

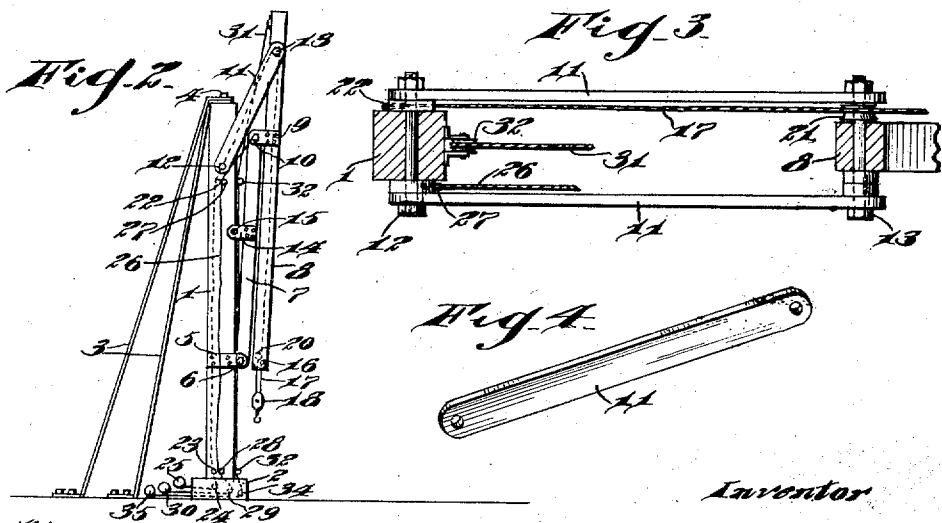
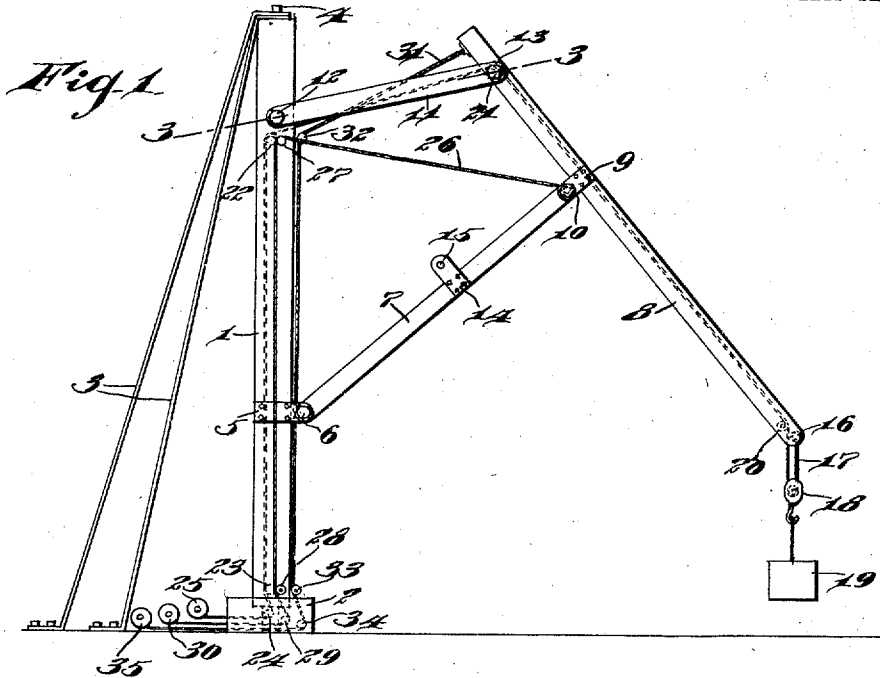
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DERRICK.

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957,239.

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2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

