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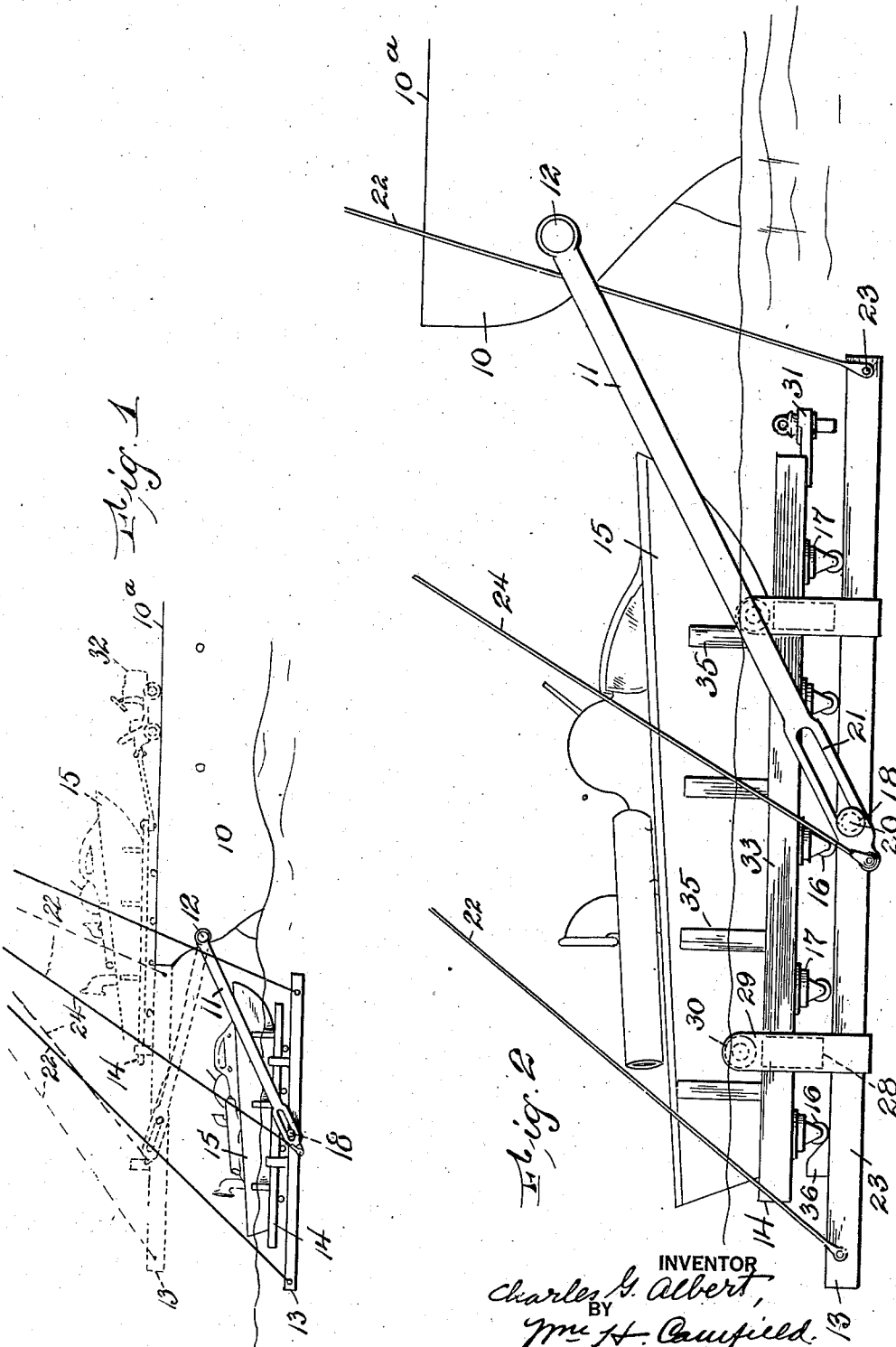
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DEVICE FOR LAUNCHING AND RETRIEVING BOATS

