No. 882,034. PATENTED MAR. 17, 1908.

E. J. WARD.

DERRICK.

APPLICATION FILED SEPT. 24, 1906.

2 SHEETS—SHEET 1.

Fig. 2.

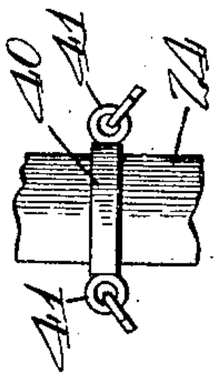

Fig. 3.

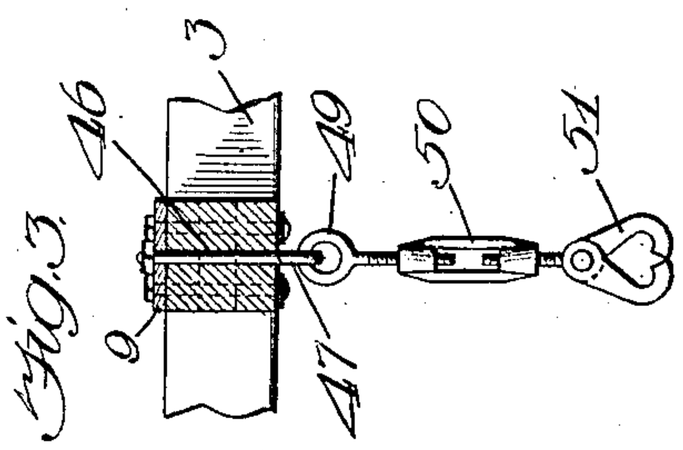

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 1.

