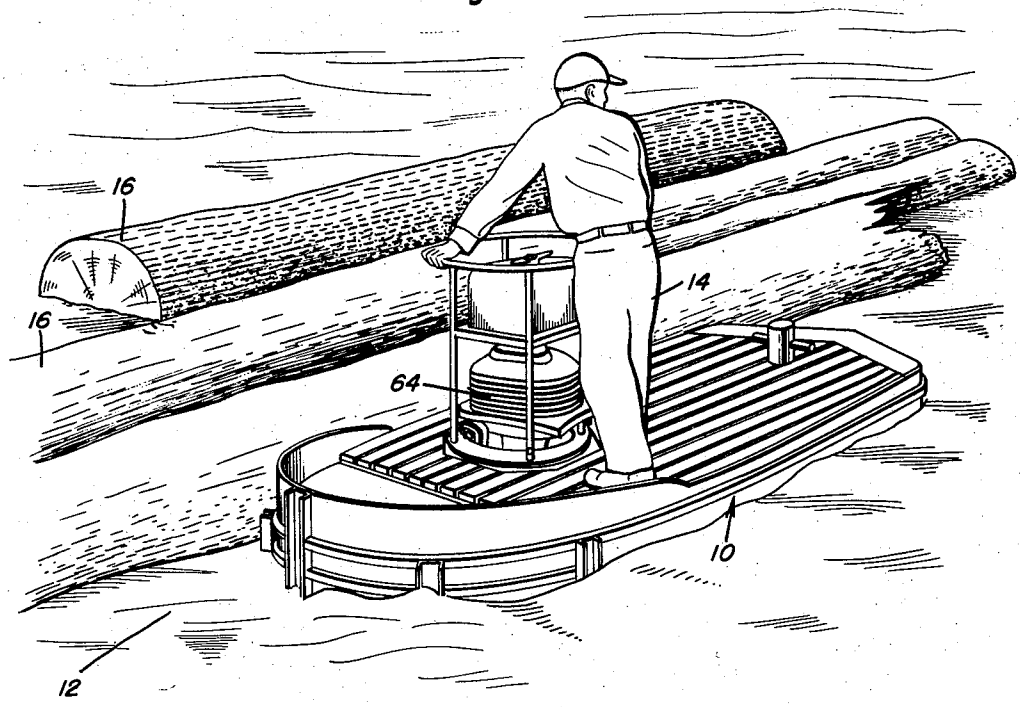
July 22, 1958 F. L. NELSON 2,844,120

BOAT CONSTRUCTION WITH WELL MOUNTED PROPULSION UNIT

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Fig. 1



