

= SMS Blücher =

SMS Blücher was the last armored cruiser built by the German Empire . She was designed to match what German intelligence incorrectly believed to be the specifications of the British Invincible @-@ class battlecruisers . Blücher was larger than preceding armored cruisers and carried more heavy guns , but was unable to match the size and armament of the battlecruisers which replaced armored cruisers in the British Royal Navy and German Imperial Navy (Kaiserliche Marine) . The ship was named after the Prussian Field Marshal Gebhard von Blücher , the commander of Prussian forces at the Battle of Waterloo in 1815 .

Blücher was built at the Kaiserliche Werft shipyard in Kiel between 1907 and 1909 , and commissioned on 1 October 1909 . The ship served in the I Scouting Group for most of her career , including the early portion of World War I. She took part in the operation to bombard Yarmouth and the raid on Scarborough , Hartlepool and Whitby in 1914 .

At the Battle of Dogger Bank on 24 January 1915 , Blücher was slowed significantly after being hit by gunfire from the British battlecruiser squadron under the command of Vice Admiral David Beatty . Rear Admiral Franz von Hipper , the commander of the German squadron , decided to abandon Blücher to the pursuing enemy ships in order to save his more valuable battlecruisers . Under heavy fire from the British ships , she was sunk , and British destroyers began recovering the survivors . However , the destroyers withdrew when a German zeppelin began bombing them , mistaking the sinking Blücher for a British battlecruiser . The number of casualties is unknown , with figures ranging from 747 to around 1 @, @ 000 . Blücher was the only warship lost during the battle .

= = Design = =

German armored cruisers ? referred to as Große Kreuzer (large cruisers) ? were designed for several tasks . The ships were designed to engage the reconnaissance forces of rival navies , as well as fight in the line of battle . The earliest armored cruiser ? Fürst Bismarck ? was rushed through production specifically to be deployed to China to assist in the suppression of the Boxer Rebellion in 1900 . Subsequent armored cruisers ? with the exception of the two Scharnhorst @-@ class ships ? served with the fleet in the reconnaissance force .

On 26 May 1906 , the Reichstag authorized funds for Blücher , along with the first two Nassau @-@ class battleships . Though the ship would be much larger and more powerful than previous armored cruisers , Blücher retained that designation in an attempt to conceal its more powerful nature . The ship was ordered under the provisional name " E " . Her design was influenced by the need to match the armored cruisers which Britain was known to be building at the time . The Germans expected these new British ships to be armed with six or eight 9 @. @ 2 in (23 cm) guns . In response , the German navy approved a design with twelve 21 cm (8 @. @ 3 in) guns in six twin turrets . This was significantly more firepower than that of the previous Scharnhorst @-@ class of German armored cruisers , which only carried eight 21 cm guns .

One week after the final decision was made to authorize construction of Blücher , the German naval attache obtained the actual details of the new British ships , called the Invincible class . In fact , HMS Invincible carried eight 30 @. @ 5 cm (12 @. @ 0 in) guns of the same type mounted on battleships . It was soon recognized that these ships were a new type of warship , which eventually came to be classified as the battlecruiser . When the details of the Invincible class came to light , it was too late to redesign Blücher , and there were no funds for a redesign , so work proceeded as scheduled . Blücher was therefore arguably obsolete even before her construction started , and was rapidly surpassed by the German Navy 's battlecruisers , of which the first (Von der Tann) was ordered in 1907 . Despite this , Blücher was typically deployed with the German battlecruiser squadron . The ship ultimately cost the German government 28 @, @ 532 @, @ 000 Goldmarks .

= = = General characteristics = = =

Blücher was 161 @. @ 1 m (528 ft 7 in) long at the waterline and 161 @. @ 8 m (530 ft 10 in) long

overall . The ship had a beam of 24 @. @ 5 m (80 ft 5 in) , and with the anti @-@ torpedo nets mounted along the sides of the ship , the beam increased to 25 @. @ 62 m (84 ft 1 in) . Blücher had a draft of 8 @. @ 84 m (29 @. @ 0 ft) forward , but slightly less aft , at 8 @. @ 56 m (28 ft 1 in) . The ship displaced 15 @, @ 842 t (15 @, @ 592 long tons) at her designed weight , and up to 17 @, @ 500 t (17 @, @ 200 long tons) at maximum displacement . Her hull was constructed with both transverse and longitudinal steel frames , and she had 13 watertight compartments and a double bottom that ran for approximately 65 % of the length of the hull .

