

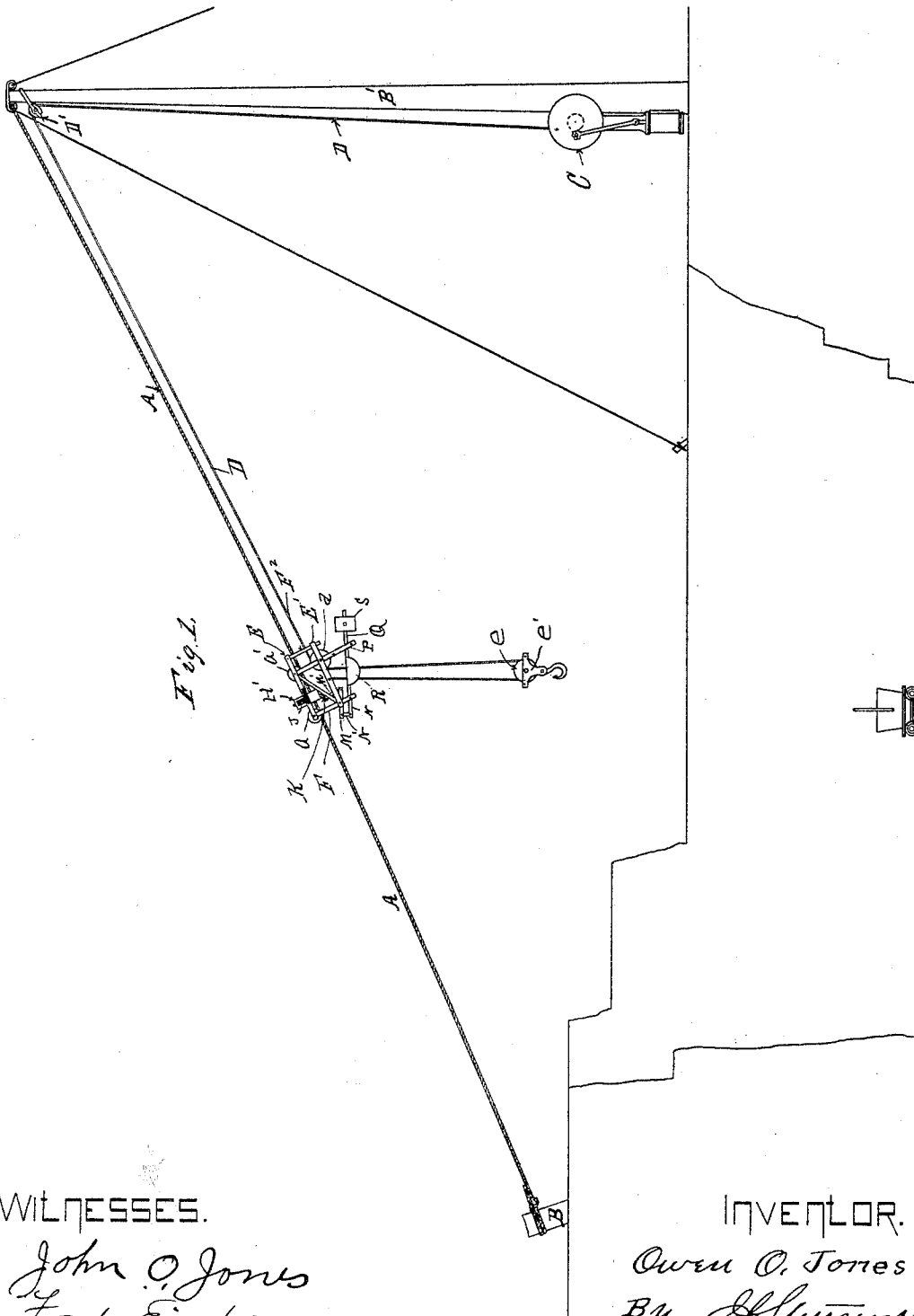
(No Model.)

2 Sheets—Sheet 1.

O. O. JONES.
ELEVATED CARRIER.

No. 497,796.

Patented May 23, 1893.



WITNESSES.

John O. Jones
Fred Einfeldt.

