Dec. 5, 1939. W. S. DIEHL 2,181,875

SPRAY STRIP FOR SEAPLANES

Filed Jan. 20, 1938

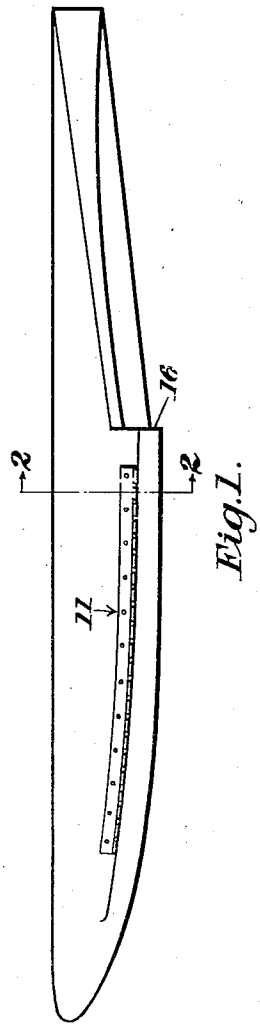


Fig. 1.

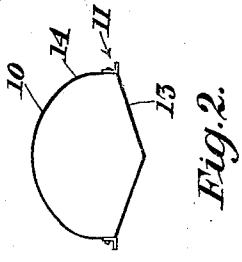


Fig. 2.

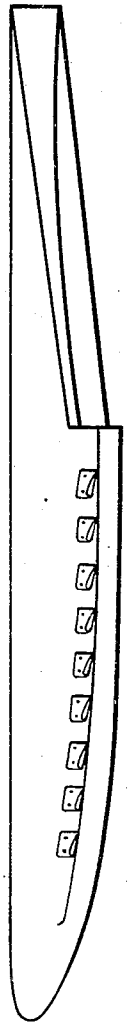

Fig. 4.

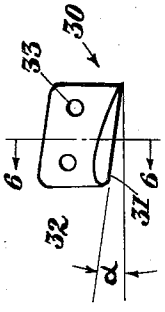


Fig. 5.

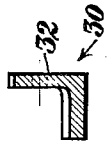


Fig. 6.

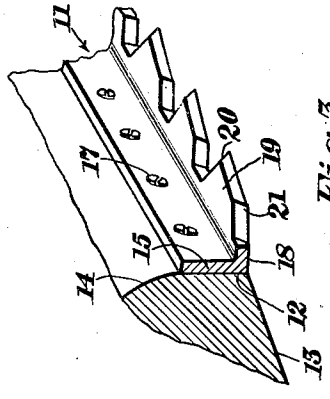


Fig. 3.

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# UNITED STATES PATENT OFFICE

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## SPRAY STRIP FOR SEAPLANES

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Application January 20, 1938, Serial No. 185,813

6 Claims. (Cl. 114—66.5)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This invention relates to spray strips for seaplanes and has for an object to provide spray strips which will prevent the force of spray created by the plane hull or pontoons from striking the underside of the wings, fuselage, or other parts of the plane to damage or cause excessive wear on such underparts.

A further object of this invention is to provide an improved form of spray strip which will be especially effective in breaking up the usual spray sheet so that it will lose its damaging force and fall back to the water surface harmlessly.

Still a further object is to provide spray strips having serrated or saw-toothed edges which will, in effect, saw the solid sheet of spray into harmless drops deflected back to the surface of the water.

With the foregoing and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter described and illustrated in the drawing, in which—

Figure 1 is a side elevational view of a seaplane float or pontoon to which this invention has been applied;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary, enlarged view of the spray strip;

Fig. 4 is a side elevational view similar to Fig. 1, with another form of this invention applied thereto;

Fig. 5 is an enlarged view of one of the parts of the spray strip of Fig. 4, and

Fig. 6 is a sectional view on line 6—6 of Fig. 5.

There is shown at 10 a seaplane float or pontoon to which the spray strip 11 of this invention has been applied at the chine 12 or junction of the bottom 13 and the side 14, there being, of necessity, one strip 11 on each side of the float or pontoon 10, as shown in Fig. 2.

The strips 11 are made from ordinary angle stock, of suitable material, one arm 15 thereof being secured along the chine 12 from a point adjacent the bow to a point near the step 16 by any convenient means, such as rivets or stud screws 17. The other arm 18 is serrated or provided with a saw-tooth edge as shown, each tooth 19 slanting downwardly a slight bit at its rear 20, while the front is sharpened or beveled as at 21. The width of arm 18 is approximately three per cent of the beam of the float 10, while the angle of the bend from the front 21 to the rear 20 of the tooth 19 is appproximately five to ten degrees to the line of the keel of float 10, more or less.

In operation, as the plane gets under way in the water, preparatory to rising therefrom, the bottom 13 causes a spray sheet to build up and strike the underside of the plane parts, often with damaging force. With the spray strip 11 in position on the chine 12, this solid sheet of spray is broken up into droplets by the front edges 21 to the teeth 19, while the downward angle of the teeth 19 serves to cause a downward acceleration of the spray back to the surf of the water, thus preventing harm to the underparts of the seaplane.

In Figs. 4, 5 and 6, the spray strips are in the form of individual aerofoil shaped teeth 30 spaced apart along the chine of the float, the bottom surface being at the angle "$\alpha$" of about five to ten degrees, while an upstanding flange 32 has the securing means 33 extending therethrough into the side of the float.

Other modifications and changes in the proportions and arrangements of the parts may be made by those skilled in art without departing from the nature of the invention, within the scope of what is hereinafter claimed.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A sea spray strip for seaplane floats comprising a spray deflecting arm adapted to be secured to the chine of the float, said deflecting arm comprising a plurality of individually inclined saw-teeth, the front of each tooth being beveled.

2. A seaplane float having a chine, a series of spray deflecting plates fixedly secured along the chine of the float, each plate being twisted to a small positive angle to the float bottom surface.

3. A sea spray strip for seaplane floats comprising a continuous strip adapted to be attached to the chine of the float, said strip having a series of notches, said notches providing a plurality of serrations along the edge, said serrations being inclined at a small positive fore and aft angle with respect to the adjacent float bottom.

4. A seaplane float having a chine, a series of spray deflecting arms fixedly secured to the chine of the float, each deflecting arm comprising an individual airfoil stub with its bottom surface set inclined at a small positive angle to the keel

of the float, said stubs being attached along the chine and spaced not more than two chord lengths apart in a fore and aft direction.

5. A sea spray strip for seaplane floats comprising a continuous strip adapted to be attached to the chine of the float, said strip having a series of notches, said notches providing a plurality of serrations along the edge, said serrations being inclined at a small positive fore and aft angle with respect to the adjacent float bottom, said serrations being also inclined downwardly in an outboard direction.

6. A sea spray strip for seaplane floats comprising a spray deflecting member adapted to be secured to the chine of the float, said deflectng member consisting of a continuous base having a plurality of closely spaced and individually inclined saw-tooth projections extending along the outer surface thereof.

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