Aug. 3, 1943. P. BRASHER 2,325,937

METHOD OF AND APPARATUS FOR COLLAPSING WATER WAVES

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Fig. 1.

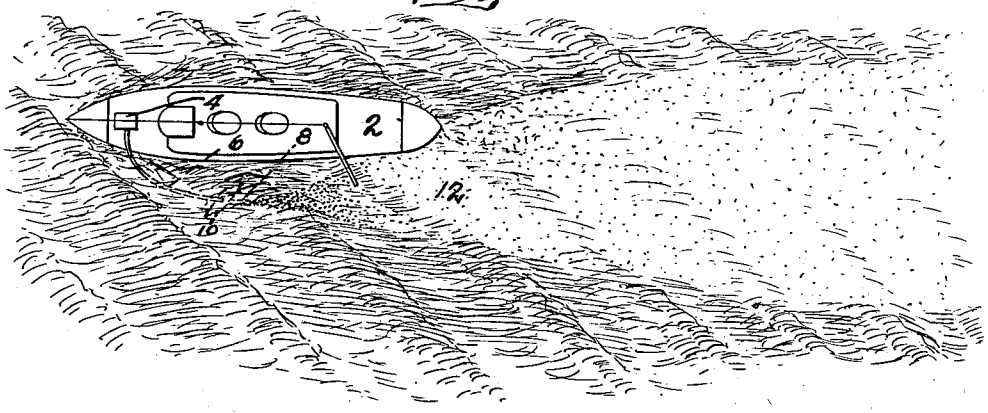
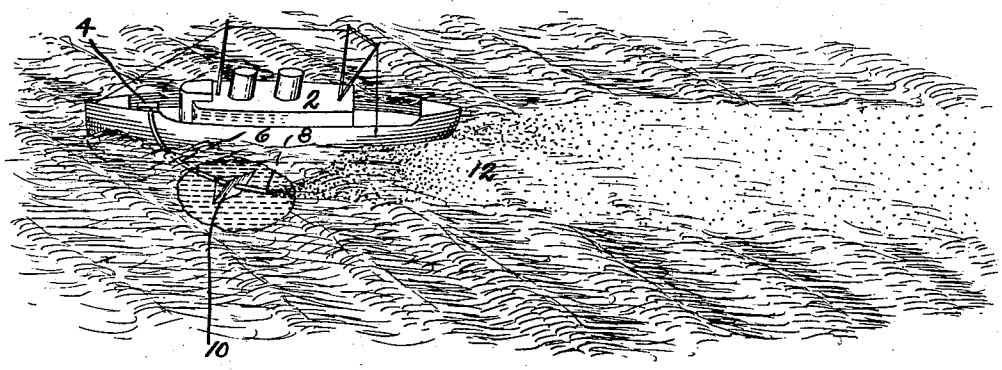


Fig. 2.



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METHOD OF AND APPARATUS FOR COLLAPSING WATER WAVES

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5 Claims. (Cl. 114—0.5)

My invention relates to an improved method of and apparatus for use in connection with water waves, being more particularly adapted for collapsing water waves to produce a relatively quiescent area of appreciable size in proximity to a ship, whereby planes can be launched from the ship without the use of a catapult, and may be picked up again without the necessity of the ship coming to rest.

More specifically the present invention provides for collapsing water waves continuously from a ship which may be proceeding at twelve or fifteen knots or even at higher speeds, the quiescent area thus produced overlapping the ship and being sufficiently large in extent to permit of the launching of a plane from the moving ship without a catapult and to permit the plane to be picked up again without stopping the ship.

My invention, it will be appreciated, is of great practicable worth in connection with combating submarines, in that any ship large enough to carry a plane, but which may be too small to carry a catapult, can be employed for reconnaissance purposes and for actual bombing of submarines, launching and picking up of the plane being feasible and practicable with the ship under way so that she may be manoeuvered as desired.

It will be seen from the description hereinafter given that the equipment necessary for the practice of my invention is simple, and takes up only a fraction of the space required for catapult launching apparatus. The plane can be launched and picked up with a crane. As a consequence the number of ships which may carry one or more planes is enormously increased as compared with existing practice.

In the accompanying drawing I have shown an embodiment of my invention more or less diagrammatically;

Fig. 1 showing the invention in plan; and

Fig. 2 being an elevational view.

Referring to the drawing in detail: 2 designates a ship carrying an air compressor 4, to which an air hose 6 is adapted to be coupled. The air compressor is mounted at the forward part of the ship, and as the hose 6 is to be towed overboard, its length will depend upon the height and length of the ship. In practice it should be long enough to extend rearwardly of the ship about as shown in the drawing. This hose is flexible and open at its outer end 8.

