*Torpedo-boat Destroyers* were primarily, as their name implies, intended to meet and destroy torpedo-boats, their larger size, greater coal capacity, heavier armament, and higher speed enabling them to overtake such boats before they could complete their attack; but it soon became evident that these additional powers also enabled the destroyer to perform the duties of the torpedo-boat more efficiently than the boat herself, and with the advent of the destroyer the production of the smaller boat declined.

The pioneers of this type of vessel were the “ Daring,” “ Decoy,” “ Havock ” and “ Hornet,” the construction of which was entered upon in July 1892, the two first-named at Messrs Thornycroft’s and the other two at Messrs Yarrow’s. They were thus contemporary with the “ Dryads,” the last of the torpedo gunboats. The success of these four, vessels was followed with great interest, and in the following year (1893) six others were begun. One of these, the “ Boxer,” built by Thornycroft, attained a speed of 29∙2 knots. A much greater number of destroyers (32 in all), nearly the whole of which were of 27 knots speed, were laid down in 1894. The succeeding year (1895) saw a great advance in size, power and speed, thirteen destroyers being laid down, for each of which the contract speed was 30 knots. Similar vessels were constructed by various firms in England for foreign powers, and abroad by Messrs Schichau in Germany and M. Normand in. France; the “ Sokol ” being constructed by Messrs Yarrow for the Russian navy. Over sixty destroyers of the 30-knot type were built for the British navy between 1895 and 1905, and in only three vessels with reciprocating engines—the “ Albatross,” the “Express,” and the “ Arab ”—were speeds exceeding 30 knots contracted for. In 1896 an attempt was made to realize greater speeds, but it was found that the power and cost necessary for the addition of a few knots were dispro- portionate to the value of the results obtained, and the attempt was not followed by any general increase of speed above 30 to 31 knots in destroyers fitted with reciprocating engines. The general appearance of a typical destroyer of this period is shown by fig. 116 (Plate XXVI.), which represents the “Albatross ” at full speed.

Particulars of destroyers will be found in Table XIX.

Experience with the marine steam turbine, the invention of the Hon. C. A. Parsons, dates only from the time of the “ Turbinia ” (fig. 117, Plate XXV.), which made her successful trials in 1898 after much investigation on the part of the inventor. The turbine machinery consisted of three separate turbines directly coupled to three screw shafts and working in series, one turbine being high pressure, one intermediate and one low pressure. Each screw shaft at first carried three propellers, the total number of propellers thus being nine ; the weight of main engines was approximately 3 tons 13 cwt., and the total weight of machinery and boiler, screws and shafting, tanks, &c., 22 tons. The boilers were of the water-tube type, with a working pressure of 225 lb per square inch.

