

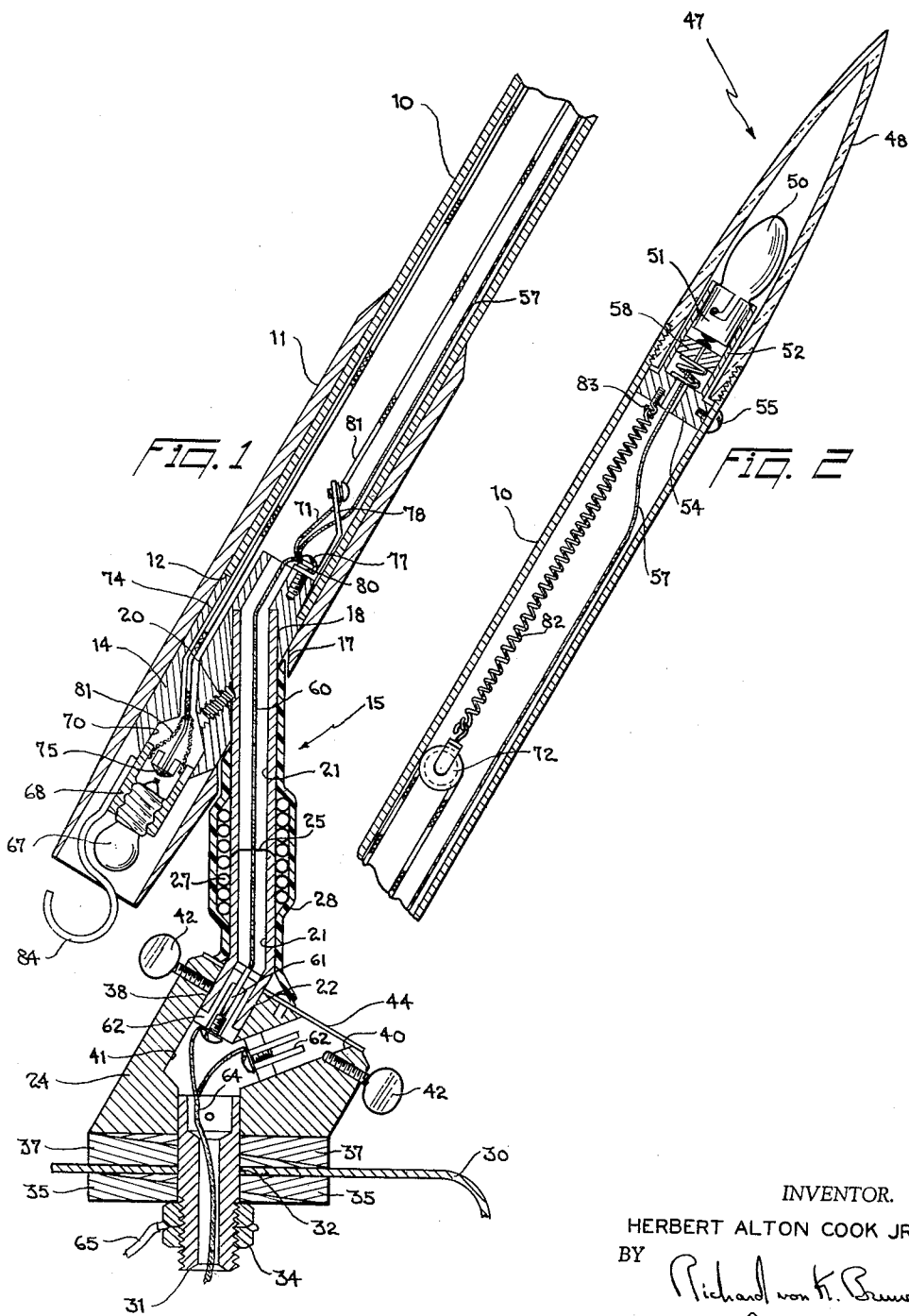
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H. A. COOK, JR
BOAT FLAG-LIGHT MAST

