried in cargo steamships of moderate speed at minimum cost." He says "the conditions

imposed by nature are unfavorable for rapid transit by the St. Lawrence route and any attempt to establish on this route a line of fast transatlantic steamships to rival those running to and from New York would result in disappointment. In the event of a fast ocean service being established, it should not be for cargo merchandise but almost exclusively for passengers and mails. It should avoid the Straits of Belle Isle, and speed should not be maintained in the river St. Lawrence owing to the tremendous risks to which the ships and their passengers would so seriously and frequently be exposed in the Belle Isle route."

His idea is "to have the fastest ocean ships on the shortest ocean passage." He shows that "North Sydney is the nearest eligible Canadian port to Europe and has many advantages. Among others it is the eastern terminus of the Inetrcolonial railway and a commanding point for Newfoundland. The fast mail boats after landing mail, etc., could proceed to Quebec and Montreal, or between Sydney and Montreal commodious light draft vessels of great speed could ply regularly during the summer months to convey passengers who prefer water to railway, such steamers as those magnificent Clyde steamers the 'Iona' and 'Columbia,' so familiar to tourists in the United Kingdom." His views will be made clear by reference to the sketches on page 23.

IMPROVED CANADIAN ATLANTIC TRACKS.

The question of safe tracks for rapid ocean transit has received more than usual attention during the past year. The sinking of the French liner "Bourgogne" and the loss of over 550 lives, provoked discussion as to the hazards of sea journeying, on both sides of the Atlantic. Captain W. H. Smith, R. N. R., contributed valuable suggestions on improved routes during the discussion. In regard to the difficulties experienced on the Canadian route, he said:

"The great Arctic current flowing from Davis Straits and Baffins Bay, fed by innumerable tributary streams, bears upon its bosom hundreds of miles of field ice, and a large number of icebergs, which fill the sea off the coast of Labrador and Newfoundland on their progress southward until the Newfoundland Bank is reached,

"I have the logs of two steamers before me, one bound eastward, the other westward, (Captain Smith, the writer, was in charge of one of the boats), and their average day's run amounted only to 30 miles for five successive days.

"They were surrounded by icebergs in the midst of dense fog and at times could not make progress in any direction whatever, and the ships were actually stopped for five nights.

"No system has yet been devised by which a sea pervaded for hundreds of miles by icebergs can be navigated at any speed, with safety, in thick weather.

"This no doubt, is the opinion of most all experienced nautical men who are in a position to give an unbiassed view of the matter without fear or favor.

"No one will deny that it is of great importance to all concerned in North Atlantic navigation that steamers carrying a large number of passengers between American and European ports, should, if practicable, traverse the ocean upon such safe courses as will in all probability take them clear of the most dangerous localities."

James and Alexander Allan in the London Times, reviewing the Huddart contract for 20 knot guaranteed speed on the St. Lawrence route, said:

"What was the Allan History? In the earlier years of their contract, although the speed was not half that now required it had to be maintained under penalties, and in trying to fulfil its terms they lost between 1860 and 1864 six mail steamers. In 1864 when the contract was renewed, they got the following clause introduced: 'When the presence of fog or ice makes it dangerous to run the vessels at full speed, it shall be the duty of the captain either to slacken or to stop the vessel as occasion may require, and the time lost by doing so, if proved to the satisfaction of the Postmaster-General, shall be allowed to the contractor in addition to the time specified for the length of the voyage.'

"When that proviso became operative the good record of the mail service began. The immunity from disaster is due to the fact that speed is now subordinated to safety. But speed under the new contract cannot be intermitted if the steamers are to compete with Campanias and Lucanias.

"When the warmth of summer brings down Arctic ice into the ocean track the New York steamer can with little increase of mileage choose a southern route and career at speed through fog, fearless of ice or land, until she reaches off her port. But how can a vessel that must enter the St. Lawrence do this, where the gateways are near Cape Ray or the Straits of Belle Isle? It is impossible; and how can she safely go 20 knots through fog when within land-bounded waters? If it be contended that navigation is now made safer than formerly, we answer it is mainly due to increased watchfulness, for no beacons or lights can turn aside the dangers of ice and of fogs in land-locked seas."

The discussion and suggestions by navigators led to a general conference of the principal fast line managers during the autumn in London, to consider improved Atlantic tracks. The meeting came to the conclusion that express tracks should be clear of ice. It was thought that July 15th was too early to change to the northern lane. That route then was by no means entirely clear of icebergs; accordingly it was agreed to make the date August 15th instead of July 15th. More southerly winter tracks by two points were adopted, and all agreed to follow the lane routes; an important decision, as the "go-which-way-you-like" plan was without doubt largely responsible for the numbers of collisions and accidents that have occurred. Since 1876 the lanes used by the New York fast liners have been improved from time to time, so that the difference of time in the annual averages is now down to 60 minutes, and in some years less.