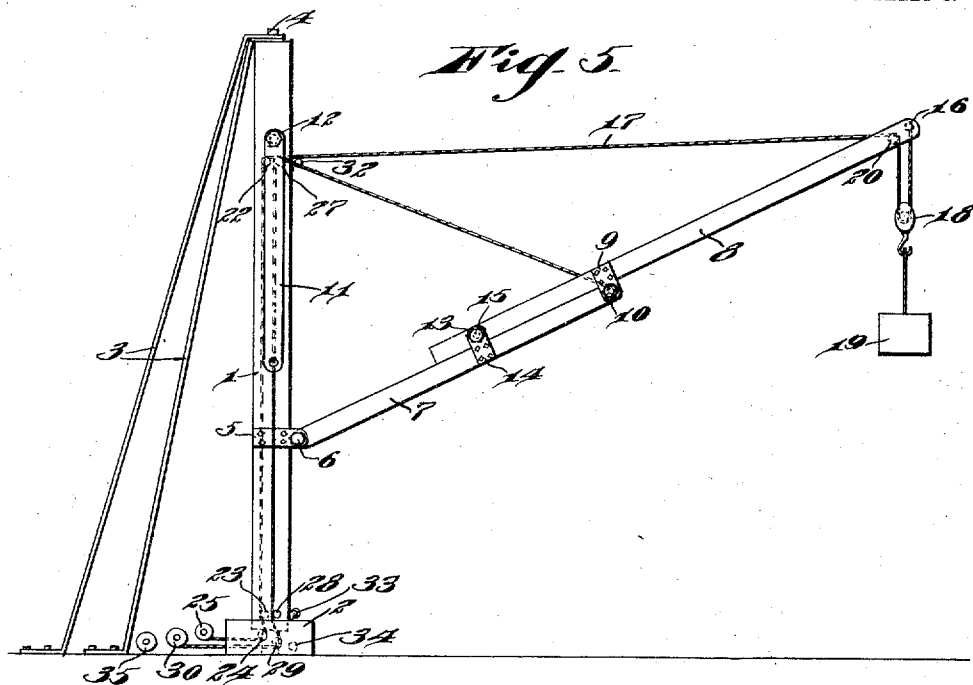


Fig. 6.

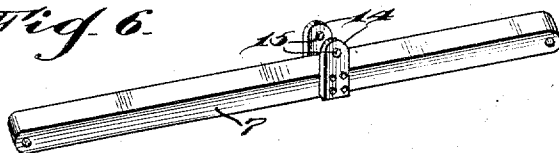


Fig. 7.

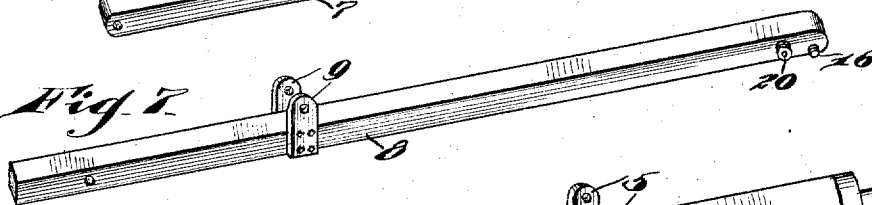
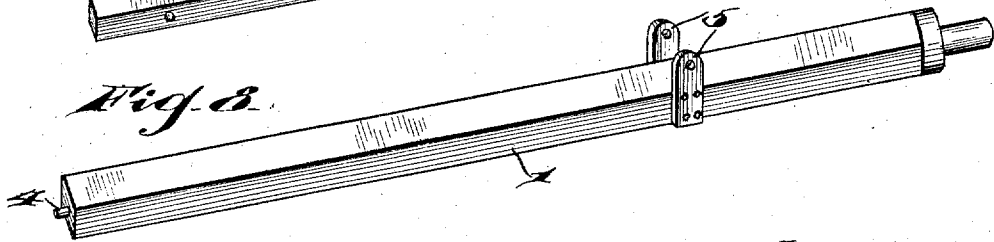


Fig. 8.



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To all whom it may concern:

Be it known that I, JOHN McVEIGH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Derricks, of which the following is a specification.

My invention relates to improvements in derricks, the object of the invention being to provide an improved mounting for the beam which enables the beam to be swung from a horizontal to a substantially vertical position, so as to swing the load in and out with relation to the mast, without elevating the load to any appreciable extent, and further, to provide a construction of this kind which is capable of adjustment, whereby the beam may be utilized as an ordinary swinging arm from the mast.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1 is a view in elevation illustrating my improved derrick in one position. Fig. 2 is a similar view showing the parts in a different position. Fig. 3 is an enlarged view in section on the line 3—3 of Fig. 1. Fig. 4 is a detail view of one of the links 7. Fig. 5 is a view showing the parts adjusted for operation as an ordinary arm or beam, and Figs. 6, 7, and 8, are detailed views of the link 7, beam 8, and mast 1, respectively.

1 represents the mast which has rotary mounting at its lower end, in a block or base 2, and is braced by stays 3 engaging a journal pin 4 at the upper end of the mast, so as to support the mast but not interfere with its turning movement. To opposite sides of the mast, at a point above its lower end, plates 5 are secured and project out beyond the mast, and are perforated to receive a bolt 6 to pivotally connect a link 7 to the mast, said link having an opening in its end to receive the bolt 6.

