

(No Model.)

J. C. & S. LAKE.
DREDGE LIFTING DEVICE.

No. 462,439.

Patented Nov. 3, 1891.

Fig. 1.

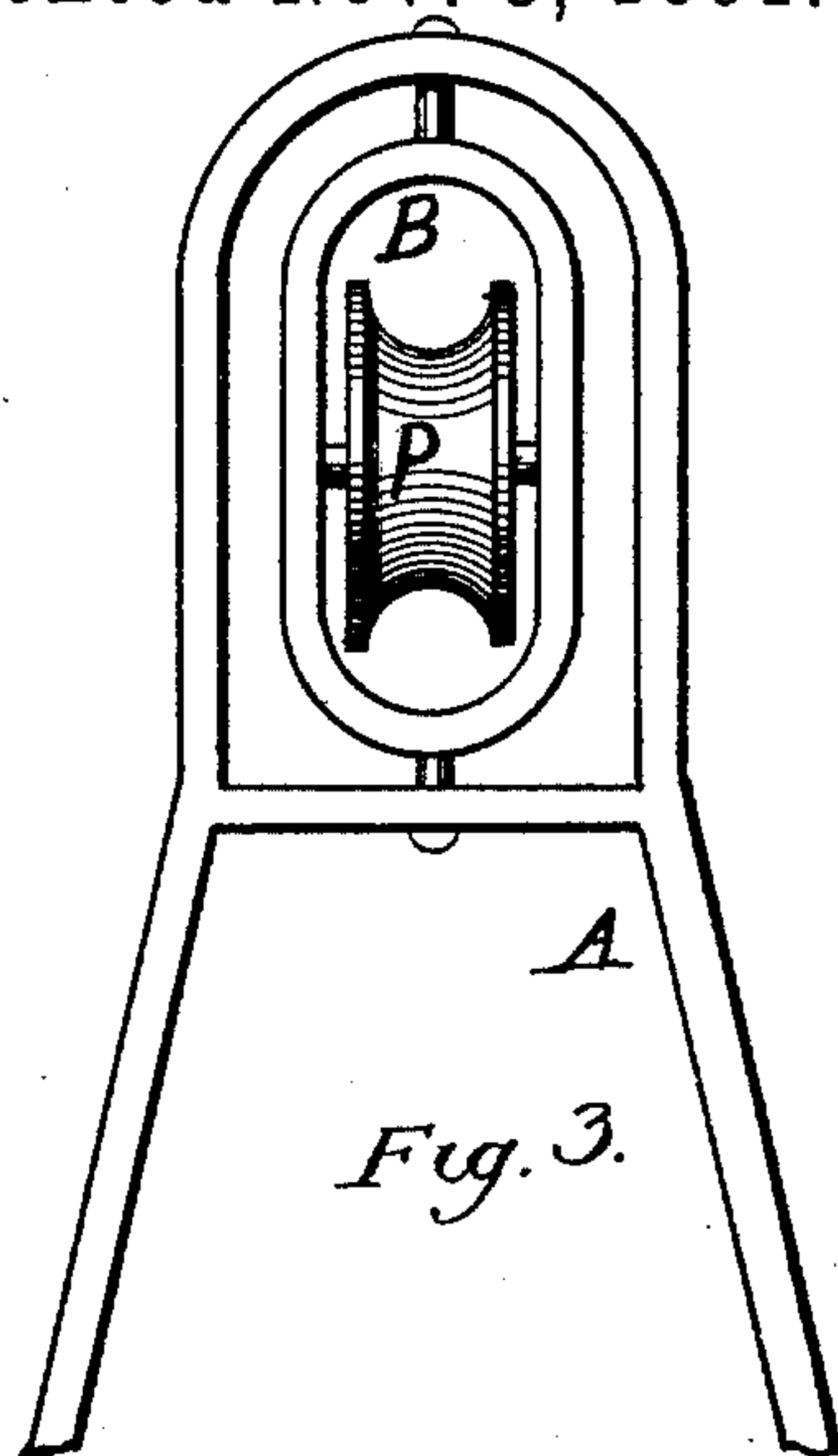
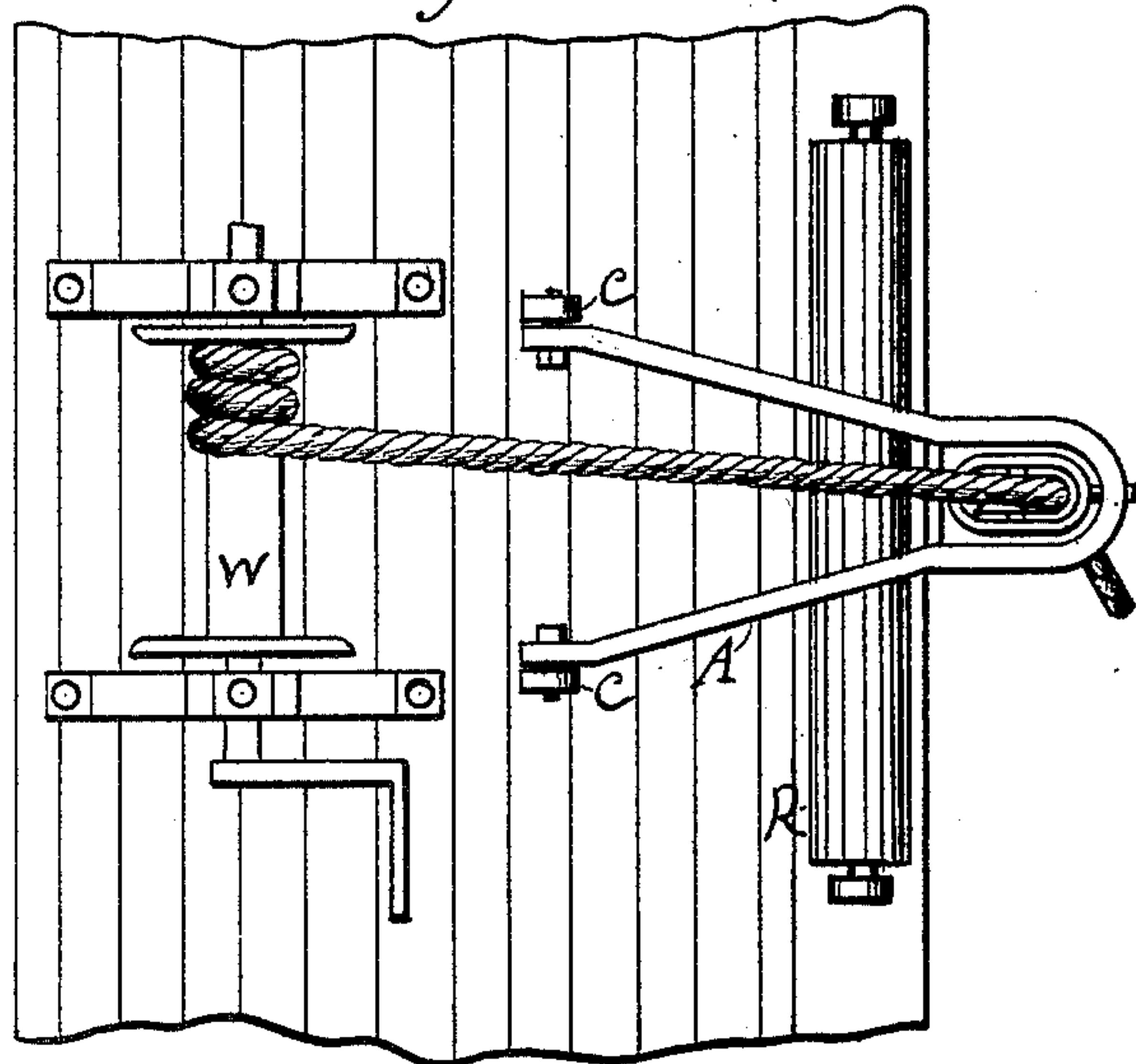