The time occupied in the delivery of mails between London and New York via Queenstown by the S. S. "Campania" in the years 1895-8 is as follows:

Years	Ships.	No. Trips.	Avg. T. Q.	Time.
1895—	Campania	9	162.5	157.4
1896—	Campania	12	163.9	158.1
1897—	Campania	12	163.7	156.9
1898—	Campania	12	163.5	157.3

The close averages, the maximum of speed maintained in fogs, and the absence of accidents, shew the wisdom and advantages of improved routes. Compared with the difference of average by the S. S. "Parisian" of 19 hours, and over 100 hours between the

slowest and the smartest passage, (p. 17) this confirms the statements made and shews that Canada is more in need of improved summer tracks than the New York transatlantic liners are.

The British-European firm who have co-operated in the policy of improving their fast line tracks deserve the heartiest congratulations of the Atlantic travelling public, and shipping.

May it not be hoped that Canada will so see her needs as to adopt improved lanes, or use the American fast line tracks to the meridian of the St. Lawrence? Per sketch opposite page 13 and description pages 21-23.

Nautical men have laid down Canadian summer fast line track for use as the season advances: From North Sydney to lat. 46.10N; Long. 51 W., 15 miles south of the Virgin Rocks, distance 370 miles, and from position 15 miles south of Virgin Rocks to Fastnet on the circle track 1642 miles.

But of course tracks for continuous high speed in fogs, to compete with the fastest New York liners for the dispatch of British American mails, through Canada to the United States, the fast line tracks to the meridian of the St. Lawrence would be the safest route.

The desired Atlantic record, however, a prize that National steamship lines are after, which means so much in their success, can only be made by similar freedom in the use of Atlantic ports of call on this side to that which prevails on the European side. The Kaiser Wilhelm's 1898 splendid Atlantic mail average, 158.8, compared with the next best, that of the *Lucania*, 161.8 hours, would have been impossible had the German Government made it imperative on the Bremen liner to use an up-channel or North Sea point as first port of call. The German-New York-Hamburg-Bremen boats are free to use Plymouth, Southampton or any Atlantic port for despatch. On this side, Montreal and Quebec are similarly situated, and the desired prize can only be secured by following European precedent in leaving the port of call open for despatch and record making. For the Government, in the face of New York competition, to tie up the Montreal Quebec fast service to an up-channel St. Lawrence port of call and thus prevent the use of ports experience shews necessary for despatch, will

be a mistake, a National loss, as such a course would prevent the line not only winning for itself and for Canada the Atlantic record, but also the travel and traffic that accompany it; and the delays from Belle Isle or Cape Ray entrances to Rimouski will give New York what Canada must have, the Atlantic record, which means British travel and mail preference. What a day saved in the English mail train connection for North America and the Orient, by the use of an Atlantic port of call is worth to the Dominion, it will take a very clear-headed statistician to determine.

TABLE OF OCEAN LINES AND SUBSIDIES.

(Compiled from American Consular Report.)

The policy of the principal commercial nations has been to pay liberal compensation or subsidies for the carriage of the mails, and for improved speed until sufficient commerce has been developed to make the lines remunerative, when such support has been gradually withdrawn. There are exceptions, however, to the rule. The Collins Line drew from the United States Treasury \$5,000,000 in subsidies in 8 years; when the subsidy ceased the Line went out of existence.

Two methods of direct government aid are in use—first, the payment of a very liberal allowance to select steamship corporations holding more or less intimate relations with the government. And second, the promotion of the entire range of national ship-building and navigation by government assistance. The British and German systems represent the former; and the French, Italian, Austrian and Japanese, the latter, although both systems are in vogue to a more or less extent in France and Japan.

The subsidies to lines running to New York include the amounts paid by the United States: The Cunard line, 1897-8 \$172,177.24; White Star, \$53,535; North German Lloyd, \$88,029.67 Hamburg American, \$27,431.09; General Trans-Atlantic French, \$31,679.88.

