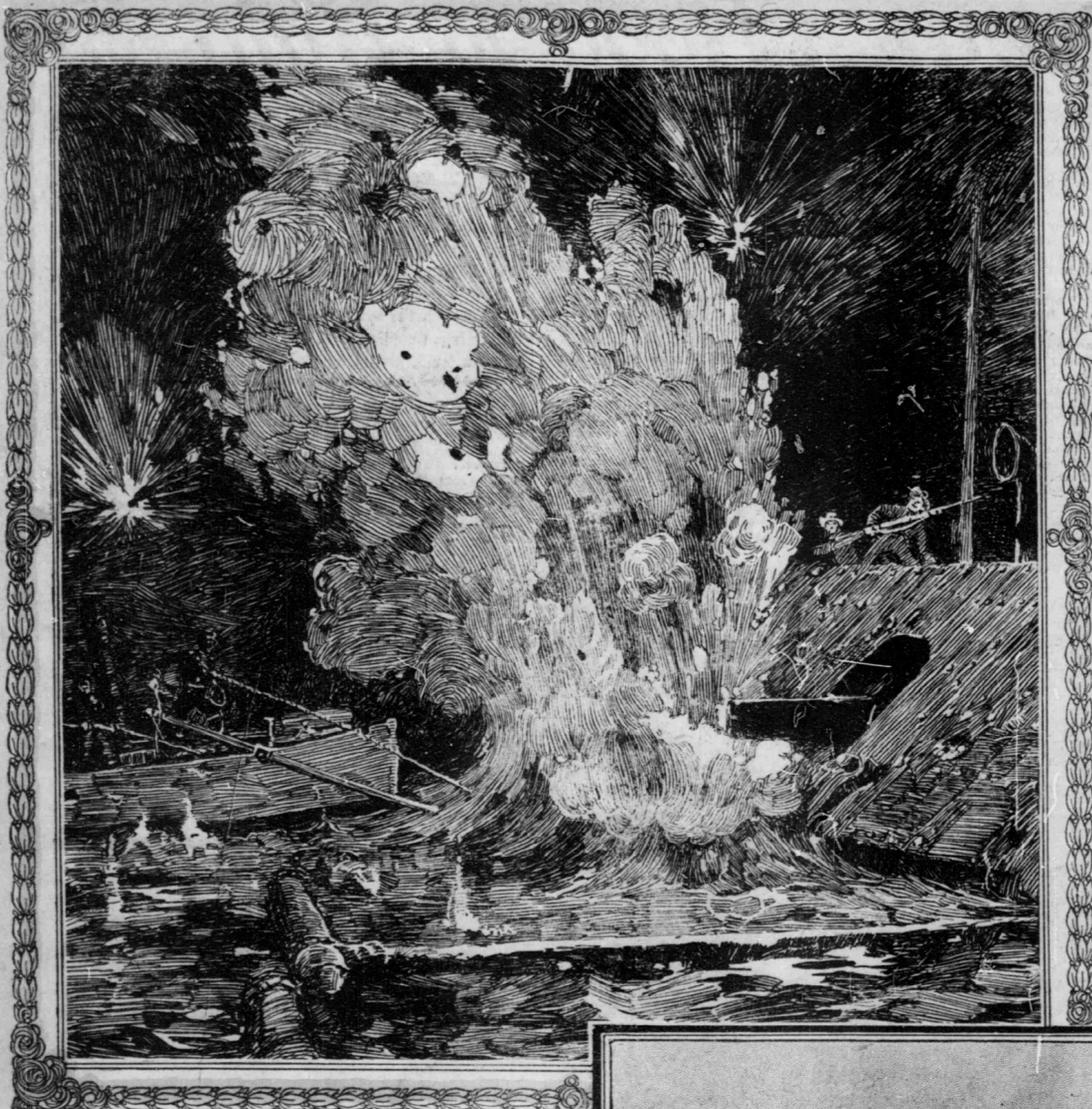


Torpedoes!



The Blowing up of the Albemarle by Commander W. B. Cushing, U.S.N.

SILENT, mysterious and death-dealing. Such is the reputation of the torpedo. And as a matter of fact more than half the value of the torpedo in modern warfare lies in this reputation. The ability of the torpedo to demoralize and confound conservative and normally fearless men is startling, as has recently been demonstrated in the successful Japanese attacks on Russian warships.

In the war with Spain the United States commanders took every possible precaution against these dreaded engines of death, fearing that Spain might strike a deadly blow in the dark.

Cushing's famous exploit in destroying the Albemarle is perhaps the most noteworthy in the annals of the torpedo, but in future naval contests these mechanical missiles promise to write history in letters so large that the whole world may read.

