

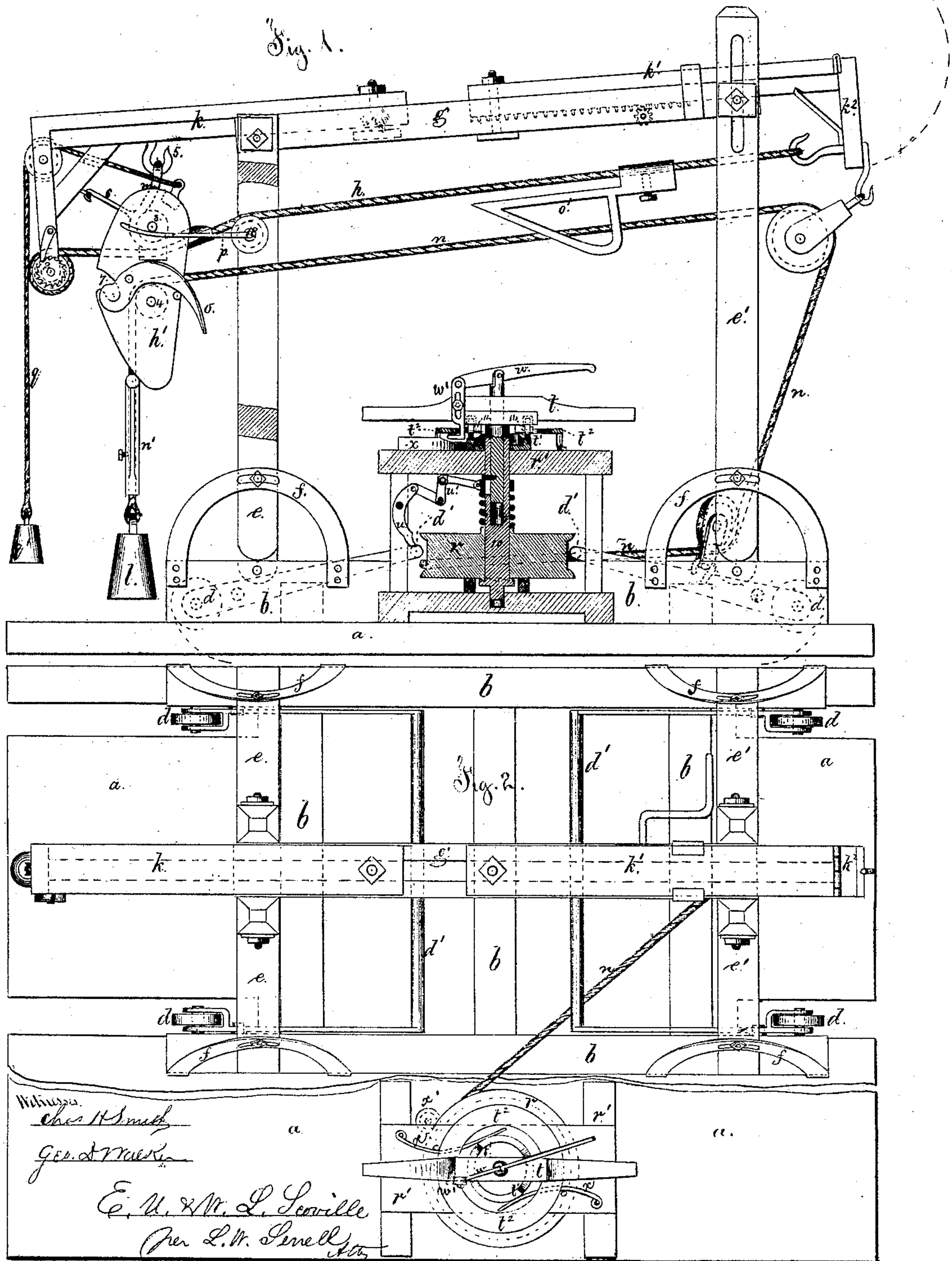
E. U. & W. L. SCOVILLE.

2 Sheets—Sheet 1.

Hoisting Apparatus.

No. 69,257.

Patented Sept. 24, 1867.

