

The "Torpedoplane" and "Sub" Spotter

By GEORGE HOLMES

TWO important and novel war inventions are here illustrated and described—the torpedo-carrying seaplane or dirigible, and the microphonic submarine locator, both of these naval warfare improvements being the inventions of an American naval officer, Rear Admiral Bradley A. Fiske.

Two Revolutionizing Naval Inventions of Rear Admiral Fiske

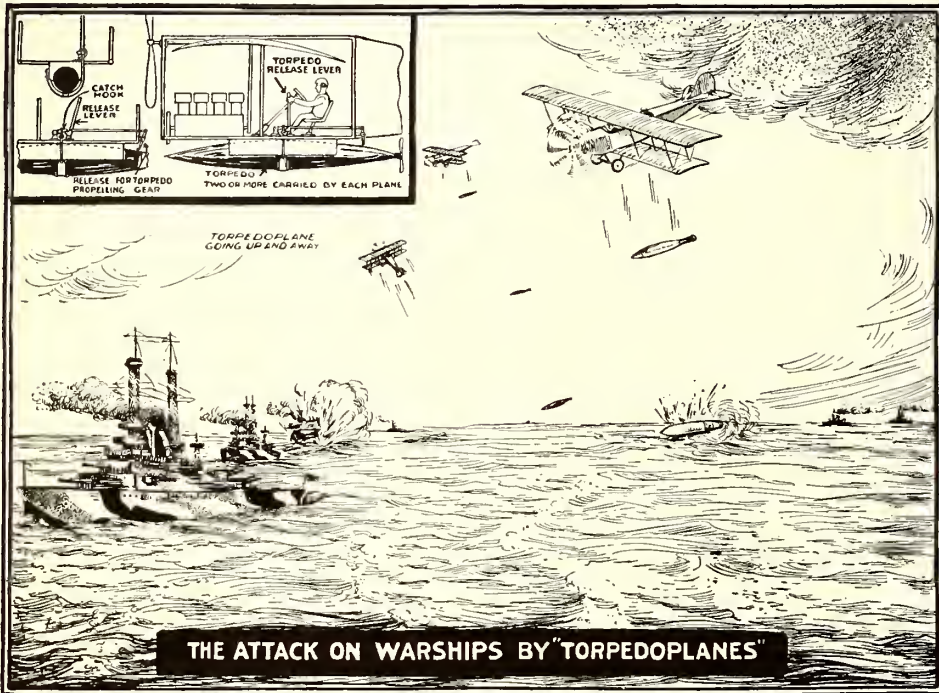
150 to 200 miles an hour, levels out at 50 feet above the surface, discharges a torpedo directly at the enemy ship at the right

operation is so swift that the enemy has little if any chance of training a gun on the assailant. The "smoke cloud" produced by modern war planes is excellent for this purpose. In one of these attacks a British airman torpedoed and sank a Turkish troopship containing 3,000 troops.

When the idea was first conceived of having an airplane to carry an ordinary torpedo such as is used on the submarine, technical difficulties almost defeated the project, until an American designing firm got hard at work in conjunction with the Air Ministry. The difficulty was not so much of lifting a torpedo as of ensuring that the action of discharging the torpedo be carried out with accuracy of aim and with safety to the pilot. Experiments were carried out in the face of great difficulties and perils.

On the occasion when the initial experiment of discharging a torpedo from an airplane was made, the lightening of the airplane had such a serious effect on the latter that the wings collapsed and the pilot was hurled to sudden death. In another case when the torpedo had been discharged, it hit the water at an awkward angle, and ricocheting over the surface, rose and demolished the airplane, which had not risen out of the way. This discharging of a torpedo was no light risk when the torpedo was of full size, weighing anything up to a ton—three times the weight of the machine in which Blériot first crossed the English Channel.

These wonderful planes can ascend from land or from the deck of a ship, and can descend on the sea and float until help is brought by wireless. When the German fleet surrendered, a seaplane "mothership" with 20 of these machines in its bosom met the Germans 50 miles out at sea, and had any tricks been tried, it would have been simple work for a score of "mystery airplanes" to have leapt into the air and torpedoed the major part of the enemy fleet. This mystery or "cuckoo" airplane—so
(Continued on page 348)



The Naval Engagement of the Future as Rear Admiral Fiske, U. S. N., Sees It. His Powerful "Torpedoplanes" Will Provide New Ways to Repulse Landing Parties and Attack Warships That Are Worrying Naval Experts of Foreign Powers.

The torpedo-airplane or "torpedoplane" as it is called, is a development of the torpedo-carriers, which were first successfully employed in action by the R. N. A. S. at the Dardanelles in 1915, and were subsequently used against us by the Germans in 1917, when they were thus enabled to sink three of our merchant ships off the Southeast Coast. The torpedo carried by the torpedoplanes is of a small size as modern torpedoes go, and weighs about half a ton.

