

(No Model.)

D. E. ROWLAND.  
HOIST.

No. 524,403.

Patented Aug. 14, 1894.

Fig. 1.

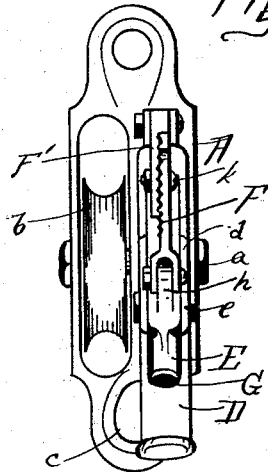


Fig. 5.

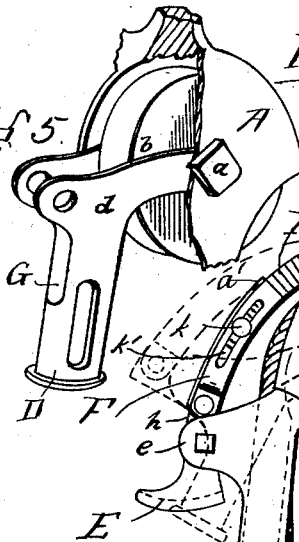


Fig. 2.

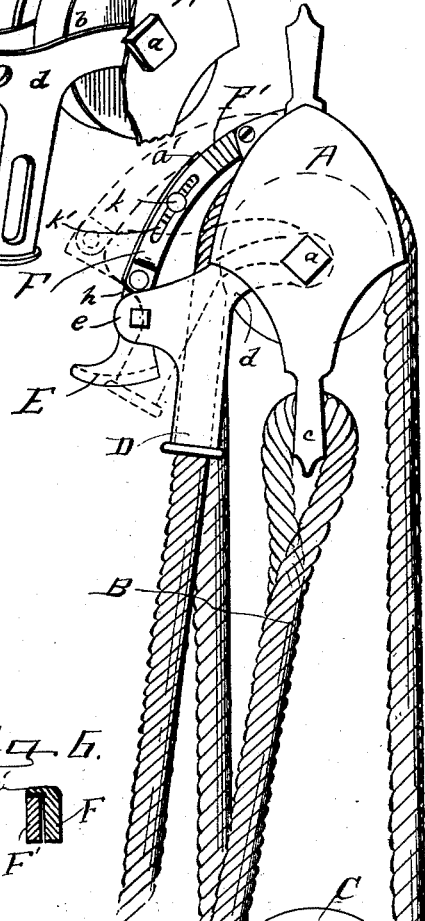


Fig. 3.

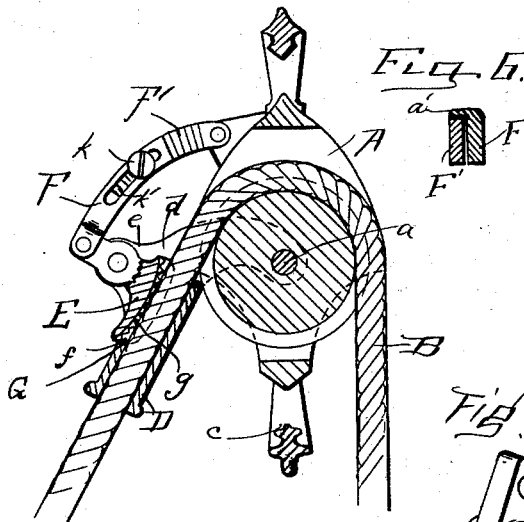
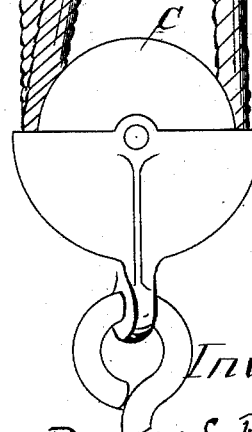
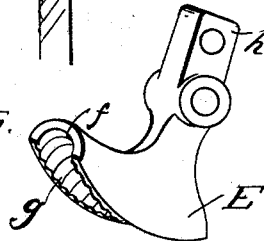


Fig. 6.

Fig. 4.



Witnesses.  
*Edw. Smith*

Inventor:  
David E. Rowland  
By Fred W. Bond  
Attorney

# UNITED STATES PATENT OFFICE.

DAVID E. ROWLAND, OF CANTON, OHIO.

## HOIST.

SPECIFICATION forming part of Letters Patent No. 524,403, dated August 14, 1894.

