

No. 631,066.

Patented Aug. 15, 1899.

A. G. DES-FOURS.
BOAT LOWERING APPARATUS.

(Application filed Dec. 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 3.

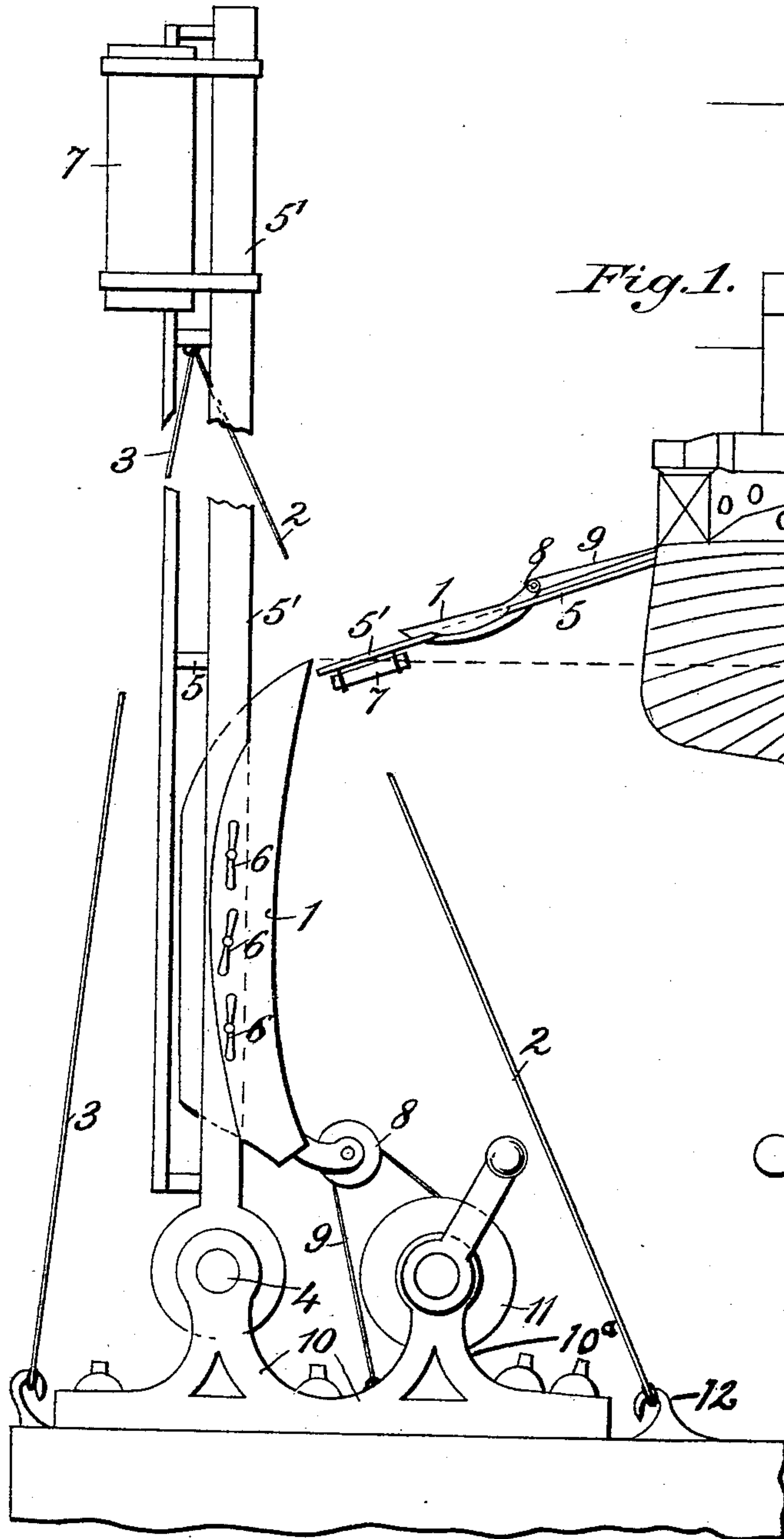


Fig. 1.

