

June 8, 1948.

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2 Sheets-Sheet 1

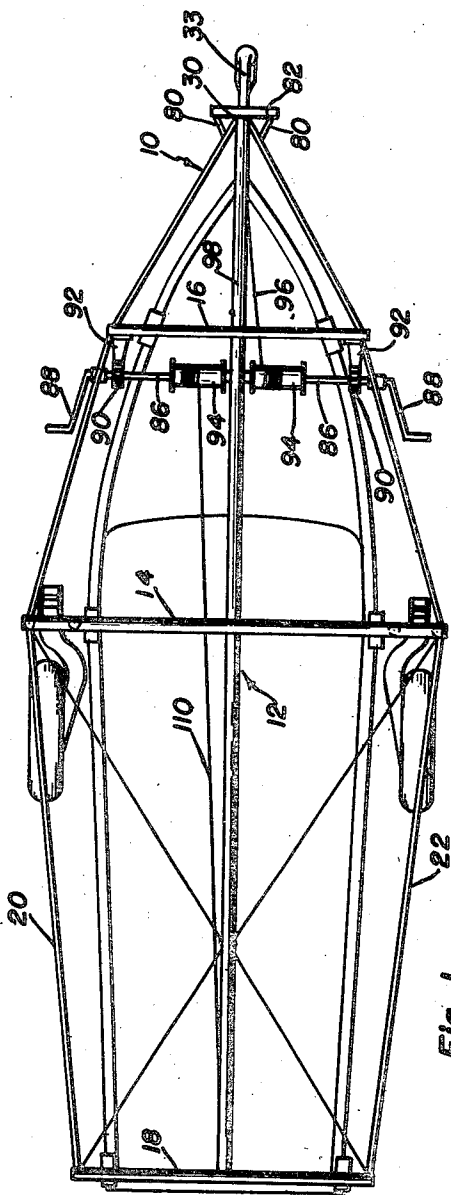


Fig. 1

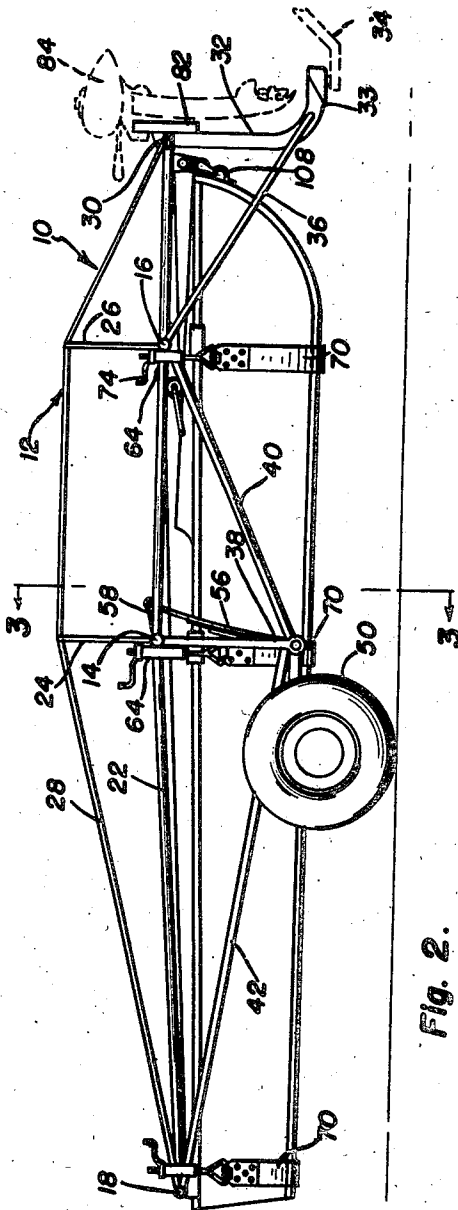


Fig. 2.

