G. TORRIE.

BOAT LOWERING GEAR.

APPLICATION FILED NOV. 20, 1918.

1,306,645.

Patented June 10, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

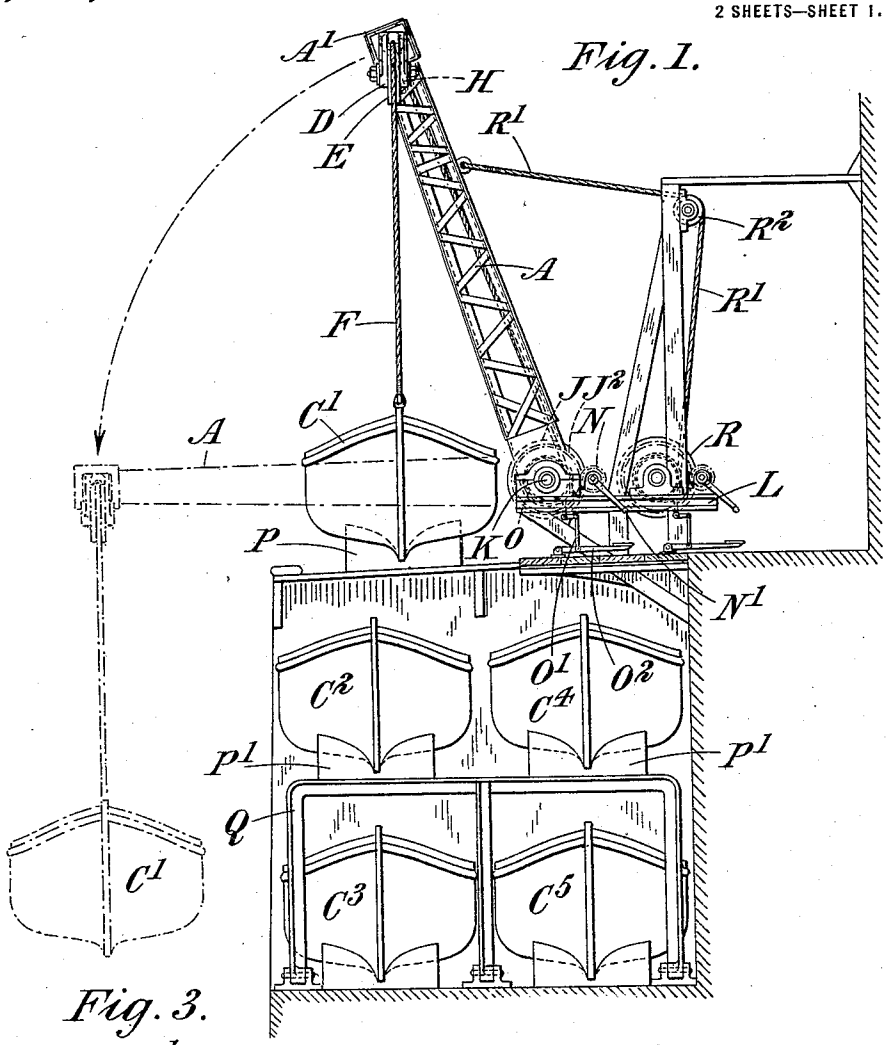
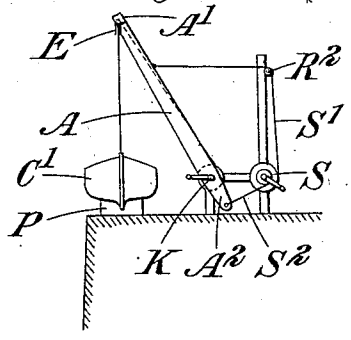


Fig. 3.



