J. O. JOHNSON.

WAGON BOX AND HAY RACK REMOVER.

APPLICATION FILED MAY 26, 1909.

983,285.

Patented Feb. 7, 1911.

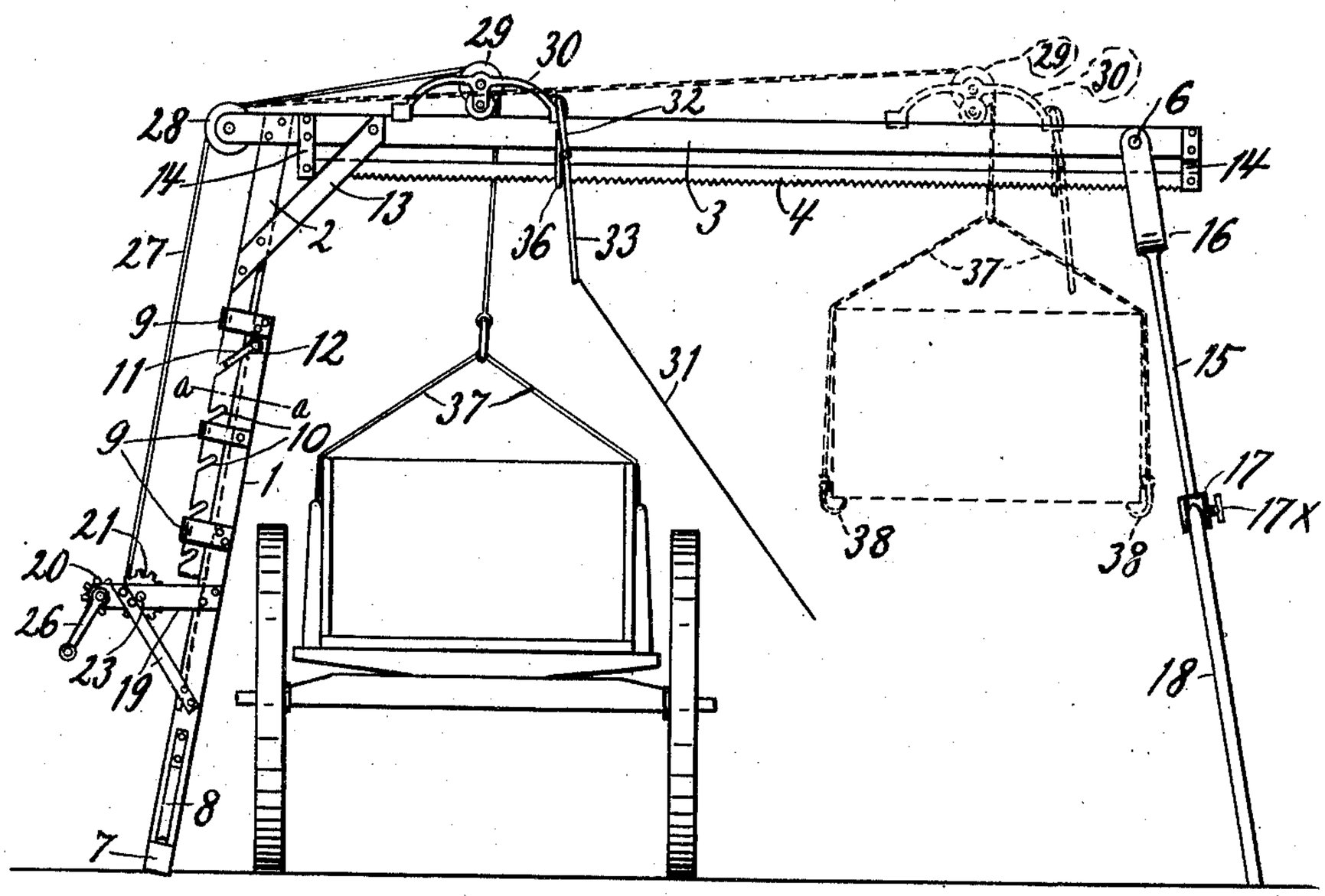

FIG. 1.

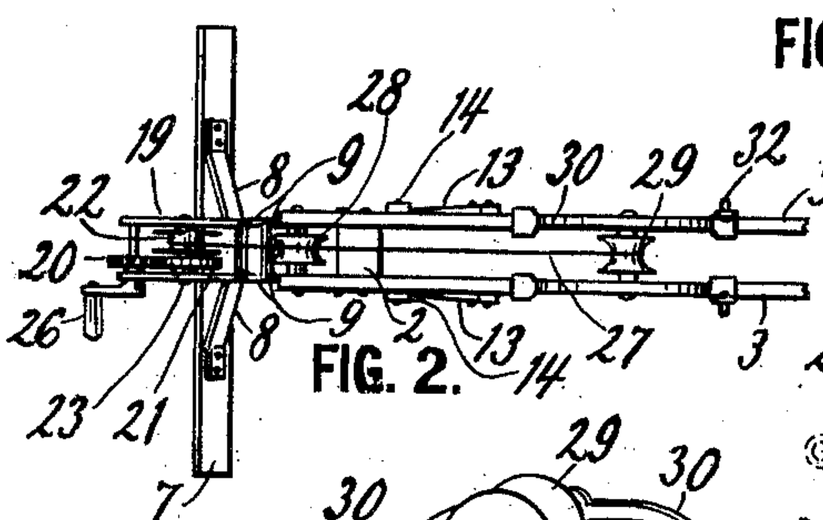

FIG. 2.