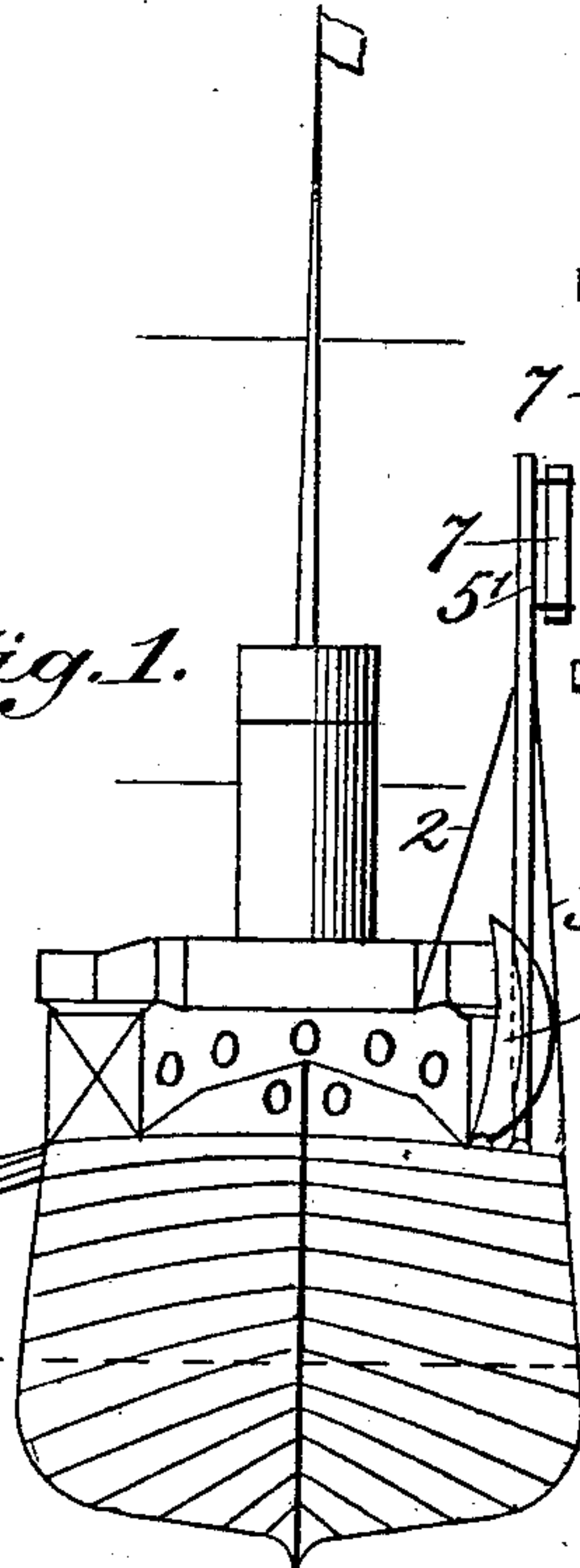
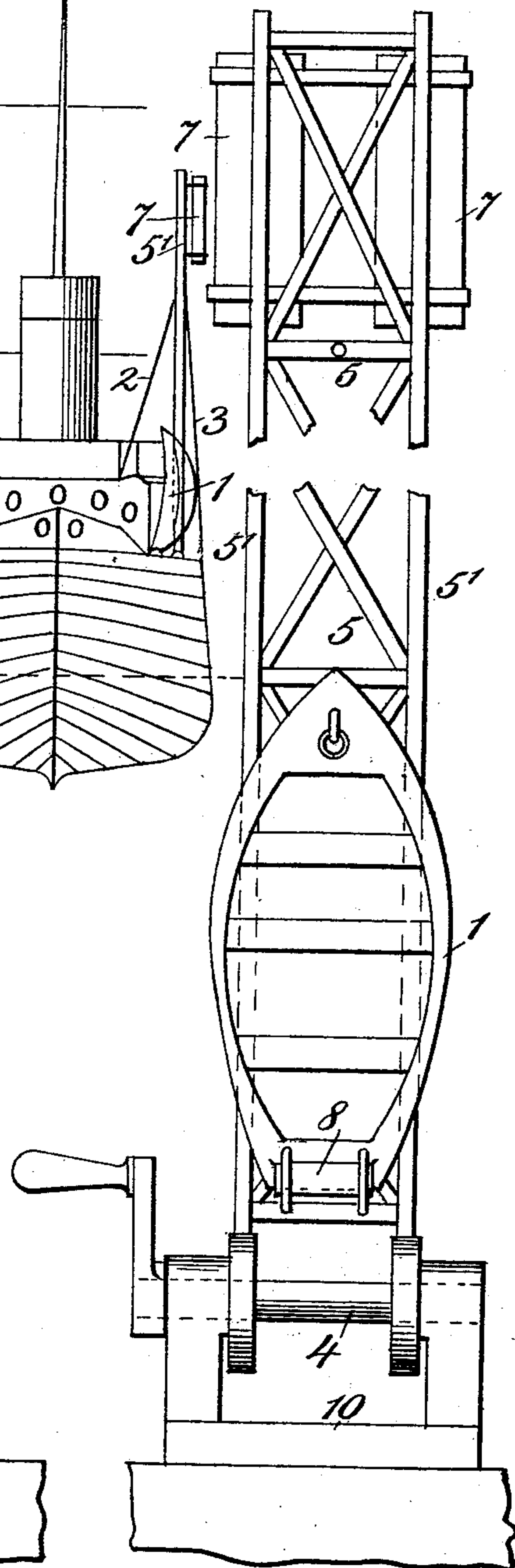


Fig. 2.



