March 22, 1949. H. E. PLATT 2,465,118

BOAT DERRICK

Filed Dec. 19, 1947

Fig. 1

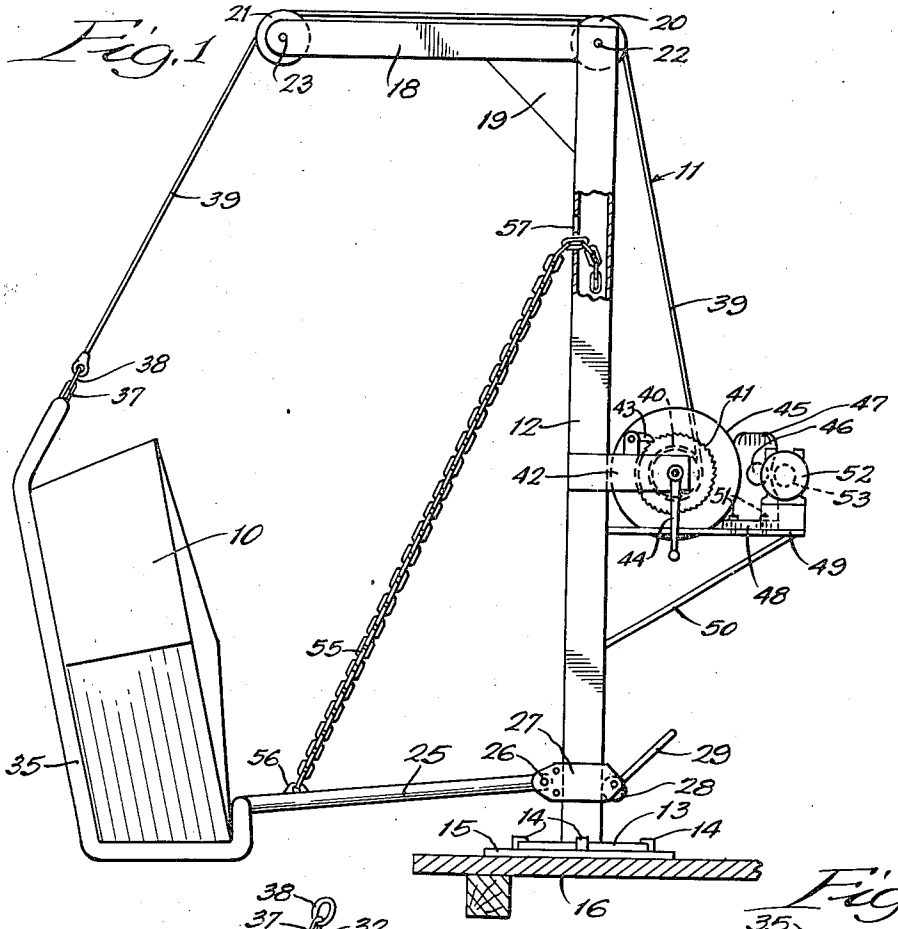


Fig. 2

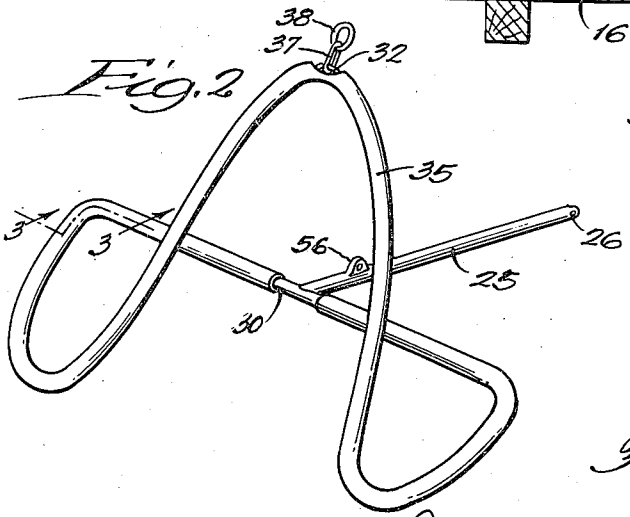
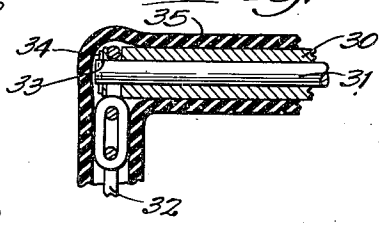


Fig. 3



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Patented Mar. 22, 1949

2,465,118

UNITED STATES PATENT OFFICE

2,465,118

BOAT DERRICK

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Application December 19, 1947, Serial No. 792,651

8 Claims. (Cl. 214—1)

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This invention is directed to boat derricks and more particularly to derricks for small boats used for fishing, etc.

Such small boats when not in use are kept partially filled with water to prevent them from drying out so that the seams and joints will remain water tight. When such boats are to be used, it is necessary to bail them out or haul them up on the beach or on a dock to empty them by tilting and also to clean them, extremely laborious tasks. When the boats are so beached or hauled onto docks, they are usually scratched and marred and are subjected to pinching effects which weaken the seams and joints thereof.

