June 14, 1966 C. E. THORNE 3,255,472

WATER SPRAY ATTACHMENT FOR WATER SKIS

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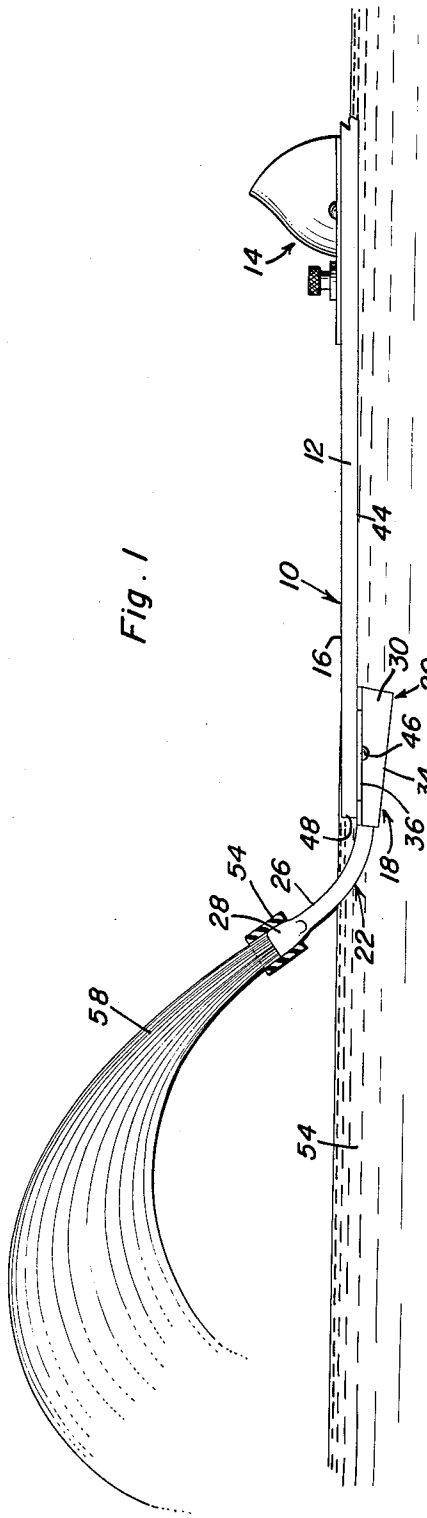

