

The Unseen Menace



On the eve of World War I in 1914, submarines were still considered a novelty; no navy was prepared to oppose them. The Imperial German Navy began the war with 29 such “undersea boats,” or simply *U-boats*, but like the Allied navies, the Imperial German Navy went to war anticipating sea battles involving mainly surface ships.



■ On 22 September 1914, less than a month into the war, *U-9*— a small, obsolete German submarine — torpedoes and sank HMS *Aboukir*, HMS *Hogue*, and HMS *Cressy* in quick succession. The submarine's hour had come.

Within a month of the war's onset a U-boat sank a British battleship, and another sank three British armored cruisers in just over an hour. German naval leaders quickly grasped the value of submarine warfare, especially against merchant shipping. The Allied navies scrambled to devise defenses against this new, unseen menace.

These items were among the standard gear issued to U.S. Navy Sailors during World War I. Personal hygiene was a higher priority during World War I than in any previous war, and Sailors were equipped accordingly.



HUNDREDS OF LIVES ARE LOST ON THE TORPEDOED LUSITANIA



FORMER QUEEN OF THE SEAS SUNK BY TORPEDO IN "WAR ZONE"

GERMAN'S WARNING AND CUNARD REPLY

The Imperial German embassy published in New York papers of April 23, nine days before the Lusitania sailed on May 1, the following advertisement, as a warning to passengers on Cunard and other English steamship lines:

"Travelers embarking on an Atlantic voyage are reminded that a state of war exists between Great Britain and Germany; that the zone of war includes the waters adjacent to the British Isles; that, in accordance with formal notice given by the Imperial German government, vessels flying the flag of Great Britain are liable to destruction in these waters, and that warships will in the war zone on ships of Great Britain do as at their own risk."—Imperial German Embassy, Washington, D. C., April 23.

The answer of the Cunard company to the advertisement was as follows:

"The Germans have been trying for some time to put English lines out of commission. We anticipate that from this time on every possible means will be used by the Germans to prevent people traveling on English lines. The fact is that the Lusitania is the safest ship afloat. She is not fast for German warships or submarines. She will reach Liverpool as per schedule, and arrive in New York on time as long as we care to run her."

Capt. W. T. Turner of the Lusitania ridiculed the German warning. His statement, made as the liner was about to sail, was:

"I wonder what will be the Germans' next move. It does not look as though they had frightened the people very much with their warnings from the appearance of the passenger list and the pier."

Survivors Landed Believed to Not More Than 500 Out of Total List of About 2000.

MANY BOSTON PEOPLE ON LINER'S PASSENGER LIST

German Embassy Had Given Warning to Passengers—Submarine Sunk Her Prey Off Irish Coast.

Queenstown, May 8, 1.15 A. M.—Survivors of the Cunard liner Lusitania, torpedoed by a German submarine off the Irish coast today, landed here late in the night, but that hundreds of lives have been lost in the sinking of the steamship.

Dispatches received from Cinnabiddy, Kinalea and other points where passengers have been landed, also indicate that the magnitude of the disaster may be appalling. It is certain that the toll of lives will be heavy.

Many of the rescued are terribly injured or suffering from shock and exposure. Everything possible is being done to relieve their conditions, and the resources of the authorities and the Cunard company are being taxed.

Only about 90 minutes was given for the work of rescue. In that brief time, from all accounts thus far available, the officers of the liner did magnificent work. Most of them, it is believed, gave up their lives to aid the escape of the passengers.



SUBMARINE GAVE NO WARNING

No warning whatever was given by the German submarine responsible for the work of destruction. It was sighted by persons on the deck as it rose to discharge two torpedoes.

The passengers were for the most part at lunch at the time. So sudden was the appearance of the submarine and so quickly did it fulfill the threat made against the Lusitania shortly before it sailed, that no opportunity was given to protect the ship.

The first torpedo came shooting through the waves and hit the Lusitania on the starboard side, forward. A tremendous explosion resulted and the boat listed violently.

SECOND TORPEDO FINISHED HER

Almost immediately afterward the second torpedo was fired into the engine room of the liner. An even more violent explosion followed, and the ship began to settle rapidly.