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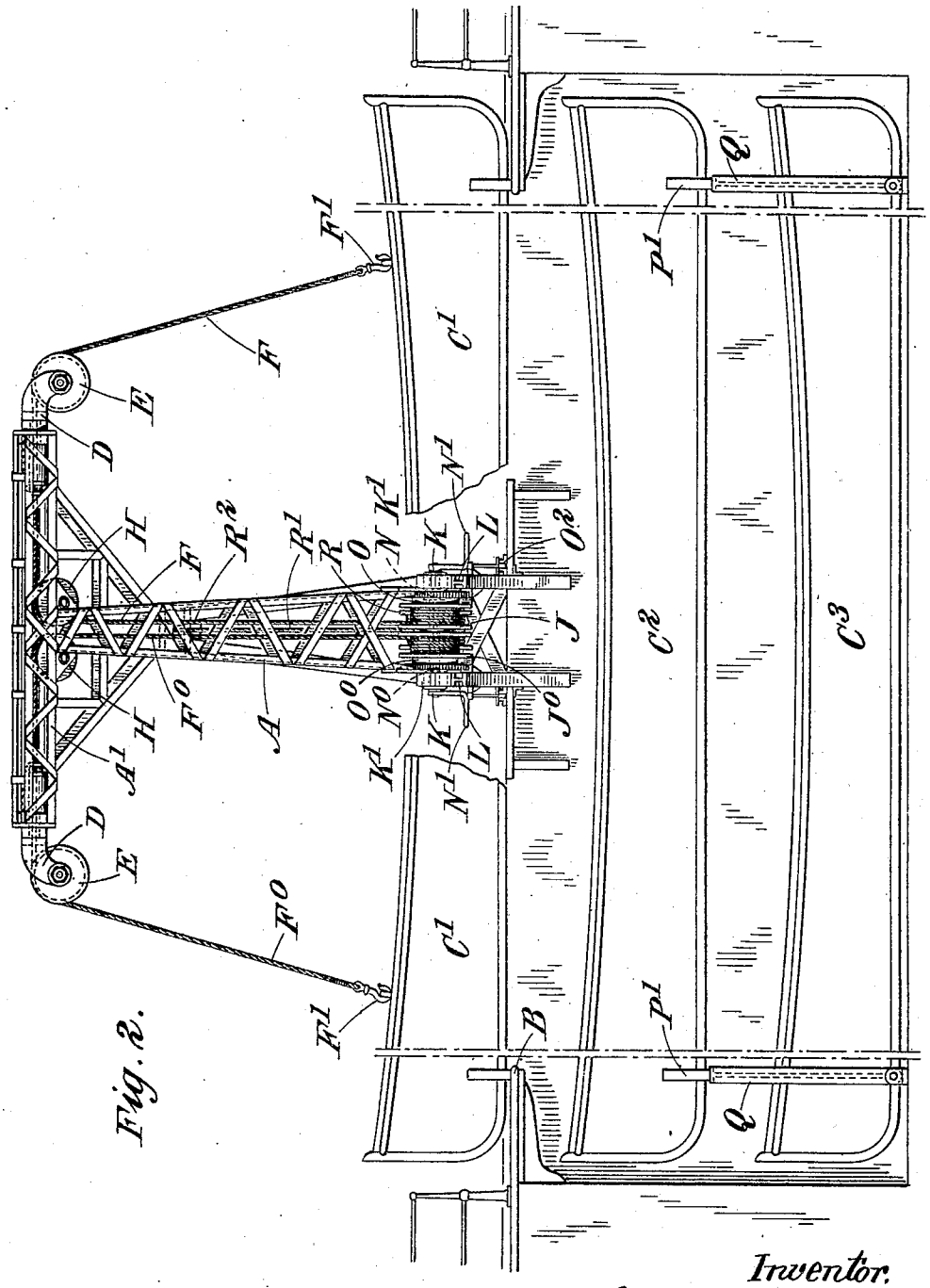


Fig. 2.

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UNITED STATES PATENT OFFICE.

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BOAT-LOWERING GEAR.

1,306,645. Specification of Letters Patent. Patented June 10, 1919.

Application filed November 20, 1918. Serial No. 263,362.

To all whom it may concern:

Be it known that I, GEORGE TORRIE, a subject of the King of England, residing at Seven Kings, in the county of Essex, England, have invented certain new and useful Improvements in Boat-Lowering Gears, of which the following is a specification.

This invention relates to boat-lowering gear, and its principal object is to provide improved boat-lowering gear comprising a single T-headed davit which can be applied to the lowering of a single boat or also, with great convenience, to the lowering of boats which are grouped or nested, for instance, one above another and in two or more ranks.

Another object is to provide a T-headed davit having sheaves mounted in the ends of the T-head in such a manner that in all positions of the davit they will always hang plumb in a fore and aft plane.