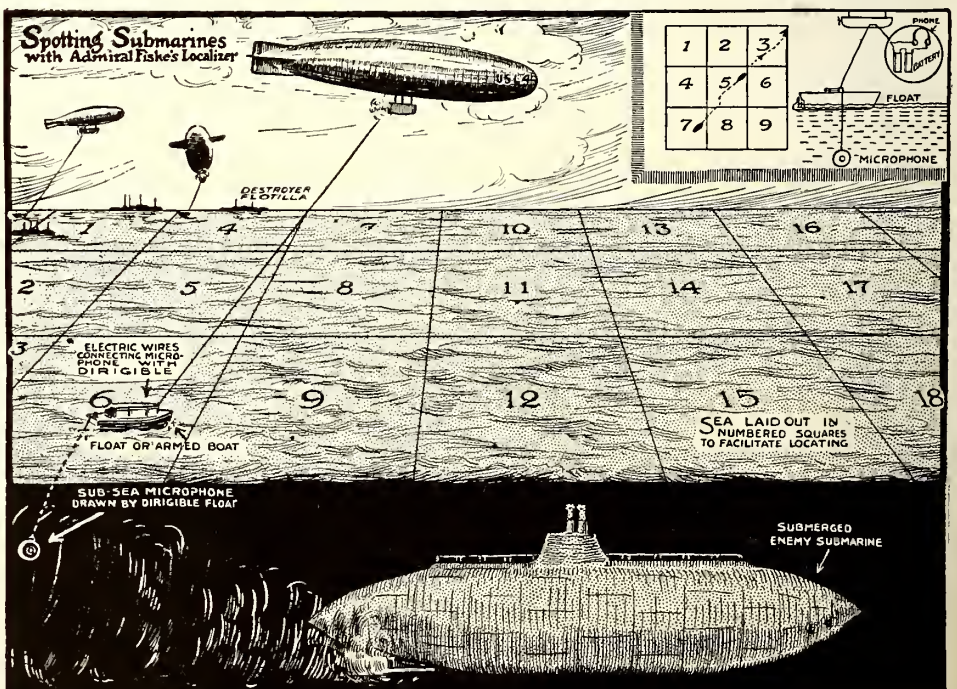
The Mystery Plane or "Torpedoplane"

The "mystery airplane" was designed to perform from the air more effectively and more swiftly the work formerly allotted to our torpedo-boats. The enemy had devised such successful protection of harbors and ships against our torpedo-boats and submarines that it was only with the gravest risk that we could approach within 30 miles of Kiel and other German fortified ports. But for the newest peril, the torpedoplane, the enemy had no reply.

The news of our discovery of a means of attack that was immune from mine dangers and too swift in its operation to be held off by gunfire reached the ears of the enemy, and is believed, in one quarter at least, to have hastened the Germans in their decision to accept the surrender terms.

Had not hostilities ceased so suddenly these machines would have operated effectively against Kiel harbor and the German warships in their very lair. The efficacy of the weapons will be realized when their operation is explained. One of these mystery airplanes, spying its target, makes a sudden dive from the clouds, at a speed of

moment, after which the pilot pulls back his control stick and disappears into the clouds as suddenly as he appeared. The



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The "Torpedoplane" and "Sub" Spotter

By George Holmes

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called because of its weakness for laying eggs in other people's nests—is one further testimony to British engineering ability and the resourcefulness of our navy.

Rear Admiral Bradley A. Fiske, U. S. N., conceived the idea of a torpedo-carrying airplane in the winter of 1910-1911 as a means of defending the Philippine Islands, and discuss the idea with the General Board of the Navy. In April, 1912, he applied for patent on the torpedoplane, which was granted in July, 1912, by the U. S. Patent Office.

The Italians were the first to make experiments in dropping weights from an airplane, with a view to evolving a method of launching torpedoes. Captain Alessandro Guidoni, Royal Italian Navy, using a 1910 Farman biplane equip with floats, made a number of experiments at an Italian naval base in 1912-1915.

Captain M. F. Sueter, who was then director of the air department of the British Admiralty, appreciated the value of the idea and in conformity with the practise of the British Navy, which provides that the name of the commanding officer shall appear on a patent application with the name of the author of the invention, a patent application was made in the joint names of Captain Sueter and Lieutenant Hyde Thomson, in March, 1914.

The sinking of a Turkish troopship while at anchor in the Sea of Marmora, in 1915, by a British torpedoplane, created a little more interest in the experiment, but no greater support was given to the work and the experiments were superficial in nature and dragged on slowly, due to lack of official interest.

In May, 1917, those who believed in the potentiality of the torpedoplane and hoped that the Allies would put this device into effect against the German Navy before Germany could build torpedoplanes, were made heartsick by the report that the British steamship *Gena* had been torpedoed by a German torpedoplane.

In connection with the above, it is stated by the Admiralty that this method of attack was first practised successfully in August, 1915, by R. N. A. S. pilots, who sank several ships in the Dardanelles by torpedoes from seaplanes.

How the Torpedoes Are Carried.

A sketch of one of the German seaplanes that participated in the attack against the *Gena*, showing the pontoon arrangement for holding the torpedo in the German seaplane, is exactly like the arrangement on Admiral Fiske's torpedoplane. The torpedo is held between the two pontoons of the seaplane with a bracing to keep the torpedo from moving while the seaplane is flying.

Some years ago I had occasion to discuss, first with Admiral Fiske and then with Allied officers, the advisability of using automatic brakes to check the velocity or fall of the torpedo. This discussion led to considering a number of methods, such as lowering the torpedo by means of a cable. But it was realized that while it would be feasible to lower the torpedo several hundred feet by means of a cable, and its direction could be maintained by means of vanes, and the possible swerving of the torpedo might also be checked by means of vanes, which would hold the torpedo steady excepting in case of sudden turns, the advantages to be gained were not readily apparent. The giant naval seaplane NC-4, which cross the Atlantic, could easily carry two foot-size torpedoes.

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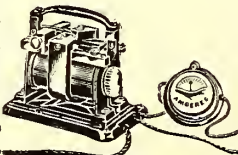
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