

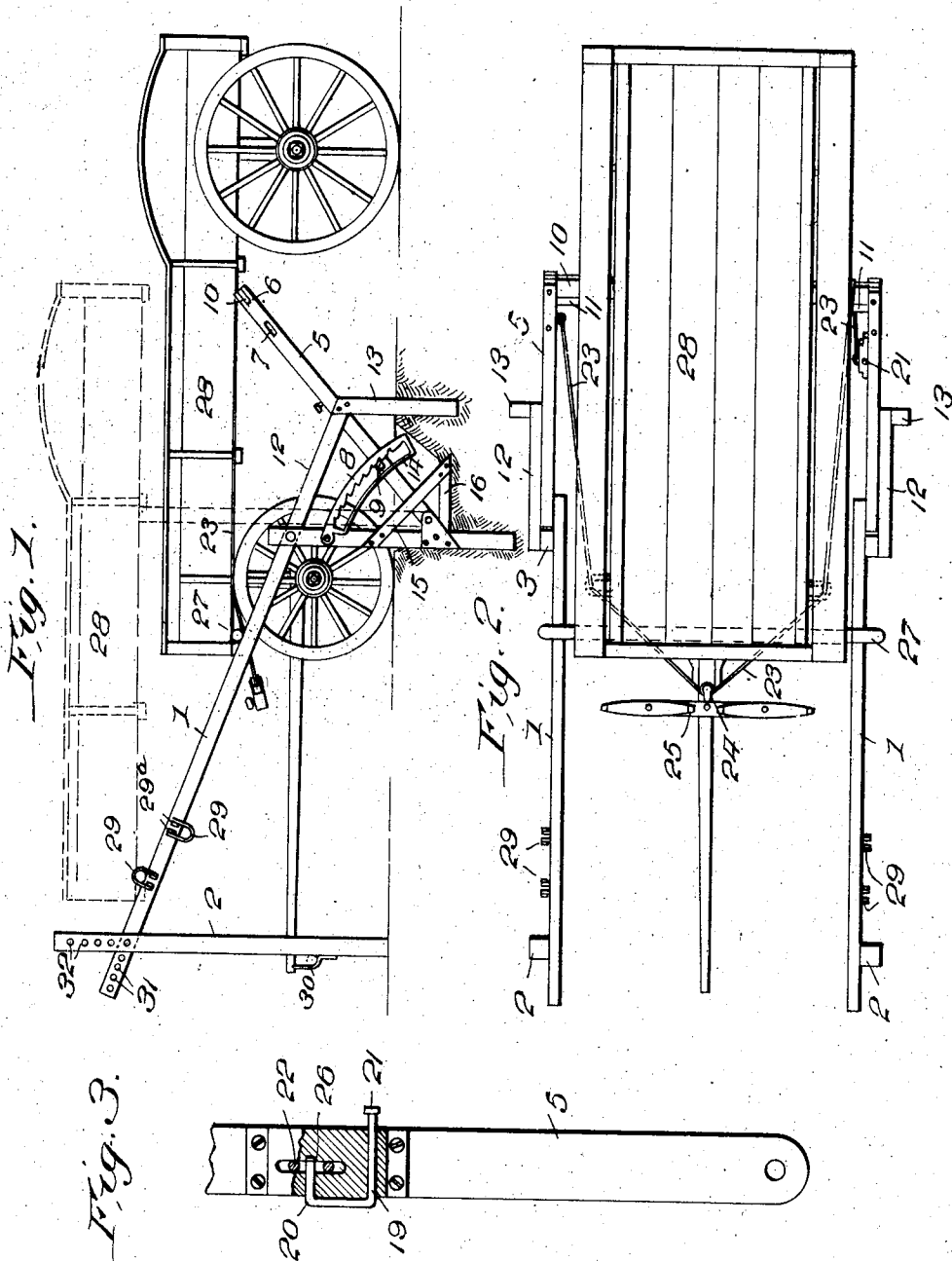
No. 834,381.

PATENTED OCT. 30, 1906.

