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# An Epoch in Canadian Shipping

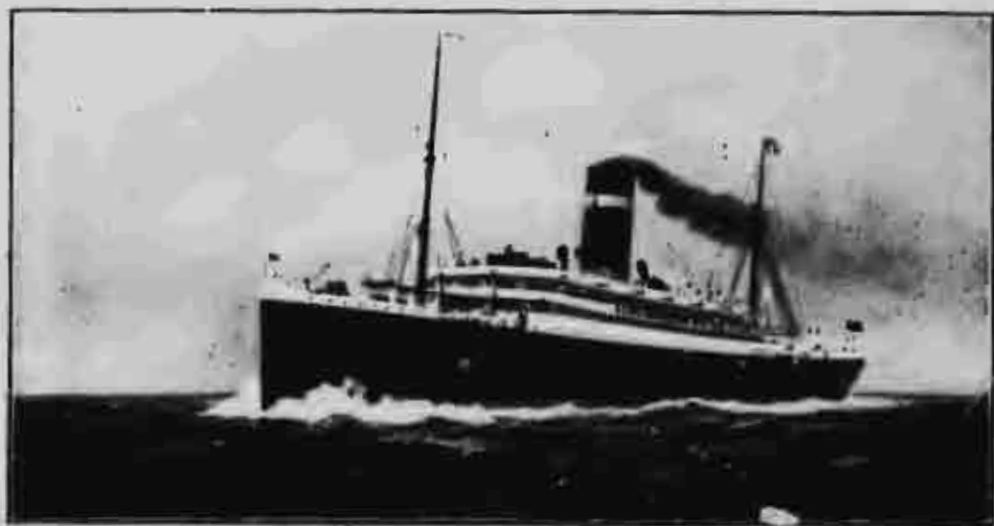
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THE ALLAN TURBINE STEAMSHIP VICTORIAN

## An Epoch in Canadian Shipping

By RANDOLPH CARLYLE

*Affording a glimpse of a tremendous change from the sails of early navigators to the turbines of the Allan Line*

**W**HEN the indomitable explorer, Jacques Cartier, first sailed in Canadian waters, about four hundred years ago, he little dreamed that on the other side of the Atlantic, in the ancient seaport of St. Malo, a monument would be erected centuries later to perpetuate his name as the pioneer trader in what was destined to become one of the world's great routes of commerce by sea. His was a great achievement against great odds. Depending entirely on wind and sail, he buffeted the gulf gales, and brought what would now be regarded as little more than a fisherman's sloop into the tide waters of the greatest inland waterway in the world. But the name of Jacques Cartier, notwithstanding his great feat of discovery, is scarcely more significant in the history of the navigation of Canadian waterways and of Canadian shipping than others who have come upon the scene some centuries later and who have been outstanding figures in the

various epochs in the evolution of ocean and inland navigation. Be it almost enough to say that to Canada may be claimed the credit for producing the first vessel to cross the Atlantic with no propelling power apart from steam.

While we now regard Cartier's means of navigation as entirely primitive, it was not until within the fourth century after he navigated the St. Lawrence that steam became an actual factor in the propelling of vessels at sea. And it was not until 1852 that Canadian shippers really awoke to their opportunities, when Messrs. Allan, the pioneers in steam navigation between Great Britain and Canada, made a contract with the Canadian Government to provide a mail service between the old country and the new. That was an important day for this country, and with the granting of that first subsidy by the Government for a trans-Atlantic mail service went an impetus to Canadian shipping that is felt even to this day, and which has succeeded in building up between Cana-

dian ports and the great shipping centres of England, Ireland and Scotland, a steamship service that ranks all round with the best in the world.

In considering the growth and changes in shipping between Canada and the old country, even going back to almost the beginning of the nineteenth century, the name "Allan" stands out easily above all others, and indeed it is impossible to deal with the history of Canadian shipping without giving large place to the succeeding generations of those who have borne the name of Allan and who have been connected with the various companies of which that name has been so long identified. Few persons living now can trace this chain back farther than the advent of the most prominent figure of all, that of Sir Hugh Allan. But Sir Hugh was not the first of his historic stock to navigate our waters. The founder of the Allan Line was really Captain Alexander Allan, father of Sir Hugh, a Scotch youth, who early evinced a yearning for the sea. This lad, after serving his apprenticeship,

soon rose to the command of a brig called the *Jean*, a vessel that was employed to carry supplies to the Duke of Wellington, who was then campaigning in the Peninsula. Two years later, in 1822, Captain Allan sailed for Canada in search of new cargoes for his vessel, and it is interesting to note that his first voyage from Glasgow to Quebec started a line of steamships that has gone back and forth with increasing numbers and importance during eighty-five years.

