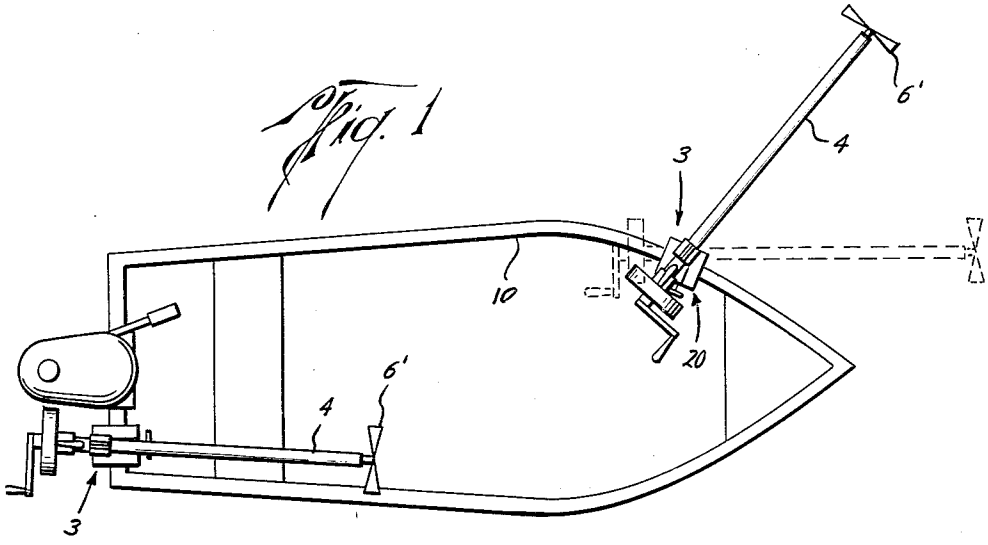
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SUPPORT STRUCTURE FOR BOAT PROPELLING AND MANEUVERING DEVICE

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Fig. 1



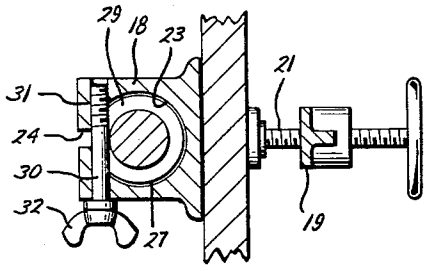


Fig. 4

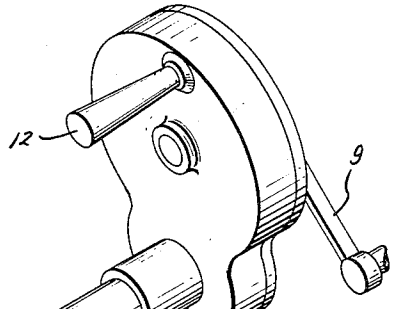
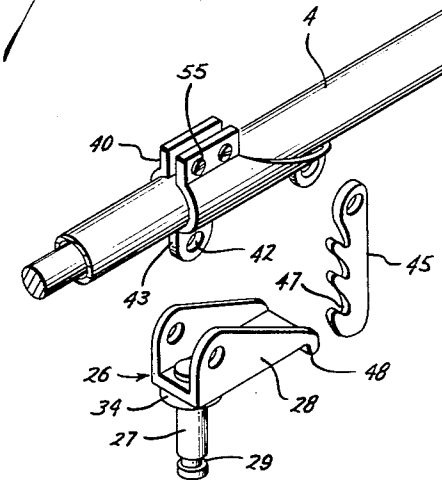


Fig. 5



McKinley Bray
INVENTOR.