The “ Turbinia ” was followed by the “ Cobra ” and “ Viper ” torpedo-boat destroyers. The machinery of these boats consisted of two sets, one on each side of the ship; each set comprised two turbines, had two expansions, and drove two shafts (making four shafts in all). The outer shaft on each side was driven by a high-pressure turbine, from which the steam passed to a low- pressure turbine on the inner shaft and thence to the condenser; on the inner shaft also was a small turbine, added for going astern, the Parsons steam turbine not being adapted for reversal. Steam was supplied by water-tube boilers of the express type. These vessels attained a speed of upwards of 34 knots, the revolutions of the engines approaching 1200 and the power being estimated at about 12,000 H.P. At the time of their completion these were the fastest vessels of any type afloat, but both were unfortunately lost at sea, the “ Viper ” after a very short period of service being run upon the Renouquet Rock in the Channel Islands, and the “ Cobra ” being lost at sea on her first voyage after leaving the contractor’s works.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  | Table XIX | *.—Particulars of Torpedo-boat Destroyers.* | | | | | | |  |  |
|  |  | |  |  | **Principal Dimensions, &c.** | | | | | | **u∙** |  |  |
| **vessel’s Name.** | | | **Country.** | **Where Built.** | **Date of Launch.** | **Length.** | **Beam.** | **Draught.** | **Displace­ment.** | **Number of Screws.** | **Horse-Pov.** | **Speed.** | **Armament, &c.** |
|  |  | |  |  |  | **Ft. In.** | **Ft. In.** | **Ft. In.** | **Tons.** |  |  | **Knots.** |  |
| **Daring ·.** |  |  | **Great Britain** | **Messrs Thornycroft, Lo□doo. Armstrong, Whitworth, Elswick.** | **1893** | **185 0** | **19 0** | **6 6** | **275** | ***2*** | **4, JOO** | **27.0** | **I—IJ pdr., *3*—6 pdrs., 3 tubes.** |
| **Sword6sh** |  | **...** | **Russia .** | **1895** | **200 0** | **IM O** | **6 6** | **330** | ***2*** | **4>S∞** | **27.6** | **1—^2 ρdr., 5—6 pdrs., 2 tubes.** |
| **Sokol Corricntcs** |  |  | **Messrs Yarrow, London.** | **18g5** | **190 0** | **18 6** | **7 0** | **2 p** | ***2*** | **4-4∞** | **20.7** | **1—-is iκlr., 8 others, *2* tubes.** |
|  |  | **Argentina .'** | **Messrs Yarrow, London.** | **1896** | **190 0** | **ιg 6** | **7 4** | **2⅛0** | ***2*** | **41OOO** | **27.4** | **I—11 pdr., *2* tubes.** |
| **Chamois** |  |  | **Great Britain** | **Messrs Palmer.** | **1896** | **215 0** | **20 9** | **7 3** | **3nθ** | ***2*** | **6,200** | **30.0** | **I—12 pdr., 5—6 pdrs., *2* tube».** |
| **Express** |  |  | **,,,** | **Messrs Laird Bros.** | **1897** | **235 0** | **22 0** | **9 0** | **4W5** | ***2*** | **0.350** | **31.0** | **I—12 pdr., 5—6 pdrs., *2* tubes.** |
| **Gipsy** |  |  | **,,** | **Messrs Fairfield.** | **1897** | **227 6** | ***22* 0** | **9 0** | **380** | ***2*** | **6,300** | **30.0** | **112 j>lr., £- 6 pdrs., *2* tubes. *Nit.* Experimental boat.** |
| **Turbinia** |  |  |  | **Hoα. C. A. Parsons.** | **1897** | **100 0** | **9 0** | **3 o** | **44s** | ***3*** | **2,100** | **33.75** |
| **Albatross** |  |  |  | **Messrs Thornycroft, London. Armstrong, Whitworth, £lswick.** | **1898** | **227 6** | **21 3** | **8 6** | **430** | ***2*** | **7,5∞** | **31.5** | **I—ιa par., 5—6 pdrs., *2* tubes.** |
| **Cobra** |  |  | **United'States** | **1899** | **210 0** | **21 0** | **6 9** | **350** | ***Z*** | **15,000** | **34.0** | **I—12 pdr., 5—6 pdrs., *2* Hotchkiss, *2* Lube⅛.** |
| **Bailey .** |  |  | **Morris Heights.** | **18gg** | **205 0** | **19 0** | **6 0** | **280** | ***2*** | **5,600** | **30.0** | **4—6 pdrs., *2* tubes.** |
| **Lawrence** |  |  | **Great Britain** | **Weymouth, Mass.** | **19∞** | **24a 3** | ***22 3*** | **6 *2*** | **400** | ***2*** | **814∞** | **30.0** | ***2—*14 pdrs., 5—6 pdrs., *2* tubes.** |
| **Derwent** |  |  | **Messrs Hawthorn, Leslie.** | **1904** | **220 0** | ***23 6*** | **S 6** | **555 18∞** | ***2*** | **7,000** | **25,5** | **4—12 pdrs., *2* tubes.** |
| **Swift** |  |  | **,,** | **Messrs CammcII, Laird.** | **1907** | **345 O** | ***ìl 1o*** | **12 0** | ***4*** | **30,000** | **35.0** | **4—4\*, *2* tubes.** |
| **Tartar .** |  |  | **Brazil” . ,**  **Great Britaiα** | **Messrs Thornycroft, London.** | **1907**  **1908** | **270 O** | **9 I** | **870** | **3** | **14,500** | **33.0** | **3—12 pdrs., *2* tubes.** |
| **Para** |  |  | **Messrs Yarrow, London.** | **240 0**  **280 0** | ***23* 7** | **10 0** | **550** | ***2*** | **8,ooo** | **27.5** | ***2—*4\*, 4—3 ρdrs., *2* tubes.** |
| **Zulu** |  |  | **Messrs HawLhorn, Leslie.** | **1909** | **27 0** | **8 10** | **1000** | ***3*** | **15,500** | **33.0** | **2—4\*, *2* tubes.** |
| **Beagle .** |  |  | **Germany** | **Messrs J. Brow□.** | **1909** | **269 O** | **26 7** | **8 3** | **860** | ***3*** | **12,5∞** | **27.0** | **ι-4\*∣ 3—12 pdrs., *2* tubes.** |
| **S 167 Smith Mameluck** |  |  | **Elbing. Philadelphia.** | **1909** | ***26 0*** | **8 0** | **607** |  | **12,000** | **30.0** | ***2—24* pdrs., *2* machine, *3* tubes.** |
|  |  | **United States** | **1909** | **289 O** | **700** | ***3*** | **10,000** | **28.35** | **5—14 pdrs., *2* machine, 3 tubes.** |
|  |  | **France . .** | **Nantes.** | **1909** | **210 7** | ***21* 9** | **10 4** | **405** | ***3*** | **7.75°** | **28.0** | **6—9 j>drs., *3* tubes.**  **4—4 ,4 tubes.** |
| **San Luis** |  |  | **Argentina** | **Messrs Cammell, Laird.** | **IQIO** | **285 0** | **38 O** | **9 0** | **960** | ***2*** | **20,000** | **32.0** |