2,999,149

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

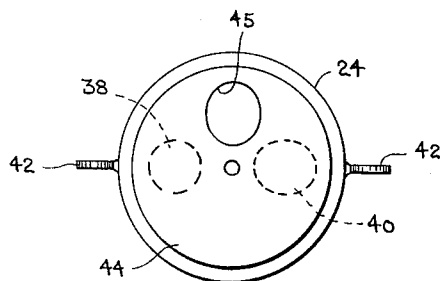


FIG. 4

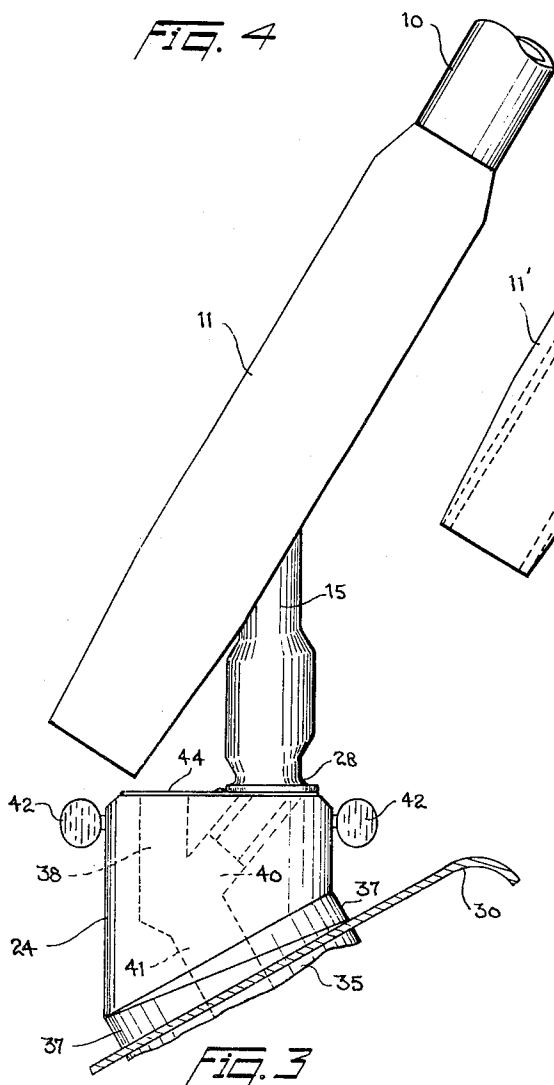


FIG. 3

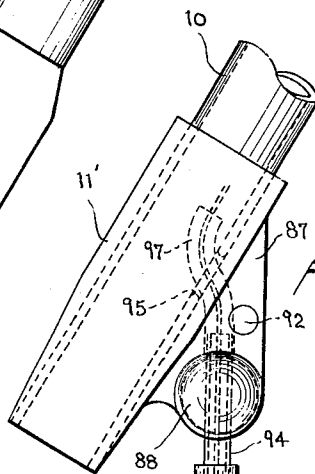


FIG. 6

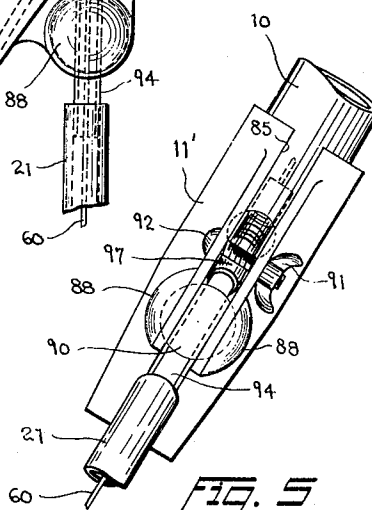


FIG. 5

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BOAT FLAG-LIGHT MAST

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6 Claims. (Cl. 240-7.5)

This invention relates generally to accessory apparatus for motorboats, and has particular reference to a novel construction and mounting for a boat mast of the type that is adapted to support a flag and running light.

