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PORTABLE STAND

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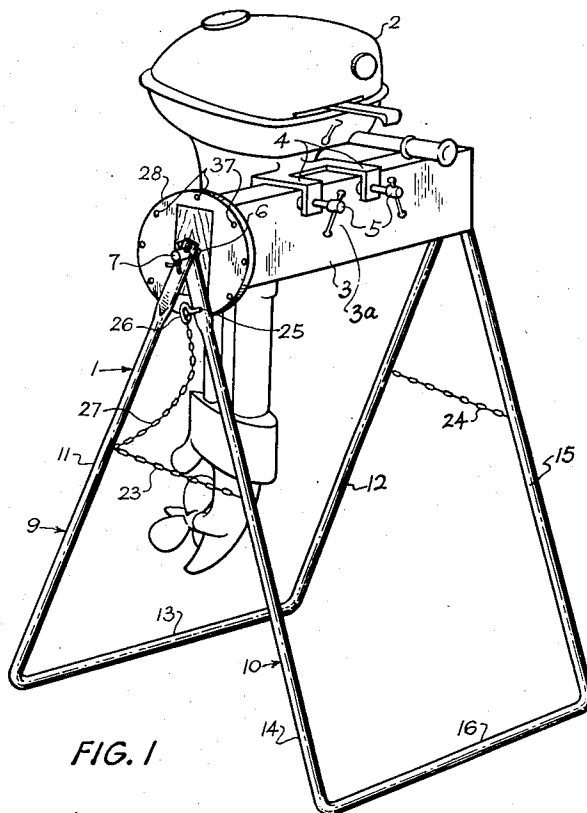


FIG. 1

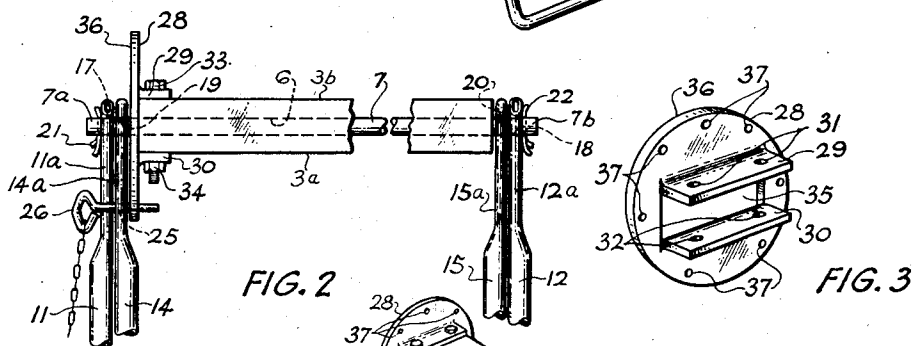


FIG. 2

FIG. 3

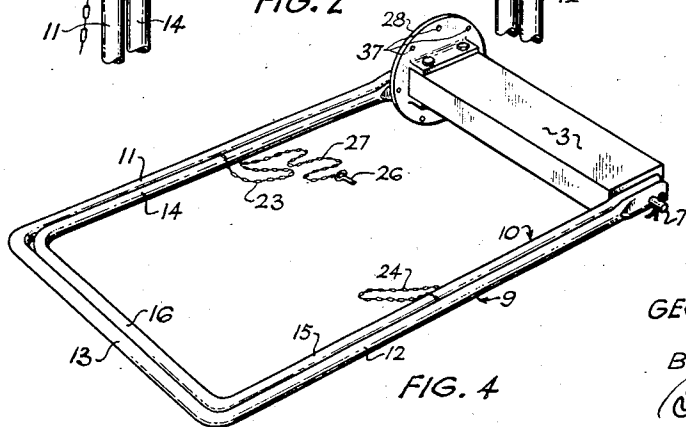


FIG. 4

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PORTABLE STAND

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1 Claim. (Cl. 248—4)

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This invention relates to stands and in particular to portable stands for outboard motors.

When an outboard motor is dismounted from the craft with which it is used, it is desirable that the motor be supported in a position elevated from the ground or floor in order to prevent accumulation of dirt and dust and other injurious particles on working parts of the motor and also to insure that no damage to the operating parts from contact with hard surfaces will occur. When the motor is to remain idle for a period of time such as overnight and particularly when it is to be stored for a season, it is recommended practice that the gasoline and oil be drained therefrom. Since the gasoline and oil ports on present day outboard motors are usually located on the top of the motor unit, it is expedient that the motor be inverted to accomplish the draining.