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Fig. 4.

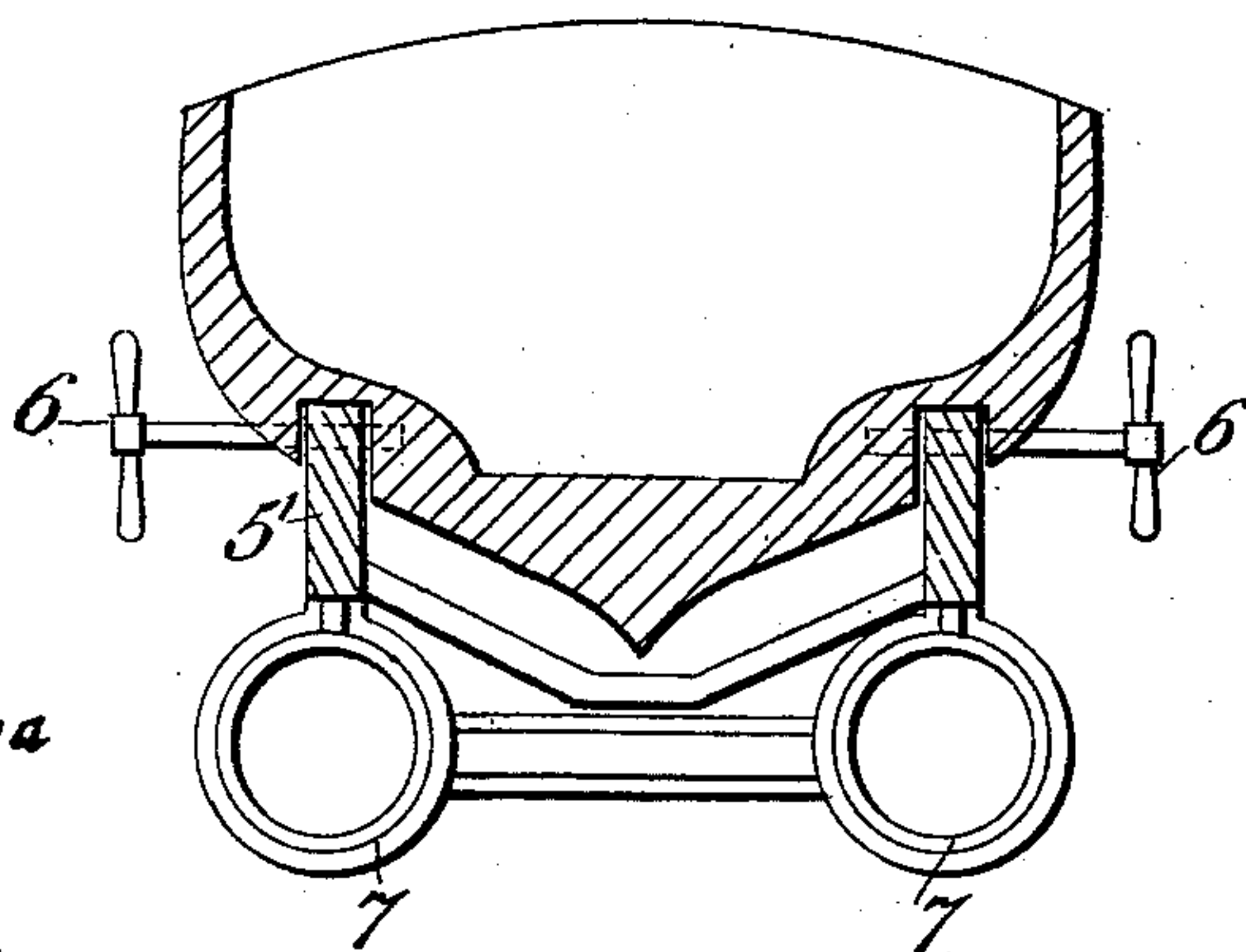


Fig. 5.