Documents from the German naval archives generally indicate satisfaction with Blücher 's minor pitch and gentle motion at sea . However , she suffered from severe roll , and with the rudder hard over , she heeled over up to 10 ° from the vertical and lost up to 55 % of her speed . Blücher 's metacentric height was 1 @. @ 63 m (5 ft 4 in) . The ship had a standard crew of 41 officers and 812 enlisted men , with an additional 14 officers and 62 sailors when she served as a squadron flagship . She carried a number of smaller vessels , including two picket boats , three barges , two launches , two yawls , and one dinghy .

== = Propulsion == =

Blücher was equipped with three vertical 4 @-@ cylinder triple expansion engines . Each engine drove a propeller , the center screw being 5 @. @ 3 m (17 ft 5 in) in diameter , while the outer two screws were slightly larger , at 5 @. @ 6 m (18 ft 4 in) in diameter . The ship had a single rudder with which to steer . The three engines were segregated in individual engine rooms . With six marine @-@ type double boilers per room , the ship contained a total of 18 coal @-@ fired boilers . The ship had a designed maximum speed of 24 @. @ 5 knots (45 @. @ 4 km / h ; 28 @. @ 2 mph) , but during her trials , she achieved 25 @. @ 4 knots (47 @. @ 0 km / h ; 29 @. @ 2 mph) . At a cruising speed of 12 knots (22 km / h ; 14 mph) , Blücher could steam for 6 @, @ 600 nautical miles (12 @, @ 200 km ; 7 @, @ 600 mi) . At a speed of 18 knots (33 km / h ; 21 mph) , her range was cut down to 3 @, @ 250 nmi (6 @, @ 020 km ; 3 @, @ 740 mi) . The ship was designed to carry 900 t (890 long tons) of coal , though voids in the hull could be used to expand the fuel supply to up to 2 @, @ 510 t (2 @, @ 470 long tons) of coal . Electrical power for the ship was supplied by six turbo @-@ generators that provided up to 1 @, @ 000 kilowatts , rated at 225 volts . The highest power ever achieved by a reciprocating engine warship was the 37 @, @ 799 indicated horsepower (28 @, @ 187 kW) produced by Blücher on her trials in 1909 .

== = Armament == =

Blücher was equipped with twelve 21 cm (8 @. @ 27 in) SK L / 45 quick @-@ firing guns in six twin turrets , one pair fore and one pair aft , and two pairs in wing turrets on either side of the superstructure . The guns were supplied with a total of 1 @, @ 020 shells , or 85 rounds per gun . Each shell weighed 108 kg (238 lb) , and was 61 cm (24 in) in length . The guns could be depressed to ? 5 ° and elevated to 30 ° , providing a maximum range of 19 @, @ 100 m (20 @, @ 900 yd) . Their rate of fire was 4 ? 5 rounds per minute .

The ship had a secondary battery of eight 15 cm (5 @. @ 91 in) quick @-@ firing guns mounted in MPL C / 06 casemates , four centered amidships on either side of the vessel . These guns could engage targets out to 13 @, @ 500 m (14 @, @ 800 yd) . They were supplied with 1320 rounds , for 165 shells per gun , and had a sustained rate of fire of 5 ? 7 rounds per minute . The shells were 45 @. @ 3 kg (99 @. @ 9 lb) , and were loaded with a 13 @. @ 7 kg (30 @. @ 2 lb) RPC / 12 propellant charge in a brass cartridge . The guns fired at a muzzle velocity of 835 m (2 @, @ 740 ft) per second , and were expected to fire around 1 @, @ 400 shells before they needed to be replaced .

