March 13, 1945. F. S. NEWELL 2,371,461

MARINE CARRIAGE

Filed Nov. 11, 1943 2 Sheets-Sheet 1

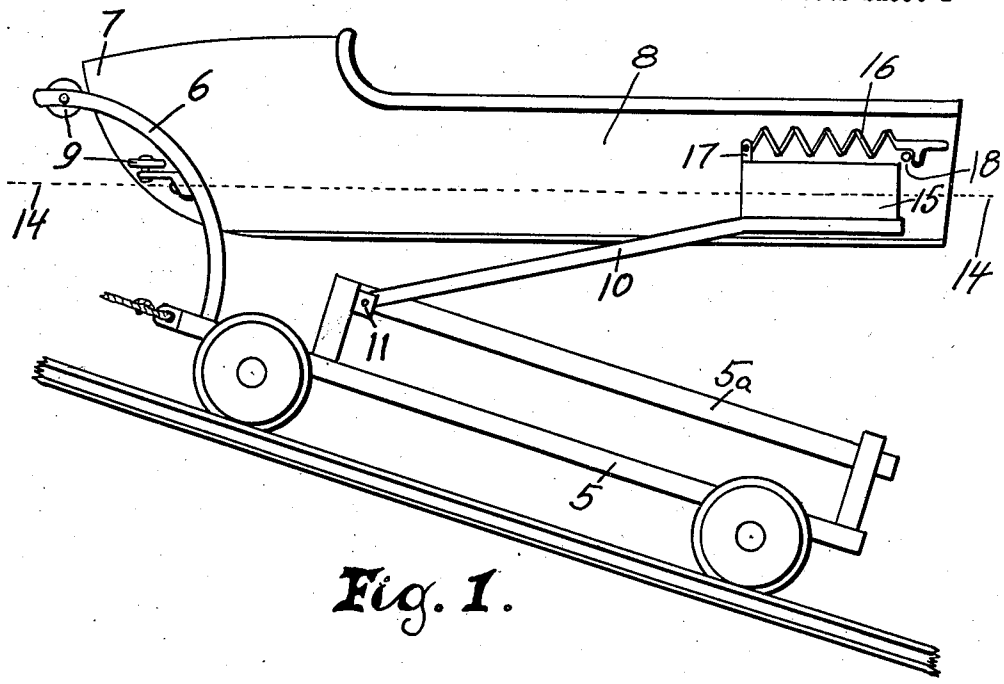


Fig. 1.

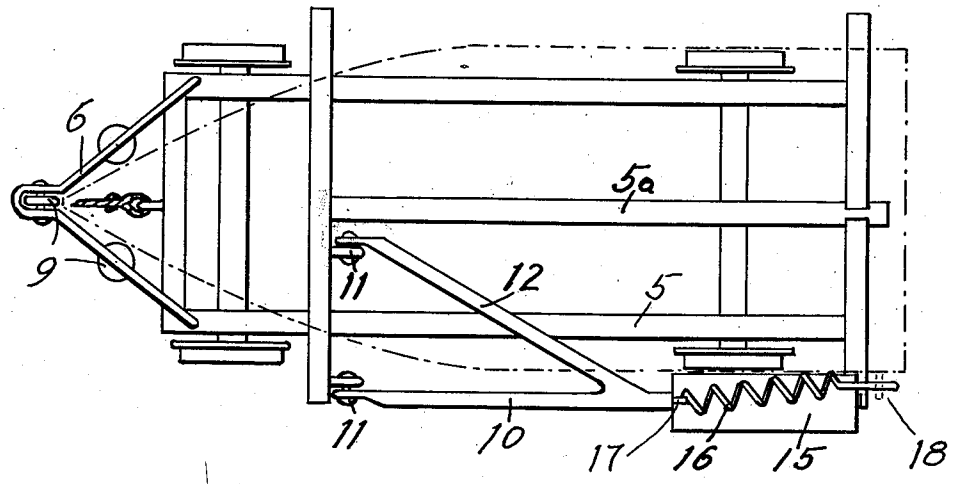


Fig. 2.

