G. H. REMINGTON, B. D. THAYER & J. P. MANTON.

Ships' Windlasses.

No. 144,227. Patented Nov. 4, 1873.

Fig. 1.

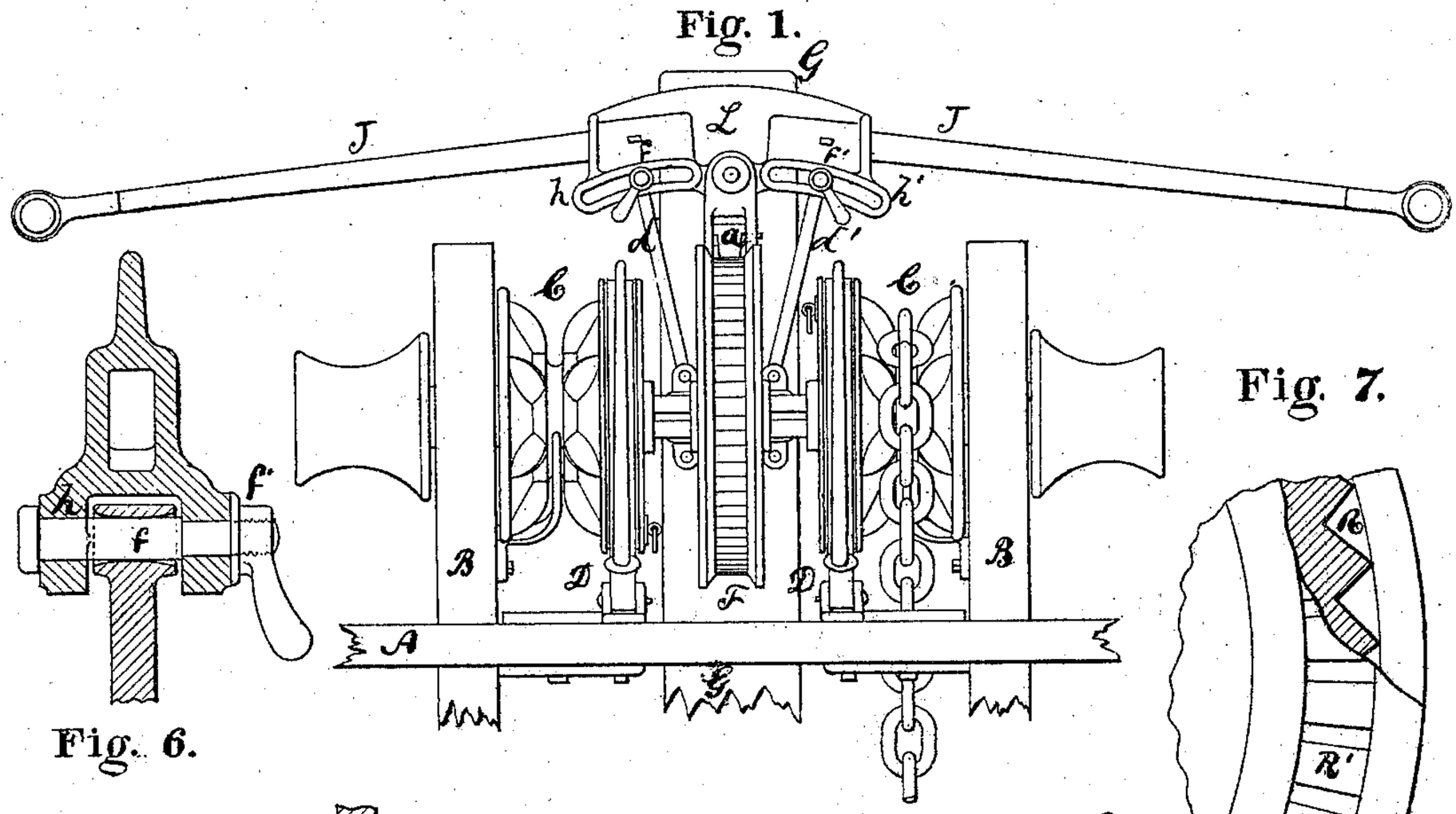


Fig. 6.

Fig. 7.

