

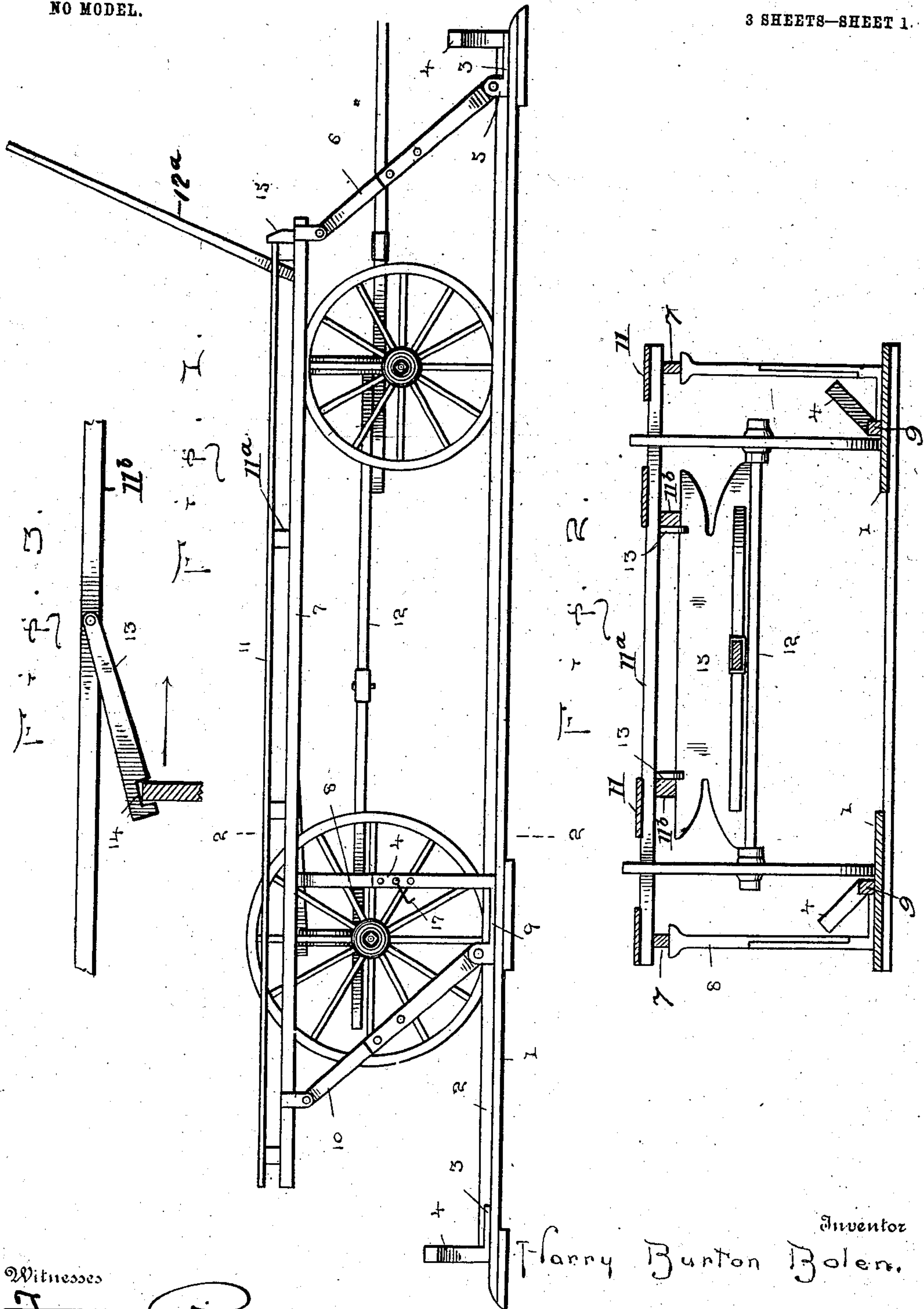
No. 725,400.

PATENTED APR. 14, 1903.

H. B. BOLEN.
WAGON BODY LIFTER.
APPLICATION FILED NOV. 28, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

Chas. S. Hoyer.

