

(No Model.)

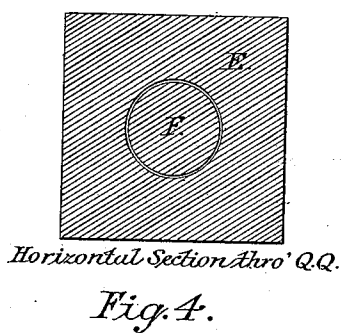
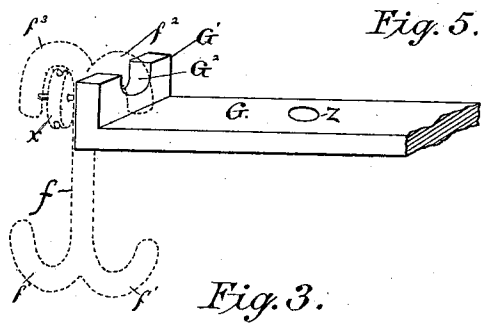
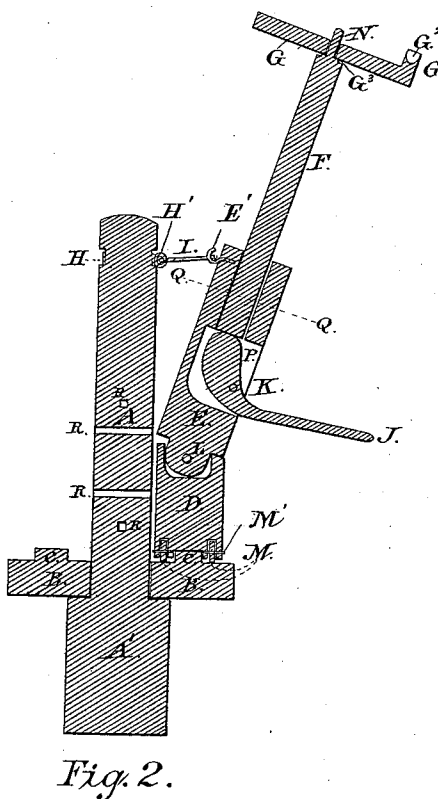
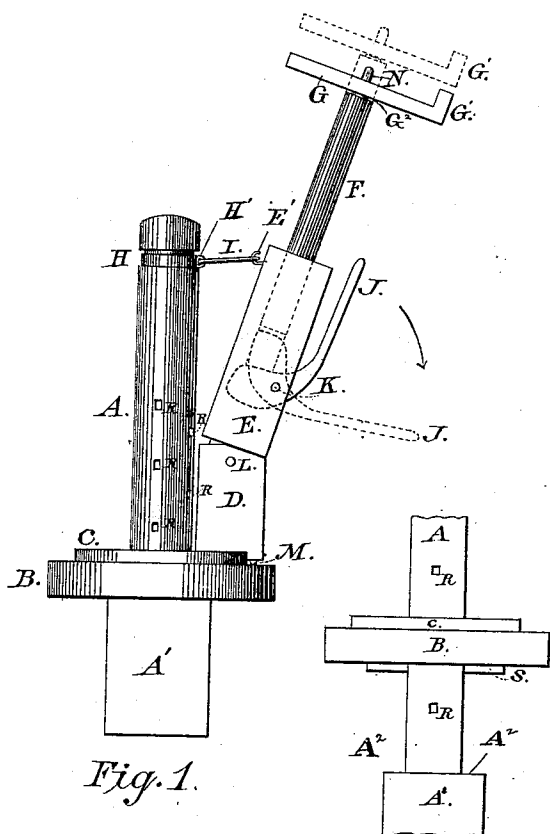
2 Sheets—Sheet 1.

A. RONCAGLIA.

DEVICE FOR TRANSFERRING LOADS DOWN MOUNTAINS.

No. 330,805.

Patented Nov. 17, 1885.



WITNESSES:

Joseph F. Cutshaw

INVENTOR

INVENTOR
Augustine Roncaglia
BY O'Brien & Co.