To accomplish this purpose as well as to facilitate thorough inspection and repair of all parts of the motor, I have provided a novel portable collapsible stand on which an outboard motor may be clamped and which permits the motor to be rotated about a horizontal axis throughout 360° and to be held in various angular positions relative to the ground to facilitate draining of gasoline and oil and to permit inspection and repair of all parts of the motor.

It is therefore an object of my invention to provide an outboard motor stand that will permit drainage of gasoline and oil from the motor with a minimum of effort on the part of the operator. A further object of my invention is to provide a stand that will permit an outboard motor to be rotated to and locked in a plurality of selected angular positions relative to the ground to facilitate inspection, maintenance and repair of the motor. Another object of my invention is to provide a light weight collapsible outboard motor stand that is easy to carry and set up and which occupies a minimum of space in its collapsed position. Another object is to provide a rugged and sturdy outboard motor stand which will safely and firmly support an outboard motor and which is extremely economical to manufacture.

These and other objects will become apparent from the following description of a preferred form of my invention, reference being had to the accompanying drawings in which Figure 1 is a perspective view of my stand in an erected or operative position showing an outboard motor mounted thereon; Figure 2 is a side elevational view of the top portion of the stand with the cross bar rotated 90° from its position shown in Figure 1; Figure 3 is a perspective view of a plate which

forms a part of my invention; and Figure 4 is a perspective view of the stand in a folded or collapsed position.

Referring now to the drawings, Figure 1 shows a stand generally indicated at 1 which embodies the novel features of my invention and which is shown in its erected or upright position supporting a conventional outboard motor 2. The stand 1 is capable of supporting the motor 2 in a plurality of angular positions relative to the ground or floor as will be more fully explained below and therefore the position of the motor shown in Figure 1 is merely illustrative of one of those positions.

The stand 1 is comprised of a cross bar 3 to which the motor is clamped by means of the motor flange 4 and screws 5. The flange 4 and screws 5 are standard outboard motor equipment and therefore form no part of my invention. The cross bar 3 may be made of wood, although other materials such as metal tubing, plastic and the like may be used, and preferably has a width of 4 inches, a thickness of 2 inches and a length of 2 feet whereby to permit the motor 2 when mounted thereon to pivot freely about its own vertical axis without obstruction from other parts of the stand. The cross bar 3 is preferably initially orientated with its wider sides 3a and 3b extending substantially vertically as shown to permit mounting of the motor 2 thereon in the same manner as when the motor is secured to mounting board on the rear of the water craft with which it is used. It will be understood that the above dimensions are given only by way of example and accordingly I do not wish to be limited by them.

The cross bar 3 has a channel or hole 6 formed therein extending the length of the bar through its longitudinal axis. The channel 6 is adapted to receive a rod 7, the length of which is greater than the corresponding dimension of channel 6 so that the end portions 7a and 7b of the rod 7 project beyond the respective ends of the bar 3 when the parts are assembled.

In order to support the motor 2 in an elevated position with respect to the ground or floor, two similar supporting members 9 and 10 are pivotally connected to the ends 7a and 7b of the rod 7 and project therefrom substantially at right angles to the longitudinal axis of the cross bar 3. Each of the supporting members 9 and 10 preferably is a one piece structure formed from a single length of rod or hollow tubular stock into a substantially U-shaped piece as shown. I have found that 3/8 inch diameter hollow steel or aluminum tubing is a satisfactory material for the members 9 and 10 and in addition is light in

weight whereby to maintain the overall weight of the stand at a minimum. Supporting member 9 when so formed has two substantially parallel leg elements 11 and 12 connected at one end by a cross piece 13. Supporting member 10 is similar in form to member 9 although differing in dimensions and has leg elements 14 and 15 connected at one end by cross piece 16.

The free ends 11a, 12a, 14a and 15a of leg elements 11, 12, 14 and 15 respectively, that is, the ends of said elements remote from the respective cross pieces 13 and 16, are provided with bearing apertures 17, 18, 19 and 20 respectively for receiving and supporting the end portions 7a and 7b of the rod 7.