BY Hayden & Prasnel
ATTORNEYS

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Fig. 2

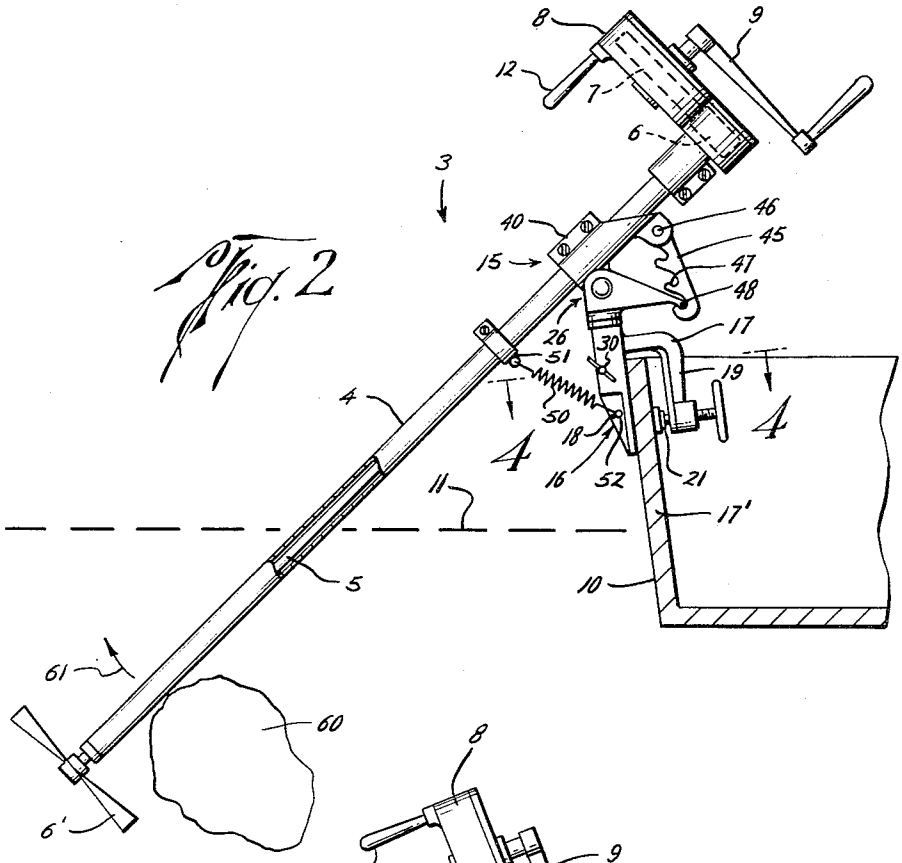


Fig. 3

McKinley Bray
INVENTOR.

BY Hayden & Prasil

ATTORNEYS

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SUPPORT STRUCTURE FOR BOAT PROPELLING AND MANEUVERING DEVICE

McKinley Bray, Baytown, Tex.
(725 E. Salvia, Mobile, Ala.)

Filed Dec. 1, 1958, Ser. No. 777,375

4 Claims. (Cl. 248—4)

The present invention relates to a supporting structure for a boat propelling and maneuvering device.

In certain circumstances it is desirable to maneuver or propel a boat in waters in a manner so as to make the least amount of noise. Sportsmen particularly find such type craft desirable and manually powered propelling devices for boats have been heretofore devised and used. However, the devices presently in use have certain structural disadvantages which greatly limit their application.

For example, in lakes or ponds, or other water covered areas, it is not uncommon for various underwater obstructions such as sand bars, logs, larger boulders and other types of objects to foul or damage manually operated propelling mechanisms. This is particularly true where the manual propelling mechanisms are rigidly mounted on the side or transom of the boat. Also, the object of such manually powered propelling and maneuvering mechanism is to move the boat through the water as quietly as possible, and while some mechanisms do provide a pivotally supported boat propelling device, such devices permit the propelling mechanism to fall back into position after they have been moved out of their original position when they strike an underwater object. This movement of the boat propelling and maneuvering mechanism may cause a great deal of noise so that the initial advantages of using this type device is greatly reduced, if not altogether eliminated, where noise is created by reason of the propelling mechanism falling back into the water after it has been moved out of the water by reason of striking an object over which the boat has passed.

An object of the present invention is to provide a supporting structure for a boat propelling and maneuvering mechanism which is constructed and arranged so as to retain the propelling mechanism in a desired or particular relationship, whereby it may be manually actuated to move the boat through the water, but which device is adapted to be automatically moved free of underwater obstructions, and to be retained or latched in the position it assumes after it has moved out of the way of the underwater obstructions so as to inhibit fouling of the propelling device, or unnecessary noise by reason of the propelling device splashing back into the water.