CHINA TO ACCEPT JAPAN'S DEMANDS

WALL ST. GETS BIG SHAKE-UP

Answer to Ultimatum to Be Delivered to Minister | Excitement Greater Than Since War Began Follows
 Wall Street, N. Y., May 8.—The news that the Japanese government has accepted the terms of the ultimatum issued by the United States government on May 7, 1915, has caused a great excitement in Wall Street. The market has been very active since the news was received, and many speculators are expected to be here today.

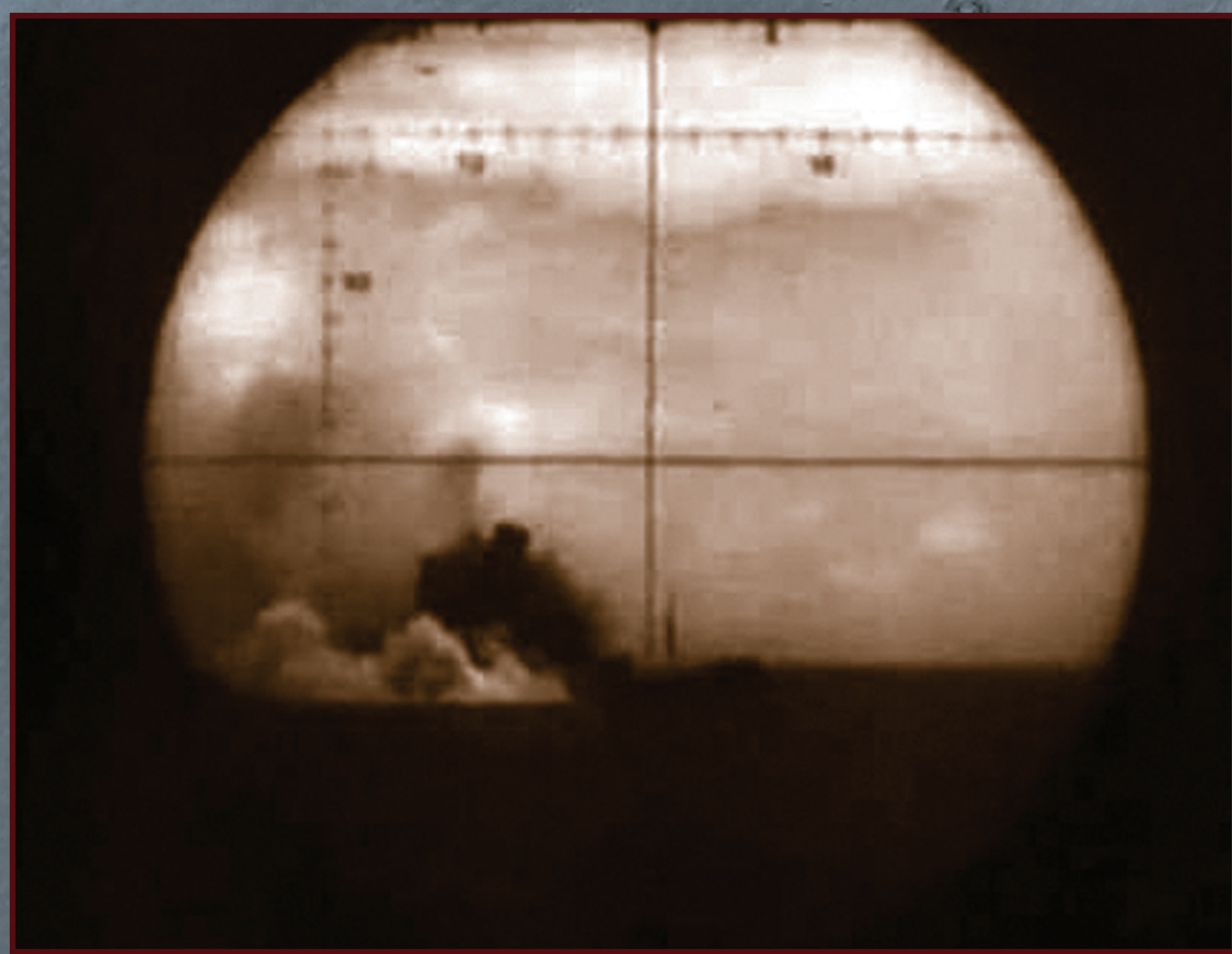
Although Germany's U-boat campaign was very successful, it claimed American lives in the process — most notably the sinking of RMS *Lusitania* in May 1915. Wishing to avoid armed conflict with the United States, Germany placed restrictions on which targets its U-boats were allowed to attack.