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BOAT TRAILER

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2 Sheets-Sheet 2

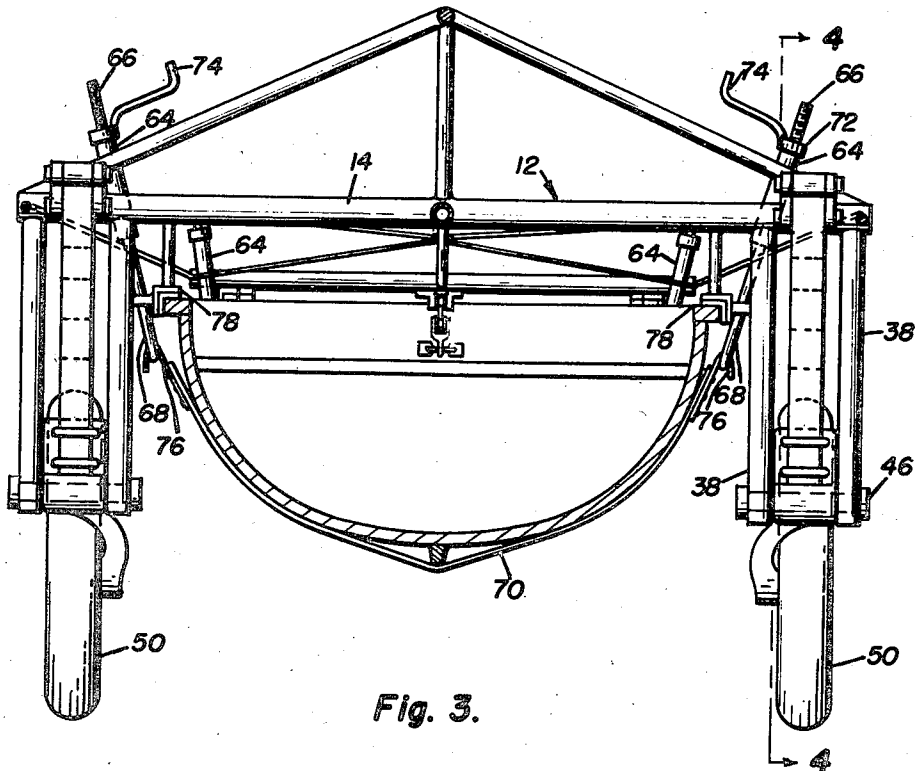


Fig. 3.

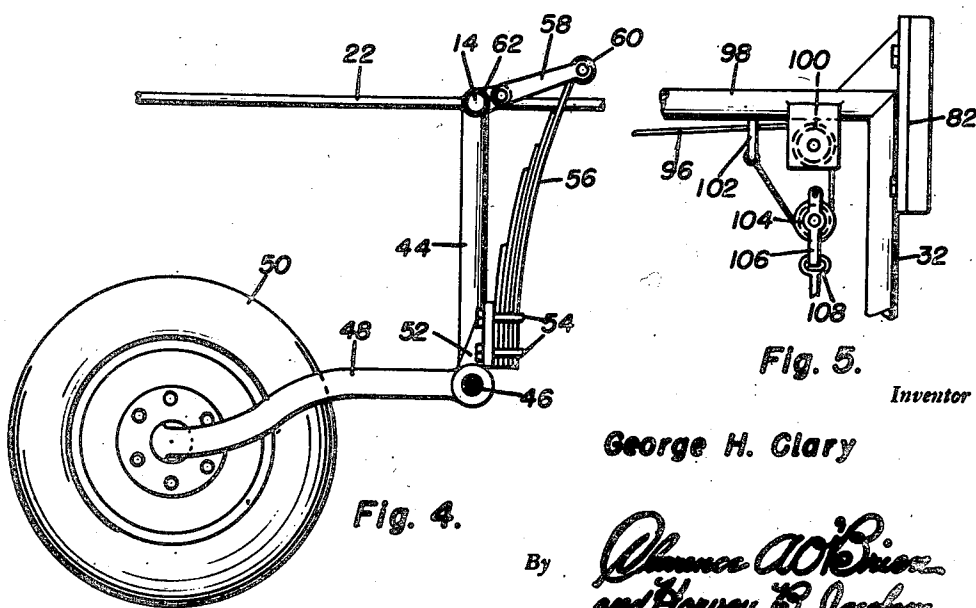


Fig. 4.

Fig. 5.

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BOAT TRAILER

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3 Claims. (214—65)

1

This invention relates to improvements in trailers especially adapted to transport boats which are properly classifiable as light weight such as canoes, outboard motor boats, rowboats and the like.

An object of this invention is to provide a device which is readily attachable to a conventional automotive vehicle.

Another object of this invention is to provide a device for lifting and launching a boat which is extremely easy to operate.

A further object of this invention is to provide a device of the character described including specially designed wheel suspension minimizing road influenced shock.

Further objects of this invention reside in the provision of a supporting member especially adapted to receive an outboard motor while the device is in transit.

Further objects of this invention residing in certain other features of construction and in the combination and arrangement of elements, to be hereinafter fully described, are illustrated in the accompanying drawings and specifically pointed out in the accompanying description thereof, wherein:

Figure 1 is a plan view of the instant invention;

Figure 2 is a side elevational view of the instant invention showing particularly the outboard motor securing means having a motor secured thereto;

Figure 3 is a sectional view of the instant invention taken on line 3—3 of Figure 2 and in the direction of the arrows;

Figure 4 is a detail taken substantially on the line 4—4 of Figure 3 and in the direction of the arrows, showing the improved wheel suspension forming part of the instant invention, and

Figure 5 is an elevational view of a detail of construction showing a portion of the lifting and launching means forming part of the instant invention.