J. HARTOGH.
LIFTING DEVICE.

APPLICATION FILED MAR. 7, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

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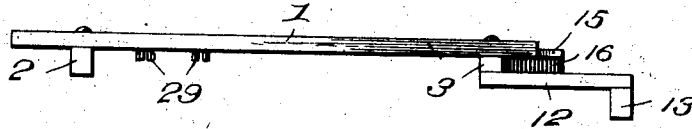
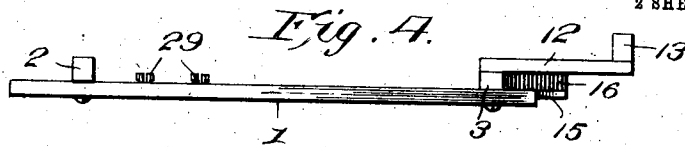
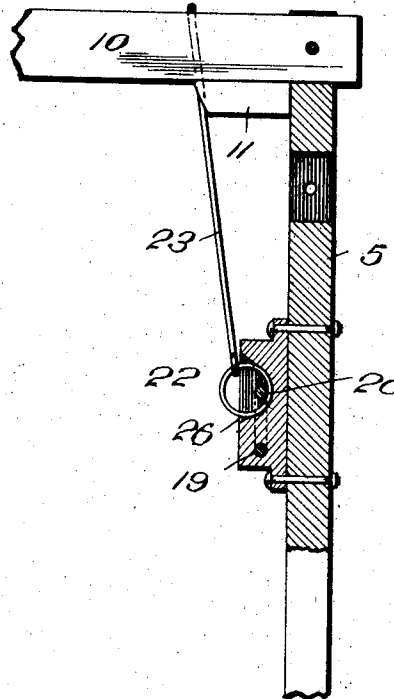
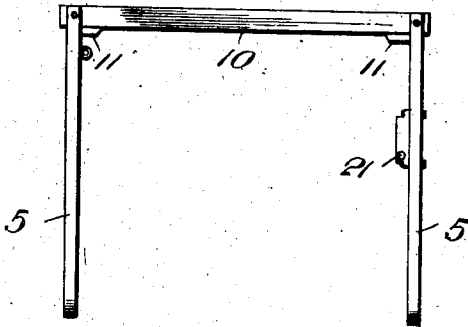


Fig. 5.

Fig. 6.



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JOHN HARTOGH, OF DOUGLAS TOWNSHIP, MITCHELL COUNTY, IOWA.

LIFTING DEVICE.

No. 834,381.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed March 7, 1906. Serial No. 304,795.

To all whom it may concern:

Be it known that I, JOHN HARTOGH, a citizen of the United States, residing in Douglas township, in the county of Mitchell and State of Iowa, have invented certain new and useful Improvements in Lifting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to lifting devices particularly adapted for raising hay-racks and wagon-bodies from the running-gear of vehicles and for lifting the body portions of sleds.

The object of the invention is to provide a simple and inexpensive device of this character which is formed of but few parts and which can be used to easily lift a rack or body and support it.

A still further object is to provide a lifting device which is adjustable for use in connection with vehicles of different sizes.

The invention consists of side rails which are inclined, and hoisting-levers are pivoted adjacent the lower ends of these rails and have means for locking them in any position to which they may be swung. These levers are connected by a detachable bar adapted to be placed under the rack or wagon-bed after the same has been drawn into contact with the rails, and by pulling forward on the levers the rack or body will be drawn upward on the rails and supported by them and the levers will be so held until it is desired to lower it.

The invention also consists in further novel construction and combination of parts hereinafter more fully described and claimed.

In the accompanying drawings I have shown the preferred form of my invention.

In said drawings, Figure 1 is a side elevation of my improved lifting device and showing a wagon in position therein, the body of the wagon being disclosed by dotted lines in raised position. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is an enlarged view, partly in section and partly in elevation, of the locking device used in connection with the draft appliance of the lifting device. Fig. 4 is a top plan view of my lifting device. Fig. 5 is an elevation of the lifting-levers removed from the device, and Fig. 6 is an enlarged detail sectional view of one of the lifting-levers and adjacent parts.

