

= SMS Friedrich Carl ( 1867 ) =

SMS Friedrich Carl was an ironclad warship built for the Prussian Navy in the mid 1860s . The ship was constructed in the French Société Nouvelles des Forges et Chantiers shipyard in Toulon ; her hull was laid in 1866 and launched in January 1867 . The ship was commissioned into the Prussian Navy in October 1867 . The ship was the third ironclad ordered by the Prussian Navy , after Arminius and Prinz Adalbert , though the fourth ship to be acquired , Kronprinz , was ordered after but commissioned before Friedrich Carl .

Friedrich Carl served with the fleet from her commissioning in 1867 until 1895 , when she was removed from front line service to serve as a training ship . During the Franco Prussian War in 1870 ? 1871 , the ship formed part of the main German squadron commanded by Vice Admiral Jachmann . Engine trouble , however , plagued the ship and two of the other three vessels in the squadron ; as a result , they made only two sorties from the port of Wilhelmshaven to challenge the French blockade . Neither resulted in combat .

Friedrich Carl was also deployed to Spain during an insurrection in 1873 , during which she assisted in the seizure of three rebel vessels in two engagements . The ship was refitted at the Imperial Dockyard in Wilhelmshaven in the 1880s . She was renamed Neptun in 1902 and used as a harbor ship until June 1905 , when she was removed from the naval register . The following year , she was sold to ship breakers in the Netherlands and dismantled for scrap .

= = Design = =

= = = General characteristics = = =

Friedrich Carl was 91 m ( 299 ft ) long at the waterline and 94 m ( 308 ft ) long overall . She had a beam of 16 m ( 54 ft ) and a draft of 6 m ( 22 ft ) forward and 8 m ( 26 ft ) aft . The ship was designed to displace 5 ,971 metric tons ( 5 ,877 long tons ; 6 ,582 short tons ) at a normal loading , and up to 6 ,932 t ( 6 ,823 long tons ; 7 ,641 short tons ) with a combat load . The ship 's hull was constructed with transverse and longitudinal iron frames . It contained eight watertight compartments and a double bottom that ran for 76 percent of the length of the vessel .

Friedrich Carl was an excellent sea boat ; the ship was responsive to commands from the helm and had a moderate turning radius . She was somewhat unbalanced , however , and a 6 degree rudder to port was required to keep the ship on a straight course . The ship 's crew numbered 33 officers and 498 enlisted men , and while serving as a flagship , the crew was augmented with a command staff of 6 officers and 35 enlisted men . Friedrich Carl carried a number of smaller boats , including a large tender , two launches , a pinnace , two cutters , two yawls , and one dinghy .

A horizontal two cylinder single expansion steam engine powered the ship . It drove a four bladed screw 6 m ( 20 ft ) in diameter . Six trunk boilers , divided into two boiler rooms with 11 fireboxes in each , supplied steam to the engine at 2 standard atmospheres ( 200 kPa ) . The propulsion system was rated at 3 ,300 indicated horsepower ( 2 ,500 kW ) and a top speed of 13 knots ( 24 km / h ; 15 mph ) , though on trials Friedrich Carl managed to make 3 ,550 ihp ( 2 ,650 kW ) and 13 .5 knots ( 25 .0 km / h ; 15 .5 mph ) . The ship carried 624 t ( 614 long tons ; 688 short tons ) of coal , which enabled a maximum range of 2 ,210 nautical miles ( 4 ,090 km ; 2 ,540 mi ) at a cruising speed of 10 knots ( 19 km / h ; 12 mph ) . A barque rig with a surface area of 2 ,010 square meters supplemented the steam engine , though in service they added little to the ship 's performance . Steering was controlled with a single rudder .

= = = Armament and armor = = =

As built , Friedrich Carl was equipped with twenty six rifled 72 pounder cannon . After

her delivery to Germany , these guns were replaced with a pair of 21 @-@ centimeter ( 8 @.@ 3 in ) L / 22 guns and fourteen 21 cm L / 19 guns . The L / 22 gun could depress to ? 5 degrees and elevate to 13 degrees , which provided a range of 5 @,@ 900 m ( 6 @,@ 500 yd ) . The shorter barreled L / 19 guns had a wider range of elevation , from ? 8 to 14 @.@ 5 degrees , but the shorter barrel imposed a lower muzzle velocity , which correspondingly reduced the range of the gun to 5 @,@ 200 m ( 5 @,@ 700 yd ) . The two types of gun fired the same shell , of which the total supply numbered 1 @,@ 656 rounds of ammunition . The fourteen L / 19 guns were placed in a central battery amidships , seven on either broadside . The L / 22 guns were placed on either end of the ship . Later in her career , six revolver cannon and five 35 cm ( 14 in ) torpedo tubes were added . Two of the tubes were placed in the bow , two on the ship 's sides , and one in the stern on the port side . All were placed above water , and were supplied with 12 torpedoes .

