J. & H. FULMER.

WINDLASS HOISTING MACHINE.

No. 186,554. Patented Jan. 23, 1877.

Fig. 1.

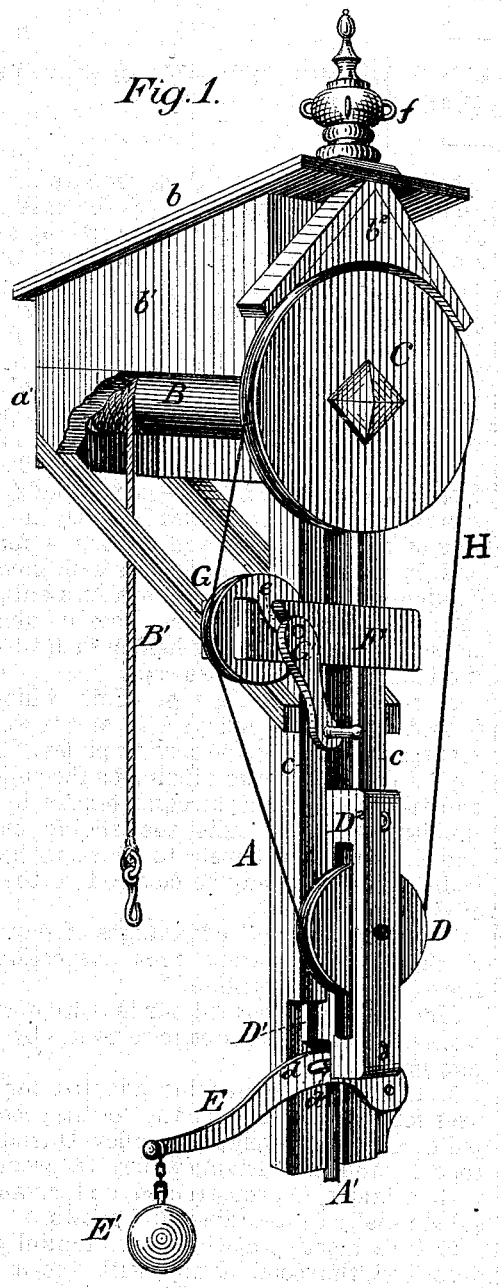
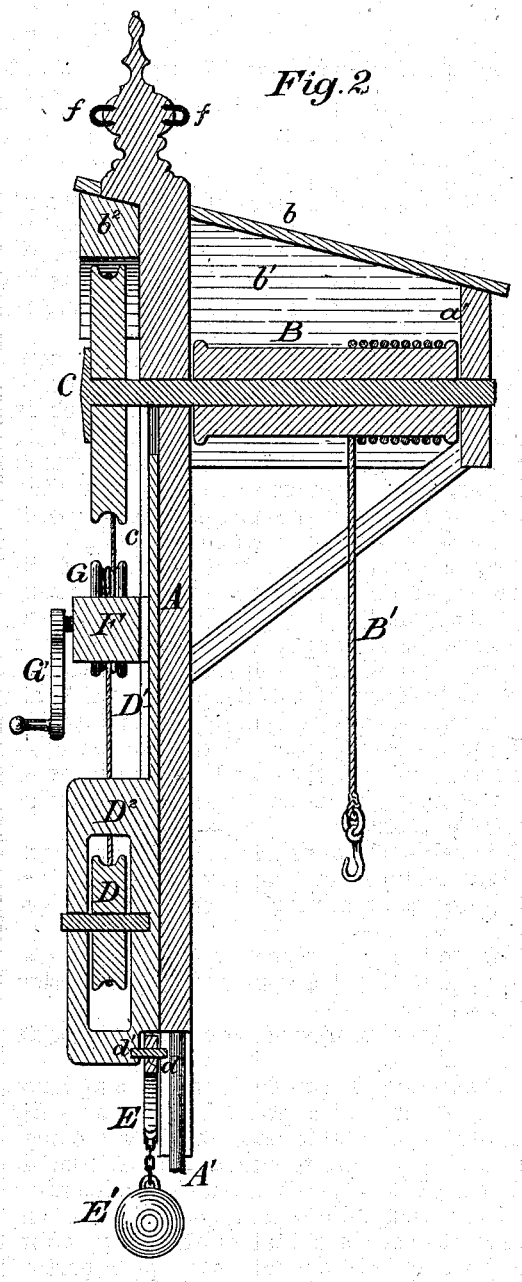


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOSIAH FULMER AND HENRY FULMER, OF DUBUQUE, IOWA.