Fig. 2.

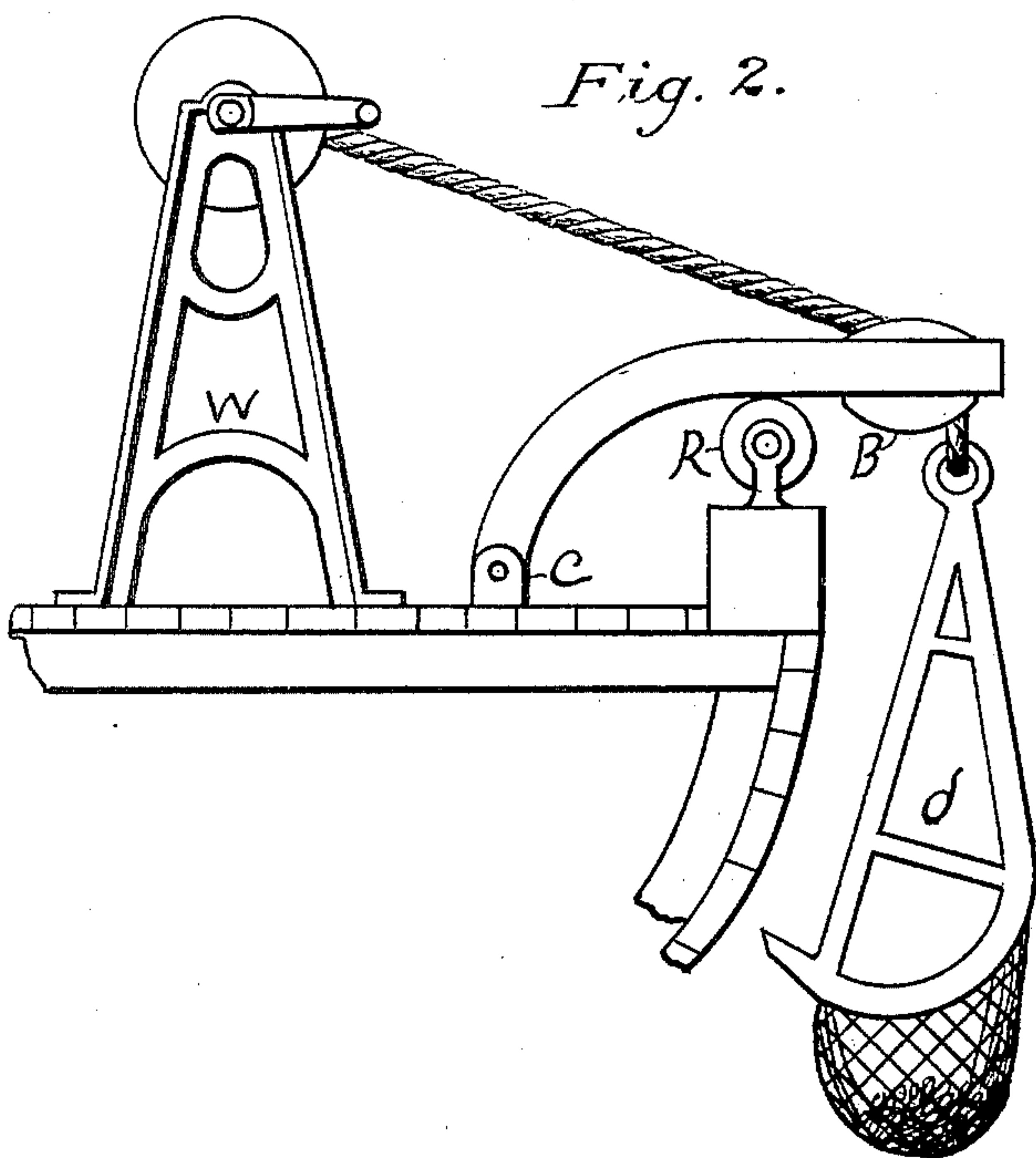
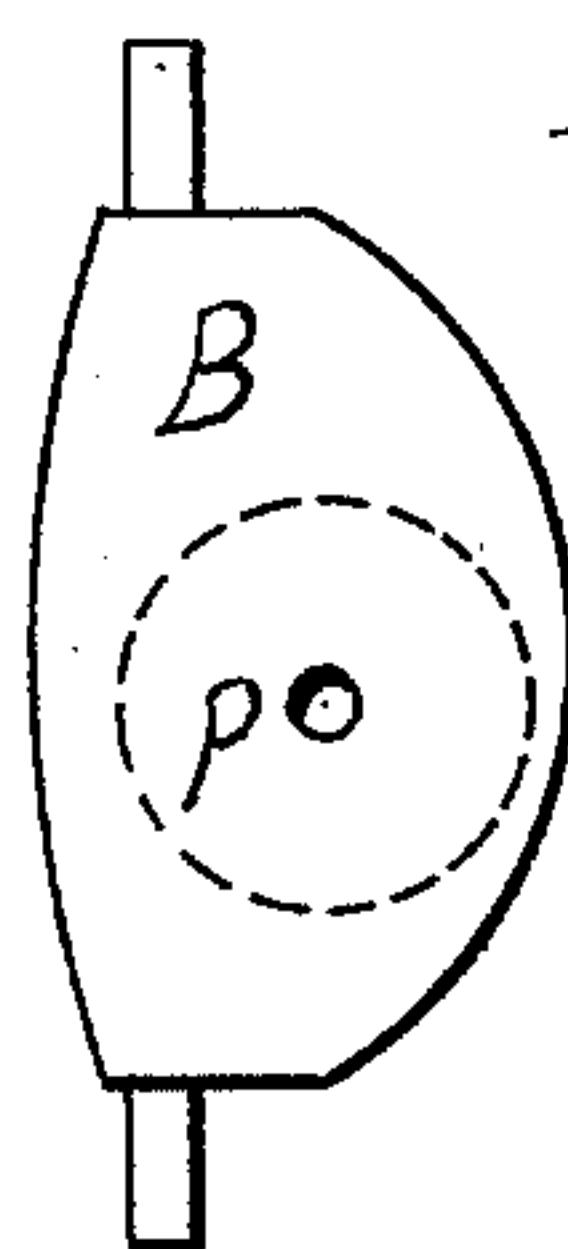


