Feb. 21, 1950 B. J. SPENCER, JR., ET AL 2,498,014

BOAT TRAILER

Filed July 9, 1948 2 Sheets-Sheet 1

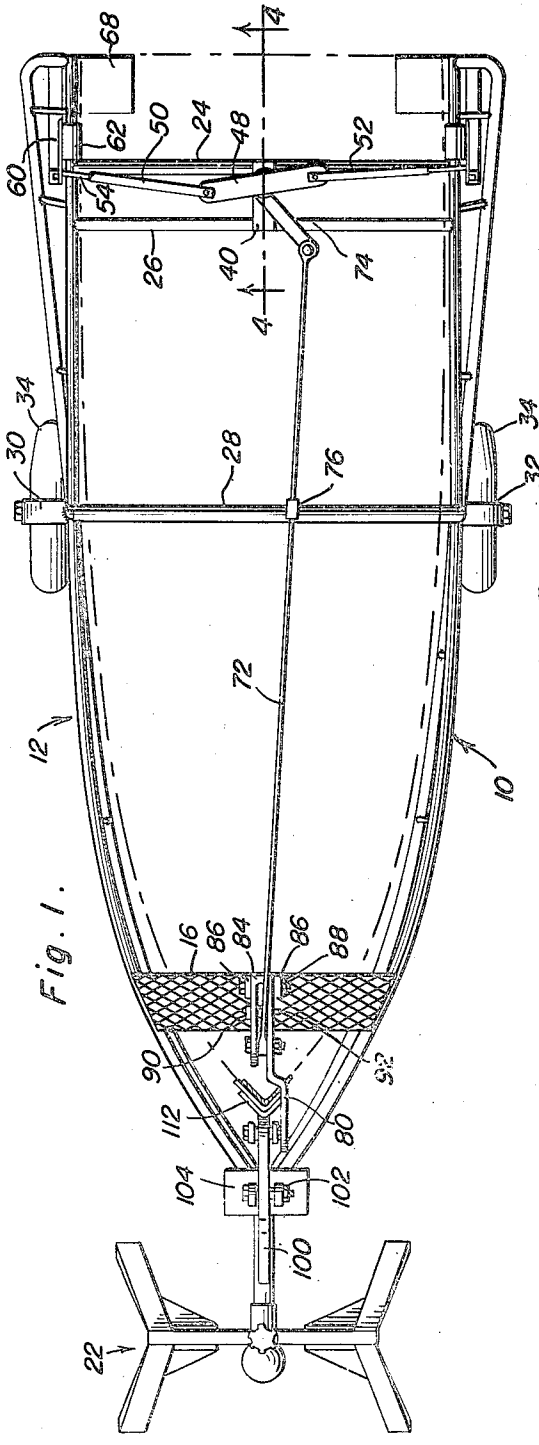


Fig. 1.

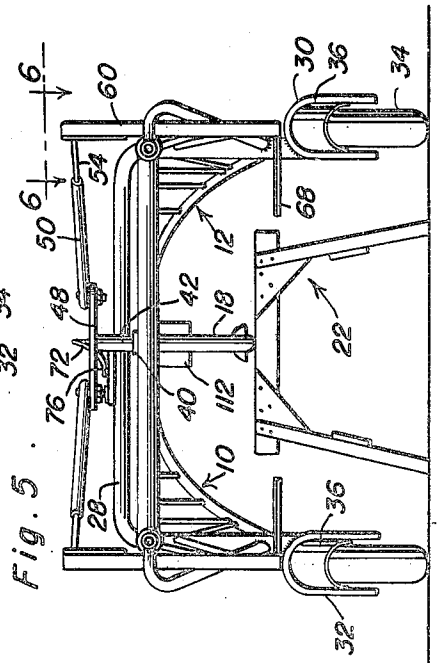


Fig. 5.

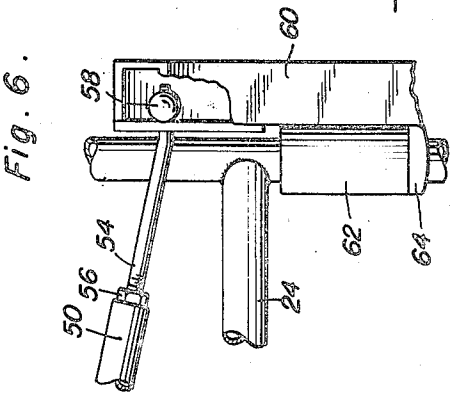


Fig. 6.