Blücher was also armed with sixteen 8 @. @ 8 cm (3 @. @ 46 in) SK L / 45 quick @-@ firing guns , placed in both casemates and pivot mounts . Four of these guns were mounted in casemates near the bridge , four in casemates in the bow , another four in casemates at the stern , and the remaining four were mounted in pivot mounts in the rear superstructure . They were supplied with a

total of 3 @, @ 200 rounds , or 200 shells per gun , and could fire at a rate of 15 shells per minute . Their high explosive shells weighed 10 kg (22 lb) , and were loaded with a 3 kg (6 @. @ 6 lb) RPC / 12 propellant charge . These guns had a life expectancy of around 7 @, @ 000 rounds . The guns had a maximum range of 10 @, @ 700 m (11 @, @ 700 yd) .

Blücher was also equipped with four 45 cm (18 in) torpedo tubes . One was placed in the bow , one in the stern , and the other two were placed on the broadside , all below the waterline . The ship carried a total of 11 torpedoes . The torpedoes carried a 110 kg (240 lb) warhead and had two speed settings , which affected the range . At 32 knots (59 km / h ; 37 mph) , the weapon had a range of 2 @, @ 000 m (2 @, @ 200 yd) and at 36 knots (67 km / h ; 41 mph) , the range was reduced to 1 @, @ 500 m (1 @, @ 600 yd) .

== Armor ==

As with other German capital ships of the period , Blücher was equipped with Krupp cemented armor . The armored deck was between 5 ? 7 cm (2 @. @ 0 ? 2 @. @ 8 in) in thickness ; more important areas of the ship were protected with thicker armor , while less critical portions of the deck used the thinner armor . The armored belt was 18 cm (7 @. @ 1 in) thick in the central portion of the ship where machinery , ammunition magazines , and other vitals were located , and tapered to 8 cm (3 @. @ 1 in) in less important areas of the hull . The belt tapered down to zero at either end of the ship . Behind the entire length of the belt armor was an additional 3 cm (1 @. @ 2 in) of teak . The armored belt was supplemented by a 3 @. @ 5 cm (1 @. @ 4 in) torpedo bulkhead , though this only ran between the forward and rear centerline gun turrets .

The forward conning tower was the most heavily armored part of the ship . Its sides were 25 cm (9 @. @ 8 in) thick and it had a roof that was 8 cm thick . The rear conning tower was significantly less well armored , with a roof that was 3 cm thick and sides that were only 14 cm (5 @. @ 5 in) thick . The central citadel of the ship was protected by 16 cm (6 @. @ 3 in) armor . The main battery turrets were 8 cm thick in their roofs , and had 18 cm sides . The 15 cm turret casemates were protected by 14 cm of armor .

== Service history ==

Blücher was launched on 11 April 1908 and commissioned into the fleet on 1 October 1909 . She served as a training ship for naval gunners starting in 1911 . In 1914 , she was transferred to the I Scouting Group along with the newer battlecruisers Von der Tann , Moltke , and the flagship Seydlitz . The first operation in which Blücher took part was an inconclusive sweep into the Baltic Sea against Russian forces . On 3 September 1914 , Blücher , along with seven pre @-@ dreadnought battleships of the IV Squadron , five cruisers , and 24 destroyers sailed into the Baltic in an attempt to draw out a portion of the Russian fleet and destroy it . The light cruiser Augsburg encountered the armored cruisers Bayan and Pallada north of Dagö (now Hiiumaa) island . The German cruiser attempted to lure the Russian ships back towards Blücher so that she could destroy them , but the Russians refused to take the bait and instead withdrew to the Gulf of Finland . On 9 September , the operation was terminated without any major engagements between the two fleets .

On 2 November 1914 , Blücher ? along with the battlecruisers Moltke , Von der Tann , and Seydlitz , and accompanied by four light cruisers , left the Jade Bight and steamed towards the English coast . The flotilla arrived off Great Yarmouth at daybreak the following morning and bombarded the port , while the light cruiser Stralsund laid a minefield . The British submarine HMS D5 responded to the bombardment , but struck one of the mines laid by Stralsund and sank . Shortly thereafter , Hipper ordered his ships to turn back to German waters . On the way , a heavy fog covered the Heligoland Bight , so the ships were ordered to halt until visibility improved and they could safely navigate the defensive minefields . The armored cruiser Yorck made a navigational error that led her into one of the German minefields . She struck two mines and quickly sank ; only 127 men out of the crew of 629 were rescued .