Referring now more in detail to the illustrated preferred embodiment of the instant invention, like reference characters are used to indicate similar parts throughout the views of the said preferred embodiment. The reference numeral 10 is used to indicate the invention in the broadest terms.

A supporting member or frame generally designated by 12 is provided of some suitable material such as tubing or the like and preferably of welded or braised construction and the said frame 12 has the same general plan configuration as a

2

conventional boat. This construction is seen best in Figure 1. Viewing now Figure 2, the side view of the said frame bears a striking resemblance to an aircraft fuselage frame construction. A transverse member 14 at substantially the midpoint of the longitudinal axis of the device is provided having a front transverse member 16 provided in substantially parallel relation to the said member 14. Rearward of both of said members is a third transverse parallel member 18 which constitutes the end member of the said frame 12. A plurality of frame members are joined to the ends of said transverse members by some suitable means such as welding or the like, and for convenience these members shall be referred to as a single continuous component 20 and a second single continuous component 22. As is seen from an inspection of Figure 1 the two said components 20 and 22 are secured together in the front portion of the frame thus lending a generally boat-like plan view to the said frame 12. Secured in perpendicular relation to the members 14 and 16 at substantially the midpoint thereof and upwardly extending is a pair of frame members 24 and 26. A stringer 28 is secured to the center point of the member 18, the top portions of the members 24 and 26 thence the junction 30 of the members 20 and 22 herein before defined. Depending from the said junction 30 is a link 32 terminating in an arcuate portion 33, which is adapted to be conveniently secured to a tow rod 34, which is secured in any conventional way to an automotive vehicle.

Secured to the arcuate portion 33 of member 32 is a link 36 having the other end thereof secured to the member 16 at the junction of said member 16 and the member 22.

Suitably secured to the ends of the transverse member 14 is a pair of fork members 38 as will be described hereinafter. As noted from an inspection of Figure 2 a tie rod 40 is provided joining the ends of the said members 38 and the end of the link 36. Rigidly secured to the ends of transverse member 18 is a stiffening link 42 having its other end secured to the fork members 38.

Referring now to the specific wheel suspension which forms part of the instant invention, a link 44 fixedly secured to the transverse member 14 is provided having an aperture at the free end thereof. It is here noted that the member 44 is located between the said fork members 38 and secured therein by means of a suitable pin 46 secured in the ends of the fork members 38 and through the said aperture in the member 44. An

arm 48 pivotally secured on the pin 46 at one end thereof and having a wheel 50 rotatably mounted on the other end thereof is provided with an actuator arm 52 rigidly secured to the pivoted end thereof. Secured to the said actuator arm 52 by some suitable means such as shackle bolts 54 is a spring 56, preferably of leaf construction as shown, the other end of the said spring being anchored to a member 58 through the medium of a suitable pivot 60. The said member 58 being pivoted in turn, as shown in Figure 4, to a shackle link 62 rigidly secured at one end thereof to the herein before described member 14. By this construction, it is evident that upon the striking of a raised portion or an indented portion of the road the individually suspended wheel will rise or fall against the action of the shock absorbing spring 56 thereby leaving the travel of the other wheel substantially unaffected.

Rigidly secured to the said frame 12 preferably at the junction of the transverse cross members and the stringer members 20 and 22 is a plurality of internally threaded sleeves, the operation thereof and the operation of its associated mechanism being described herein for only one of said plurality, each being identical. Slidably received in the said sleeve 64 is a hook-like member 66 having one end thereof threaded and having the other end thereof curved in a hook-like configuration shown at 68 adapted to receive a supporting cradle member 70 to be hereinafter described. Received on the threaded portion of the said hook-like member 66 is a nut 72 having a handle 74 secured on the side thereof, whereby upon rotation of the said nut, which abuts the sleeve 64, the member 66 may be lifted or lowered. Secured to the arcuate end 68 of the member 66 by some suitable means such as a clamp 76 as shown in Figure 3, is the aforementioned strap or boat retaining means 70. The operation of the boat clamping means is now evident. The strap 70 being suitably secured at both ends thereof to adjustable members 66, is adapted to be placed beneath a boat and the same is adapted to be pulled upward by rotation of the nuts 72 until a portion of the boat abuts suitable stops 78 secured to the said frame member. It is here noted that the said stops 78 and the said straps 70 may be lined with some suitable material such as felt, rubber or the like for the prevention of marring or scratching the boat in clamping and carrying the same. It is further noted that the said straps 70 may be constructed of any suitable material such as resilient metal, leather, heavy fabric and the like.