Say

Inventor
Harry Burton Bolen.
Attorney
Victor J. Evans

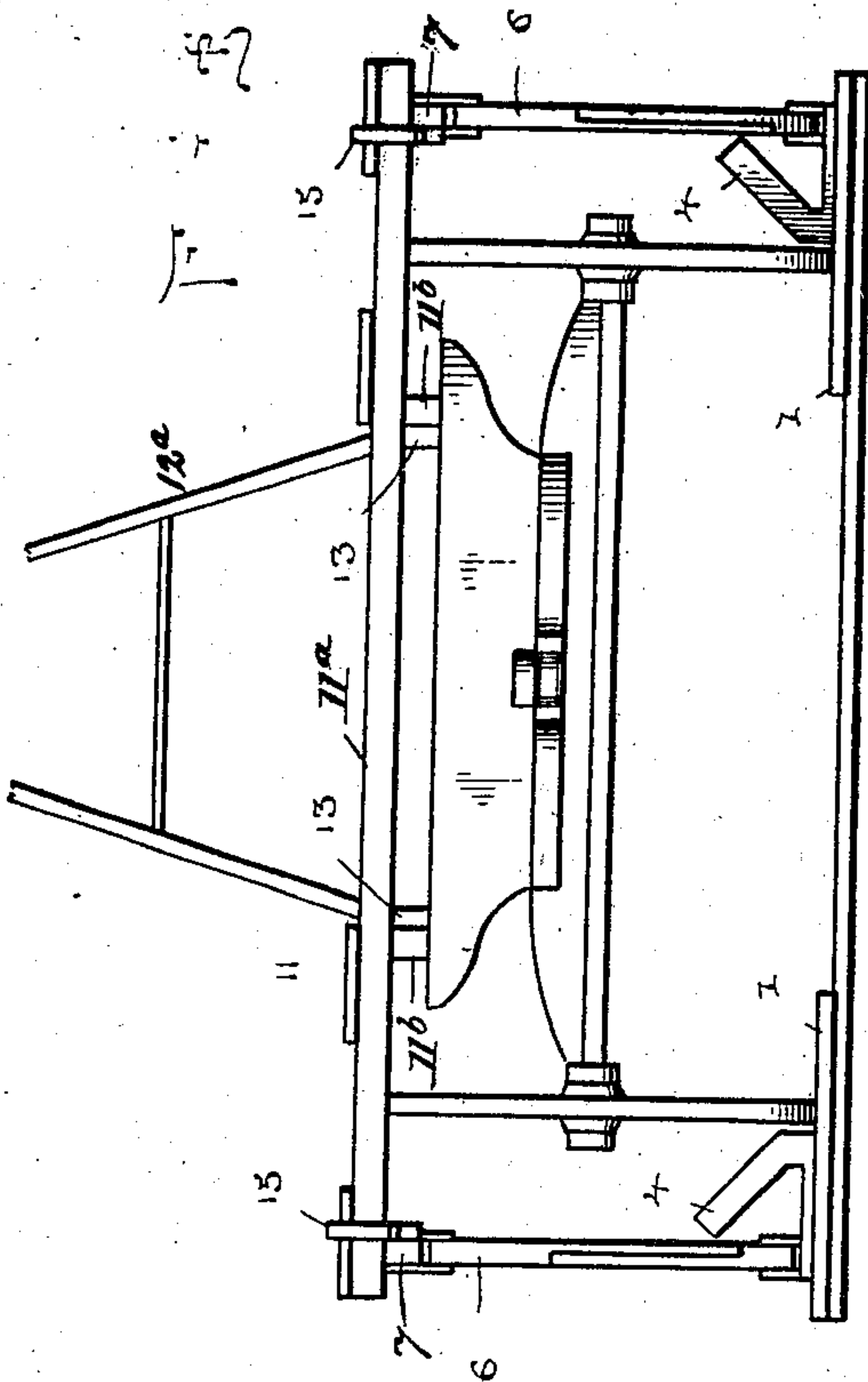
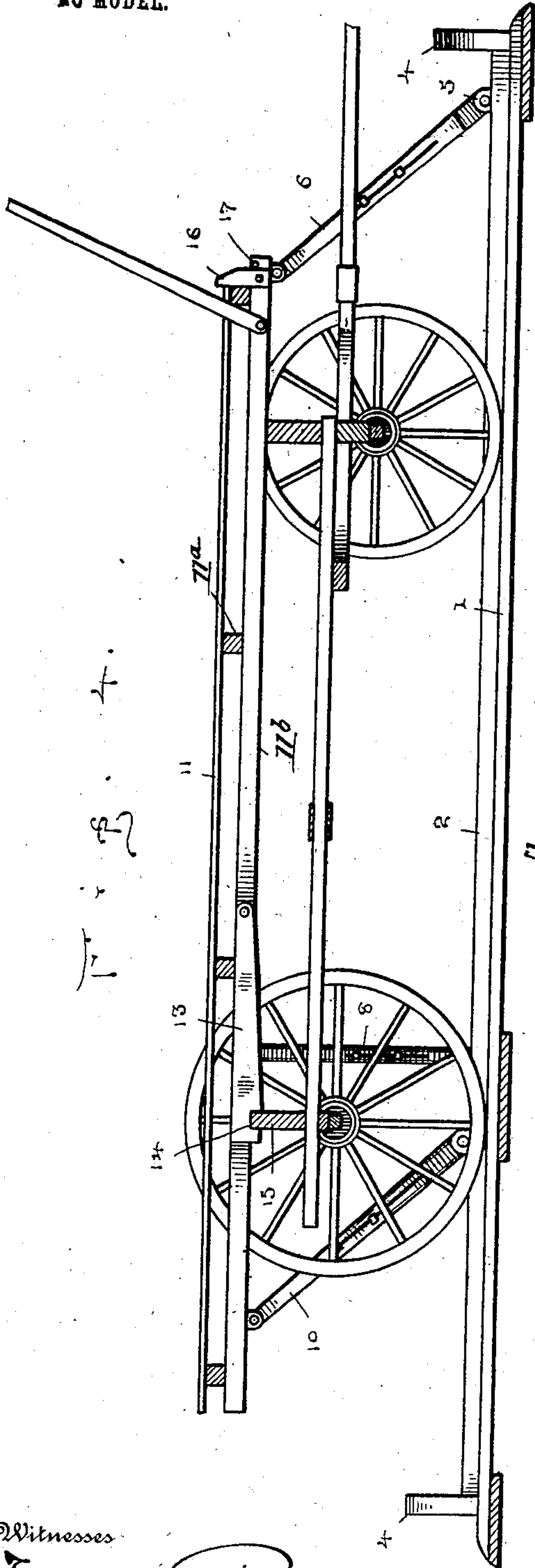