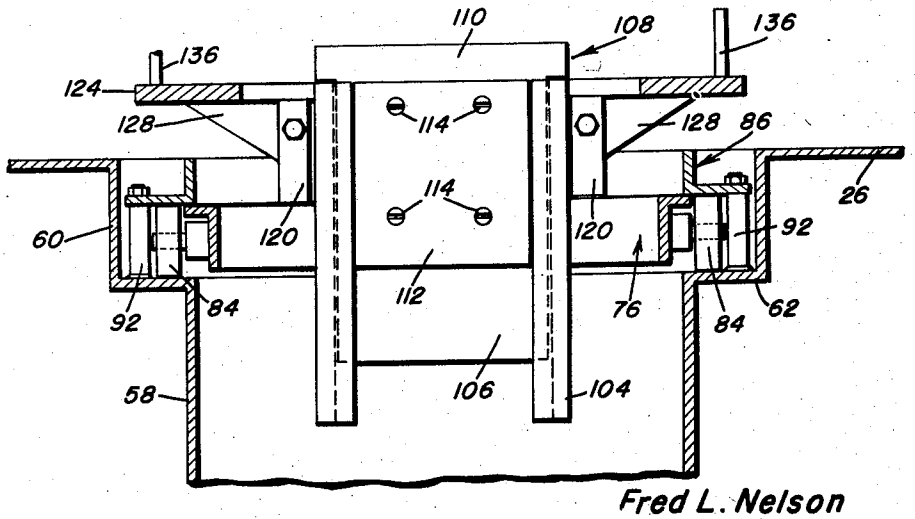


Fig. 8

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BOAT CONSTRUCTION WITH WELL MOUNTED PROPULSION UNIT

Filed May 11, 1956 4 Sheets-Sheet 2

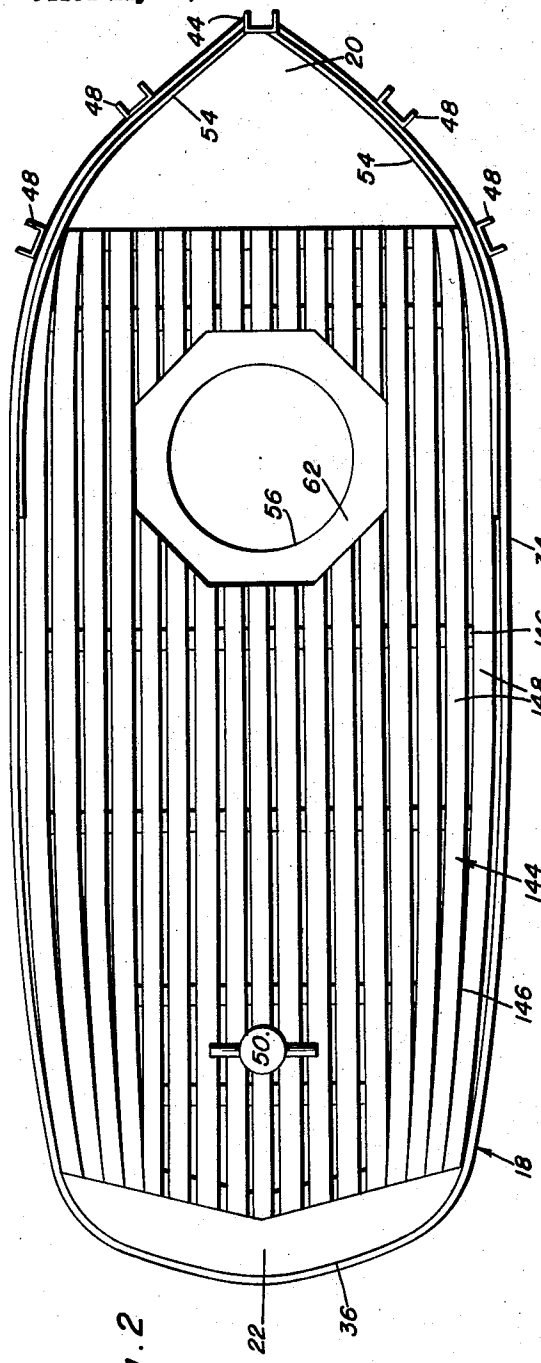