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BOAT TRAILER

Filed July 9, 1948 2 Sheets-Sheet 2

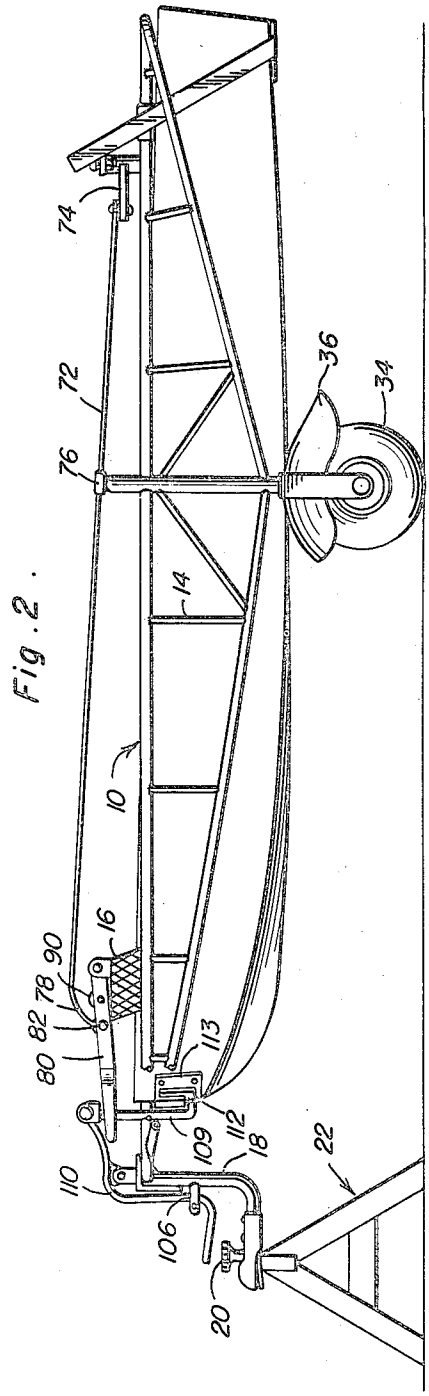


Fig. 2.

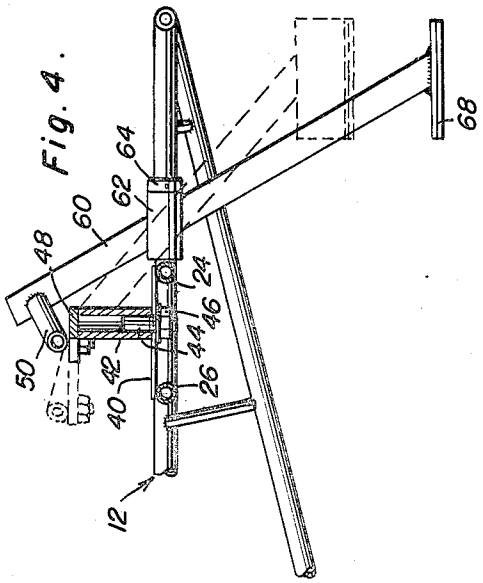


Fig. 4.

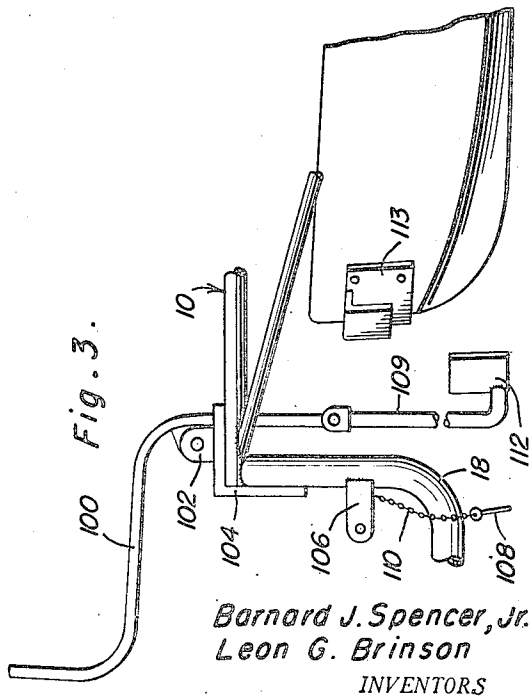


Fig. 3.

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2,498,014

BOAT TRAILER

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4 Claims. (Cl. 214—65)

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This invention appertains to novel and useful improvements in carriers for boats.

An object of this invention is to support a boat or the like in an improved manner and by improved means. This will enable the boat to be loaded or unloaded without lifting the boat manually from the boat's loading position, in water or out, and the elimination of time in loading or unloading the boat.

Another object of this invention is to support a boat at both front and rear ends thereof, both of the means for supporting the boat being operable at the front end of the trailer.

Another object of this invention is to swingingly mount the rear clamping means for the boat in order that the actual clamping portion of the clamping means may swing from the sides of the boat to the under surface thereof, rendering it possible to simply pull the trailer above the boat and actuate the clamping means in order to engage the under surface of said boat.