In practicing my invention the hose is thrown overboard and towed by the ship when a plane is to be launched or picked up. As above noted, launching and picking up are performed with the ship traveling at say twelve or fifteen knots which will give it the desired steerage way and manoeuverability. The open end 8 of the hose 6 is to be submerged to a depth of seventy-five to one hundred feet. For this reason and in order that the open end of the hose may be maintained at the desired distance from the ship's hull, and will not simply trail beside the ship, I equip the hose with a paravane 10.

When an elastic fluid such as air is discharged by the compressor through the submerged outer end of the hose 6, air and water will be forced to the surface to provide in effect an upwardly moving wall or damp against which approaching waves will dash and be collapsed. Back of this fluid breakwater or dam, that is, between it and the ship, there will be a quiescent area 12 of substantial proportions into which a plane may be launched from the ship by simply lowering the same overboard and from which a plane may be picked up. This quiescent area will be maintained even on intermittent operation of the compressor for two or three minutes after the compressor is shut off.

Inasmuch as the quiescent area persists some two or three minutes after the compressor is shut off, it will be apparent that with a ship proceeding at say the equivalent of fifteen miles per hour I can produce a quiescent area one-half to three-quarters of a mile long and of substantial width. The width of the quiescent area will depend, of course, upon the distance between the outer end of the hose 6 and the ship.

It will be appreciated, furthermore, that not only will the provision of such a quiescent area enable a plane to be launched from the ship without a catapult and to be picked up, but the ship itself will be in this area so as to provide a steady gun platform for both horizontal and antiaircraft fire should demands require it.

It is to be understood that for illustrative purposes I have shown but a single hose 6. Several may be employed if desired from the same or from opposed sides of the ship.

It will be seen also that the equipment necessary for the practice of my invention is simple and inexpensive, requires but very small space on shipboard, and that no expensive controlling mechanism is necessary.

I wish it to be understood that any dimensions above mentioned as to length of hose, depth of submergence, size of the hose, etc., are illustrative and not for purposes of limitation, and that

the same may be changed within the purview of my invention.

What I claim is:

1. The method of producing a quiescent area adjacent a ship of sufficient extent to permit a plane to be lowered into the sea from the ship for take-off and to land in the sea again to be picked up by the ship, which method comprises creating an upwardly moving wall or dam of air and water in the path of waves approaching the ship by having the ship tow a flexible conduit while discharging air from the conduit into the water at the outer end of the conduit.

2. The method of producing a quiescent area adjacent to and overlapping a ship of sufficient extent to permit a plane to be lowered into the sea from the ship for take-off and to land in the sea again to be picked up by the ship, which method comprises creating an upwardly moving body of air and water in the path of waves approaching the ship by having the ship tow a flexible conduit with the conduit extending from the forward part of the ship at an angle to the ship's course, with the outer open end of the conduit submerged while discharging air from the submerged end of the conduit.

3. The method of producing a quiescent area adjacent to and overlapping a ship of sufficient extent to permit a plane to be lowered into the sea from the ship for take-off and to land in the sea again to be picked up by the ship, which method comprises creating an upwardly moving body of air and water in the path of waves moving toward the ship diagonally with relation to the ship's course by having the ship tow an open ended flexible conduit from the forward part of the ship with the outer end of the conduit submerged and while discharging air from the submerged end of the conduit.

4. The method of creating an upwardly moving body of air and water in the path of waves moving toward a ship in motion diagonally of the ship's course, which method comprises having a flexible conduit attached to the forward part of the ship and having the ship tow this conduit across the front of said waves with the outer end of the conduit submerged and while discharging air from the submerged end of the conduit, thereby to create an upwardly moving body of air and water in the path of said waves to effect their collapse and to create a quiescent area of sufficient extent to permit a plane to be lowered from the ship into the water, to take off therefrom and to permit the plane to land after its flight to be picked up by the ship.

5. Apparatus for collapsing waves in the vicinity of a moving ship thereby to create a quiescent area adjacent the ship, said apparatus comprising in combination with the ship, a compressor carried at the forward part of the ship, a flexible conduit attached to the compressor and adapted to be towed by the ship, means carried by the conduit for maintaining the outer end of the same submerged to a predetermined depth and at a predetermined distance from the ship as the conduit is towed through the water, whereby upon the discharge of air by said compressor from the submerged outer end of the conduit an upwardly moving body of air and water will be created in the path of waves approaching the ship to effect the collapse of said waves and to create a quiescent area of sufficient extent to permit a plane to be lowered from the ship into the water, to take off therefrom and to permit the plane to land after its flight to be picked up by the ship.

PHILIP BRASHER.