E. C. Hammond,

Windlass

No. 84,275. Fig. 1. Patented Nov. 24, 1868.

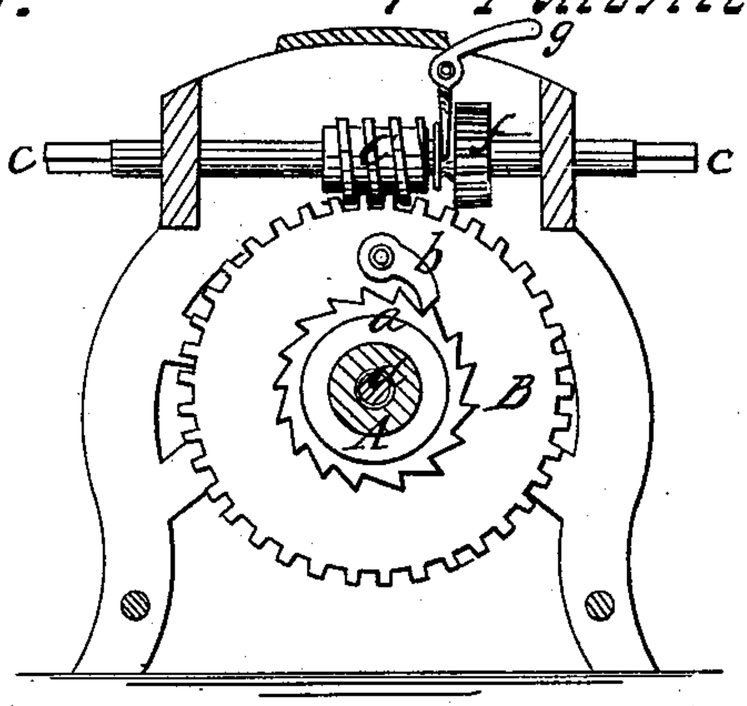


Fig. 2. → x

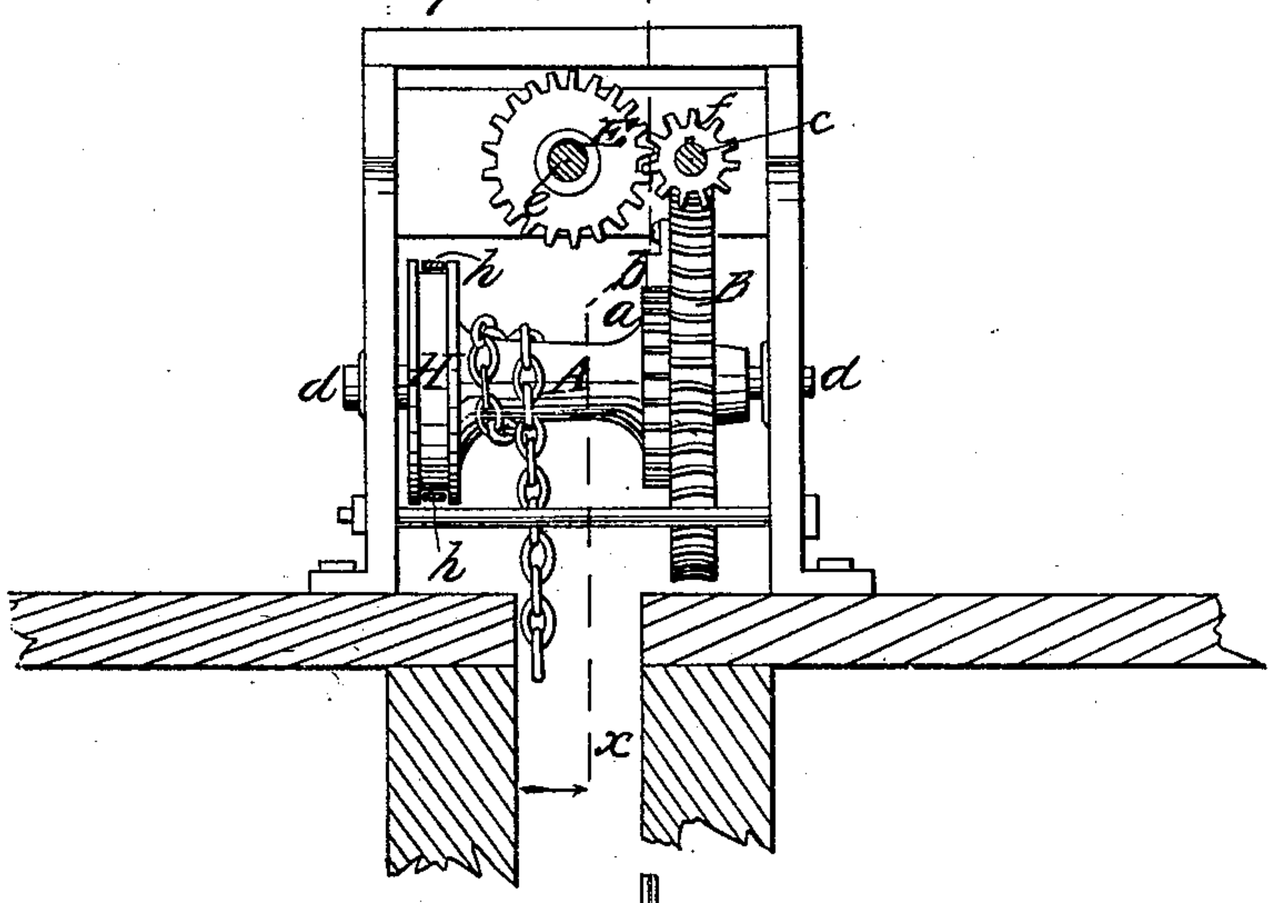
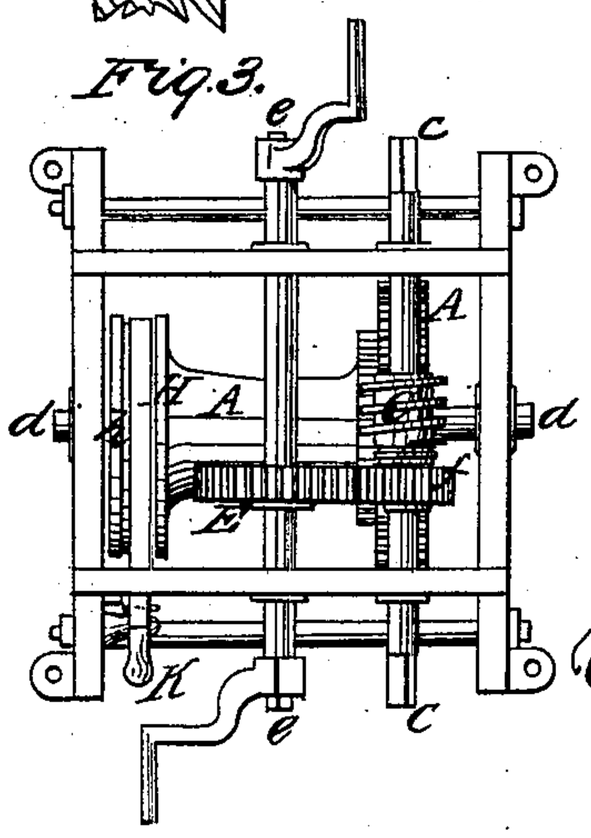


