J. S. Getchell,

Windlass.

No. 32,284. Patented May 14, 1861.

Witnesses:

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Fig. 1.

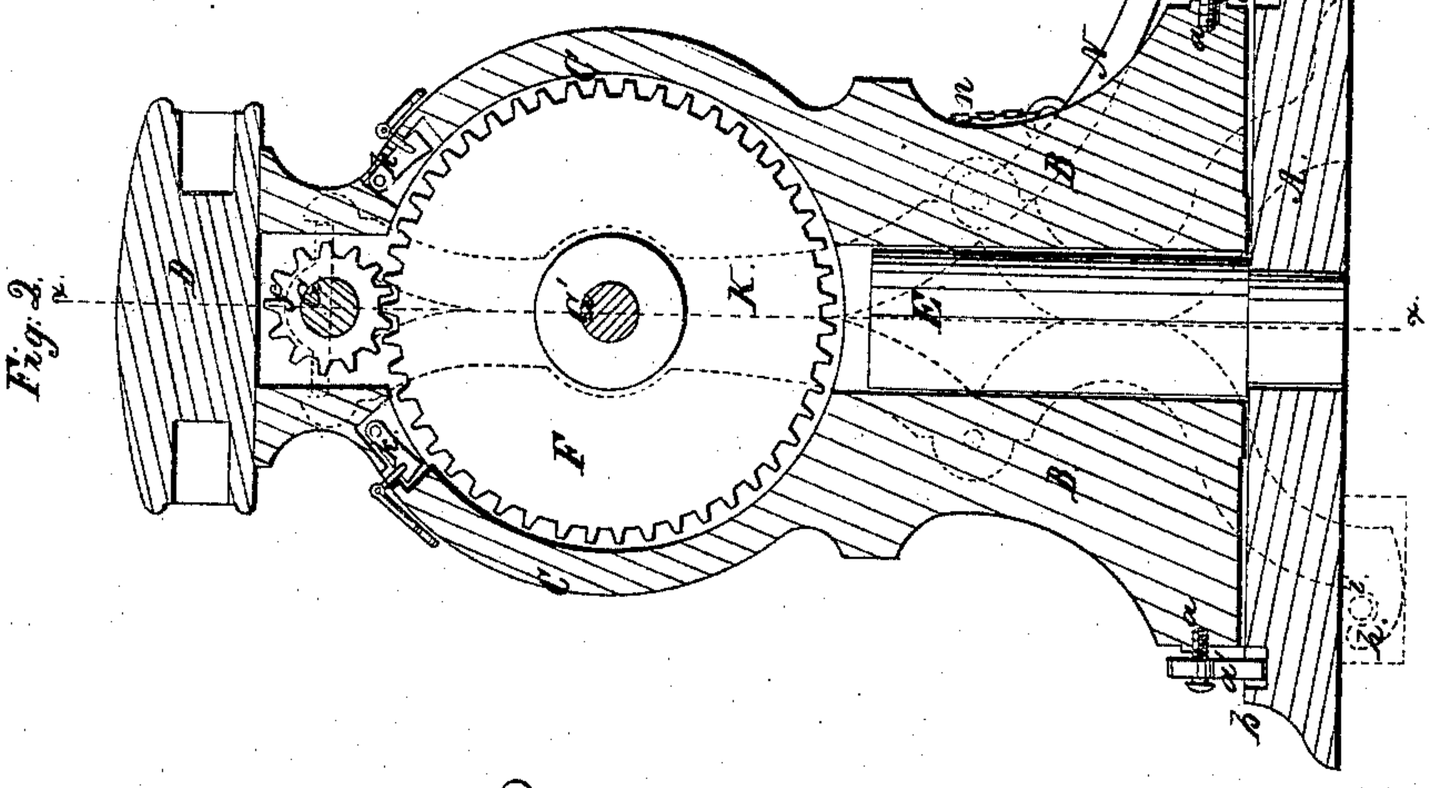
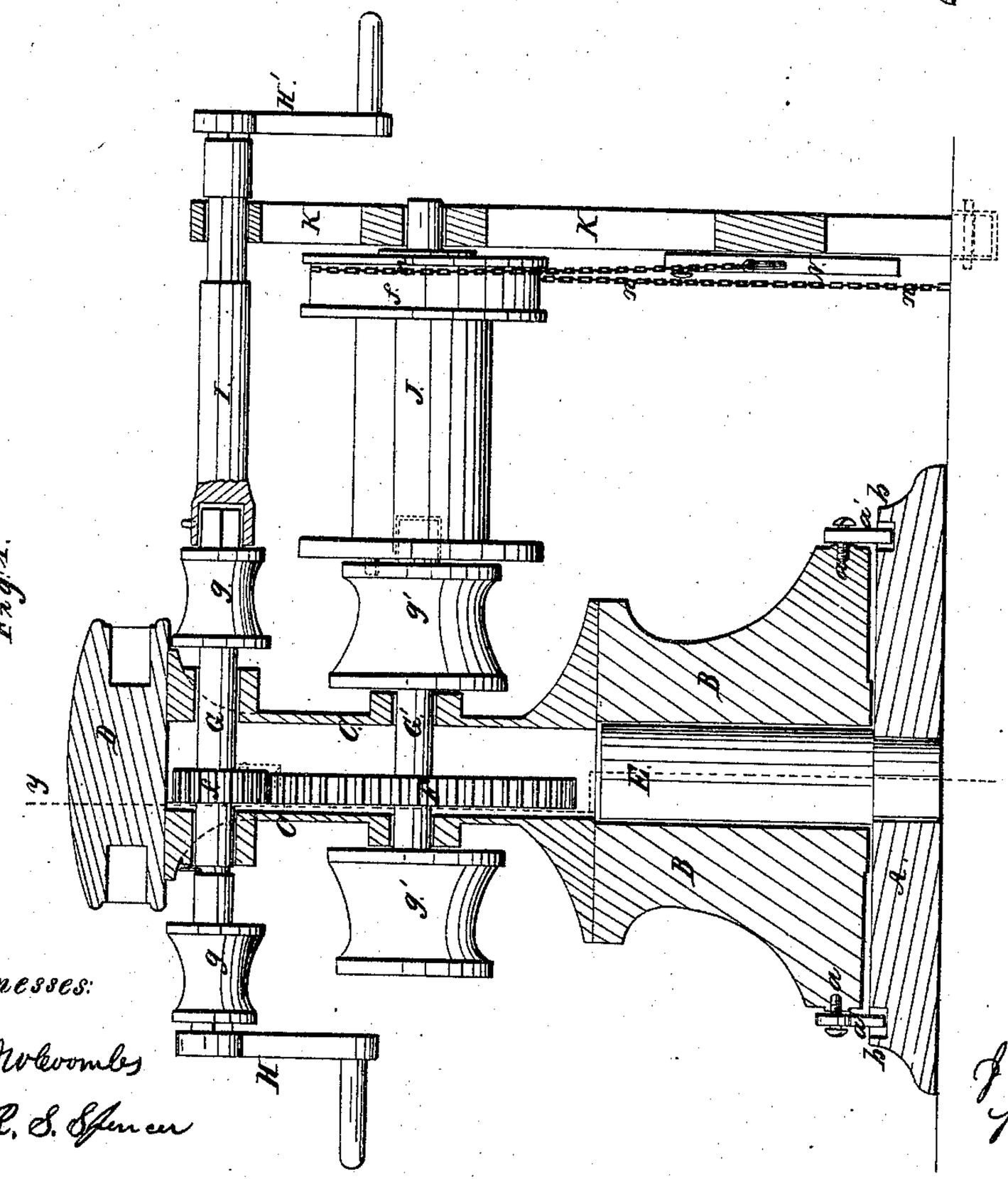