Application filed February 7, 1894. Serial No. 499,338. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID E. ROWLAND, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Hoists; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is an edge view of the upper sheave block, showing the position of the swinging rope arm. Fig. 2, is a side view of the hoist, showing the elevating rope placed in proper position. Fig. 3, is a vertical sectional view of the upper sheave block. Fig. 4, is a detached view of the rope locking segment. Fig. 5, is a view, showing a portion of the upper sheave block with the swinging arm attached thereto. Fig. 6, is a transverse section of the connecting-bars.

The present invention has relation to hoists, and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

In the accompanying drawings A, represents the upper sheave block, which may be substantially of the form shown in Fig. 2, and as shown it is provided with the cross-bolt *a*, upon which cross-bolt are mounted the grooved pulleys *b*.

The sheave block A is provided with the eye *c*, which eye is for the purpose of securing one end of the operating rope B, which rope extends downward and around, or under one of the grooved pulleys C, and up over one of the pulleys *b*, thence downward and around one of the lower pulleys, and over one of the pulleys *b*, thence through the swinging rope arm D. The swinging rope arm D, is pivotally attached to the cross-bolt *a* by means of the arms *d*. The rope arm D is formed hollow so as to receive the operating rope B, as illustrated in Fig. 3. The rope arm D is provided with the extensions or arms *e*, to which extensions or arms is pivotally attached the rope locking segment E, which rope locking

segment is provided with the groove *f*, which groove is provided with the ridges *g* which ridges are for the purpose of securely holding the rope B when said locking segment is brought into contact with the rope, as hereinafter described.

The rope locking segment E is provided with the arm *h*, to which arm is pivotally attached the connecting bar F. To the connecting bar F is attached the connecting bar F' said connecting bar F' being pivotally attached at its top or upper end to the sheave block A. The connecting bars F and F' are serrated upon their meeting faces, as illustrated in Figs. 1, 2 and 3, and are so formed for the purpose of securely holding said arms at the desired point of adjustment by means of the clamping bolt *k* or its equivalent.

The object and purpose of forming the connecting-bars F, and F' in sections is to provide for changing the length of the connecting arms, when said connecting arms are properly attached together, and thereby change the inclination of the rope arm D, as it will be understood that in order to lock the rope the arm D, must be drawn away from the sheave block A, and when it is desired to elevate loads having considerable bulk, it is necessary to have the elevating rope a considerable distance away from below the sheave block A, and by providing the adjustable arms F and F', this object can be accomplished.

The rope arm D is open upon its outer side, and is so formed for the purpose of exposing the elevating rope, and permitting the locking segment to enter the opening G, and come in contact with the elevating rope, thereby securely locking the elevating rope between the segment E, and the shell of the swinging rope arm D. By this peculiar arrangement and manner of locking the rope, I am enabled to lock the rope without binding or clamping the rope upon the periphery of the grooved wheel over which the elevating rope passes.

In use after the load has been elevated to the desired height, the elevating rope is drawn or pulled away from the load, which in turn swings the lower end of the swinging arm D away from the sheave block A, which

movement brings the locking segment into proper position to clamp the rope. It will be understood that as the arm D is swung away from the sheave block A, the extensions 5 or arms *e* will be carried with the swinging arm D, which movement causes the extensions *e* to advance toward the pivoted end of the connecting-bar F', which movement causes the segment E to rock, and thereby 10 bring the grooved end of said segment onto the rope B, as illustrated in Fig. 3.

It will be understood that as the elevating rope B, is drawn upward through the arm D by reason of the load, it will have a tendency 15 to carry with it the segment E, which in turn securely binds the rope, thereby locking the load at any desired point. When it is desired to release the load, or unlock the rope, the operating end of the elevating rope B, is 20 drawn so as to swing the bottom or lower end of the arm D toward the sheave block A, which brings the segment E into the position illustrated in Fig. 2.

For the purpose of holding the arms F and 25 F' in proper alignment, when the clamping bolt *k* is released the arm F is provided with the flange *a'*, which flange overlaps the arm F'. In Fig. 1, the flange *a'* is removed for the purpose of better illustrating the man-

ner of locking or securing the arms F and F' 30 together.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the sheave block A 35 having journaled thereto the grooved pulleys *b*, the elevating rope B the swinging arm D, having pivotally attached thereto by means of the arms *e*, the locking segment E, provided with the arm *h*, and the serrated arms 40 or connecting bars F and F', substantially as and for the purpose specified.

2. The combination of the elevating rope, upper and lower sheave blocks, provided with grooved pulleys, the swinging arm D 45 having pivoted thereto the segment E, the connecting arm F provided with the flange *a'* and the connecting arm F', said arms provided with serrated faces, substantially as and for the purpose specified. 50

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID E. ROWLAND.

Witnesses:

E. A. C. SMITH,  
F. W. BOND.