A further object is to provide a single T-headed davit having two single falls and a winch for each fall so arranged that a boat can be readily lowered on an even keel.

A further object is to guide the falls at the ends of the T-head of the davit in an improved manner.

To these and other ends the invention consists in the construction, arrangement, and combination of parts described hereinafter and pointed out in the claims.

One illustrative embodiment of the invention and a modification thereof are diagrammatically illustrated by way of example in the accompanying drawings, wherein:—

Figure 1 is a side elevation of one form of boat-lowering gear according to the invention as seen in a fore-and-aft direction, and

Fig. 2 is a front elevation thereof as seen athwartship from an outboard position, one of the boats being shown broken away;

Fig. 3 is a diagram showing a modified form of topping gear.

Like reference letters designate like parts throughout the drawings.

Referring to Figs. 1 and 2, a jib or davit A of lattice construction having a T-shaped head A^1 is pivotally mounted by its heel in the manner described hereinafter above the platform B opposite the middle of the length of the upper boat C^1 of the group of boats for the lowering and raising of which it is to be used. The T-head of the davit is of hollow section and is disposed parallel to the boats. Journaled in each end of the T-head A^1 is the hollow shank of a downwardly bent fork D, in each of which is pivoted a sheave E, each with its plane of rotation in a fore-and-aft plane. The center of support of each sheave E is located below the axis of rotation of its pivotal support D. Each sheave E is adapted to take a single fall F or F^0 each having at one end a hook F^1 for attachment to the bow or stern of the boats. After leaving its sheave E each fall runs through the hollow stem of its fork D over a guide pulley H pivoted in the T-head A^1 and down the inside of the davit to a winch J for the fall F, and to a similar winch J^0 for the fall F^0, the following pivotal supports D of the sheaves E constitute guides. The winches are independent of one another so that each can control its fall F or F^0 independently of the companion fall. Any convenient arrangement of winches may be adopted; the winches are not of themselves of the present invention. If desired, the forks D may be formed at the ends of a hollow rod journaled in the T-head A^1, in which case the rod will be cut away in the center to allow the falls to pass down the davit.

The barrels of the winches J J^0 to which the ends of the falls F F^0 are attached are situated inside the davit and are mounted each in one end of a centrally-divided axle K concentrically with which the davit is pivoted in bearings K^1 securely mounted on bearers L supported above the platform B. A pinion N able to be rotated by a crank-handle N^1 and meshing with the spur-gear J^2 secured to the barrel of one winch J is mounted on one of the bearers L, so that the winch can be operated manually, and a similar pinion N^0 is applied to the barrel J^0 of the other winch. A band-brake O having one end fixed to one of the bearers L and its other end attached to an angle-lever O^1 adapted to be rocked by a treadle O^2 is provided for braking the drum J; a similar brake O^0 is likewise provided for the drum J^0. If desired, the winches may be fixed in any other convenient position, for example on the deck, independently of the davit, and they may be driven by steam, electrically, hydraulically or manually as may be found convenient. It is preferable that any convenient clutch arrangement

should be provided for the two barrels so that the bow or stern of the boat may always be lowered at equal speeds, if desired.

In large passenger steamers it is common to have the boats parallel with one another and also nested one above another and in two or more ranks. In the illustrative embodiment the platform B is shown at such a height above the deck that two boats C^2, C^3, can be stowed one above the other below the platform vertically under the top boat C^1 which rests in chocks P on the platform. The chocks P^1 in which the middle boat C^2 rests are fixed on supports Q mounted to swing outward and downward clear of the ends of the lowest boat C^3 so as to allow a clear way for the latter when it is about to be lowered over the ship's side or returned into its place. The width of the platform is preferably such that it extends over a second rank of two or more boats C^4, C^5, arranged one over another alongside the boats C^2, C^3, the upper boat C^4 of this additional rank being also carried by chocks P^1 on the supports Q. The platform B does not extend continuously over all the boats, but is cut away at convenient places to allow the ends of the falls carrying hooks to have ready access to all the lower boats. Owing to the described arrangement of the davit pivotally mounted at a point located above the lower boats and inboard of the top boat and those vertically underneath it, a long davit is avoided.

In order to top the davit about its pivot, topping gear comprising a winch R is provided. This winch is also mounted on the bearers L and has a rope R^1 running over a guide-pulley R^2 to the upper end of the davit.

