W. F. CUMMINGS.

DERRICK.

APPLICATION FILED MAY 29, 1915.

1,234,637.

Patented July 24, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

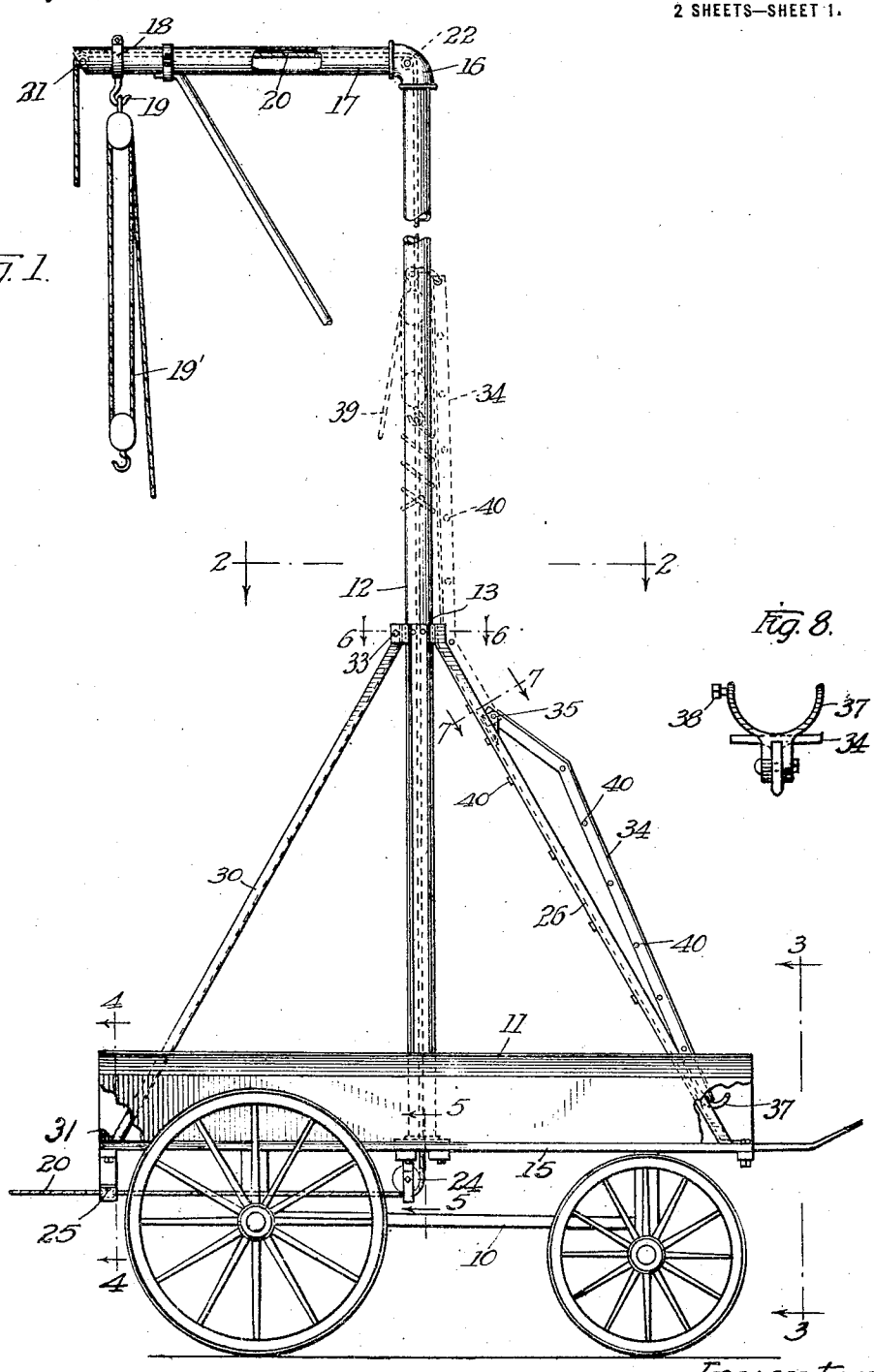


Fig. 8.

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2 SHEETS—SHEET 2.

Fig. 2.

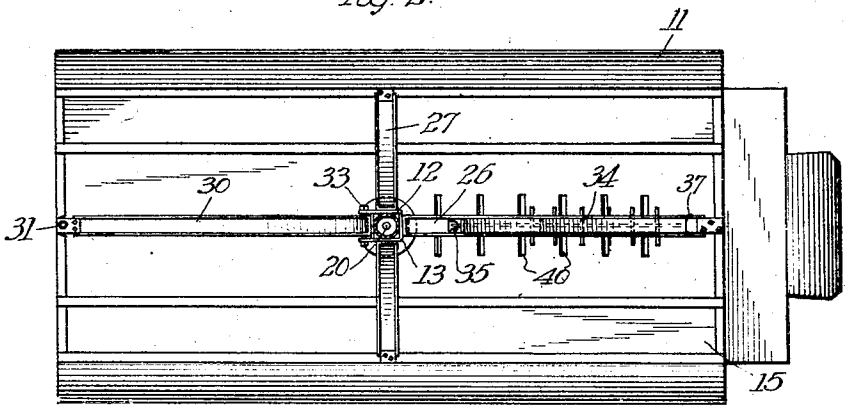


Fig. 3.