THE presence of two torpedo boats in the harbor of Santiago compelled precautionary measures on the part of our fleet. In fact, all our tactics were based upon consideration of those two boats.

Whenever a rain squall came up, all hands went to quarters for fear that Cervera's torpedo boats would take advantage of it. At sunset our fleet always sent a number of launches fully armed and equipped with signal rockets to form a picket line around the entrance of the harbor.

One of the large battleships was located so that the steady ray of a large searchlight continually illuminated the entire channel. Every gun in the fleet was loaded at sunset and a man stood by keeping it trained on the entrance of the harbor. Lookouts were stationed in the fighting tops and along the superstructures on both sides of each ship.

Shortly after ten o'clock on the night of June 3 or 4 a gunner in the foremost fighting top of the Cruiser New Orleans without warning opened fire with a Maxim Nordenfeldt gun. He had seen something moving along the shore. Following the train of his fire, the other gunners saw, or imagined they saw, the same object.

Within five minutes the entire fleet, cruisers, battleships and all, were firing terrifically. Searchlights played back and forth, shells screeched and one might have thought the entire Spanish navy was passing.

No one ever knew what it was that phosphorus in the waves breaking on the shore, others suggested a floating biscuit tin, a few insisted that a boat had been sunk. Whatever it was, no trace was ever found of the wreckage, and the expended ammunition cost the United States \$153,000.

Such was the effect of two torpedo boats upon the American fleet.

While the torpedo dates back to the time of the American revolution, when, in 1776, Ezra Lee went out in a submarine boat designed and built by David Bushnell, and tried to blow up a British man-of-war at anchor in New York harbor. Lee found it impossible to affix the powder charge to the bottom of the British vessel, and the venture was a failure.

During the civil war the torpedo got its first practical and successful test. Commander W. B. Cushing, after whom the first torpedo boat of the United States Navy is named, successfully attacked and sunk the Confederate iron-

clad Albemarle. Following is an extract from Commander Cushing's own story of the affair as published in the Century Magazine many years ago:

Commander Cushing's Story.

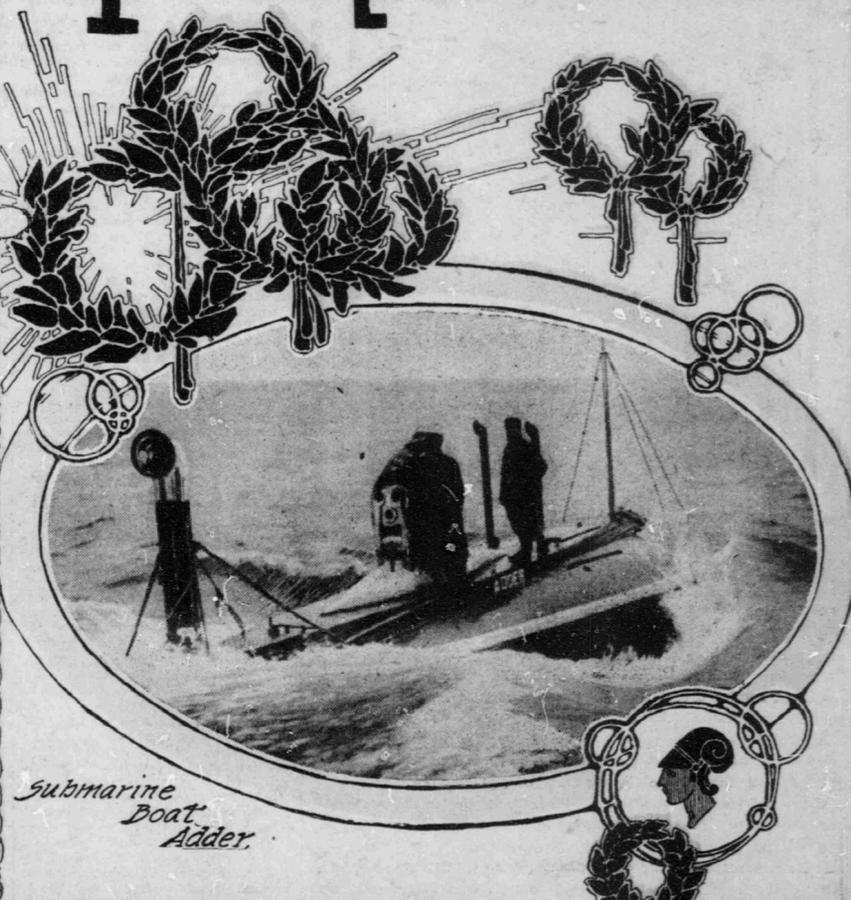
"In May, 1864, the Confederate ironclad Albemarle, which was stationed in Albemarle Sound, steamed out into the open and engaged seven of our vessels, doing much damage and suffering but little. The gunboat Sarrauc attempted to ram her, but failed and had her boiler exploded by a 100-pound shell from the Confederate.