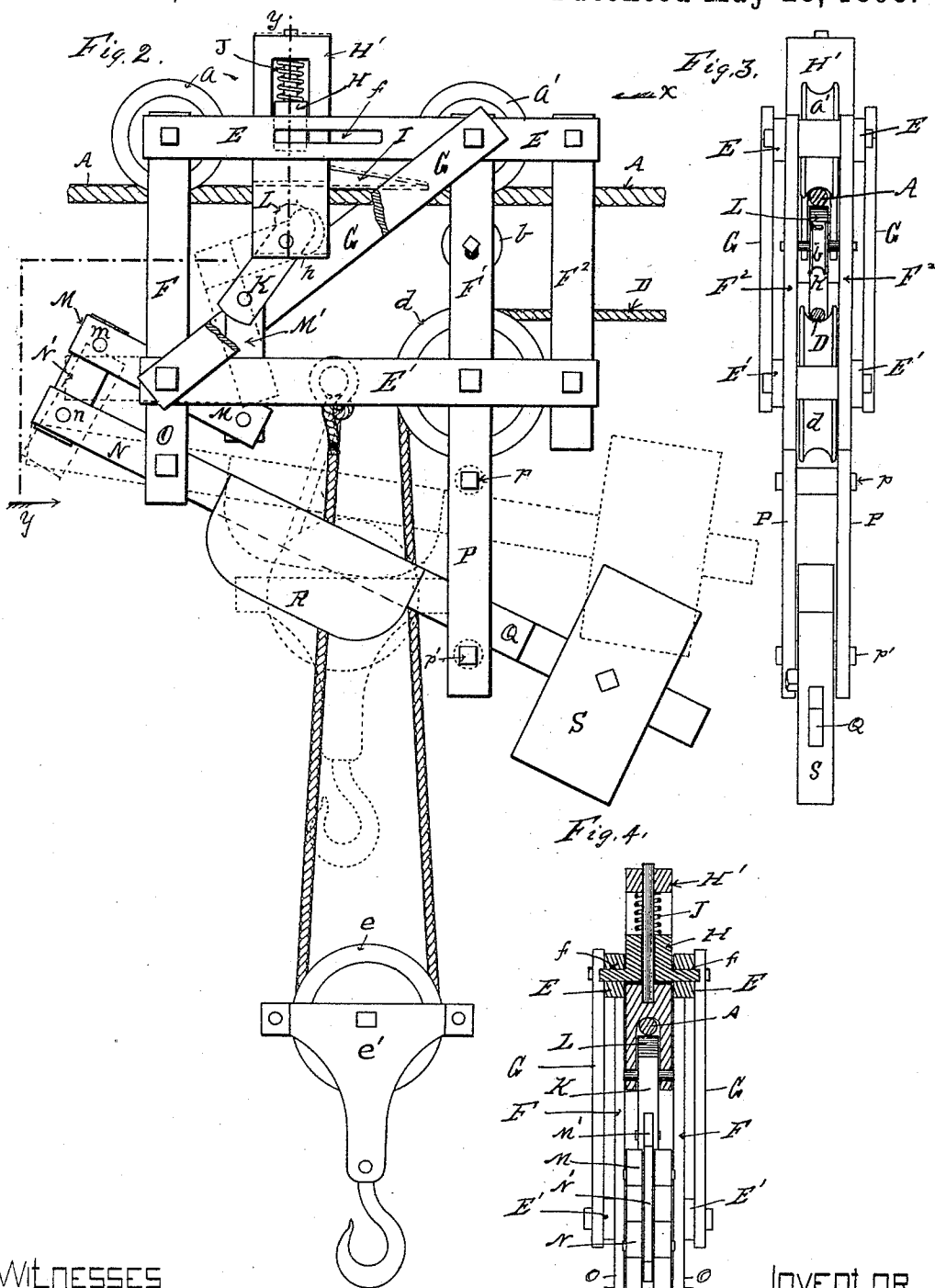
INVENTOR.

Owen O. Jones
By *Abington*
att'y.

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WITNESSES

John O. Jones
Fred Einfeldt

INVENTOR

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By *H. Sturgeon*
Att'y.

UNITED STATES PATENT OFFICE.

OWEN O. JONES, OF POULTNEY, VERMONT.

ELEVATED CARRIER.

SPECIFICATION forming part of Letters Patent No. 497,796, dated May 23, 1893.

Application filed December 21, 1892. Serial No. 455,952. (No model.)

To all whom it may concern:

Be it known that I, OWEN O. JONES, a citizen of the United States, residing at Poultney, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Trolley Mechanism for Hoisting and Conveying Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in trolley mechanism for hoisting and conveying apparatus, hereinafter set forth and explained, and illustrated in the accompanying drawings in which—

Figure 1. is a view in elevation of a hoisting and conveying apparatus embodying my improved trolley mechanism. Fig. 2. is an enlarged view in elevation of my improved trolley mechanism for hoisting and conveying apparatus. Fig. 3. is an end view in elevation of the same, looking in the direction of the arrow *x* in Fig. 2. Fig. 4. is an end view of same, partially in section on the line *y, y*, in Fig. 2. looking in the direction of the arrow.

The object of my invention is to construct a trolley mechanism for hoisting and conveying apparatus, adapted to travel on an inclined cable or track, and automatically grip such cable or track at any point in its traverse desired.

In the construction of my improved trolley mechanism for hoisting and conveying apparatus, shown in the drawings, A is an inclined cable stretched from a post B, to the top of a mast B' at the base of which is mechanism C for winding up a hoisting cable D, operating over a pulley D' at the top of the mast B', all of which features are of the usual and ordinary construction, and upon the cable A, my improved trolley mechanism, which is constructed and operates as follows, travels.