8 represents the beam, which is provided at a point between its ends with plates 9 secured to opposite sides of the beam and having registering openings for the recep-

tion of bolt 10, which latter is passed through the outer end of link 7 and pivotally connects the link 7 with the beam.

11, 11, represent parallel links, which are perforated at their ends and are disposed on opposite sides of the mast 1 and beam 8, near their upper ends, and are pivotally secured to the mast and beam by means of bolts 12 and 13 respectively. On opposite sides of link 7, plates 14 are secured and are provided with perforations 15, so that when bolt 13 is removed and beam 8 swung around with bolt 10 as a fulcrum, the opening near the end of the beam 8 will register with the openings 15 in the plates 14, and bolt 13 may be positioned through the openings 15 and the opening in the end of the beam 8 to secure the beam 8 and link 7 together, and form a single long arm or beam, as shown most clearly in Fig. 5.

By referring to Figs. 1 and 2, beam 8 at its lower free end is provided with a fixed pin 16, to which one end of a lifting cable 17 is fixed. This cable 17 passes downward around a block 18 for supporting the load 19, and then up and around a sheave 20, thence along the side of beam 8 and around a sheave 21 at the upper end of the beam, thence across to mast 1 and around a sheave 22 on the mast, thence down alongside the mast and around the sheaves 23 and 24 at the lower end of the mast, and thence to an operating drum 25. A cable 26 for moving the beam inwardly toward the mast, is secured at one end to the bolt 10, thence extends across and around a sheave 27 on the mast 1, thence down and around sheaves 28 and 29 at the lower end of the mast, and thence to an operating drum 30. A cable 31 for swinging the arm out and away from the mast is secured to the inner end of beam 8, thence extends across and around a sheave 32 on mast 1, thence down and around sheaves 33 and 34 at the lower end of the mast, and thence to an operating drum 35.

The operation of the structure shown in Figs. 1, 2, and 3, is as follows: To elevate the load, drum 25 is turned, which serves to draw the cable 17 and lift the load toward the free end of the beam. To swing the beam inward and bring the load close to the mast, drum 30 is turned to draw cable 26, and this pull on the beam 8 at the bolt

10, will draw the beam inward toward the mast, and it may be drawn in as far as shown in Fig. 2. When the beam is in the position shown in Fig. 2, or any other position, and it is desired to swing the beam outward from the mast, drum 35 is turned, which exerts a downward pull on the upper end of beam 8 through the medium of cable 31, and thus serves to pull the links 11 and 7 downward and swing the arm outward, and this arm may be swung out to practically a horizontal position, and therefore by means of a structure of this kind, the beam may be moved from a practically vertical, to a horizontal position, thus permitting a wide range of movement for the beam.

As shown in Fig. 5, when an ordinary arm beam is desired, bolt 13 may be removed, when the links 11 will fall down beside the mast 1, out of the way, and when the beam 8 is swung on the pivot 10 to bring the beam parallel with link 7; bolt 13 may be passed through the openings 15 in plates 14 and through the opening in the beam 8, so as to secure the beam 8 and the link 7 together and form a single long arm, when of course, the cables will require some slight arrangement to properly manipulate an arm of this kind.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. In a derrick, the combination with a mast and a beam, of a link pivotally connected at one end to the mast and at its outer end to the beam between the ends of the latter, and a pair of links pivotally con-

nected to the beam and mast near their upper ends, substantially as set forth.

2. In a derrick, the combination with a mast and a beam, of a link pivotally connected at one end to the mast and at its outer end to the beam between the ends of the latter, links above the first mentioned link pivotally connecting the mast and the beam, and plates secured to the first mentioned link between their ends and between which the end of said beam is adapted to be secured when detached from said upper links.

3. In a derrick, the combination with a mast, of perforated plates secured to the mast at a point removed from its lower end, a beam, perforated plates secured to the beam between the ends of the latter, a link pivotally connected at its ends between the plates on the mast and the plates on the beam, perforated plates secured to the sides of said link, upper links pivotally secured to the mast and to the beam, said beam adapted to be swung to a position between the plates on the lower link and secured between the plates on the lower link.

4. In a derrick, the combination with a mast and a beam, of a link pivotally connecting the lower portion of the mast with the beam between the ends of the latter, an upper pair of links connecting the upper portions of the beam and mast, a lifting cable connected to the free end of the beam, a second cable connected to the beam at its pivotal juncture with the lower link, a third cable connected to the upper end of the beam, and means for operating said cables, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN McVEIGH.

Witnesses:

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