

# Is the Battleship Doomed

*A Serious Question, When Considering That a Tiny Torpedo Boat Would Destroy the Greatest Warship in a Moment*

By **WILLIAM G. FITZ-GERALD**

**W**ITHOUT firing a shot the eighteen thousand-ton British monster Dreadnought has made all the navies of the world practically obsolete and sent them scurrying to copy her monstrous lines and five tremendous towers, each mounting a pair of twelve-inch rifles. Money is being poured out like water; yet there are not a few authoritative voices raised in protest, and these call attention to the latest pattern of torpedo discharged from submarine or torpedo boat. Imagine a missile shot from a tube, like a shell from a twelve-inch gun, only launched in the sea, instead of directly through the air, at an enemy's ship, and aimed with all of the big gun's precision.

It is a cigar shaped monster of shining steel, perhaps twenty feet long, weighing nearly a ton, alive with the mechanism of one hundred and thirty horses comprised within the space of a woman's handbag—surely the uttermost limit of human ingenuity. A sinister and destructive *Deus ex machina*, dealing death and havoc and disappearing in its own ruin like some demon of fire.

The might of nations to-day is represented in battleships. These back up stern dicta and enforce demands, prevent unjust claims, command respect. And they are amazingly costly, as every newspaper reader knows. A Dreadnought costs nine million dollars, and only Dreadnoughts count to-day. Worst of all, they may go out of fashion before the year is out, leaving us the task of beginning all over again. But that is a phase with which we have no concern here. The object is to destroy the floating fortress, the embodiment of a hostile country's material might. If you can sink a nine million-dollar Dreadnought with two or three seven million dollar Connecticuts or New Hampshires, well and good; but if you can rip the bottom out of her with a six thousand-dollar Whitehead or Bliss-Leavitt torpedo, vastly better still.

It takes a whole army of torpedoes to equal in cash value even an old ram like the *Katahdin*. But can it be done? It can. The torpedo has been used with awful effect from the days of our own Civil War, when crude specimens were exploded by impact at the end of long spars against an enemy's side. From that era until the mighty *Petropavlovsk* keeled over and was swallowed by the sea's gulfs, with her Admiral and hundreds of men, is a long stretch in these modern days; but it is safe to predict that the turbine torpedo of future warfare on the sea, infallibly directed and controlled this way and that by rays of light, will make naval constructors call a halt for breath and consultation before laying down any more enormous battleships.

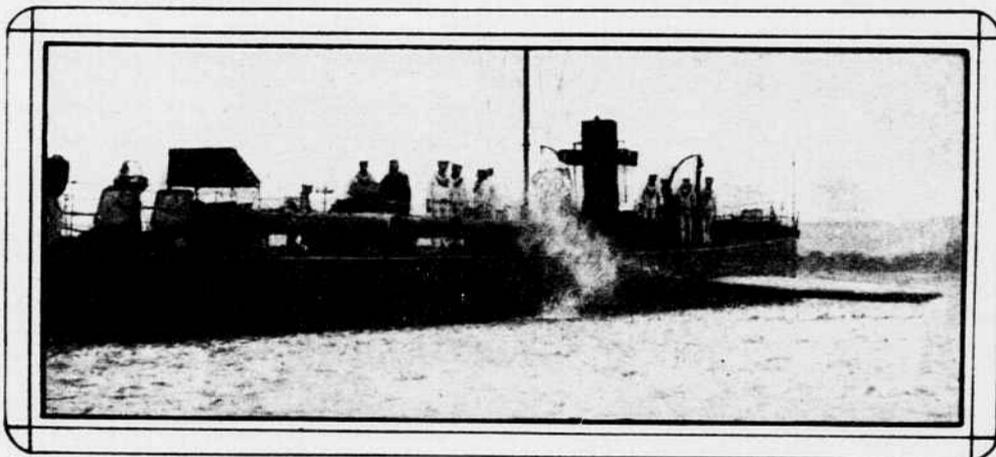
Truly nothing is new under the sun; and though thousands of years yawn between our day and Aristotle's, his "Diving Bell Bomb" is surely realized in the latest mechanical wonder of destructive science.