INVENTOR
Foster S. Newell
BY
Wheeler, Wheeler & Wheeler
ATTORNEYS

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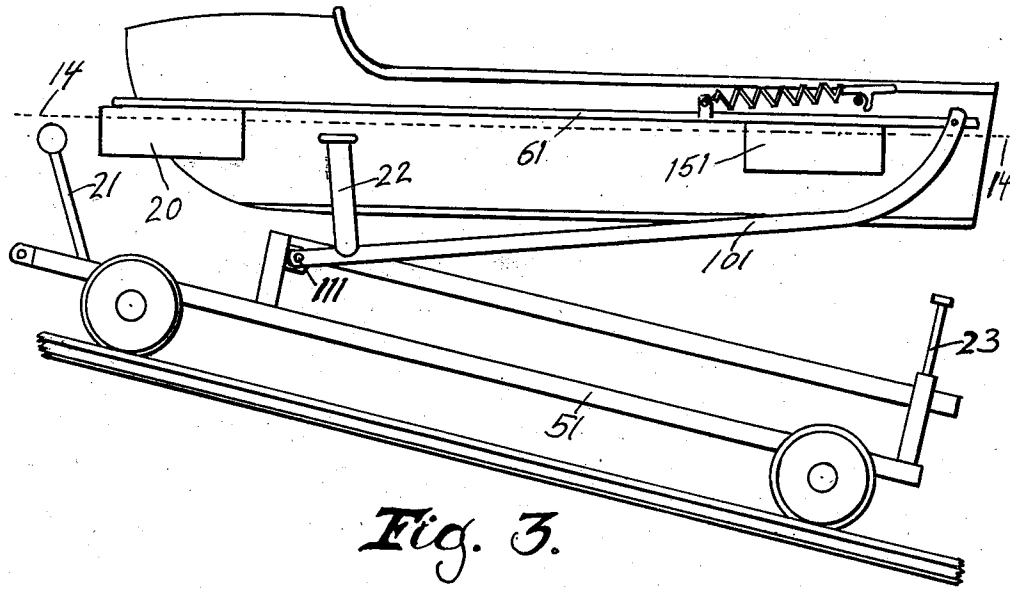


Fig. 3.

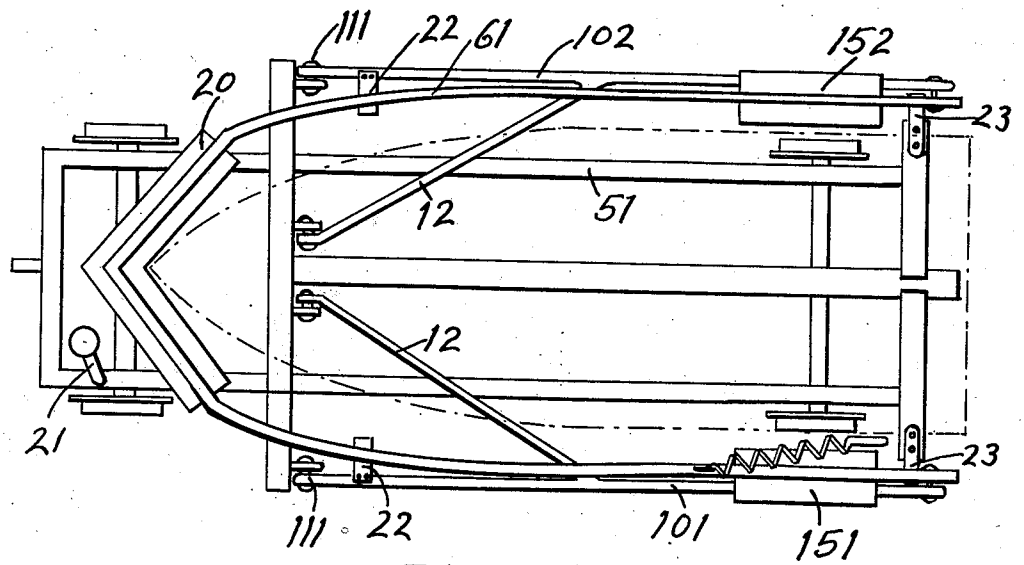


Fig. 4.

INVENTOR
Foster S. Newell
BY
Wheeler, Wheeler & Wheeler
ATTORNEYS.

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MARINE CARRIAGE

Foster S. Newell, Milwaukee, Wis.

Application November 11, 1943, Serial No. 509,858

9 Claims. (Cl. 61—67)

This invention relates to improvements in marine carriages.

