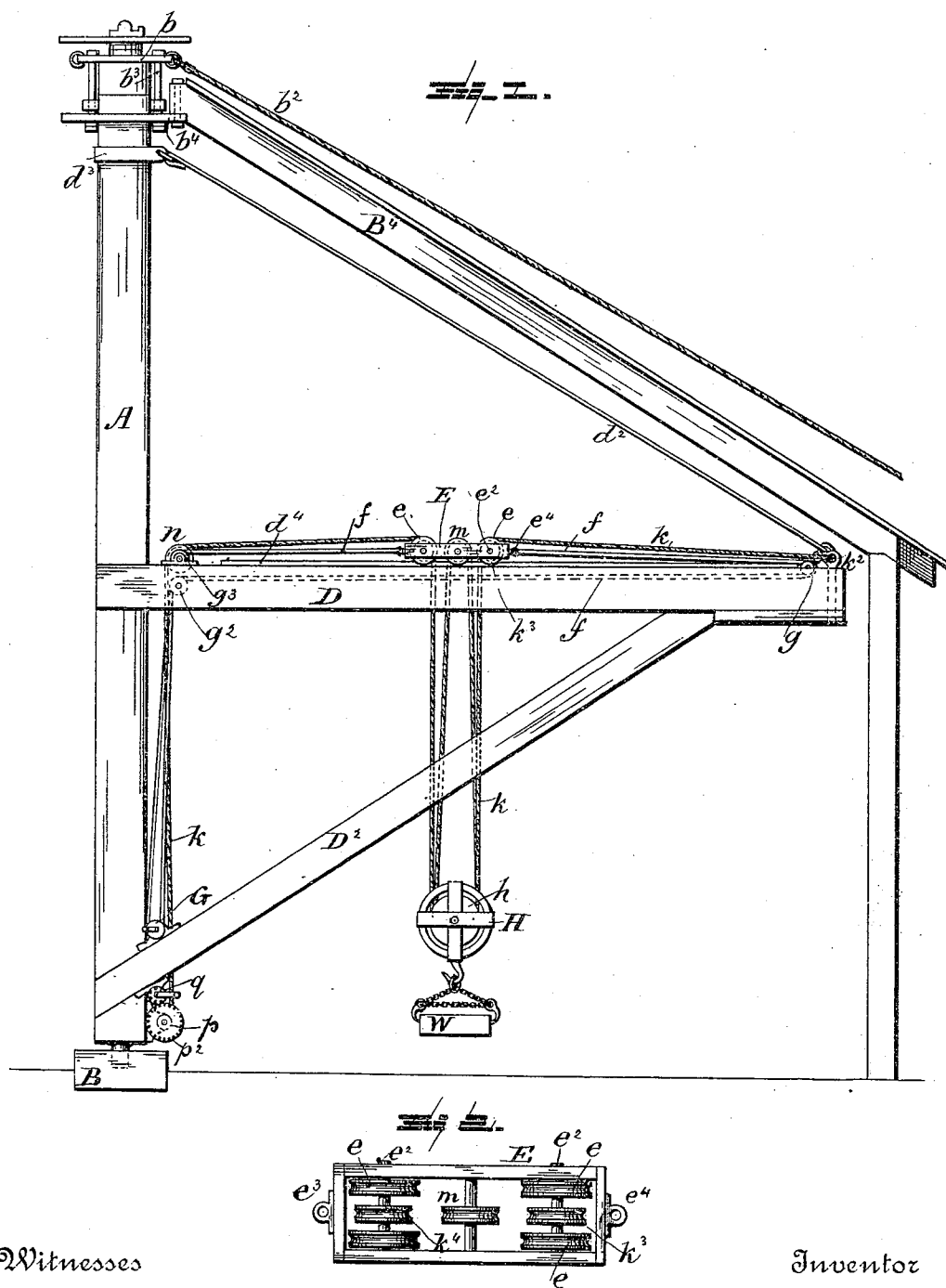


(No Model.)

R. ASHWORTH.
DERRICK.

No. 461,516.

Patented Oct. 20, 1891.



Witnesses

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DERRICK.

SPECIFICATION forming part of Letters Patent No. 461,516, dated October 20, 1891.

Application filed April 15, 1891. Serial No. 388,999. (No model.)