Filed March 30, 1944

2 Sheets-Sheet 1



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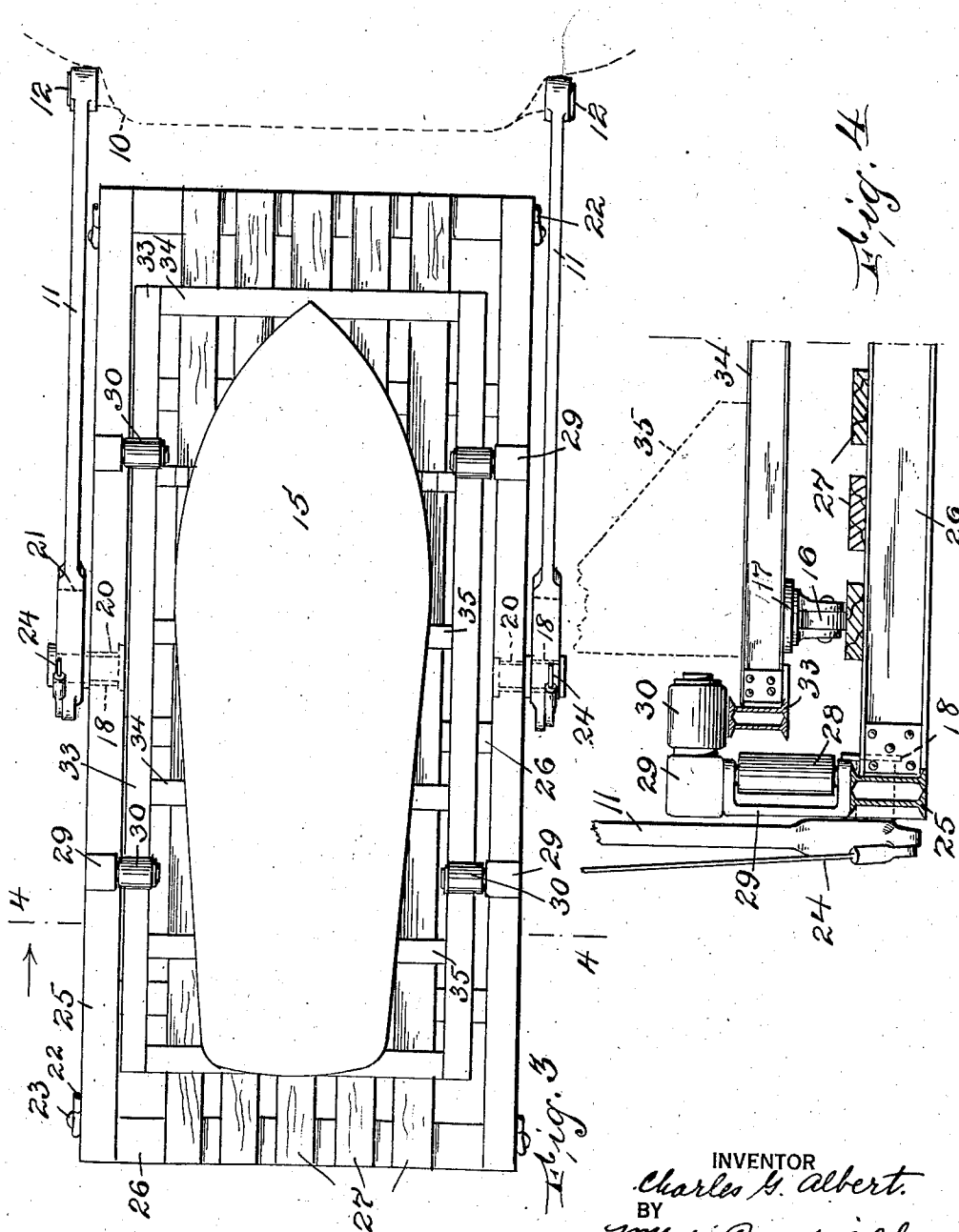
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DEVICE FOR LAUNCHING AND RETRIEVING
BOATS

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9 Claims. (Cl. 114—43.5)

This invention relates to an improved means for launching and retrieving small boats from and to a raised platform. The device is designed for various situations and for different locations for the more prompt and secure movement of the boats. The particular construction illustrated in this application and the far more frequent installation is for launching and returning boats to the deck or decks of a ship. More particular use to which the invention is applicable is that of using P-T boats and similar craft by means of a carrier or mother ship and facilitate their launching and return in a prompt and practical manner.

The invention is designed to replace the present method of using cranes for lifting boats from the deck of a ship, swinging them outboard and then lowering them into the water. This method is slow, requires the careful placing of slings and requires a high degree of skill in the crew. The method is slow and in case the sea is rough the rolling of the ship and the action of the sea cause the boat to be smashed or damaged against the ship and sometimes results in injury to personnel.