In inland and coastal waterways, mechanically propelled boats are required to carry a white stern light which is visible all around the horizon at night, and the mast which supports this light is also customarily used to support a flag during the daytime. In most jurisdictions, this stern light must be located at the center of the stern of the boat which is where the motor or motors of an outboard motorboat are also usually mounted. As a result, the mast for the light tends to interfere with the motor mounting or operation, and the motor gets in the way of the flag so that it cannot fly freely as it should.

A further difficulty which has been encountered with flag and light masts that are properly mounted at the center of the stern is that outboard motors are continually getting larger and are being mounted higher on the transom of the boat so that the motor frequently obscures a part of the light. In addition, passengers in the stern seats, and such accessories as windshields and canvas tops, all tend to interfere with the proper functioning of the mast light when the latter is of conventional height and is mounted on the deck of the boat.

In order to eliminate the problems and difficulties mentioned above and also to gain certain additional advantages to be described hereinafter, the present invention contemplates and has as its broad objective the provision of an improved flag and light mast for an outboard motorboat which is constructed and arranged so as to reduce to a minimum any interference between the motor and the flag or light carried by the mast. In the embodiment of the invention disclosed, the mast is particularly adapted for mounting on the motor itself although it can be as easily mounted on the boat, if desired. In this connection, reference is made to the applicant's co-pending application Ser. No. 716,432, filed Feb. 20, 1958, which pertains to the same subject matter. The earlier application discloses a mast mounting means for motorboats and is related to the present application in that said mounting means can, if desired, be used to support the mast to be described herein.

Another important object of the invention is to provide a flag and light mast having a novel arrangement for supporting the mast in an offset or raked position, such arrangement permitting the lower as well as the upper end of the mast to be free and also serving to position the flag and light above and to the rear of the motor so that they are well clear thereof.

A further important object of the invention is to provide a mast of the character described having a releasably mounted auxiliary lamp in the free lower end thereof for use as a trouble light.

Still another important object of the invention is to provide a mast of the character described having a novel means for connecting the mast to the hood of an outboard motor, the connecting means being arranged to hold the mast in the desired angular position in either the tipped down or tipped up position of the motor.

A still further important object of the invention is to provide a mast of the character described having an upstanding flexible support member so that the mast will be yieldable in the event that it is struck by another object.

Another object of the invention is to provide a mast of

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the character described which has an attractive and unusual appearance and, at the same time, can be formed by economical extrusion or injection molding methods.

Other objects and advantages of the invention will become apparent from the following detailed description thereof read in conjunction with the accompanying drawings which illustrate a representative embodiment of the invention for the purpose of disclosure.

In the drawings:

FIGURE 1 is a vertical section through the lower portion of a flag and light mast embodying the invention;

FIGURE 2 is a vertical section through the upper portion of the mast;

FIGURE 3 is a side elevation of the lower portion of the mast showing its alternate mounting arrangement in the base connecting member;

FIGURE 4 is a top plan view of the base connecting member showing the cover plate therefor;

FIGURE 5 is a bottom plan view of a modified means for connecting the mast to its flexible support link; and

FIGURE 6 is a side elevation of the connecting means of FIGURE 5.

Having reference now to the drawings, wherein like reference numbers designate the same part in each of the views, 10 indicates the principal component of the mast which is an elongated, substantially rigid tubular member of metal or plastic. The mast includes a sleeve 11 in which the lower end of the tubular member is telescopically received, the end of the member abutting against an annular shoulder 12 on a plug 14 that is fitted into the sleeve as shown in FIGURE 1.

In accordance with the invention, the mast is connected in offset or obliquely disposed relation to the upper end of a flexible support member 15, the point of connection being slightly above the lower end of the mast so that the latter is free and unobstructed. With this arrangement, when the support 15 is held in upright position by a mounting means to be presently described, the major portion of the mast will extend upwardly from the support in a raked or inclined manner. The mast and support are secured together by passing the upper end of the support through an aperture 17 in the wall of the sleeve 11 and into an angularly disposed bore 18 in the plug 14, the parts being releasably held in assembled relation by a set screw 20 in the plug, see FIGURE 1.