Unrestricted Submarine Warfare

By the end of 1914 the first offensives ended and armies on both sides began to dig trenches. The Western Front devolved into war of attrition; the first side to exhaust its manpower and resources would lose. To add pressure, Great Britain immediately established a blockade of German ports, which stopped ships from supplying Germany.

In response, Germany ordered its U-boat fleet to aggressively target the vulnerable merchant ships that supplied Great Britain with food and war material. The British Navy was at first unprepared to meet this new kind of threat, and it looked as if the U-boats would win the war for Germany.

However Germany's greatest weapon proved to be its downfall. In 1917, believing that Great Britain's will to fight was nearly broken, Germany released its U-boats from restrictions against attacking neutral vessels; this act helped lead the United States to declare war on Germany in April 1917.

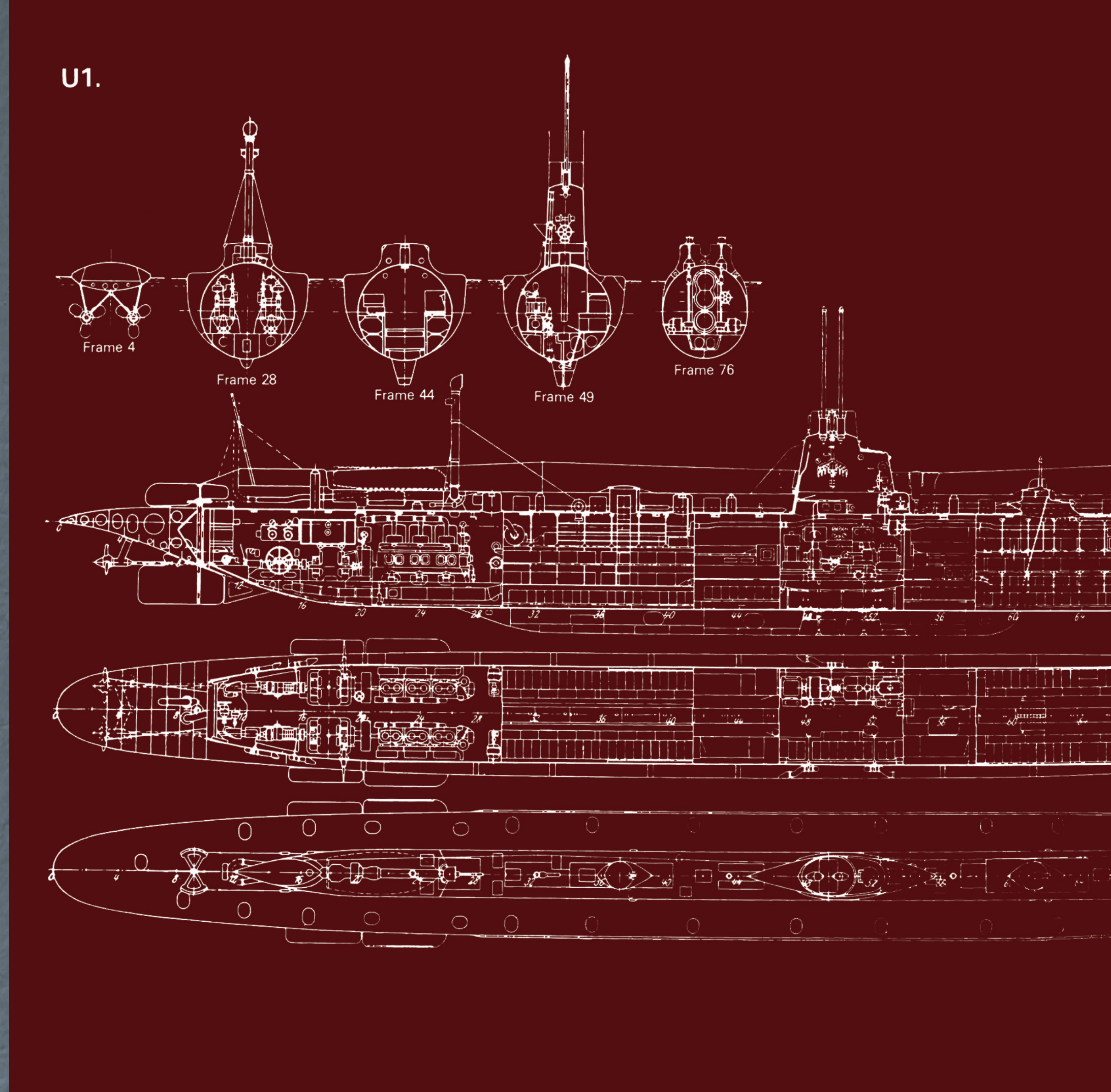


A rare photograph of a sinking Allied ship viewed through the periscope of a submerged German submarine. Remaining in this position, a U-boat was almost undetectable.

Anatomy of a U-boat

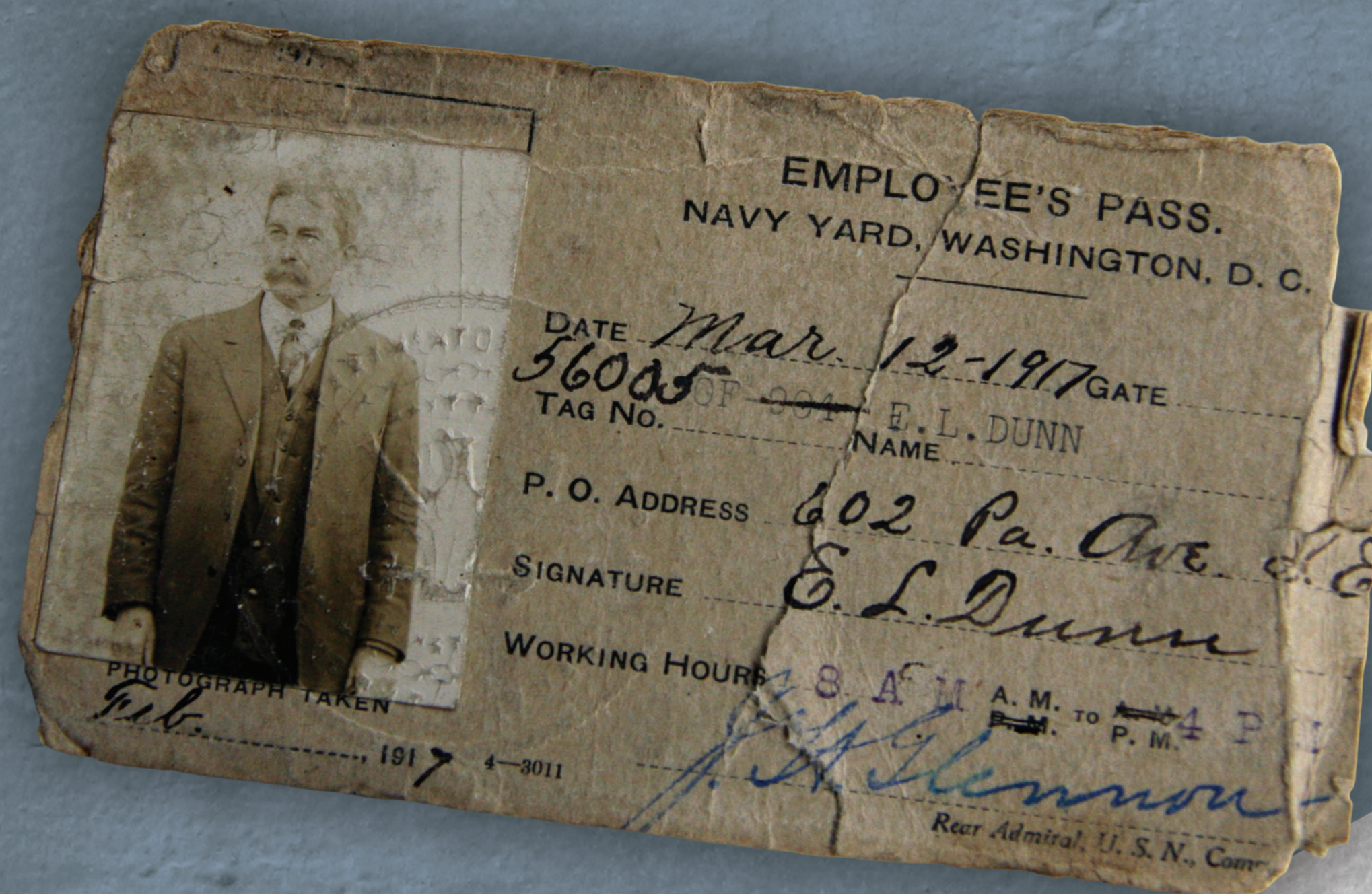
A U-boat was essentially a water-tight hull enclosing the crew, engines and weapons, surrounded by flooding compartments that allowed it to submerge. Driven by air-breathing diesel engines when on the surface, it relied on battery-powered electric motors when submerged. As the batteries could only be charged by the diesel engines, submarines had to remain surfaced much of the time.