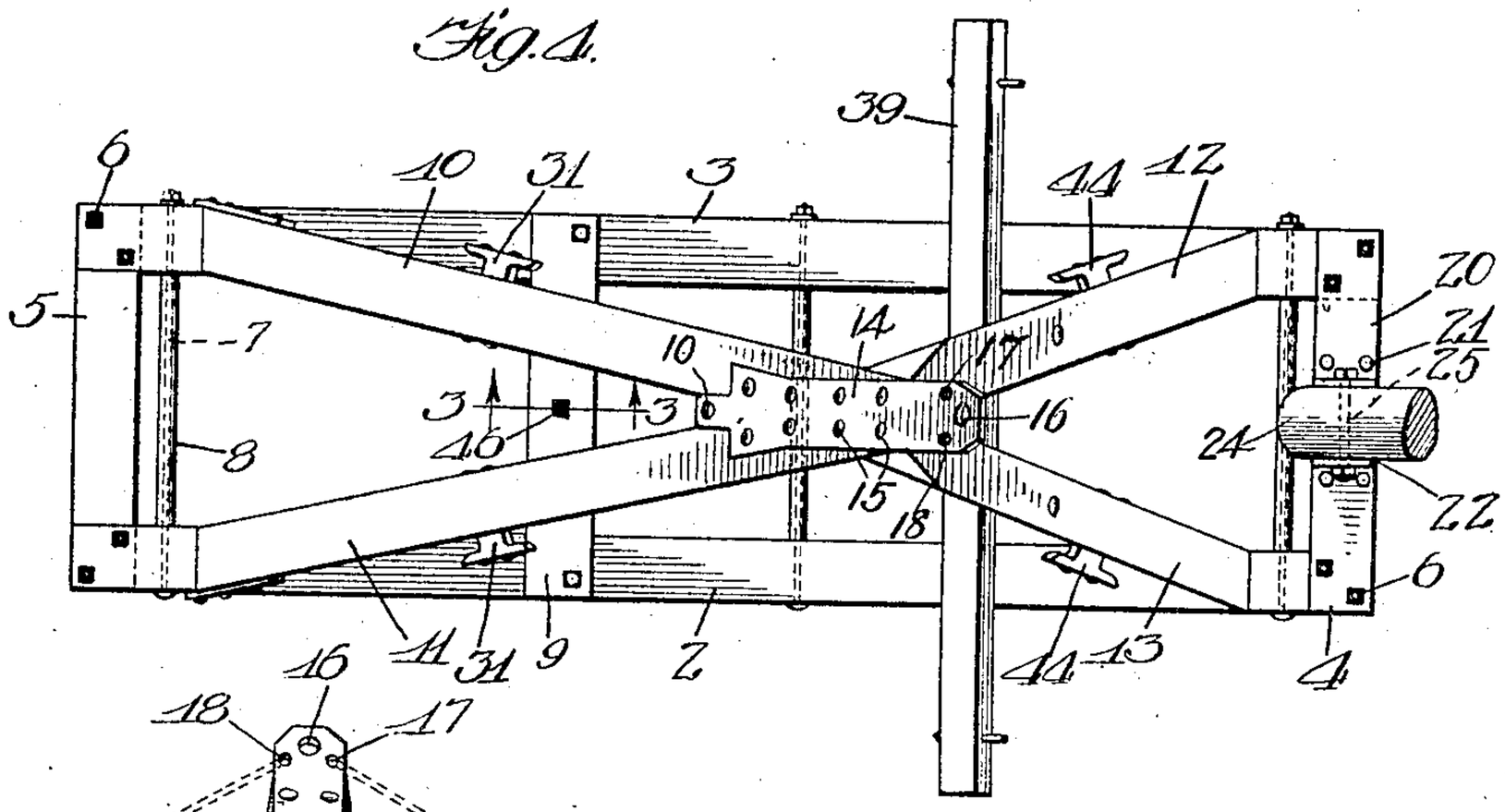


Fig. 5.