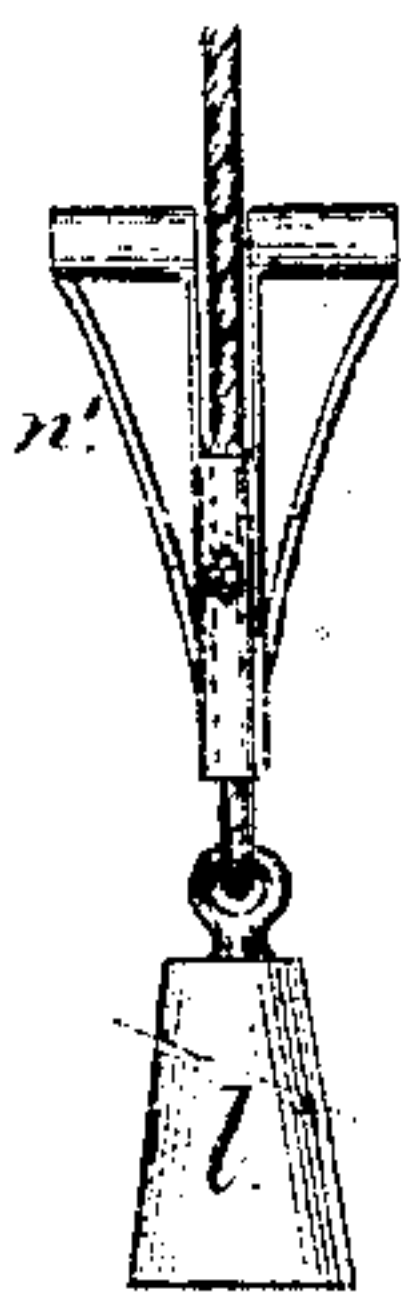
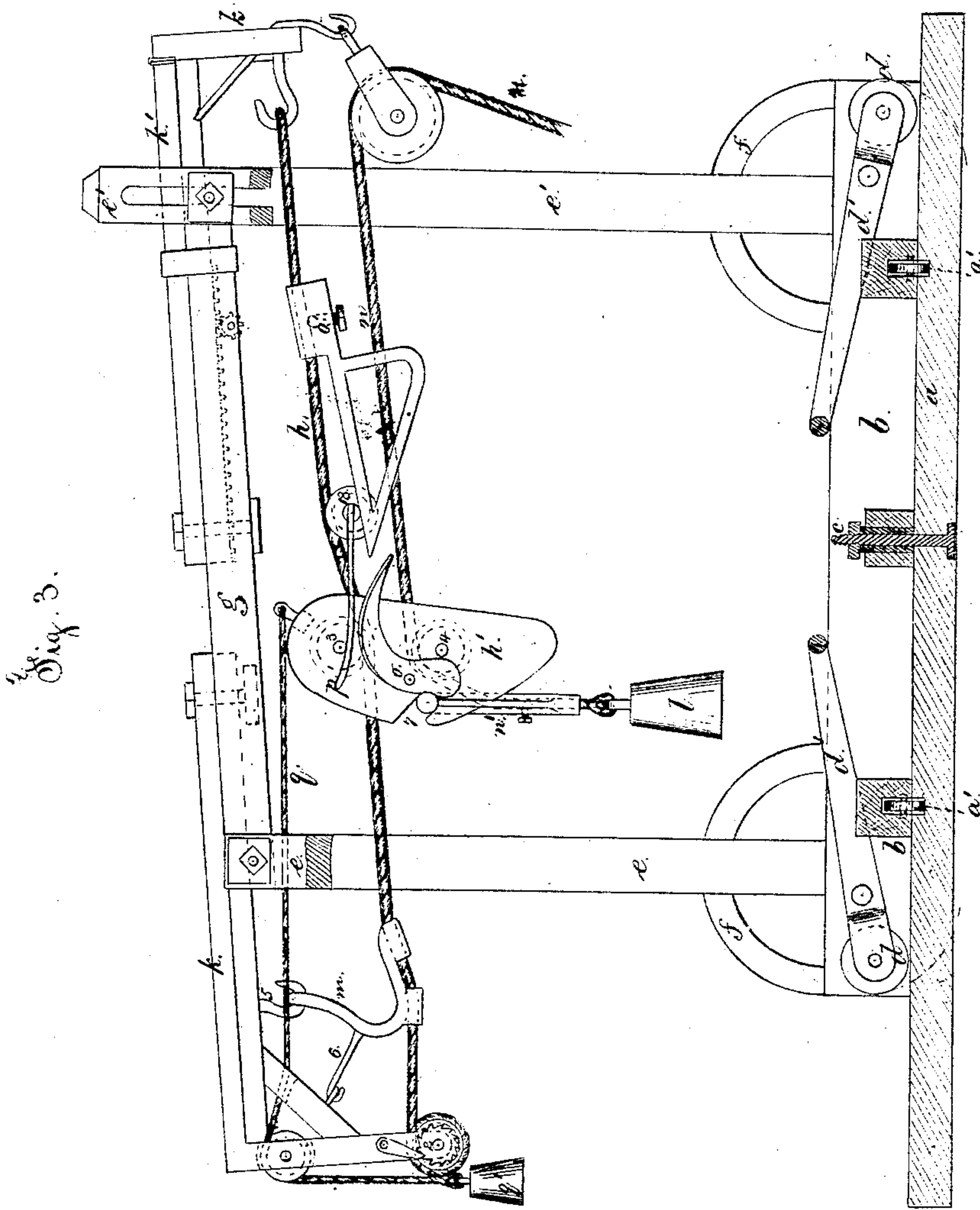


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Hoisting Apparatus.