== Bombardment of Scarborough , Hartlepool , and Whitby ==

Admiral Friedrich von Ingenohl , commander of the German High Seas Fleet , decided that another raid on the English coast should be carried out in the hopes of luring a portion of the Grand Fleet into combat where it could be destroyed . At 03 : 20 , CET on 15 December 1914 , Blücher , Moltke , Von der Tann , the new battlecruiser Derfflinger , and Seydlitz , along with the light cruisers Kolberg , Strassburg , Stralsund , Graudenz , and two squadrons of torpedo boats left the Jade estuary . The ships sailed north past the island of Heligoland , until they reached the Horns Reef lighthouse , at which point the ships turned west towards Scarborough . Twelve hours after Hipper left the Jade , the High Seas Fleet , consisting of 14 dreadnoughts and eight pre @-@ dreadnoughts and a screening force of two armored cruisers , seven light cruisers , and 54 torpedo boats , departed to provide distant cover for the bombardment force .

On 26 August 1914 , the German light cruiser Magdeburg had run aground in the Gulf of Finland ; the wreck was captured by the Russian navy , which found code books used by the German navy , along with navigational charts for the North Sea . These documents were then passed on to the Royal Navy . Room 40 began decrypting German signals , and on 14 December , intercepted messages relating to the plan to bombard Scarborough . The exact details of the plan were unknown , and it was assumed that the High Seas Fleet would remain safely in port , as in the previous bombardment . Vice Admiral Beatty 's four battlecruisers , supported by the 3rd Cruiser Squadron and the 1st Light Cruiser Squadron , along with the 2nd Battle Squadron 's six dreadnoughts , were to ambush Hipper 's battlecruisers .

On the night of 15 / 16 December , the main body of the High Seas Fleet encountered British destroyers . Fearing the prospect of a nighttime torpedo attack , Admiral Ingenohl ordered the ships to retreat . Hipper was unaware of Ingenohl 's reversal , and so he continued with the bombardment . Upon reaching the British coast , Hipper 's battlecruisers split into two groups . Seydlitz , Moltke , and Blücher went north to shell Hartlepool , while Von der Tann and Derfflinger went south to shell Scarborough and Whitby . Of the three towns , only Hartlepool was defended by coastal artillery batteries . During the bombardment of Hartlepool , Seydlitz was hit three times and Blücher was hit six times by the coastal battery . Blücher suffered minimal damage , but nine men were killed and another three were wounded . By 09 : 45 on the 16th , the two groups had reassembled , and they began to retreat eastward .

By this time , Beatty 's battlecruisers were in position to block Hipper 's chosen egress route , while other forces were en route to complete the encirclement . At 12 : 25 , the light cruisers of the II Scouting Group began to pass through the British forces searching for Hipper . One of the cruisers in the 2nd Light Cruiser Squadron spotted Stralsund and signaled a report to Beatty . At 12 : 30 , Beatty turned his battlecruisers towards the German ships . Beatty presumed that the German cruisers were the advance screen for Hipper 's ships , but the battlecruisers were some 50 km (27 nmi ; 31 mi) ahead . The 2nd Light Cruiser Squadron , which had been screening for Beatty 's ships , detached to pursue the German cruisers , but a misinterpreted signal from the British battlecruisers sent them back to their screening positions . This confusion allowed the German light cruisers to escape and alerted Hipper to the location of the British battlecruisers . The German battlecruisers wheeled to the northeast of the British forces and made good their escape .

