

W. P. Squire,

Derrick.

N^o 59,870.

Patented Nov. 20, 1866.

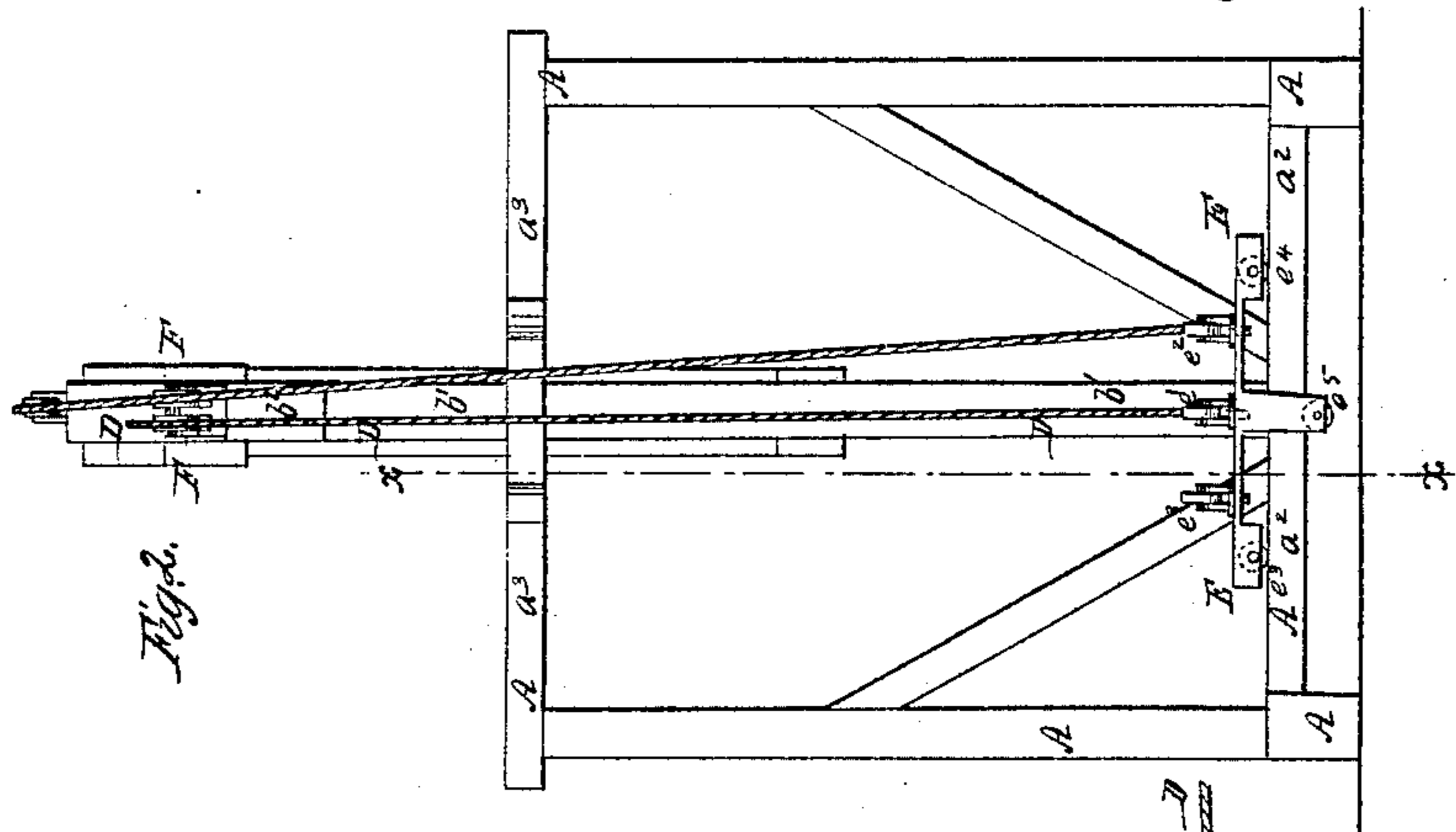
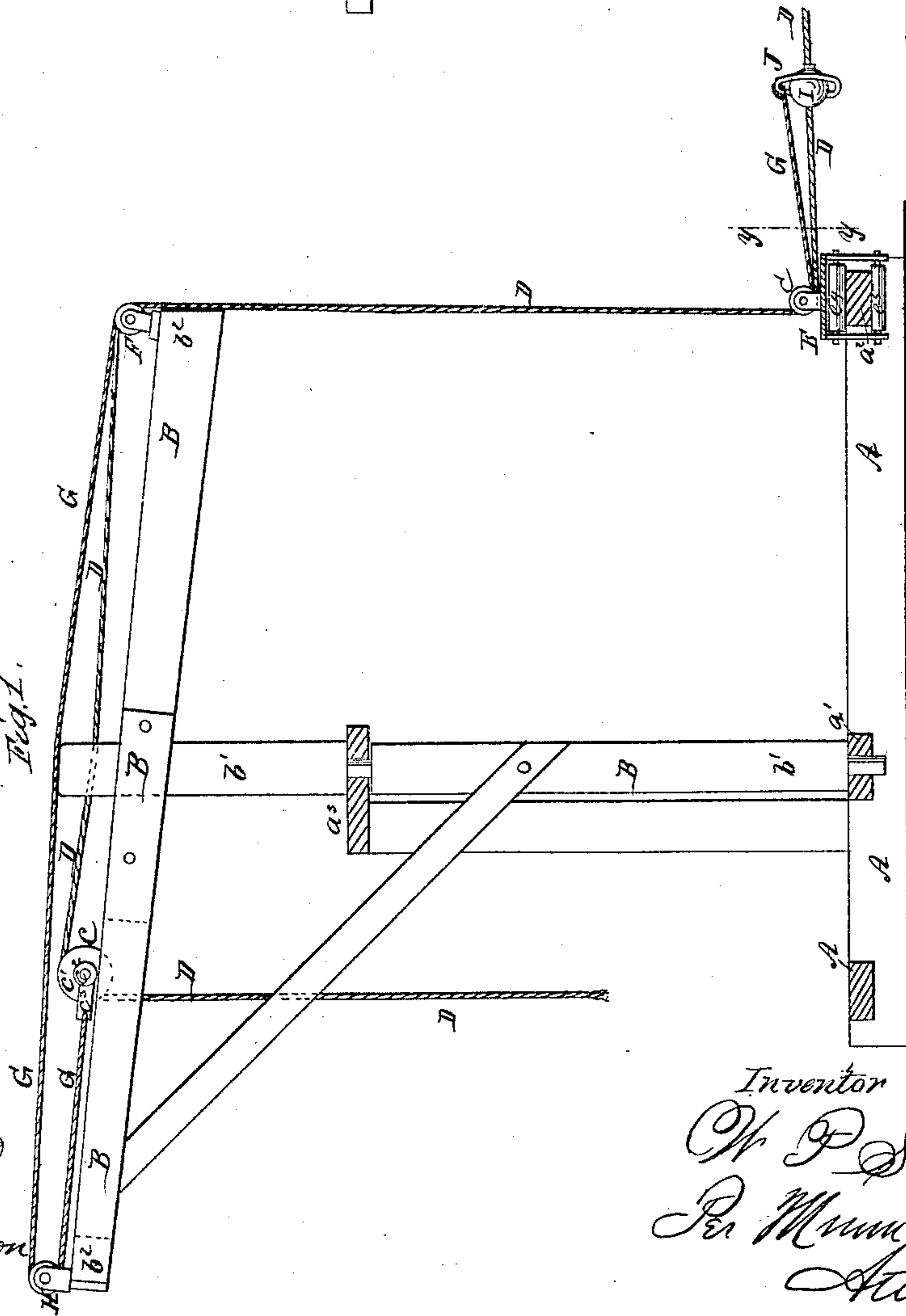