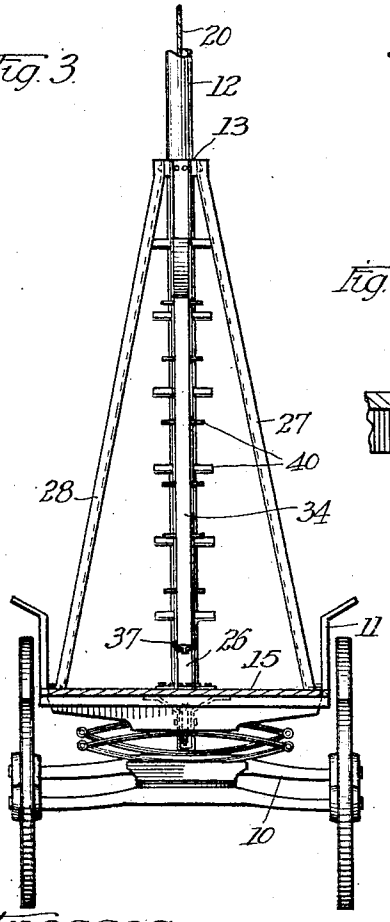


Fig. 4.

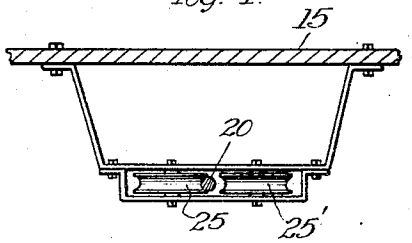


Fig. 5.

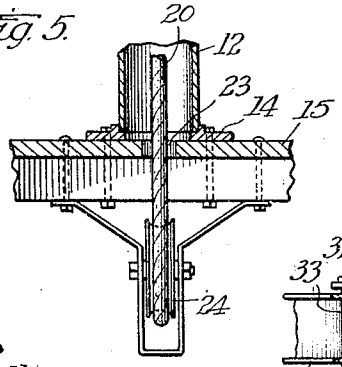


Fig. 6.

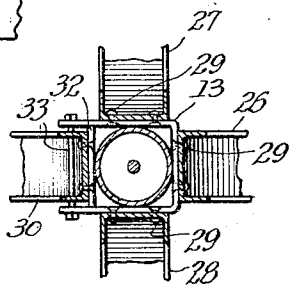
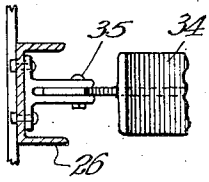


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM F. CUMMINGS, OF CHICAGO, ILLINOIS.

DERRICK.

1,234,637. Specification of Letters Patent. Patented July 24, 1917.

Application filed May 29, 1915. Serial No. 31,133.

To all whom it may concern:

Be it known that I, WILLIAM F. CUMMINGS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Derricks, of which the following is a specification.

My invention relates to improvements in portable derricks and more particularly to a derrick to be used for erecting telephone and telegraph poles.

A derrick or pole erector for setting telegraph poles, trolley wire poles and the like must necessarily be constructed to permit passage through the streets of a city where overhead obstructions, such as bridges, trolley wires, etc., are encountered. For this reason the derrick must be either comparatively short and consequently inefficient, or if of any considerable height, must be provided with some means whereby the mast may be shortened or lowered for transportation from one job to another.

One of the objects of my invention is to provide a collapsible derrick mounted on the bed of an ordinary wagon and of a sufficient height when erected to handle, readily, long unwieldy objects, such as telegraph poles and the like.

Another object of my invention is to provide a collapsible derrick that may quickly and readily be elevated for use or lowered for transportation from one job to another.

Other and further objects will become readily apparent to those skilled in the art from a consideration of the specification and drawings wherein—

Figure 1 is a side elevation of my portable derrick.

Fig. 2 is a horizontal sectional view on line 2—2 of Fig. 1.

Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged vertical sectional view on the line 4—4 of Fig. 1.

Fig. 5 is an enlarged vertical sectional view on the line 5—5 of Fig. 1.

Fig. 6 is an enlarged horizontal sectional view on the line 6—6 of Fig. 1.

Fig. 7 is an enlarged sectional view of the line 7—7 of Fig. 1, and;

Fig. 8 is an enlarged detail view of the tackle support used in erecting the mast.

In general my apparatus comprises a vehicle, the running gear of which is designated by the numeral 10, having a wagon box 11 in the center of which is stepped the mast 12. A collar 13, open at its rear side, embraces the mast at a point elevated from the wagon box and is rigidly braced by three channel bars running downwardly to the sides and front of the wagon box, a fourth brace readily movable into or out of position, extends upwardly from the rear end of the wagon box closing the opening in the collar 13. From the upper end of the mast an arm extends outwardly to one side for carrying the post elevating tackle.

