

(No Model.)

O. H. DRINKWATER.
WAGON BED LIFTING APPARATUS.

No. 530,168.

Patented Dec. 4, 1894.

Fig. 1.

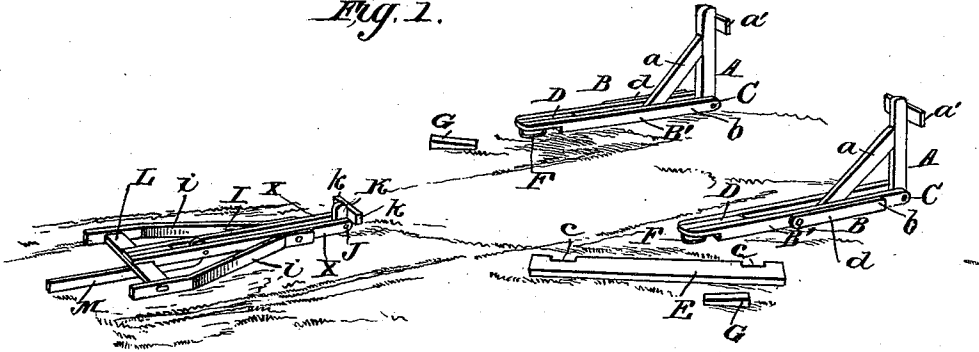


Fig. 2.

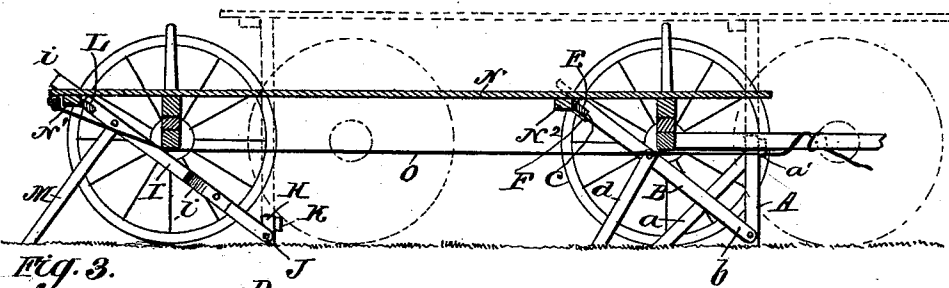


Fig. 3.

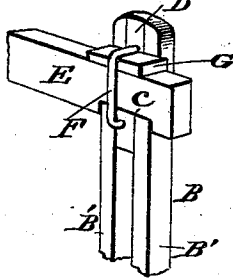
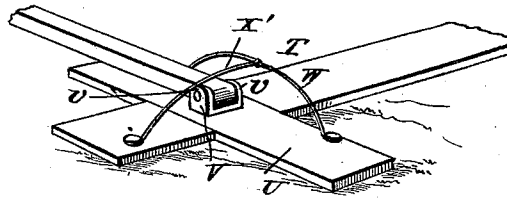


Fig. 4.



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WAGON-BED-LIFTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 530,168, dated December 4, 1894.

Application filed March 8, 1894. Serial No. 502,857. (No model.)

To all whom it may concern:

Be it known that I, ORLO H. DRINKWATER, residing at Cedar Point, in the county of Chase and State of Kansas, have invented a new and Improved Wagon-Bed-Lifting Apparatus, of which the following is a specification.

My invention relates to an improved means for lifting heavy wagon beds or hay racks from the wagon gear onto a frame, from which they may be again placed upon the wagon gear, without the necessity of manual labor; and such invention has principally, for its object to provide an apparatus of this kind very simple and inexpensive in construction, which can be easily manipulated, in which the entire lifting operation, will be effected by the team drawing the wagon, and which will effectively serve for its intended purpose.

The invention consists in such peculiar combination and novel arrangement of parts, all of which will hereinafter be first specifically set out in the description and then be pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved apparatus, the parts being at their lowered position. Fig. 2 is a longitudinal section of the same, with a wagon in position, the bed or body being shown elevated in dotted lines. Fig. 3 is a detail view of one end of the swinging lift bar, and Fig. 4 is a view of a modified construction hereinafter referred to.

In its practical application my improved apparatus may be formed of a portable main supporting frame, whereby it can be set up at different points on the farm, but for the sake of economy and simplicity I prefer to make such main frame a fixed one.

In the construction shown in Figs. 1, 2, and 3, the main or supporting frame consists of a pair of uprights A, A, having rearwardly extending brace bars *a*—*a*, and transverse stop portions *a'*—*a'* the ends of which project laterally, for a purpose presently described, such uprights being in practice of a height about equal that of the wagon body, and spaced apart to permit of the wagon gear passing between them.

