July 16, 1957 H. A. OVERTON 2,799,408

ONE MAN BOAT TRAILER LOADER

Filed April 27, 1954 2 Sheets-Sheet 1

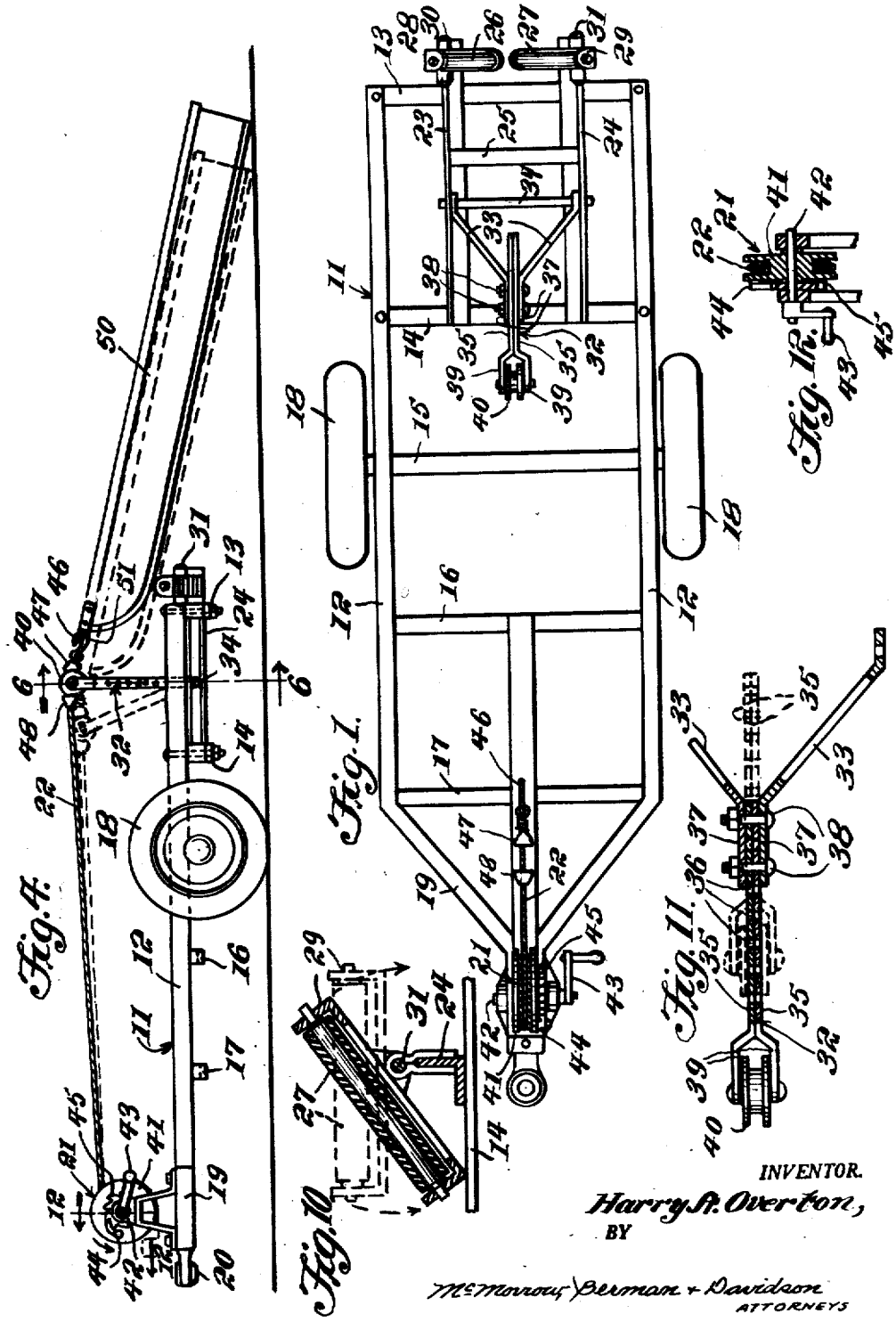


Fig. 1.

Fig. 4.

Fig. 10.

Fig. 11.