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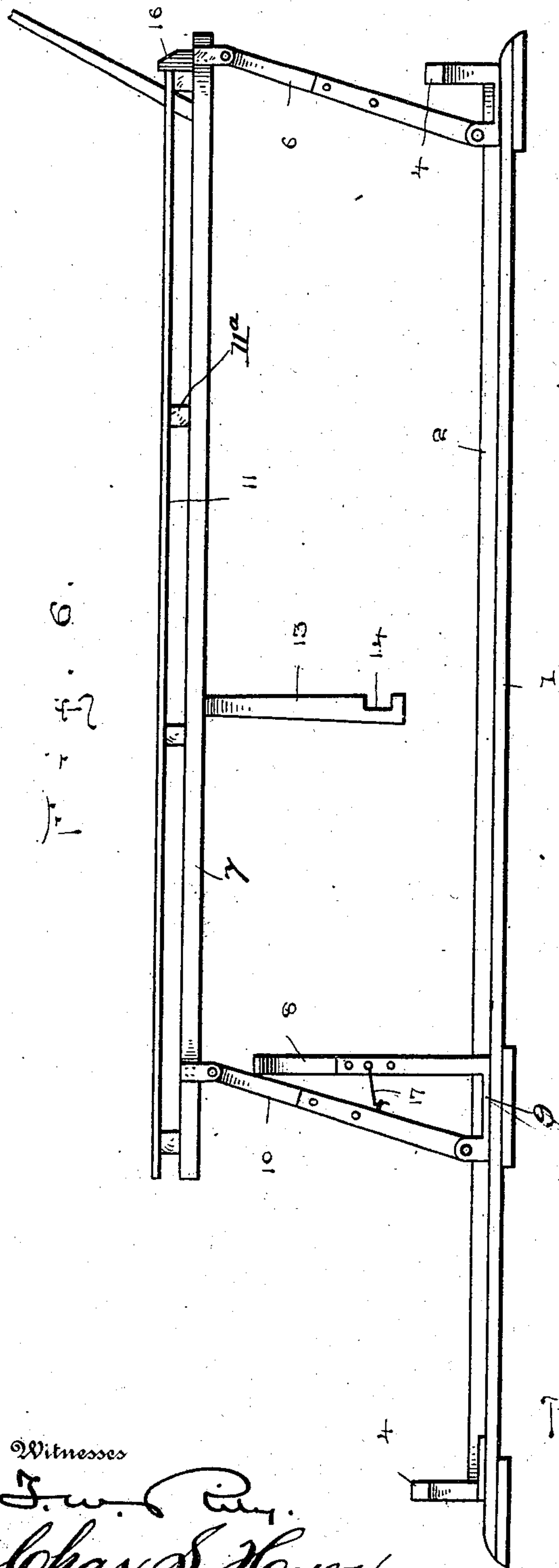
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3 SHEETS--SHEET 3.



