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THE VICTORY A SEA

By Admiral William Sowden Sims



Ambassador Page Pleads.
"I ain't strong enough," he said. "I think I can do better than this my-"

He immediately sat down and wrote cablegram to Washington which is one of the great documents of the war. But Mr. Page and I thought that we had not completely done our duty even when we were determined that whatever might happen, we could never be charged with not having presented the Allied situation in its absolute light. It seemed likely that an authoritative statement from the British government would give added assurance that our statements were not the result of panic, and with this idea in mind, Mr. Page and I called upon Mr. Balfour, Foreign Secretary, who, in response to our request, sent a dispatch to Washington describing the seriousness of the situation.

All these messages made the same point: that the United States should immediately assemble all its destroyers and other light craft, and send them to the vital spot in the submarine campaign—Queenstown. All this time that we were seeking a solution for the submarine problem we really had the solution in our hands. The seas presented two impressive spectacles in those terrible months of April, May, and June, 1917. One was the comparative ease with which the German submarines were sinking merchant vessels; the other was their failure materially to weaken the Allied fleets. If we wish a counter-attack that presented by the Irish and the English Channel, where merchant shipping was constantly going down, we should look to the North Sea, where the British Grand Fleet, absolutely intact, was defiantly riding the waves. The uninformed public explained this apparent security in a way of its own; it believed that the British dreadnaughts were anchored behind booms, nets, and mine fields, through which the submarines could not penetrate. Yet the fact of the matter was that the Grand Fleet was frequently cruising in the open sea in waters which were known to be infested with submarines. The German submarines had been attempting to destroy this fleet for two and a half years. It had been the German plan to weaken this great battle fleet by "attrition," that is, to sink enough battleships to make possible a general engagement with some chances of success; yet the submarines had not destroyed a single dreadnaught. In this situation, merchant ships constantly being torpedoed and battleships constantly repelling such attacks, there was certainly much food for thought.

Why the Grand Fleet Was Immune.
Yet there was no mystery about the immunity which these great fighting vessels enjoyed, for the submarine problem, so far as it affected the battle-fleet, had already been solved. The explanation was that whenever the dreadnaughts put to sea they were preceded by a screen of cruisers and destroyers. These surface craft apparently served as a kind of impenetrable wall, against which the German U-boats were beating themselves unavailingly. To the casual observer, however, there seemed to be no reason why the destroyers should be any particular terror for submarines. Externally they are the least impressive war vessels afloat. Sailing ahead of the battle squadrons, the destroyers were little, ungraceful objects upon the surface of the water; they suggested fragility rather than strength, and the idea that they were guardians of the mighty battleships behind them at first seemed almost grotesque. Yet these little vessels really possessed the power of overcoming the submarine. The war had not progressed far when it became apparent that the U-boat could no longer long any where near this tiny little surface vessel without incurring serious risk of destruction.

The Ugly Duckling of the Navy.
Yet, until the reports of submarine sinking began to find their way into the papers, it was probably the one of the smallest interest. It had become, instead, a kind of ugly duckling of the Navy. Our Congress had neglected it; year after year naval experts had recommended that four destroyers be built for every battleship, and annually Congress had appropriated for one or two. The war also found Great Britain without a sufficient number of destroyers for the purpose of anti-submarine warfare. The Admiralty had provided enough for screening the Grand Fleet in cruising and in battle,

but it was called upon to divert so many for the protection of troop transportation, supply ships and commerce generally that the efficiency of the fleet was greatly undermined. Thus Britain found herself without enough destroyers to meet the submarine campaign; this situation was not due to any lack of foresight, but to a failure to foresee that any civilized nation could ever employ the torpedo in unrestricted warfare against merchant ships and their crews. The one time that this type of vessel had come prominently into notice was in 1904, when it attacked the Russian fleet at Port Arthur, damaging several powerful vessels and practically ending Russian sea power in the far east. The history of the destroyer, however, goes back much further. It was created to fulfill a duty not unlike that which it has played so gloriously in the World War. In the late seventies and early eighties a new type of war vessel, the torpedo boat, caused almost as much perturbation as has the submarine in recent years. This speedy little fighter was invented to serve as a medium for the discharge of a newly perfected engine of naval warfare, the automobile torpedo. It was its function to creep up to a battleship, preferably under cover of darkness or in thick weather, and let loose the weapon against its unsuspecting hull.