In those days wind was the propelling force, and the voyages were consequently long and subject to great peril and hardship. But the business was profitable, and by the end of eight years Captain Allan increased his equipment by four larger vessels than the *Jean*, and inaugurated a regular service of clipper packets. Few persons now have the length of days to recall the experiences of a voyage across the Atlantic in those times or to look upon the great ocean greyhounds of our day, and at the same time enjoy a retrospective view of the small yet picturesque craft

that immediately preceded the turning point in the history of marine navigation. But any one, however lacking in imagination, could form at least a moderate idea of what it meant for Captain Allan to surmount in his day, with his fragile, wooden vessels, the same winds, the same icefloes and the same rocky coasts that in this twentieth century, against all the advantages of advanced engineering skill, sometimes make prey of the great leviathans of the deep. Nevertheless, a precise illustration of the difference is available. The *Montreal Gazette* of September 28, 1839, contained the following advertisement: "For Greenock: The well-known coppered ship *Canada*, 329 tons register, Bryce Allan, Commander, now loading and will have immediate dispatch.



CAPTAIN ALEXANDER ALLAN, FOUNDER OF THE ALLAN LINE OF STEAMSHIPS

For passage only, apply to Captain Allan, on board, at the Cross, or to Miller, Edmonstone and Allan." Sixty-six years later, after innumerable vicissitudes and continuous evolution, the Allans adopted the latest system of steam propulsion, the turbine engine, and increased their already large fleet by two magnificent steamers, each of 12,000 tons register. From 329 tons in one vessel to 12,000 tons in another is a great advance, and yet that was attained in less time than it takes a man to live out the allotted span. It might be well here to mention that Captain Bryce Allan was a son of Alexander Allan and a brother of Sir Hugh. He acted for twenty years at Liverpool as managing owner of the line, and when he died his two nephews, Robert and James Allan, succeeded him, and have been representatives of the line at Liverpool for the last thirty-six years. Eight years after Captain Alexander Allan's first voyage to Canada, the fleet of the Allan Line consisted, among other vessels, of the *Canada*, the *Favourite*, the *Brilliant*, the *Blonde*, the *Pericles* and the *Gypsy*. Doubtless these names are familiar to persons still living in Canada, because the vessels that carried them were favourite means of transportation across the Atlantic in those days. Twenty years later, after iron had come into use as a material for shipbuilding, the Allan fleet contained the *Strathearn*, the *Minerva*, the *Strathblane*, the *Glenfinart*, the *Gleniffer*, the *Ardmillan* and the *Romsdal*.

Many readers will be curious to know something about the advent of Hugh Allan, who afterwards became so well known all over Canada. He was one of five sons of Alexander Allan. The other four sons were James, Bryce, Andrew and Alexander. Hugh came to Canada in 1826, and five years later entered into



SIR HUGH ALLAN, WHO FOR MANY YEARS WAS A PROMINENT FIGURE IN CANADIAN SHIPPING CIRCLES

partnership in the shipping business with Miller, Edmonstone and Company, a firm which later became Edmonstone, Allan and Company. Eight years later Hugh's brother Andrew came out and soon entered the partnership with his brother. About twenty years later Mr. Edmonstone retired, and from that time to the present the affairs of the Allan Line on this side of the Atlantic have been conducted under the firm name of H. and A. Allan. After the death of the founder of this line, two of the sons, James and Alexander, conducted the business in Glasgow, while their brother Bryce took charge of the office at Liverpool. That left three brothers in the old country and two in the new. The business, which was by this time well established, began to expand rapidly, but for forty years it continued under the management of the quintette of brothers. Hugh became the most prominent of all, and in 1871, in

view of his services to Canadian commerce, he was recommended for knighthood, and received that distinction from Queen Victoria in 1871. Although knighthood did not carry with it political rights, Sir Hugh's son, H. Montagu Allan, had the same distinction bestowed upon him a few years ago by King Edward. The Allans at present identified with the service are as follows: Sir H. Montagu Allan, Mr. Hugh A. Allan, Mr. Andrew A. Allan and Mr. Bryce J. Allan.