"The Government had no ironclad that could cross Hatteras bar, and it seemed impossible for our modern vessels to injure her.

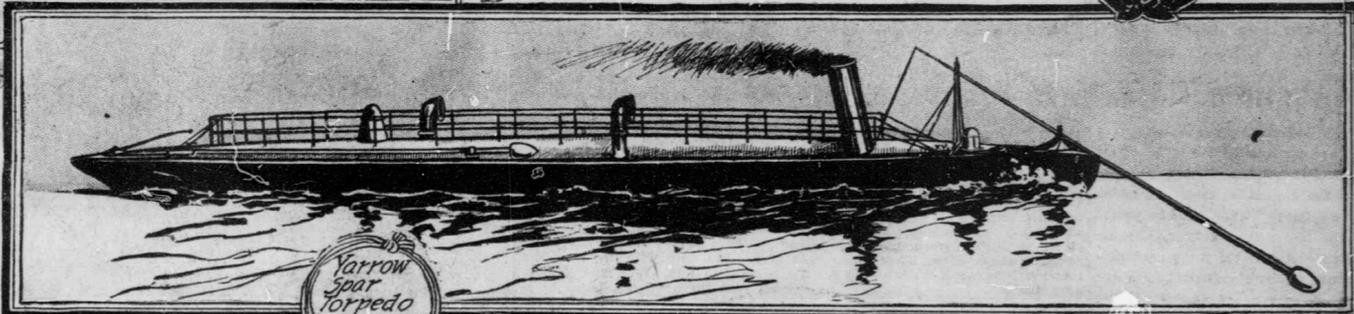
"About this time Admiral S. P. Lee spoke to me of the case, and I proposed a plan for her destruction.

"Finding some boats building for picket duty, I selected two, and proceeded to fit them out. They were open launches, about thirty feet in length, with small engines, and propelled by a screw.

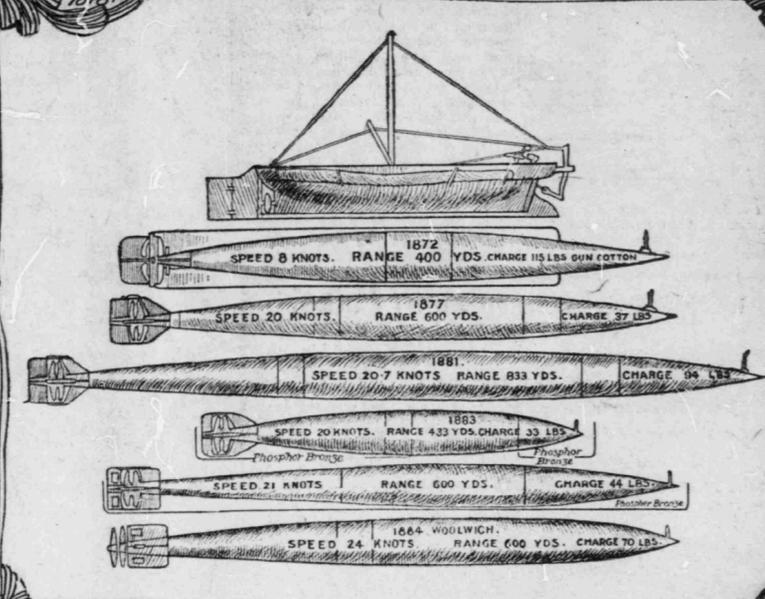
"A twelve-pounder howitzer was fitted in the bow of each, and a boom was rigged out, some fourteen feet in length, swinging by a gooseneck hinge to the bluff of the bow. A topping lift, carried to a stanchion inboard, raised or lowered it, and the torpedo was fitted into an iron slide at the end. This was intended to be detached from the boom by means of a heel-jigger leading inboard, and to be exploded by another



Submarine Boat Adder.



Yarrow Spar Torpedo Boat 1873.



By DE BALINCOURT
French Naval Captain.