No. 69,257.

Patented Sept. 24, 1867.



Witnesses

*Chas. H. Small*

*Geo. L. Warner*

*E. U. & W. L. Scoville*

*Per E. W. Lowell*  
*Atty*



# UNITED STATES PATENT OFFICE.

ELIJAH U. SCOVILLE, OF MANLIUS, AND WASHINGTON L. SCOVILLE, OF WEST BLOOMFIELD, NEW YORK.

## IMPROVED HOISTING APPARATUS.

Specification forming part of Letters Patent No. 69,257, dated September 24, 1867.

*To all whom it may concern:*

Be it known that we, ELIJAH U. SCOVILLE, of Manlius, in the county of Onondaga, and WASHINGTON L. SCOVILLE, of West Bloomfield, in the county of Ontario, both in the State of New York, have invented, made, and applied to use a certain new and useful Improvement in Hoisting Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is an elevation of our hoisting apparatus in the position for elevating the weight, the windlass-barrel being shown in section. Fig. 2 is a plan of the machine with the platform contracted, and the hoisting-windlass nearer to the derrick portion. Fig. 3 is an elevation of the hoisting mechanism, with the weight suspended previous to being lowered. The platform is shown sectionally. Fig. 4 is an elevation of the latch employed to suspend the weight.

Similar marks of reference denote the same parts.

The object of our invention is to raise any article, convey it along to a desired location, and there lower it, then to return the hoisting mechanism to the first position.

Our invention consists in a peculiarly-constructed pulley and hook that remain in a given position while the weight is being raised and latched to the pulley, then the further pull on the rope draws the pulley along on a horizontal or inclined rope leading to where the weight is to be deposited. The weight is unlatched and allowed to descend, and we employ a peculiarly-constructed windlass that allows the weight to be drawn up with facility or lowered gradually when unhooked from the pulley.

In the drawing, *a* represents a platform carrying the winch, and also the frame for the ropes and pulleys. *b* is a frame, secured by a bolt, *c*, to the platform *a*. On the under side of the frame *b* are rollers or projections *a'* entering cavities in the platform *a*, so that the frame *b* and platform are firmly connected when the bolt *c* is screwed up, but when that is loose the frame *b* can be turned around

more or less to accommodate the position of the articles to be moved, which for convenience we term the "weight." Rollers *d d* are provided at the ends of yoke-levers *d'*, so that when the yokes are turned up vertically the weight of the machine and platform *a* will rest upon such rollers to facilitate transportation, but when the rollers are raised, by turning down the yokes *d'*, the platform *a* will rest upon a floor or other support. From the frame *b* rise the legs *e e'*, attached at their lower ends, and held by screws in the slots of sectors or braces *f*, so as to be brought vertically, or nearly so, and sustained. These legs *e e'* are in pairs, forming a triangular support near each end of the beam *g* that carries the ropes and pulleys of the hoisting apparatus, and is to be of any desired length, and the inclination of this beam *g* may be varied, the legs *e'* being slotted vertically, and a transverse bolt employed to bind the parts together.

*h* is a rope or chain forming the support for the pulley *h'* and the weight hanging from it. This rope or chain *h*, I have shown as connected at its ends to the extension-beams *k k'*—to the one by a hook and to the other by a winch, 2—so that the said rope or chain may be tightened, and also to allow for the extension-beams being moved to reach any desired point for raising and lowering the weight to be moved. The extension-beams are bolted upon the beam *g*, said bolts passing through slots to allow of moving said beams *k k'*, and at one end, I provide the pendent arm *k<sup>2</sup>* that may be turned up out of the way and the rope *h* be led to any suitable attachment where it can be secured.

The pulley *h'* is made with two sheaves, one of which, 3, runs upon the rope *h*, the other, 4, passes the rope *n* to the article to be moved, designated as the weight *l*. The rope *h* passes through guide-eyes upon the under side of a hook, *m*, that is suspended by the eye 5 from *k*, and sustained by a brace or link, 6, behind it, which may be adjustable.