Both the British and the Germans were disappointed that they failed to effectively engage their opponents . Admiral Ingenohl 's reputation suffered greatly as a result of his timidity . The captain of Moltke was furious ; he stated that Ingenohl had turned back " because he was afraid of eleven British destroyers which could have been eliminated ... Under the present leadership we will accomplish nothing . " The official German history criticized Ingenohl for failing to use his light forces to determine the size of the British fleet , stating : " He decided on a measure which not only seriously jeopardized his advance forces off the English coast but also deprived the German Fleet of a signal and certain victory . "

== Battle of Dogger Bank ==

In early January 1915 the German naval command found out that British ships were conducting reconnaissance in the Dogger Bank area . Admiral Ingenohl was initially reluctant to attempt to destroy these forces , because the I Scouting Group was temporarily weakened while Von der Tann was in drydock for periodic maintenance . Konteradmiral (counter admiral) Richard Eckermann ? the Chief of Staff of the High Seas Fleet ? insisted on the operation , and so Ingenohl relented and ordered Hipper to take his battlecruisers to the Dogger Bank .

On 23 January , Hipper sortied , with Seydlitz in the lead , followed by Moltke , Derfflinger , and Blücher , along with the light cruisers Graudenz , Rostock , Stralsund , and Kolberg and 19 torpedo boats from V Flotilla and II and XVIII Half @-@ Flotillas . Graudenz and Stralsund were assigned to the forward screen , while Kolberg and Rostock were assigned to the starboard and port , respectively . Each light cruiser had a half @-@ flotilla of torpedo boats attached .

Again , interception and decryption of German wireless signals played an important role . Although they were unaware of the exact plans , the cryptographers of Room 40 were able to deduce that Hipper would be conducting an operation in the Dogger Bank area . To counter it , Beatty 's 1st Battlecruiser Squadron , Rear Admiral Gordon Moore 's 2nd Battlecruiser Squadron and Commodore William Goodenough 's 2nd Light Cruiser Squadron were to rendezvous with Commodore Reginald Tyrwhitt 's Harwich Force at 08 : 00 on 24 January , approximately 30 nmi (56 km ; 35 mi) north of the Dogger Bank .

At 08 : 14 , Kolberg spotted the light cruiser Aurora and several destroyers from the Harwich Force . Aurora challenged Kolberg with a searchlight , at which point Kolberg attacked Aurora and scored two hits . Aurora returned fire and scored two hits on Kolberg in retaliation . Hipper immediately turned his battlecruisers towards the gunfire , when , almost simultaneously , Stralsund spotted a large amount of smoke to the northwest of her position . This was identified as a number of large British warships steaming toward Hipper 's ships . Hipper later remarked :

The presence of such a large force indicated the proximity of further sections of the British Fleet , especially as wireless intercepts revealed the approach of 2nd Battlecruiser Squadron ... They were also reported by Blücher at the rear of the German line , which had opened fire on a light cruiser and several destroyers coming up from astern ... The battlecruisers under my command found themselves , in view of the prevailing [East @-@ North @-@ East] wind , in the windward position and so in an unfavourable situation from the outset ...

Hipper turned south to flee , but was limited to 23 kn (43 km / h ; 26 mph) , which was Blücher 's maximum speed at the time . The pursuing British battlecruisers were steaming at 27 kn (50 km / h ; 31 mph) , and quickly caught up to the German ships . At 09 : 52 , Lion opened fire on Blücher from a range of approximately 20 @,@ 000 yards (18 @,@ 000 m) ; shortly after , Princess Royal and Tiger began firing as well . At 10 : 09 , the British guns made their first hit on Blücher . Two minutes later , the German ships began returning fire , primarily concentrating on Lion , from a range of 18 @,@ 000 yd (16 @,@ 000 m) . At 10 : 28 , Lion was struck on the waterline , which tore a hole in the side of the ship and flooded a coal bunker . At around this time , Blücher scored a hit with a 21 cm shell on Lion 's forward turret . The shell failed to penetrate the armor , but had concussion effect and temporarily disabled the left gun . At 10 : 30 , New Zealand ? the fourth ship in Beatty 's line ? came within range of Blücher and opened fire . By 10 : 35 , the range had closed to 17 @,@ 500 yd (16 @,@ 000 m) , at which point the entire German line was within the effective range of the British ships . Beatty ordered his battlecruisers to engage their German counterparts .