When the stand is assembled, the members 9 and 10 are arranged with the ends 11a and 12a of leg elements 11 and 12 respectively disposed adjacent the inner sides of ends 14a and 15a respectively of leg elements 14 and 15 with bearing apertures 17, 18, 19 and 20 in axial alignment with each other. The cross bar 3 is then placed between the free ends of the leg elements with channel 6 in alignment with the bearing apertures so that the rod 7 may be inserted therethrough to pivotally secure the members 9 and 10 and the cross bar 3 together. The rod 7 is secured against lateral displacement by any suitable means such as cotter pins 21 and 22 fitted into appropriate holes in the ends of the rod. When the members 9 and 10 are formed from tubular stock, the ends 11a, 12a, 13a and 14a of the leg elements preferably are flattened as shown in Figure 2 to provide a larger surface in which to form bearing apertures 17, 18, 19 and 20.

When the stand is placed in an erect or operative position, the members 9 and 10 project downwardly from the longitudinal axis of the cross bar 3 at an angle to each other so that cross pieces 13 and 16 which rest on the ground or floor are spaced apart as shown to provide a firm rigid support for motor 2. Chains 23 and 24 fastened to adjacent leg elements limit the angular spread of the members 9 and 10 when the stand is in its erect position.

The end of one of the leg elements, for example end 14a of leg element 14 is provided with a guide aperture 25 formed therein at a predetermined distance from bearing aperture 19. Aperture 25 is adapted to receive a locking pin 26 which is tied to leg element 11 by means of chain 27, the purpose of said pin being to prevent rotation of the cross bar 3 relative to supporting members 9 and 10 as will be explained more fully below.

In order that the stand 1 may be folded into a convenient position when it is not in use, supporting member 9 is formed from tubular stock having a slightly greater overall length than that used in forming member 10. The spacing between bearing apertures 17 and 18 of member 9 as measured along the center line of the tubular stock will be greater than the corresponding spacing between bearing apertures 19 and 20 of member 10. With these parts formed as described, leg elements 11 and 12 of member 9 are laterally spaced apart a greater distance than leg elements 14 and 15 of member 10 and cross piece 13 is radially spaced a greater distance from the axis of rotation of said members than is cross piece 16. Thus, the members 9 and 10 will nest together as shown in Figure 4 when the stand is collapsed or folded, and in this position the stand will require a minimum of space. It will be noted that setting up the stand preparatory to mount-

ing a motor thereon or collapsing it when not in use requires no assembling or dismantling of the component parts and thus the stand is extremely easy to manipulate.

In order to conveniently and selectively support and secure the cross bar 3 and consequently the outboard motor 2 mounted thereon in a plurality of angles about a horizontal axis, I have provided a plate 28 mounted on the end of the cross bar 3 adjacent the end 14a of leg element 14. As clearly shown in Figures 2 and 3, the plate 28 has a pair of inwardly extending flanges 29 and 30 provided with holes 31 and 32 respectively for receiving bolts 33. The cross bar 3 has bolt holes (not shown) through which the bolts 33 are adapted to pass for threaded engagement on the opposite side by nuts 34 thereby non-rotatably securing the plate 28 to the cross bar 3. The plate 28 is formed with a central opening 35 which accommodates the end of the cross bar 3 so that the outside surface 36 of the plate is flush with the end of the cross bar 3 when these parts are assembled.

The plate 28 preferably is circular in shape and is provided with a plurality of spaced index holes 37 formed substantially equally distant from and surrounding the longitudinal axis of the cross bar 3 as shown. The size of holes 37 is sufficient to snugly receive the locking pin 26 when the same is inserted therethrough. The radial distance of plate index holes 37 from the longitudinal axis of rod 7 when the plate 28 is mounted on the cross bar 3 is the same as the distance between bearing aperture 19 and guide aperture 25 in leg element 14 so that aperture 25 will register successively with the holes 37 when the plate 28 is rotated relative to the supporting member 10. When pin 26 is inserted through guide aperture 25 and one of the plate index holes 37 in alignment therewith, plate 28, the cross bar 3 and the supporting member 10 will be non-rotatably locked together.