In 1914, a submerged U-boat was a terrible threat; there were no sensors that could detect them and no weapons that could harm them. It took many months to develop anti-submarine technology, such as hydrophones to detect them and depth charges to sink them. In the meantime, U-boats operated with near impunity, and Allied mariners lived in fear of meeting one anytime, anywhere.



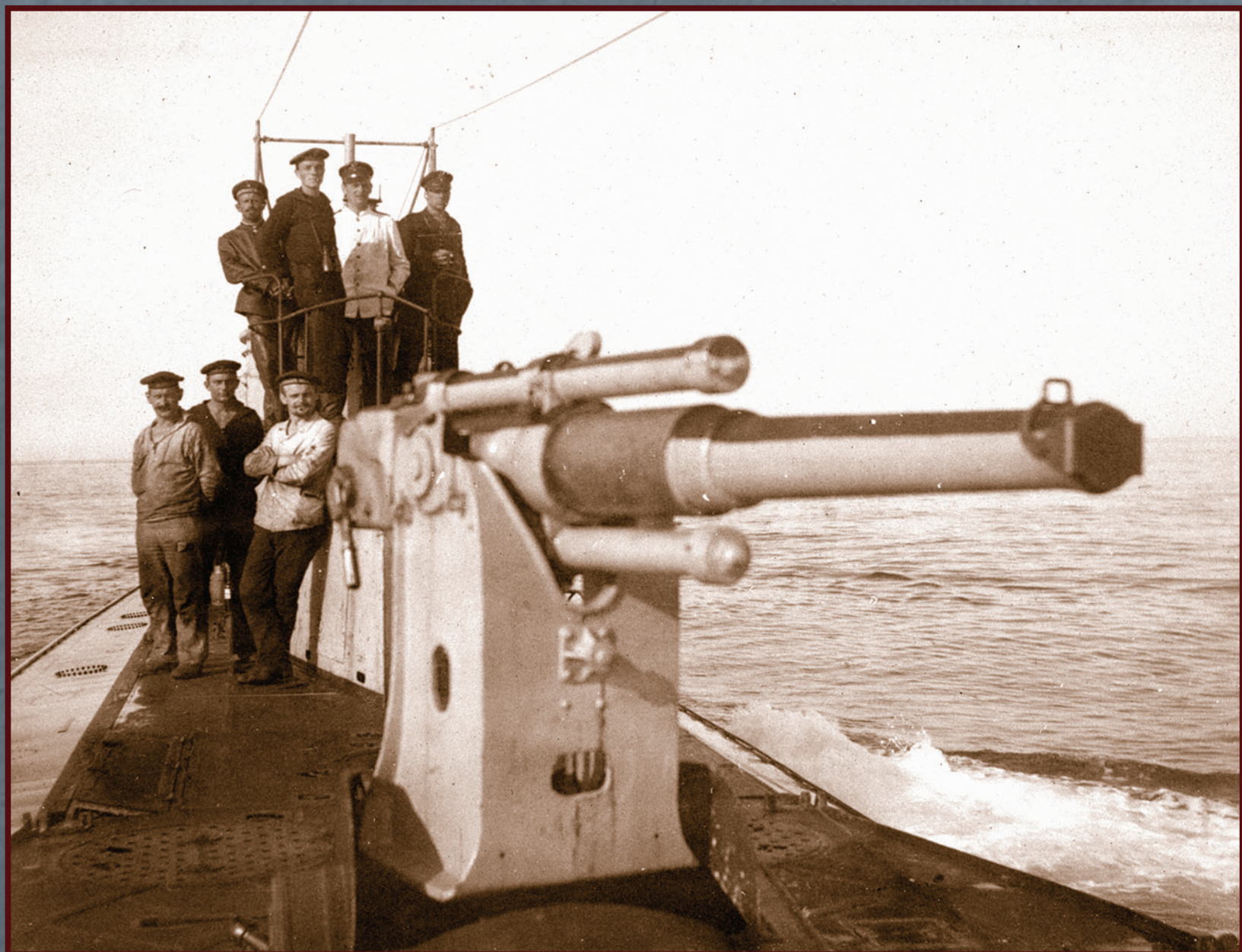
To dive, U-boats opened valves and let seawater flood special tanks in the submarine, which reduced the buoyancy of the boat and made it sink in a controlled manner. It would surface by blowing water out of the tanks with compressed air.

