owing to the superior advantages of iron hulls, not yet constructed in America, the United States now further lost place as ocean carriers. In 1908 the chief employment of her ocean shipping was on the Atlantic coast and in the Gulf of Mexico.

The steady increase in steam-propelled vessels resulted in the establishment of many coaling stations in distant parts, with much employment of shipping to supply them. Towards the middle of the 19th century British shipowners were greatly alarmed at proposals to repeal the navigation acts, and in spite of their petitions and remonstrances, and of demands that the bill, eventually introduced, should at least require reciprocity, in 1849 the proposed measure became an act, the coastal trade being in 1854 similarly thrown open, this latter measure being induced by the need for British ships and seamen for the purposes of the Crimean War (Lindsay). Probably in no small degree owing to the discovery of gold in California and Australia about this time, and to the further employment provided for shipping by the Crimean War and by the necessities of the Indian Mutiny, the direful forebodings of British owners as to the consequences of the repeal of the Navigation Act were not verified. In 1856 the Treaty of Paris and its appended Declaration pronounced, amongst other notable clauses affecting maritime warfare, the abolition of privateering. To this great treaty most of the maritime states in course of time gave their adhesion, the United States and Spain, however, not yet being signatories. The altered conditions as between warships and merchant vessels, and the disabilities imposed by neutrality laws have, however, in themselves done very much to render privateering as formerly conducted no longer possible. But the Declaration, notwith­standing, the employment of duly commissioned merchant vessels may still be resorted to by the state for the destruction of commerce and for other belligerent purposes.

In 1858, after great difficulty and outlay, Brunel’s huge ship the “ Great Eastern” was floated on the Thames. The vessel, having a length of 679 ft. and a burden of 18,337 tons gross and 13,344 tons net (Lloyd’s Register) and being provided with six sail-carrying masts, was furnished both with a screw propeller and with paddles. Highly successful as an engineering enterprise, commercially she was from the first a ruinous failure. Under the remarkable development of the Atlantic passenger traffic, however, the size of steamships steadily and continually increased.

In 1873, as the outcome of a prolonged public agitation con- ducted by Mr Samuel Plimsoll, member for Derby, a royal commission was appointed to inquire into his allegations that many lives were lost owing to the unseaworthiness of ships. In 1876, under pressure of public sympathy with the views of Mr Plimsoll, an amended Merchant Shipping Act was passed (39 & 40 Vic. c. 80), making it a penal offence to knowingly send a ship to sea unseaworthy, and requiring a loadline to be fixed on British vessels, the line to be indicated on ocean going vessels by what is now universally known as the Plimsoll mark.

The opening in 1869 of the Suez Canal created a revolution in the eastern shipping trade. Year by year steamships increased greatly in number and in burden. With improved conditions of steam navigation the supplementary use of sails was generally abandoned, masts being retained only for signalling purposes and as attachments for cargo hoists. New conditions in ship construction, the commercial demand for expedition and the manu­facture of new articles of commerce together resulted in an increased risk of fire on ships both at sea and in port, with great loss primarily to underwriters, more especially by the flooding of holds full of valuable cargo. To overcome this danger steam­ships are being increasingly equipped with an apparatus which on the outbreak of fire enables the holds to be filled with a fire­extinguishing gas. The invention and adoption of refrigerating machinery and insulated holds resulted in the development of a vast trade in frozen meat and perishable produce.

The triumph of Germany in the Franco-Prussian War awoke in the Fatherland a spirit of industrial enterprise which greatly increased the population of her manufacturing areas. The supplies required by the prosperous industrial populations and the national demand for raw materials for the manufactories, together with the great export trade for which these were now laying themselves out, filled the German and other North Sea ports with shipping. Germany, able to consume whole shiploads of various foreign products, now imported these direct instead of in parcels through London and other ports. Unwilling that the profit of carrying her great and increasing trade should be reaped by foreign bottoms, Germany turned herself to shipowning and shipbuilding, and with remarkable success. So great, indeed, was this success that important lines of German steamships rapidly grew up as competitors with British and other lines in foreign trades. Both in bringing home raw materials and in enabling German manufacturers to send their products to foreign consumers at low rates of freight, the German shipping was now greatly increasing the national prosperity. In return, the state neglected nothing which would promote the success of its industrial centres in their competition for foreign markets, or which would assist the development of the national shipping. Rates of carriage from inland centres to the shipping ports were, in the case of goods intended for shipment by German vessels, considerably reduced by the state railways; and whereas in Great Britain shipping subsidies or subventions are granted essentially if not solely for services to be rendered, in Germany the granting of subsidies has also in view the development of the national shipping. The notable growth in Germany’s trade and shipping is in fact believed to be in no small degree attributable to a system of subsidies to shipping in conjunction with prefer- ential railway rates on German goods despatched for shipment under “ through ” bills of lading under the national flag.

In the Far East also, a new and important maritime competitor has sprung up, the industrial and commercial awakening of Japan having been attended by the creation of a Japanese merchant fleet and by much enterprise in the national ship building. To the name of every Japanese merchant vessel is added the word “ Maru,” in ancient times a masculine “ humility title,” but in its present use having the approximate signification of “ dearest” or “ esteemed.”

The following figures, supplied by Lloyd’s Register, recording the number and tonnage of German and Japanese steamers and sailing vessels of 100 tons and upwards, illustrate severally the recent maritime progress of the two countries:—

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year. | Germany. | | Japan. | |
| No. | Sailing Vessels Net, Steamers Gross. | No. | Sailing Vessels Net, Steamers Gross. |
| 1890 | 1875 | Tons.  1,569,311 | 289 | Tons.  171,554 |
| 1900 | 1710 | 2,650,033 | 1066 | 574,557 |
| 1908 | 2178 | 4,232,145 |  |  |
| 1908 steamers | 1806 | 3,839,378 | 865 | 1,140,177 |
| only ) |  |  |  |

In consequence of an act passed by the French government to grant bounties on sailing vessels constructed and owned in France, the owners of such vessels found it to their profit, the bounty being assessed on distances sailed, to engage in long voyages, with the earning of freight as a secondary consideration. This procedure being found to operate prejudicially on the freight earnings of sailing vessels generally, and more especially in the Pacific trade, an international meeting of the owners of sailing vessels was held at Paris in 1903, with the result of the formation of the Sailing Ship Owners’ International Union to maintain rates of freight, French owners identifying themselves with the measures decided on by the union in the common interest. Influenced, no doubt, by German example, certain French steamship companies about this time decided to grant preferential combined tariffs on goods sent from inland centres of production in France for shipment by their vessels, to the great dissatisfac­tion of the owners of foreign steamers loading for similar destina­tions at French ports.

Early in 1902 a shipping pool or “ combine ” was effected in the case of certain important British steam lines engaged in the North Atlantic trade. The combine, involving vast capital