The first regular steamship service between Great Britain and America is credited to Mr. S. Cunard, of Halifax, who made a contract with the British Government in 1850 to provide a fortnightly service of mail steamers between Liverpool and Halifax, and on to Boston. That was followed, however, two years later, by a contract between the Canadian Government and McKean, McLarty and Lamont, of Liverpool, for a fortnightly mail service between Liverpool and Montreal in summer, and Liverpool and Port-

land in winter. An attempt was made to carry out the contract, but the result was failure, and therefore the contract was cancelled. Notwithstanding so discouraging a circumstance, H. and A. Allan, just one year later, 1853, agreed with the Canadian Government to provide the same service. To carry out the objects of this agreement necessitated great additions to the fleet, and as steamships had just then begun to replace sailing vessels, the time might be regarded as of considerable significance in connection with the history of the growth of shipping to and from Canada. The first steamer to be built was the *Canadian*. She was ready in 1853, and was followed soon by the *Indian*, the *North American* and the *Anglo-Saxon*.

It should be remembered that at that time the Intercolonial Railway had not been undertaken, and so there was no railway between the Maritime Provinces and the west. Montreal was the summer terminus on this side, but there had to be as well a winter terminus in order to



S.S. VIRGINIAN—MUSIC ROOM

## AN EPOCH IN CANADIAN SHIPPING



S.S. VIRGINIAN—DINING SALOON

provide an unbroken yearly service. The Grand Trunk Railway was completed to Portland that very year, 1853, and therefore Portland became the winter terminus of the new steamship line. However, the Intercolonial was yet to come as a condition of Confederation. It was completed in 1876, connecting Quebec with Halifax, which thereafter became the winter port of the Allan Line of Royal Mail Steamships. Six years later the fortnightly service was increased to a weekly service, which has been continued ever since.

The increasing opportunities for trade between Canada and Great Britain would not permit the Allans to rest contented with this achievement, so plans were continually being considered to embrace new routes and additions to the fleet. In 1862 a line was established to run between Glasgow and Montreal, and it became so successful that ten years later the service was increased to a permanent weekly service. Later again Canada

was placed in direct connection by steamer with London.

It should not be overlooked that during all the years of which mention has already been made, the steamship companies doing business between Canada and Great Britain were at a great disadvantage, because Canada had not come into the limelight as one of the countries of new and great possibilities. Neither had our own people been aroused to the importance and the magnificent possibilities of our export trade. Tourists were not coming this way in great numbers, and indeed, we are scarcely yet coming into our own in that respect. The United States was the country in the world's eye then, and attention was generally attracted that way. The steamship companies doing business between New York and the large European ports enjoyed an overwhelming share of patronage, but nevertheless the Canadian companies more than held their own, and forged ahead with creditable per-



severance. Although in those days, and even down until quite recently, many persons thought it sounded well to be able to say they had sailed to & from New York, it is gratifying to know that as far back as 1878, when Princess Louise and the Marquis of Lorne came to Canada, they chose the steamship *Sarmatian*, one of the Allan Liners. They were so well pleased with the voyage that they returned by the same vessel.

In those days, and even down to about 1890, the second cabin accommodation, which has become a feature of modern ocean travel, was scarcely an appreciable quantity, the provision for the comfort of passengers, apart from the first cabin quarters, being little better than is now provided in the steerage apartments of the most modern vessels. These conditions, however, have altogether changed, for to travel "second cabin" now, in a vessel such as the *Victorian* or *Virginian*, the new Allan Line turbine steamships, is to enjoy the luxuries of the average well-to-do home, and better than the first cabin accom-

modation was even just a decade ago. There has been good reason for these changes. Canada, within the last ten years at least, has enjoyed a tremendous impetus, and travellers and tourists of all manner and means are coming this way, and in increasing numbers, by the direct steamship routes. Travellers have come to know that accommodation on the best Canadian steamships is first class, and Canadians themselves have at last come to be not afraid of being regarded as a little provincial if they patronise home industry on the great seas. Trade with Great Britain has also advanced with enormous strides, and therefore the steamship companies have felt warranted in providing a service that would compare with the best anywhere. There are two advantages to Canada—shortness of route and natural beauty of scenery along the St. Lawrence River from the Gulf to Montreal. These two things, shortness of route and beauty of scenery, are really of great importance. Of all the persons who travel, almost



S.S. VICTORIAN—SMOKING ROOM

everyone does it either for business, for pleasure, for health, or a combination of two or all of these reasons. If a person travels for business, he wants to reach his destination as soon as possible, if for pleasure to have as much comfort as possible, and to come into contact with new and attractive things; if for health, to see whatever tends to attract and solace the eye and to encounter the things that refresh and restore. For these reasons, if for no other, the Canadian route is bound to increase in popularity with amazing rapidity.

