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WAGON BOX LIFTER OR BACK JACK.

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2 SHEETS—SHEET 1.

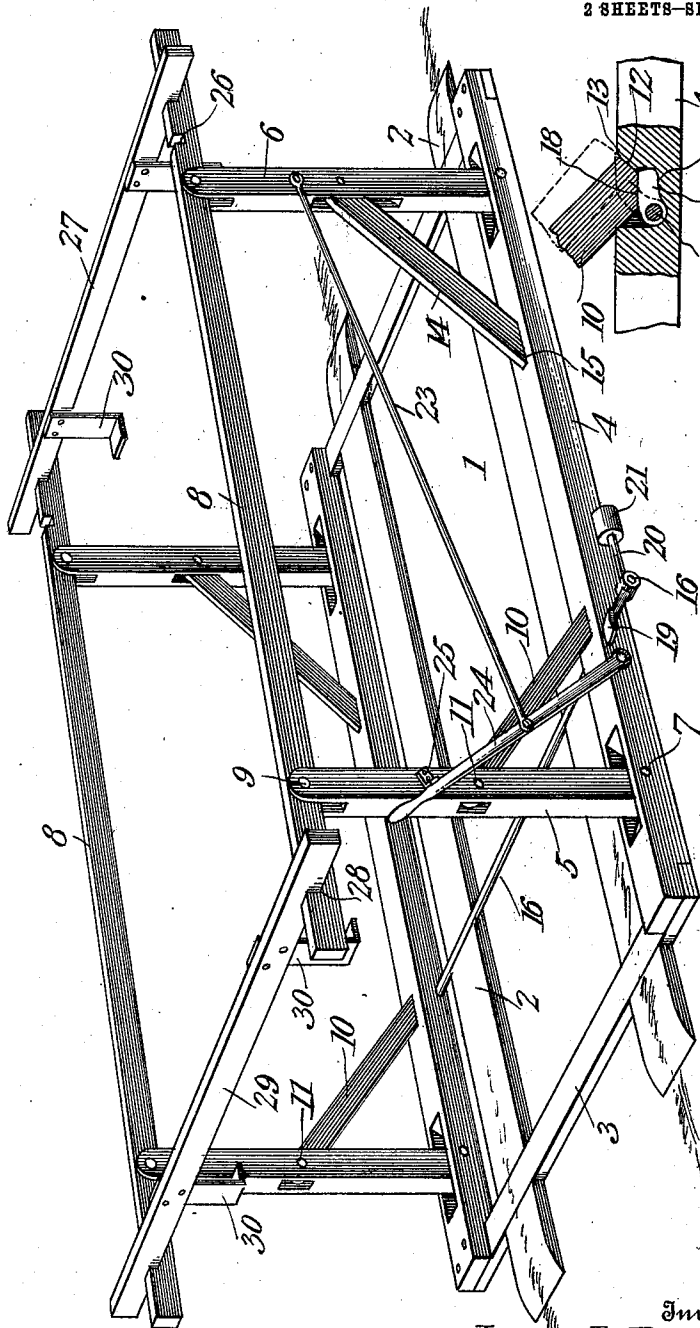


Fig. 1.

Fig. 4.

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WAGON-BOX LIFTER OR RACK-JACK.

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To all whom it may concern:

Be it known that we, JAMES L. PEPPER and ARTHUR V. MIKALSON, citizens of the United States of America, residing at Kalispell and Eureka, respectively, in the counties of Flathead and Lincoln, respectively, and State of Montana, have invented new and useful Improvements in Wagon-Box Lifters or Rack-Jacks, of which the following is a specification.

This invention relates to wagon box lifters or rack jacks, the object of the invention being to provide apparatus of this character employing mechanism designed to elevate the wagon box from the bolsters and running gear of the wagon so that such wagon can be conveniently and quickly converted from one of box form to one of rack form.

Another object of the invention is to provide mechanism wherein the elevating element thereof is movable to elevate the box on forward movement of the wagon, means being employed whereby such elevating element will be held against movement past a predetermined point, such means being designed to hold the elevating element in a position whereby the box will be held on the element in a position to receive the wagon when it is desired to again place the box onto such wagon.

In the drawings, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a perspective view of the wagon box lifter or jack. Fig. 2 is a side elevation thereof showing the wagon on the jack and illustrating the position of the box with respect to the elevating element of the jack, the box being in its lowered position. Fig. 3 is a view similar to Fig. 2 showing the box in its elevated position. Fig. 4 is a sectional elevation through a portion of the jack showing the releasing mechanism for the movable frame.

The invention, as illustrated in the accompanying drawings, is designed particularly for use on farms where it is desired to instantly change a wagon from one of the box-like structure to one of rack form. This structure as designed preferably consists of a main-supporting frame 1 which consists preferably of a pair of suitably spaced parallel rail-like members 2 which are connected with each other by suitable transverse braces 3. At the sides of the rail-

like members 2 are longitudinal supports 4 each of which having mounted thereon a front standard 5 and a rear standard 6. These standards are movably mounted on the supports 4 preferably by pivoting them at their lower ends, as shown at 7.