Another object of this invention is to clamp the front end of the boat in the supporting manner by engagement of the bracket placed on the boat to connect with the locking arms.

Another object of this invention is to provide an open portion in the back of the framing or the truss-like frame member in order to accommodate an outboard motor without removing motor from boat, or the like.

Yet another object of this invention is to provide a simplified device of the character described which is inexpensive yet practical in that straps, chains and the like are completely obviated.

Ancillary objects and features of novelty will become apparent to those skilled in the art, in following the description of the preferred form of the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of the preferred form of the invention;

Figure 2 is an elevational side view of the device shown in Figure 1;

Figure 3 is a fragmentary enlarged elevational view showing details of construction including the front clamping means;

Figure 4 is a fragmentary sectional view taken substantially on a line 4—4 of Figure 1 and in the direction of the arrows;

Figure 5 is a rear view of the invention shown in Figure 1;

Figure 6 is a plan sectional view taken substantially on the line 6—6 of Figure 5 and in the direction of the arrows, portions being broken away in section to illustrate details of construction.

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As is well known in the art there is a great number of devices for transporting boats from one location to another. It is therefore, one of the prime purposes of the present invention to improve generally on the structure of this class of invention through the medium of supplying independently operable clamping means at the front and rear end of a main frame; this facilitates loading and unloading a boat in or out of the water, the rear clamping means engaging the under surface of a boat after a swinging movement of the clamping devices has been effected. This swinging movement takes place by actuation of a lever positioned at the front end of the main frame of the boat trailer. Further, the normal ridge, hook or the like which is positioned at the forward end of the boat has been found to be an adequate element to serve a secondary function in that in the present invention it is utilized for the purpose of clamping the forward end of the boat rigidly in position. The means for actuating this particular clamping device is positioned at the forward end of the frame adjacent the first mentioned actuating lever. Thus, the boat may be entirely clamped within the trailer at the forward end of the device.

A smoothly curved truss-like frame is provided of a pair of sides generally indicated at 10 and 12 respectively having stiffening members 14 positioned therein wherever it is found desirable. The specific location of the stiffening members is left within the prerogative of the manufacturer. Extending across the frame adjacent but not at the forward end thereof is a substantially U-shaped bracket 16 which serves two functions. The first function of this element 16 which is padded, is to provide additional rigidity to the frame structure while the second function is to mount a portion of one of the clamping device actuating means.

The said sides 10 and 12 respectively are smoothly curved to a point of convergency whereon a draw bar 18 is provided. This draw bar has a conventional coupling 20 attached thereto for the usual purpose intended for such elements. For illustrative purposes a support generally indicated at 22 is illustrated for the sole purpose of supporting the front end of the frame.

Cross members 24 and 26 span the side members 10 and 12 for stiffening purposes and also to serve as a support for another portion of the rear clamping device actuation means. Posi-

tioned substantially at the center of gravity of the frame is a substantially U-shaped yoke 28 terminating in forks 30 and 32 respectively. Each of the forks carries a wheel 34 with suitable means for journalling the wheel within the forks. Thus, the frame is roadable and, splash guards 36 may be supplied in association with the forks to serve their usual and conventional function.

It is noted by an inspection of Figure 1 that the rear of the frame is substantially open in order that outboard motors and the like may be easily accommodated without interference. Also positioned at and adjacent this rear portion of the frame is means for clamping the under surface of an ordinary boat. This means is symmetrical and includes a small plate 40 rigidly secured to the said cross members 24 and 26 thereby forming a platform. A sleeve 42 is positioned on the said platform 40 and is maintained in place through the use of a stud 44 which is anchored within the bore of the sleeve. This stud also extends through the platform 40 and is held in position by any suitable conventional means such as the nut 46 and a suitable lock washer. By the above described structure it is appreciated that the sleeve 42 is mounted for rotation on the platform 40. A flat bar 48 is attached to the top portion of the said sleeve 42 and has pitmans 50 and 52 respectively pivotally associated therewith. These pitman rods may be seen best in Figure 6 and are obviously tubular with an extensible member maintained in place through the medium of a locking nut 56 and the terminal thereof has a ball 58 threadedly received thereon. The said ball 58 is used to maintain a rocking rod 60 in proper assembled relation with the frame. A sleeve type bearing 62 is rigidly secured to the rocking arm 60 by welding, brazing or other suitable means. This sleeve type bearing 62 is journaled on the upper member of one of the frame sides thereby allowing the rocking rod or arm 60 to pivot about the side to which it is appurtenant.