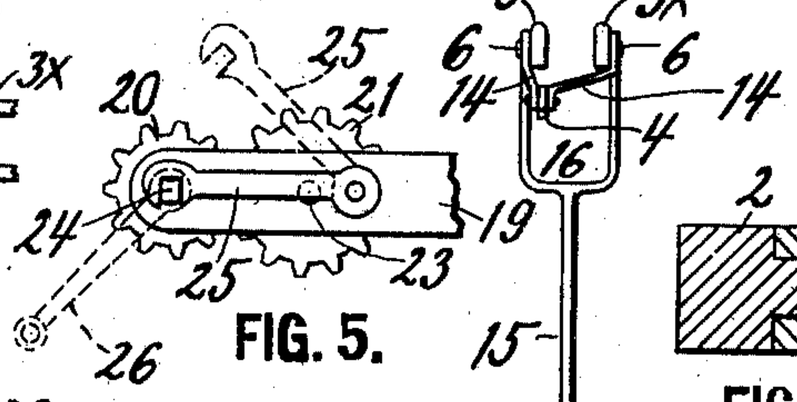

FIG. 5.

FIG. 6.

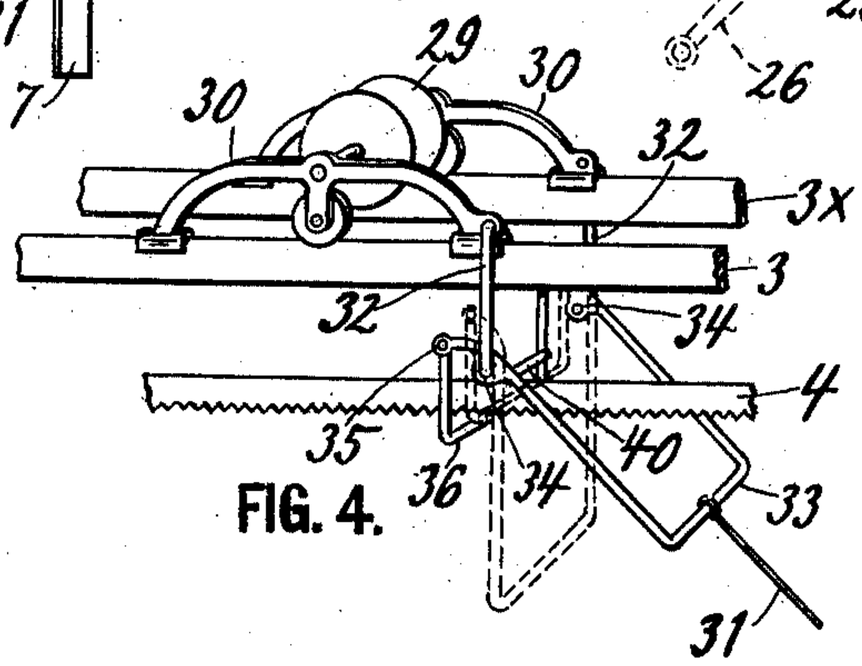

FIG. 4.

FIG. 3.

WITNESSES:

D. E. Carlsen.

M. M. Carlsen.

INVENTOR:

J. Oscar Johnson.

BY HIS ATTORNEY:

A. M. Carlsen.

UNITED STATES PATENT OFFICE.

JOHN OSCAR JOHNSON, OF BURTRUM, MINNESOTA.

WAGON-BOX AND HAY-RACK REMOVER.

983,285. Specification of Letters Patent. **Patented Feb. 7, 1911.**

Application filed May 26, 1909. Serial No. 498,588.

To all whom it may concern:

Be it known that I, JOHN OSCAR JOHNSON, a citizen of the United States, residing at Burtrum, in the county of Todd and State of Minnesota, have invented a new and useful Wagon-Box and Hay-Rack Remover, of which the following is a specification.

My invention relates to wagon-box removers and the object is to provide a light, handy and efficient device for quickly and easily lifting, removing and replacing wagon-boxes or hay-racks from the frame of the vehicle. This and other objects I attain by the novel construction and arrangement of parts illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of the device in operative position to a vehicle, and showing a wagon-box (in dotted lines) in elevated position. Fig. 2 is a top view of the left part of Fig. 1. Fig. 3 is a right hand end elevation of Fig. 1. Fig. 4 is a detail view of the traveling crane and adjacent parts in perspective. Fig. 5 is an enlarged and improved portion of the hoisting means to the left in Fig. 1. Fig. 6 is an enlarged sectional view on line *a*—*a* in Fig. 1.