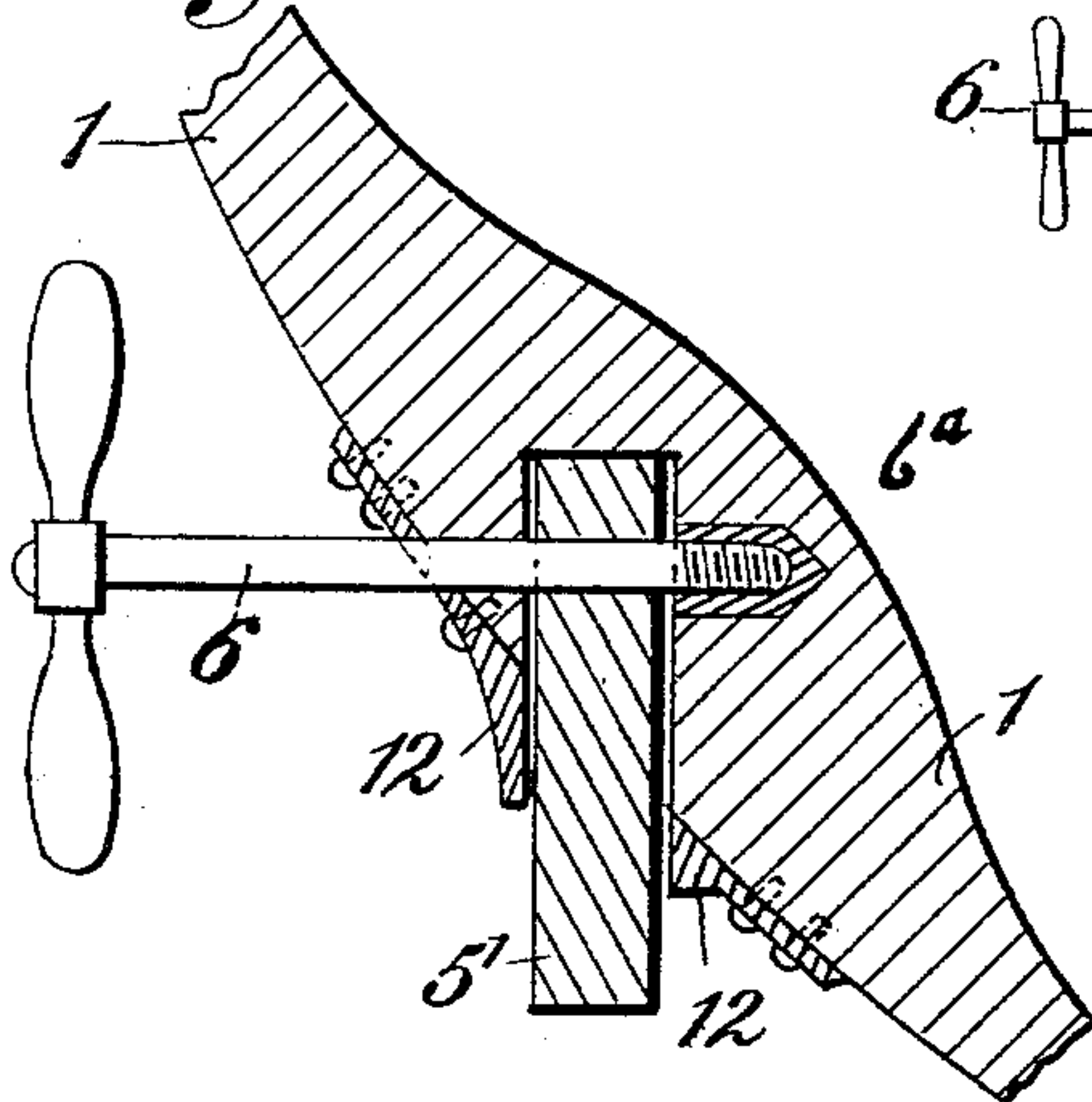


Fig. 7.