BY *O'Brien & Co.*

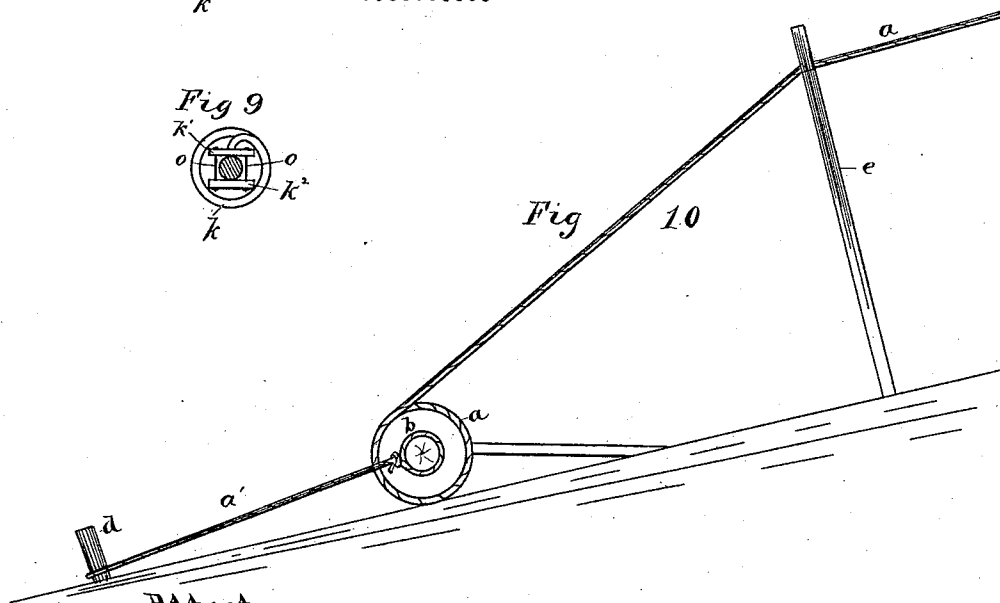
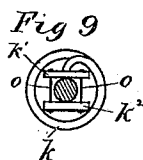
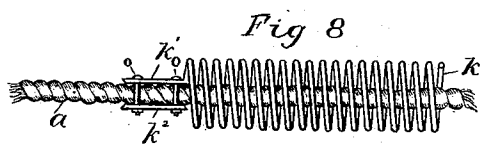
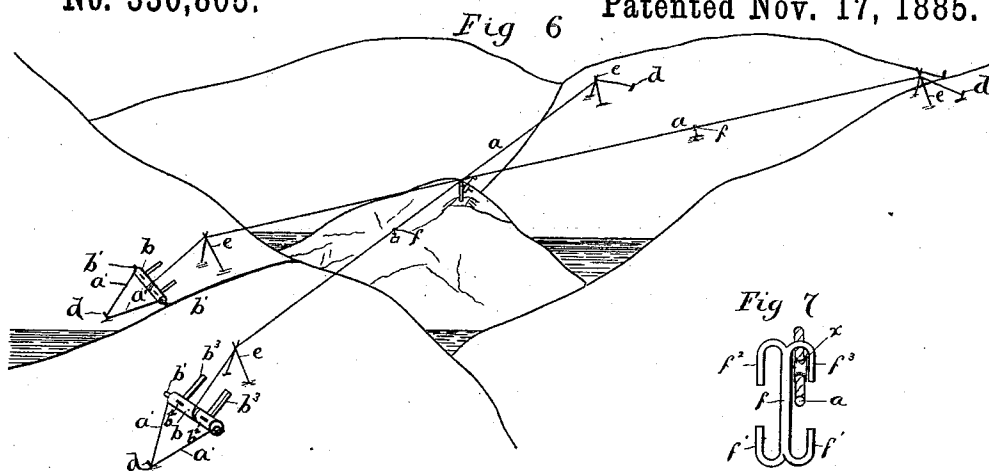
HIS ATTORNEYS

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Attest
Joseph C. Putman

Inventor
Augustine Roncaglia
by O'Brien & Co.
his Attorneys

UNITED STATES PATENT OFFICE.

AUGUSTINE RONCAGLIA, OF DENVER, COLORADO.

DEVICE FOR TRANSFERRING LOADS DOWN MOUNTAINS.

SPECIFICATION forming part of Letters Patent No. 330,805, dated November 17, 1885.

