June 28, 1955 L. L. THORNBURG 2,711,708

PORTABLE POWER PADDLE WHEEL UNIT FOR ROW TYPE BOATS

Filed April 23, 1952

Fig. 1.

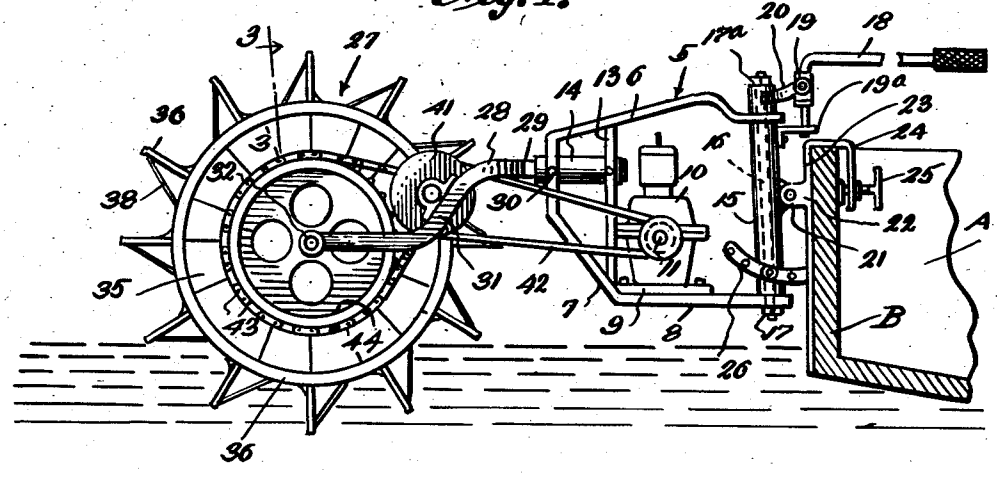


Fig. 2.

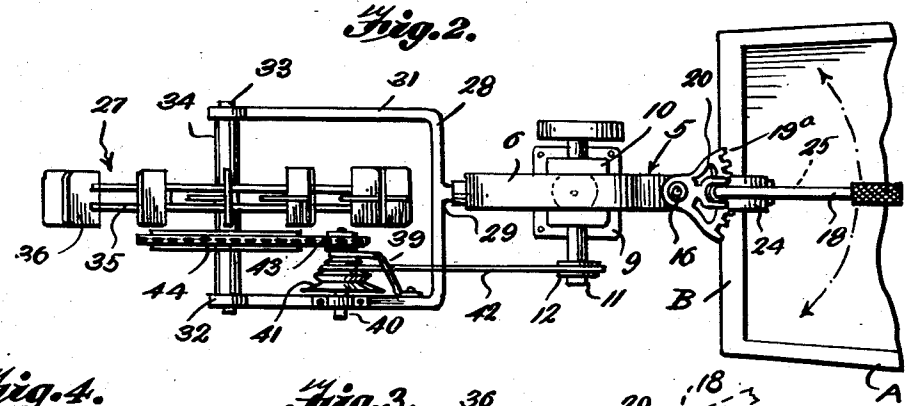


Fig. 4.

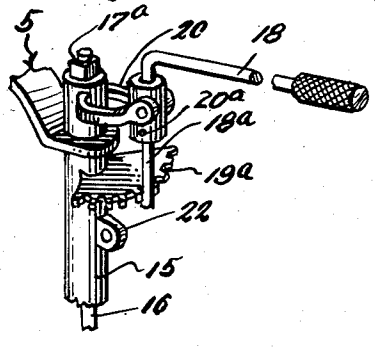
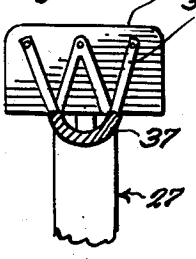


Fig. 3.



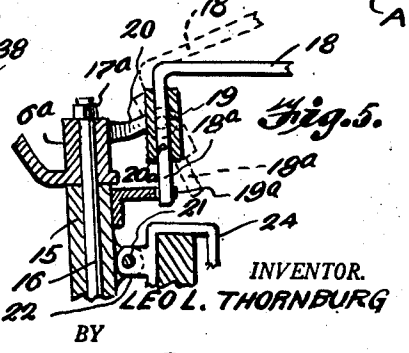


Fig. 5.

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PORTABLE POWER PADDLE WHEEL UNIT FOR ROW TYPE BOATS

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1 Claim. (Cl. 115—50)

The present invention appertains to improvements in power means for boats and more particularly to an outboard type motor unit.

The principal object of the present invention is to provide a portable power driven paddle wheel unit for row type boats which can be easily disposed in place and controlled readily by the boat user.

Another important object of the invention is to provide such a unit involving bicycle type handle bars for more readily controlling the steering of the boat.

Still another object of the invention is to provide a unit of the character stated wherein the parts are of simple construction and capable of being replaced in the event defects occur, without difficulty and much expense.

A further object of the invention is to provide a paddle wheel propulsion unit for boats that has no deeper dip in the water than the draft of the boat that it operates.

A further object of the invention is to provide a paddle wheel unit that is motor driven and which will walk itself over snags, stones and other objects.

These and various other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawing:

Figure 1 is a side elevational view of the unit, shown attached to the rear of a row type boat, the boat being shown fragmentarily and in section.