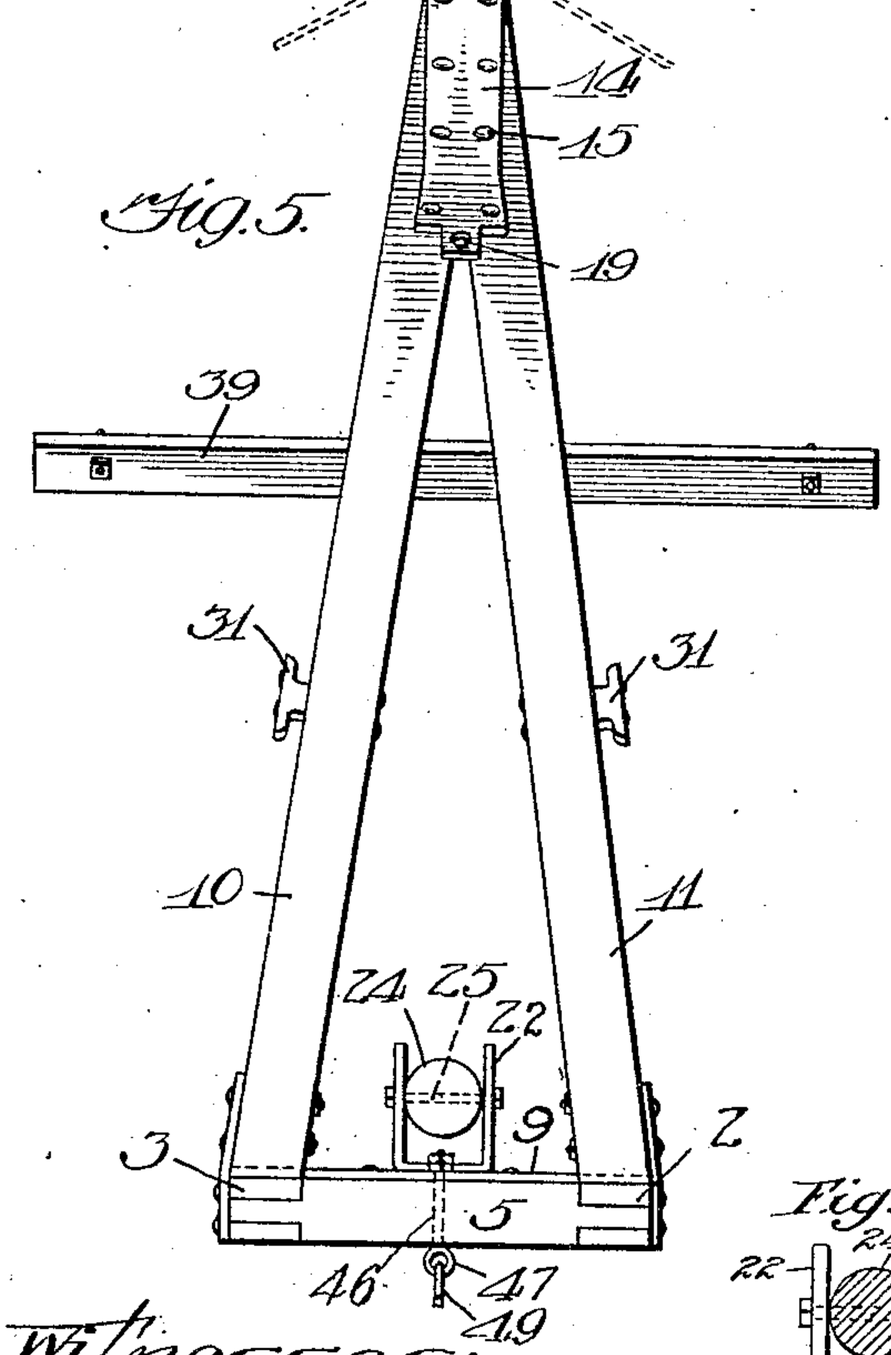


Fig. 6.

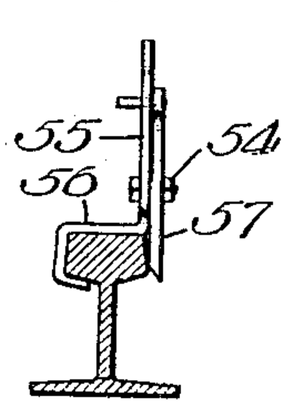


Fig. 7.

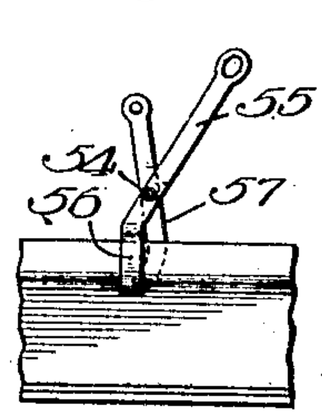


Fig. 8.

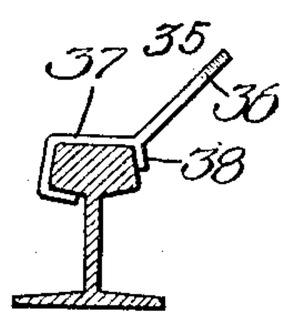


Fig. 9.

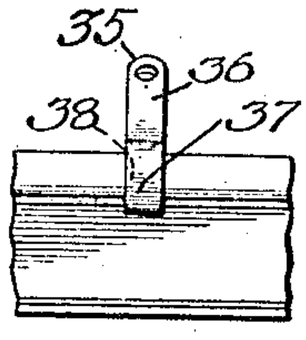
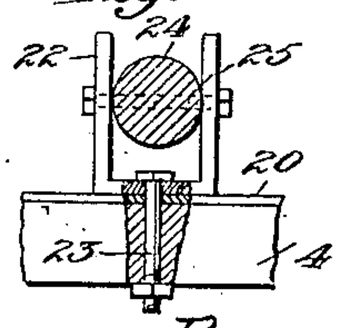


Fig. 10.



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UNITED STATES PATENT OFFICE.

EDWARD J. WARD, OF CHICAGO, ILLINOIS.

DERRICK.

No. 882,034. Specification of Letters Patent. Patented March 17, 1908.