UNITED STATES PATENT OFFICE.

HARRY B. BOLEN, OF COLLEGE SPRINGS, IOWA, ASSIGNOR OF ONE-HALF
TO JOSEPH STANTON AND MILO STANTON, OF COLLEGE SPRINGS,
IOWA.

WAGON-BODY LIFTER.

SPECIFICATION forming part of Letters Patent No. 725,400, dated April 14, 1903.

Application filed November 28, 1902. Serial No. 133,157. (No model.)

To all whom it may concern:

Be it known that I, HARRY B. BOLEN, a citizen of the United States, residing at College Springs, in the county of Page and State of Iowa, have invented new and useful Improvements in Wagon-Body Lifters, of which the following is a specification.

My invention relates to new and useful improvements in apparatus for lifting wagon-bodies, and it is more especially adapted for loading or unloading hay-racks upon or from the running-gear of a wagon.

The object of the invention is to provide a simple and inexpensive apparatus which is adjustable vertically to wagons of different sizes and which is so constructed that the wagon may be drawn through the same and the rack removed therefrom without stopping the vehicle. Another object is to employ means for guiding the vehicle to the proper position within the apparatus.

With the above and other objects in view the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a side elevation of the apparatus, showing a hay-wagon therein and the rack thereon in position to be raised. Fig. 2 is a section on line 2 2, Fig. 1. Fig. 3 is a detail view of an operating-latch in engagement with a bolster. Fig. 4 is a central vertical longitudinal section through the apparatus and wagon, showing the parts in the positions disclosed in Fig. 1. Fig. 5 is a rear elevation of the apparatus and wagon. Fig. 6 is a view of the apparatus in raised position and showing the rack thereon. Fig. 7 is a detail view of a supporting-standard and hoisting-arm. Fig. 8 is a similar view of a centering-bar and hoisting-arm.

Referring to the figures by numerals of reference, 1 is the base of the apparatus and may be either the floor of a shed or other structure or a platform suitably located. Parallel rails 2 are secured thereon, and at each end of each rail is secured a casting 3, having an outwardly-inclined arm 4. The two

castings at the front ends of the rails are also provided with ears 5, between which are pivoted the ends of adjustable arms 6, extending upward and pivoted to the front ends of parallel side bars 7 of the lifting-frame. These bars are normally supported upon adjustable standards 8, extending upward from base-plates 9, to which are pivoted the lower ends of rear hoisting-arms 10. These arms are also pivoted to the bars 7 and are arranged parallel to arms 6.

The arms 6 and 10 are all made adjustable in any desired manner. In the drawings I have shown them constructed in sections with overlapping ends provided with series of apertures for the reception of securing-bolts.

An ordinary hay-rack—such as is formed of slats 11, cross-strips 11^a, longitudinally-extending beams 11^b, and an end fork 12^a—may be raised or lowered from a vehicle 12 by this device. It is necessary, however, for the sides thereof to extend over and beyond the wheels of the wagon, and latches 13 must be pivoted to the beams 11^b of the rack. These latches are provided in opposite edges with notches or recesses 14, adapted to engage a bolster 15 of the wagon and hold the rack normally secured to the vehicle.