In the climate of suspicion the war brought to America, the U.S. Navy adopted photographic identification, a new security technology, to prevent enemy saboteurs and spies from infiltrating the Navy's vastly expanded civilian workforce.

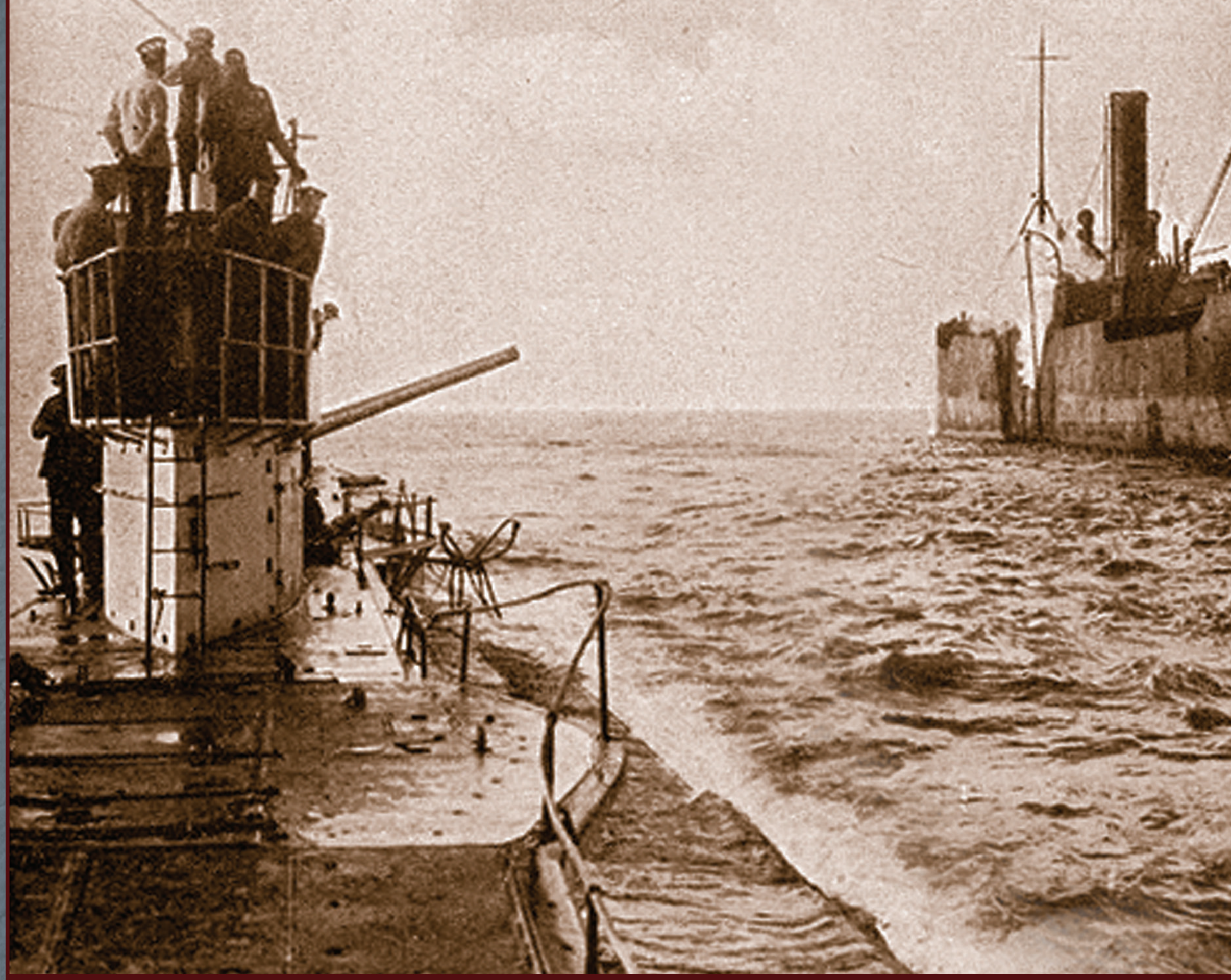


Attacks on the Surface

Early in the war, when German U-boats first began their war on British shipping, they followed the old “cruiser rules” of a more civilized age. Each ship was stopped, searched, and safely evacuated before the ship was sunk. By necessity, these kinds of attacks were made on the surface.



■ A U-boat's deck gun required a lot of hands to fight effectively, since the only way to keep up a steady rate of fire was to pass ammunition up from below by a human chain.



■ Most U-boats mounted a 105mm breechloading deck gun for surface combat, but on the unstable platform of a submarine, its use was restricted to short ranges. However, as a U-boat's effectiveness was primarily limited by the number of torpedoes it had, commanders used the gun whenever practical, to keep the submarine at sea longer.

However, after Great Britain began arming merchant ships with artillery, German U-boats adopted the safer tactic of diving underwater and sinking merchant ships without warning. The only weapon available to a submerged U-boat was the torpedo.

Modern chemical weapons, namely artillery shells filled with a variety of poison gases, were first used on the battlefield in 1914. The U.S. Navy learned from its allies' experience, and issued Sailors protective masks.