Referring to the figures by numerals of reference, 1 1 are parallel rails spaced apart a

distance slightly greater than the width of a vehicle and rack thereon, and these rails are supported at one end by long standards 2 and at their other ends by short standards 3, said rails being pivoted to the standards 3 and extending slightly beyond the same, while the opposite ends of said rails are adjustably secured to the standards 2. Pivoted to each of these standards 3 at a point below the ground is a lever 5, having a slot 6 in its upper end. Another slot 7 is formed in each of these levers 5 at a point below the upper end thereof, and a toothed arm 8 is pivoted to each standard 3 and normally rests by gravity on a lug 9, extending from the levers 5. The slots 6 are adapted to receive the ends of a cross-beam 10 when the lifting device is used in connection with a vehicle having a high rack or wagon-bed; but where the device is used in connection with a vehicle having its bed near the ground this beam 10 is adapted to be inserted into the slot 7. Blocks 11 are secured to the beam 10 adjacent each end thereof, said blocks abutting against the inner faces of the levers 5, whereby said levers are spaced a uniform distance apart and prevented from moving inwardly toward each other. The levers 5 are held from spreading apart by means of supplementary rails 12, said rails being secured at one end to the standards 3 and at their opposite ends to standards 13.

The movement of the levers 5 in one direction is limited by means of a rod 14, secured to or formed integral at each end with the toothed arm 8, whereby a way will be formed between the teeth on said arm and the rod in which the lug 9 travels, so that when the lug 9 has reached the outer end of the arm 8 the lug will contact with the vertical portion of the rod 14 and prevent said levers from being moved farther downward. Notches are cut into the standards 3 a short distance below the surface of the ground, into which is secured one end of a brace member 15, the outer end of said member being held in position by strips 16, said strips being secured at one end to the standards and at their opposite ends to the free end of the bracing members 15, said strips and braces forming seats for the lower ends of the levers 5. One of the levers 5 is provided with a releasing device comprising a rod 19, having a hooked end 20 and a head 21 at its opposite end. The rod 19 passes entirely through the lever 5, while the hooked end thereof passes partly

through, said hooked end being designed to engage a ring 22, secured to one end of a rope or cable 23, which extends around the pulley 24, said pulley being carried by a doubletree 25. The other end of the cable 23 is fastened to the other lever 5.

As best shown in Fig. 3 of the drawings, the hooked end 20 of the rod 19 passes centrally through the opening 26 in the lever 5, so that when the ring 22 is inserted in said opening and the rod 19 moved longitudinally through the lever 5 the hooked end 20 will pass through said ring and hold the same until released.

In using the apparatus herein described the vehicle is placed in position for the rack or bed thereon to be engaged and operated, and when so placed the levers 5 are swung downward as far as they will go and the cross-bar 10 placed therein, said bar being disposed beneath the rack or bed, as shown in Fig. 1 of the drawings. A pole 27 is then inserted beneath the front end of the rack or bed, said pole being of sufficient length to engage the side rails 1 and is held in position thereunder by means of blocks or the like (not shown) on the under side of the rack. The ring 22, secured to the cable 23, is then placed into engagement with the lever 5 and the doubletree 25 secured to the pulley 24, and when a forward pull is made upon said doubletree the rack 28 will be moved upwardly on the rails 1 and the rear end thereof elevated by the levers 5 until the same has assumed the position shown in dotted lines in Fig. 1. When the levers 5 have reached a vertical position, the head 21 of the rod 19 is directed into contact with the standard 3 and the bolt 19 forced longitudinally through said lever, thereby disengaging the hooked end 20 from the ring 22, and thereby stopping the upward movement of the rack 28. As the levers 5 swing upward the arms 8 will slip over the lugs 9 and retain said levers in their adjusted position until such time as it is desired to lower them again.

To more securely hold the rack 28 in its elevated position, I have provided clevises 29, said clevises being pivotally secured to eyebolts 29^a or the like, which take into the outer faces of the rails 1, said clevises being so located that when they are swung up they will take over the projecting ends of the pole 27, properly located between the rack and rails. When the pole is removed from the clevises, they will normally swing downwardly and out of the road when the rack is being slipped upwardly on the rails 1. When it is desired to replace the rack or bed upon the vehicle, the pole 27 is removed from under the front end of said rack and that end of the rack lowered onto the front bolster of the vehicle, and, if desired, a rope can then be secured to the front end of the rack and wrapped one or more times around