The standards 5 and 6 on the respective side supports 4 are forked at their upper ends and between the arms of such forked portions extend the side rails 8, such rails being pivoted between the arms of the forks of the standards, as shown at 9. Stops 10 are pivoted, as shown at 11, to the front standards 5 and when the standards are in positions shown in Figs. 1 and 3, such stops have their lower ends extended into recesses 12 in the supports 4. The recesses are of such construction that they form stop shoulders for receiving the edge portions 13 of the stops to hold the stops against movement toward the standards 6.

The standards 6 are provided with stops 14 which are similar to the stops 10, their lower ends being designed to engage in recesses 15 in the supports 4 to hold the standards 6 against movement toward the standards 5 when such standards 6 are vertically disposed. Releasing mechanism is carried by the side members 4. This mechanism consists preferably of a rock shaft 16 whose ends are mounted in the supports 4 and extend through the walls of the recesses 12 therein, the said shaft being provided with releasing fingers 17 of substantially cam structure which are designed to engage beneath the faces 18 of the stops 10 when the standards 5 are in their vertical positions. The shaft has one of its ends extended beyond one of the supports, this end being provided with a suitable foot treadle 19 and with an arm 20 on which latter is a weight 21 whose office is to hold the fingers 17 against the shoulders 22 of the recesses 12. The rear standard 6 on one of the supports 4 has pivoted thereto one extremity of a connecting rod 23, the opposite extremity of such rod being connected with a controlling lever 24 on the support 4. This controlling lever is designed to engage a suitable keeper 25 when the standards 5 and 6 are in their vertical positions.

From the construction described it will be seen that the standards 5 and 6 and the side rails 8 which are supported thereby form in their entirety a movable frame, the said

rails 8 being disposed in parallel relation with respect to the supports 4 and immediately thereabove. The side rails 8 at points beyond the standards 6 are formed in their upper edges to provide a series of notches 26 in which the cross bar 27 is interchangeably adjustable. The said rails 8 at points beyond the standards 5 are formed with notches 28 which are designed to receive the cross bar 29. The cross bars 27 and 29 respectively support depending hook-like members 30.

In operation of the structure hereinbefore described when it is desired to remove the box from the wagon the wagon which is conventionally shown in Figs. 2 and 3 is run onto the side members 2 of the frame 1, it being understood that the cross bars 27 and 29 have been previously detached from the companion rails 8 of the movable frame. After the wagon has been properly associated with the frame 1 and the length of the box has been obtained the cross bars 27 and 29 are operatively associated with the rails 8 so that the hook-like members 30 are engaged directly beneath the box. In movement of the wagon in direction of the arrow A in Fig. 2 of the drawings, the standards 5 and 6 will be moved to their vertical positions and in such movements the movable frame will be disposed at a distance with respect to the main frame sufficiently to elevate the box moving the same vertically from between the side standards B until the bottom of the body is disposed directly across the tops of such standards. The operator then moves the wagon from the structure and it may be changed conveniently to suit the occasion, in lieu of the box the wagon may be provided with the usual farm rack for the transportation of hay or the like as will be understood. When the box is in the elevated position as shown in Fig. 3, the stops 10 and 14 will be operatively engaged in their respective recesses and the movable frame will be effectively held against any possible movement. When it is desired to place the box back onto the wagon the latter is moved onto the frame 1 to a position where the trucks will be disposed immediately beneath the box, after which the shaft 16 is rotated by pressure of the foot against the treadle 19 to cause the actuating fingers 17 of the shaft to bear against the shoulders 18 of the stops 10. On rotation of the shaft to effect the movement just described the stops will be released from the recesses in the supports 4, and under weight of the wagon

body on the movable frame, said body will be effectively moved onto the wagon as is obvious.

While it has been described that the apparatus as designed is particularly desirable for use where it is proposed to temporarily disengage the body of the wagon from the running gear it will of course obviously appear that the structure is capable of temporarily supporting racks or similar such frame-like structures which are removably engaged with the wagon, thereby affording means whereby an ordinary wagon can be instantly changed to one of the desired type for various farm or other purposes.

We claim:—

1. A wagon box lifter comprising a fixed main frame, a movable lifting frame, relatively movable lifting elements on the movable frame, a rock shaft, a locking element on the movable frame, the said main frame having a recess therein for receiving one end of the said locking element so as to hold the movable frame against movement in one direction, and a releasing element carried by the rock shaft and disposed immediately beneath the locking element and operable to move the element to released position.

2. A wagon box lifter comprising a fixed main frame, a movable lifting frame, relatively movable lifting elements on the movable frame, a rock shaft, a locking element on the movable frame, the said main frame having a recess therein for receiving one end of the said locking element so as to hold the movable frame against movement in one direction, a releasing element carried by the rock shaft and disposed immediately beneath the locking element and operable to move the element to released position, a rock lever on the fixed frame, connecting means between the rock lever and the movable frame, and means on the movable frame engaging the rock lever to hold the movable frame in its adjusted position.

In testimony whereof we affix our signatures in presence of two witnesses.

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