Perhaps the greatest question before steamship owners all over the world just now is, What is the maximum of size and speed in keeping with profitable operation? That question seems to apply with particular fitness here in Canada. We hear a great deal of talk about a fast mail service, about short routes, and about summer and winter ports, but it is doubtful whether the general public, and even many of those who do a good deal of the talking, really appreciate the meaning of what they presume to discuss. While this article is not intended to be a technical consideration of the economic of shipbuilding and ship operating, there is at the same time a hope that it may serve to give some idea of what a great and involved problem a serious consideration of the ocean transportation question really is. According to conditions in Canada, two



TYPE OF FIRST-CABIN STATEROOM IN ALLAN TURBINE STEAMSHIPS.

things must contribute to the support of a steamship—passengers and goods. Of course a vessel can be profitably operated between Canada and Great Britain, depending entirely on goods for revenue, but it is impossible as yet to throw the goods out and depend entirely on passengers.

But that seems to be exactly what must happen if the speed that is talked about so much is ever to be accomplished. Every knot that is added to the speed of a vessel after it has attained what is now regarded as a fairly high rate, say of sixteen to twenty-two knots, means the elimination of a tremendous amount of cargo space in order to provide room for the increased size of engines and coal bunkers.

The new large Cunarders, for instance,



are being set out for a speed of twenty-five knots an hour. In order to attain that their makers have had to abandon almost entirely the idea of carrying freight, the space usually given over for that purpose being required for the extra large engines, boiler rooms and coal bunkers. It is estimated that a vessel of the new Cunard type will consume one thousand tons of coal every twenty-four hours, and of course that means a proportionately large number of men to handle the coal and of space to contain it. The design of the vessel must of necessity, also, be extremely elongated both from well amidships forward to the bow and also backward to the stern, in order to cause as little friction as possible passing through the water. To carry out a design of that kind, much of the space that is ordinarily reserved for cargo has had to be abandoned altogether. It is estimated also that it takes just about twice as much motive power to drive a vessel at the rate of twenty-five knots an hour as it takes to drive at the

rate of twenty-two knots an hour. To the inexperienced mind that appears to be tremendously out of proportion. If it takes, say, 250 tons of coal a day to run one of the Allan turbine steamers at an average speed of seventeen knots an hour, the difference between the cost of running a vessel of that type and one of the large Cunarders of a speed of twenty-five knots would be readily appreciated, especially when it is considered that the latter will consume four or five times as much coal. But coal is not the only thing. There are as well the men to handle it, the space to put it in, and the men also to run the extra large engines. Each of the Allan turbine steamships employs a crew of 350, while a crew of one of the large Cunarders numbers well up towards 1,200. The Allan turbiner *Victorian* or *Virginian* is well equipped with a crew of 350. So large an army of men as 1,200 working in the lower portions of a vessel at sea is a thing of tremendous significance, and it might well be regarded as a real menace rather



PROMENADE DECK—ALLAN TURBINE STEAMSHIPS

than a help in a time of genuine peril. Men who work in the holds of great vessels are of necessity not of the higher order, and it is not to be expected of such that they display chivalry and heroism in case of disaster. It is enough to imagine what might be the result to an equal number of passengers were a sinking ship to disgorge a thousand of these men on to the upper decks, vying with one another for a means of safety.

A good idea of the difference in the cost of maintaining one of the large steamships as compared with the smaller vessels may be formed from the fact that vessels of a speed of twenty-five knots can carry practically no cargo at all, while a vessel such as the Allan turbine, which maintain a speed of seventeen knots, carry 2,000 tons of cargo, and vessels of the type of the *Tunisian* and *Corsican*, with a speed of fifteen knots, carry five thousand tons. It may be seen, therefore, that to increase the speed from fifteen knots to seventeen knots means a diminishing of capacity from 5,000 tons to 2,000 tons, while to increase the speed from seventeen knots to twenty-five knots means the cutting out of cargo altogether. Briefly, that is the great problem that confronts Canadian shipowners to-day. It would no doubt be a very nice thing to see vessels that could maintain a speed of twenty-five knots sailing up and down the St. Lawrence, but if that picture is ever to be realised, it looks as if there will have to be an entire revolution in the system of propulsion at sea. Under existing conditions no steamship company in Canada would scarcely undertake to provide vessels that would maintain a speed of twenty-five knots, unless the Government would subsidise them to the extent of almost bankrupting the public exchequer. The new Allan turbine are of 12,000 tons register. If they had to maintain a speed of twenty-five knots they would have to be of about 30,000 tons register.

Those who advocate a fast steamship service should stop to consider whether they would be willing to back up a private company with public funds suffi-

ciently to enable the project to be successfully carried out.