The flexible support 15 comprises a hollow tube 21 having an angularly offset lower end 22 which is adapted to be received in a base member 24. Between the mast and base member, tube 21 is cut transversely as indicated at 25 and the meeting edges of the resultant tube sections are oppositely bevelled as shown to insure proper seating engagement and alignment thereof. A relatively heavy tension spring encircles the tube sections adjacent the transverse cut 25, and the ends of this spring are welded under tension to the tube sections so that the latter are strongly biased into endwise seating engagement although the support is bendable under sufficient force. With this arrangement, if the mast is hit by some object such as an oar, the support will yield and absorb the impact thereby greatly reducing the possibility of breaking the mast or motor hood on which it may be mounted. To prevent entry of water into the tube 21, the tube and spring 27 are enclosed in a sleeve 28 of rubber or plastic, which sleeve also serves to prevent clothing, etc. from snagging on the spring.

The base member 24 is particularly adapted for connecting the support 15 to an outboard motor having a hood as shown at 30 in FIGURES 1 and 3, although it can also be used to mount the support directly on the deck of the boat if desired. A short tube or nipple 31 depends from the bottom of the base member, and in the motor mounting shown, this nipple extends down through a

bore 32 in the motor hood and is secured thereto as by nuts 34 which engage a pair of tapered washers 35 positioned on the nipple directly below the hood. A second pair of tapered washers 37 are mounted on the nipple directly above the hood, and these washers are rotationally adjusted before tightening the nuts to compensate for the curvature of the hood so that the bottom of the base member will lie in a substantially horizontal plane when the motor is in its tipped down position as shown in FIGURE 1.

The upper portion of base member 24 is formed with a pair of angularly offset bores 38, 40 which terminate at their lower ends in a common chamber 41 in communication with the upper end of nipple 31. The bore 38 is adapted to receive the lower end 22 of the flexible support and hold it in upright position when the motor is in its tipped down or operating position and, alternatively, the bore 40 is adapted to receive the support and hold it upright when the motor is in its tipped up or inoperative position, see FIGURES 1 and 3 respectively. Thus, the base member makes it possible to support the mast in the proper manner at all times by simply transferring the mast from one bore to the other whenever the motor position is changed, the support being releasably secured in the bores as by set screws 42.

In order to prevent the entry of water into the interior of the base member, the member is provided with a rotatable top plate 44 overlying the bores 38, 40, the plate having a single aperture 45 that is movable into registry with whichever bore is to be used for the mast support 15, see FIGURES 1 and 4. Thus, the plate always covers the bore that is not being used and, in the event that the mast is removed from the base member altogether, the aperture can be moved out of registry with either bore so that both are covered as shown in FIGURE 4.

The light assembly for the mast, generally indicated at 47 in FIGURE 2, includes a suitable globe 48 of glass or plastic and a conventional lamp bulb 50 positioned within the globe. The globe is secured as by a threaded connection to the upper end of the mast, and the bulb is mounted in a bayonet type socket 51 that is fitted into the top of an upstanding cylindrical member or sleeve 52. At its lower end, the sleeve 52 terminates in a plug 54 that is detachably secured in the mast as by a screw 55.

Current is supplied to the lamp bulb 50 through an insulated conductor 57 the upper end of which passes through the plug 54 and terminates in a spring biased contact 58 that engages the base terminal of the bulb as shown. The lower end of the conductor 57 is connected to a second insulated conductor 60 which extends down through the flexible support 15 and terminates in a male connector or plug 61 at the lower end of the support, the plug being received in a jack 62 mounted in the base member. As shown in FIGURE 1, there is a jack 62 mounted in each of the bores 38, 40, and these are connected in parallel to a conductor 64 which passes through the nipple 31 to the electrical system of the motor or other source of electrical current. The return path for the current is through the bulb socket terminal, sleeve 52 and plug 54, mast, flexible support tube 21, and base member 24 to a ground connection 65 if the mast is made of metal, or through a return conductor or metal strap (not shown) in the mast if the latter is formed of non-conducting material such as plastic.