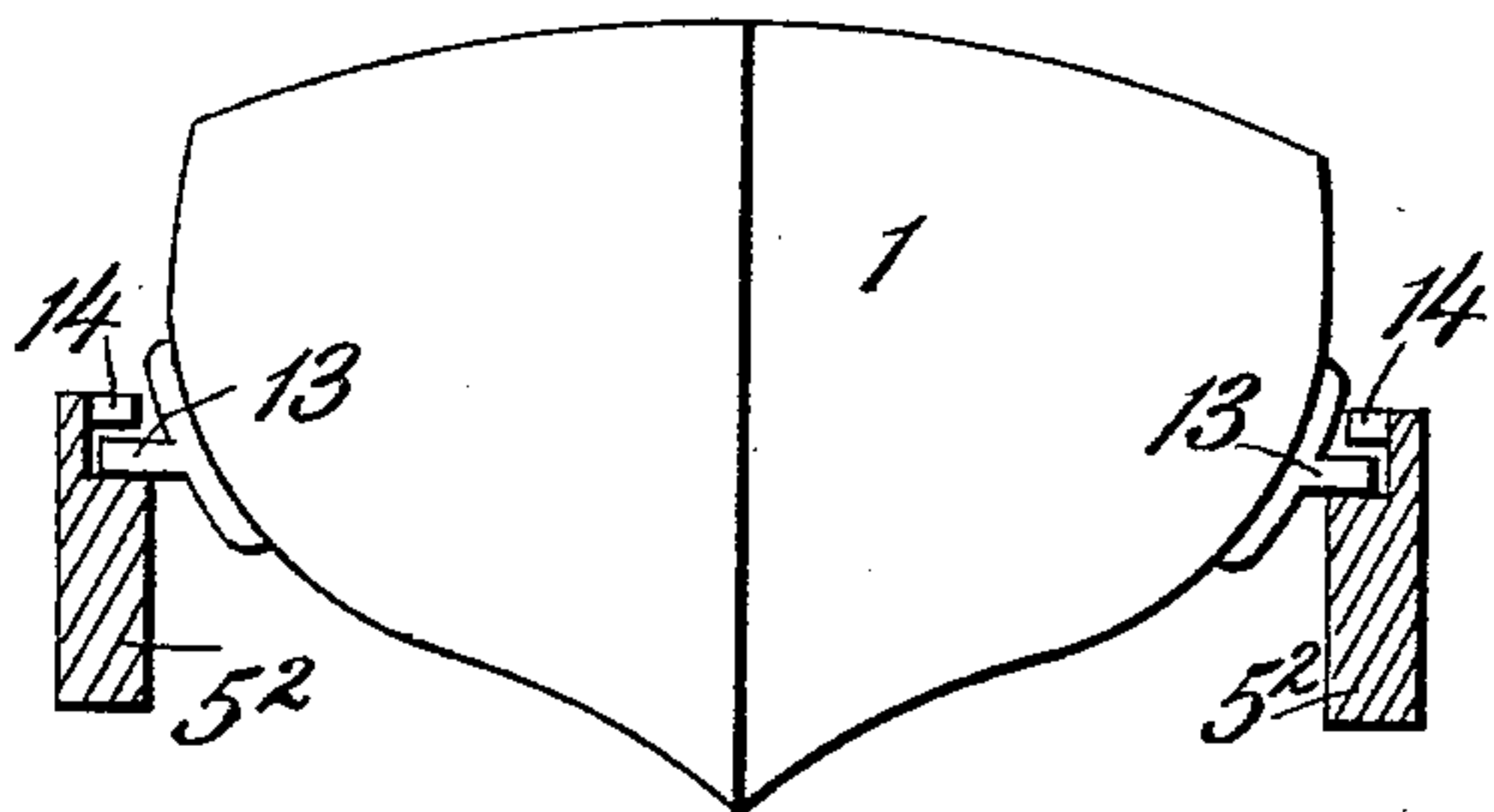


Fig. 6.