the pole 27, said pole having been deposited in brackets 30 on the standards 2, the outer faces of said standards serving as bearings for the pole. The arms 8 are then released from the lugs 9 and the vehicle shoved rearwardly until the levers 5 have been lowered a sufficient distance to rest the rack 28 on the rear bolster of the vehicle. The rope secured to the front end of the rack and around the pole 27 regulates the descent of the rack. By providing the rails 1 with a series of holes 31 and the standards 2 with a series of holes 32 the said rails 1 may be raised or lowered and adjusted to suit the height of the vehicle. By having the pivoted end of the rails 1 projecting slightly beyond the standards 3 it will be seen that when the levers 5 are elevated they will be disposed between said projecting ends and the supplementary rails 12, whereby said levers will be held against lateral movement.

What I claim is—

1. The combination with parallel inclined rails; of levers pivoted adjacent the lower ends of the rails, and a detachable cross-bar mounted within the levers.
2. The combination with parallel inclined rails; of levers pivoted adjacent the lower ends of the rails and a cross-bar adjustably and detachably mounted within the levers.
3. The combination with parallel inclined adjustable rails; of levers pivoted below the rails and a cross-bar detachably and adjustably mounted within the levers.
4. The combination with parallel inclined rails; of levers pivoted adjacent the lower ends of the rails, a cross-bar detachably and adjustably mounted within the levers and means for automatically locking the levers against downward movement.
5. The combination with parallel inclined rails; of levers pivoted adjacent the lower ends of the rails, a cross-bar detachably and adjustably mounted within the levers, means for automatically locking the levers against downward movement and guides for the levers.
6. The combination with parallel inclined adjustable rails; of standards supporting said rails, levers pivoted to one set of said standards and a cross-bar detachably and adjustably mounted within and connecting the levers.
7. The combination with parallel adjustable rails having guides adjacent thereto; of standards supporting said rails, levers pivoted to one set of standards and in juxtaposition to the guides, a cross-bar detachably and adjustably mounted within and connecting the levers and a gravity-operated lock for preventing movement of the levers and cross-bar in one direction.
8. The combination with parallel inclined rails having guides adjacent thereto; of standards supporting said rails, levers pivot-

ed to one set of standards and in juxtaposition to the guides, a cross-bar detachably mounted within and connected to the levers, toothed arms pivoted to one set of standards and means upon the levers adapted to be engaged by the teeth to prevent movement of the levers in one direction.

9. The combination with parallel inclined pivoted rails; of levers pivoted below the rails, a cross-bar adjustably and removably connected to the levers, means for locking the levers and cross-bar against movement in one direction and draft appliances connected to the levers.

10. The combination with parallel inclined pivoted rails; of levers pivoted below the rails, a cross-bar adjustably and removably connected to the levers, means for locking the levers and cross-bar against movement in one direction, draft appliances connected to the levers and means for automatically detaching said appliances from the levers.

11. The combination with parallel inclined pivoted rails and means for holding the rails against movement; of levers pivoted below the rails, a cross-bar detachably and adjustably mounted within the levers, means for locking the levers and bar against movement in one direction, draft appliances, a flexible connection between said appliances and the levers and a lock for securing said connection at one end to one of the levers.

12. The combination with parallel inclined pivoted rails and means for holding the

rails against movement; of levers pivoted below the rails, a cross-bar detachably and adjustably mounted within the levers, means for locking the levers and bar against movement in one direction, draft appliances, a flexible connection between said appliances and the levers, a lock for securing said connection at one end to one of the levers, and means for automatically releasing the lock when the levers assume a predetermined position.

13. The combination with standards; of rails pivotally connected adjacent one end to one pair of standards and adjustably connected at their other ends to another pair of standards, levers pivoted below the pivoted ends of the rails and a detachable cross-bar mounted within the levers.

14. The combination with standards; of rails pivoted adjacent one end to one pair of standards and adjustably secured at their other ends to another pair of standards, levers pivoted below the pivots of the rails, a cross-bar adjustably mounted within the levers, guides for said levers and means for securing the levers against movement in one direction.

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

JOHN HARTOGH.

Witnesses:

PETER LENCE,
C. E. GALLAGHER.