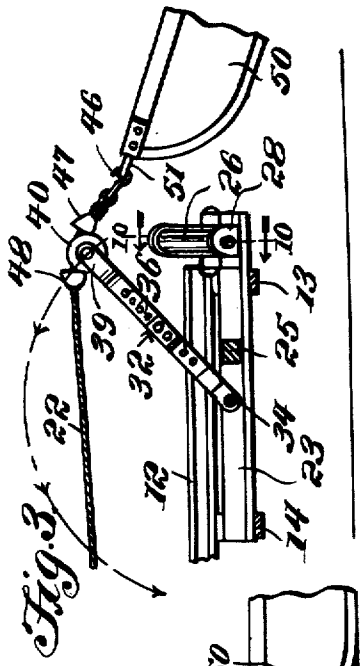
Fig. 12.

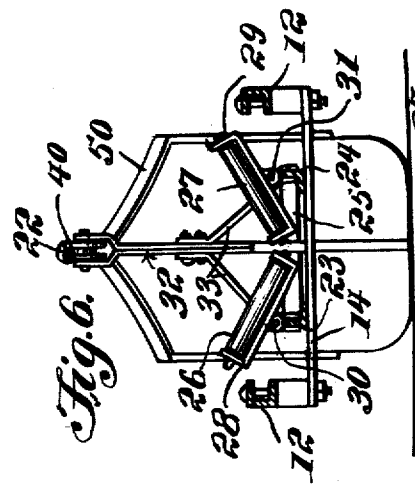
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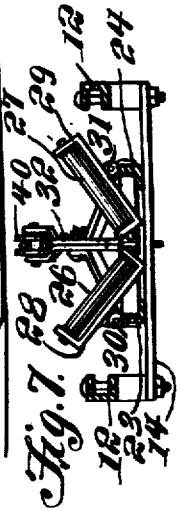
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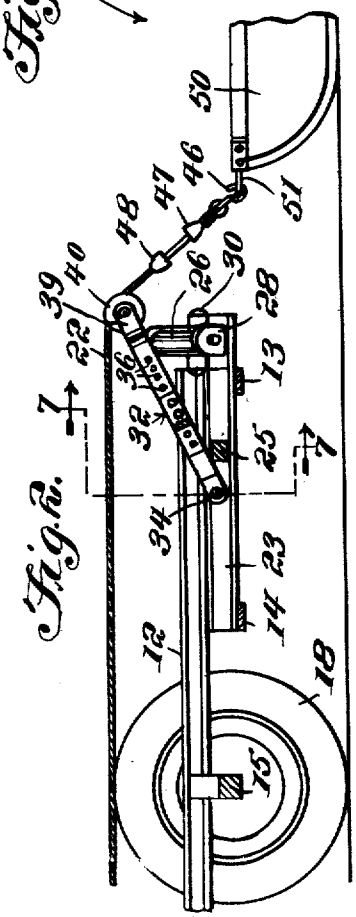
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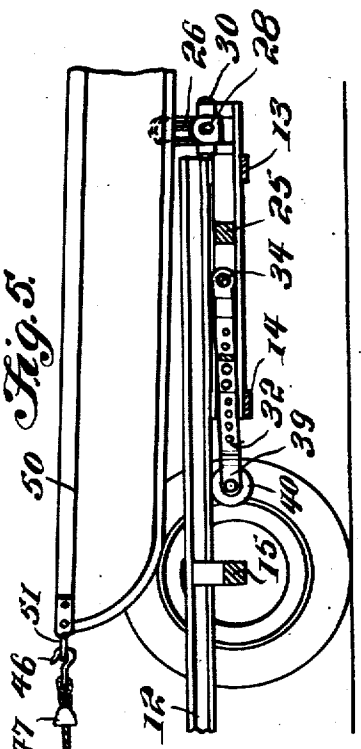
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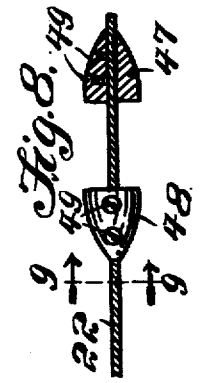












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ONE MAN BOAT TRAILER LOADER

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1 Claim. (Cl. 214—84)

This invention relates to boat trailers, and more particularly to an improved boat loading device on a boat trailer.

