to safety, as was seen by the way in which assistance was called out of the fog when the White Star liner “ Republic" was sinking as the result of a collision off Fire Island (1909).

In the following pages some of the ships which first embodied these improvements are mentioned, a brief history of the prin­cipal lines is attempted, and reference is made to some of the milestones on the road of improvement.

*Allan Line.—*the story of the Allan Line is that of the enterprise of one family. Captain Alexander Allan, at the time of the Penin­sular War, conveyed stores and cattle to Lisbon for Wellington’s army. After 1815 he began to run his vessel between the Clyde and Canada, and as years went on he employed several vessels in the service. Till 1837 the ships ran from Greenock to Montreal, but in that year, after the Clyde was deepened, the ships went to Glasgow, as they have continued to do ever since. Captain Allan and his five sons devoted all their energies to the development of the Canadian trade, and for about forty years the line ran sailing ships only, which were greatly in request for the emigrant traffic. In 1852 the Canadian government requested tenders for a weekly mail service between Great Britain and Canada. That of Sir Hugh Allan of Montreal, one of Captain Allan’s sons, was accepted, and the Canadian mail line of steamships came into existence. It may be noted that the Allan Line inaugurated steamers of the “ spar-deck ” type, *i.e.* with a clear promenade deck above the main deck. This measure of safety was taken as a lesson from the disastrous foundering of the Australian steamship “ London ” in the Bay of Biscay in the year 1866. The company may claim, too, that their steamship "Buenos Ayrean,” built for them in the year 1879 by Messrs Denny of Dumbarton, was the first Atlantic steamship to be constructed of steel. As time went on the company’s services were extended to various ports on the eastern shores of North America and in the river Plate; and London, as well as the two strongholds of Glasgow and Liverpool, was taken as a port of departure. In the course of its career it has absorbed the fleet of the old State Line of Glasgow and a great part of the fleet of the Royal Exchange Shipping Company and of the Hill Line. Included in the latter fleet were the first twin-screw steamers constructed for a British North Atlantic line. The “ Virginian ” and the “ Victorian,” built for the Allan Line in 1905, were the first transatlantic liners propelled by turbines. The principal ports served by the Allan Line are (in the United Kingdom) Glasgow, Londonderry, Belfast, Liverpool and London; from these their vessels ply to many places in North and South America, including Quebec, Montreal, St Johns (Newfoundland), Halifax, St John (New Brunswick), Portland, Boston, New York, Philadelphia, Baltimore, Montevideo, Buenos Aires and Rosario.

*American Line.—*Though the American Line, as now constituted, is of comparatively modern origin, it is the successor of several much older organizations. Of these the oldest is the Inman Line, last acquired by it. On the 16th of April 1850 an iron screw steam­ship of 1609 tons gross register left Glasgow on her maiden trip to New York. This was the beginning of the Inman Line. After a few voyages this ship was sold to Messrs Richardson, Spence & Co. of Liverpool, in which William Inman (1825-1881) was a partner, and the sailings of the steamships were thenceforth for some years between Liverpool and Philadelphia. But in 1857 New York took the place of Philadelphia as a regular terminus. In 1859 the regular call at Queenstown was commenced by this line, which may be said to have been responsible for two other innova­tions in transatlantic traffic. Before 1850 practically all the steam­ships crossing the ocean, with the famous exception of the “ Great Britain,” were paddle-boats. After the advent of the Inman liners the screw began to be everywhere substituted for the paddle. In the second place, the Inman steamer’s were the first which regularly undertook the conveyance of third-class passengers, to the extinc­tion of the old clipper vessels which had hitherto carried on the traffic. In 1867 the Inman liner “ City of Paris ” (the first bearing the name) held the westward record with 8 days 4 hours, and in 1869 the “ City of Brussels ” came home in 7 days 22 hours 3 minutes. Till 1872 these records held good. The ‘‘ City of Brussels ” also had the distinction of being the first Atlantic mail steamer to be fitted with steam steering-gear. About 1875 William Inman turned the concern into a limited company, and in 1886 the business was amalgamated with the International Company, and the vessels, though still flying the red ensign, became the property of a group of United States capitalists, who also acquired the old American Line which had been started in 1873 with four Philadelphia-built steamers. This company had been conducted under the auspices of the Pennsylvania Railroad. It plied between Liverpool and Philadelphia. A third constituent in the Inman and International Steamship Company was the Red Star Line, as the Société Anonyme Belge-Americaine was familiarly called. Its service was from Antwerp to New York. The whole was placed under the manage­ment of Messrs Richardson, Spence *& Co.,* who thus after thirty-two years reassumed the direction of the old company. In 1887 the two ships “ City of New York ” and “ City of Paris ” were built on the Clyde for the company. At the time of their construction they were the largest vessels ever built, always excepting the ” Great Eastern.” The "City of Paris ” was the first vessel (1889) to cross the Atlantic in less than six days. The year 1893 was an important one in the history of the company, and indeed of the United States. The two vessels above mentioned were admitted to American registry by Congress, a stipulation being made that two new ships of at least equal tonnage and speed to the pair should be ordered by the company from American firms, and that they should be capable of being employed by the United States government as auxiliary cruisers in case of war. The American flag was hoisted over the “ New York ” in 1893 by President Harrison, and in the same year the British headquarters of the company were transferred from Liverpool to Southampton. In 1894 the first American-built ocean liner of the new fleet was launched, and was named the “ St Louis.” In 1898 the American Line had the distinction of supply­ing the navy of its country with cruisers for use in war. The “ St Paul,” the only vessel of the four under contract in American waters at the time, was put under the command of Captain Sigsbee, whose own battleship, the “ Maine,” had been blown up in Havana harbour on the 15th of February. The other three ships were also put into commission, the “ Paris ” being temporarily renamed the "Yale ’’and the “New York” the “Harvard.” In 1902 with their twin-screw liner “ Kensington ” the American Line made the first experiments towards fitting Atlantic passenger steamers with appliances for the use of liquid fuel. the express fleet of the line consists of the four vessels, “ St Louis ” and “ St Paul,” each of 11,600 tons and a length of 554 ft.; and the “New York ” and “ Philadelphia,” each of 10,800 tons and 560 ft. length. Several still larger but less speedy steamships have been constructed for the intermediate services of the company. In addition to the weekly express service between Southampton and New York, the American Line runs steamers between New York and Antwerp, Philadelphia, Queenstown and Liverpool, and Philadelphia and Antwerp.