Fig. 2

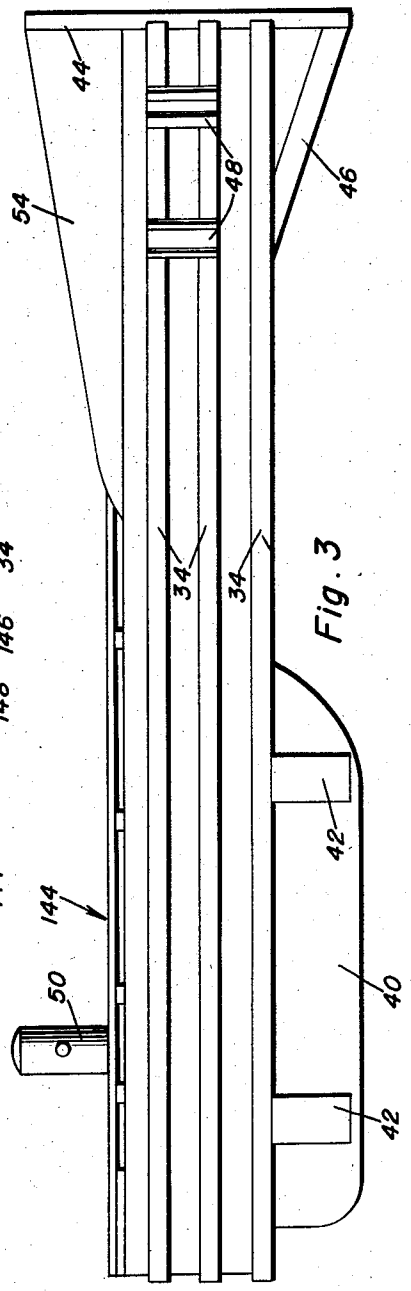


Fig. 3

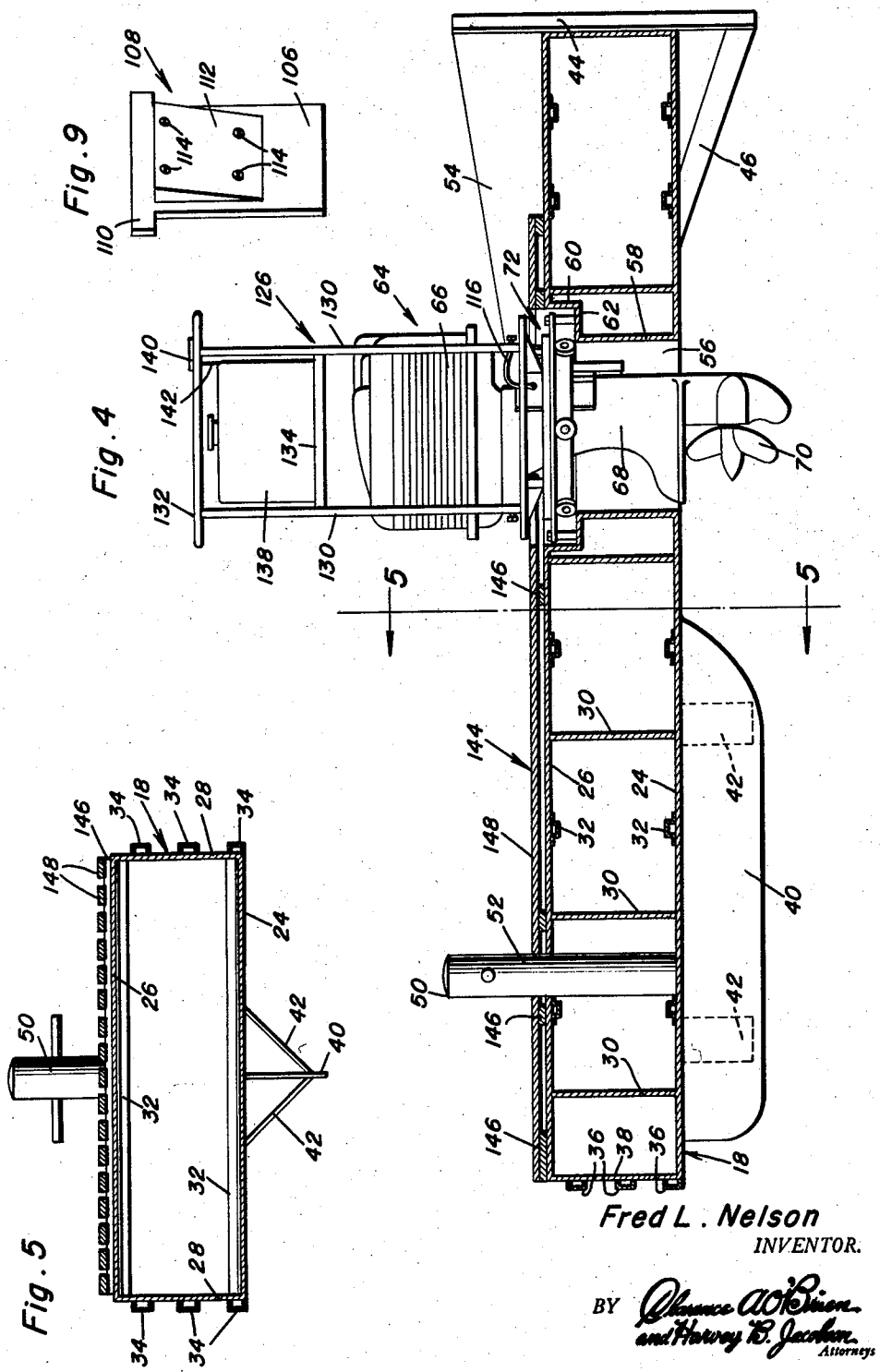
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BOAT CONSTRUCTION WITH WELL MOUNTED PROPULSION UNIT