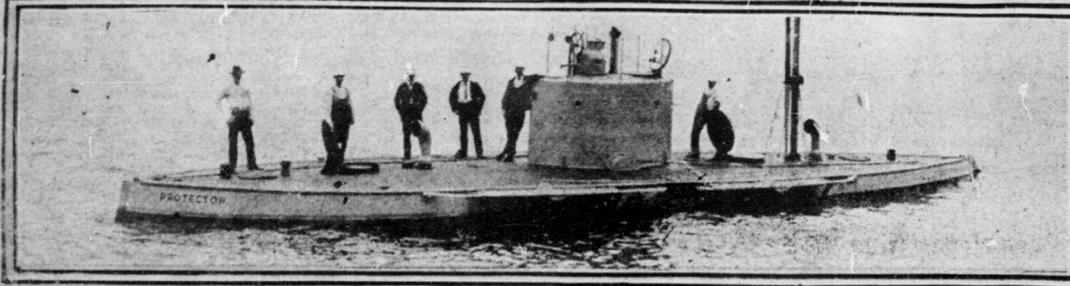
THE Submarine Torpedo Boat will render a blockade completely impossible. But it is not necessary to sacrifice everything for them. The submarine is one arm along with others; it may replace the torpedo boats of the defense, but it is not destined to rule the high seas. Armament and radius of operation are the factors which came to thus limit the usefulness of the submarine.

THE PROBLEM OF THE SUBMARINE BOAT

By J. BORRESEN, Norwegian Rear Admiral

THE only way in which the submarine torpedo boat can be successfully combatted will be by larger submarine boats. The submarine's way of fighting is more moral than actual; it feels secure against the actual weapons of to-day—guns, torpedoes and rams. There remains, therefore, only the same weapon as it itself employs—the arm of mystery, of the unseen, fictitious though this arm may be.

The crews of submarines may feel quite elated by evading a big ship with a sudden dive; but evading craft with the same capacity for mystery as they themselves possess will not make them feel quite so comfortable. Their nerves will be easily shaken when the fancy occurs to them that they may be hurt under water, in the place where formerly they were so secure.



Simon Lake's Submarine Boat "Protector." COPYRIGHT 1903 BY E. MULLER.

Showing Development of Torpedo from 1865 to 1884.



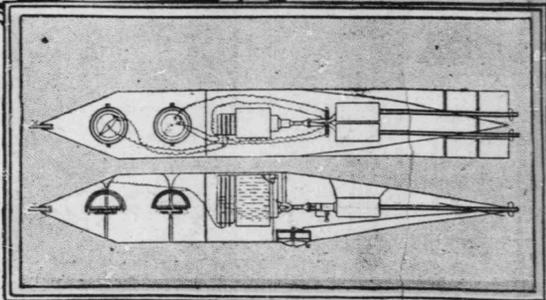
line, connected with a pin, which held a grape shot over a nipple and cap. The torpedo was the invention of Engineer Lay, of the navy.

"Everything being completed, we started to the southward, taking the boats through the canals to Chesapeake Bay, and losing one in going down to Norfolk. This was a great misfortune, and I have never understood how it occurred. The volunteer ensign and his crew were taken prisoners.

"My best boat being lost, I proceeded with one to make my way through the Chesapeake and Albemarle canals into the Sound.

"Fifty miles up the sound I found the Union fleet anchored in wait for the ram's appearance. Here for the first time I disclosed to my officers and men our object, and told them they were at liberty to go or not as they pleased. They all volunteered. Paymaster Swan, who came with me, found an eventful night of it, being wounded and spending the next four months in Libby Prison.

"The Roanoke River is a stream averaging 150 yards in width and quite deep. Eight miles from the mouth is the town of Plymouth, where the ram was moored. Several thousand soldiers held both sides of the stream and the town. A mile below the ram was the wreck of the Southfield with hurricane



Paulson's Self Propelling and Self Steering Torpedo, 1885.

deck above water, and on this a guard was stationed, to give notice of anything suspicious and to send up rockets in case of attack. Thus it seemed impossible to surprise them.

"Fortune was with our little boat and we passed within thirty feet of the pickets without discovery and neared the wharf, where the rebels lay, all unconscious. I now thought it might be better to board her and take her 'alive,' having in the two boats twenty men well armed with revolvers, cutlasses and hand grenades.

"To be sure, there were ten times our number on the ship and thousands near by; but a surprise is everything. Knowing the town, I concluded to land at the lower wharf, creep around and suddenly dash aboard from the bank; but just as I was sheering in close to the wharf a hail came, sharp and quick, from the ironclad, and in an instant was repeated.

"I ordered all steam and went at the dark mountain of iron in front of us. A heavy fire was at once opened upon us, not only from the ship, but also from men stationed on the shore. This did not disable us and we neared them rapidly.

"A large fire now blazed up on the