Fig. 3 diagrammatically shows a modified construction of topping gear comprising a differential winch S. This winch has a two-diameter drum with one rope S^1 leading from the larger diameter over the guide-pulley R^2 to the head of the davit (which has a considerable range of motion) and another rope S^2 leading from the smaller diameter of the drum to the heel A^2 of the davit which is extended in this case a little below the pivot K and has a much smaller range of motion than has the head.

It is to be clearly understood that the davit shown in Fig. 3 is provided with a T-head like that shown in Figs. 1 and 2. The T-head need by no means be as long as the boat which it commands, for the forward and after falls may run out from the ends of the T-head at a reasonable angle in a fore-and-aft plane to the bow and stern of the boat, where any suitable disengaging gear may be fitted if desired.

The described boat-lowering gear will be operated in the customary manner. Owing to the described arrangement of the sheaves for the two single falls F and the rotatable forks D carrying them, the sheaves always tend to hang plumb in the fore-and-aft direction of the boat being lowered, there cannot be any danger of the falls becoming entangled, and the boat can be lowered on an even keel without any danger of its tilting.

Further, it will be appreciated that it is not necessary to swing the boat over the ship's side before it is loaded up, whereby greater safety for the passengers is assured and considerable time in launching the boats is saved. In the event of the ship having a heavy list at any time, the boats can still be lowered from the high side. Another advantage of the described construction of the T-head and the forks of the sheaves journaled therein is that no guy ropes are required for keeping the boat parallel with the ship's side.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a boat-davit, the combination of a post which has a T-head and is pivoted near its lower end to the ship opposite the middle of the length of the boat or boats which it commands, the T of its head and also the davit pivot being parallel to the said boat or boats, two fore and aft pivotal supports journaled one in each end of the T-head with their axes parallel to the axis of the davit pivot, and two sheaves rotatably mounted one in each of said supports, the center of support of each sheave being located below the axis of rotation of its pivotal support in the T-head.

2. In a boat-davit, the combination of a post which has a T-head and is pivoted near its lower end to the ship opposite the middle of the length of the boat or boats which it commands, the T of its head and also the davit pivot being parallel to the said boat or boats, two fore and aft pivotal supports journaled one in each end of the T-head with their axes parallel to the axis of the davit pivot, and two sheaves rotatably mounted one in each of said supports, the center of support of each sheave being located below the axis of rotation of its pivotal support in the T-head, with two single falls passed one over each sheave, and two winches one for each fall.

3. In a boat-davit, the combination of a post which has a T-head and is pivoted near its lower end to the ship opposite the middle of the length of the boat or boats which it commands, the T of its head and also the davit pivot being parallel to the said boat or boats, two fore and aft tubular pivotal supports journaled one in each end of the T-head with their axes parallel to the axis of the davit pivot, and two sheaves rotatably mounted one in each of said supports, the center of support of each sheave being located below the axis of rotation of its piv-

otal support in the T-head, with two single falls passed one over each sheave, each fall being guided by the support of its allotted sheave, and two winches one for each fall.

4. In a boat-davit, the combination of a post which has a T-head and is pivoted near its lower end to the ship opposite the middle of the length of the boat or boats which it commands, the T of its head and also the davit pivot being parallel to the said boat or boats, two fore and aft pivotal supports journaled one in each end of the T-head with their axes parallel to the axis of the davit pivot, and two sheaves rotatably mounted one in each of said supports, the center of support of each sheave being located below the axis of rotation of its pivotal support in the T-head, with two single falls passed one over each sheave, and two winches one for each fall, and both winches being mounted on the davit.

5. In a boat-davit, the combination of a post which has a T-head and is pivoted near its lower end to the ship opposite the middle of the length of the boat or boats which it commands, the T of its head and also the davit pivot being parallel to the said boat or boats, two fore and aft tubular pivotal supports journaled one in each end of the T-head with their axes parallel to the axis of the davit pivot, and two sheaves rotatably mounted one in each of said supports, the center of support of each sheave being located below the axis of rotation of its pivotal support in the T-head, with two single falls passed one over each sheave, each fall being guided by the support of its allotted sheave, and two winches one for each fall, and both winches being mounted on the davit.

In testimony whereof I affix my signature.

GEORGE TORRIE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."