Fig. 1

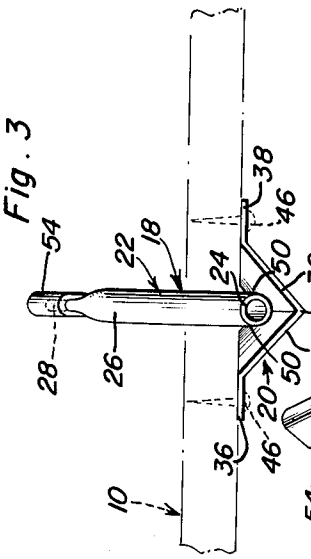

Fig. 3

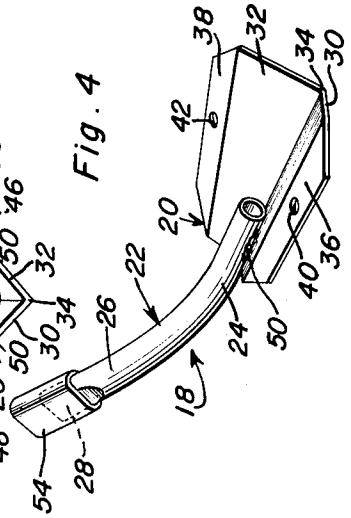

Fig. 4

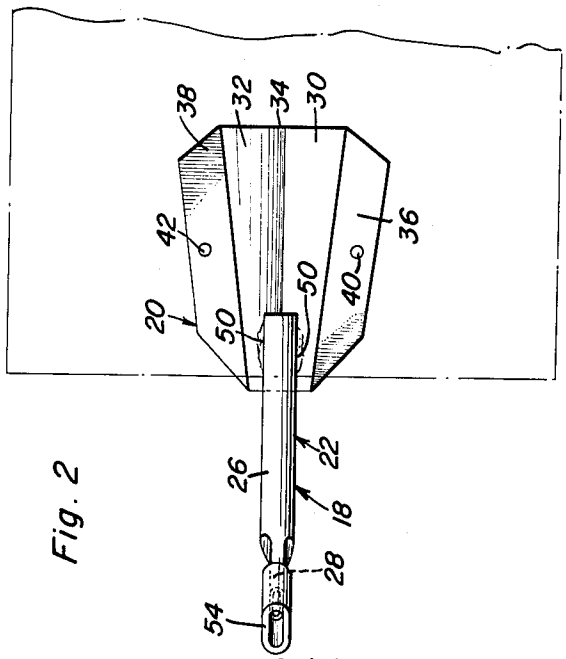

Fig. 2

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WATER SPRAY ATTACHMENT FOR WATER SKIS

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This invention relates to a novel and useful water spray attachment and more specifically to an attachment which is adapted to be secured to the read end portion of the undersurface of a water planing device. Although the water spray attachment of the instant invention may be utilized on other water planing devices such as aquaplanes and disks, it is primarily designed for use on water skiis.

The water spray attachment of the instant invention includes an arcuate conduit member of rigid construction and a mounting assembly adapted to support the conduit member from the aft portion of a water ski with one end portion of the rigid conduit member opening forwardly of the water ski to which it is secured while the other end portion of the rigid conduit member curves upwardly and rearwardly behind the rear of the ski. In this manner, rapid movement of the water ski over the surface of a body of water will cause a quantity of water to be forced into the forward end of the rigid conduit member by ram action and to be discharged rearwardly and upwardly out of the rear end of the rigid conduit in a manner defining a spray or plume of water which trails the water ski.

The mounting assembly provided for the arcuate rigid conduit member not only provides a means whereby the conduit member may be rigidly secured to the water ski, but also defines a scoop for directing greater quantities of water into the forward end of the rigid conduit member thereby producing a greater spray or plume.

The main object of this invention is to provide a water spray atachment for water planing devices that may be secured thereto in a manner so as to effect a water spray or plume of water behind the planing member as it moves at a rapid rate over the surface of a body of water.

A further object of this invention, in accordance with the immediately preceding object, is to provide a water spray atachment including a mounting assembly which adapts it for securement to substantialy all types of water planing devices.

Yet another object of this invention is to provide a water spray attachment which will also function as a depending rudder or skeg on the water ski or planing device to which it is secured.

A final object of this invention to be specifically enumerated herein is to provide a water spray attachment in accordance with the preceding objects which will conform to conventional forms of manufacture, be of simple construction and easy to install so as to provide a device that will be economically feasible, long lasting and relatively trouble free in installation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a fragmentary side elevational view of a conventional form of water ski shown with the water spray attachment of the instant invention operatively secured to the undersurface of the aft portion thereof;

FIGURE 2 is a top plan view of the water spray attachment;

FIGURE 3 is a front elevational view of the water spray attachment with portions of the associated water ski being shown in phantom lines; and

FIGURE 4 is a perspective view of the water spray attachment of the instant invention.

Referring now more specifically to the drawings, the numeral **10** generally designates a conventional form of water ski including an elongated panel-like body member **12** having a ski binding assembly **14** mounted on its upper surface **16**. The water spray attachment of the instant invention is generally designated by the reference numeral **18** and may be seen to include a mounting assembly or plate generally referred to by the reference numeral **20** and a rigid arcuate conduit member generally referred to by the reference numeral **22**. The conduit member **22** includes a forward substantially horizontally disposed portion **24** and a rearwardly and upwardly inclined rear portion **26** whose terminal end portion is slightly flattened as at **28**.

The mounting assembly or plate **20** is trough shaped and includes a plurality of downwardly convergent opposite sides **30** and **32** which intersect to form an apex **34**. The upper marginal edge portions of the sides **30** and **32** terminate in laterally directed generally horizontally disposed flange portions **36** and **38** which are suitably apertured as at **40** and **42**, respectively. The trough formed by the mounting assembly is generally V-shaped in transverse section and it may be seen that the trough is longitudinally tapered with its major end portion disposed forwardmost.

