H. BRUNS.

Boat-Lowering Apparatus.

No. 220,798. Patented Oct. 21, 1879.

Fig: 1.

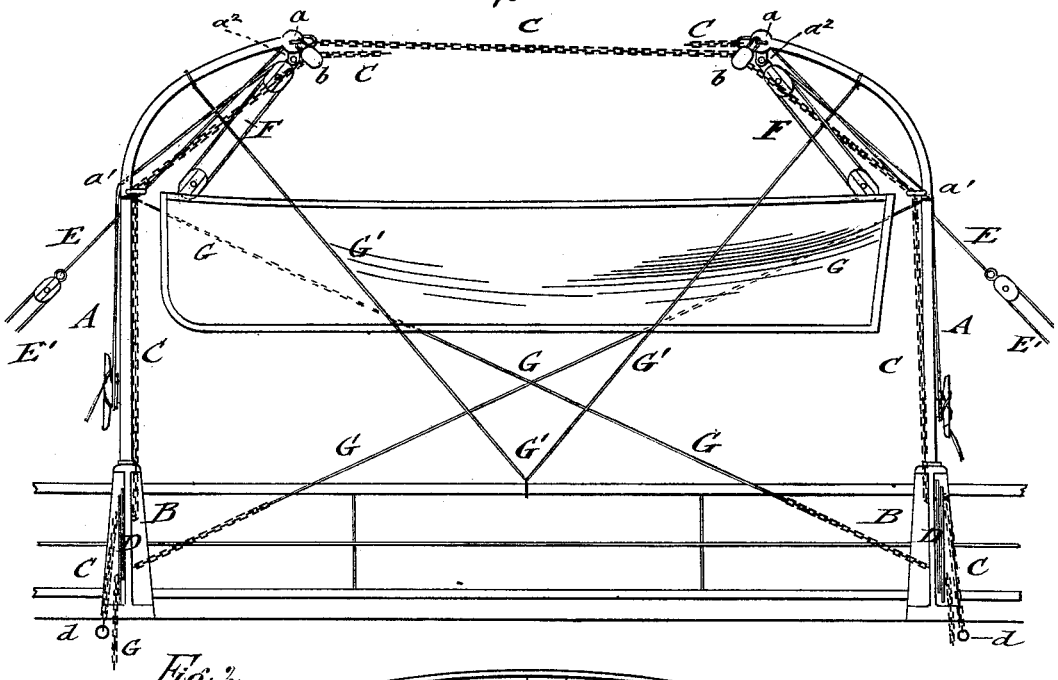


Fig: 2.

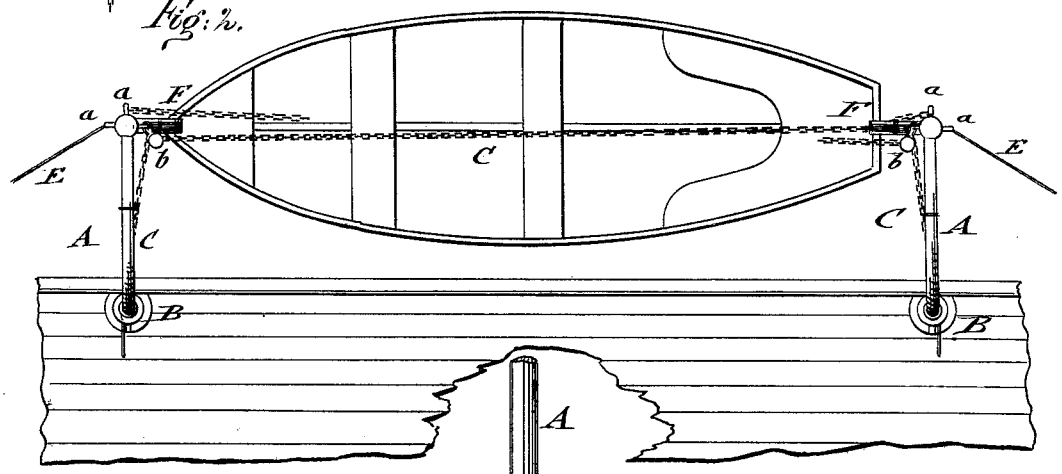
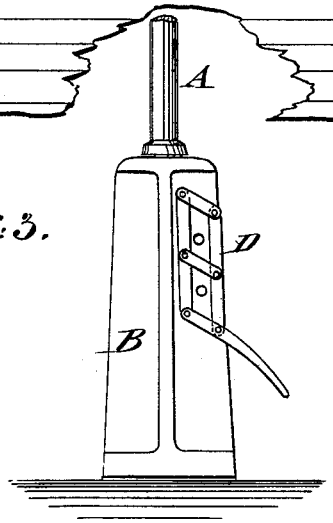


Fig: 3.



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IMPROVEMENT IN BOAT-LOWERING APPARATUS.

Specification forming part of Letters Patent No. **220,798**, dated October 21, 1879; application filed August 27, 1879.

To all whom it may concern:

Be it known that I, HINRICH BRUNS, of the city of Bremerhaven, in the Empire of Germany, have invented certain new and useful Improvements in Devices for Lowering Ships' Boats, of which the following is a specification.

It is a well-known fact that in accidents to vessels of all kinds a great number of lives are lost owing to the delay and loss of time in lowering the boats. In most cases the lowering mechanism is not in proper working order, and a fatal loss of time the result.