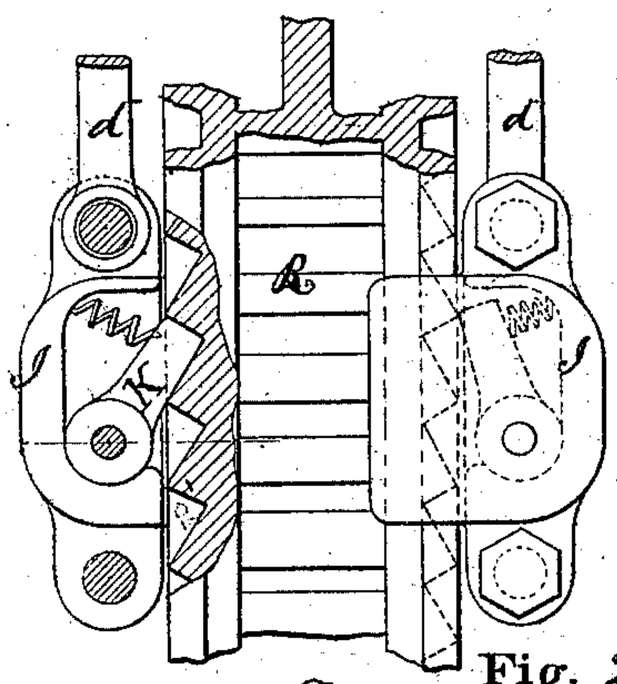


Fig. 2.

Fig. 3.

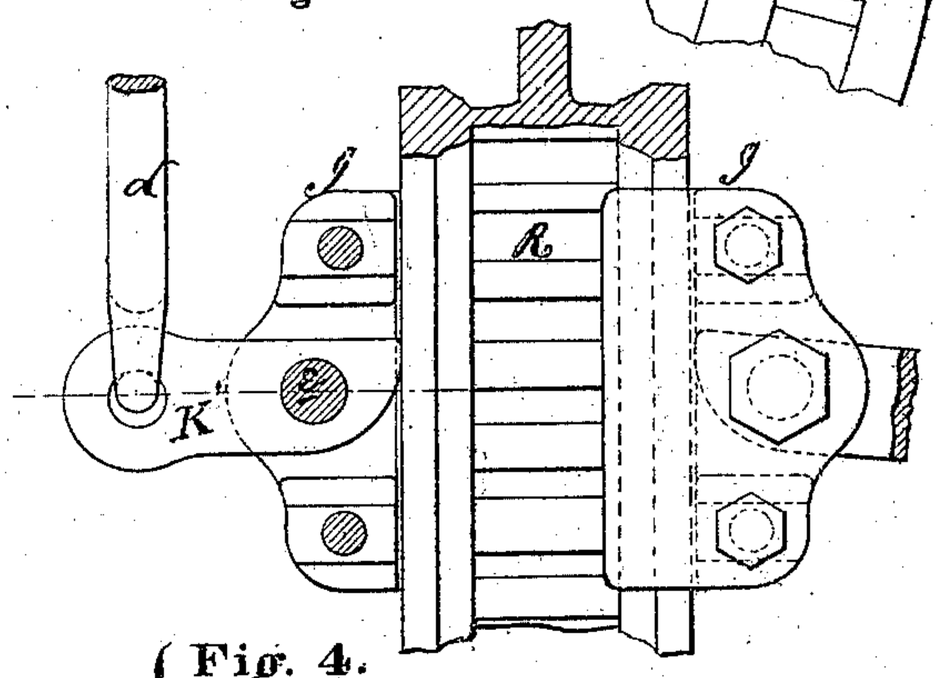
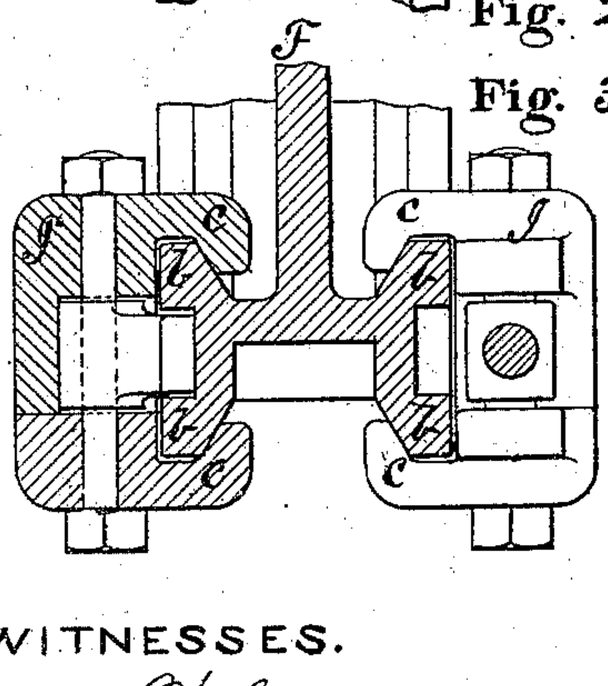
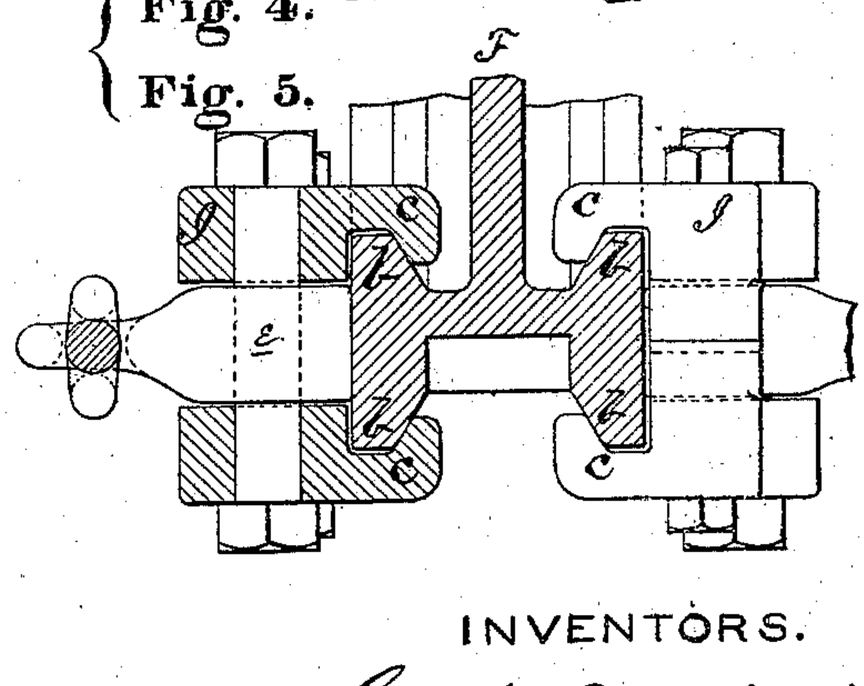


