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SPRAY PRODUCING SCOOP FOR WATER-BORNE OBJECTS

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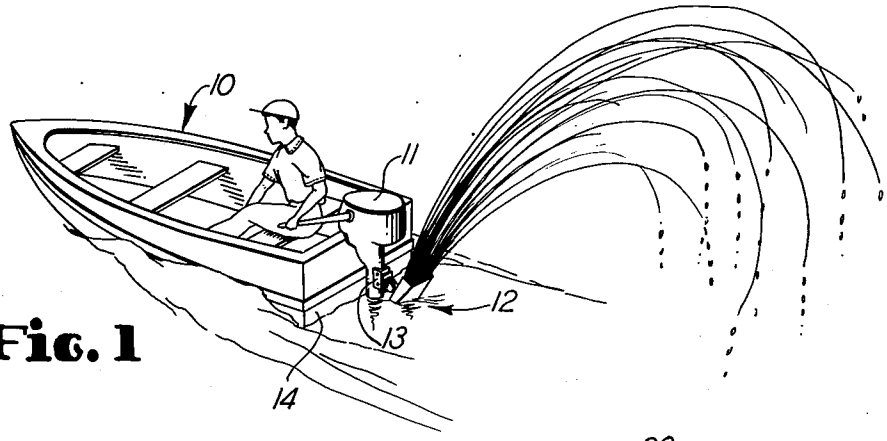


Fig. 1

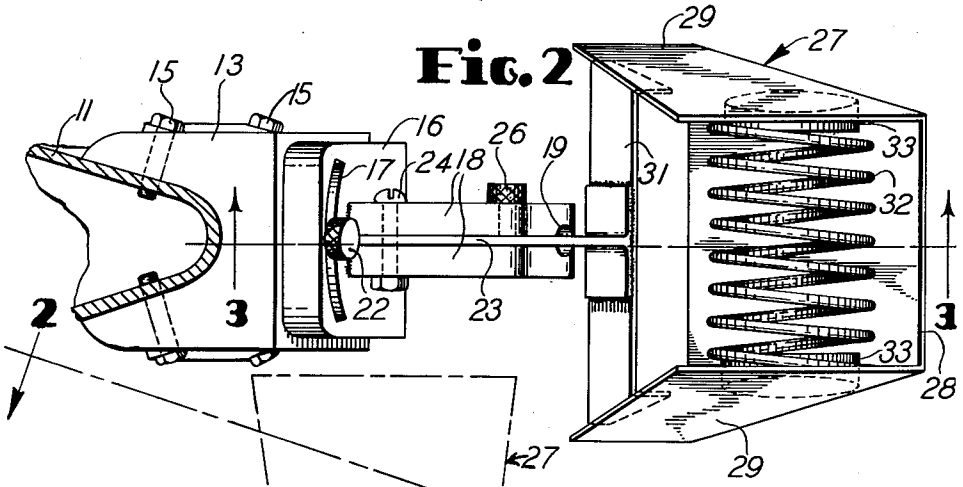
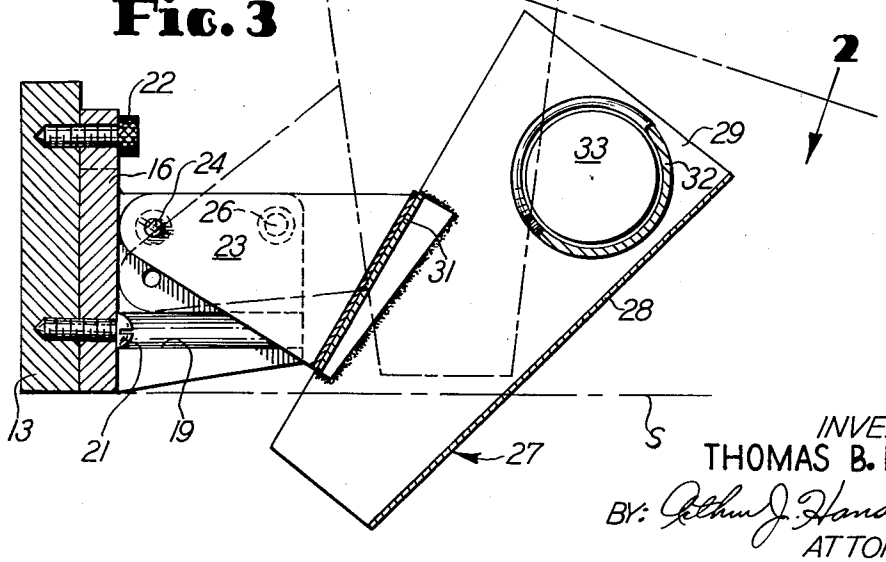


Fig. 2

Fig. 3



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SPRAY PRODUCING SCOOP FOR WATER-BORNE OBJECTS

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4 Claims. (Cl. 272—8)

This invention relates to a novelty item for use with boats or like water-borne objects to create a stream of water.

It is an object of this invention to provide a means whereby a stream of water can be created when said means is attached and properly disposed with regard to a water-borne object moving through water.