The object of my invention is to furnish a boat-lowering device by which the beforementioned defects are fully overcome, and by which the weight of the boat assists in the quick and automatic swinging out of the boat and davits to the outside of the railing, so that it can be lowered without the delay incidental to the present mode of lowering the boats, which is done by first hoisting the boat from its bearings, then swinging out one davit and then the other, till the boat can be lowered.

The invention consists of two davits, to which the boat is hung in such a manner that the davits are in line with the longitudinal axis of the boat. The davits are rigidly held in their inward and outward position by side guy-ropes and brace-chains, the latter being firmly secured by clamps to the base-supports of the davits.

The boat is hung to tackles and retained in raised position by diagonally-crossing exterior ropes, the lower ends of which are securely held by clamping devices, and by an inner V-shaped rope that extends from the upper parts of the davits across the inner side of the boat to the railing or deck.

By releasing the outer cross-ropes and the bracing-chains the davits and boat are swung into outward position by the weight of the boat, after which the davits are secured and the boat lowered.

In the accompanying drawings, Figure 1 represents a side elevation of my improved boat-lowering device, showing the boat suspended in line with the davits. Fig. 2 is a top view of the same with the boat ready to be lowered, and Fig. 3 is a detail side view of the base-support of the davit and of the clamping attachment for the brace-chains and exterior cross-ropes.

Similar letters of reference indicate corresponding parts.

A A in the drawings are the davits, which turn in fixed base-supports B, secured rigidly to the vessel. The upper ends of the davits A A are provided with three eyes, *a a*, to the middle eyes of which are applied the brace-chains C C. To the inner eyes are hung the pulley-blocks *b*, through which the brace-chains pass, so that they cross one back of the other. The brace-chains pass then over guide-hooks *a'* at the middle portions of the davits, and through guide-holes in the ribs of the base-supports B, the chains being locked thereto by a suitable clamping device, D, operated by a hand-lever. (Shown in Fig. 3.)

At the ends of the brace-chains C C are larger rings or stops *d*, up to which the chains may pass through the supports B. To the outer eyes, *a*, of the davits are attached guy-ropes E, which are connected by hooks at their opposite ends to the pulley-blocks of side tackles, E', for the purpose of holding the davits firmly in position, whether they are into line with the boat or at right angles thereto, as shown, respectively, in Figs. 1 and 2.

The boat is suspended by the tackles F from fixed staples a^2, at the under side of the ends of the davits, the lower ends of the tackles being connected to any approved detaching mechanism of the boat, so that the same, when reaching the water, may be instantly released from the tackles.

When the boat is raised to proper height above the railing, the tackles F assume an inclined position, as shown in Fig. 1, and hold it in position against the pitching motion of the vessel. The boat is then secured by exterior cross-ropes, G, which pass from the points of the davits, where they begin to curve, diagonally across the outside of the boat to the base-supports B, the lower portions of the ropes being preferably formed of chains. These outer diagonal ropes, F, are clamped in the same manner as the brace-chains, and preferably by the same device as the brace-chains.

The inner steadying-rope, G', is attached to the davits near the upper terminals of the

same, and tied at its middle portion either to the railing, as shown in Fig. 1, or to the deck. The inner rope is thereby stretched in the shape of a V, and passes at two points across the boat. The outer and inner ropes, F F', hug thus the boat securely, and prevent it, in connection with the inclined tackles F, from swaying in lateral or longitudinal direction, whatever be the motion of the boat. The boat is thus almost immovably suspended, and, when hung at proper height above the railing, it is entirely out of the way.

The boat is lowered as follows: The clamps are simultaneously withdrawn from the brace-chains and outer cross-ropes. The boat, being freed from the binding action of the outer ropes, moves by its own weight in outward direction, and compels the davits to swing to the outside until they are stopped by the enlarged rings at the ends of the brace-chains. The davits are then at right angles to the vessel, and the boat hangs vertically below the terminals of the davits. The guy-ropes are then tightly stretched to secure the davits firmly in outward position, and the boat is then lowered, in the usual manner, by releasing the ropes of the suspending-tackles. When reaching the water, the detaching apparatus is brought into operation, and the boat is dropped from the tackles.

For hoisting the boat, it is attached again to the suspending-tackles, which are then hooked, in place of the guy-ropes, to the side tackles, and the boat then hoisted above the railing. The davits are then swung with the boat inwardly into their former position by drawing in the brace-chains, which is accomplished by attaching their end rings to the side tackles. The outer cross-ropes are then stretched, and, with the brace-chains, tightly secured by the clamping devices. The inner rope is then tightly laid onto the boat, and, finally, the guy-ropes again attached to and stretched taut by the side tackles, so that the boat is held immovably in line with the davits and ready for almost instant lowering in case of need.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the davits A, with crossing brace-chains C and clamping devices D, with the base-supports B, to hold the davits rigidly in position, substantially as specified.

2. The combination of the davits A, supported at both ends and in line with the boat, and of suspension-tackles F F, with stiffening brace-chains C C, retaining cross-ropes. G G' and clamping devices D for the brace-chains, and outer retaining-ropes, G, so that on loosening the clamping devices the boat and davits are swung outwardly by the weight of the boat, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 15th day of August, 1879.

HINRICH BRUNS.

Witnesses:
PAUL GOEPEL,
CARL KARP.