The principal object of this invention is to provide an improved boat derrick which may be mounted on a dock for raising and tilting a boat to empty water therefrom and to clean the same, whereby the laborious tasks are eliminated and marring and scratching of the boat and pinching effects thereon are eliminated.

In carrying out this object of the invention, the improved boat derrick preferably includes a substantially vertical supporting column mounted on the dock, a substantially horizontal boom secured to the column and a cross bar on the other end of the boom. A cradle in the form of a flexible loop is secured to the ends of the cross bar and is adapted to extend under the floating boat. A cable is connected to the flexible loop, and a winch carried by the column pulls the cable to raise the boat from the water and at the same time tilts the boat to empty the same. The flexible loop follows the contour of the boat and eliminates the pinching effect, and since the boat is thus entirely suspended, marring and scratching of the boat is also eliminated. The laborious tasks of bailing or beaching or hauling are also overcome.

The flexible loop preferably takes the form of a chain, and preferably the chain and cross bar are provided with a protective covering, such as a rubber hose, further to prevent marring or scratching of the boat. In order that the cable pull may be more vertically directed, further to minimize a pinching effect, the upper end of the supporting column is preferably provided with a substantially horizontal arm provided with pulleys over which the cable extends.

The column may also be rotatably mounted on the dock so that the boat may be swung over the dock to facilitate cleaning and the making of repairs. The boom may be vertically and angularly positioned to adapt the derrick to docks

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of varying height and boats of varying size and shape.

The winch may be manually or power operated by a motor and, in the latter case, the motor may also operate a pump for supplying water to clean the boat. The pump may also be utilized for bailing the boat if it includes an excess of water.

Further objects of this invention reside in the details of construction of the boat derrick and in the cooperative relationship between the component parts thereof.

Other objects and advantages of this invention will become apparent to those skilled in the art upon reference to the accompanying specification, claims, and drawing, in which

Figure 1 is an elevational view partly in section of the boat derrick of this invention;

Figure 2 is a perspective view of the boom and flexible loop attached thereto; and

Figure 3 is an enlarged sectional view taken substantially along the line 3—3 of Fig. 2.

The derrick for raising and tilting the boat 10 is generally designated at 11. It includes a substantially vertical column 12 which may be formed of steel plates welded together. The bottom of the column is provided with a flange disk 13 which is received by cleats 14 carried by a disk 15 which, in turn, is mounted on a dock or pier 16. The flange disk 13 and the cleats 14 hold the supporting column in vertical position but, at the same time, permit rotation of the same.

The upper end of the column is provided with a substantially horizontal arm 18 which may also be formed of metal plates welded together. The arm 18 is secured to the column 12 preferably by welding and is reinforced by the gusset plate 19. The upper end of the column 12 and the outer end of the arm 18 are notched to receive pulleys 20 and 21 which are rotatably mounted on pins 22 and 23 respectively.

A substantially horizontal boom 25 is located adjacent the bottom of the column 12 and is pivotally mounted as at 26 to a bracket 27 slidably mounted for vertical movement on the column 12. The bracket 27 may be adjusted in any desired vertical position and clamped in the adjusted position by a cam or eccentric 28 carried by the bracket 27 and provided with an operating handle 29. By manipulating the handle 29, the bracket 27 may be elevated or lowered and clamped in the desired position.

The angular position of the boom 25 about its pivot 26 may be adjusted by a chain 55 secured

at one end to a lug 56 carried by the boom 25. The other end of the chain 55 may be adjustably anchored in a keyhole slot 57 formed in the column 12. Thus, by shortening or lengthening the chain 55 at the keyhole slot 57, the angular position of the boom 25 may be adjusted.

The outer end of the boom 25 is secured, as by welding, to a cross bar 30 preferably in the form of a pipe. A bar 31 is located within the pipe 30 and extends a short distance beyond the ends of the pipe 30. A chain forming a flexible loop has its ends linking the ends of the bar 31, and the chain is held on the bar 31 by washers 33 and cotter pins 34. Preferably the cross bar and the chain forming the flexible loop are provided with a protective covering, such as a rubber hose. The rubber hose may be formed in several pieces or may include a single piece, as illustrated. It is found that the rubber hose has sufficient stretch or give to permit fastening the ends of the chain 32 to the bar 31 and, at the same time, provide adequate protection.

The chain intermediate its ends is connected by a link 37 to a ring 38 which, in turn, may be connected to a cable 39 extending over the pulleys 21 and 20 to the drum 40 of a winch. The drum 40 is provided with a ratchet wheel 41 and is rotatably mounted on a bracket 42 carried by the column 12. A pawl 43 engaging the ratchet wheel 41 normally prevents counter-rotation of the drum 41. A suitable crank 44 may be utilized for rotating the drum 41 to wind the cable thereon.

