= French ironclad Richelieu =

The French ironclad Richelieu was a wooden @-@ hulled central battery ironclad built for the French Navy in the early 1870s . She was named after the 17th century statesman Cardinal de Richelieu . The ship was the flagship of the Mediterranean Squadron for most of her career . Richelieu caught on fire in Toulon in 1880 and was scuttled to prevent her magazines from exploding . She was salvaged and , after being repaired , resumed her role as flagship . In 1886 , however , the ship was placed in reserve and was eventually condemned in 1901 . While being towed to the ship breakers in Amsterdam in 1911 , Richelieu was caught in a storm in the Bay of Biscay and had to be cast loose from her tugboat . Nevertheless , the ship survived the storm and was recovered near the Scilly Isles from where she was towed to her final destination .

= = Design and description = =

Richelieu was designed by Henri Dupuy de Lôme as an improved version of the Océan @-@ class ironclads . As a central battery ironclad she had her armament concentrated amidships . Like most ironclads of her era she was equipped with a plough @-@ shaped ram that projected 10 feet (3 @.@ 0 m) from her hull . Her crew numbered around 750 officers and men . The metacentric height of the ship was very low , a little above 1 @.@ 5 feet (0 @.@ 5 m) .

The ship measured 101 @.@ 7 meters (333 ft 8 in) overall , with a beam of 17 @.@ 4 meters (57 ft 1 in) . Richelieu had a maximum draft of 8 @.@ 5 meters (27 ft 11 in) and displaced 8 @,@ 984 metric tons (8 @,@ 842 long tons) .

= = = Propulsion = = =

Richelieu was given two propellers by Henri Dupuy de Lôme to make her more maneuverable for ramming . She had two Indret 3 @-@ cylinder horizontal return connecting rod compound steam engines , each driving a single propeller . Her engines were powered by eight oval boilers . On sea trials the engines produced 4 @,@ 600 indicated horsepower (3 @,@ 400 kW) and Richelieu reached 13 @.@ 2 knots (24 @.@ 4 km / h ; 15 @.@ 2 mph) . She carried 640 metric tons (630 long tons) of coal which allowed her to steam for approximately 3 @,@ 300 nautical miles (6 @,@ 100 km ; 3 @,@ 800 mi) at a speed of 10 knots (19 km / h ; 12 mph) . Richelieu was initially square rigged with three masts , then cut down to a schooner rig .

= = = Armament = = =

Richelieu 's intermediate armament of four 240 @-@ millimeter (9 @.@ 4 in) guns was mounted in barbettes on the upper deck , one gun at each corner of the battery , with her six 274 @-@ millimeter (10 @.@ 8 in) guns on the battery deck below the barbettes . One 240 @-@ millimeter gun was mounted in the forecastle as a chase gun . The ship 's secondary armament consisted of ten 120 @-@ millimeter (4 @.@ 7 in) guns . These were later replaced by six 138 @-@ millimeter (5 @.@ 4 in) guns .

The 18 @-@ caliber 274 @-@ millimeter Modéle 1870 gun fired an armor @-@ piercing , 476 @.@ 2 @-@ pound (216 @.@ 0 kg) shell while the gun itself weighed 22 @.@ 84 long tons (23 @.@ 21 t) . The gun fired its shell at a muzzle velocity of 1 @,@ 424 ft / s (434 m / s) and was credited with the ability to penetrate a nominal 14 @.@ 3 inches (360 mm) of wrought iron armour at the muzzle . The armor @-@ piercing shell of the 19 @-@ caliber 240 @-@ millmeter Modele 1870 gun weighed 317 @.@ 5 pounds (144 @.@ 0 kg) while the gun itself weighed 15 @.@ 41 long tons (15 @.@ 66 t) . It had a muzzle velocity of 1 @,@ 624 ft / s (495 m / s) and was credited with the ability to penetrate a nominal 14 @.@ 4 inches (366 mm) of wrought iron armor at the muzzle . The 138 @-@ millimeter gun was 21 calibers long and weighed 2 @.@ 63 long tons (2 @.@ 67 t) . It fired a 61 @.@ 7 @-@ pound (28 @.@ 0 kg) explosive shell that had a muzzle velocity of 1 @,@ 529 ft / s (466 m / s) . The guns could fire both solid shot and explosive shells .