The appearance of the torpedo boat led to the same prediction as that which was more recently inspired by the submarine—in the eyes of many it simply meant the end of the great surface battleship. But naval architects, looking about for the "answer" to this dangerous craft, designed another and appropriately called it the "torpedo boat destroyer." This vessel was not only larger and speedier than its appointed antagonist but its radius of action, and its sea-worthiness enables it to accompany the battle fleet. Its draft was so light that a torpedo could pass harmlessly under the keel and it carried an armament of sufficient power to end the career of any torpedo boat that came its way. Few types have ever justified their name so successfully as the torpedo boat destroyer. So completely did it eliminate that little vessel as a danger to the fighting ships that practically all navies long since ceased to build torpedo boats. Yet the destroyers promptly succeeded to the chief function of the discarded vessel, that of attacking capital ships with torpedoes, and, in addition to this it assumed the duty of protecting battleships from similar attack by enemy vessels of the same type.

It surprises many people to learn that the destroyer is not a little boat but a warship of considerable size. It appears small only because all ships, those used for commerce and those for war, have increased so greatly in four powerful four or five-inch guns, displacement. The latest type carries and twelve torpedo tubes, each launching a torpedo which weighs more than a ton, and which runs as straight as an arrow for more than six miles. The Santa Maria, the largest vessel of the squadron with which Columbus made his first voyage to America, had a displacement of about five hundred large as a destroyer, and at the beginning of the clipper ship era few tons, and thus was about half as large as the modern destroyer.

Submarine vs. Destroyer.
Previous to 1914 it was generally believed that torpedo attacks would play a large part in any great naval engagement, and this was the reason why all naval advisers insisted that a larger number of these vessels should be constructed as essential units of the fleet. Yet the war had had not gone far when it became apparent that this versatile craft had another great part to play, and that it would once more justify its name in really heroic fashion. In the same way that it had proved its worth in driving the surface torpedo boat from the seas, so now it developed into a very dangerous foe for the torpedo boat that sailed beneath the waves. Events soon demonstrated that, in all open engagements between submarine and destroyer, the submarine stood very little chance. The reason for this was simply that the submarine had no weapon with which it could successfully resist the attack of the destroyer, whereas the destroyer had several with which it could attack the submarine. The submarine had three or four torpedo tubes, and only one or two guns, and with neither could afford to risk attacking the more powerfully armed destroyer. The submarine was of a such a fragile nature that it could never afford to

engage in a combat in which it stood much chance of getting hit. A destroyer could stand a comparatively severe pounding and still remain fairly intact, but a single shell striking a submarine was a very serious matter; even though the vessel did not sink as a result, it was almost inevitable that certain parts of its machinery would be so injured that it would have difficulty in getting into port. It therefore became necessary for the submarine always to play safe, to fight only under conditions in which it had the enemy at such a disadvantage that it ran little risk itself; and this was the reason why it preferred to attack merchant and passenger ships rather than vessels, such as the destroyer, that could energetically defend themselves.

Destroyers Hard to Hit.
The comparatively light draft of the destroyer, which is about nine or ten feet pretty effectually protects it from the submarine's torpedo, for this torpedo, to function with its greatest efficiency, must take a course about fifteen feet under water; if it runs nearer the surface than this it comes under the influence of the waves and does not make a straight course. More important still, the speed of the des-

precious weapons, to use them only when the chances most favored success, and the U-boat commander who wasted them in attempts to sink destroyers would probably have been

court-martialed. But while the submarine had practically no means of successfully fighting the destroyer, the latter had several ways of putting an end to the submarine. The advantage which really makes the destroyer so dangerous, as already intimated, was its excessive speed. On the surface the U-boat makes little more than fifteen

pounds of TNT, which, exploded anywhere within one hundred feet of the submarine, either destroyed it entirely or so injured it that it usually had to come to the surface and surrender.

