

As regards the movement of the shipbuilding industry during the course of 1921, Lloyd's Register Quarterly Returns show that at the opening of the year 3,708,916 tons were under construction in the United Kingdom, and the March returns showed an increase of about 90,000 tons, the totals reaching 3,798,593 tons, the highest figure ever recorded in the Society's Returns. Since then a steady decrease has taken place, the figures for the end of December, 1921, viz., 2,640,319 tons, being the lowest since June 1919 and showing a reduction of 1,158,274 during a period of only nine months.

But even this great decrease does not entirely represent the actual position of the shipbuilding industry in the United Kingdom. In comparing the present totals with those for normal years account should be taken of the fact that the total returned as under construction at the end of 1921 still includes a number of vessels the completion of which has been indefinitely postponed owing to abnormal causes. Two factors of even much greater importance are, first, that the total also includes over 720,000 tons on which all work is now suspended, and, second, that so very few new orders have recently been received by the shipbuilders. The latter point may be gathered from the December Quarterly Returns which show that during the whole quarter only 55,000 tons of new vessels have been commenced.

#### Other Countries

Outside the United Kingdom there have been launched during the year 951 merchant vessels of 2,803,627 tons (698 steamers of 2,537,976 tons, 108 motor vessels of 204,286 tons and 145 sailing vessels and barges of 61,365 tons). The figures show a decrease of 1,002,415 tons as compared with those for 1920 and of 2,720,480 tons as compared with 1919, but are 1,402,898 tons higher than those for 1913, the pre-war record year. Taking the output of 1913 at 100, the figures for the last four years are as follows: 1918, 292.6; 1919, 394.4; 1920, 271.7; and 1921, 200.2.

The returns for the year include 198 vessels of between 4,000 and 7,000 tons each; 96 of between 7,000 and 10,000 tons; and 23 of over 10,000 tons each, including five vessels of over 14,000 tons each, the largest being the *Bethore*, of 15,300 tons, launched in the United States. Excluding vessels of less than 1,000 tons, the figures for the year include 97 vessels, of a total tonnage of 570,692 tons, to be fitted with turbines, the great majority of which will have geared turbines. Of these vessels 67 are of over 5,000 tons each including eight of between 10,000 and 14,120 tons. The output for the year also comprises 110 steamers of about 810,000 tons built on the Isherwood system of longitudinal framing. Including 92 of these vessels of about 704,000 tons there were launched during the year 113 vessels of about 800,000 tons for the car-

riage of oil in bulk. Over 86 per cent. of the tonnage built abroad on the Isherwood system were launched in the United States.

During 1921 there were launched 108 vessels of 204,286 tons to be fitted with internal combustion engines. Eighteen of these vessels are of over 5,000 tons each, five in Sweden, three in Denmark and Germany, two each in Holland, Italy and the United States, and one in Norway; the two largest being of 8,681 and 8,654 tons respectively, built in Denmark. The total figures include a number of sailing vessels fitted with auxiliary power. The tonnage of wood vessels included in this year's total is 52,193 tons, as compared with 133,827 tons in 1920, and 1,145,582 tons in the war year 1918 when the tonnage of wood vessels launched amounted to 28 per cent. of the total output. Of vessels built of reinforced concrete, only eight of 7,950 tons were launched during 1921.

The total figures include a large proportion of barges and other craft which cannot be described as real sailing vessels. Apart from such craft there were launched abroad 96 sailing vessels of 29,220 tons, only three of which are of over 1,000 tons, the largest being a five-masted schooner of 2,300 tons, built at Portland, Oregon. The countries where the largest output has taken place during the year under review are the United States, Germany, Holland, Japan, France and Italy. The totals for these countries amount to 2,350,715 tons, and account for nearly 84 per cent. of the total output abroad.

#### United States

The output for the year 1921, namely, 1,006,413 tons, is 1,469,840 tons lower than during 1920, and over three million tons less as compared with the record year of 1920. The decrease has been general all over the country. The tonnage launched on the Pacific Coast represents 55.7 per cent. of the output for 1920; at Atlantic and Gulf ports about 38 per cent., and on the Great Lakes less than 9 per cent. Notwithstanding this great reduction the figures for 1921 still represent nearly 36 per cent. of the total output abroad.

The total figures for the United States, excluding vessels of less than 1,000 tons, comprise 33 vessels of about 228,000 tons to be fitted with steam turbines, and 11 vessels of about 35,000 tons to be fitted with internal combustion engines. Ninety-two steamers for the carriage of oil in bulk were launched with a tonnage of about 690,000 tons. Eighty-six of these vessels of about 670,000 tons were built on the Isherwood system of longitudinal framing, and in addition nine other vessels of about 76,000 tons were also built on this system.

The totals comprise 53 steamers, each of between 4,000 and 7,000 tons; 50 of between 7,000 and 10,000 tons, and 18 vessels of 10,000 tons and upwards, including the steamship *Bethore*, of 15,300 tons, launched by the Bethlehem S.

B. Corp., at Sparrow's Point, Md., this being, as already mentioned, the largest vessel launched abroad during 1921.

#### Germany

Figures for this country are published for the first time since 1913. During the year under review 242 vessels of 509,064 tons were launched. As compared with the output for 1913, the present figures are about 44,000 tons higher and represent over 18 per cent. of the total output abroad during 1921. Apart from vessels of less than 1,000 tons, these figures include 17 vessels of 72,777 tons to be fitted with steam turbines and seven vessels of 28,839 tons to be fitted with oil engines. The totals comprise 40 vessels of between 4,000 and 7,000 tons, 13 of between 7,000 and 10,000 tons, and one vessel of about 14,000 tons.

#### Holland

The total tonnage launched during 1921—232,402 tons—is 49,000 tons higher than the 1920 figures, and is a record. As usual, the figures for this country do not include vessels exclusively intended for river navigation. The total figures, excluding vessels of less than 1,000 tons, comprise 13 vessels, of about 81,000 tons, and also three vessels of about 12,500 tons to be fitted with oil engines. Sixteen vessels of between 4,000 and 7,000 tons each have been launched, and four of between 8,000 and 9,600 tons.

#### Japan

The output for this country—227,425 tons—is 229,217 tons less than in 1920, a reduction of over 50 per cent. As compared, however, with pre-war years, the present output still exceeds the combined figures for the four years 1910-13 by over 30,000 tons.

The 1921 totals comprise 21 vessels of between 4,000 and 7,000 tons each, eight of between 7,000 and 10,000 tons each, and two turbine-engined vessels of between 10,000 and 10,500 tons each. These figures include five vessels of 43,683 tons, which will be fitted with steam turbines, and three vessels of 21,058 tons for carrying oil in bulk.

#### France

The output for the year—210,633 tons—exceeds the totals for 1920 by 117,214 tons (125 per cent.), and is the highest ever reached in this country. The previous record year was 1902 when 192,196 tons were launched; this total, however, included over 146,000 tons of sailing vessels. The total figures include 11 steamers of between 4,000 and 7,000 tons, 11 of between 7,000 and 10,000 tons, and one of 10,741 tons. Eleven vessels of 62,882 tons will be fitted with steam turbines, including two—one of 10,741 tons and one of 4,618 tons—for which turbo-electric propulsion has been adopted.

#### Scandinavian Countries

The total tonnage launched in Denmark, Norway and Sweden amounts to 194,607 tons, which is 31,260 tons higher than the output for 1920. The increase in Denmark amounts to 16,569