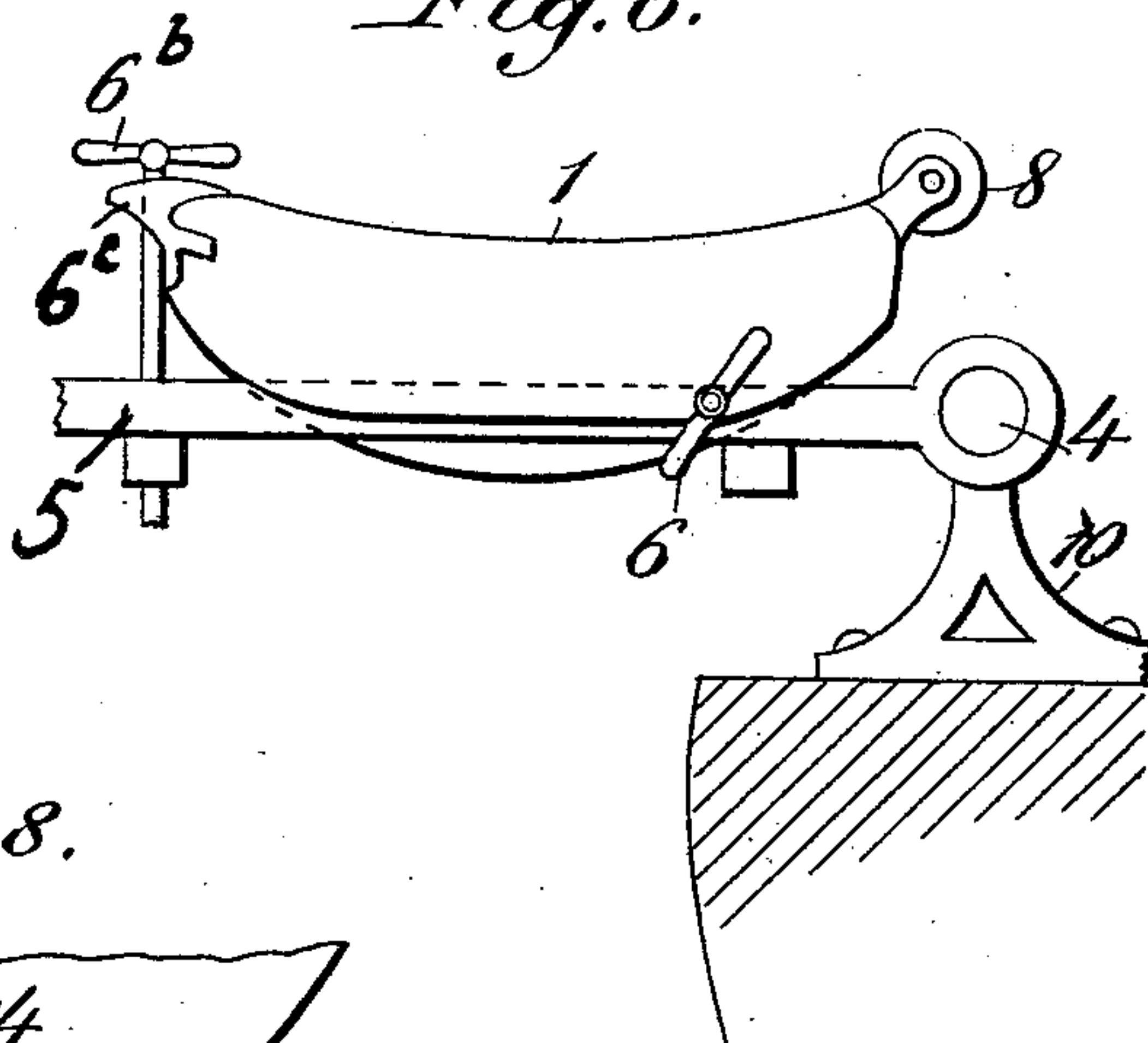
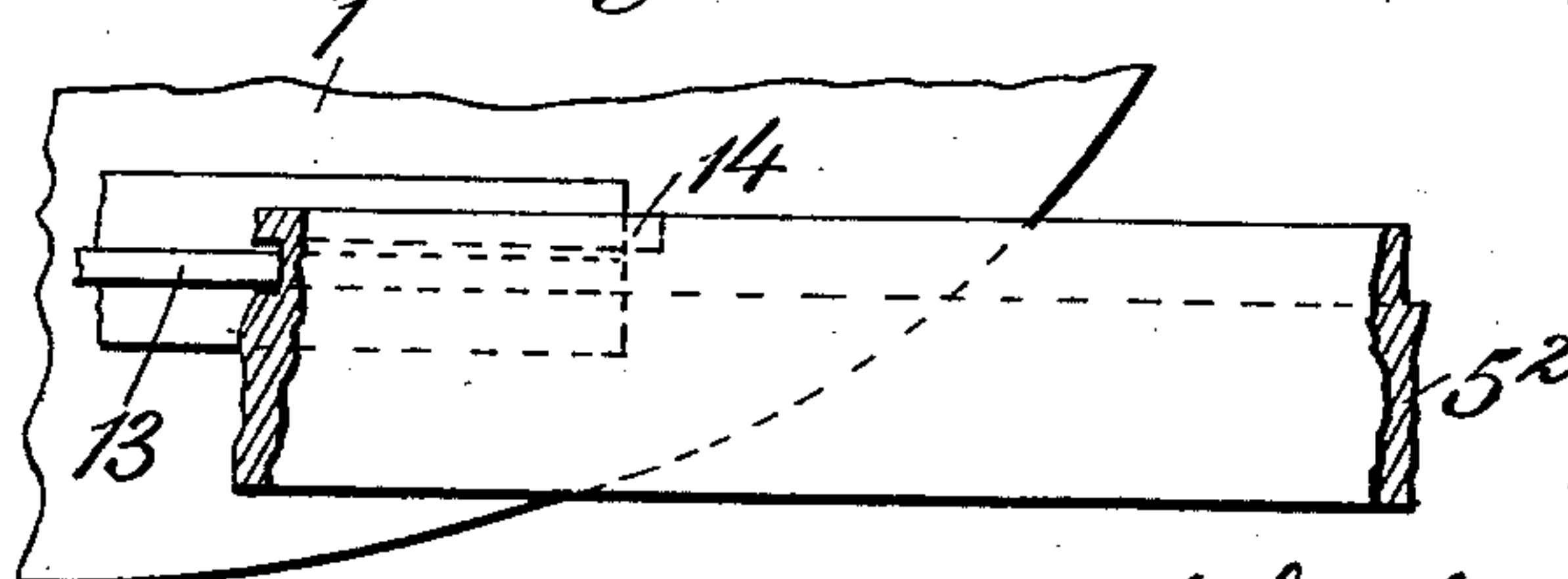


Fig. 8.