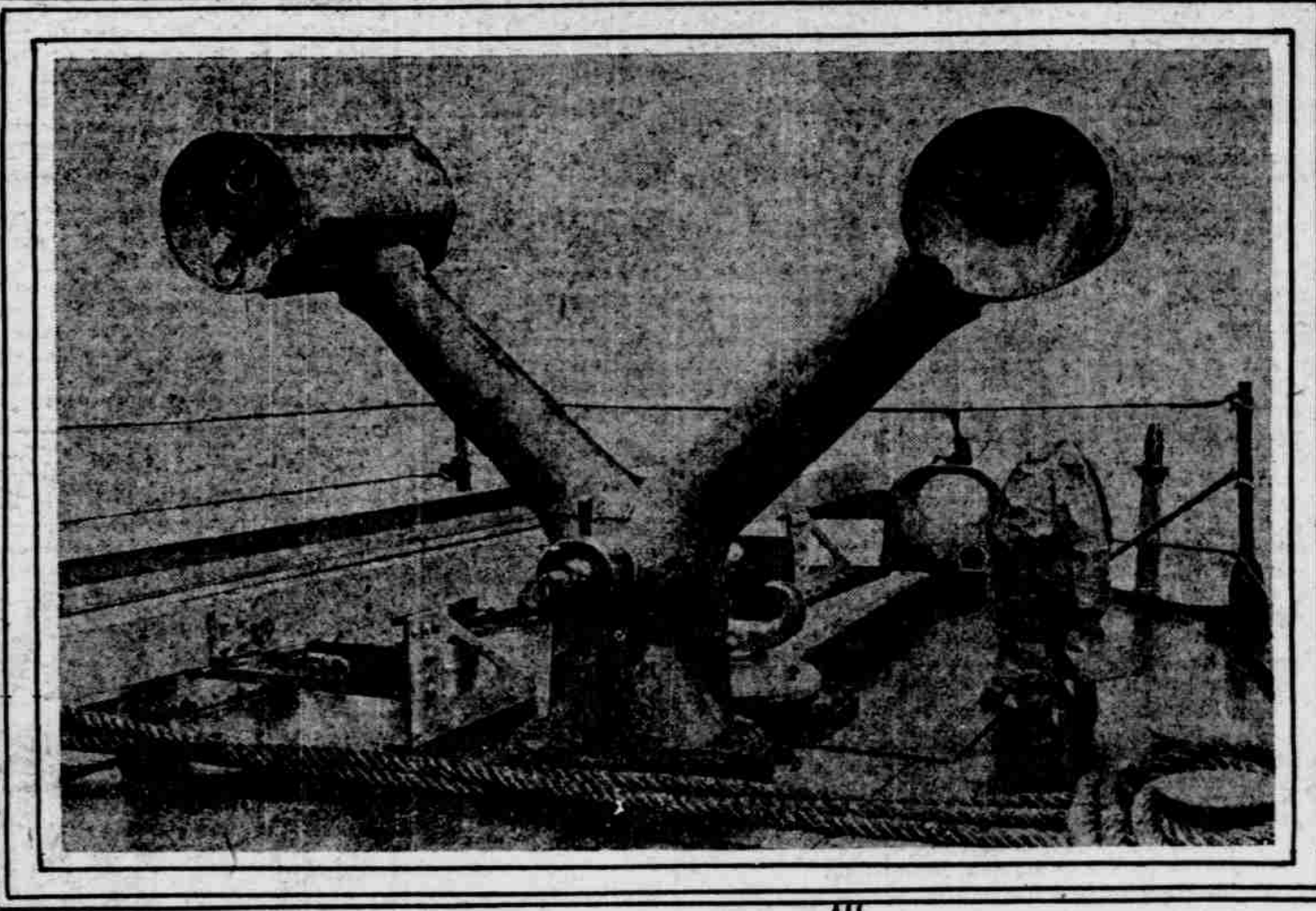
The story of the invention of the depth charge makes clear the part which it was intended to play in anti-submarine warfare. Admiral Jellicoe told him the story when asked him who really invented this annihilating missile. "No man in particular," he said. "It came into existence almost spontaneously, in response to a pressing need. Gunfire can destroy submarines when they are on the surface, but it can accomplish nothing against them when submerged. This fact made it extremely difficult to sink them in the early days of the war. One day when the Grand Fleet was cruising in the North Sea, a submarine fired a torpedo at one of the cruisers. The cruiser saw the periscope and the wake of the torpedo, and had little difficulty in so maneuvering as to avoid being struck. She then went full speed to the spot from which the submarine had fired its torpedo, in the hope of ramming it. But, by the time she arrived, the submarine had submerged so deeply that the cruiser passed over her without doing harm. Yet the officers and crew could see the submerged hull; there the enemy lay in full view of her pursuers, yet perfectly safe! The officers reported the incident to me in the presence of Admiral Madden, second in command. "Wouldn't it have been fine," said Madden, "if they had had on board a mine so designed that, when dropped overboard, it would have exploded when it reached the depth at which the submarine was lying."

