

= SMS Kronprinz (1867) =

For the German battleship that served during World War I , see SMS Kronprinz

SMS Kronprinz was a unique German ironclad warship built for the Prussian Navy in 1866 ? 1867 . Kronprinz was laid down in 1866 at the Samuda Brothers shipyard at Cubitt Town in London . She was launched in May 1867 and commissioned into the Prussian Navy that September . The ship was the fourth ironclad ordered by the Prussian Navy , after Arminius , Prinz Adalbert , and Friedrich Carl , though she entered service before Friedrich Carl . Kronprinz was built as an armored frigate , armed with a main battery of sixteen 21 cm (8 @. @ 3 in) guns ; several smaller guns were added later in her career .

Kronprinz saw limited duty during the Franco @-@ Prussian War of 1870 ? 1871 . Engine troubles aboard the ship , along with the two other armored frigates in her squadron , prevented operations against the French blockade . Only two sorties in which Kronprinz participated were conducted , both of which did not result in combat . The ship served in the subsequent Imperial Navy until she was converted into a training ship for boiler room personnel in 1901 . The ship was ultimately broken up for scrap in 1921 .

= = Design = =

= = = General characteristics and propulsion = = =

Kronprinz was 88 @. @ 20 meters (289 @. @ 4 ft) long at the waterline and 89 @. @ 44 m (293 @. @ 4 ft) long overall . She had a beam of 15 @. @ 20 m (49 @. @ 9 ft) and a draft of 7 @. @ 85 m (25 @. @ 8 ft) forward and 7 @. @ 45 m (24 @. @ 4 ft) aft . The ship was designed to displace 5 @, @ 767 metric tons (5 @, @ 676 long tons ; 6 @, @ 357 short tons) at a normal loading , and up to 6 @, @ 760 t (6 @, @ 650 long tons ; 7 @, @ 450 short tons) with a combat load . The ship 's hull was constructed with transverse and longitudinal iron frames . It contained nine watertight compartments and a double bottom that ran for 43 percent of the length of the vessel . The ship was an excellent sea boat ; the ship was responsive to commands from the helm but had a large turning radius . The ship 's crew numbered 33 officers and 508 enlisted men . Kronprinz carried a number of smaller boats , including a large tender , two launches , a pinnace , two cutters , two yawls , and one dinghy .

The ship 's propulsion system was built by John Penn and Sons of Greenwich , England . A horizontal two @-@ cylinder single expansion steam engine powered the ship . It drove a two @-@ bladed screw 6 @. @ 50 m (21 @. @ 3 ft) in diameter . Eight trunk boilers , with four fireboxes in each , were divided into two boiler rooms . The boilers supplied steam to the engine at 2 standard atmospheres (200 kPa) . The propulsion system was rated at 4 @, @ 500 indicated horsepower (3 @, @ 400 kW) and a top speed of 13 @. @ 5 knots (25 @. @ 0 km / h ; 15 @. @ 5 mph) , though on trials Kronprinz managed to make 4 @, @ 870 ihp (3 @, @ 630 kW) and 14 @. @ 7 knots (27 @. @ 2 km / h ; 16 @. @ 9 mph) . The ship carried up to 646 t (636 long tons ; 712 short tons) of coal , which enabled a maximum range of 3 @, @ 200 nautical miles (5 @, @ 900 km ; 3 @, @ 700 mi) at a cruising speed of 10 knots (19 km / h ; 12 mph) and a range of 1 @, @ 730 nmi (3 @, @ 200 km ; 1 @, @ 990 mi) at 14 knots . A barque rig with a surface area of 1 @, @ 980 square meters supplemented the steam engine . Steering was controlled with a single rudder .

= = = Armament and armor = = =

As built , Kronprinz was equipped with thirty @-@ two 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 .

Kronprinz 's armor consisted of wrought iron backed with heavy teak planking . The iron component of the waterline armored belt ranged in thickness from 76 millimeters (3 @. @ 0 in) in the stern to 124 mm (4 @. @ 9 in) amidships and 114 mm (4 @. @ 5 in) toward the bow . The entire belt was backed with 254 mm (10 @. @ 0 in) of teak . The central battery was protected by 114 to 121 mm (4 @. @ 5 to 4 @. @ 8 in) of sloped iron plating on 254 mm of timber . The battery 's roof was protected by 9 @- @ millimeter (0 @. @ 35 in) thick iron plating .

= = Service history = =

Kronprinz was laid down in 1866 at the Samuda Brothers shipyard in London . The British naval architect Edward Reed designed the ship , and resulted in a vessel similar to the contemporary , French @- @ built Prussian ironclad Friedrich Carl . The ship was launched on 6 May 1867 and commissioned into the Prussian Navy four months later on 19 September 1867 . On the voyage from England to Prussia , the ship lost her main mast in a storm . The ship immediately went into dock for refitting upon arrival in Prussia ; the mast was repaired and the ship 's armament was converted from the initial arrangement .

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 . Kronprinz and the broadside ironclads Friedrich Carl 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 . Kronprinz , Friedrich Carl , 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 . For the duration of the conflict , Kronprinz was commanded by Captain Reinhold von Werner .

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 . Kronprinz and the other two broadside ironclads thereafter suffered from chronic engine trouble , which left Arminius alone to conduct operations . Kronprinz , Friedrich Carl , 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 .

Engine problems plagued the ship throughout her career ; Kronprinz 's engines broke down during the fleet maneuvers in May 1883 . Two of the three other armored frigates also broke down , which forced the cancellation of the maneuvers . Kronprinz had anti @- @ torpedo nets installed in 1885 ; these were removed in 1897 . The ship served on active duty with the fleet until 22 August 1901 , when she was stricken from the naval register . She was reconstructed at the Imperial Dockyard in Kiel that year . The propulsion system was overhauled and the eight J Penn & Sons boilers were removed . Two Dürr and two Thornycroft boilers were installed in their place . Her barque rig was cut down to 1 @, @ 409 square meters (15 @, @ 170 sq ft) . After emerging from the reconstruction ,

Kronprinz served as a training ship for engine @-@ room personnel , based in Kiel . The ship was ultimately sold to Bonn , a German ship @-@ breaking firm , on 3 October 1921 for 5 @,@ 000 @,@ 000 marks . Kronprinz was broken up for scrap in Rendsburg @-@ Audorf later that year .