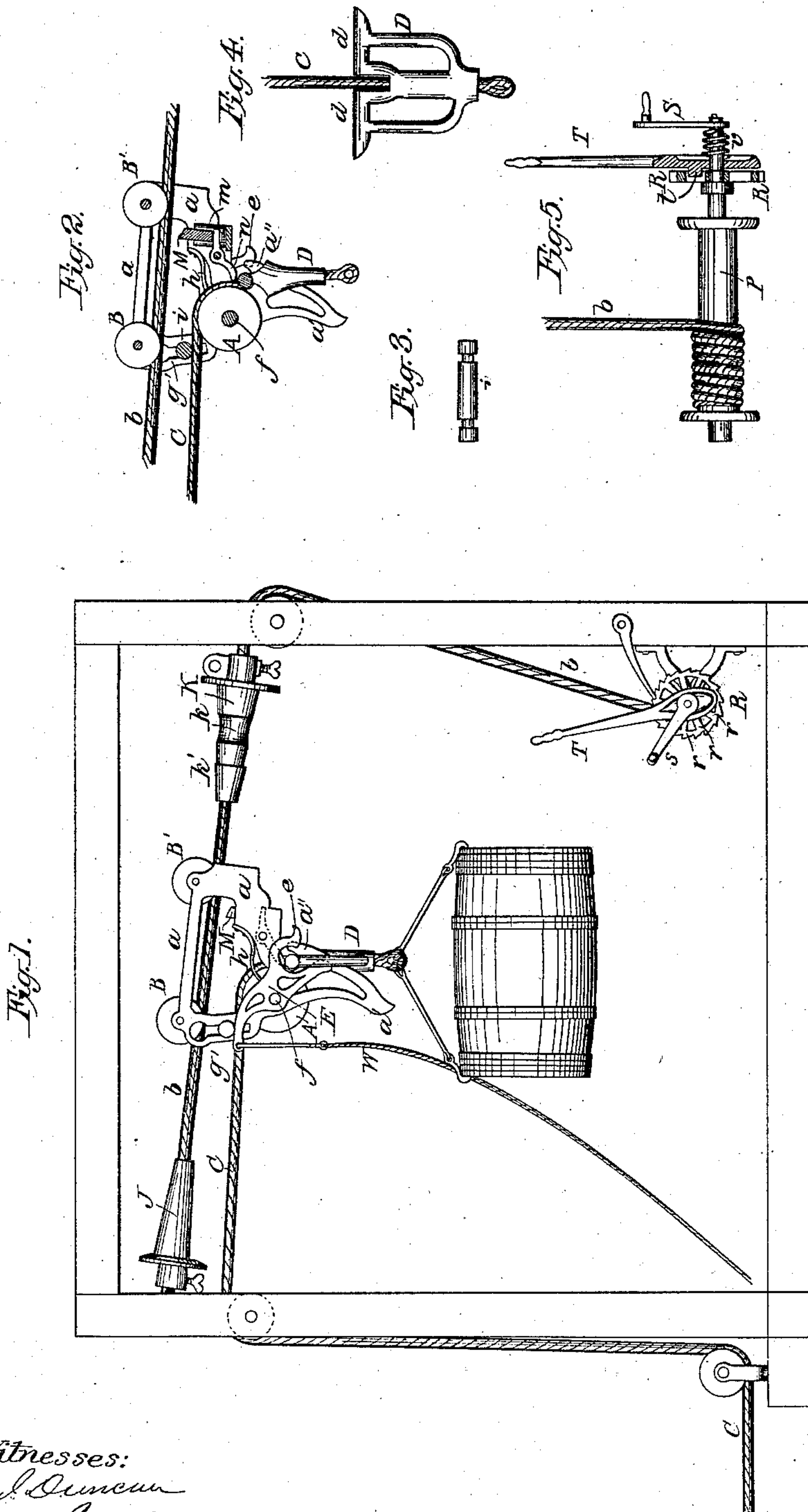


E. U. & W. L. SCOVILLE.

Hoisting Apparatus.

No. 80,569.

Patented Aug. 4, 1868.



Witnesses:  
Saml. Cuneen  
H. A. Morley

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# UNITED STATES PATENT OFFICE.

ELIJAH U. SCOVILLE AND WASHINGTON L. SCOVILLE, OF MANLIUS, N. Y.

## IMPROVED HOISTING APPARATUS.

Specification forming part of Letters Patent No. 80,569, dated August 4, 1863.