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ARTHUR GRAF DES-FOURS, OF ZURICH, SWITZERLAND.

BOAT-LOWERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 631,066, dated August 15, 1899.

Application filed December 20, 1898. Serial No. 699,831. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR GRAF DES-FOURS, a citizen of Switzerland, residing at Zurich, Switzerland, have invented certain
5 new and useful Improvements in Boat-Lowering Apparatus, (applications for patent filed in Switzerland August 20, 1898; in Austria August 26, 1898; in Germany August 27, 1898; in France September 9, 1898, and
10 in Hungary September 10, 1898;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

15 My invention relates to an improvement in boat-lowering apparatus.

The object of my invention is to provide an apparatus which will allow a boat to be successfully and quickly launched from the deck
20 of a vessel irrespective of the condition of the sea or whether the vessel is on a level keel or not and which may if necessary be operated by unskilled persons.

An apparatus embodying my invention
25 comprises a frame pivotally secured to the vessel and arranged to swing through a vertical arc, means for maintaining the frame in an erect position, yet permitting it to be swung over the side of the vessel to form an incline
30 plane or launching-ways, suitable buoyant devices connected to the free end of the ways for supporting it from the water, a boat detachably fastened to the inboard end of the frame, and a lowering mechanism connected
35 to the boat and arranged to lower the same down the incline plane at a suitable and adjustable rate of speed.

My invention will now be described in connection with the accompanying drawings and
40 then particularly pointed out in the claims.

In the drawings, Figure 1 is an end view, on a reduced scale, of a vessel provided with two sets of boat-lowering apparatus embodying my invention, the apparatus at the right
45 of the view being shown in its raised or normal position, while the apparatus at the left of the view is illustrated as in position for launching its boat, which is shown as already partly down the incline plane. Fig. 2 is an
50 elevation of the frame and boat in their raised or normal position. Fig. 3 is a side elevation

of the same, showing the lowering apparatus. Fig. 4 is a transverse section of the framework with the boat in place upon it. Fig. 5 is a detail view illustrating the manner of detach- 55 ably securing the boat to the framework. Fig. 6 is a side elevation, on a reduced scale, of another form of mechanism for detachably securing the boat to its framework. Fig. 7 is an end elevation, partly in section, and Fig. 60 8, a detail view, of another manner of mounting the boat on its framework.

Referring to the drawings, 1 is a boat of any desired or usual construction detachably secured to a framework 5, which has longitudi- 65 nally-arranged timbers 5', forming ways along which the boat 1 may slide, as will be more fully explained hereinafter.

The framework 5 is pivoted at one end on an axis 4, mounted in standards 10, secured 70 to the vessel at some suitable point—as, for instance, on the deck at one side. The framework is arranged to swing through a vertical arc from an erect position, as shown in Fig. 3, to an inclined position in which its outer and 75 free end will rest close to the surface of the water, said free end of the framework being provided with flotative devices, such as the buoys 7, which are arranged to float in the water when the framework is in its position 80 for launching its boat.

The normal position of the framework 5 is erect, as shown in Fig. 3, in which position it is secured by stays 2 and 3, attached near the free end of the framework and to suitable se- 85 curing devices, such as hooks 12, in the deck of the vessel.

For the purpose of lowering the boat down its inclined ways suitable lowering mechanism is provided—such, for example, as the ro- 90 tary drum 11, mounted on an axis revolving in standards 10^a, secured to the vessel. A rope 9 has one end wrapped around this drum and the other end passed around a small drum 8, secured to the stern of the boat and then 95 brought back and fixed to the vessel in any suitable manner. The drum 11 is intended to be provided with any suitable brake mechanism (not shown) in order to control the rate of unwinding. 100

The boat is provided with suitable guide devices, by means of which it may safely slide

down the ways 5' of the framework 5, these guide devices being made, for instance, in the way of grooves formed in the sides of the boat, as shown in Figs. 4 and 5, or flanges 13, secured to the boat 1, and entering grooves formed in the ways 5', as shown in Figs. 7 and 8. In the former case the sides of the boat 1 are made thicker than usual where the grooves are formed and are still further strengthened by plates 12, which have flanges embracing the ways 5' to assist in guiding the boat down the ways.

In the construction shown in Figs. 7 and 8 the upper strips, each of which forms one side of the groove in the respective stringer 5², ends at a short distance from the end of the stringer, as indicated at 14, the grooves in said stringers thereby opening upward beyond said point 14 in order to free the guide-flanges 13 and allow the boat 1 to pass from the ways into the water.