Viewing Figure 4 it will be seen that the rocking arm or rod 60 is positioned in a non-perpendicular relation relative to the longitudinal axis of the upper frame or truss member thereby allowing the swinging or rocking rod 60 to describe an arcuate path in engaging the under surface of a boat. In order to prohibit movement a collar 64 may be welded, brazed or otherwise rigidly secured to the upper member of the frame for engagement with the sleeve 62. This collar 64 serves the purpose of a thrust bearing and the cross member 24 limits the travel of the sleeve 62 in the opposite direction, also serving the purpose of a thrust bearing. Suitably positioned at the lowermost portion of the rocking rod 60 is a plate 68, it being padded, which operatively engages the under surface of the boat thereby maintaining it in the elevated or raised position.

Means is provided for actuating the said rocking arm 60 and the complemental rocking arm (unnumbered) which is on the opposite side (10) of the frame. The preferred means includes a relatively long rod 72 which is pivotally secured to an arm 74. The said arm 74 is in turn rigidly associated with the said sleeve 42 as is seen in Figure 4.

A turnbuckle device 76 is interposed in the length of the rod 72 for the purposes of adjustability. At the opposite end of the said rod 72 there is an arcuate portion 78 which is connected with an operating lever 80 through the medium of a conventional pivot pin 82. The said pivot pin 82 also extends through one end of a pivotally mounted bracket 84. The said bracket 84 is attached to the substantially U-shaped cross member or platform 16 by means of the upstanding perches 86. Of course a suitable pivot pin which may be in the form of a bolt 88 extends through both perches and an end of the bracket 84.

The bracket 84 is an integral part of the operating lever or handle 80. For locking purposes a pin 90 is supplied in suitable aligned apertures in the bracket 84 and in the lever 80. Thus, by placing the pin within the aligned apertures mentioned above and in a suitable aperture in a bracket 92, which is attached rigidly to the platform 16, the rod 72 is maintained in a selected position thereby retaining the rocking rods 80 in selected position.

Positioned adjacent the forward end of the said frame is a second locking device which is adapted to engage and retain the forward end of a boat in position within the frame. On the front portion of the boat a bracket is bolted thereon and is used in this connection. A lever 100 is pivoted to a bracket 102. This bracket 102 is, in turn, associated with an angle plate 104 and the angle plate is attached directly at the forwardmost portion of the frame. The actuating lever 100 as disclosed in Figure 2 is in one pivoted position. In this position a pin 108 may be passed through apertures in a small bracket 106 which is attached to the draw bar 18 for the purpose of holding the lever 100 in the illustrated position. A chain 110 is supplied connecting the pin 108 to the bracket 106 in order that it will not be inadvertently lost. The operation is deemed readily apparent, as the lever is simply placed within the bracket 106 and the pin 108 clamps it firmly in place.

At the inner end of the said lever 100 there is a link 109 which is pivotally secured thereto. This link has a substantially V-shaped plate 112 welded or otherwise rigidly secured thereto which clampingly engages the bracket 113 bolted to the boat's front end. Thus, the boat is held at its forward end in the raised or elevated position.

While there has been described and illustrated but a preferred form of the invention, it is apparent that variations may be made without departing from the spirit thereof.

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

1. A boat transporting device comprising a frame and a draw bar attached at the forward end thereof, means swingingly mounted adjacent the rear of the frame for clampingly engaging the bottom portion of a boat, means for actuating said clamping means, said actuation means including a pivot mounted on said frame, pitman rods attached to said pivot, and means positioned at the forward end of same frame for rotating said pivot, a lever pivotally mounted at the forward end of said frame, means for locking said lever in a predetermined position, a link pivotally mounted at one end of said lever and a plate secured to said link adapted to clampingly engage the forward end of a boat.

2. The combination of claim 1 and said locking means including a bracket associated with said frame and a pin detachably mounted on said bracket.

3. A boat trailer comprising a frame having a draw bar attached to the front end thereof and having an open back and, rocking arms swingingly mounted adjacent the rear end of the frame and swingable laterally of the frame for

clampingly engaging the bottom portion of a boat, a vertically disposed pivot secured to said frame adjacent the rear open end, pitman rods secured to said rocking arms, a bar mounted on said pivot for pivotal movement in a horizontal plane and having said pitman rods secured thereto whereby upon movement of said bar, said rocking arms are swung inwardly and outwardly of said frame, means disposed at the forward end of said frame for operating said bar including a lever pivotally carried by said frame by means of a horizontally disposed pivot so that said lever is movable in a vertical plane, means operatively connected with said draw bar releasably retaining said lever in one position, means including a link connecting said lever with said bar so that pivotal movement of said lever is reflected in pivotal movement of said bar, and a locking assembly partially carried by said lever and by the forward end of a boat for releasably supporting the forward end of the boat.

4. The combination of claim 3 and said locking assembly consisting of a bracket, a link pivoted to said lever and a member carried by said link releasably retained in said bracket.

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