Still a further object of the present invention is to provide a supporting structure for a manually operated boat propelling device, which supporting structure permits free horizontal swinging movement of the boat propelling device and includes a latch means for retaining the boat propelling device in any desired or predetermined vertical angular relationship.

Still a further object of the present invention is to provide a supporting structure for a boat propelling and maneuvering device which is of relatively simple construction, and which overcomes many disadvantages heretofore encountered with devices of this type.

Other objects and advantages of the present invention

will become more readily apparent from a consideration of the following description and drawings wherein:

Fig. 1 is a top plan view illustrating the present invention in position on a boat, and showing several alternate positions in which the invention may be mounted or carried on a boat;

Fig. 2 is an enlarged side view of the present invention, showing it mounted on the transom of a boat, the view being partially in section to more clearly illustrate the structural details of the invention;

Fig. 3 is a partial side view, similar to Fig. 2, and showing the latch of the present invention holding the boat propelling device in a different position;

Fig. 4 is a sectional view on the line 4—4 of Fig. 2 and shows in more detail a means for securing the supporting structure on the boat; and

Fig. 5 is an enlarged perspective view of a portion of the invention showing certain components in exploded arrangement to more clearly illustrate the structural details of the invention.

In Fig. 1 a boat is illustrated at **10**, and the present invention is denoted generally by the numeral **3**. It will be noted that two devices comprising the present invention are illustrated in Fig. 1 in different positions on the boat. It should be understood that such showing is for the purpose of illustrating several positions that the propelling and maneuvering device may assume on the boat. As will be noted in more detail hereinafter, the construction of the present invention is such that it can be readily moved from its position on one part of a boat to another, as desired, during use.

As shown in more detail in Fig. 2 of the drawings, the boat propelling and maneuvering device **3** includes the housing **4** in which is mounted the rotatable shaft **5** which has the propeller **6'** mounted on the lower end thereof. The shaft **5** is provided with the gear **6** on its upper end which meshes with the gear **7**, both of which gears may be mounted in the box or housing **8** to protect them, as well as protecting the user of the device. The gear **7** is connected to a crank **9**, whereupon the gear **7** may be rotated by manually rotating the crank **9**. This in turn rotates the gear **6** on the end of shaft **5**, thereby rotating the propeller **6'** so as to move the boat **10** through the water illustrated at **11** in a desired manner. A handle **12** is secured to the gear box housing **8** and this handle **12** may be grasped by the other hand of the operator so as to steady the boat propelling device **3** as the crank **9** is rotated.

The present invention relates particularly to the support structure designated generally by the numeral **15** which holds the boat propelling and maneuvering device **3** in position on the boat **10**. The supporting structure **15** provides a support for the boat propelling and maneuvering device or mechanism **3** and permits free movement of the boat propelling mechanism, both in a horizontal and a vertical plane. The supporting structure **15** also contemplates the provision of a means for accommodating movement of the boat maneuvering and propelling device **3** out of engagement with underwater objects, and for holding such boat propelling and maneuvering mechanism **3** in an elevated desired position after it has moved out of engagement with the underwater object until the operator moves it back to its desired position in the water.

The supporting structure includes the means designated at **16** for securing the structure on the boat **10**. As shown in Fig. 2, the means **16** is fastened on the transom **17** of the boat. However, it may be positioned on either side of the boat, or the means **16** may be fastened on the bow of the boat as illustrated generally at **20** in Fig. 1. The means **16** includes the substantially U-shaped clamp **17** which has the fixed jaws **18** and **19** with the

movable member 21 which is threadedly connected through one of the stationary jaws, such as the jaw 19 as illustrated in Figs. 2, 3 and 4 of the drawings.

The stationary jaw 18 includes the upwardly facing opening 23 at the upper end thereof, which opening may be split longitudinally as illustrated at 24 in Fig. 4, if desired. The upper end of the opening 23 on stationary jaw portion 18 of the clamp 16 is provided with an integrally formed bearing surface 25 thereabout for a purpose as will appear in more detail hereinafter.