Another object of this invention is to provide a means of the novelty type which can be readily and easily attached to the rear of a motor boat, the motor, water skis, or the like object, and which is inexpensive but yet adjustable, and all for the purpose of creating a stream or spray of water directed high above and behind the object when the latter moves through the water.

Another object of this invention is to provide a novelty which accomplishes the foregoing objects with said means being readily movable out of an operating position and into an inoperative position.

Other objects and advantages will become apparent upon reading the following description in light of the accompanying drawings, wherein:

Fig. 1 is a perspective view of a motor boat with the device of this invention attached to the rear thereof and showing the water stream created by said device.

Fig. 2 is an enlarged top view of the device shown in Fig. 1 and viewed along the plane indicated by the line 2—2 of Fig. 3, and showing a fragment of the boat motor.

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2 with the dot-dash lines showing another position of the device.

The same reference numerals refer to the same parts among the several views.

Fig. 1 basically shows a motor boat **10** having a conventional motor **11** which propels the boat through the water shown around the bottom of the boat. Also shown is the device, generally designated **12**, which constitutes the embodiment of this invention, and it will be noted that the device is attached by means of a bracket **13** to the boat motor **11** on the boat transom **14**. The bracket **13** is shown attached to the motor **11** by means of the four bolts **15** to secure the bracket in a fixed position. It should be further understood that the view assumes that the boat is moving forward through the water, and the device **12**, therefore, creates the water stream or spray depicted to be going upwardly and rearwardly of the boat. Of course, this device is of a novelty type, and it will be appreciated that such a stream or spray of water creates an extremely interesting, as well as pleasant, view in addition to creating the effect of high speed of the boat since, heretofore, only the boats of the hydroplane type have created a rear stream or spray due to their extreme high speed. It should be further understood that a pair of the devices or items **12** could be attached, one to each side of the boat **10** on the sides of the transom **14**, so that two separate streams or sprays of water would be created. In this arrangement, the bracket **13** would not be required as the device **12** could be directly bolted to the transom.

Also, the device could be attached to water skis, surf boards, and other water-borne objects.

Fig. 2 shows a fragment of the motor **11**, and it further shows a mounting plate **16** to be provided with an arcuate slot **17** and two spaced apart and rearwardly projecting pieces **18**. It will also be noted that the extreme rear ends of the pieces **18** are each provided with a semi-circular opening **19**, and Fig. 3 shows the opening **19** to extend the length of the pieces **18** such that the screw **21** can pass through the opening **19** and through the plate **16** to attach into the bracket **13**. As will be more apparent hereinafter, the screw **21** is utilized as a retaining screw for mounting thet item onto the boat transom, and it is also utilized as a pivot screw for the item. Similarly, a thumb screw **22** passes through the arcuate slot **17** to thread into the bracket **13** such that the two screws **21** and **22** secure the plate **16** to the bracket **13**, and it will now be apparent that loosening of the screw **22** will permit the plate **16** to be pivoted about the lower screw **21** by virtue of the slot **17**, and thus the plate **16** and the entire item **12** can be disposed in any selected tipped or pivoted position with respect to the longitudinal direction of the boat **10**.

As mentioned, the pieces **18** are spaced apart, and they, therefore, receive a flat piece or connecting arm **23** which extends to a position adjacent the bracket plate **16**, at which point a pivot bolt **24** passes through the pieces **18** and, of course, through the plate **23** to secure the latter to the mounting bracket and provide the pivot axis for the plate **23**. Another thumb screw **26** threads into one of the pieces **18** to abut the near side of the plate **23**, as shown in Fig. 2, and to thereby retain the plate **23** in a fixed pivoted position by virtue of the abutting or clamping force of the nut onto the side of the plate **23**. A member or scoop **27** is attached to the rear end of the plate **23** to move therewith, and it will be noticed that the scoop **27** includes a rear portion **28** and side portions **29** and a front portion or cross bar **31**. The side portions **29** are shown to converge toward the upper end thereof and, of course, there is no bottom portion, or it may be stated that the bottom of the scoop is open.

In the full line position shown in Fig. 3, the rear portion **28** presents an upwardly and rearwardly inclined surface, the lower end of which extends down into the water and below the surface line indicated "S" and shown by a dot-dash line in Fig. 3. When it is desired to raise the scoop **27** out of the water, the thumb screw **26** can be loosened and the scoop with the plate **23** can be pivoted to the raised position with front edge of the plate **23** engaging a lower hole in the pieces **18**, such as shown in Fig. 3, so that the net result is that the scoop **27** will be placed in the dot-dash line position shown in Fig. 3. In the latter mentioned position, of course, the scoop **27** will not create the stream or spray of water, such as indicated in Fig. 1, and the device is, therefore, in an inoperative position. Since the lower ends of the sides **29** are farther apart than the upper ends of the sides, the quantity of water intercepted by the scoop **27** during the forward motion of the boat **10** will be forced up along the scoop and will be formed into a stream of a shape indicated by the bottom **28** and the sides **29**.