The inclination of the hook *m* is such that while the sheave 3 is in the hook, the pull of the rope *n*, in lifting the weight, will not cause said pulley *h'* to roll up the incline of the hook as the weight is raised until weight is fully lifted and latched to the cheeks of the



pulley  $h'$ . In the sides of the pulley  $h'$  are notches at 7, and upon the rope  $n$  is a suspending latch,  $n'$ . (Seen detached in Fig. 4.) The rope  $n$  passes through this latch, and is clamped therein by a screw. As the rope  $n$  is drawn up, the latch  $n'$  moving with it, the upper horizontal portions of said latch slide up the inclined faces or cheeks of the pulley  $h'$ , so as to come correctly into position for catching into the notches 7 in the pulley-cheeks. The rope  $n$  drawing off at an angle to the latch and over the sheave 4, insures the latch  $n'$  taking properly into the notches 7, and the further pull of the rope  $n$  draws the sheave 3 up the inclined hook  $m$ , and along to the desired position for discharging the weight, the weight hanging by the latch  $n'$  in its transit.

On the sides of the pulley  $h'$  we provide levers  $o$ , and upon the rope  $h$  we fit the disengaging frame  $o'$ , that is attached thereto near the point where the weight is to be lowered. We also have a spring-arm,  $p$ , on the pulley  $h'$ , with a sheave, 18, that runs under the rope  $h$ , and as the pulley  $h'$  is drawn along the arm  $p$  passes above the disengager  $o'$ , and the levers  $o$  pass under said disengager, and being thereby depressed the latch  $n'$  is lifted out of the notches 7, and the weight can be lowered by slacking up on the rope  $n$ .

A rope,  $q$ , and counter-weight  $q'$  draw the parts back to their first position ready to be employed in drawing up another weight. The rope  $n$  passes through guide-pulleys to the barrel  $r$ , that is on a vertical shaft sustained in the frame  $r'$ . This vertical shaft 10 passes through the frame to the beam  $t$ , to which horse or other suitable power is applied. Rollers 11 are fitted below the beam  $t$ , that roll up inclines  $t^1$  that are upon the edge of a disk surrounding the shaft 10 and resting on the frame  $r'$ .

A clutch is applied at the lower part of the shaft 10, taking the under side of the barrel  $r$ , so that as the beam  $t$  is moved the rollers 11, running up the inclines  $t^1$ , connect the shaft and barrel by raising the former; but when the lever or beam  $t$  is moved backward slightly the shaft is allowed to descend and uncouple from the barrel and allow that barrel to run back as the weight descends.

Friction is applied to the inclines  $t^1$  by springs  $x$ , so as to check the rotation of the

incline until the rollers roll up the same and couple the parts. The incline then revolves with the beam.

In order to apply friction to control the barrel as it runs back we employ a brake,  $u$ , acted upon by a link to the bent lever  $w'$  that hangs below the frame  $r'$ , and is moved by a central stud through the shaft 10 with a lever,  $w$ , above the beam  $t$ . The fulcrum of this lever  $w$  is a notched link,  $w'$ , traveling around inside the stationary ring  $t^2$  upon the frame  $r'$ .

It will be understood that when desired to use two ropes or chains,  $h$ , upon which the pulley  $h'$  rolls, so as to aid in supporting the same, there will be two sheaves 3 introduced in said pulley  $h'$ .

A guide-roller,  $x'$ , may be applied to the rope  $n$ , near the barrel  $r$ , to prevent said rope dropping from its right place on said barrel when slackened.

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

1. The frame  $b$ , attached to the platform  $a$ , so that it can be turned around, in combination with the legs  $e$   $e'$  and beam  $g$ , sustaining the hoisting apparatus substantially as set forth.

2. The hook  $m$  and rope or chain  $h$ , in combination with the pulley  $h'$  and rope  $n$ , as and for the purposes set forth.

3. The latch  $n'$ , applied to the rope  $n$ , in combination with the notches 7 of the pulley  $h'$ , and the disengaging-levers  $o$ , as and for the purposes set forth.

4. The disengaging-frame  $o'$ , attached to the rope  $h$ , in combination with the levers  $o$  and pulley  $h'$ , for the purposes and as specified.

5. The barrel  $r$ , clutch and shaft 10, in combination with the beam or lever  $t$  and inclines  $t^1$ , as and for the purposes set forth.

6. The lever  $w$  upon the beam  $t$ , in combination with the link-fulcrum  $w'$  and stationary ring  $t^2$ , to operate the brake to the barrel  $r$ , as and for the purposes set forth.

Dated this 28th day of May, A. D. 1867.

ELIJAH U. SCOVILLE.  
WASHINGTON L. SCOVILLE.

Witnesses:

CHAS. H. SMITH,  
GEO. T. PINCKNEY.