In accordance with the invention, a second light source is mounted in the free lower end of the mast for use as a trouble light, see FIGURE 1. This second light comprises a screw type lamp bulb 67 mounted in a socket 68 which is received with a close sliding fit in a bore 70 formed in the lower end of the mast plug 14. Current is supplied to the bulb 67 through a circuit in parallel with the top light circuit, the latter being divided where the flexible support conductor 60 connects with the con-

ductor 57. At this point, conductor 60 also connects with the inside lead 71 of a shielded cable which extends up through the mast to a small pulley or sheave 72 and then down through a longitudinal bore 74 in the plug 14 to an insulated contact 75 adapted to be engaged by the base contact of the bulb 67.

The conductors 60, 71 and 57 are connected together by a fiber screw 77 at the upper end of the plug 14, which screw also connects a metal strap 78 to the plug, the strap being insulated from the conductors by means of a fiber washer 80. At its upper end, the strap 78 is electrically connected to the outer sheath 81 of the shielded cable which is connected as shown at its other end to the socket 68 for the bulb 67 and thus forms a return path or ground side for the circuit to the bulb.

The pulley 72 over which the shielded cable passes is connected to one end of a small tension spring 82, FIGURE 2, which is anchored at its other end as by a screw connector 83 to the plug 54 at the upper end of the mast. With this arrangement, withdrawal of the trouble light from the mast places the spring under tension so that it operates to return the light to its housed position after being released. In order to enable the trouble light to be temporarily secured in withdrawn position while the user is working on the motor or the like, the socket 68 is provided with a hook element 84 which also provides a convenient means for withdrawing the lamp. When not being used, the circuit for the trouble light is opened by simply unscrewing the bulb enough to break contact as shown in FIGURE 1, the hook element 84 preventing complete removal of the bulb by accidental means.

While the lamp 67 has been referred to hereinabove as a releasably mounted trouble light, it does not have to be withdrawn from the mast to serve a useful purpose. Thus, the lamp in its housed position can also serve as a "dash light" for the motor controls during night operation of the boat. This does not violate regulations which permit the display of but a single stern light, since the light is shielded by the lower end of the mast and cannot be seen all around the horizon as is the case with the top mast light 50. Therefore, there is no possibility that the lower light will confuse other boat operators, nor will the light interfere with the night vision of its own user.

FIGURES 5 and 6 illustrate a slightly modified form of the invention which provides for an angularly adjustable connection between the mast support and mast sleeve. To this end, the sleeve 11' is split at 85 and is formed with depending ears 87 on opposite sides of the split having segmental spherical recesses 88 for engagement with a ball 90 mounted at the top of the mast support tube 21. This ball and socket connection permits angular adjustment of the mast relative to the support, and by tightening the wing nut 91 on the end of a screw 92 extending between the ears the mast will be retained in the desired position. However, since the connection is not so tight but that it will yield upon the application of a positive force on the mast, the ball and socket joint provides an additional safeguard to the mast in the event that it is hit by another object.

As best shown in FIGURE 6, the ball 90 is actually mounted on a hollow tube 94 which passes through the center thereof, and this tube is secured at its lower end to the top of the mast support tube to provide an enclosed path for the conductor 60. The conductor enters the mast through a hole 95 in the wall thereof, and to insure watertightness, a flexible rubber or plastic sleeve 97 encloses the conductor from the upper end of the tube 94 to a point in the interior of the mast as shown.

As mentioned hereinbefore, the construction of the mast enables it to be formed of plastic material by economical extrusion or injection molding methods, or, if preferred, all of the parts can be formed of metal. In either case, it will be apparent from the preceding description that the novel construction and mounting of the mast result in outstanding advantages over conven-

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tional arrangements, particularly with respect to solving the problem of interference between the mast and an outboard motor.

As will be apparent to those familiar with the art, the invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The embodiments disclosed are therefore to be considered in all respects as illustrative rather than restrictive, the scope of the invention being indicated by the appended claims.