By 11 : 00 , Blücher had been severely damaged after having been pounded by numerous heavy shells from the British battlecruisers . However , the three leading German battlecruisers , Seydlitz , Derfflinger , and Moltke , had concentrated their fire on Lion and scored several hits ; two of her three dynamos were disabled and the port side engine room had been flooded . At 11 : 48 , Indomitable arrived on the scene , and was directed by Beatty to destroy the battered Blücher , which was already on fire and listing heavily to port . One of the ship 's survivors recounted the destruction that was being wrought :

The shells ... bore their way even to the stokehold . The coal in the bunkers was set on fire . Since the bunkers were half empty , the fire burned merrily . In the engine room a shell licked up the oil and sprayed it around in flames of blue and green ... The terrific air pressure resulting from [an]

explosion in a confined space ... roar [ed] through every opening and [tore] its way through every weak spot ... Men were picked up by that terrific air pressure and tossed to a horrible death among the machinery .

The British attack was interrupted due to reports of U @-@ boats ahead of the British ships . Beatty quickly ordered evasive maneuvers , which allowed the German ships to increase the distance from their pursuers . At this time , Lion 's last operational dynamo failed , which reduced her speed to 15 kn (28 km / h ; 17 mph) . Beatty , in the stricken Lion , ordered the remaining battlecruisers to " Engage the enemy 's rear " , but signal confusion caused the ships to target Blücher alone . She continued to resist stubbornly ; Blücher repulsed attacks by the four cruisers of the 1st Light Cruiser Squadron and four destroyers . However , the 1st Light Cruiser Squadron flagship , Aurora , hit Blücher twice with torpedoes . By this time , every main battery gun turret except the rear mount had been silenced . A volley of seven more torpedoes was launched at point @-@ blank range ; these hits caused the ship to capsize at 13 : 13 . In the course of the engagement , Blücher had been hit by 70 ? 100 large @-@ caliber shells and several torpedoes .

As the ship was sinking , British destroyers steamed towards her in an attempt to rescue survivors from the water . However , the German zeppelin L5 mistook the sinking Blücher for a British battlecruiser , and tried to bomb the destroyers , which withdrew . Figures vary on the number of casualties ; Paul Schmalenbach reported 6 officers of a total of 29 and 275 enlisted men of a complement of 999 were pulled from the water , for a total of 747 men killed . The official German sources examined by Erich Gröner stated that 792 men died when Blücher sank , while James Goldrick referred to British documents , which reported only 234 men survived from a crew of at least 1 @, @ 200 . Among those who had been rescued was Kapitan zur See (captain at sea) Erdmann , the commanding officer of Blücher . He later died of pneumonia while in British captivity . A further twenty men would also die as prisoners of war .

The concentration on Blücher allowed Moltke , Seydlitz , and Derfflinger to escape . Admiral Hipper had originally intended to use his three battlecruisers to turn about and flank the British ships , in order to relieve the battered Blücher , but when he learned of the severe damage to his flagship , he decided to abandon the armored cruiser . Hipper later recounted his decision :

In order to help the Blücher it was decided to try for a flanking move ... But as I was informed that in my flagship turrets C and D were out of action , we were full of water aft , and that she had only 200 rounds of heavy shell left , I dismissed any further thought of supporting the Blücher . Any such course , now that no intervention from our Main Fleet was to be counted on , was likely to lead to further heavy losses . The support of the Blücher by the flanking move would have brought my formation between the British battlecruisers and the battle squadrons which were probably behind .

By the time Beatty regained control over his ships , after having boarded HMS Princess Royal , the German ships had too great a lead for the British to catch them ; at 13 : 50 , he broke off the chase . Kaiser Wilhelm II was enraged by the destruction of Blücher and the near sinking of Seydlitz , and ordered the High Seas Fleet to remain in harbor . Rear Admiral Eckermann was removed from his post and Admiral Ingenohl was forced to resign . He was replaced by Admiral Hugo von Pohl .