Fig. 3.



Witnesses:
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EVERETT C. HAMMOND, OF OSWEGO, NEW YORK, ASSIGNOR TO HIMSELF, O. H. PENNOCK, AND IRA G. W. PENNOCK, OF SAME PLACE.

Letters Patent No. 84,275, *dated November* 24, 1868.

CENTRE-BOARD WINCH.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, EVERETT C. HAMMOND, of Oswego, in the county of Oswego, and State of New York, have invented a new and useful Improvement in Centre-Board Winches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming this specification, in which—

Figure 1 is a vertical cross-section of my invention, taken in the line *x x* in fig. 2;

Figure 2 is a sectional front view; and

Figure 3 is a plan view.

Similar letters of reference indicate like parts in all the figures.

In lowering a heavy centre-board it frequently gets jammed in the box, so that the weight of the board is sustained momentarily by dirt in the box, or by the board having been slightly sprung, and when it does start, the men at the cranks are liable to get hurt, and in some cases have been killed.

My invention consists in obviating this objection to the ordinary winch, by substituting, in place of the usual spur-wheel and pinion, a worm-wheel and worm or endless screw, by which means a proper control of the cranks can be retained under all circumstances, and using in connection therewith a driving-gear and pinion for increasing the motion of the worm when the work is light; and also in arranging the driving-shaft transversely with relation to the barrel of the winch, so that the operating-cranks will not interfere with a lumber deck-load, as hereinafter more fully explained.

In the accompanying drawings, A is the barrel of the winch, and B is the worm-wheel.

The barrel A and driving-wheel B are placed on the main shaft *d* loosely, as heretofore, and made to engage with each other, at will by a pawl and ratchet, *b a*, figs. 1 and 2.

The driving-shaft *c* is placed transversely with relation to the barrel A, and the endless screw C fixed thereto.

By placing the hand-cranks upon the shaft *c*, the machine is capable of a very powerful lift, and the board can be taken up without trouble when the weight of the vessel is upon it, with a strong breeze, and one or two men can safely lower the board at any time by a crank, without danger of being hurt, and ordinarily can take up the board also, which is often a matter of considerable convenience.

For giving the screw an increased motion when the work is light, a second transverse shaft, *e*, (fig. 3,) is provided, and on the shaft is fixed a driving-gear, E, which engages with a pinion, *f*, on the screw-shaft *c*, and when the hand-cranks are placed on said shaft *e*, (as shown in fig. 3,) the screw is driven with a greater velocity, and in this manner the power of the machine is made variable.

The pinion *f* is prevented from turning on the shaft *c*, by a feather on the shaft, but is free to slide longitudinally on said shaft, so that it may be thrown out of gear with the driving-gear E, when desired. This sliding movement of the pinion is made by a small hand-lever, *g*, fig. 1.

I also provide one end of the barrel A with a wheel, H, and friction-band *h*, the band being operated by a lever or brake, K, fig. 3, and when the whole board is required, pressure is applied to the brake, and the pawl *b* is raised, and the board allowed to run down, under the restraint and control of the brake.

Also, in placing the driving-shaft *c* transversely with relation to the barrel A, the winch requires less space or deck-room, and no shaft-ends are protruding from the sides of the winch, (as shown in fig. 2,) for ropes to catch upon.

In lumber-carrying vessels an open space must be left on each side of the winch, for room to work the cranks, and a breakage is made especially for that purpose; and by this construction and arrangement of driving-shaft, the natural breakages in the wake of the winch are made available for crank-space, and lumber or other cargo can be stowed directly against the sides of the winch, thereby making a more snug deck-load, and increasing the carrying-capacity for lumber-freight, &c.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The barrel A, worm-wheel B, endless screw C, and gears E *f*, combined and operated substantially as herein described, and for the purpose set forth.

2. The arrangement of the operating-shaft or shafts *c e*, when placed at right angles to the barrel A, for the purpose herein described.

The above specification of my invention signed by me, this 23d day of September, 1868.

EVERETT C. HAMMOND.

Witnesses:

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