Filed May 11, 1956 4 Sheets-Sheet 3



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BOAT CONSTRUCTION WITH WELL MOUNTED PROPULSION UNIT

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Fig. 6

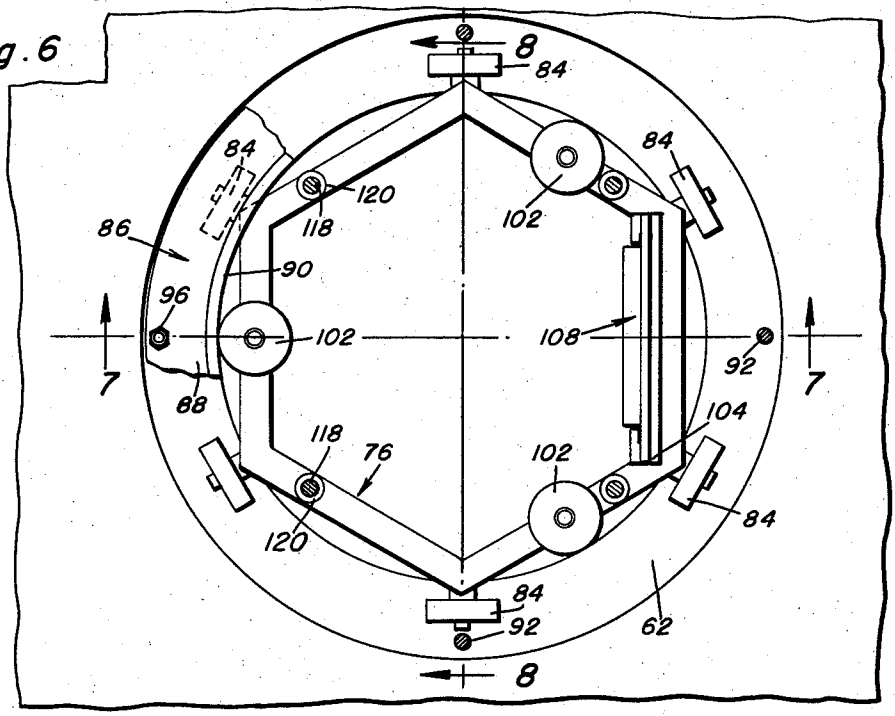
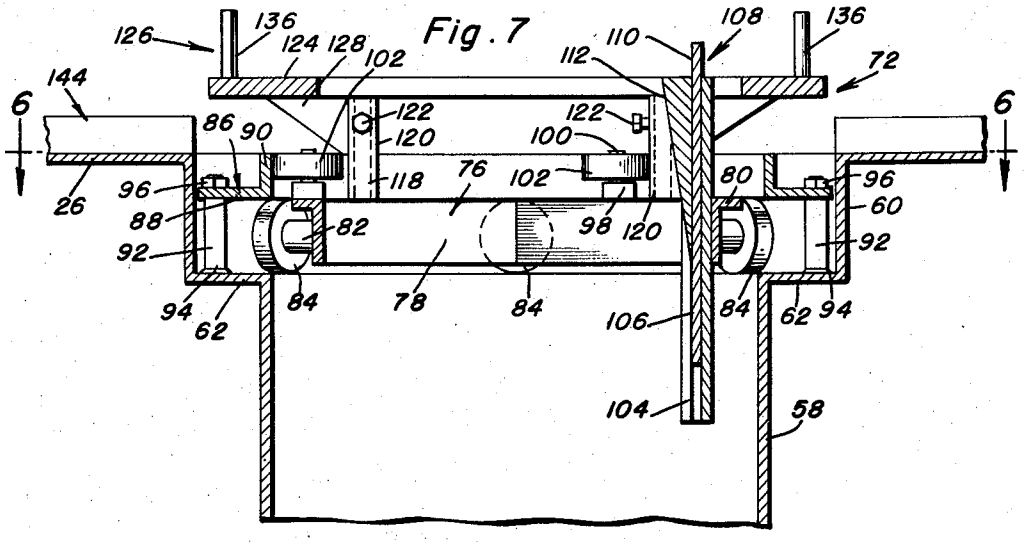


Fig. 7



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BOAT CONSTRUCTION WITH WELL MOUNTED PROPULSION UNIT

Fred L. Nelson, Eastside, Oreg.