The mounting plate or assembly **20** is secured to the undersurface **44** of the body portion **12** of the ski **10** by means of suitable fasteners **46**. It may be seen that the rear end portion of the mounting assembly **20** projects slightly rearwardly of the rear end edge **48** of the ski **10** and that the forward end portion **24** of the conduit member **22** is secured in the rear or minor end portion of the mounting assembly **20** in any convenient manner such as by welding **50** fusing the lower portions of the forward end portion **24** of the conduit member **22** to the bottom portion of the trough formed by the mounting member **20**.

From FIGURES 1 and 3 of the drawings it may be seen that the upper extremities of the forward end portion **24** of the conduit member **22** are substantially horizontally aligned with the upper surfaces of the flange portions **36** and **38**. Accordingly, when the flange portions **36** and **38** are secured to the undersurface **44** of the body portion **12** of the ski **10** by means of the fasteners **46** secured through the apertures **40** and **42** and the upper surfaces of the flange portions **36** and **38** are disposed in surface-to-surface contacting abutting engagement with the undersurface **44**, the upper extremities of the forward end portion **24** of the conduit member **22** will also be disposed in abutting engagement with the undersurface **44**. Thus, the mounting assembly or plate **20** not only supports the conduit member **22** therefrom, but also clampingly engages the forward end portion **24** of the conduit member **22** between the inner surfaces of the trough defined by the mounting assembly **20** and the undersurface **44** of the body portion **12** of the ski **10**.

In operation, after the attachment **18** has been secured to the ski **10**, rapid forward movement of the ski **10** over the surface of the body of water **54** will cause quantities of the water to be rammed into the forward end of the rigid conduit member **22** and to be discharged through the flattened end portion **28** of the rear end portion **26** of the conduit member **22**. The flattened end portion obviously reduces the internal cross-sectional area of the discharge end of the rigid conduit member **22** and thereby causes the water being discharged through the flattened portion **28** to be rapidly accelerated so that the water spray or plume **58** formed by the attachment **18** will be of a greater magnitude.

The flattened portion **28** of the conduit member **22** has a short length of rubber hose **54** telescoped thereover which projects beyond the end edges of the flattened por-

tion 28. This length of hose 54 is provided so as to enclose the end edges of the flattened portion thereby reducing the possibility of a skier being injured in the event he falls on the conduit member 22.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A water spray attachment for water skis comprising a mounting plate, said mounting plate being trough shaped, generally horizontally disposed and including upstanding opposite side walls terminating at their upper end portions in laterally outwardly directed flange portions including substantially coplanar upper surfaces, said trough being open at its opposite ends and adapted to be secured to the undersurface of the aft portion of a water planing device with said trough extending longitudinally of the direction of travel of said device, one end of said trough opening forwardly of said direction of travel, said trough being longitudinally tapered with said one end thereof larger in cross-sectional area than the rear end thereof, and rigid elongated conduit means having one end portion secured in the other end of said trough with the other end portion of said conduit means projecting longitudinally outwardly of said other end of said trough, said other end portion of said conduit means being upwardly inclined.

2. The combination of claim 1 wherein said one end portion of said conduit means is snugly received in said other end of said trough.

3. The combination of claim 2 wherein the upper extremities of said one end portion of said conduit means are substantially horizontally aligned with the upper surfaces of said flange portions.

4. The combination of claim 1 wherein said trough is V-shaped in transverse section.

5. The combination of claim 1 wherein said one end portion of said conduit means is secured in said other end of said trough by means of fastening means securing the lower portions of said one end portion to the bottom of said trough.

6. The combination of claim 5 wherein said trough is V-shaped in transverse section, said one end portion of said conduit means being seatingly received in the bottom of said other end of said trough.

7. The combination of claim 6 wherein the upper extremities of said one end portion of said conduit means are substantially horizontally aligned with the upper surfaces of said flange portions.

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