Every country attaches great importance to the torpedo. Thus Great Britain has a regular floating torpedo school in the *Vernon*, an ancient three-

decker of a hundred and one guns. There are seven different courses for commissioned officers, four for warrant officers, nine for artificers, four for petty officers, and two for seamen. France, in the person of her great torpedo expert Messimy, suggests that a port shall be set aside exclusively for the construction and repair of torpedo boats.

As to ourselves, every midshipman at Annapolis is taught the details of these smooth death dealers; and at the Government torpedo station at Newport, as well as on the old *Vesuvius*, men skilled in torpedo work are imparting knowledge to the rising generation of sea fighters. These are thereby rendered so handy in electrical work generally that they would readily find employment in civil life.

Come with us on board a torpedo boat of to-day. These strange craft have been specially designed to unleash dogs of war that travel far and fast, and whose bark and bite may damage empires. Great Britain has nearly one hundred and fifty first class torpedo boats, and almost as many more of the second class. Even retrograde China has over forty;



A Torpedo Leaving the Boat.

while the coasts of France are fairly buzzing with these mosquitoes of the sea. Such terror do they and the strange weapon they discharge instil into battleship crews, that Great Britain designed a new type of destroyer, more powerful, faster, and better armed than the torpedo boat, and intended solely to give her chase and sink her before she can accomplish her dread mission. Torpedo boat and destroyer alike may fairly be called the light weights of naval warfare. Their object is to dart in at the monsters, strike one blow fairly home, which must infallibly be fatal, and get away before the heavy weight can hit back.

The risks run by the torpedo boat on her mission are truly desperate. Her uttermost range is only four thousand yards, at which distance the Dreadnought's wire wound guns could blow her clear out of the water. She is therefore a peculiar little creature, with the engines of an Atlantic liner crammed into a frail steel shell, that rolls and ricochets through green sea walls at more than forty miles an hour. She has no double skins, no massive teak backing, no heavy plating,—nothing but a single steel shell varying from three-sixteenths to one-sixteenth of an inch; yet this must be tough enough to form a stable engine bed, and stand being driven at railroad speed ahead and astern—not over but clear through towering seas.

These craft represent the naval engineer's last word; and to get the next knot out of them means another thousand horse power. For a stirring experience a trip on one of these light weights is commended. Steam is hissing and thrilling from her escape pipes, and smoke rolling from

her raking funnels. From stem to stern she quivers with suppressed energy. Standing over stokehold and engine room, you feel the throbs and pants of seven thousand horse power confined in the space of a decent sized living room.

A bell tinkles, and the quick churning water runs faster. Little shudders run along the frail deck, and the leaping waters hiss swiftly past the black smooth sides. Later, low growls run through the fabric, and there is a roar of boiling water astern. Men pull caps over their eyes, and button up slickers, for half a gale is blowing, as the sharp bow races through the sea, cutting a great smooth green swath.

Another bell, and the dizzy screws respond with a short roar. Smoke no longer rises, but streams at right angles, and the sea races by like a raging mill race. Another bell. The craft shakes herself and fairly leaps. Boiling foam springs in long curling jets from her flat bottomed stern; the screws are doing four hundred revolutions a minute now. Below, in an inconceivable little hell, half naked stokers are working as though for their lives. Panting and throbbing are the racing engines, though they work as smoothly as my lady's sewing machine—each equal to the strength of three thousand horses. A cataract of soot and cinders pours upon the deck, and the oval funnels roar with flame that shoots out in the dusk in four solid pillars.