To all whom it may concern:

Be it known that I, ROBERT ASHWORTH, a citizen of the United States, residing at St. Cloud, in the county of Stearns, State of Minnesota; have invented certain new and useful Improvements in Derricks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to hoisting-derricks the central post and arm of which are adapted to be swung around, said arm being provided with a weight-carrying truck adapted to travel thereon; and the object of my improvement is to provide a derrick adapted to be controlled by one man, but capable of lifting and moving a great weight, although of simple and inexpensive construction. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a derrick constructed in accordance with my invention. Fig. 2 is a top view of the truck thereof on a larger scale.

In said drawings, A indicates the derrick-post, having its lower end pivotally supported upon a foundation or shoe B and its upper end pivotally retained in a collar b , resting on a shoulder formed on the end of the post, said collar having a series of guy wire ropes b^2 secured thereto, by which the derrick-post is retained in a vertical position. From the collar b is suspended by means of bolts b^3 a second collar b^4 to support the upper end of a conical roof having rafters B^4 , serving as rigid braces for the part A and extending beyond the swing of the boom to cover and protect from the weather the workmen and materials underneath without interfering with the operation of the derrick. To the sides of the derrick-post is secured one end of the boom D. Said boom consists of two parallel beams retained apart at their outer end, as usual, by a parting-block, so as to leave a channel between them nearly the whole length thereof, and each one of the parallel beams of the boom has its outer end supported by a brace D^2 , the lower ends of said braces being secured to the derrick-post. The outer end of the boom is also braced by a wire rope d^2 , having its inner end secured to a ring d^3 , clasping the upper portion of the derrick-post.

Upon the top of the two parallel booms constituting the boom of the derrick rails d^4 are secured to support and guide the bearing-wheels e of a truck E. Said truck consists of a rectangular frame supported by the four wheels e , through which pass the axles e^2 . To cause the truck to advance toward either end of the boom, there is secured to each end of the frame a ring, as e^3 e^4 , and to each ring is secured one end of the rope f . The end of the rope secured to the ring e^4 is extended nearly horizontally and is made to pass around a guide-pulley g , located between the beams of the boom and adjacent to the end thereof. Thence it passes between said beams and under the truck E to and over the pulley g^2 , and thence in a downward direction to a drum G, pivoted in bearings secured to the lower portion of the brace D^2 . The rope f is wrapped a few turns around said drum and passes therefrom to and around the second guide-pulley g^3 back to the eye e^3 of the truck, and by rotating the drum G by means of handles at the end thereof the rope f , and with it the truck, is advanced in either direction along the boom.

To elevate a stone or weight, as W, the latter is suspended from a block H, having two pulleys h , around which passes the lifting-rope k . Said rope has one end secured at k^2 to the end of the boom and passes over the pulley k^3 , mounted centrally on one of the axles e^2 of the supporting-wheels, and thence down and around one of the pulleys h of the block H, from which it passes over a pulley m , mounted centrally upon the truck E, and down again around the second pulley h of the block H and over a pulley k^4 , mounted centrally upon the other axle e^2 of the supporting-wheels e , and over a pulley n , mounted upon the inner end of the boom, and thence downward to a drum p , around which it is wound a few times and has its end secured thereto. The drum p has its shaft carried in suitable bearings attached to the side of the post A, and upon one end of said shaft is mounted a gear-wheel p^2 , with which is meshing a pinion q , having its shaft in bearings attached to the post or the under side of the braces D^2 of the derrick, and the shaft of the pinion carries one or more cranks, by which it can be rotated, and a ratchet-wheel to engage with a

pawl, as usual, to prevent its rotation when desired.

Having now fully described my invention, I claim—

- 5 In combination with a derrick-post and its boom, having rails and a pulley n thereon, the truck E , having carrying-wheels e at each end, pulleys k^3 k^4 , mounted on the axles of said wheels and also having a central pulley
10 m , with a pulley-block H , having two pulleys h on the same axle, a rope k , having one end secured to the end of the boom and passing

around the pulley k^3 , and thence around one of the pulleys h and around the pulley m , and thence around the second pulley h and over 15 the pulley k^4 , and thence around the pulley n , and a drum to wind the rope k , substantially as described.

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

ROBERT ASHWORTH.

Witnesses:

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