The securing means carries the support bracket means indicated generally by the numeral 26, such support bracket means including the downwardly extending spindle 27 which is fixed or integrally formed on the member 28. The spindle 27 is adapted to telescopically fit within the upwardly facing opening 23 and is retained in such opening by reason of the annular cut-away portion 29 thereon which is spaced from the lower end of the spindle 27 and the interfitting key 30 which is threadedly secured in the stationary jaw 18. The spindle 27 is positioned in the recess by disengaging the key 30 from the lateral passage 31 in the stationary jaw 18. This is accomplished by means of the wing nut 32 integrally formed on the key 30 and after the key 30 has been withdrawn from the lateral passage 31, the spindle 27 may be then positioned downwardly into the upwardly facing opening 23. Thereafter, the key 30 is inserted in the opening 31, and the position of the opening 31 in the stationary jaw 18 coincides with the annular groove or recess 29 in the spindle 27 when the spindle 27 is seated in opening 23 so that the key 30 fits in this recess as shown more clearly in Fig. 4 of the drawings. When the key 30 assumes the position shown in Fig. 4, the spindle 27 is retained in position in the portion 18 of the securing means 16, but may rotate freely relative thereto so that the support bracket 26 integrally formed therewith may in turn rotate. The upper end of the spindle 27 is provided with a bearing surface 34 which is adapted to rest on the bearing surface 25 at the upper end of the upwardly facing opening 23 and, if desired, a suitable lubricant may be placed between these bearing surfaces to aid in making the device quieter during operation thereof.

The support bracket means 26 includes the holder 40 which is pivotally supported on the member 28 by means of the pin 41 which extends through the spaced side walls of member 28 and the opening 42 in the downwardly depending projection 43 of the holder 40. The projection 43 extends between the walls of member 28 as shown in the drawings. The pivotal arrangement of the holder 40 relative to the bracket means 26 permits the boat maneuvering and propelling device 3 to be raised and lowered in the water, and the arrangement of the spindle 27 on the securing means 16 permits the boat propelling and maneuvering device 3 to be moved or rotated horizontally. Thus, a universal joint arrangement is provided for the boat propelling maneuvering device 3 so that it can be moved to any desired position in the water.

A latch as illustrated at 45 is pivotally secured as shown at 46 to the rear end of holder 40 and depends therefrom. The member 28 of the bracket means 26 forms a projection which extends longitudinally of the axis of the housing 4 and enclosed shaft 5. The latch 45 is provided with recesses 47 which are adapted to engage the rear edge 48 of the projection formed by the member 28, whereby the boat propelling and maneuvering device 3 may be retained in any desired angular relationship relative to the boat 10 as shown in Figs. 2, 3 and 5 of the drawings.

A spring means 50 engages the housing 4 as shown at 51 and the securing means 16 as shown at 52, such spring means being positioned below the pivotally mounted holder 40 so as to urge the latch 45 into engagement with the projection formed by the member 28.

In the operation of the device, the means 16 will secure the supporting structure 15 at any desired position on the boat. The bracket 26 is positioned on the securing means 16 in a manner as previously described, and the holder 40 is positioned on the shaft housing 4 by means of the screws 55 which engage through the holder 40 to clamp it about the housing 4 as shown in Fig 5 of the drawings. The pin 41 is then inserted through the support bracket 26 and the opening 42 of the projection 43 so as to pivotally support the housing 4 on the bracket 26. Spring 50 is then inserted in position at 51 and 52 so that the boat propelling and maneuvering device 3 is urged downwardly into the water. The latch 45 is adapted to be manually operated so that the recesses 47 therein may engage with the rear end member 28 on the bracket 26. The spring 50 aids in retaining the latch 45 in engagement with the projection 28 on the bracket 26. Thereafter the crank lever 9 may be manually grasped and the steady rest 12 may be grasped by the other hand of the operator and as the crank 9 rotates the propeller 6' will rotate to move the boat through the water.

If the boat moves over a submerged object, it is desirable to accommodate movement of the boat propelling and maneuvering device 3 so that when it strikes the object it will not damage the propelling device, including the housing 4, shaft 5 or the propeller 6'. The present invention provides an arangement so that as an object such as a log as illustrated at 60 strikes the shaft housing 4, the housing 4 will be rotated or moved upwardly in the direction indicated by the arrow 61. Movement of the boat propelling mechanism 3 in the direction of the arrow 61 causes the latch 45 to move downwardly and out of engagement with the member 28. The shaft housing 4 and propeller 6' will continue to move upwardly in the direction of the arrow 61 until they have cleared the obstruction 60, and the spring 50 would, by reason of its tension, thereafter tend to normally move the propelling mechanism 3 back to its original position; however, the latch 45 remains in sliding engagement with the rear end 48 of the member 28 and will automatically engage with the next adjacent recess when the spring 50 tends to move the propelling device 3 back down into the water.