Application May 11, 1956, Serial No. 584,246

3 Claims. (Cl. 115—35)

This invention relates in general to new and useful improvements in boat construction, and more specifically to an improved boom boat.

In order to sort and raft logs while floating in a pond or like, there have been devised special boats which are called boom boats. The boom boats are constructed along the general theory of ordinary boats and carry not only an operator, but men stationed thereon using pike poles and peavies for the purpose of sorting, rafting and breaking of log jams. While the present boom boats serve their desired purpose, it is readily apparent that the boom boats could be made more efficient.

It is therefore the primary object of this invention to provide an improved boom boat which is so constructed whereby the control thereof is outstanding to the point whereby an operator may utilize the boom boat for each and every purpose of the existing boom boats with men positioned thereon with pike poles and peavies, the boom boat of this invention being so constructed whereby the operator thereof needs no tool for moving the logs in the desired direction, but utilizes the boom boat as the tool.

Another object of this invention is to provide an improved boom boat which is so constructed whereby it may be readily guided between logs so as to separate logs, the boom boat being also constructed whereby it may be steered in such a manner so as to push one or more logs in the direction in which it is desired to move such logs.

Another object of this invention is to provide an improved boom boat which is so constructed whereby it may be moved not only forwardly and rearwardly, but also sideways so that the boom boat may be moved up alongside of one or more logs and then moved sideways to move the logs into desired position.

A further object of this invention is to provide an improved boom boat which utilizes an outboard motor, the outboard motor being so positioned with respect to the hull of the boom boat whereby the hull protects the outboard motor and prevents the propeller thereof from striking both floating logs and logs which may be slightly submerged below the surface of the water.

A still further object of this invention is to provide an improved boom boat which is relatively small and which is relatively light in weight thereby it may be readily transported on a trailer or truck from one log pond to another so as to greatly facilitate the use thereof.

Yet a further object of this invention is to provide an improved boom boat which includes a hull having a well mounted in a central portion thereof, there being disposed within the well and extending downwardly therethrough an outboard motor, the motor being rotatable 360° so that the hull may be maneuvered in any desired direction by merely turning the motor.

A still further object of this invention is to provide an improved boom boat which utilizes a motor source, an outboard motor, the hull of the boom boat being provided with a well forward of the center thereof in which

the outboard motor is disposed, there being mounted within the well a suitable turntable supporting the outboard motor, the connection between the outboard motor and the turntable being such that the outboard motor may be quickly and easily removed and replaced for purposes of repair or replacement.

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 perspective view of the boom boat, which is the subject of this invention, and shows the same disposed in a log pond in position moving logs sideways;

Figure 2 is a plan view of the boom boat of Figure 1 on a larger scale and shows the same with the outboard motor and the turntable therefor omitted;

Figure 3 is an enlarged side elevational view of the boom boat hull and shows further the details thereof;

Figure 4 is an enlarged longitudinal sectional view taken substantially along the center line of the boom boat and shows the specific construction of both the hull and the means for mounting the outboard motor therein;

Figure 5 is an enlarged transverse sectional view taken substantially upon the plane indicated by the section line 5—5 of Figure 4 and shows the general cross section of the hull as well as the construction thereof;

Figure 6 is an enlarged fragmentary horizontal sectional view taken substantially upon the plane indicated by the section line 6—6 of Figure 7 and shows the relative mounting of a turntable for the outboard motor with respect to the well formed in the boat hull;

Figure 7 is an enlarged fragmentary longitudinal sectional view taken substantially upon the plane indicated by the section line 7—7 of Figure 6 and shows further the details of the turntable and the means for mounting the outboard motor thereon;

Figure 8 is an enlarged fragmentary transverse vertical sectional view taken substantially upon the plane indicated by the section line 8—8 of Figure 6 and further shows the details of the construction of the turntable; and

Figure 9 is an enlarged perspective view of a mounting bracket for mounting the outboard motor on the turntable for removal therefrom.