*To all whom it may concern:*

Be it known that we, E. U. SCOVILLE and W. L. SCOVILLE, of Manlius, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Hoisting Apparatus; and we 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 part of this specification, in which—

Figure 1 is a side view of our invention. Fig. 2 is a sectional view of the pulley and its frame. Figs. 3, 4, and 5 are detail views.

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

This invention relates to certain new and useful improvements on our patent hoisting apparatus No. 69,257, whereby a more efficient and reliable apparatus is obtained, as hereinafter explained.

The hoisting-pulley A is mounted in a pair of cheek-plates, *a*, which take the form of a frame-work, and in the upper part of which are secured the transit-pulleys B B', which travel on a transit-rope, *b*. To the hoisting-rope is attached a yoke, D, (see front view of yoke D, Fig. 4,) and the part *d* of this yoke is held in hooks *a''*, Fig. 1, which project from and are a part of cheeks *a* while the pulley is making its conveying or transit movement. On the pintle *f* of the main sheave or pulley is supported side levers, E, for discharging yoke D from the hooks *a''*, and to these discharging-levers E we add retaining-projections *e*, which secure the yoke in hooks *a''*, so that the yoke cannot get out of the hooks *a''* only by the movement of the discharging-levers E. The said discharging-levers E are held closed by springs *h*, one end of which is riveted to the cheek-frames *a*, while their other ends engage with lugs on levers E to hold them in a closed position. In the upper part of the cheek-frames are vertical slots *g'*, in which works a roller, *i*, for operating the discharging-levers E. On the transit-rope *b* we secure a pair of cones, J and K. The cone K is provided with a depression, *k*, and also with a lip or catch, *k'*. In connection with catch *k'* we employ a sliding latch, M, which is operated in its downward or unlatching movement by a lever, *n*. (Shown in sectional view, Fig. 2.) The latch

M is held engaged with catch *k'* by a small spiral spring, contained in the circular case *m* of the latch.

The windlass P, Fig. 5, for tightening the transit-rope *b*, we construct as follows: It is provided with a hand-crank, *s*, and also with a ratchet-lever, T. The lever T is fitted loosely on the shaft of the windlass and is provided with a fixed ratchet-tooth, *t*, on its side, which engages with the arms *r r* of the ratchet or pawl wheel R by the lever making a side movement, the side movements of the lever being made in one direction by the inclined front face of its tooth *t*, and in the other direction by a spiral spring, *v*, on the shaft of the windlass.

Its operation is as follows: The pulley A is allowed to run down the inclined transit-rope *b* until the transit-pulley B' sits in the depression *k* of cone K, and the latch M then engages with the catch *k'*. The hoisting-rope is slackened until its end which bears the yoke D is attached to the freight or article to be moved, and the hoisting-power is then applied to rope C and the load elevated until the yoke D has entered the hooks *a''* and come in contact with the latch-lever *n*, when the latch M is withdrawn from catch *k'*, and the pulley with its load begins its transit movement. When the opposite cone, J, is reached the roller *i* comes in contact with cone J, and by the wedge-shape of the cone the said roller *i* is forced downward, so as to cause the discharging-levers E to release the yoke D from hooks *a''*, and the freight or load can then be lowered by a reverse movement of rope C. As soon as the load has been deposited the pulley A is allowed to run down the inclined transit-rope *b* and take up its position again on cone K, as before. In handling hay, where a horse-fork is used which discharges with a tripping-line, the cone J is not used, so that the yoke D is not released from the hooks *a''* until the pulley has returned to cone K, when the yoke D is discharged from hooks *a''* by a tripping-line, W, Fig. 1, which operates the discharging-levers E in place of the removed cone. By the use of cone-wedges J and K no care is required to keep them in a correct position on the rope *b*, and their action is entirely reliable. A coiled spring may be used on the pintle *f*, in place of springs *h*, to hold the levers E in a closed position. In tightening the transit-rope *b* the

Having thus described our invention, what hand-crank *s* is first used until the slack of the rope is well taken up, and then the lever *T*, which gives more power, is used to put the strain on the rope. By these means the efficiency and convenience of the apparatus is much improved.

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

1. The circular discharging-wedge *J* and roller *i*, for operating the discharge of transit-pulley *A B*, substantially as shown and described.

2. The circular catch *k'* and latch *M n*, in

connection with the transit-pulley *A B*, constructed and operating substantially as herein shown and described.

3. The combination of retaining-projections *e*, with discharging-levers *E* and hooked cheeks *a a''*, of transit-pulley *A*, as herein shown and described.

The above specification of our invention signed by us this 26th day of May, 1868.

ELIJAH U. SCOVILLE.

WASHINGTON L. SCOVILLE.

Witnesses:

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F. A. MORLEY.