Application filed September 24, 1906. Serial No. 336,077.

To all whom it may concern:

Be it known that I, EDWARD J. WARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Derricks, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to derricks, my object being to provide a derrick which may be readily shifted from place to place and which shall be capable of carrying comparatively heavy loads.

Heretofore in erecting telegraph poles, trolley poles and the like, it has been the custom for a number of men, sometimes as many as fourteen, to gather about the pole, and by means of props and the like, to raise the pole in the required position. This method of raising telegraph poles not only requires considerable time, but also a number of men.

It is one of the objects of my invention to provide a derrick which shall be particularly adaptable for such work as this, and to this end I construct my derrick whereby it may be made of such a size that it can be conveniently carried on the ordinary flat or push cars which are now used in railway construction. I also provide suitable guys and means for securing the derrick in position which, instead of being secured to the vehicle upon which the derrick is mounted, are preferably secured to the rail or at some other stationary member.

I have illustrated one form of my invention in the accompanying drawings in which, Figure 1 is a side elevation of my derrick; Fig. 2 is a detail view of the straps, surrounding the boom, to which the guys are attached; Fig. 3 is a detail section taken on the line 3—3 of Fig. 4; Fig. 4 is a plan view of my device; Fig. 5 is a rear elevation; Figs. 6 and 7 are detail views of the member used for securing the guys to the rail; Figs. 8 and 9 are detail views of a clamping member used for securing one end of the raising fall to the rail; and Fig. 10 is a detailed view showing the king-bolt for securing the U-shaped member to the cross-beam.

In the preferred construction of my derrick, I provide a base 1, which comprises a rectangular frame-work formed of the side beams 2 and 3, and end-beams 4 and 5. The beams are preferably dovetailed together and are secured by bolts 6 passing through the same. Tie rods 7 are provided at suitable intervals and extend through the side beams to hold the beams rigidly together, sleeves 8 on the rods extending between the inner sides of the side beams to prevent any tendency of the beams to collapse. At an intermediate point on the frame I provide an additional cross-beam 9, the purpose of which will be more fully hereinafter described.

Extending upwardly from the corners of the frame and secured thereto in any suitable manner are four converging posts 10, 11, 12 and 13, the posts 10 and 11 forming rear posts and the posts 12 and 13 forming front posts. These posts form the frame-work of the derrick and at their converging point are suitably fitted together and secured by means of a plate 14, suitably bolted by means of bolts 15 to the top of the posts. At the front end of the plate is provided an eye 16 and two side eyes 17 and 18. The tail of the plate is also provided with an eye 19.

Secured upon the front cross beam 4 is preferably a metal plate 20 of the same size as the beam and held in position by the bolts 6 and 21. Mounted upon the plate 20 intermediate of its ends is a U-shaped member 22, which is secured in position by means of a king-bolt 23, whereby the U-shaped plate may be rotated. Secured between the legs of the U-shaped member 22 is the lower end of the boom 24 of the derrick. A bolt 25 passes through the legs of the U-shaped member and the lower end of the boom to pivotally secure the same in position. This boom may be of any suitable length and at its upper end has a band or strap 26 secured thereto provided with eyes 27 and 28. Extending between the plate 14 and the strap 26 is a fall, one of the blocks of which is secured to the eye 27, and the hook 29 of the other block engages in the eye 16 of the plate 14. The end of the rope 30 of the fall is arranged to be secured to a cleat 31 mounted on the post 11. By means of this fall, the end of the boom may be raised or lowered to any desired degree.

Secured to the eye 28 of the strap 26 is a second fall which is arranged to be used for raising or lowering the load. The operating rope 33 of the fall is arranged to extend downwardly and pass through a block 34 secured by means of a clamp 35 to the rail and

the free end of the rope may be used for operating the fall. The clamp 35 is of peculiar construction and is illustrated more clearly in detail in Figs. 8 and 9. It comprises an arm 36, to which the hook of the block 34 is arranged to be secured and a hook 37 arranged to fit over the rail. A downwardly projecting member 38 is arranged to fit partially over the side of the rail to prevent the hook from being disengaged. By this arrangement a hook is formed which will be readily secured over the rail and when in position the tension of the rope 33 will not tend to move the same but by lifting the end 36, the clamp may be readily disengaged from the rail.