IMPROVEMENT IN WINDLASS HOISTING-MACHINES.

Specification forming part of Letters Patent No. **186,554**, dated January 23, 1877; application filed November 25, 1876.

To all whom it may concern:

Be it known that we, JOSIAH FULMER and HENRY FULMER, both of the city and county of Dubuque, and State of Iowa, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification:

This invention relates to a machine for general hoisting purposes, though more especially designed for raising light weights, such as water from a well, or mineral from a shaft; and its object is to provide a machine which will work with the same efficiency under the various changes of the temperature, and will be simple in construction and operation.

Our invention therein consists in the combination of an endless rope with a stationary pulley and a sliding weighted pulley, to preserve the tension of the rope throughout the changes of the temperature; second, in the combination of the above parts with an operating or driving pulley, around which the rope is wound; and, further, in the combination, construction, and arrangement of the various parts, all as more fully hereinafter explained.

To enable others skilled in the art to manufacture and use our invention, we now describe the same, having reference to the drawings, in which—

Figure 1 is a perspective view of the machine; and Fig. 2 a central vertical section of the same.

Like letters represent corresponding parts in each figure.

A represents a standard, which may have at its lower end a pointed metal bar, A′, stepped in a suitable base to allow the machine to be turned to either side, if desired. B is the gudgeon, around which the hoisting rope or chain B′ is wound, journaled at one end in the standard, and at the other end in the frame a' built out from the upper part of such standard. The spindle of the gudgeon is extended through the standard, and a large grooved pulley, C, keyed on its end. This pulley and the gudgeon are protected to a great extent from the inclemencies of the weather by a roof, b, and side pieces b^1, which partly inclose the gudgeon, and by a supplementary covering, b^2, above the pulley. A small grooved pulley, D, is mounted below the first in a moving frame, D^1, the base-piece D^2 of which slides in ways formed by strips c secured to the face of the standard. A lever, E, is pivoted to the standard near the lower end of the strips c, and has a slot, d, formed therein, in which plays a pin, d', secured to the lower end of the sliding frame to move such frame upon the standard. A weight, E′, of suitable size for the purposes of our machine is connected to the end of the lever E, and depends from the same. To the face of the standard, between the pulleys, is secured an arm, F, projecting beyond one side of such standard, and having a forked end, in which is mounted a small grooved driving-pulley, G, provided with a crank, G′. The spindle of this pulley rests in oblique slots e in the arm, and is held in such slots by the tension of the endless rope.

H is an endless rope or chain, which is passed around the pulleys C D, and is wound several times around the driving-pulley. This rope is prevented from slipping on the pulleys, and is always kept at an equal tension by the weight E′, which pulls the sliding pulley down against the rope. In hoisting heavy bodies guy-ropes may be fastened to the top of the machine at f.

The operation and advantages of our machine are too apparent upon inspection to need further enumeration.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a hoisting-machine adapted for the uses set forth, the combination of the grooved pulley C, sliding weighted pulley D, endless rope H, and the driving-pulley G, provided with a crank, G′, constructed and arranged substantially as described and shown.

2. In a hoisting-machine, substantially as described, the combination, with the standard A and sliding frame D^1, carrying the pulley D, of the lever E, having the slot d, the pin d' on said sliding frame, the weight E′, and the endless rope, constructed and arranged substantially as described and shown.

3. In a hoisting-machine, the combination, with the endless rope H, of the driving-pulley G, around which the said rope is wound,

with its spindle mounted in oblique slots and held therein by the tension of the rope, substantially as described and shown.

4. In a hoisting-machine, and in combination the standard A, mounted so as to adapt the machine for turning to either side, the gudgeon B, upon which the hoisting-rope is wound, the pulleys C D, and the endless rope H, substantially as and for the purposes set forth.

JOSIAH FULMER.
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Witnesses:
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