Friedrich Carl 's armor consisted of wrought iron backed with heavy teak planking . The waterline armored belt consisted of 114 millimeters ( 4 @.@ 5 in ) of iron backed with 254 mm ( 10 @.@ 0 in ) of teak . The central battery was protected by 114 mm of sloped iron plating on 260 mm ( 10 in ) of timber . The battery 's roof was protected by 9 @-@ millimeter ( 0 @.@ 35 in ) thick iron plating . The ship 's conning tower had 114 mm thick iron armor mounted on 400 @-@ millimeter ( 15 @.@ 7 in ) of teak .

= = Service history = =

The Prussian Navy ordered Friedrich Carl from a French shipbuilder in 1865 . She was laid down at the Société Nouvelles des Forges et Chantiers La Seyne shipyard in Toulon the following year . The ship was launched on 16 January 1867 ; fitting out work was completed rapidly , and the ship was completed before the end of the year . Friedrich Carl was delivered to Prussia in October 1867 and commissioned into the fleet on the 3rd of the month .

= = = Franco @-@ Prussian War = = =

At the outbreak of the Franco @-@ Prussian War in 1870 , the greatly numerically inferior Prussian Navy assumed a defensive posture against a naval blockade imposed by the French Navy . Friedrich Carl and the broadside ironclads Kronprinz and König Wilhelm , along with the small ironclad ram Prinz Adalbert , had been steaming in the English Channel before the French declared war ; they had left Plymouth on 10 July with the intention of steaming to Fayal in the Azores . On the 13th , however , they put into port and learned of the rising tension between France and Prussia . The ships therefore returned to Wilhelmshaven immediately , arriving on 16 July . France declared war on Prussia three days later on 19 July . Friedrich Carl , Kronprinz , and König Wilhelm were concentrated in the North Sea at the port of Wilhelmshaven . They were subsequently joined there by the turret ship Arminius , which had been stationed in Kiel .

Despite the great French naval superiority , the French had conducted insufficient pre @-@ war planning for an assault on the Prussian naval installations , and concluded that it would only be possible with Danish assistance , which was not forthcoming . The four ships , under the command of Vice Admiral Jachmann , made an offensive sortie in early August 1870 out to the Dogger Bank , though they encountered no French warships . Friedrich Carl and the other two broadside ironclads thereafter suffered from chronic engine trouble , which left Arminius alone to conduct operations . Friedrich Carl , Kronprinz , and König Wilhelm stood off the island of Wangerooge for the majority of the conflict , while Arminius was stationed in the mouth of the Elbe river . On 11 September , the three broadside ironclads were again ready for action ; they joined Arminius for another major operation into the North Sea . It too did not encounter French opposition , as the French Navy had by this time returned to France .

= = = Deployment to Spain = = =

In early 1873 , the First Spanish Republic was beset with the Cantonal Revolution . Friedrich Carl ,

under the command of Vice Admiral Reinhold Werner , steamed to Spanish waters along with a pair of unarmored vessels . The ships joined a British squadron that had been patrolling the southern Spanish coast . A rebel faction of the Spanish Navy had seized four of the country 's seven ironclads . Admiral Werner , the senior commander in the group , was given command of the Anglo @-@ German force . The squadron blockaded two rebel ironclads in the port of Cartagena after they had bombarded a coastal town . While steaming off Alicante , Friedrich Carl encountered the rebel armed steamer Vigilante , seized the vessel , and returned it to the national government .

Friedrich Carl and the British ironclad HMS Swiftsure attacked two of the rebel ships ? Vitoria and Almansa ? without authorization from London or Berlin . The rebel vessels had attempted to extort the port of Almería . In the brief engagement , the Anglo @-@ German force overwhelmed the rebels and seized both ships , which were subsequently turned over to the Spanish government . The rebels considered declaring war on Germany over the affair , but eventually decided against it . A captured rebel leader was briefly held on board Friedrich Carl . Admiral Werner 's blockade eventually forced the rebels to surrender , after which Friedrich Carl returned to Germany . Chancellor Otto von Bismarck ordered a court @-@ martial for Admiral Werner , whose actions Bismarck considered to be excessive . Bismarck prohibited the Imperial Navy from conducting " gunboat diplomacy " in the future .

= = = Later service = = =

In 1885 , Friedrich Carl had torpedo nets installed ; these remained on the ship until 1897 . In 1895 , the ship was disarmed ; she was placed into service as a torpedo test ship on 11 August of that year . She served in this capacity until 21 January 1902 , when she was renamed Neptun and used as a harbor ship . Her name was then freed to be reused on the new armored cruiser Friedrich Carl , which was launched on 22 June 1902 . Neptun was formally stricken from the naval register on 22 June 1905 and sold to a Dutch ship @-@ breaking firm in March 1906 for 284 @,@ 000 gold marks . The ship was then towed to the Netherlands and broken up for scrap .