By virtue of the thumb screw **26**, the scoop **27** can be placed in selective pivoted positions such that the bottom **28** will be inclined at an angle which will present a desired spray of the water and, of course, by virtue of the thumb screw **22**, the spray can be directed to one side or the other with respect to the longitudinal direction of the boat. Therefore, the two adjustments provide adjustment in the longitudinal, as well as the transverse, direction of the boat, and they are hand manipulable adjustments which do not require special tools, so the user can readily make the angular changes while on the water.

Also, the optimum angle of forty-five degrees for the scoop bottom 28 with the water surface "S" can be gaged by the top edge of the plate 23 being aligned with the pieces 18, as shown in solid lines in Fig. 3.

To further affect the water entering the scoop 27, means such as the shown compression coil spring 32 are provided between the scoop sides 29 to be disposed in the stream of water coming up through the scoop 27. The means or spring 32 thus intercepts the stream of water and disintegrates it to where a fine spray is created as the stream flows around and through the spring coils. In the shown arrangement, each of the scoop sides 29 has a trunnion or a boss 33 attached to the inside surface thereof to project inwardly and present a mounting boss which is received by the inside diameter of the spring 32, and thereby the bosses retain the spring 32 in its shown position. The spring would actually vibrate or flex under the pressure of the water stream, and this would further disintegrate the stream into a desired spray at the outlet side of the scoop 27. Obviously, other means could be used in place of the spring 32 such that the means disintegrates the stream of water in the scoop.

While a specific embodiment of this invention has been shown and described, it should be obvious that certain changes could be made therein, and the scope of this invention should, therefore, be limited only by the appended claims.

What is claimed is:

1. A device for attaching to a boat or like water-borne object which moves through water in a given direction, with said device creating a stream of water directed upwardly and rearwardly of said object when said object moves in said direction, comprising a bracket adapted to be attached to said object and including means to make it pivotal thereon about the axis longitudinal of said direction, a scoop pivotally mounted on said bracket for adjustable movement about the axis transverse to said direction of said object and said scoop including an open bottom and an open top and a planular surface extending therebetween, said scoop and said bracket being disposed on said object for said surface to partly extend into the water in a rearwardly inclined position when said scoop is in the lowest pivotal position and said surface and said bracket being disposed on said object for said surface to be clear of the water when said scoop is in the highest pivotal position, means connected between said scoop and said bracket for adjustably securing said scoop to said bracket in selected pivotal positions about said transverse axis, and means connected between said object and said bracket for adjustably securing the latter with said scoop to said object in selected pivotal positions about said longitudinal axis.

2. A device for attaching to a boat or other water-borne object for creating a stream of water directed upwardly and rearwardly of said object when the latter is in forward motion, comprising a bracket adapted to be attached through pivotal means to said object and including two spaced-apart pieces disposed thereon and extending rearwardly thereof with respect to the direction of said forward motion, said pivotal means extending between said bracket and said object and having a pivotal axis disposed in the direction of said forward motion, a scoop including a plate disposed between said pieces and being pivotally attached to said bracket and including a planular inclined surface disposed upwardly and rearwardly with respect to said forward motion of said object with the lower end of said inclined surface in the water

in one position of said scoop and when said object is in forward motion and the upper end of said inclined surface out of the water, said scoop being pivotal on said bracket to another position to dispose said lower end out of the water, a lock means interengaged between said bracket and said plate for selectively locking said scoop in selected pivotal positions on said bracket, and said scoop having an open upper end and including sides disposed on said inclined surface and extending in the direction forward of said inclined surface for scooping a stream of water between said sides and on said inclined surface and through said upper end when said object is in forward motion and said scoop is in said one position.

3. A device for attaching to a boat or other water-borne object for creating a stream of water directed upwardly and rearwardly of said object when the latter is in forward motion, comprising a bracket having an arcuate slot and a set screw therein for pivotally attaching said bracket to said object, a scoop pivotally attached to said bracket and including a planular surface disposed upwardly and rearwardly with respect to said forward motion of said object with the lower end of said surface in the water when said object is in forward motion and with the upper end of said surface out of the water, said scoop including sides disposed on said surface and extending therefrom in the direction of said forward motion and converging toward each other at the upper ends thereof for flaring said stream in the plane of the fore-and-aft direction of said forward motion, and a cross bar connected between said sides and being spaced from said surface and extending in the direction of said forward motion and forming the attachment between said scoop and said bracket.

4. A device for attaching to a boat or other water-borne object for engaging the water wake thereof and creating a stream of water directed upwardly and rearwardly of said object when the latter is in forward motion, comprising a scoop adapted to be attached to said object and including a surface disposed upwardly and rearwardly with respect to said forward motion of said object with the lower end of said surface in the water when said object is in forward motion and with the upper end out of the water, said scoop including sides disposed on said surface and extending transverse to the plane of said surface and forward thereof with respect to said forward motion, and means having water passages therethrough and disposed between said sides at the upper ends thereof above the plane of said wake for engaging the stream of water moving up said scoop to change said stream into a plurality of smaller streams when said object is in forward motion.

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