Referring now to the drawings in detail, it will be seen that there is illustrated in Figure 1 the boom boat, which is the subject of this invention, the boom boat being referred to in general by the reference numeral **10**. The boom boat **10** is illustrated as being floating in a log pond **12** and being maintained by an operator **14** in a position engaging logs **16** for the purpose of shifting the log **16** about the log pond **12**.

Referring now to Figure 2 in particular, it will be seen that the boom boat **10** includes a hull which is referred to in general by the reference numeral **18**. The hull is of a box like outline and includes a pointed bow **20** and a rounded stern **22**. Between the bow **20** and the stern **22**, the hull **18** is generally of the same width.

Referring now to Figure 5 in particular, it will be seen that the hull **18** is of a box like construction and is generally rectangular in cross section. The hull **18** is formed of a bottom plate **24**, a deck plate **26** and side plates **28**. The plates **24**, **26** and **28** are reinforced at longitudinally spaced intervals by transverse bulk heads **30** which also divide the hull **18** into a plurality of water tight compartments. The bottom plate **24** and the deck plate **26** are reinforced intermediate the bulk heads **30** by hat shaped channel members **32** which extend athwartship of the hull **18**.

In order to protect the side plates **28**, there is secured

to the side plates 28 longitudinally extending, vertically spaced rub rails 34 which are in the form of channel members. Similar rub rails 36 are positioned on the transom 38, as is best illustrated in Figure 4.

In order to protect a propeller of an outboard motor utilized for propelling the hull 18, the details of the outboard motor to be described hereinafter, there is secured to the bottom plate 24 rearwardly of the center of the hull 18 a depending skeg 40. The skeg 40 is disposed along the center line of the hull 18 and is reinforced by suitable gussets 42 which are positioned in the manner best illustrated in Figure 5.

In order to protect the propeller of the outboard motor during the forward motion of the boat 10, and at the same time to facilitate the engagement of the bow 20 with a log, there is secured to the extreme forward end of the bow 20 a vertically extending channel member 44 which is so positioned that it opens forwardly of the bow 20. The channel member 44 extends both above and below the hull 18. That portion below the hull 18 is reinforced by a diagonal brace 46 which extends upwardly and rearwardly from the lower end of the channel member 44 and is secured to the underside of the bottom plate 24. The brace 46 is disposed along the center of the hull 18 and together with the lower part of the channel member 44 forms a depending bow guard for the propeller of the outboard motor.

Referring now to Figure 2 once again, it will be seen that in addition to the channel member 44, there is secured to the bow portion 20 other channel members 48. The channel members 48, like the channel member 44 extends vertically along the hull 18 and serve the purpose of engaging ends of logs for the purpose of moving the logs forwardly in an endwise direction by the use of the boom boat 10.

In order that the boom boat 10 may also tow logs or other articles including barges and the like, there is secured to the hull 18 adjacent the stern 22 a suitable cleat 50. It is to be noted that the cleat 50 includes a stanchion portion 52 which extends down through the deck plate 26 and has its lower end secured to the upper surface of the bottom plate 24. This is best illustrated in Figure 4.

In order that a log may be prevented from rolling over the deck portion of the hull 18 along the bow 20, there is secured to the channel member 44 bow plates 54 which extend rearwardly along the sides of the bow portion 20. The bow plates 54 taper in height and diminish into the deck plate 26 rearwardly of the bow 20, as is best illustrated in Figure 4.

Formed in the hull 18 forwardly of the center thereof and disposed along the center line thereof is a well 56 which opens therethrough. The well 56 is formed by a lower cylindrical member 58 which has its lower end secured to the bottom plate 24 in sealed relation. Secured to the deck plate 26 and depending therefrom is a relatively short cylindrical member 60. The cylindrical members 58 and 60 are of different diameters with the cylindrical member 60 being of a maximum diameter. The lower end of the cylindrical member 60 is connected to the upper end of the cylindrical member 58 by an annular plate 62 which is horizontally disposed.

In order that the hull 18 may be propelled, the boom boat 10 also includes a conventional type of outboard motor which is referred to in general by the reference numeral 64. The outboard motor 64 includes a motor portion 66 which has depending therefrom a shaft housing 68. Carried by the lower end of the shaft housing 68 is a propeller 70.

