

The Latest Submarine Boat

Mr. John P. Holland, the submarine boat inventor, has received from the Navy Department at Washington, the results of tests made with a model of a new craft designed by him, and which he expects will relegate all existing submarine boats to the junk heap. This latest product of the submarine wizard will, Mr. Holland claims, surpass boats of the Plunger type in speed, in safety, and in facility of manipulation. The inventor has been working out his new idea since April last.

What the Tests Showed.

The report of tests with his new model by the Navy Department, Mr. Holland declares, demonstrates that he can produce a submarine greyhound, capable, at the lowest calculation, of maintaining a speed of 25 knots an hour, under water. This estimate is conservative, he says, as the tests conducted by Naval Constructor E. W. Taylor, at Washington, show.

'The result of the tests was quite up to my expectation,' said Mr. Holland. 'I may say the test was even better than I anticipated, for my purpose in setting about to design this boat was to get lines upon which, with the highest practicable horse power, she would reach a speed of 20 knots submerged. The tests show that a boat constructed on the lines of the model can attain nearly, if not quite, 30 knots an hour submerged with engines of 1800 horse power.'

Will Go Faster Under Water.

'There is one feature of the tests that may seem to be peculiar, but which is as much a certainty as scientific calculation can make it; that is, that the boat when completed will, after attaining a certain speed, travel faster submerged than when running light on the surface, and still more so when running awash. The tests proved that at a speed of less than 16 knots an hour my boat will be capable of making greater speed above than below the surface. At 16 knots the resistance is exactly the same, based on the amount of horse-power expended. But above 16 knots the resistance is less under water, until, at a rate of 29 knots, there is an expenditure of 80 horse-power less submerged than when running above water.'

'The reason for this is that while the boat is above water, the friction depends upon the amount of wetted surface, and when submerged, although the increased amount of wetted surface produces increased friction up to a certain point—say 16 knots—after that the water slides past and there is no wave production.'

Condemns Present Submarines.

'My craft will revolutionize submarine boat construction,' said Mr. Holland. 'There is not a submarine today that can travel more than eight and a half knots an hour. Boats of the Plunger type are practically worthless. They are too broad and too short. They are tubs, in short, and while they were built on lines that I prepared, with some improvements, they are all worthless. I protested against their construction. The most material changes I have made in developing the new submarine have been in getting a greater length and a lesser diameter. There will be a total eradication of sluggishness in movement in this new boat, which, I am confident, will perform satisfactorily all that a submarine can be required to do.'

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