The present invention can be used in launching P-T boats and similar craft by using means that maintain the boat in a substantially horizontal position from a deck of a ship to the water and also from the water to the deck.

When the device is used on a ship the mechanism is preferably installed aft where the ship, especially if it is under way, causes a flattening of the rough or turbulent sea. The launching of a boat or its return is not made difficult by the rolling of the ship and any pitching of the vessel can be compensated for by the device which allows the boat to be handled without its coming in contact with the ship.

The invention also relates to certain details of construction that will be more fully described hereinafter and also embodied in some of the claims.

The invention is illustrated in the accompanying drawings which show the invention installed on a moving structure, such as a ship, but it will be evident that the mechanism can also be used on a fixed structure, such as a wharf.

In the drawings, Figure 1 is a side view of the device as secured to a ship and also showing the carriage and its support in submerged position, and, in dotted lines, in raised position for delivery to the deck. Figure 2 is a side view of the platform and carriage when submerged and with a boat in the carriage. Figure 3 is a top view of

the parts shown in Figure 2. Figure 4 is an enlarged cross-section of one-half the parts shown in Figure 3 and taken on line 4—4 in Figure 3.

As the illustration is directed to showing the installation on a vessel, the stern of a vessel 10 is shown. The deck 10a is usually of the type used on carriers and is flat. The installation is preferably arranged to extent aft the stern. This location is preferred because the vessel, in its progress produces a wake that is flatter than a swell or a moderately high sea.

The boat-carrying elements are guided, vertically by what, in this specification and claims is called a frame, and which is embodied in a pair of spaced parallel booms 11 which are hinged at 12 to the ship, each having a pivoted connection at its outer free end for attachment to platform 13. The platform is provided with open ends and supports a carriage 14 which is constructed to receive the boat 15. The carriage is movable, having rollers or wheels on which it rides, the drawings showing wheels 16 which are mounted as casters in the bearings 17 and can be used on board the ship in facilitating the storage or alignment of the carriages on the deck 10a.

The pivotal connection of the platform 13 with the booms or frame is shown at 18, comprising in each instance a pin 20 which is fastened to the platform and is slidable in a longitudinal slot 21 in the free end of a boom. This construction compensates for the distance between the stern of the deck 10a and the front end of the platform when the platform is raised to the level of the deck. This construction is preferred over one employing a sliding extension on the deck.

The platform is raised and is also maintained in a horizontal or nearly horizontal position by the ropes or cables 22 which are fastened at the front and rear ends of the platform, at 23. The cables pass over pulleys (not shown) on a device which may be a crane or a mast. The cables are operated from winches which are operated by personnel trained in their use and the platform can be lifted in a substantially horizontal position during the lowering or elevating thereof. The winches can also be operated to tilt the platforms slightly to the rear to facilitate the entrance of a boat 15 and can be tilted slightly to the front at elevated position or deck level to make it easier to run the boat carriage from the platform to the deck.

If desired, the booms or frame can assist in the

lifting and lowering by means of cables 24 secured to the outer ends of the booms and also passed over pulleys and operated from winches in the battery from which the cables 22 are operated.

The preferred construction of platform comprises side beams 25 and cross beams 26 on which are arranged spaced boards 27. The sides of the platform are equipped with bumpers, preferably in the form of vertical rollers 28 to prevent injury to the boat carriage in case the carriage becomes slightly displaced in a lateral direction. The rollers are mounted on stanchions 29 which also support overhanging rollers 30 to be engaged by the boat carriage in case of any unexpected buoyancy of the carriage or movement by the waves tends to lift the carriage. The platform may be provided at the front with a coupling 31 for attachment to a tractor 32 or other mechanical means necessary in handling the heavier types of boats on the deck 10a.

The carriage 14 is provided with side beams 33 and cross-beams 34 which are supported on the rollers 16 which in turn rest on the boards 27. The side beams 33 are spaced so that they ride freely under the overhanging rollers 30. The cross beams 34 support a cradle for the type of boat in use, the cradle comprising stanchions which are of the usual types, either fixed or adjustable and which support the boat 15 at the bottom and sides.