At some point the ship received eight , and then later ten more , 37 @-@ millimeter (1 @.@ 5 in) Hotchkiss 5 @-@ barrel revolving guns . They fired a shell weighing about 500 g (1 @.@ 1 lb) at a muzzle velocity of about 610 m / s (2 @,@ 000 ft / s) to a range of about 3 @,@ 200 meters (3 @,@ 500 yd) . They had a rate of fire of about 30 rounds per minute . The hull was not recessed to enable any of the guns on the battery deck to fire forward or aft . However , the guns mounted in the barbettes sponsoned out over the sides of the hull did have some ability to fire fore and aft . Late in the ship 's career four above @-@ water 356 @-@ millimeter (14 @.@ 0 in) torpedo tubes were added .

= = = Armor = = =

Richelieu had a complete 220 @-@ millimeter (8 @.@ 7 in) wrought iron waterline belt . The sides and the transverse bulkheads of the battery itself were armored with 160 millimeters (6 @.@ 3 in) of wrought iron . The barbettes were unarmored , but the deck was protected by 10 mm (0 @.@ 4 in) of armor .

= = Service = =

Richelieu was laid down at Toulon in 1869 and launched on 3 December 1873 . While the exact reason for such prolonged construction time is not known , it was probably due to financial pressures caused by slashing of French Navy 's budget which was cut after the Franco @-@ Prussian War of 1870 ? 71 coupled with the outdated work practices of the French dockyards at the time , which were not suitable for the Industrial Age . The ship began her sea trials on 12 April 1875 , but did not begin her service with the Mediterranean Squadron , of which she became flagship , until 10 February 1876 . She was placed in reserve on 3 December 1879 .

While in Toulon harbor on 29 December 1880 , Richelieu caught fire and had to be scuttled to prevent her magazines from exploding . The ship capsized to port in 10 @.@ 75 meters (35 @.@ 3 ft) of water ; she lay on her barbettes almost at a 90 ° angle . In order to salvage her , all accessible guns , ammunition , masts , armor and movable decks were removed and the equivalent weight was placed in the ship 's holds to lower her center of gravity . A sheer hulk was moved to her port side and cables were connected to Sibylle on the other side of Richelieu . 360 empty casks and 34 cubic meters (1 @,@ 200 cu ft) of cork were attached to the starboard side to prevent the ship from rolling too far the other way . After an hour and a half of lifting , Richelieu had been righted to a 45 ° angle ; a subsequent effort completed the job .

Richelieu was repaired and returned to service as the flagship of the Mediterranean Squadron on 8 October 1881 where she remained until 1886 . The squadron made port visits in Tangiers and Lisbon in 1884 before sailing to Brest and Cherbourg for exercises . In 1885 Richelieu tested Bullivant torpedo nets , but they reduced her speed to a maximum of 4 knots (7 @.@ 4 km / h ; 4 @.@ 6 mph) and as a result were not considered successful . The ship was placed back in reserve in 1886 and became flagship of the Reserve Squadron on 8 September 1892 , which , despite its name , consisted of ships in commission . The squadron conducted exercises from June to August 1892 in French waters . Richelieu was condemned on 5 March 1900 , but was not immediately sold . After having been sold to Dutch ship breakers , Richelieu departed Toulon on 28 January 1911 . She was under tow in the Bay of Biscay , having left the Mediterranean for the first time in her existence , when a storm caused the tugboat to cast her loose . The ship remained afloat , however , and was subsequently recovered near the Scilly Isles and towed to Amsterdam where she was broken up .