Fig. 4.



WITNESSES:

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DREDGE-LIFTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 462,439, dated November 3, 1891.

Application filed January 15, 1891. Serial No. 377,848. (No model.)

To all whom it may concern:

Be it known that we, JOHN CHRISTOPHER LAKE and SIMON LAKE, citizens of the United States, residing at Baltimore city, Maryland, have invented certain new and useful Improvements in a Dredge-Lifting Device; and we do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the drawings which form part of this specification.

Our invention relates to improvements in a dredge-lifting device, the object of which is to overcome the friction and consequent wear of the winding-rope and to make the dredge come inboard without the strain usual in the present method. We obtain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a part plan view of a vessel's deck, showing the windlass or winder in connection with which our device is designed to be used, also the vessel's rail with roller mounted thereon and our dredge-lifting device resting on roller. Fig. 2 is a part sectional view of the vessel, showing the winder-roller mounted on rail and our dredge-lifting device in position with the dredge or scrape suspended from same. Fig. 3 is an enlarged part plan view of our dredge-lifting device, showing swivel-block secured in same. Fig. 4 is a side elevation of swivel-block.

Similar letters refer to similar parts throughout the drawings.

A is the frame of our dredge-lifting device, which is preferably an arm or arms projecting over the side of the vessel and having a pulley or roller secured at or near its outer end and pivoted or hinged at its inner end so that it may be lifted up and turned back against the winder W.

B is a swivel-block secured in the outer end of frame-piece and capable of turning as the rope may guide it.

C C are eyebolts which fasten to the deck and to which the feet of our device are pivoted.

The operation of our device is as follows: After the dredge is filled and it being desirous to bring it on deck, it is necessary to wind in on the winder until the head of the dredge comes in contact with our device, as shown in Fig. 2, *d* being the dredge, when the lifting device being fulcrumed at *c c* raises and brings the dredge on deck with very little effort. The usual method is to wind the

dredge in, the rope running over the roller R, a chock being fastened at the after end of roller to keep the rope from slipping off. It is obvious that when the rope is being wound in over the stationary chock it will wear the rope out very fast, and also that when the dredge is brought up to the roller the top of roller becomes the fulcrum and it makes the leverage so short that it requires a tremendous power to bring it in on deck.

B is the swivel-block with its bearing-pins above the center of pulley P, so that the block will turn easily in its bearings and follow the direction of the rope.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a dredge-lifting apparatus, a boat or vessel having secured thereto a winding drum or winch, a bifurcated arm pivoted to said vessel and adapted to swing outboard and inboard thereof, a block swiveled in the outer end of said arm, and a line or rope having its inner end connected with the winch and passing through said block and its outer end supporting a dredge, substantially as and for the purpose described.

2. In a dredge-lifting apparatus, a boat or vessel having secured thereto a winding drum or winch, a bifurcated swinging arm pivoted to said vessel, the inner ends of said arm being spread apart lengthwise of the vessel, and a swiveled block secured in the outer end of the arm, substantially as and for the purpose described.

3. In a dredge-lifting apparatus, a boat or vessel having secured thereto a winding drum or winch, a bifurcated arm pivoted to said vessel and having a block swiveled in the outer end thereof, a line connected at its inner end with the winch and having a dredge attached to its outer end, a roller journaled lengthwise on the vessel as a support for the arm in its outward position and for the dredge when being hauled inboard, all substantially as and for the purpose described.

In testimony that we claim the foregoing we have hereunto set our hands this 20th day of December, 1890.

J. CHRISTOPHER LAKE.
SIMON LAKE.

Witnesses:

FELIX R. SULLIVAN,
H. H. STRYKER.