Figure 2 is a fragmentary top plan view of the structure shown in Figure 1.

Figure 3 is a fragmentary detailed sectional view taken substantially on line 3—3 of Figure 1.

Figure 4 is a fragmentary perspective view showing the steering means.

Figure 5 is a fragmentary vertical sectional view through the structure shown in Figure 4.

Referring to the drawing wherein like numerals designate like parts, it can be seen that reference character A denotes a conventional row boat or outboard motor type boat having a vertical rear wall B.

In carrying out the present invention, there is provided a frame generally referred to by numeral **5**, this frame including a top portion **6**, a depending rear portion **7** and a bottom portion **8**. Upon the bottom portion **8** is a base **9** upon which an internal combustion engine **10** is mounted, this engine having a drive shaft **11** on which is a pulley **12**. This pulley may be a multiple step pulley.

A strut **13** connects the upper portion **6** of the frame with the rear portion **7** and bridging the rear portion **7** and the strut **13** is a socket **14**.

A tube **15** extends vertically between the forward portion of the upper and lower portions **6**, **8** of the frame and through this is disposed a shaft **16**. The shaft **16** extends through the forward portion of the frame part **8** and also through the forward portion of the frame portion **6**, the lower portion having a nut **17** to bear against the lower portion of the frame portion **8**, while the upper portion of the shaft **16** has a nut **17***a* for

clamping a riser **6***a* on the forward portion of the frame portion **6** against the upper end of the tube **15**.

Numeral **18** denotes a handle bar type or steering control, which is swingably connected on a vertical plane, as at **19** to arms **20** and these arms **20** are positively connected to the riser **6***a* and to the end that when the handle bar **18** is swung to the left or to the right, the entire frame **5** will be moved accordingly. This is accomplished by a leg **18***a* depending through the swingable barrel **19**, which is engageable with a quadrant gear **19***a* secured to the tube **15**, as shown in Figure 5. The leg **18***a* is affixed to the barrel **19** by a pin **20***a*.

The tube **15** is pivotally connected as at **21** to lugs **22**, which project rearwardly from a plate **23**, which fits snugly against the outside of the stern wall B of the boat. The upper end of the plate **23** is provided with a U-clamp **24** and the inboard leg of this clamp has a pressure or clamp screw **25** which can be fed against the inside of the wall B to firmly hold the unit in place.

A pair of arcuate arms **26** project rearwardly from the plate **23** and have openings for receiving a wing nut or the like to engage into the tube **15** to hold the unit at any desired elevation depending upon what depth of dip is desired of the impeller or paddle wheel which can now be referred to by numeral **27**.

Numeral **28** denotes a fork having a shank **29** fitted into the socket **14** and held in place by set screws or the like **30**. The rear portions of the arms of this fork **28** are curved downwardly and rearwardly as denoted by numeral **31** and the rear ends of these arms **31** are provided with bearings **32** for receiving the end portions of the shaft **33**.

A barrel **34** is located on the shaft **33** between the arms **31** and on this is the paddle wheel **27**, which is made up of a disk structure **35**, the peripheral portion of which is provided with a plurality of paddles **36**. It is preferable that the disk have a rim of channeled constructions such as is denoted by numeral **37** and to this are welded a plurality of W-shaped brackets **38** to which the said paddles **36** are secured.

In cooperation with one arm **31** of the yoke **28** is a bracket **39** for supporting a shaft **40** on which is a multiple stepped pulley **41**. A belt **42** is trained from this pulley **41** to the pulley **12** on the motor drive shaft **11**. The inner end of the shaft **40** is provided with a small sprocket over which a chain **43** is disposed and this chain is trained over a larger sprocket wheel **44** on the tube **34**, the latter being located on the shaft **33**.

It can now be seen, that with the clamp **24** securing the unit in place on the stern wall B of the boat A, the propulsion unit will be in position for use and by adjusting the frame **5** and the tube **15** with respect to the arms **26**, the proper depth of dip of the wheel **27** can be obtained.

When the motor **10** is started by conventional means (not shown) drive, by way of the belt **42**, pulley **41**, chain **43** and sprocket **44** will cause rotation of the paddle wheel **27** and propulsion of the boat will take place.

Obviously this paddle wheel will crawl over snags, stones and other objects, but the main point is that the paddle wheel will not require any more draft than the boat itself, therefore there is little chance of the paddle wheel striking any obstacles if the bottom of the boat does not first strike. There is no necessity for an underwater exhaust for the engine, due to the outside disposition of the engine with respect to the boat.

While the foregoing description sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

In an apparatus of the character stated, a frame, a clamp for attachment to the stern portion of a boat, a pivotal connection between the frame and the clamp to permit vertical movement of the frame, said clamp being provided with a depending portion, adjusting means between the lower portion of the frame and the depending portion of the clamp, a yoke projecting forwardly from the upper portion of the frame, a steering arm provided with a depending leg, a barrel through which the leg depends and to which the leg is affixed, said barrel being swingably mounted in the yoke for movement in a vertical plane, a propulsion wheel mounted on the rearward portion of the frame, power means mounted within the frame, and drive means between the power means and the propulsion wheel, the forward portion of the frame being provided with a tooth segmental structure between the teeth of which is engageable the depending leg of the steering arm.

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