A main object of the invention is to provide a novel and improved boat loading device for a boat trailer, said loading device being simple in construction, being easy to mount on a boat trailer, and being easily adjustable so that it may be employed to lift boats of different sizes onto the boat trailer.

A further object of the invention is to provide an improved boat loading device for a boat trailer, said device involving inexpensive components, being rugged in construction, enabling the boat to be loaded on a boat trailer by a single person, and being easy to operate.

Further objects and advantages of the invention will become apparent from the following description and claims and from the accompanying drawings, wherein:

Figure 1 is a top view of a boat trailer constructed in accordance with the present invention;

Figure 2 is a fragmentary longitudinal vertical cross sectional view taken through the rear portion of the boat trailer of Figure 2 with the boat loading attachment thereof shown in its initial loading position;

Figure 3 is a fragmentary vertical longitudinal cross sectional view, similar to Figure 2, showing the lever device of the loading attachment in a partly raised position as the boat is being lifted onto the trailer;

Figure 4 is a fragmentary side elevational view of the boat trailer of Figure 1 showing the lever means of the loading attachment in its vertical position as the forward portion of the boat is lifted over the supporting rollers on the loading attachment;

Figure 5 is a fragmentary longitudinal vertical cross sectional view taken through the rear portion of the boat trailer and showing the positions of the parts after the forward portion of the boat has been deposited on the boat trailer and immediately before the boat is pulled to its final position on the trailer;

Figure 6 is a transverse vertical cross sectional view taken on line 6—6 of Figure 4;

Figure 7 is a vertical transverse cross sectional view taken on line 7—7 of Figure 2 and showing the supporting rollers in their normal positions;

Figure 8 is an enlarged front elevational view, partly in vertical cross section, of the forward end portion of the lifting cable, showing the spaced abutment elements on the lifting cable, as employed in the boat loading means illustrated in Figures 1 to 7;

Figure 9 is a transverse vertical cross sectional view taken on line 9—9 of Figure 8;

Figure 10 is an enlarged vertical cross sectional detail view taken on line 10—10 of Figure 3;

Figure 11 is an enlarged horizontal cross sectional detail view taken on line 11—11 of Figure 5 and illustrating the details of the lever member employed in the boat loading attachment; and

Figure 12 is an enlarged cross sectional detail view taken on line 12—12 of Figure 4.

Referring to the drawings, 11 generally designates a boat trailer which comprises a horizontal frame having the longitudinal side bars 12, 12, the spaced transverse bars 13, 14, 16 and 17, the transverse supporting axle 15 on which are journaled the respective supporting wheels 18, 18, the tapering forward end 19 to which is connected conventional hitch means 20, and a loading winch 21 mounted on the tapering forward portion of the frame and having wound thereon the flexible cable 22. Secured to the transverse members 13 and 14 of the rear end of the trailer frame are a pair of spaced longitudinal support members 23, 24, for example angle bars having their horizontal flanges directly inwardly toward each other. Slidably mounted on said horizontal flanges is a transversely extending bar member 25.

Designated at 26 and 27 are respective roller members pivoted at their intermediate portions to the rear ends of the longitudinal bar members 23 and 24, said rollers 26 and 27 being thus pivoted for adjustment in a transverse vertical plane. Normally, the rollers are inclined downwardly and inwardly toward each other, said rollers being rotatably supported in respective supporting brackets 28 and 29 which are hingedly connected at 30 and 31 to the respective longitudinal bars 23 and 24 to define the aforesaid pivotal connections of the rollers 26 and 27 to said longitudinal members.

Designated generally at 32 is a lever member which comprises a pair of side arms 33, 33 connected to a transverse hinge bar 34 secured in the intermediate portions of the respective vertical flanges of the longitudinal bar members 23 and 24. The side bars 33 diverge toward the hinge bar 34, as is clearly shown in Figure 1, and the ends of the side bars are pivotally engaged with said hinge bar inwardly adjacent the vertical flanges of the respective longitudinal bar members 23 and 24.