For example, as shown in Fig. 3, the latch 45 has moved from the recess 47 as indicated at 70 to the next adjacent recess as indicated at 71. Thus, the boat propelling mechanism 3 will remain in its elevated position until the latch 45 is manually released and the boat propelling mechanism moved to a lower position in the water. Therefore, an arrangement is provided so that when the boat propelling device is urged upwardly out of the water by reason of striking an underwater object, it will remain in the elevated position so as to prevent undue damage or harm thereto until it is re-located by the operator of the device. Also, the spring 50 aids in retaining the latch 45 in locked position during normal use of the device which helps to retain the device in a desired relationship in the support structure 15.

Broadly the invention relates to a supporting structure for a boat propelling device, and more particularly to a support structure which accommodates free movement of the boat propelling device so that it may be located inside the boat when not in use, or so that it may be positioned on any part of the boat for use. The device also contemplates the provision of a construction and arrangement so as to accommodate movement of the device when it strikes an underwater object, and to thereafter hold the device in an elevated position until it clears the underwater obstruction.

What is claimed is:

1. A supporting structure for a boat propelling and maneuvering device including a means to secure the structure on the boat, there being an upwardly facing opening on said means, support bracket means carried by said securing means, said support bracket including a

spindle telescopically fitting in said upwardly facing opening, means to retain said spindle locked in telescoping relation in said opening to permit said bracket means to rotate in a horizontal plane relative to said securing means, a holder pivotally mounted on said support bracket means above said spindle, said holder adapted to receive and hold a boat propelling and maneuvering device, said pivotally mounted holder accommodating movement in a vertical plane of the boat propelling and maneuvering device, and said bracket means accommodating swinging movement of said holder and the boat propelling and maneuvering device, said bracket means including a portion extending longitudinally of the boat propelling device, and a latch pivotally secured on said holder for engagement with said longitudinally extending portion on said bracket means for latching the boat propelling and maneuvering device at a desired angular position relative to the boat.

2. The combination recited in claim 1 wherein said latch includes spaced recesses which selectively engage with said longitudinally extending portion on said bracket means and are first releasable from engagement therewith when the boat maneuvering device strikes an underwater object to permit the boat maneuvering device to elevate over the object and which latch recesses thereafter reengages with said longitudinally extending portion on said bracket means to retain the boat maneuvering device in its elevated position.

3. The combination recited in claim 1 wherein said locking means for said support bracket spindle includes an annular recess spaced from the lower end of said spindle, and a key threadedly engaged in said upwardly facing opening in said securing means whereby said key may be withdrawn while said spindle is inserted in said opening and said key thereafter seated in said annular recess of said spindle and threadedly engaged in said securing means to retain said bracket means in position on said securing means.

4. A supporting structure for a boat propelling and maneuvering device including a means to secure the structure on the boat, there being an upwardly facing opening on said means, support bracket means carried by said securing means, said support bracket including a spindle telescopically fitting in said upwardly facing opening, means to retain said spindle locked in telescoping relation in said opening to permit said bracket means to rotate in a horizontal plane relative to said securing means, a holder pivotally mounted on said support bracket means above said spindle, said holder adapted to receive and hold a boat propelling and maneuvering device, said pivotally mounted holder accommodating movement in a vertical plane of the boat propelling and maneuvering device, and said bracket means accommodating swinging movement of said holder and the boat propelling and maneuvering device, said bracket means including a portion extending longitudinally of the boat propelling device, a latch pivotally secured on said holder for engagement with said longitudinally extending portion on said bracket means for latching the boat propelling and maneuvering device at a desired angular position relative to the boat, and spring means connected between said securing means and boat propelling device below said pivotally mounted holder for urging said boat propelling device to an angular relation to maintain said latch engaged with said projection.

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