A hinged extension is provided on the front brace so that when extended it projects above the mast supporting collar and provides a support for the block and tackle used in raising the mast to a vertical position for stepping in the wagon body or lowering it for transportation.

To describe the apparatus more in detail, the derrick proper comprises a tubular mast 12, the lower end of which rests in a step 14 bolted to the floor 15 of the wagon box 11. The upper end of the mast carries an elbow 16 from which projects a horizontal tubular arm 17 on the end of which is carried suitable pole elevating tackle. This may comprise a band 18 clamped on the end of the arm 17 and carrying a hook 19 from which may be suspended a block and tackle 19′. In the preferred form I also employ a cable 20 which passes through the tubular mast and arm, the lower end extending to the rear of the vehicle permitting the utilization of a draft animal for raising the pole. The cable 20 passes inwardly at the open outer end of the arm 17, over the sheave 21 and is then deflected downwardly into the vertical mast 12 over a sheave 22 carried in the elbow 16. An opening 23 is provided in the floor of the wagon body inside the step 14 through which the cable projects downwardly and around a sheave 24 mounted on the under side of the body, thence rearwardly between a pair of guide pulleys 25—25′.

The U-shaped metal collar 13 is positioned with its opening directed to the rear of the vehicle so that the pole may be dropped rearwardly and downwardly for transportation. From the front and sides of the wagon box project upwardly channel shaped braces 26, 27 and 28, bolted at their lower ends to the floor of the wagon box and at their upper ends riveted as at 29 to the U-shaped collar.

A fourth channel bar 30 is pivoted on the bolt 31 to the center of the rear edge of the floor 15 and at its upper end carries a plate 32 adapted to fit within the open end of the U-shaped collar 13 and complete the mast encircling support. When the mast is swung into position a bolt 33 is inserted through openings in the ends of the U-shaped collar 13 and corresponding openings in the upper end of the brace 30 securely fastening the same in place.

To aid in erecting and lowering the mast 12, I have provided an extension of the brace 26 in the form of a T-bar 34 hinged at 35 to the upper portion of the brace 26. When elevated the extension 34 lies against the upper end of the brace 26 as illustrated in dotted lines at Fig. 1, its projecting end carrying a fork 37 in vertical alinement with the mast collar 13 and step 14. At one side of the fork 37 projects a pin or stud 38 to which is attached the mast raising and lowering block and tackle indicated in Fig. 1 in dotted lines at 39. For convenience in working upon the structure I have provided suitable ladder rungs 40 on the brace 26 and extension 34.

In carrying the apparatus from place to place the mast is laid on the body of the wagon, a portion projecting from the rear end, and carried to the point where a pole is to be erected. The extension 34 is then elevated to the position shown in dotted lines in Fig. 1 and the block and tackle 39 attached to the stud 38. The lower block is secured to the mast at a point slightly above the center of gravity and is then raised to a vertical position, the lower end being guided by a workman until it rests in the step 14. When in this position the upper portion of the mast slides into the open mouth of collar 13, the fork 37 also acting as a guide, and the stud 30 is swung into place, closing the opening in collar 13. The extension 34 is then folded down into the position shown in full lines in Fig. 1 and the block and tackle attached to hook 19 at the end of the arm 17 for use in erecting the pole, or if a draft animal is to be used, the block and tackle may be dispensed with and the upper end of the cable 20 secured to the pole.

After a job is finished the dismantling or collapsing of the derrick is readily accomplished by reversing the order of events above described.

Having described my invention, what I claim is:

1. The combination with a vehicle, of a derrick comprising a mast adapted to be stepped on said vehicle, an open sided collar adapted to engage and retain the mast in erected position, braces carried by the vehicle extending upwardly to said collar and holding the same rigidly in position, an extension pivotally connected to one of said braces and when raised extending above said collar, and mast elevating means carried by said extension.

2. The combination with a vehicle, of a derrick comprising a mast adapted to be stepped on said vehicle, a collar open at one side and adapted to engage and retain the mast in erected position, braces carried by the vehicle extending upwardly to said collar, a removable brace for said collar adapted to close the open side thereof, an extension pivotally connected to one of the braces and when elevated projecting above the collar; a fork carried on the upper end of said extension and adapted to engage the mast when the same is in vertical position, and mast elevating means carried by said extension.

3. The combination with a vehicle, of a derrick comprising a mast adapted to be stepped on said vehicle, a collar open at one side and adapted to engage and retain the mast in erected position, permanent braces carried by the front and sides of the vehicle extending upwardly to said collar, said collar having its rear side open, a removable brace extending from the rear of the vehicle up to the collar and adapted when in place to close the open side thereof, an extension pivotally connected to the front brace and adapted when elevated to project above said collar, and means carried by the upper end of the said extension for elevating and lowering said mast.

In testimony whereof I hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM F. CUMMINGS.

In the presence of—
FORÉE BAIN,
MARY F. ALLEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."