Application filed August 11, 1885. Serial No. 174,162. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTINE RONCAGLIA, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Device for Transferring Loads Down Mountain-Slopes, of which the following is a specification, reference being had therein to the accompanying drawings, in which similar letters refer to corresponding parts.

My invention relates to improvements in devices for transferring loads down mountain-slopes; and the object of my invention is to provide a simple, effective, and cheap means of conveying loads (sacks of ore, for example) from points on mountain-slopes or hill-sides to other points of less elevation.

In the drawings, Figure 6 is a perspective view of two of my improved devices used in connection with each other on a mountain-slope or hillside. Fig. 7 is a view of the hook and a section of the cable. Fig. 8 is a side view of the spring and a section of the cable to which the same is attached. Fig. 9 is an end view of the spring and cable to which it is attached. Fig. 10 is a side view of a portion of my device, showing the means for controlling the tension of the cable, also the means for anchoring and supporting the same. Fig. 1 is a side elevation of the hoisting apparatus or derrick by means of which the load is transferred from one cable to an intersecting cable. Fig. 2 is a sectional elevation of the mechanism shown in Fig. 1. Fig. 3 is a perspective view of a revolving lever attached to the top of the hoisting device or derrick, showing also its connection with the hook to which the load is attached. Fig. 4 is a horizontal section taken on the line Q Q, Fig. 2. Fig. 5 is a side elevation of a portion of the hoisting device, showing the adjustability of the revolving platform.

In the drawings, *a* is a rope or wire cable, one extremity of which is attached to the anchor *d*, the other extremity being attached to the cylinder or windlass *b*. The extremities of cylinder *b* are made with journals *b'* *b'*, around each of which is placed the bight of a strong rope or wire cable, which is attached to anchor *d*, as shown in Figs. 6 and 10. Anchors *d* may be either natural or artificial objects offering sufficient resistance for the purpose.

The cylinder *b* contains holes *b²*, in which are inserted the movable levers *b³ b³*, by means of which levers the cylinder *b* is turned in either direction desired, according as it is necessary to increase or diminish the tension of the cable *a*. Suitable supports, *e*, are placed near the extremities of the cable for the purpose of elevating the same sufficiently for the purpose desired.

f is a hook, to which is attached the small pulley, *x*, which rests upon the cable *a*. To the hook *f* is attached the load to be transferred, as shown in Fig. 1.

k is a spiral spring, attached to the cable at any point desired by means of bolts *o o*. At the point of attachment spring *k* is drawn out parallel with the cable, flattened, and may be corrugated on the side in contact with the cable. Holes are also formed in the flattened extension *k'* of spring *k*, through which holes the bolts *o* pass.

To the side of the cable opposite the flattened extension *k'* of the spring is attached the short and preferably corrugated plate *k²*, also containing holes through which the bolts *o* pass. The bolts *o* are fastened by nuts. This means of attaching spring *k* to cable *a* is distinctly shown in Figs. 8 and 9. Spring *k* is placed at that point on the cable where the load is to stop, either because it has reached its destination or by reason of the necessity of transferring the same to another cable, as shown in Fig. 6.

In Fig. 1, A is a perpendicular standard set into the ground at the point of intersection of two cables, as shown in Fig. 6. The lower portion, A', of standard A is larger than the upper portion, said upper portion being cylindrical. The circular platform B surrounds the cylindrical upper portion of standard A, said platform resting upon a suitable shoulder, A², formed for the purpose, or a pin, S, according to the elevation of the platform upon the standard A. Platform B turns with ease upon standard A. Standard A contains holes R for the reception of pin S. Platform B may be made to occupy any position upon standard A, being supported above shoulder A² by the pin S, as shown in Fig. 5.

Platform B contains a circular guide-track, *c*, which fits within a corresponding groove in the base D of the hoisting device. A small

wheel, M, is also fitted into base D on each side of the guide-track *c*. Said wheels M rest upon the platform B and turn upon a suitable axle or axles, *m*. By this means the hoisting apparatus may be moved around platform B at pleasure.

The base D of the hoisting apparatus contains a mortise in its top, which mortise receives a tenon in the bottom of part E.

10 L is a pin placed in a hole formed for its reception. By this means a joint is formed which admits of considerable movement, as shown in Fig. 2.