At the front end of each side bar 7 of the frame is arranged a pivoted dog 16, capable of being pressed backward and downward, but which is held by means of a shoulder 17 in a vertical position when forward pressure is exerted thereagainst.

In use the supports 8 and arms 6 and 10 are adjusted to bring the bars 7 into such a position as to permit the rack on a wagon to pass thereover. The wagon is then driven into the apparatus from the rear end, and the bars 7 direct it between the rails 2. As the wagon continues to move forward the end of the rack is brought into contact with the dogs 16, and as the latches 13 prevent the rack from slipping off the wagon the bars 7 are pressed forward therewith. Arms 6 and 10 will at the same time swing to vertical positions, thereby raising the bars 7 and the rack thereon, and the limit of such movement is reached when the arms 10 are brought against the standards 8. (See Fig. 6.) The latches 13

become disengaged from the bolster 15 after the rack has been lifted to its highest point, and the wagon then passes out of the front of the apparatus without having stopped once
5 during the operation.

The impetus obtained by driving into the apparatus reduces to the minimum the strain upon the draft-animals during the first stage of the hoisting operation.

10 It is obvious that the rack can also be raised by first backing the wagon into the front end of the apparatus until the dogs 16 are cleared and then drawing the vehicle forward, as before described.

15 To load the rack upon a wagon, the vehicle is backed into the front end of the apparatus while in the position shown in Fig. 6, and the latch 13 immediately engages the rear bolster and forces the rack and the hoisting-frame backward and downward, depositing the latter upon the supports or standards 8 and the rack upon the vehicle. The backing of the wagon can be continued until the same passes out through the rear of the ap-
20 paratus, or, if desired, the dogs 16 can be pressed down and the wagon drawn forward from the device.

Hooks 17 or other securing means may be employed for locking the arms 10 to the sup-
30 ports 8 when the bars 7 are raised.

In the foregoing description I have shown the preferred form of my invention; but I do not desire to limit myself thereto, as I am aware that modifications may be made there-
35 in without sacrificing any of the advantages thereof, and I therefore reserve the right to make all such changes as fairly fall within the scope of my invention.

Having thus fully described the invention,
40 what is claimed as new is--

1. In an apparatus of the character de-
scribed, the combination with a base and an adjustable standard thereon, of a bar nor-
45 mally supported upon the standard, adjust-
able hoisting-arms pivoted to the base and bar and means upon the bar adapted to be engaged by a wagon-frame.

2. In an apparatus of the character de-

scribed, the combination with a base having parallel rails thereon and centering-bars at
5 the ends thereof, of a standard, a horizontal bar normally bearing thereon, hoisting-arms pivoted to said bar and the base and means upon the bar adapted to be engaged by a wagon-frame.
55

3. In an apparatus of the character de-
scribed, the combination with a base having parallel rails and centering-bars at the ends
thereof, of an adjustable standard, a hori-
60 zontal bar normally resting thereon, parallel
adjustable arms pivoted to said bar and the base and means upon the bar adapted to be engaged by a wagon-frame.

4. In an apparatus of the character de-
scribed, the combination with a base having
65 parallel rails and centering-bars at the ends thereof, of adjustable standards, parallel
horizontal bars normally resting thereon, dogs pivoted to the bars, and parallel adjustable
lifting-arms pivoted to said horizontal bars
70 and to the base.

5. The combination with a vehicle having a rack thereon and a notched latch pivoted to the rack and engaging the vehicle, of hori-
75 zontal bars, dogs thereon adapted to be en-
gaged by the rack, a base, adjustable stand-
ards upon the base for normally supporting the bars, and normally inclined, parallel, ad-
justable arms pivoted to the base and bars
and adapted, when the dogs are pressed, to
80 raise the bars and lift the rack.

6. In an apparatus of the character de-
scribed, the combination with a base having parallel rails and centering-bars at the ends
thereof, of adjustable standards, parallel
85 horizontal bars normally resting thereon, dogs pivoted to the bars, parallel, adjustable, lift-
ing-arms pivoted to said horizontal bars and to the base, and means for locking an arm to
a standard.
90

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

HARRY B. BOLEN.

Witnesses:

D. SOLLARS,

W. S. FARQUHAR.