Fig. 2.



UNITED STATES PATENT OFFICE.

JOHN S. GETCHELL, OF MACHIAS, MAINE.

COMBINED CAPSTAN AND WINDLASS.

Specification of Letters Patent No. 32,284, dated May 14, 1861.

To all whom it may concern.

Be it known that I, JOHN S. GETCHELL, of Machias, in the county of Washington and State of Maine, have invented a new and Improved Hoisting-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a vertical longitudinal section through the improved machine showing the combination of windlass and capstan. Fig. 2, is a transverse section through the capstan, in the vertical plane indicated by red line *y*, *y*, Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to the combination with a ship's capstan, of a windlass, so that either one or the other may be employed as occasion requires it. Thus for shipping or unshipping a cargo and for other light work, the windlass can be profitably used; while at the same time the advantages of the capstan for heavy work, as "heaving and weighing" the anchor &c., will in no wise be impaired.

The nature of my invention and improvement, consists in combining a common windlass with a capstan in such a manner that the windlass and frame thereof can be attached to or detached therefrom at pleasure, as will be hereinafter fully explained.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, represents the base of the capstan which is securely bolted down to the vessel's deck.

B, is the barrel around which the cable called the "messenger" is wound; *a*, its pawl head carrying pawls *a'*, *a'*, *a'*, *a'*; and *b*, is the pawl rim on the base piece A, which has a number of small iron cells in it so disposed that the pawls *a'*, *a'*, fall alternately into these cells as the barrel B, is turned, and prevent a recoil of the barrel.

C, is a circular box, hollow and standing in a vertical plane on top of the barrel B, to which this box C, is rigidly bolted. On top of hollow box C, the drum head D, is secured which has a number of holes radiating from its axis for the reception of horizontal levers or capstan bars used for turning the whole around the vertical axis E.

The only difference between this form of capstan and those commonly used consists in the interposition of the hollow box or case C, between the barrel and drum head. This box contains two spur wheels, viz: a large wheel F, and a pinion *f*, which is arranged above it and in the same vertical plane. The shafts G, G', of these two wheels F, and *f*, pass through each side of the box C, in which they have their bearings and carry barrels *g*, *g*, and *g'*, *g'*, respectively on their ends. The ends of the shaft G, pass through their drums *g*, *g*, and are cut square as shown in Fig. 1, of the drawings, for receiving winch H, and winch shaft I, for turning this shaft G. The extreme ends of shaft G', may be also formed so as to fit into a square socket in one end of a flanged drum J, or any other suitable means may be employed for securing this drum J, to the shaft G', so that it will be rotated by this shaft.

K, is a perpendicular standard having its two legs extended some distance apart, one of which is longer than the other, and this longer leg has a hook *h*, shown in Fig. 2 in dotted lines, which hooks under a pin *i*, in a recess made in the deck floor. This hook when passed under fixed pin *i*, secures this leg of standard K, down firmly to the deck. The other leg rests on the deck and is secured to it by a simple screw or other suitable means. On the upper end of standard K, the winch shaft I, has its bearings, and below this shaft the drum J, has an end bearing in the standard K. This standard K, therefore forms the support for the outer ends of the shaft I, and drum J, while the ends of shafts G, G', form the inner bearings for said drum and shaft. The inner end of shaft I, is enlarged and a square socket is formed in its end for receiving the corresponding end of shaft G. The inner end of drum J, is locked to the shaft G, as before described. These auxiliary parts, viz: the standard K, drum J, and shaft I, may be readily detached from the shafts of the capstan and removed out of the way when it is desired to use the capstan; and when it is desired to employ the power of the windlass, or drum J, with the winches H, and H', the standard is secured to the deck of the vessel as before described and the windlass is connected with the shafts G, G', in such a manner that by rotating pinion shaft G, the motion will be communicated to drum J, around

which the rope is wound and unwound in raising and lowering weights.

Two pawls *k*, *k*, are employed which are engaged with the teeth of wheel F, when necessary in the operation of the windlass.

N, is a lever, one end of which is pivoted to the short leg of standard K. To this lever one end of a friction band or rope *n*, is secured, the other end of which band passes over the friction rim J′, of drum J, and is secured to the longer leg of standard K. By depressing the lever N, the band *n*, will produce friction on the drum J, and graduate the descent of the weight at the end of the hoist or fall, as may be necessary.

With this arrangement the windlass can be quickly put together when the vessel is at the dock and used for loading or unloading purposes, and when the windlass is not in immediate use it can be detached from the capstan and stowed away; for light hoisting purposes the barrels *g*, *g*, and *g′*, *g′*, may be used by attaching both winches H, H′, directly to the ends of the shaft G, and for hoisting heavy bodies the capstan is used in the usual manner.

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

The combination, with the vertical capstan herein described, of the box C, gear wheels F, *f*, shafts G, G′, shaft I, drum J, and movable standard K, all arranged and operating substantially as, and for the purposes set forth.

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Witnesses:
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