It is the primary object of the invention to provide novel and improved means for locating a boat properly with reference to a carriage on which the boat is to be removed from or is being lowered into the water. In the use of a marine railroad or hoist carriage it is difficult, particularly where the operator is working alone, to locate the boat accurately above the submerged carriage. Moreover, in the case of a marine railroad, the difference in angle and elevation between the carriage and the boat make it difficult to assure continued registration of the boat with the carriage as the boat settles onto the carriage while the latter rises from the water.

Especially where small boats are concerned, it is desired to provide means of registration which will normally float at the surface when the carriage is submerged and will collapse automatically onto the carriage to locate the boat thereon and thus to permit a single person to remove a boat readily from the water.

The foregoing and other objects of the invention will be more apparent from the following disclosure of the invention.

In the drawings:

Figure 1 is a diagrammatic side elevation of a carriage embodying the invention and a boat floating above the carriage in position to be removed from the water.

Figure 2 is a plan view of the device shown in Figure 1.

Figure 3 is a diagrammatic side elevation similar to Figure 1, showing a modified embodiment of the invention.

Figure 4 is a plan view of the device shown in Figure 3.

Like parts are identified by the same reference characters throughout the several views.

The wheeled carriage 5 may be made with or without a cradle 5a to fit the hull of the boat. The construction of the carriage and the track, if any, upon which it operates, is immaterial to the present invention except so far as concerns the positioning device hereinafter disclosed.

Near the forward end of the carriage is some sort of a bow locating device which may include the angled bracket 6, formed to receive the bow 7 of the boat hull 8. The bracket 6 of the bow locator may, if desired, be provided with rollers at 9 against which the bow may ride as the carriage rises beneath the hull.

Pivoted to the carriage 5 are one or more arms 10. In the construction shown in Figure 1 and Figure 2 I have illustrated a single arm pivoted at 11 and provided with a brace at 12 to maintain it parallel to the longitudinal center line of the carriage. At its free end the arm is provided with a float 15 having sufficient buoyancy to remain at or near the water line 14 when the carriage is submerged.

I may employ any one of a variety of means of holding the boat hull to the positioning apparatus. For some purposes it may suffice to connect the bow of the boat to the bow locator 6. This, however, would leave the stern of the boat hull free to swing away from the arm 10 under the influence of a cross wind. Preferably, therefore, I use at 16 a tension spring extending from an anchorage 17 on arm 10 to an anchorage 18 provided on the hull of the boat 8. Such a spring will not only hold the bow of the boat yieldably against the bow locator 6 but will also hold the stern of the boat yieldably to the arm 10 and float 15.

When the carriage 5 is submerged the boat may readily be positioned above the carriage by simply running its bow against the locator 6 and connecting the tension spring 16, as shown. The float maintains the anchorage 17 close to or above the water level, and the operator therefore has two points visible at the surface for accurately positioning his boat above the carriage.

With the boat positioned as above described, it is only necessary to draw the carriage from the water by means of the usual rope windlass, or otherwise. As the carriage rises from the water the arm 10 will move relatively downwardly upon its pivotal connection at 11 with the carriage. At the same time the boat hull will remain in its adjusted relation to the arm and to the bow locator so that ultimately the hull will rest in exactly the desired position on the carriage for its complete removal from the water.

In the construction illustrated on the second sheet of the drawings the carriage 51 is provided with two arms 101 and 102, pivoted to the carriage on the transverse axis indicated at 111. The floats 151 and 152, instead of being fixed at the ends of the arms 101 and 102, are in pivotal connection therewith and connected by a yoke 61, which is also provided at its forward end with a float at 20. This yoke, and the forward float 20, in the modified embodiment of the invention, serve as a bow locator. Means similar to the tension spring 16 shown in Figure 1 may be employed to hold the boat hull between the floats 151 and 152 and with its bow engaging the locating means at the front end of yoke 61.

The yoke and the three floats 151, 152 and 20 are all at the surface of the water when the carriage 51 is submerged. The yoke and floats serve as a floating slip to define the desired position of the boat hull. The boat is simply run into the floating slip between the arms of the yoke and is fastened to the yoke in any desired manner. As the carriage is drawn from the water, the boat moves forwardly with the carriage while at the same time the carriage rises beneath the boat until it finally takes the entire weight thereof, the boat being accurately positioned by the yoke and by the arms 101 and 102 upon the carriage.