In order that the outboard motor 64 may be mounted within the well 56 with the propeller 70 disposed below the bottom plate 24, as is best illustrated in Figure 4, there is provided a turntable which is referred to in general by the reference numeral 72. The turntable 72, as is best illustrated in Figures 6, 7 and 8, includes a lower ring member 76. The ring member 76 includes a vertical flange 78 and a horizontal upper flange 80. Secured to the vertical flange 78 on the outer surface thereof in circumferentially spaced relation are radiating axle members 82 carrying roller type wheels 84 having sealed bearings (not shown). The wheels 84 are engaged with the annular plate 62 which forms a suitable track for the wheels 84.

Overlying the wheels 84 and preventing upward movement thereof is a retaining ring which is referred to in general by the reference numeral 86. The retaining ring 86 includes a horizontal lower flange 88 and an inner vertical flange 90. The flange 88 overlies the plate member 62 and forms an upper track for the rollers 84. The ring member 86 is secured to the plate member 62 by means of a plurality of tubular spacers 92 which are welded to the upper surface of the plate member 62 as at 94 at circumferentially spaced intervals. The upper portions of the spacers 92 are internally threaded and have received therein lower portions of bolts 96 which extend through the flange 88 and hold the ring member 86 in place.

Secured to the horizontal flange 80 at circumferentially spaced intervals and extending upwardly therefrom are axle supports 98 carrying axles 100. Rotatably journaled on the axles 100 are horizontally disposed rollers 102 having sealed bearings (not shown). The rollers 102 engage the vertical flange 90 of the ring member 86 and prevent twisting of the ring 76 about a vertical axis.

Referring now to Figure 6 in particular, it will be seen that the so-called ring 76 is actually hexagonal in outline. Rigidly secured to one side of the ring 76 is a vertically extending, C-shaped guide 104. The guide 104 has slidably mounted therein a vertical plate portion 106 of a mounting bracket which is referred to in general by the reference numeral 108. The mounting bracket 108 also includes a wide upper portion 110 which is of a width to limit downward movement of the mounting bracket 108 through the C-shaped guide 104. Secured to an inner face of the plate portion 106 is a tapered hardwood block 112, as is best illustrated in Figure 9. The block 112 is secured in place by suitable fasteners 114.

It is to be understood that the outboard motor 64 is to be clamped onto the mounting bracket 108 utilizing the conventional clamp structure 116 thereof. Thus the outboard motor 64, when clamped on the mounting bracket 108 is supported within the well 56 for rotation and is limited in movement to a vertical direction. However, the outboard motor 64, because of its relatively heavy weight, will not have a tendency to lift upwardly. On the other hand, the outboard motor 64 may be readily removed from the turntable 72 by merely lifting it and the mounting bracket 108 out of the guide 104.

Extending upwardly from the ring 76 at spaced intervals are pins 118. Telescoped over the pins 118 are sleeves 120. The sleeves 120 are releasably clamped on the pins 118 by means of setscrews 122, as is best illustrated in Figure 7. Secured to the upper ends of the sleeves 120 is a lower ring 124 of a steering rack which is referred to in general by the reference numeral 126. The sleeves 120 are braced with respect to the ring 124 by mean of suitable gussets 128.

The steering rack 126 also includes a plurality of upstanding support members 130 which are connected together at their upper ends by a steering ring 132. The supports 130 are connected together adjacent their upper ends by a horizontal frame assembly 134.

Referring once again to Figure 7 in particular, it will be seen that there is secured to the ring 124 and extending upwardly therefrom a plurality of pins 136, there being one pin 136 for each of the supports 130. The pins 136 are telescoped within the lower ends of the supports 130 and releasably connect the upper portion of the steering rack 126 to the ring 124. Thus the upper part of the steering rack 126 may be removed so as to facilitate the removal of the outboard motor 64.

Carried by the upper part of the steering rack **126** is a gasoline tank **138** for the outboard motor **64**. By so positioning the gasoline tank **138**, a gravity feed is provided for the outboard motor **64**. Further, it is in a position to be readily filled. Also carried by the steering ring **132** of the steering rack **126** is a throttle control wheel **140** which is connected by means of a suitable link **142** to the throttle of the outboard motor **64**.