In order to detachably secure the boat to the framework, various devices may be employed. In Figs. 4 and 5 I have shown a bolt 6, screw-threaded at one end and provided with handles, this bolt being arranged to pass through holes in the outer flange-plate 12, through the corresponding stringer 5' of the framework, and to screw into a socket 6^a, secured in the planking of the boat. Preferably a number of these bolts 6 are provided, three being shown in Fig. 3.

In Fig. 6 I have shown a somewhat different means for detachably securing the boat to its framework, this consisting of one bolt 6 on each side of the boat near the stern and a long bolt or key 6^b, passing through an iron nose or prow 6^c, fixed to the bow of the boat, this long bolt or key 6^b being threaded into a socket in one of the transverse timbers of the framework 5.

The manner of using my device is as follows: The boat is normally locked by the securing devices to the framework 5, and the latter is maintained in an erect position, together with the boat, by the stays 2 and 3. If now it is desired to launch the boat, the stay 2 is loosened from its hook or may be cut, thus allowing the framework 5 to fall outward over the side of the vessel, the buoys 7 riding in the water and supporting the framework 5 in such a manner that it forms an inclined plane, as shown at the left of Fig. 1. The boat is then in a position to receive its passengers from the vessel, whereupon the securing devices are removed. The weight of the boat and its load will cause it to slide down its ways, unwinding the rope 9 from the drum 11, on which it is wrapped, and thereby rotating the drum.

By the application of the brake apparatus (not shown) the speed of the boat may be controlled. The length of the rope 9 is such that so soon as the boat is clear of the framework 5 and rides in the water the rope will be all unwound from the drum 11 and the end of the rope will be free, so that as the boat is rowed

away from the vessel the rope 9 will run over the drum until the free end is reached, whereupon the boat will be entirely cast off.

In hauling a boat on board a line is thrown to the boat from the vessel, the end of the rope 9 is passed around the small drum 8 and secured to the line and the latter pulled aboard the vessel until the end of the rope 9 is reached, which is then hitched to a tackle and the boat thereby drawn to the ways, to the end of which it is guided by its crew. As soon as it is on the ways it is hauled up and secured in place at the inner end of the framework by inserting the securing devices 6. The rope 9 is then wound up on the drum 11 and the framework 5 raised to its erect position by the use of any suitable tackle, whereupon the stays 2 are secured in place to hold the framework erect.

My device is intended to be used in connection with such boats as are not in common use on board a vessel, being intended especially for urgent use in cases of accident. Therefore a vessel provided with my improved lowering mechanism may well be equipped with at least one boat arranged to be lowered by blocks and tackles from davits in the ordinary way and for ordinary occasions in order to avoid the work incident to hoisting a boat on board with my apparatus, which is specially designed for a speedy and safe launching of boats and has no advantages in regard to hoisting boats aboard.

As the boats used in connection with my improved apparatus are normally carried on end less room is occupied on the vessel, and, furthermore, no sail-cloth cover is necessary to shed the rain and seas from the interior of the boat, as in the old way, since any water which may reach the interior of the boat will run out at once. Consequently there is no time lost in cutting loose such covers.

The slope of the inclined plane formed by the framework when swung overboard should be preferably not over twenty-five degrees from the horizontal. This slope may be obtained with most vessels, but when the deck of the vessel is very high from the water the framework instead of being lengthened to obtain the desired slope may be pivoted to the side of the vessel at the required height instead of to the deck.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a boat-lowering apparatus the combination with ways arranged to swing in a vertical arc and detachable means for securing the ways in an erect position, of a boat arranged to slide on the ways, and means for detachably securing the boat to the ways.

2. In a boat-lowering apparatus, the combination with ways arranged to swing in a vertical arc, means for detachably securing the ways in an erect position, and a buoy secured to the free end of the ways, of a boat arranged to slide on said ways, means for detachably

securing the boat to the ways, and a winding apparatus connected to the boat and arranged to control the descent of the boat down the ways.

5 3. In a boat-lowering apparatus, the combination, with ways pivoted to the vessel and arranged to swing in a vertical arc, of detachable means for holding the ways in an erect position, a boat mounted on the ways and provided with guide devices arranged to engage
10 said ways, and detachable securing devices for securing the boat to the ways.

4. In a boat-lowering apparatus, the com-

bination, with ways pivoted to the vessel and arranged to swing overboard, detachable 15 means for securing said ways in an erect position, and a buoy at the free end of the ways, of a boat arranged to slide on the ways, and bolts passing through the boat and screwed into the ways. 20

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR GRAF DES-FOURS.

Witnesses:

EDUARD VON WALDKIRCH,
WILHELM TEUSCHER.