The frame work of my improved trolley mechanism, I preferably construct of longitudinal side bars E, E' and vertical side bars F, F' and F², secured together and provided with braces G to insure stability, but its construction can be varied according to the ma-

terial used therefor; in the upper portion E of the frame, I mount two trolley wheels *a a'*, which travel on the cable A, and in the portion F' of the frame, I mount a small wheel *b*, adapted to contact with the under side of the cable A, as hereinafter described; at the junction of the portions E' and F' of the frame, I mount a grooved wheel *d* on which the hoisting cable D operates, the end of the hoisting cable D being secured centrally to the lower portion E' of the frame and passing downward around a hoisting pulley *e* and back up over the pulley *d* and thence over the pulley D' at the top of the mast B' and down to the winding mechanism C at the base thereof.

Mounted in slots *f* in the upper portion E of the frame is a block H, adapted to move longitudinally in the slots *f* and mounted upon the block H, is a vertically movable block H', the lower portion of which is slotted so as to pass down the stride of the cable A. It is also provided with a wedge shaped semi-circular shoe I, grooved on its under face, so as to fit over the cable; and is secured to the rear of the movable block H', and extends nearly to the point of contact of the periphery of the trolley wheel *a'* with the cable A, the movable block H' and the shoe I thereon being normally held out of contact with the cable A, by the action of a spring J, in the upper part of the recess in the block H' occupied by the horizontally sliding block H, upon which it is mounted.

Pivoted in the lower end *h* of the vertically moving block H' is a lever K having a cam surface L on the upper end thereof, adapted to contact with the under surface of the cable A, and draw the block H' and the shoe I thereon, downward from its normally raised position, so as to grip the cable A between them, which causes the block H to move backward in the slot *f* in the upper part E of the frame, until the trolley wheel *a'* runs up onto the end of the shoe I, and until the cable A is firmly gripped between it and the grooved wheel *b*, thus completely stopping the farther downward movement of the trolley on the cable A; for releasing the trolley, I provide a lever M, which is pivoted at the junction of the vertical section F with the lower section E' of the frame; the inner end of this lever M being

connected to the lower end of the lever K by means of a link M', the outer end *m* of the lever M being connected to the end *n* of a lever N by means of a link N'. This lever N, I pivot to a downward projection O of the part F of the frame, and extend it back between and beyond projections P extending downwardly from the part F' of the frame, which projections P operate as guides and are provided with stops *p* and *p'*, which limit the movement of the long arm Q of the lever N; the long arm Q is also provided with a buffer R against which the frame *e'* of the hoisting pulley *e* contacts, when it is raised by the operation of the hoisting cable D, and raises the long arm Q of the lever N up against the stop *p* (as illustrated in dotted lines in Fig. 2), thereby operating the levers N and K through the connecting links N' and M', to release the grip of the cam L from the cable A and allow the trolley and the load suspended therefrom to be moved up the cable A to the point where it is desired to deposit the load. Then by lowering the load sufficiently to permit the weight S on the arm Q of the lever N to move the arm Q of the lever down against the stop *p'* and thereby operate the lever K, the trolley becomes instantly firmly gripped to the cable A at that point and remains so until the load on the pulley *e* is lowered away and detached; then to move the trolley down the inclined cable A, it is only necessary to wind up the hoisting cable until the arm Q of the lever N is again raised, which releases the trolley and allows it to travel down the incline of the cable A, until the point when it is desired to load. It is released then by suddenly slacking away the hoisting cable, the lever N again operating the grip mechanism, so as to stop the trolley at that point. It will be observed that with this device, it is not necessary to provide stops or buffers on the cable A to stop the trolley at fixed points, and in case the hoisting cable at any time breaks, the automatic clutching mechanism instantly operates, to stop the trolley at that point.

In the foregoing specification, I have fully described a convenient mechanism for utiliz-

ing my invention, but I am aware that some parts thereof can be somewhat modified without departing from the spirit of my invention. Therefore, I do not desire to be limited to the exact construction of my invention, as herein shown and described, as

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination in a trolley for hoisting and conveying apparatus, of a trolley frame having wheels therein, adapted to traverse an inclined cable or track, and a movable gripping shoe, a supporting block a cam lever mounted in said block under the cable or track, and lever mechanism for operating said cam lever, substantially as and for the purpose set forth.

2. The combination in a trolley mechanism for hoisting and conveying apparatus, of a trolley frame wheels mounted in the said trolley frame adapted to traverse an inclined cable or track, a gripping shoe frame, movably mounted in the trolley frame over the cable or track, and a cam lever connected with said gripping shoe frame, so as to operate on the under side of the cable or track, and lever mechanism connected therewith, adapted to be engaged by the hoisting pulley, and thereby disengage the cam lever, and gripping shoe from the track or cable, substantially as and for the purpose set forth.

3. The combination in a trolley mechanism for hoisting and conveying apparatus, of a trolley frame having wheels therein, adapted to traverse an inclined cable or track, a gripping block H' having a gripping shoe I thereon, mounted on the longitudinally sliding block H, with a cam lever K mounted in the gripping block H' under the cable or track, the link M', the lever M, the link N' and lever N, having a weight S on the arm Q thereof, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

OWEN O. JONES.

Witnesses:

MOSES J. JONES,

JOHN W. ROBERT.