The lever member 32 comprises a pair of inner bar members 35, 35 which are secured together to define the main body of the lever member, said bar members being formed with spaced apertures 36. The ends of the side bars 33, 33 designated respectively at 37, 37, are connected to the bar members 35, 35 at selected apertures 36, by a pair of bolts 38, whereby the effective length of the lever member 32 may be adjusted. The ends of the bar members 35, 35 are formed with the outwardly offset portions 39 between which is journaled a grooved pulley 40.

As shown in Figure 12, the winch 21 comprises a reel 41 on which the cable 22 is wound, said reel being mounted on a shaft 42 provided with a handle 43 for rotating the shaft and reel, the winch being further provided with the conventional pivoted dog 44 mounted on a side wall of the reel and the stationary ratchet disc 45 engageable by the dog 44 to lock the reel when it is under load so as to prevent the unwinding thereof. Secured to the end of the cable 22 is the hook 46. Adjustably secured to the cable adjacent the hook 46 are the spaced, opposing, oppositely tapering abutment members 47 and 48, said abutment members being spaced sufficiently to at times receive the pulley 40 therebetween, as shown, for example, in Figure 3, to temporarily cause the lever member 32 to be rotated responsive to the winding up of the cable on the winch reel 41.

The abutment members 47 and 48 are provided with set screws 49 to enable the abutment members to be secured in adjusted positions on the cable 22.

In loading a boat, shown at 50 in Figure 2, onto the trailer, the hook 46 is first engaged with the bow ring 51 of the boat with the parts arranged as shown in Figure 2, namely, with the lever member 32 rotated to a position overlying the rollers 26 and 27, the slidable cross bar 25 being adjusted to support the lever member 32 in this position. As shown in Figure 2, the cable 22 is engaged

over the pulley **40**. The cable is then wound up on the winch reel **41**, whereby the pulley **40** becomes engaged between the abutment members **47** and **48**, causing the lever member **32** to be elevated to the position thereof shown in Figure 3, in which position the bow portion of the boat **50** is elevated, from its position of Figure 2. Continued winding up of the cable **22** elevates the forward portion of the boat still further and elevates the lever member **32** to the vertical position thereof shown in Figure 4, in which position the bow of the boat is disposed over the rollers **26** and **27**. Further winding up of the cable **22** on reel **41** causes the lever member **32** to swing further counterclockwise, as viewed in Figure 4, until the lever member passes the dotted line position thereof shown in Figure 4, after which the lever member disengages from the cable **22** and drops to a horizontal position, such as that shown in Figure 5, wherein the lever member is supported on the transverse bar **14**. When this occurs, the boat descends and engages the rollers **26** and **27**, said rollers pivoting to conform with the contour of the boat. Finally, the boat is drawn completely onto the boat trailer by continuing the winding up of the cable **22** on the reel **41** until the boat reaches its final desired position on the trailer frame.

From the above it will be readily apparent that a boat may be loaded onto the trailer in a simple, rapid, and face manner requiring only a single operator. While a specific embodiment of an improved loading device for a boat trailer has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention except as defined by the scope of the appended claim.

What is claimed is:

In a boat trailer, a main frame, a pair of spaced longitudinal support members on the rear end of said main frame, respective transversely extending rollers pivoted to the rear ends of said support members in a common transverse vertical plane, a transverse hinge bar positioned forwardly of and spaced from said rollers and secured to said support members, a lever comprising side arms having one end pivoted to said hinge bar and a bar member extending between the other end of said side arms and secured thereto and having one end projecting outwardly of said side arms, a transversely extending bar member arranged between said hinge bar and said rollers and slidable along said support members and engageable with said hinge bar, a pulley journaled on the end of said lever bar member, a winch mounted on said main frame forwardly of said lever, a cable mounted on said winch and secured over said pulley, and a pair of spaced abutment elements secured on said cable adjacent the end thereof, said abutment elements being engageable on opposite sides of said pulley sufficiently to elevate the lever, rotate the lever past vertical dead center, and then disengage from the pulley responsive to the winding of said cable on the winch when a boat is attached to the end of the cable.

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