As it is, with vessels of a speed of seventeen knots the mails from Great Britain are landed in Canada in about six days' time. The *Virginian* has actually landed them in five days, fourteen hours. It is a question, therefore, if to cut that time down to five days or a little less, the great expenditure necessary would be warranted. It is out of the question just now to presume that the Canadian route could maintain a large and highly expensive exclusive passenger business. It is not even certain that the New York route will maintain it profitably, but if it should maintain it with profit, considering the difference in wealth and population of the United States with Canada, we can at least hope that the day is not far distant when the Canadian route will do likewise. However, with steamships like the Allan turbine we are pretty well equipped after all. The Allans were the first to put the turbine theory into actual practice in trans-oceanic navigation. They are, therefore, the pioneers in that respect. To them as a Canadian company also can credit be given for other initial steps. They were the first to build a steel ocean steamer, which was the *Buenos Ayrean*, built in 1881. They were the first trans-Atlantic line to use bilge keels on vessels, beginning in 1884 with the *Parisian*.

It should be satisfactory to all who are interested in Canadian shipping to know that the turbine in ocean navigation has not proved to be the failure that so many persons predicted. On the other hand, the owners appear to be greatly pleased with the venture. From the standpoint of the passenger, the Allan turbine leave little to be desired, and that, after all, is what the public care most about. But from the owner's standpoint there seems to be certain limitations; for instance, the turbine would not be the most economical means of propelling a vessel of less speed than the *Victorian* or *Virginian*, or in other words, than a vessel with a speed of less than seventeen knots. As vessels of the size and type

of the Allan turbines seem to have reached about the maximum practicable in the ocean steamship business to the St. Lawrence, for some time at least, it is only reasonable to suppose that they will stand as the model of the highest present day attainment for our waters.

For the benefit of those to whom the name "turbine" does not convey any clear idea, it may be explained that the mode of producing rotatory motion in the shafting and its attached propellers is, in principle, the same as that of the old-fashioned windmill, the force in turbine, however, being steam instead of wind, and the angled arms and sails of the windmill being represented in the turbine by metallic vanes set on the surface of a conical casting, which forms, by attachment, the forward end of the propeller shafting; these vanes, working into counterpart flutings on a fixed, surrounding, hollow casting, complete the device. The steam, entering at the forward end of this combined arrangement of blades, can only find passage by forcing the parts attached to the shafts into rapid revolution. Rushing along with the momentum due to its volume and boiler pressure at one end, supplemented by the withdrawal of atmospheric pressure by means of powerful air pumps operating at the other end, the steam imparts a steady, unceasing, rotatory movement to the propellers, utilising to the best advantage the whole boiler power of the ship.

A few words on the "Victoria," which apply also to the "Virginian," might not be out of place. Her length is 540 feet; her breadth, 60 feet; her depth, 40 feet 6 inches. She is divided by bulkheads into eleven compartments, and with the sub-divisions of her double bottom she has twenty water-tight spaces. She is built to the highest class of the British Corporation Registry of Shipping, and her hull has been specially strengthened above the requirements of the corporation

in order to make her doubly secure against the heavy weather of the North Atlantic. The first-class accommodation, which, as usual, is amidships, is of the most complete and approved order. Perfectly heated and ventilated staterooms, and suites of rooms, a spacious and well-fitted dining-saloon, an elegantly appointed music-room, and a luxuriously equipped smoking-room are some of the features. Not less comfortable proportionately are the second-class quarters, and, as already indicated, third-class passengers are catered to in the most liberal manner. Electric light throughout, a complete printing outfit, and an installation of Marconi's wireless telegraphy are among the arrangements for the comfort and convenience of passengers.

The cargo space available is, notwithstanding the large complement of passengers, comparatively large and the facilities for its rapid handling and discharge are of the most up-to-date and efficient nature. Four large derricks are arranged on each mast, the lifting capacity of each being up to seven tons. These, together with two crane post derricks, make ten in all, for the working of which ten double cylinder steam winches are supplied. Special attention has been given to the arrangement of the cargo holds, and the ordinary round pillar supports for the decks have been largely discarded in favour of special girders and supports which leave the holds freer for the reception, stowage, and discharge of cargo. Insulated chambers for the carriage of fruit and dairy produce from Canada are provided in conjunction with refrigerating plant.

While it must be admitted that the possibilities of ocean navigation are still uncertain, it is safe to predict that as far as Canada is concerned the pioneer name of Allan will long continue to be associated with the highest attainment in this most intricate science and picturesque art.