Extending across the two front legs 12 and 13 of the derrick frame is a cross-member 39 and arranged at an intermediate point on the boom is a second strap 40 having suitable eyes 41. Extending between the ends of the cross-piece 39 and the eyes 41 on either side of the boom are a pair of falls 42 which laterally brace the boom and tend to prevent the same from swinging sidewise. The free end 43 of the rope of the falls may be suitably secured to cleats 44, secured on the front legs 12 and 13 of the derrick frame.

The derrick is arranged to be mounted on any suitable conveyance and when used for setting telegraph or trolley poles is arranged to be mounted on an ordinary flat push car 45. In order to prevent the weight of the load on the beam from tipping the derrick frame, at an intermediate point on the cross-arm 9, I secure a suitable bolt 46 having an eye 47 in the lower end thereof, in which is arranged to engage an eye 49 of a turn buckle. The lower end of the turn buckle is provided with a pair of tongs or clamps 51 which are arranged to engage the rail, whereby a suitable guy is provided at the rear of the derrick frame.

In addition to the guys previously mentioned, I preferably provide a pair of guys 52 and 53 which extend from the top of the boom 24 to the rails on which the car is mounted, and which are secured to the rails by means of a clamping member 54. This member constitutes an upwardly extending arm 55 having a hook 56 which is adapted to engage over the rail and a movable arm 57, which is arranged to extend down on the side of the rail. The arm 55 preferably is arranged at an angle, whereby the guys 52 will extend in a straight line therewith and when tension is applied thereto the hook 56 will be prevented from sliding along the rail. In order to remove the clamp from the rail it is merely necessary to move the arm 57 until it is in a horizontal position when arm 55 may be thrown outwardly and the entire clamp detached from the rail.

When it is desired to use the derrick in stationary positions, or when it is desired to provide additional braces for the derrick, side guys may be connected to the two eyes 17 and 18 and an end-guy may be connected to the eye 19 formed in the plate 14. These guys hold the end of the derrick rigidly and the guys 52, 53, may be dispensed with and the falls 42 loosened, whereby the boom may be swung from side to side and deposit the load wherever desired.

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

1. The combination with a vehicle arranged to operate upon car rails of a derrick removably mounted thereon, and means for removably securing said derrick to the rails.

2. The combination with a vehicle, of a derrick removably mounted thereon, said derrick having a base portion extending transversely to said vehicle, and guys extending from said base portion and secured to stationary supports independent of said vehicle.

3. In a derrick, the combination with a base, of a plurality of members extending upwardly from said base and converging at their upper ends to form a quadrangular pyramidal structure, a boom pivotally mounted on the front end of said base, a fall connected to the converging ends of said members and to the upper ends of said boom for raising and lowering said boom, and a second fall connected to said boom for raising and lowering the load.

4. The combination with a base, of a plurality of members extending upwardly from said base and converging at their upper ends to form a quadrangular pyramidal structure, a boom pivotally mounted at one end of said base, a fall extending between the upper end of said boom and the converging ends of said members for raising and lowering said boom, guys extending from the upper end of said boom to a stationary support, and a second fall extending from said boom for raising and lowering the load.

5. The combination with a car arranged to operate upon tracks, of a derrick removably mounted thereon comprising a base, a plurality of members extending from said base, and converging at their upper ends, a boom pivotally mounted upon one end of said base, a fall for raising and lowering the end of said boom connected with one end thereof, and with the converging ends of said members, guys connected to the upper end of said boom and at their lower ends to the rails, and means for connecting said base to the rails.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

EDWARD J. WARD.

Witnesses:
M. PERRY HAHN,
M. R. ROCHFORD.