Fig. 4.

Fig. 5.





WITNESSES.

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GEORGE H. REMINGTON, BARTON D. THAYER, AND JOSEPH P. MANTON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SHIPS' WINDLASSES.

Specification forming part of Letters Patent No. **144,227**, dated November 4, 1873; application filed June 27, 1873.

To all whom it may concern:

Be it known that we, GEORGE H. REMINGTON, BARTON D. THAYER, and JOSEPH P. MANTON, all of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Ships' Windlasses; and we do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a front elevation. Figs. 2 and 3 are, respectively, views in vertical and horizontal section, showing the pawl-and-ratchet gear nipping arrangement for working the windlass. Figs. 4 and 5 are corresponding views of the same parts of a windlass when a friction-pawl is used. Figs. 6 and 7 are detailed parts to be referred to.

Our invention resides in a novel arrangement of the operative parts of a windlass, whereby a single wheel located between the wildcats serves, with suitable pawls, as a pawl-gear to hold the windlass from paying out chain, and also, with suitable ratchets and pawls, or equivalent friction-nippers, furnishes the means for heaving in the chain. The improvement greatly reduces the width required between the bits for the accommodation of the windlass, and permits the location of the pump-brakes for working the windlass to be abaft, instead of forward, of the bits.

In the drawings, A is the deck of the vessel; B B, the bits; C C, the wildcats or chain-gears; D D, the friction-straps, drums, and levers; and E, the windlass-shaft, all of usual construction. F is a wheel keyed to the shaft of the windlass. Its periphery is provided with ratchet-teeth R, with which stoppers *a*, hinged to a deck-stanchion, G, forward of such wheel, can engage to prevent the windlass from turning in the direction opposite to that in which it is being worked in heaving in the chain. A double flange (shown clearly at *b b*, Figs. 3 and 5) is formed on both faces of the wheel F, constituting raised rims. These flanges are embraced by sliding blocks I, which are furnished with concentric guides *c c*, fitting the flanges. These blocks are operated through the hinged links *d d'* by the pump-brakes J, and said blocks are provided with ratchet-pawls K, or equivalent friction-pawls K', Figs. 2 and 4. In case ratchet-pawls are used, the faces of the wheel should be furnished with ratchet-teeth R', as seen at Fig. 7, and the links *d* are connected with the sliding blocks I, Fig. 2. If friction-pawls are used, the said links are connected directly to the pawls K', as shown at Figs. 4, and such pawls are pivoted at *e* to their blocks. The pump-brakes J enter sockets in a vibrating head-piece. With this head-piece two slotted sectors, *h h'*, are combined, and the ends of the links *d d'* are attached thereto by clamp-bolts and nuts *f f'*, and the said sector being of a curvature due to a circle, of which the links *d d'* are radiuses, it follows that the position of the sliding blocks I will always remain the same for all variations in the length of the stroke.

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

1. In combination with a windlass-shaft for working the same, the single wheel F, and ratchet or friction pawls K K' applied to the sides thereof, substantially as described.

2. The wheel F, constructed with ratchet-teeth R on its periphery for a pawl-gear and double-flanged rims *b b*, in combination with sliding blocks I and ratchet or friction pawls K K', substantially as described.

3. The combination of a windlass-pump brake-head, L, constructed with slotted sectors *h h'*, with the sliding blocks I, and links *d d'* for maintaining the proper position of the pawl or ratchet gear for all variations of the length of the stroke, substantially as described.

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