Fig. 1.



Witnesses.
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IMPROVEMENT IN HAY DERRICKS.

WILLIAM P. SQUIRE, OF PARIS, ILLINOIS.

Letters Patent No. 59,870, dated November 20, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. P. SQUIRE, of Paris, in the county of Edgar, and State of Illinois, have invented a new and useful improvement in Hay Derricks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others 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 vertical longitudinal section of my improved derrick, taken through the line *x x*, fig. 2.

Figure 2 is a rear-end view of the same, partly in section through the line *y y*, fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved derrick so constructed and arranged that the hay may be raised and carried forward and at the same time swung to the right or left for the purpose of placing it upon a stack or depositing it in a barn, as may be required, and which may be used for raising any other desired weight; and it consists, first, in the car pulley in combination with the crane and ropes; second, in the sliding pulley in combination with the ropes and frame of the machine; and third, in the combination and arrangement of the crane, car pulley, ropes, fixed pulleys, and sliding pulley with each other and with the frame of the derrick, as hereinafter more fully described.

A is the frame of the derrick; B is the crane, the lower end of the upright part *b'*, of which is pivoted to the cross timber *a'* of the frame A, as shown in fig. 1. To the upper end of the upright *b'* is securely attached the arm *b²* of the crane. The forward part of the arm *b²* is slotted vertically, as indicated by the dotted lines in fig. 1. In this slot works the large pulley *c'* of the car pulley C, while the two small pulleys, *c²*, roll upon the upper side of the arm *b²* on each side of said slot. The pulleys *c'* and *c²* revolve loosely upon the same shaft, and the face of the pulley *c'* is grooved for the passage of the rope D. The forward end of the rope D, is attached to the weight to be raised; it passes thence over the pulley *c'* of the car pulley C, through a guide hole in the upper end of the upright *b'* of the crane B, over the fixed pulley F on the rear end of the said arm, and thence around the pulley *e'* of the sliding pulley E. By drawing upon the rope D, the weight is elevated. To the shaft of the car pulley C, are pivoted the ends of two short bars, *e³*, to the forward ends of which, or to a short bar or link connecting said ends, is attached the end of the rope G, which passes thence over the fixed pulley H, attached to the forward end of the arm *b²*, of the crane B, thence back over the fixed pulley F on the rear end of the said arm *b²*; thence down and over the pulley *e²* of the sliding pulley E. The sliding pulley E slides back and forth along the cross timbers *a²* of the frame A upon three rollers, *e³*, *e⁴*, *e⁵*, two of which, *e³* and *e⁴*, roll along the upper side, and one, *e⁵*, along the under side of the timber, *a²*, as shown in figs. 1 and 2. Upon the rope D, is placed a wooden ball, I, and upon the rope G a ring, J, of such a size that the ball I cannot pass through it. The end of the rope D, to which the power is attached, passes through the ring J, and the ball and ring are so arranged that when the rope D is drawn upon and the weight has been raised to a proper height, the ring J comes in contact with the ball I and the car C and weight are carried forward to the end of the arm *b²*. The forward end of the arm *b²*, and with it the weight may be swung to the right or left, according to the position in which it is desired to deposit the hay or other weight, by sliding the sliding pulley E, in the one or other direction. For convenience in doing this, there may be attached to the ends of the upper cross piece, *a³*, of the frame A, fixed pulleys, around one or the other of which a rope may be passed, according as it is desired, to swing the crane in one or other direction; one end of said rope being attached to the rear end of the arm *b²*, and the other passed around the pulley *e⁶* of the sliding pulley E, and attached to the draw rope D at such a point that when the weight has been raised to the proper height it may be swung to the right or left, as may be desired. By such a construction and arrangement of the parts, the weight may be raised, carried forward to the end of the arm *b²*, and swung to the desired position by the single operation of drawing upon the rope D.

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

1. The car pulley C, constructed as described, in combination with the crane B, and ropes D, G, substantially as and for the purpose set forth.

2. The sliding pulley E, constructed as described in combination with the ropes D, G, and frame A of the derrick, substantially as and for the purpose set forth and described.

3. The combination and arrangement of the crane B, car pulley C, ropes D, G, fixed pulleys H, E, and sliding pulley E, with each other, and with the frame A of the derrick, substantially as herein described and for the purpose set forth.

WILLIAM P. SQUIRE.

Witnesses:

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W. B. McCORD.