ELECTRICAL EXPERIMENTER

A Deadly Spiral Course Torpedo

ROPPING a missile from an airplane with sufficient accuracy such that it will hit a moving ship or other target is a very difficult matter at all times, and as may be readily supposed the number of "hits" registered under marine conditions is but a very small proportion of the missiles dropt. Therefore, a Yankee genins, Edward D. Priest, of Schenectady, N. Y., has taken out a patent on a clever spiralling course once it starts moving under its own power, to follow a *spiral* path of ever increasing radius.

radius. As the accompanying illustrations will make clear, it is only a mater of time when such a torpedo is bound to "get" you. Of course, if the torpedo should be near the end of its range, such as on an outside lap of the spiral and traveling somewhat slower in speed, the argument might be raised that the vessel could easily side-step As the details of the illustrations herewith tend to show, these torpedoes are slung beneath the fuselage or body of the hydroplane, so that the bombing officer can release them as desired, either all together or one at a time, by simply pulling on a lever. The torpedo may be fitted with a small parachute, so that it will travel at reduced speed as it nears the surface of the water, and thus alight without diving too far below the surface. Also the torpedo is provided



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Something Real New in Torpedoes—A Spiral Path Torpedo, Which After it is Dropt from a Seaplane Starts Spinning Around a Circular Path of Ever-Increasing Diameter. It's Bound to "Get" You, Eventually; and When Several of Them are Dropt in the Vicinity— Zowie! You Sure Need Friends.

torpedo, for just such requirements as this, where the torpedo may be dropt from an airplane to hit such targets as submarine destroyers and larger vessels. It does not take a mathematician to figure out what chance an aviator has of hit-

It does not take a mathematician to figure out what chance an aviator has of hitting the target with an aërial bomb if he is at any considerable altitude, when the target is such a small affair as a submarine or submarine destroyer. Also it does not take much figuring to see that if we have a torpedo which will start moving under its own power as soon as it strikes the water after being dropt from an airplane, that this torpedo can under normal conditions only proceed in one directions. Therefore, as the inventor points out, there is practically only one reasonable solution to such an ambitious problem as he has set himself, i.e., to devise an automatic torpedo which will cover a certain prescribed area thoroly and effectively, and that is to have the torpedo, the onrushing torpedo. But this proposition takes on another color, when one stops to think that several of these spiralling torpedoes may be dropt in the water from a hydroplane at the same moment. Here we are confronted with a perfect maze of torpedoes spinning around in the water in ever-increasing circular paths, which cross and re-cross each other, and, as becomes obvious, it will be extremely uncomfortable for any vessel so situated. The modern automobile torpedo moves at a very high velocity, or at a speed of between forty and fifty miles per hour. We recollect only one case in which a gunner on an armed merchantman ever succeeded in hitting a traveling torpedo with a shell, and most probably that was more a case of luck or chance than anything else. In this direction it is well to remember that the torpedo does not skim along on the surface of the water, but travels at a depth of fifteen feet on the average. with a disengaging striker which hits the water just before the nose of the torpedo, releasing the parachute, and in the next instant two specially devised rudders strike the water, and these are pushed upward; this action causes the propelling motor circuit to be actuated, and the propeller starts spinning. At the same time an electrical device begins functioning, which causes the rudder to slowly turn, which then forces the torpedo to follow a spiral path of gradually increasing radius. It is evident that if this were not done, and the rudders set at a given fixt augle, then the torpedo would proceed to follow a circular path of the same or constant diameter.

The torpedo is preferably propelled by comprest air, actuating a comprest air motor, the same as in the standard naval type of automobile torpedo of the Bliss-Leavitt pattern. The inventor provides for causing the torpedo to travel either partially submerged or on the surface, as desired.

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