What is claimed is:

1. In an apparatus of the character described for use with a boat having an outboard motor, a mast for carrying a flag, a normally upright resilient support for said mast, said mast extending upwardly from the upper end of said support in obliquely disposed relation thereto, said support being detachably connected to said mast at a point adjacent to but above the lower end of the mast, said lower end extending obliquely downwardly below said point of connection, a base member for mounting said support on the outboard motor, said base member having a pair of angularly offset holes formed therein either of which is adapted to receive the lower end of said support with a sliding fit, one of said holes being arranged to hold said support in upright position in the tipped down position of the motor and the other of said holes being arranged to hold said support in upright position in the tipped up position of the motor, and a rotatable cover plate for said base having a single aperture movable into registry with either of said angularly offset holes to permit said support to be received therein, said plate being operable to cover whichever hole said aperture is not in registry with and to cover both holes when said support is removed from the base member altogether.

2. In an apparatus of the character described for use with a motorboat having an outboard motor, a flag mast, an upstanding resilient support for said mast, said mast and support being hollow with the interiors thereof being in communication with one another, said mast extending upwardly from the upper end of said support in obliquely disposed relation thereto, said support being detachably secured to said mast at a point above the lower end thereof, a lamp mounted at the upper end of said mast, electrical conductors extending through said support and mast to supply current to said lamp, a base member for mounting said support on said outboard motor, said base member having a pair of angularly offset bores either of which is adapted to receive the lower end of said support, one of said bores being arranged to hold said support in upstanding position in the tipped down position of the motor and the other of said bores being arranged to hold said support in upstanding position in the tipped up position of the motor, and electrical connectors in both of said bores for connecting said support and mast conductors to a source of electric current.

3. In an apparatus of the character described for use with a motorboat, a hollow mast adapted to carry a flag and a lamp adjacent the upper end thereof, a normally upright flexible support for said mast, said mast extending upwardly from said support in obliquely disposed relation thereto, said support being connected to said mast at a point adjacent to but above the lower end of the mast whereby said lower end extends oblique-

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ly downwardly below said point of connection, a lamp releasably mounted in the free lower end of said mast for withdrawal from same as a trouble light, resilient means in said mast and connected to electrical conductors in circuit with the lower lamp tending to return said lamp to said mast end after withdrawal therefrom, and means to supply electric current to both of said upper end and lower end mast lamps.

4. Apparatus as defined in claim 3 together with a hook element on said releasably mounted lower end mast lamp for temporarily securing the lamp in withdrawn position.

5. Apparatus as defined in claim 3 wherein said current supplying means includes electrical conductors extending from said lower end mast lamp to a point in the upper end of said mast, and said resilient means comprises a tension spring anchored at its upper end at the top of the mast and operably connected at its lower end to said conductors whereby withdrawal of the lamp operates through said conductors to stretch said spring.

6. In an apparatus of the character described for use with a motorboat having an outboard motor, a mast adapted to carry a flag, a normally upright flexible support for said mast, said mast and support being hollow with the interiors thereof being in communication with one another, said mast extending upwardly from the upper end of said support in obliquely disposed relation thereto, said support being detachably secured to said mast at a point adjacent to but above the lower end thereof, a base member for mounting said support on said outboard motor, said base member having a pair of angularly offset bores either one of which is adapted to receive the lower end of said support, one of said bores being arranged to hold said support upright in the tipped down position of the motor and the other of said bores being arranged to hold said support upright in the tipped up position of the motor, a first lamp mounted at the upper end of said mast, a second lamp releasably mounted in the free lower end of said mast for withdrawal therefrom for use as a trouble light, electrical conductors extending through said support and mast to supply current to said lamps, a spring anchored at its upper end at the upper end of said mast, the conductors for said second lamp extending upwardly in said mast for connection with the lower end of said spring and then downwardly in the mast to the lamp whereby withdrawal of the lamp from the mast operates through the conductors to stretch said spring, said spring being operable to move the lamp back into said mast after withdrawal therefrom, and electrical connectors in both of said bores for connecting said lamp conductors to a source of electric current.

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