Where the bow locator 6 is fixed to the carriage, as in the construction shown in Figure 1, it also serves as a gage to determine the depth to which the carriage must be submerged to receive the boat. In the construction shown in Figure 3 the bow locator floats free of the carriage, and hence I may incorporate in the Figure 3 construction a gage device at 21 for indicating the depth to which the carriage should be submerged.

I may also use limiting stops 22, 23, if desired, to support the arms 101, 102, and the yoke 61 as the carriage leaves the water.

In both of the constructions herein disclosed it happens that the arm or arms have been illustrated as pivoted to the carriage near the front end thereof. This arrangement is not essential. The arms, and the pivotal connection, illustrated are merely exemplifications of many possible forms of collapsible positioning means which may locate the proper position of the boat at the surface of the water and will collapse onto the carriage, as the carriage rises beneath the boat, to continue the positioning effect until the boat rests on the carriage. The arms illustrated have the merit, however, of great simplicity and convenience, and therefore constitute a preferred construction. Moreover, the fact that the boat positioning means is guided pivotally rather than slidably respecting the carriage tends to eliminate frictional difficulties and binding, and is therefore preferred to any other means of guidng the collapsing of the boat positioning member during the operation of the device.

I claim:

1. In a device of the character described, the combination with a carriage, of an arm pivoted to the carriage for movement in a generally vertical plane, a float supporting the free end of the arm, and means for locating the boat laterally and longitudinally over the carriage and including means for connecting the floating end of the arm laterally with a boat hull to be positioned on the carriage, said carriage comprising exclusive boat support and said arm and float providing guidance exclusively.

2. In a device of the character described, the combination with a boat carriage comprising exclusive means for boat support, of guide means having a portion fixed against displacement in one direction respecting the carriage, said guide means including another portion adapted to extend to the surface of the water above the carriage when the carriage is submerged, a float upon said last mentioned portion comprising means solely for guidance independently of support, and means for connecting said float with a boat hull to guide said hull into proper registration with the carriage as the carriage rises beneath the hull, said guide means comprising means upon which the float is movable in a generally vertical direction respecting the carriage.

3. In a device of the character described, the combination with a carriage having a boat receiving cradle, of an arm in pivotal connection with the forward end of said carriage and having a free end portion extending rearwardly along the carriage, a float in supporting relation to the rearwardly extending free end portion of said arm, and means for connecting the float and the free end portion of the arm with a boat hull to be located above the carriage, together with means above the forward portion of the carriage for locating the bow of the boat.

4. The device of claim 3 in which the connection to the boat comprises a spring urging said boat into operative engagement with said bow locating means.

5. In a device of the character described, the combination with a carriage, of an arm at one side of the carriage in pivotal connection with the forward end portion of the carriage for movement about a transverse axis, a bow locating bracket having a forwardly directed apex and rising above the forward end portion of the carriage, a float connected with said arm, and boat connecting means comprising an anchorage supported by said float and arm, and a tension spring having a boat engaging fastener and extending rearwardly from said anchorage whereby to urge toward said bow locating bracket a boat with which such fastener is engaged, said arm being adapted to guide the boat to accurate registration with said carriage as said carriage rises beneath the boat.

6. In a device of the character described, the combination with a buoyant yoke comprising a floating, boat-receiving slip disposed for lateral engagement with the sides and bow of a boat exclusive of any supporting engagement therewith, of a carriage comprising exclusive means for boat support, and means connecting said yoke with said carriage for predetermined vertical movement of the yoke respecting the carriage whereby a boat in the yoke will be guided to the carriage as the carriage rises beneath the boat.

7. The device of claim 6 in further combination with stop means limiting the collapse of the arm and float with respect to the carriage as the carriage rises.

8. In a device of the character described, the combination with a yoke open at its rear and comprising a forward float and a pair of rearward floats between which a boat is receivable, a carriage beneath the yoke, arms pivotally connected substantially coaxially with a forward portion of the carriage and pivotally connected with rearward portions of the yoke, said arms comprising means for guiding the yoke in vertical movement respecting the carriage.

9. The device of claim 8 together with means for positioning a boat within the yoke comprising a connector detachably engageable with the boat hull, an anchorage forwardly of said connector on the yoke, and a tension spring extending from the connector to the anchorage.

FOSTER S. NEWELL.