When the boat derrick is to be utilized, the vertical position and the angular position of the boom 25 are adjusted to adapt the derrick to the height of the dock and to the size and shape of the boat. Preferably, the boom 25 is so positioned that the cross bar 30 thereof is positioned slightly above the gunwale of the boat. The cable 39 is relaxed so that the flexible loop is suspended in the water. The boat is then floated over the suspended flexible loop to the desired position with respect to the boom 25. Thereafter, the winch is operated and the boat is then raised and tilted to the position shown in Fig. 1 of the drawing. The water in the boat is thereby emptied and the boat is in position for ready scrubbing and cleaning. If it is desired to place the boat on the pier or dock, all that is necessary is to rotate the column 12 whereby the boat is swung over the dock. The winch may be released and the boat placed upon the dock. When it is desired to refloat the boat after emptying and/or cleaning, the winch may be released and the boat will automatically be lowered and righted to the floating position. The lift of the cable is substantially vertical, and since the boat is carried by the flexible loop, pinching effects on the boat are eliminated. Because of the flexible nature of the loop and the protective covering thereon, marring and scratching of the boat are also prevented.

The winch may be power operated in addition to or in lieu of manual operation by the crank 44. In this respect, the drum 40 of the winch may be provided with a wheel 45 adapted to mesh with a wheel 46 of a motor 47, such as an internal combustion motor. The motor 47 may be provided with a flange 48 for slidably mounting the motor on a bracket 49 carried by the column 12. A gusset plate 50 may be utilized for reinforcing the bracket 49. Suitable bolts 51 carried by the bracket 49 may extend through slots in the flange 48 of the motor 47 so that the

motor may be shifted back and forth toward the winch to engage or disengage the wheel 46 with the wheel 45. The bracket 49 may also carry a pump 52 provided with a wheel 53 adapted to be engaged and disengaged by the wheel 46, and when the pump is operated, it may be utilized for pumping water for cleaning the boat or for bailing the boat. The pump, therefore, provides a very useful adjunct to the boat derrick.

If it be desired to utilize the derrick for lifting objects such as motors and so forth from the floating boat, the cable 39 may be disconnected from the ring 38 of the flexible loop and the cable 39 connected to the objects to be lifted. Manipulation of the winch will then lift the objects from the boat.

While for purposes of illustration one form of this invention has been disclosed, other forms thereof may become apparent to those skilled in the art, and, therefore, this invention is to be limited only by the scope of the appended claims.

What is claimed is:

1. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom secured to the supporting column, a cross bar on the outer end of the boom, a flexible loop connected to the ends of the cross bar and adapted to extend under the boat, a cable connected to the flexible loop, and a winch on the column for the cable to raise and tilt the boat.

2. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom pivotally mounted on the supporting column, mechanism for adjusting the pivotal position of the boom, a cross bar on the outer end of the boom, a flexible loop connected to the ends of the cross bar and adapted to extend under the boat, a cable connected to the flexible loop, and a winch on the column for the cable to raise and tilt the boat.

3. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom, a pivotal connection between the boom and the column, mechanism for adjusting the pivotal connection vertically along the column, a cross bar on the outer end of the boom, a flexible loop connected to the ends of the cross bar and adapted to extend under the boat, a cable connected to the flexible loop, and a winch on the column for the cable to raise and tilt the boat.

4. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom, a pivotal connection between the boom and the column, mechanism for adjusting the pivotal connection vertically along the column, mechanism for adjusting the pivotal position of the boom, a cross bar on the outer end of the boom, a flexible loop connected to the ends of the cross bar and adapted to extend under the boat, a cable connected to the flexible loop, and a winch on the column for the cable to raise and tilt the boat.

5. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom secured to the supporting column, a cross bar on the outer end of the boom, a flexible loop connected to the ends of the cross bar and adapted to extend under the boat, a cable connected to the flexible loop, a winch on the column for the cable to raise and tilt the boat, and mechanism for rotating the column.

6. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal arm carried by the upper end of the supporting column, a substantially horizontal boom secured to the supporting column, a cross bar on the outer end of the boom, a flexible loop connected to the end of the cross bar and adapted to extend under the boat, pulleys on the arm and column, a cable connected to the flexible loop and extending over the pulleys, and a winch on the column for the cable to raise and tilt the boat.

7. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom secured to the supporting column, a cross bar on the outer end of the boom, a flexible loop connected to the ends of the cross bar and adapted to extend under the boat, a cable connected to the flexible loop,

a winch on the column for the cable to raise and tilt the boat, a pump on the column for cleaning the boat, a motor on the column, and means for connecting the motor to the winch and the pump.

8. A boat derrick for raising and tilting a boat comprising a substantially vertical supporting column, a substantially horizontal boom secured to the supporting column, a cross bar on the outer end of the boom, a chain loop connected to the ends of the cross bar and adapted to extend under the boat, a protective covering for the cross bar and chain, a cable connected to the chain loop, and a winch on the column for the cable to raise and tilt the boat.

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No references cited