B B indicate the front lifter arms, which in practice may consist each of a single member

or a pair of members formed of two by four timbers B', preferably six feet long, the ends *b* of which straddle the uprights A and are pivotally connected to their lower ends by the bolts C.

The upper ends of the timbers B', are held spaced apart by the blocks D, and have their upper ends projected beyond a transverse lifter beam E, which connects the opposite lifters B, and is in turn detachably connected at its ends with such lifters by the notched portions *c*, the staples F and wedges G as most clearly shown in Fig. 3. Short braces *d* are pivotally connected to the said front lifter arms to hold them in position until the team is started.

At a point to the rear of the uprights A and disposed centrally thereof, is a short upright or post H, to which is pivoted a rear lifter I, by means of the pivot bolt J which passes through the lower end of such lifter and through the post H, which post, has at its front face a transverse piece K the ends *k* of which project and form stops to limit the upward swing of the said rear lifter H.

At the upper end the lifter I has on its rear upper edge a transverse pusher member L, which is braced to the lifter I by braces *i* which extend two inches above the bar and form side guides for the wagon body, and at its rear it has a brace bar M pivoted to the rear thereof or between the bars X forming lifter I as most clearly shown in Fig. 2.

So far as described it will be seen that when the several parts are in the position shown in Fig. 1, the wagon can conveniently pass over the front and rear lifters and between the uprights A, A, the lifter beam E, at this time being removed and placed in position over the coupling pole, after the wagon has been placed in position, the wagon being brought to a stop when its front truck comes about in line with the uprights A.

It will be noticed by referring to Fig. 2, that the wagon body or hay rack, indicated by N, which is loosely held on the wagon gearing in the usual manner, is disposed over the front and rear uprights, and such body has secured to its rear end a chain or cord O, which passes under the axle, extends over and is wound about the tongue or hounds, and

has its free end projected to within convenient reach of the driver.

If desired the chain or cord may be fastened to the pivoted brace instead of the wagon body, by means of a staple or ring, and the bed secured to the rear pusher with strap or chain or cord passed around end of cleat or bed.

After a wagon has been drawn to a proper position (see Fig. 2) the team is stopped. The rear lifter is then swung up until its cross or pusher bar L engages the front edge of the rear cross bar N' of the wagon body, and held there by adjusting the pivoted brace. The front lifter is then swung up against the front edge of the cross bar N² behind the front wheels. The driver then pulls on the cord (which holds its free end tight on the wagon frame) and then starts the team. Now as the team starts the draft will be applied to the cord, which owing to its connection with the wagon body will have a tendency to pull it forward. It will thus be readily seen, that as the body or rack is pulled on, it will cause the lifters to swing until they reach their vertical position, they being held from going farther by the stops on the uprights, before referred to, and as such lifters rise they will at the same time lift the body. After the body is thus lifted to its highest point, it is held by passing a pin through the front lifter and the front upright. The driver then releases the cord and allows the team to proceed, to move the wagon truck from under the body or rack which body is held from slipping off during the lifting operation by the extensions of the braces *i* before referred to.

In Fig. 4 I have shown a modified arrangement, of the several parts which consist of front portions of a long cross beam T, and short longitudinal beams U. At the meeting point of such beams T and U are secured blocks of wood or castings V having ears *v*, to which the front lifters are pivotally connected, the short bars having longitudinal arched brace rods W, to which centrally are connected stay rods X' the outer ends of which are bolted to the ends of the long

beam or can be secured in the ground by stakes, such rods also forming stops to limit the front or vertical swing of the lifters.

The rear lifters in the modified form are similarly constructed, the beams being in this case of the same length as shown.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An apparatus for the purposes described, comprising a pair of front supports, and a rear support disposed in a line centrally of the front supports, swinging lift members pivoted to such supports, the rear one having a swinging back brace, substantially as shown and for the purposes described.

2. A lifting apparatus for the purposes stated, comprising fixed front and rear supports having stops at one side, lifting arms provided each with a cross bar at their outer ends and pivotally connected with the supports at their inner ends and the swinging braces *d* and M adapted to automatically swing into position to hold the lifter arms to an elevated position when set to be engaged by the wagon body, as set forth.

3. A wagon body lifting means, comprising a pair of front swinging arms, a rear swinging member, disposed centrally of the front members said members adapted to swing normally to a horizontal position, their free ends having transverse bearing faces adapted to engage the front edges of the cross bars on the bottom of the wagon body and be swung forward as such body is moved forward and thereby elevate such body as set forth.

4. In a lifting machine substantially as described, the combination with a pair of supports or uprights, and the swinging arms pivoted to such uprights, said arms having staples in their upper ends, of a transverse lifting beam having its ends fitted in such staples, and the wedge devices for locking the ends in the said staples all arranged substantially as shown and described.

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