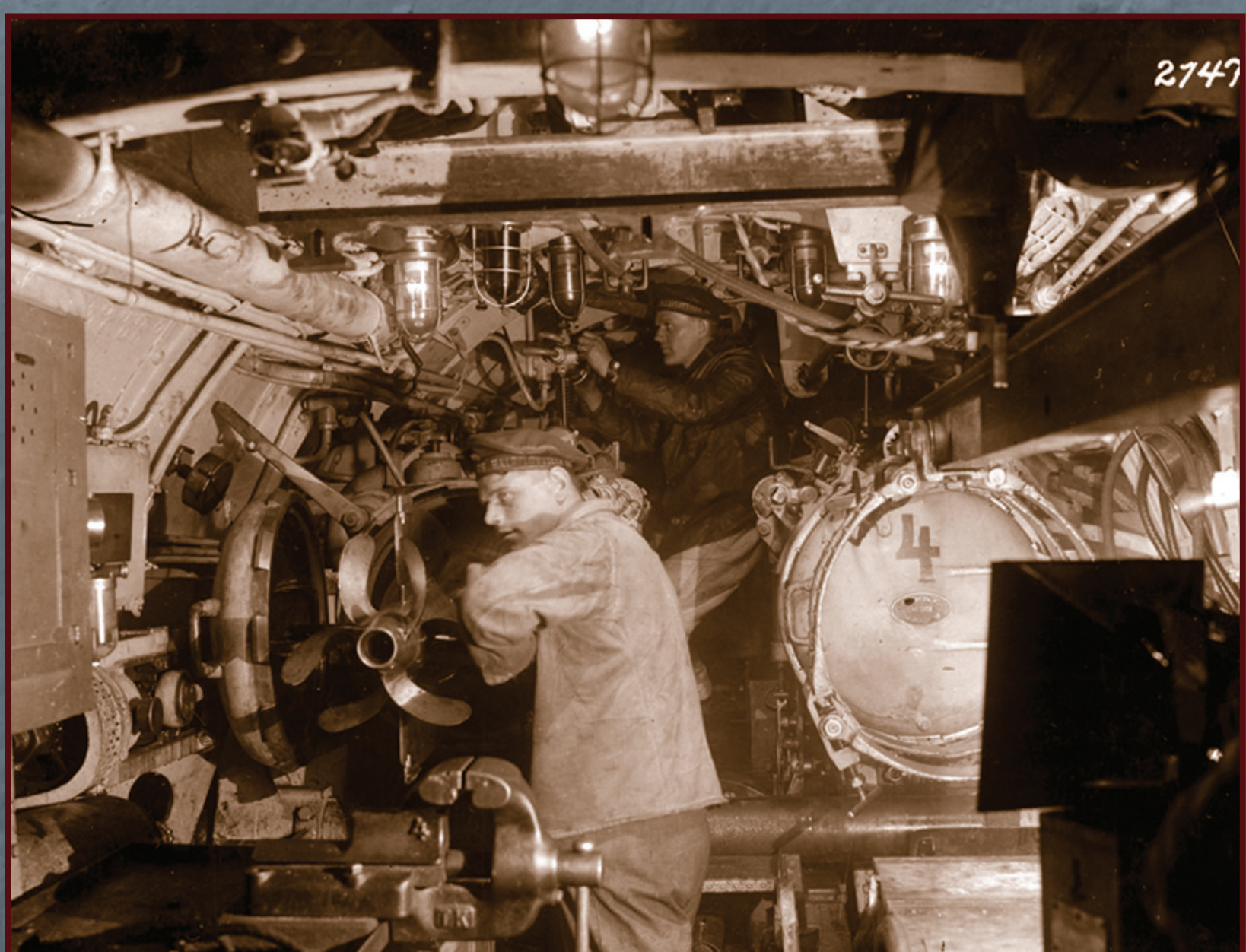


The Torpedo

The U-boat's primary weapon was the torpedo: a self-propelled, high-explosive projectile that ran just below the surface. Its powerful warhead could hit a ship below the waterline, and a single torpedo was often enough to sink even the largest of ships.



■ A German torpedo explodes against the side of an Allied transport. The Schwarzkopf torpedo had a warhead containing 200 pounds of guncotton explosive, enough to hole any ship.



■ These German sailors load a torpedo into its firing tube with a winch. Each tube launched a single torpedo using compressed air and then had to be reloaded by hand, a slow and laborious process.



Following a wider service trend, the U.S. Navy began issuing winged insignia like this to advanced flight graduates in 1917. The Navy's modern aviator badge is nearly identical to the original pattern introduced during World War I.

The torpedo would run on course for at least 1,000 yards at about 30 knots, but its slow speed — barely faster than many warships — meant that significant lead was needed to score a hit. Without the aid of modern computers, only very skilled U-boat commanders fired at targets beyond a few hundred yards.

The short effective range of the torpedo made it difficult to obtain a firing position on a ship, which was always faster than a U-boat, especially after the submarine had to submerge to avoid discovery.

To set up a shot, the U-boat commander plotted an intercept course well ahead of time, based on the target's heading and speed. Any delay or miscalculation caused by confusing Razzle Dazzle camouflage could allow the target to escape.