"That remark," continued Admiral Jellicoe, "gave us the germinal idea of the depth charge. I asked the Admiralty to get to work and produce a mine that would act in the way that Admiral Madden had suggested. It proved to be very simple to construct—an ordinary steel cylinder filled with TNT; this was fitted with a simple firing appliance which was set off by the pressure of the water, and could be so adjusted that it would explode the charge at any depth desired. This apparatus was so simple and so necessary that we at once began to manufacture it."

The depth charge looked like the innocent domestic ash can, and that was the name by which it became popularly known. Each destroyer eventually carried twenty or thirty at the stern; a mere pull on a lever would make one drop into the water. Many destroyers also carried strange looking howitzers, made in the shape of a Y, from which two ash cans could be hurled fifty yards or more from each side of the vessel. The explosion when it ensued within one hundred feet I have mentioned was usually fatal to the submarine, would drive the plates inward, sometimes making a leak so large that the vessel would sink almost instantaneously. At a somewhat greater distance it sometimes causes a leak of such serious proportions that the submarine would be forced to blow her ballast tanks, come to the surface and surrender. Even when the depth charge exploded considerably more than a hundred feet away, the result might be equally disastrous, for the concussion might distort the hull and damage the horizontal rudders, making it impossible to steer, or it might so injure the essential machinery that the submarine would be rendered helpless. Sometimes the lights went out, leaving a crew groping in blackness; necessary parts were shaken from their fastenings; and in such a case the commander had his choice of two alternatives, one to be crushed by the pressure of the water, and the other to blow his tanks, come to the surface and surrender. It is no reflection upon the courage of the submarine commanders to say that, in this embarrassing situation, they usually preferred to throw themselves upon the mercy of the enemy rather than to be smashed or die a lingering and agonizing death under the water. Even when the explosion took place at a distance so great that the submarine was not seriously damaged, the experience was a highly disconcerting one for the crew.

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The Y Howitzers on the Stern of a Destroyer from which depth charges could be hurled about fifty yards.



Admiral William S. Sims and his aide, Commander J.V. Babcock.

trophy, and zigzags, makes it all but impossible for a torpedo to be aimed with much chance of hitting her. Moreover the discharge of this missile is a far more complicated undertaking than is generally supposed. The submarine commander cannot take position anywhere and discharge his weapon more or less wildly, running his chances of hitting; he must get his boat in place, calculate range, course, and speed, and take careful aim. Clearly it is difficult for him to do this successfully if his intended victim is scurrying along at the rate of thirty or forty miles an hour. Moreover, the destroyer is constantly changing its course, making great circles and other disconcerting movements. So well did the Germans understand the difficulty of torpedoing a destroyer that they practically never attempted so hazardous an enterprise. Torpedoes are complicated and expensive mechanisms; each one costs \$8,000 and the average U-boat carried only from eight to twelve; it was therefore necessary to husband these



The Wake of a Torpedo. This was the telltale sign which betrayed the presence of the submarine.