Around standard A, near its top, is a groove 15 for the reception of a metal band, H, which moves around easily within said groove when the hoisting apparatus is turned upon the platform B. In band or ring H is an eye, H', into which is hooked one extremity of a rod, I, the 20 other extremity of said rod being attached to a hook, E', fastened to the upper portion, E, of hoisting device, as shown in Figs. 1 and 2. The top of part E is fashioned for the reception of a movable arm, F. (Shown in Fig. 2 25 and by dotted lines in Fig. 1.) The part E is also fashioned for the reception of a cam-lever, J, which works upon and is held in position by the pin K. Arm F is raised and lowered by the use of lever J.

30 G is a revolving lever containing the hole *z* for reception of the top of arm F, upon which a suitable shoulder, G³, is formed. Lever G turns easily upon arm F. The extremity G' of lever G projects upward a short distance 35 at right angles to the main portion of the lever, thus forming a kind of hook containing the socket G², for the reception of the claw *f*² of the hook *f*, as shown in Fig. 3.

In the use of my improved device the hook 40 *f* is placed upon the cable *a*, as shown in Figs. 6 and 7. The pulley *x* may be used, or the hook *f*, without said pulley, may be placed upon the cable, depending upon the velocity with which it is necessary to transfer the load. The 45 load to be transferred is suspended from or placed upon one or both the lower claws, *f'* *f'*, of the hook *f*. In this position said hook with its load glides along cable *a* to any point below. The spring *k* is placed upon the cable 50 at the point where the load is to stop. When the claw *f*³ of hook *f* comes in contact with spring *k*, said spring at first yields to the pressure, thus stopping the load gradually and avoiding the concussion necessarily attending a sudden stop. Where the route over 55 which the load is to be carried is not in a direct line, a second cable is used, intersecting the first where the turn is to be made, as shown in Fig. 6, rendering it necessary to

transfer the load from one cable to the other. 60 For this purpose the hoisting device or apparatus herein shown and described may be used, or any other suitable means may be used.

In the use of my hoisting device the extremity G' is placed beneath the claw *f*² of hook *f*, 65 as shown in Fig. 3. The lever J is then pressed down till it occupies the position shown in Fig. 2 and by dotted lines in Fig. 1. This movement of lever J raises arm F, and therefore hook *f*, with its load, from the cable. 70 Lever G is then turned sufficiently to bring claw *f*³ directly above the cable to which the load is to be transferred. Arm F is then lowered sufficiently by the use of lever J to place the claw *f*³ of hook *f* upon the cable beneath it. 75 The transfer of the load is then continued as before. As many cables may be used as the number of turns in the route requires. The proper tension of the cable having been acquired by the use of cylinder *b* and levers *b*³, 80 as aforesaid, the cylinder is held in its position by said levers *b*³, which, being left in the cylinder, come in contact with the ground, thus holding the cylinder stationary.

What I claim as my invention, and desire 85 to secure by Letters Patent, is—

1. In a device for transferring loads down mountain or other slopes, the combination of cable *h*, cylinder or windlass *b*, with holes *b*² and levers *b*³, anchors *d*, supports *e*, spring *k*, 90 and hook *f*, substantially as described and shown, and for the purpose set forth.

2. In a device for transferring loads down mountain or other slopes, means for transferring the load from one cable to another intersecting cable, consisting of perpendicular 95 standard A, with holes R, pin S, circular platform B, with guide-track *c*, and the hoisting device attached to said standard, as shown, and consisting of base D, with trucks or pulleys M, part E, fashioned for the reception of 100 lever J and arm F, said part E being attached to base D, as shown, cam-lever J, arm F, and revolving lever G, substantially as described and shown, and for the purpose set forth. 105

3. In a device for transferring loads down mountain or other slopes, the combination of cable *a*, anchored and supported as described and shown, cylinder *b*, levers *b*³, hook *f*, with pulley *x*, spiral spring *k*, attached to cable, as 110 shown, and suitable means for transferring the load from one cable to another intersecting cable, substantially as described and shown, and for the purpose set forth.

AUGUSTINE RONCAGLIA. [L. S.]

In presence of—

J. B. WILLSEA,

JOSEPH L. PUTMAN.