*Austrian Lloyd Steam Navigation Company.*—This company was started in 1837 at Trieste, where its headquarters are still situatcd. It commenced operations with seven small wooden paddle-boats for the voyage to Constantinople and the Levant. By 1910 they had increased to a fleet of sixty-two iron and steel steamships, with a gross tonnage of about a quarter of a million tons. The whole eastern coast of the Adriatic and the Levant is visited by them with frequent services. There is a line to the west as far as Brazil, and a monthly mail service between Trieste, Brindisi and Bombay. There is also a monthly ordinary7 service between Trieste, Bombay, China and Japan, and a monthly branch in connexion with it between Colombo, Madras and Calcutta.

*Bibby Line.—*The name of Bibby has long been known and respected in the shipping world. The first undertaking of the family was the institution of a service from Liverpool to Mediterranean ports about the middle of last century. When Mr (subsequently Sir Edward) Harland took over the ship-building works at Belfast, which he afterwards made famous, Mr Bibby was one of his earliest customers. It was he who gave him practically *carte blanche* in the way of proportion for the new ships built for his service, and it was from the experience acquired and the success achieved with them that the “ long ships,” with which the White Star Line made its name, were first brought into the region of the practical. In this connexion it may be stated that Sir Edward Harland was born at Scarborough in 1831, his father being a medical practitioner. He learnt the science of ship-building in the yards of Messrs R. Stephenson & Co. of Newcastle, and became first a draughts­man with Messrs J. & G. Thomson, and then manager in a New­castle yard. In 1854 he went to Belfast, first as manager to Messrs Robert Hickson & Co. Then in 1858 he took over their yard. In 1859 he launched the “Venetian" for Mr Bibby, and in i860 he took Mr G. W. Wolff into partnership. After a time Mr Bibby retired from the active pursuit of his business, and the line passed into the hands of one of his confidential managers— Mr Leyland (see *Leyland Line).* But the Bibby family, though large shareholders in the White Star Line, could not remain without some active interest in seafaring matters. Hence a new Bibby Line was started. Its first vessel was the “ Lancashire,” a single-screw steamer of 4244 tons gross register, built—as have been all this fleet— by Messrs Harland & Wolff. She came out in 1889. Her sister was a similar vessel. Subsequent additions to the fleet were all of the twin-screw type ; thus the Bibby Line can boast that it was the first to maintain its service, which is now fortnightly, exclusively with twin-screw vessels. In the trade between Liverpool and Rangoon they soon made a name.

*The Booth Line* is essentially a Liverpool company. It was founded in the year 1866 by Messrs Alfred Booth & Co., who in that year instituted a service to north Brazil. Three years later from the same port was started the Red Cross Line of Messrs R. Singlehurst & Co. to carry on a similar service. In 1901 the two lines were amalgamated under the title of the Booth’ Steamship Company Limited. Since the year 1882 there has been a connexion by the Booth steamers between north Brazil and New York. Para, Manaos, Maranham, Paranahyba and Ceara are the chief Brazilian ports served by the company, whilst the steamers make calls on the eastern side of the Atlantic at Cardiff and Havre as well as at Spanish and Portuguese ports. The company carries the British mails to Para