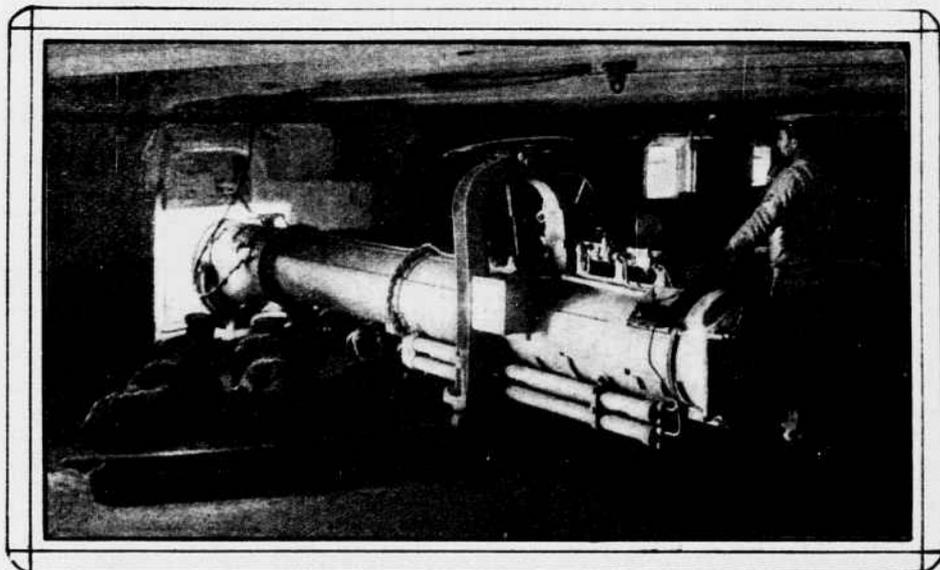
She is doing her best now, with steam in the boilers at nearly two hundred and twenty pounds to the square inch. We are half burying ourselves in the sea with clouds of spray, and engines growling and roaring like wild things. Every plate and rivet, every tube and rod and wheel and crank and pin, is being strained unto the last ounce. One mile in a minute and forty seconds. It makes one giddy to see green water swirling and boiling up under her counters. She is literally burrowing into hills of foam, that burst into spray and come hissing and stinging along like small shot.

There is no comfort here for man or beast; one marvels where the people sleep. It is like trying to make a house out of a dry goods box. The wear and tear on the nerves, with watchers often foodless and sleepless in all weathers, must be terrific. Think of that when next you see a torpedo boat sticking her bows into the green swells, with solid green water washing her low deck.

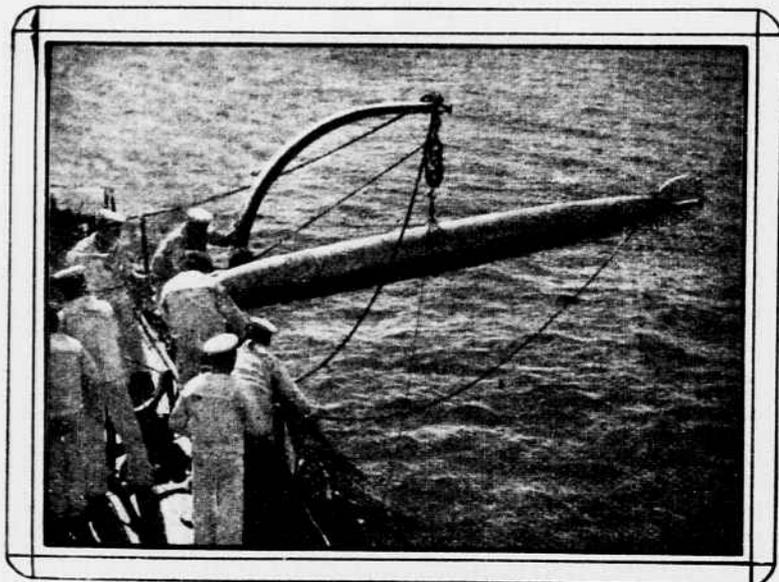
Come below and watch the fellows lay a Whitehead torpedo in its tube, much as a shell is fired from a warship's big gun. For we are going to have a little practice—it may be at Noyack Bay, near Sag Harbor, Long Island. And our work may be done under the critical eyes of the naval torpedo board, comprising men like Commander A. Gleaves, Lieutenant Commander F. G. Davison, and Lieutenant D. W. Knox, of the torpedo station at Newport.

The long steel fish glides into its shoot, and thence is pushed forward into the tube. In big ships it is ejected by air; but we shall send it plunging into the water with a small charge of powder. The tube's end is shut; the gunner gets astride it, takes a sight, pulls a lever sharply back, making electrical contact that fires the charge. Out leaps the sinister, shining monster and dives gracefully into the sea.

While it is on its way toward the target of nets let us learn something of this marvel, which will surely play destructive David to the ponderous Goliath of



Just About to Discharge a Torpedo.



Recovering a Spent Missile.