In order to steer the boom boat **10**, the operator **14** merely grips the steering ring **132** and walks about on a deck of the boom boat **10** in order to rotate the steering rack **126**. The turning of the steering rack **126** results in the turning of the outboard motor **64** thus positioning the propeller **70** in the position in which it is desired to move the boom boat **10**. Because of the position of the propeller **70** with respect to the hull **18**, the boom boat **10** may be moved forwardly and rearwardly, as in the case of ordinary boats, or may be moved directly sideways. Because of the manuverability of the boom boat **10**, it may be directed either sideways against the logs, as is best illustrated in Figure 1, or may be used to separate logs by positioning the bow **20**, which is pointed, between adjacent logs. After a slight amount of practice an operator may maneuver the boom boat **10** so that the boom boat **10** itself performs all work possible by men standing in ordinary types of boom boats and using pike poles and peavies. Further, because of the power of the boom boat **10** as compared to an ordinary man standing with a peavy on a deck of an average boom boat, the boom boat **10** may accomplish much more work with much less expenditure of energy on the part of the operator. In order to prevent slipping of the operator **14** as he walks about the deck of the boom boat **10**, the deck plate **26** is covered by a suitable flooring which is referred to in general by the reference numeral **144**. The flooring **144** is of the grate type and includes a plurality of transverse strips **146** which are secured directly to the upper surface of the deck plate **26**. The transverse strips **146** are overlaid by longitudinal strips **148**.

Because of the water tight construction of the hull **18**, certain of the compartments may be used as tanks. For example, it may be desired that the stern of the hull **18** be lower in the water than the bow. In such event, the rearmost compartments may be flooded to form ballast tanks. Also, certain of the tanks may be utilized for the storage of gasoline thus eliminating the necessity of the boom boat **10** continuously going into a pier or dock for refueling.

From the foregoing description of the present invention, it will be readily apparent that there has been devised a boom boat which is so constructed whereby it is maneuverable to the extent that it may be utilized in the proper movement of logs without the operator thereof using the conventional pike pole or peavy. Further, because of its particular construction and small size it is very durable and at the same time relatively inexpensive. Also, by using conventional motor units, such as the outboard motor **64**, the expense of the power unit for the boom boat is reduced. Further, the boom boat **10** is out of commission only for a short time for motor overhaul by providing a spare motor. Inasmuch as the outboard motor **64** may be quickly changed, it will be readily apparent that the shutdown time for the boom boat **10** is negligible.

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 boat construction comprising a hull having a bow and a stern, a well in said hull intermediate said bow and said stern, an outboard motor including a propeller, said outboard motor being disposed in said well and projecting down therethrough, with said propeller being disposed beneath said hull, a turntable rotatably mounted in an upper part of said well, said turntable including a vertically disposed guide, a mounting bracket freely slidably mounted in said guide for vertical movement and being retained in said guide by gravitational forces, said outboard motor being secured to said mounting bracket for rotation with said turntable and being removable with said mounting bracket as a unit.

2. A boat construction comprising a hull having a bow and a stern, a well in said hull intermediate said bow and said stern, an outboard motor including a propeller, said outboard motor being disposed in said well and projecting down therethrough with said propeller being disposed beneath said hull, a turntable rotatably mounted in an upper part of said well, said turntable including a vertically disposed guide, a mounting bracket freely slidably mounted in said guide for vertical movement and being retained in said guide by gravitational forces, said outboard motor being secured to said mounting bracket for rotation with said turntable and being removable with said mounting bracket as a unit, a steering rack connected to said turntable for rotating said turntable and said motor, said steering rack extending upwardly around an upper part of said outboard motor and terminating in a steering ring.

3. A boat construction comprising a hull having a bow and a stern, a well in said hull intermediate said bow and said stern, an outboard motor including a propeller, said outboard motor being disposed in said well and projecting down therethrough, with said propeller being disposed beneath said hull, a turntable mounted in said well to facilitate rotation of said outboard motor to position said propeller at the desired angle to the center line of the hull, said well being disposed forwardly of the longitudinal center of said hull, a depending skeg carried by said hull on the underside thereof immediately rearwardly of said propeller and in alignment with the center line of said hull, said skeg extending substantially from said propeller to said stern and cooperating with said propeller to effect maneuvering of said boat.

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