In operating the device to load a boat on the ship the platform 13 and the booms are placed at deck level as shown in dotted lines in Figure 1. The carriage is placed on the platform and is limited by suitable means such as the blocks 36. The platform and booms are now lowered and the parts are submerged far enough to allow the easy passage of a boat from the rear over the carriage and in position to be seated in the cradle. The position of the platform and the carriage may be indicated by the markings usually employed by hoisting personnel, on the cables, and will allow the tilting of the platform slightly to the rear for easy entrance of the boat. In this submerged position the pivots 18 are down at the rear ends of the slots 21.

When the boat 15 is over the carriage the platform is raised and is maintained in a horizontal position and as it reaches the level of the deck 10a it moves forward and rests against the rear end of the deck due to the sliding forward of the pivots 18 in the slots 21. The boat 15 is then hauled aboard by the crew or a suitable tractor 32. This unloading of the carriage and the boat may be facilitated by a slight tilting of the platform to raise the rear end slightly.

This installation provides for a quick and easy launching of boats in quick succession from a carrier and also the retrieving the boats for repair or for operational reasons. In using this device the boats, which have a limited cruising radius due to fuel requirements, can be transported on a ship to a sphere of operations at a distant point and quickly put into the water where needed.

The invention avoids any possibility of damage to the boats as they are in relatively solid control until they hit the water and can then be moved astern the ship under their own power. This is relatively safe as the wake of the ship is not turbulent to an extent that will endanger a small boat at a slow speed in approaching or backing from the ship.

Various modifications of the parts may be

made without departing from the scope of the invention.

I claim:

1. A device of the character described comprising a frame adapted to be pivoted at one end to a supporting structure, an open-ended platform hinged to the other end of the frame, manually operable means for maintaining the platform in a substantially horizontal position, a wheeled boat carriage proportioned to enter the platform lengthwise, and means for swinging the frame vertically.

2. A device of the character described comprising a frame adapted to be pivoted at one end to a supporting structure, an open-ended platform pivoted at its sides to the other end of the frame and adapted for limited tilting from the horizontal, means for controlling the tilting of the platform, and means for raising and lowering the frame, and a boat carriage fitting longitudinally on the platform.

3. A device of the character described comprising a frame adapted to be pivoted at one end to a supporting structure, an open-ended platform, a pivotal connection for supporting the platform on the other end of the frame with a limited movement longitudinally of the frame, means for regulating the tilting of the platform relative to the frame, a movable boat carriage adapted for longitudinal movement on the platform, and means for raising and lowering the frame.

4. A device of the character described comprising spaced booms adapted to be pivoted at one end to a supporting structure, a platform between the booms and pivoted at the other end of the booms to enable it to tilt relative to the booms, means for controlling the tilting of the platform relative to the booms, means for supporting a boat on the platform, and means for raising and lowering the booms.

5. A device of the character described comprising a relatively fixed platform structure, parallel spaced booms pivoted at one end to the platform structure, a platform pivoted intermediate its ends to the free ends of the booms, hoisting cables attached to the ends of the platform, a boat carriage movable endwise on and off the platform, the platform and carriage being submersible for receiving and discharging a boat on and from the carriage, and means for raising and lowering the booms.

6. In a device of the character described, a hoisting means, an open-ended platform attached to the hoisting means and having side stanchions, overhanging rollers on the stanchions, and a boat carriage having rollers for traction on the platform, and having elements to ride under the overhanging rollers for maintaining the carriage in position when the platform and carriage are submerged.

7. A device of the character described comprising a pair of booms, adapted to be pivotally connected at one end, to a support, a boat carrying platform, complementary means on said platform and booms to pivotally connect the platform intermediate its ends to said booms to enable the platform to be tilted relative to the booms, and means adjacent the ends of the platform adapted to be engaged by cables to control the tilting of said platform relative to the booms.

8. A device of the character described comprising a pair of booms, adapted to be pivotally connected, at one end, to a support, a boat carrying platform, complementary means on said platform and booms to pivotally connect the platform

intermediate its ends to said booms to enable the platform to be tilted relative to the booms, and to provide for limited sliding movement of the platform axially relative to the boom, and means adjacent the ends of the platform adapted to be engaged by cables to control the tilting of said platform relative to the booms.

9. A device of the character described comprising a pair of booms, adapted to be pivotally con-

5 nected, at one end, to a support, a boat carrying platform, complementary means on said platform and booms to pivotally connect the platform intermediate its ends to said booms to enable the platform to be tilted relative to the booms, and means engaging the platform to control the tilting of said platform relative to the booms.

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