The results attained by these vessels led the British Admiralty to make further experiments with this type of machinery. The “ Velox,” which had been launched in 1902, was purchased from the Parsons Company, and two experimental vessels were ordered from Messrs Hawthorn, Leslie & Co., both 220 ft. long, about 590 tons displacement and with similar boilers. Both vessels were launched in 1903. One, the “ Eden,” was fitted with Parsons turbines, and reached 26∙1 knots on trial; the other, the“ Waveney,” with reciprocating engines, reached 25·6 knots on trial; the “ Waveney ” had twin screws; the “ Eden ” had six screws, two on each of three shafts, and at high speed showed a great saving in coal consumption.

Experience with the 3o-knot boats led to a decision to order boats of stouter build and better sea-keeping qualities. In them the turtleback forward was replaced by a lofty forecastle, and it was laid down that the trials should be run with the boats more heavily loaded and more closely approaching their ordinary loaded condition on service. These changes were embodied in the “ River ” class, in which a trial speed of 25½ knots under the modified conditions was provided for.

In 1902-1904 thirty-four destroyers of the “ River ” class were ordered, of the following dimensions, &c. : length 220 to 230 ft., breadth 23½ to 24 ft., mean load draught 8 ft. 2 in. to 8 ft. 8 in., displacement 540 to 590 tons, I.H.P. 7000 to 7500, speed 25½ knots. The 1904 Committee on Designs recommended two new types of destroyers called “ ocean-going ” and “ coastal ” respectively, and also one experimental vessel of the highest speed obtainable, all to be fitted with Parsons turbines, and to use oil only for fuel. The ocean-going destroyers include five of 33 knots and the special destroyer of 35 knots named the “ Swift ” (fig. 118), built by Messrs Laird & Co. She was the largest destroyer afloat in 1910. Fig. 119 (Plate XXVI.) gives a view of this vessel.

From 1906 to 1908 eight ocean-going destroyers of 33 knots of the “ Tribal class were ordered, ranging from 970 to 1045 tons displacement and armed with two 4-in. guns and two 18-in. torpedo tubes. In 1908-1909 sixteen ocean-going destroyers of the “ Beagle ” class were ordered, of 27 knots speed, coal being used as the fuel instead of oil as in the preceding classes. In 1909-1910 twenty more ocean-going destroyers of the “ Acorn ” class, designed by Sir Philip Watts, were laid down; in these oil was again adopted for fuel and a speed of 29 knots obtained. These vessels are of 780 tons displacement, 240 ft. long, 25¼ ft. beam, 7¾ ft. draught, 13,500 turbine H.P., and carry two 4-in., four 12-pdr. guns and two 21-in. torpedo tubes. The “ Acorn,” “ Alarm ” and “ Brisk ” are provided with Brown-Curtis turbines, all the others with Parsons turbines. The navy estimates for 1910 provided for laying down twenty-three destroyers. The three Australian destroyers of the “ Paramatta ” class were designed by Professor Biles, and are of 700 tons displacement and 28 knots speed.

While the idea of the torpedo-boat destroyer originated in Great Britain, and the first boats of the type were built for the British navy, foreign powers were not slow in availing themselves of the results obtained, and large numbers of torpedo-boat destroyers have