As is seen from an inspection of Figures 1 and 2, a pair of frame members 80 are rigidly secured to the said stringers 20 and 22 and a plate 82 is secured to the free ends of the said members 80. The said plate 82 thereby stiffens the hereinbefore mentioned junction 30 and also provides a convenient mounting bracket for an outboard motor 84, whereby the said motor may be transported conveniently and relatively safely.

Referring now to the boat lifting and launching means, reference is made to Figures 1 and 2. Journaled between the said members 22 and 40 in a suitable bearing is a shaft 86 having a convenient handle 88 secured at one end thereof, the other end thereof being suitably journaled in a bearing in the said frame member 12. Rigidly secured to the said shaft 86 is a ratchet gear 90 having a suitable prowl 92 associated therewith as is conventional. Also secured on the said shaft 86 is a spool 94 having a cable 96 fixedly secured

thereto. Suitably secured to the frame member 98 (see Figure 5) adjacent the said junction 30 is a pulley 100 and an anchor 102 adapted to receive the said cable 96 and for traveling over the first pulley 100 and a floating pulley 104 which has a suitable clamp 106 pivotally secured thereon. The operation of this portion of the invention is now quite evident; the clamp 106 being secured to the conventional stem ring 108 of a boat is lifted upon the turning of the hereinabove described winch which tensions the said cable 96. It is here noted that two of the recently described mechanisms are shown and since the second of the two mechanisms is substantially identical to the first a description of the second is deemed unnecessary. It is noted, however, that the cable 110 of the second winch mechanism extends to the rear of the boat while the cable 96 extends to the bow of the boat. It is now apparent that the boat may be raised or lowered by proper manipulation of the handle 88. A preferred operation of this embodiment of the invention is as follows. A trailer is backed or pushed over the boat, the front hoist hook is secured to the anchor ring in the prowl of a boat and then the prowl is lifted by means of the crank handle 88 as hereinbefore described. Then, the rear hoist hook is connected to the transom bracket or ring at the stern of the boat which is then lifted by proper manipulation of the other handle 88. At this point the slings or straps 70 are secured in the aforementioned hook portion 68 of the members 66 whereupon the boat is raised by turning the handle 74 until the said boat abuts the stops 78. At this point, the said cables may be loosened slightly if deemed necessary thereby relieving the tension on the winch mechanism and thereby relieving undue stress on the anchor and transom ring. To unload or launch the boat, the operations just described are repeated in an inverse order.

While there has been described but a preferred embodiment of the instant invention it is obvious to those skilled in the art that various changes such as omissions and additions may be made to this preferred embodiment without departing from the spirit and scope of the invention as set forth in the accompanying claims.

Having thus described the instant invention, what is claimed as novel is:

1. A device for lifting, transporting and launching a boat comprising a frame, means on said frame for selectively lifting and launching a boat, arms depending from said frame and pivotally mounted cantilevers on said arms and a wheel on each of said cantilevers, a leaf spring secured to each of said cantilevers and a shackle connected with each leaf spring and said frame, said means comprising a plurality of winches and cables secured thereon, said cables having ends adapted to be secured respectively to the stern and bow of a boat, a pulley depending from said frame guiding one of said cables and a plurality of straps adapted to engage the hull of a boat, a plurality of adjustable friction clamps secured to said frame and receiving the ends of said straps, whereby upon tightening said friction clamps the said brackets are squeezed about a boat holding the same in substantially rigid engagement with said frame.

2. A device for lifting, transporting and launching a boat comprising a frame, means on said frame for selectively lifting and launching a boat, resiliently biased pivotally mounted cantilevers

5

levers, said means comprising a plurality of winches and cables secured thereon, said cables having ends adapted to be secured respectively to the stern and bow of a boat, a plurality of straps adapted to engage the hull of a boat, a plurality of adjustable friction clamps secured to said frame and receiving the ends of said straps, whereby upon tightening said friction clamps the said brackets are squeezed about a boat holding the same in substantially rigid engagement with said frame, and a fixed block secured to one end of said frame to strengthen said frame and receive an outboard motor thereon.

3. The combination of claim 1 and a fixed block secured to the forward end of said frame to strengthen the frame and to receive an outboard motor thereon, a fixed link secured to the forward end of the frame and having an arcuate

6

lower portion adapted to connect with a vehicle hitch, the arcuate portion spacing the frame from the vehicle in order to cradle an outboard motor therebetween.

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