

= Russian ironclad Kreml =

The Russian ironclad Kreml ( Russian : ????? ) was the third and last Pervenets class broadside ironclad built for the Imperial Russian Navy during the mid 1860s . She joined the Baltic Fleet upon completion and accidentally sank a Russian frigate in 1869 . The ship was assigned to the Gunnery Training Detachment in 1870 and was frequently rearmed . Kreml sank in shallow water after a storm in 1885 ; she was refloated and returned to service . The ship was placed in reserve in 1904 and disarmed the following year before being sold for scrap in 1908 .

= = Design and description = =

The Pervenets class ironclads were designed as coastal defence ships to protect the approaches to Saint Petersburg and were referred to as " self propelled armored floating batteries " . As such , heavy armament and protection were the most important factors in their design .

Kreml was 221 feet ( 67 m ) long overall , with a beam of 53 feet ( 16 m ) and a mean draft of 15 feet ( 4 m ) . Displacing 3,664 long tons ( 3,723 t ) at full load , she was somewhat larger than her half sisters and displaced over 300 long tons ( 300 t ) more . She was fitted with a ram bow and lacked the stern ram of her half sisters . Based on the experiences with her sister Pervenets , bilge keels 12 inches ( 305 mm ) deep and 20 feet ( 6 m ) long were fitted to reduce the ship 's rolling . The ship did not steer well and historian Stephen McLaughlin notes that she had " an unpredictable habit of suddenly lurching to one side or another " , probably as a result of poor water flow to the rudder . Kreml required six men to man her wheel and her total crew numbered 459 officers and enlisted men .

As a cost cutting measure , the ship received the refurbished horizontal trunk steam engine from the wooden frigate Ilya Muromets , built by Carr and MacPherson of Saint Petersburg . It had two cylinders , each with a bore of 83 inches ( 2,120 mm ) and a stroke of 36 inches ( 910 mm ) . Using steam produced by four rectangular fire tube boilers to drive a single 13 foot 6 inch ( 4 m ) propeller , the engine was designed to produce 870 indicated horsepower ( 650 kW ) and gave the ship a maximum speed of 7 1/8 knots ( 13 1/16 ? 16 1/8 km / h ; 8 1/15 ? 10 1/8 mph ) during her sea trials on 18 October 1866 . Kreml 's boilers proved to be unable to last more than about a decade in service before they had to be replaced , notably in 1876 , 1886 , 1892 and 1901 . To save money , the replacement boilers were taken from retiring ships and reconditioned before installation in Kreml .

The ship was intended to be rigged as a three masted schooner , like her half sisters , but her first captain suggested that her fore- and mainmasts be square rigged to take advantage of her more seaworthy hull form . Kreml 's masts were hollow iron and were used to ventilate the lower decks , the first such masts in the Imperial Russian Navy . To protect her leadsmen , sailors who determined the depth of water under the keel , in combat , Kreml was fitted with two sounding tubes that led from the gun deck through the bottom of the hull .

Kreml was completed with 17 of the most powerful guns available to the Russians , the 7 1/2 inch ( 196 mm ) 60 pounder smoothbore gun . Fifteen were mounted on the broadside and two guns were placed in pivot mounts on the upper deck to serve as chase guns . Unfortunately , it proved to be incapable of penetrating 4 1/2 inches ( 114 mm ) of wrought iron armor at a distance of only 200 yards ( 183 m ) during trials in 1859 ? 60 . Despite this , the ship continued to be armed with varying numbers of these guns , as well as 8 inch ( 203 mm ) rifled guns throughout her career . Her upper deck armament changed even more frequently and used different configurations of 6 inch ( 152 mm ) and 8 inch rifled guns in addition to varying numbers of smaller guns .

The ship 's armor configuration differed from that of her half sisters . Most of her side was covered by 4 1/2 inch ( 110 mm ) of wrought iron armor , but transverse armored bulkheads of the same thickness protected the gun deck from raking fire and the upper part of the hull outside the bulkheads was unprotected . The teak backing of the armor was increased to 15

inches ( 381 mm ) . Kreml 's deck had a maximum thickness of 1 @. @ 14 inches ( 29 mm ) . The conning tower was also protected by 4 @. @ 5 inches of armor . The ship 's hull was divided by four watertight transverse and two longitudinal bulkheads for protection against underwater damage .

= = Construction and service = =

Kreml , named after the Kremlin , was ordered on 20 April 1863 when a contract was signed with the Russian shipbuilder Semiannikov & Poletika for a total cost of 898 @, @ 000 rubles . Construction had not yet begun when the Russian Admiralty Board amended the contract on 20 July to shorten the construction time by one year for a payment of an extra 48 @, @ 000 rubles in response to the adverse foreign reaction to the brutal Russian suppression of the revolts in Poland and Lithuania that year . Fearing attack by Britain and France , the Board switched priority to the smaller Uragan @- @ class monitors shortly afterwards in the belief that they could be completed more quickly so that progress on Kreml slowed to a crawl once construction began on 2 October . The ship was not formally laid down until 23 December and she was launched on 26 August 1865 .

The ship entered service in 1866 with the Baltic Fleet . She accidentally collided with and sank the wooden steam frigate Oleg on 15 August 1869 , killing 16 men from Oleg , but Kreml was only slightly damaged . She was assigned to the Gunnery Training Detachment in March 1870 and remained with it for the bulk of her career . In November 1881 , the steam @- @ powered steering gear taken from the ironclad Petr Veliky was installed which required the installation of a high @- @ pressure donkey boiler in the cramped boiler room . This proved to be more trouble than it was worth and was removed two years later . Kreml was caught by a storm on 10 June 1885 while sailing for Reval ( Tallinn ) and began taking on so much water that her captain decided to make for shallow water ; she reached Kunda Bay , on the Estonian coast , under sail alone after her engine bearings overheated and forced the engine to be stopped . Once there , the progressive flooding continued through the ventilation shafts , sounding tubes , and defective valves in the internal bulkheads , and the ship sank in 26 feet ( 7 @. @ 9 m ) of water . Kreml was refloated on five days later and repaired in Kronstadt . She was reclassified as coast @- @ defense ironclad on 13 February 1892 and placed in reserve on 24 December 1904 . Kreml was disarmed and turned over to the Port of Kronstadt for disposal on 15 September 1905 . She was stricken from the Navy List on 12 October and sold for scrap on 8 September 1908 .