Referring to the drawing by reference numerals, 1 and 2 designate overlapping sliding sections of an upright of which the section 2 is secured at its upper end to a horizontal frame consisting of two parallel bars 3, 3× and a lower toothed bar or rack 4. The other end of the horizontal frame is pivoted at 6 in the fork shaped top 16 of a prop composed of the forked member 15 and a crutch 18 in whose head 17 the member 15 is adjustably held by a set screw 17×.

The section 1 has a cross piece or base 7 at its bottom and braces 8 to give firmness to the posts.

The sections 1 and 2 are rabbeted (as seen in Figs. 1 and 6) so as to slide smoothly up and down the upper one on the lower one. The section 1 has guides 9 secured to it for the section 2 to slide in, and the latter section is provided with notches 10 adapted to be engaged by a clevis 11 pivoted at 12 near the upper end of the section 1.

A diagonal brace 13 is secured with one end to the upright and the other end to the horizontal frame to steady the device when in operation.

The toothed rack 4 is secured to the frame by brackets 14, which hold said rack parallel to the frame slightly below one of its bars as shown in Fig. 3, so as to be out of the way for the hoisting rope suspended between the bars, as will presently be fully described.

On the section 1 of the main upright is secured a frame 19, in which are mounted a cog pinion 20 meshing with a larger gear 21, having a drum 22 on its shaft 23. The shaft of the pinion has a square portion 24 outside its journals, said square being adapted for engagement by a dog 25 to lock the gears in any position. A crank 26 is also provided on said shaft for turning of it and the pinion.

A cable 27 is wound on the drum, extended upwardly and passed over a pulley 28 journaled in the end of the horizontal frame (see to the left in Fig. 1) and passed thence over a pulley 29 mounted in a frame or carriage 30, which is slidably mounted upon the frame 3 so as to be pulled to either place thereon by a hand rope 31 (see Fig. 4); said hand rope being attached to the carriage by a locking mechanism composed of two hangers 32 suspended from the carriage, a U-shaped lever 33 fulcrumed at 34 to the hangers and having its loop connected with the rope, and to its short arms pivoted at 35 the ends of a bail 36, which traverses the face of the rack 4, so as to engage the teeth of the rack and lock the carriage when the hand rope and lever 33 are pulled downward, and when the rope is pulled toward the prop 15—18 the bail becomes disengaged from the rack and the carriage may be pulled as far as desired toward the prop and then locked by pulling the plumb downward on the rope. 40 is an inwardly projecting finger on the lever 33 to prevent its swinging over a vertical position when pulled down, said finger touching upon the top of the rack 4 when said lever hangs plumb down and the finger is in its lowest position, slightly to one side of and lower than the fulcrum of the lever.

The hoisting cable 27 is provided at its working end with several arms, 37, each provided with a hook 38 (shown in dotted lines to the right in Fig. 1) which are adapted to engage the box or rack of wagons or other vehicles for lifting them off from the vehicle and replacing them thereon, as well as for unloading heavy articles by hoisting them up by the cable and hoisting mechanism explained, then driving the vehicle away and lowering the load upon hand trucks, wheelbarrows or other means for further trans-

portation where a team could not pass, or simply for unloading on the ground.

By means of the extensible uprights shown the device may be extended upward to let very high loads pass under it, and it may be lowered for more convenient transportation of it, and also for hoisting from sleighs or other low vehicles, boxes, racks and other articles, or in case of a wagon the entire wagon may be suspended while the wheels are removed for greasing the axles. The length of the upper horizontal frame and the traveling frame 30 enables the operator to remove a box or rack from two vehicles and replace them on other vehicles or exchange them on the same vehicles.

What I claim is:

1. In a device of the class described, the combination with a main and secondary support of a horizontal frame having one end rigidly fixed to the top of the main support and provided with a rope guiding sheave and its other end pivotally supported in the top of the other support, a traveling carriage mounted upon the horizontal frame and having a sheave, a hoisting device mounted on the main support, a cable wound by the hoisting device and passing over the sheave on the frame and the sheave on the carriage and thence downward and being provided at its end with means for engaging things to be hoisted, and means for locking the carriage at any desired place on the horizontal frame, said locking means consisting of a rack secured to the horizontal frame, hangers on the carriage, a lever pivoted to the hangers, a bail pivoted to the short ends of the lever and adapted to engage the rack when the long end of the lever is swung downward, and a rope suspended from the long end of said lever.

2. In a device of the class described, the combination with a main and secondary support of a horizontal frame having one end rigidly fixed to the top of the main support and provided with a rope-guiding sheave and its other end pivotally supported in the top of the other support, a traveling carriage mounted upon the horizontal frame and having a sheave, a hoisting device mounted on the main support, a cable wound by the hoisting device and passing over the sheave on the frame and the sheave of the carriage and thence downward and being provided at its end with means for engaging things to be hoisted, and means for locking the carriage at any desired place on the horizontal frame, said locking means consisting of a rack secured to the horizontal frame, hangers on the carriage, a lever pivoted to the hangers, a bail pivoted to the short ends of the lever and adapted to engage the rack when the long end of the lever is swung downward, and a rope suspended from the long end of the lever; said lever having an element in position to touch upon the upper side of the rack when the lever is in locking position.

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

J. OSCAR JOHNSON.

Witnesses:
E. N. Scott,
John Hill.