The following is a statement of lines, and subsidies to steamships of 14 knot speed and over. Those marked "Subsidy" receive a sum from their respective governments, which does not depend on the amount of mail carried. Those marked "Mail" receive compensation according to the quantity of mail carried. Four of the British lines receive Admiralty subventions:

Line.	Flag.	Speed in knots.										How promoted.	Amount of subsidy, etc.		
		22	20	19	18	17	16	15	14	14	To- tal.				
Peninsula and Oriental	British														\$1,831,065
North German Lloyd	German	1	2	1	6	6	1	4	28	48					1,320,320
Compagnie Generale Transatlantique	French		1	2	3	4	1	6	5	23					1,921,894
Pacific Steam Navigation	British			1			1	6	7	22					116,440
Compania Transatlantica	Spanish						2	10	3	5					1,629,927
White Star	British	1						3	3	13					837,649
Cunard	do.		2				1	5	4	10					2,463,354
Messageries Maritimes	French						1	1	1	11					448,194
Royal Mail	British						6	4	1	11					1,895,157
Navigatione Italiana	Italian				1	7	2	1	1	9					204,188
China Mutual	British				1	4	3	1	3	9					413,100
Compania Sud-America	Chilean							6	6	1					1,428,649
Castle Mail	British							7	3	1					(a)
New York and Cuba Mail	United States						1	3	2	6					204,188
Union S. S. Co. (New Zealand)	British							1	1	7					(a)
Nippon Yusen	Japanese				2	1	1	2	2	6					2,469,000
Orient S. S. Co.	British									7					413,100
Lloyd Austriaco	Austrian									6					1,428,649
Bobby Bros.	do.									6					291,600
Canadian Pacific	British									5					79,704
La Veloce	do.									5					46,320
Union S. S. Co.	Italian									5					757,680
International Navigation Co	United States									4					631,187
Volunteer Fleet	United States									4					120,000
"Admiral" (Jamaica) Line	Russian									4					37,985
Pacific Mail	United States									4					
Leyland & Co.	do.									4					
Australasian Navigation Co.	British						1	3	4	4					
Wilson-Leyland	do.							1	3	4					
Huddart, Parker & Co.	do.							1	4	4					
Oceanic S. S. Co.	do.									4					
Canadian-Austral	United States									3					141,407
Royal Mail	British									3					82,362
Ired "J" Line	United States									3					129,000
J. & A. Allan	British							1	2	3					
Houlder Bros.	do.									3					43,740
Mala Real Portuguese	Portuguese									3					
Johnston & Co.	British									3					
Hamburg-American	German						1	1	3	3					
International Navigation Co.	German									3					
Belgian-American	Belgian									2					(a)
	Belgian									2					

a Not ascertained.

DISTANCE TABLE.

ATLANTIC DISTANCES.

New York to Liverpool.....	3,055 knots
Quebec to Liverpool, via North of Ireland and Bell Isle.....	2,665 "
Quebec to Liverpool, via Cape Race.....	2,824 "
St. John to Liverpool.....	2,723 "
Halifax to Liverpool.....	2,475 "
North Sydney to Liverpool.....	2,307 "
North Sydney to Liverpool via North of Ireland.....	2,282 "
St. John to London.....	2,973 "
Halifax to London.....	2,723 "
North Sydney to London.....	2,554 "
North Sydney to Milford Haven.....	2,183 "
Rimouski to Merville, via Belle Isle.....	2,318 "
Rimouski to Merville, via Cape Race.....	2,477 "
North Sydney to Merville.....	2,086 "
North Sydney to Queenstown.....	2,067 "
Sandy Hook Lightship (from N. Y., 25 knots) to Fastnet, the Liverpool record track.....	2,757 "
Scatarle Island (from North Sydney, 21 knots) to Fastnet, St. Lawrence port of call, record track	1,988 "

PACIFIC DISTANCES.

Vancouver to Yokohama.....	4,283 "
Yokohama to Shanghai, via Inland Sea.....	1,178 "
Vancouver to Honolulu.....	2,435 "
Honolulu to Fiji.....	2,780 "
Fiji to Sydney.....	1,665 "

EUROPEAN-ASIATIC DISTANCES

London to Hong Kong, via Cape of Good Hope by full pow- ered steamships.....	12,900 "
London to Hong Kong, via Suez Canal	9,500 "
London to Hong Kong, via Canada.....	11,750 "
Hamburg, Germany, to Kiao-Chau.....	11,000 "
Vancouver, B.C., to Kiao-Chau.....	5,000 "
London to Hong Kong, via St. Petersburg and Vladivostock (if reckoned by the old overland route from St. Petersburg to Vladivostock, 6,666 miles).....	9,800 miles

If taken by the latter railway survey between the same terminal points given at 6,172 miles, the distance would be a little shorter. The completion of the branch from near Chita through Manchuria to Port Arthur and Tallen-Wan, tentatively adopted, and still partially under survey, will shorten the Siberian route some 1,200 miles.