The use of my stand for draining gasoline and oil from an outboard motor will now be described. The motor is first clamped to cross bar 3 when the stand is erected as shown in Figure 1. With the locking pin 26 removed from guide aperture 25, the motor 2 is rotated manually to an inverted angle so that the gasoline and oil ports are disposed downwardly at a proper angle for drainage. The motor may then be secured in this inverted position by inserting pin 26 through guide aperture 25 and one of the plate index holes 37 in alignment therewith. At any desired point in this procedure, the gasoline and oil caps may be removed from their respective ports on the motor and the gasoline and oil drained from the motor by force of gravity into suitable receptacles without further attention from the operator.

It will also be seen from the above description that inspection and repair of an outboard motor is greatly simplified and facilitated by my stand since the motor mounted thereon may be rotated conveniently at any desired rate to expose all external parts of the motor to the operator's eyes. Furthermore, if the motor requires repair and/or maintenance wherein the motor must be fixed in position for a period of time, the motor may be conveniently rotated to any desired vertical angle and secured in the selected position in the manner described above, thus eliminating cumbersome and awkward handling operations.

As is well known, conventional outboard mo-

tors are provided with a swivel type mounting flange which permits the motor to pivot about its own vertical axis when mounted on a water craft for the purpose of steering the craft. My stand is constructed so as to permit the outboard motor 2 when mounted on the stand to rotate about its own vertical axis without obstruction. When the motor is mounted on the cross bar 3, preferably midway between its ends, pivoting of the motor relative to the mounting flange is possible since there are no protruding or obstructing parts of the stand in the path of movement of the motor. Thus my stand permits the supported motor to be rotated in both a vertical and horizontal plane and insures complete and convenient access to all parts thereof for maintenance and repair operations.

It will be apparent from the above description that I have provided a unique portable outboard motor stand that is light in weight, economical to manufacture and easy to set up. The stand eliminates the necessity of manual lifting and shifting of a relatively heavy outboard motor during maintenance thereof through the provision of means for completely rotating the supported motor with respect to the stand and means for locking or securing the motor in any desired working position. The stand is compact though sturdy and is collapsible so as to facilitate transporting it from one place to another.

While I have described my invention with some degree of particularity, it will be apparent that modifications may be made to the above described embodiment thereof by those skilled in the art without departing from the spirit of my invention. For example, means other than the plate 28 may be employed to permit locking the cross bar 3 in a plurality of angular positions. Accordingly, it is to be understood that the foregoing description is given by way of example, it being intended that the patent shall cover, by suitable expression in the appended claim, whatever features of patentable novelty reside in the invention.

I claim:

A collapsible portable stand for supporting outboard motors and the like in elevated positions, comprising an elongated cross bar having a channel extending through the longitudinal axis thereof, a plate mounted on one end of said cross bar and disposed in a plane perpendicular to the

longitudinal axis of said cross bar, said plate having integral inwardly projecting mounting flanges disposed adjacent opposite sides of said cross bar, means for non-rotatably securing said flanges to said cross bar, said plate having a plurality of holes therein located substantially concentrically of and surrounding the longitudinal axis of said cross bar, a rod disposed within the channel in said cross bar and having portions projecting beyond the ends of said cross bar, a pair of substantially U-shaped supporting members projecting from the ends of said cross bar at substantially right angles to the longitudinal axis of said cross bar, each of said supporting members comprising a pair of leg elements and a cross piece connecting corresponding ends of said pair of leg elements, the other ends of each of said pair of leg elements having bearing apertures therein disposed to receive said projecting portions of said rod, the leg elements of one of said supporting members being laterally spaced apart a greater distance than the leg elements of the other of said supporting members and the cross piece of said one of said supporting members being spaced a greater distance from the longitudinal axis of said cross bar than the cross piece of said other of said supporting members to permit said members to nest together in the same plane when the stand is collapsed, one of said leg elements having a guide aperture therein adapted to register successively with said plate holes as said plate is rotated relative said one of said leg elements, and pin means adapted to be inserted through said guide aperture and one of said plate holes in alignment therewith whereby to lock said cross bar against rotation relative to said one leg element.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,453,547	Culver et al.	May 1, 1923
1,469,734	Staley	Oct. 2, 1923
1,579,627	Bell et al.	Apr. 6, 1926
1,790,711	Johnston	Feb. 3, 1931
2,231,277	Mephram	Feb. 11, 1941
2,505,723	Rees	Apr. 25, 1950
2,561,432	Tranter	July 24, 1951