No. 768,302. PATENTED AUG. 23, 1904.

W. C. RASTETTER.

AUTOMATIC UNLOADER.

APPLICATION FILED SEPT. 10, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

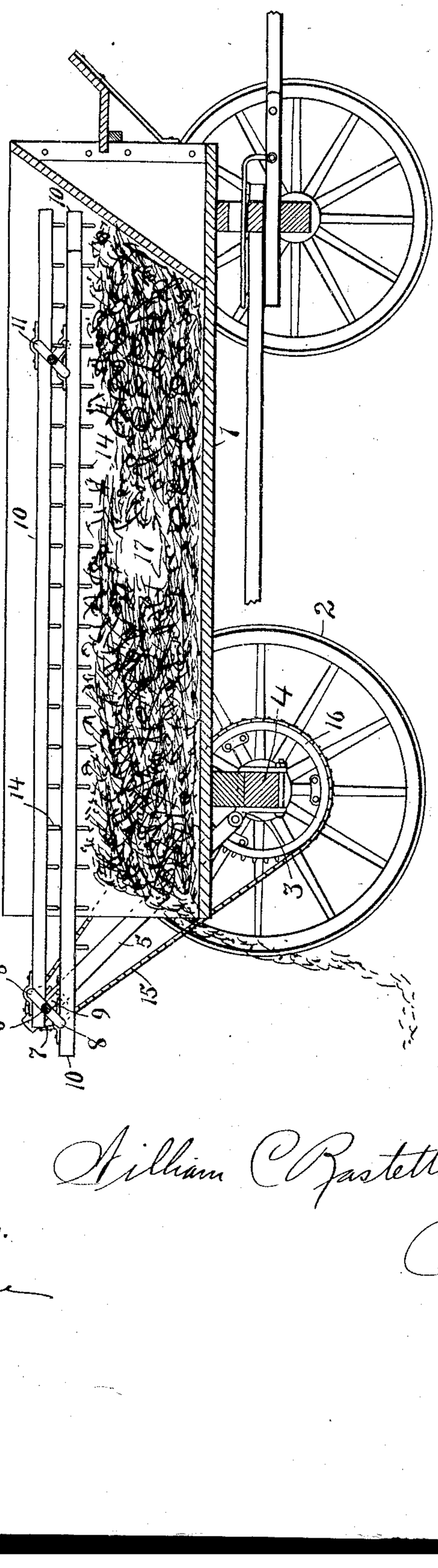


Fig. 1.

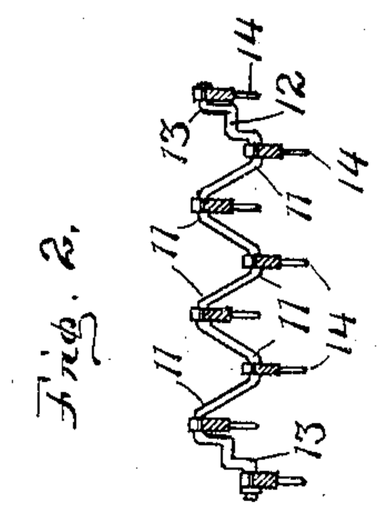


Fig. 2.

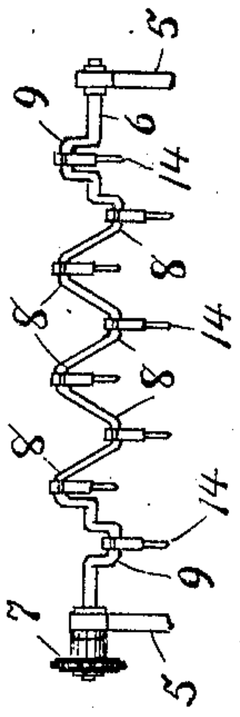


Fig. 3.

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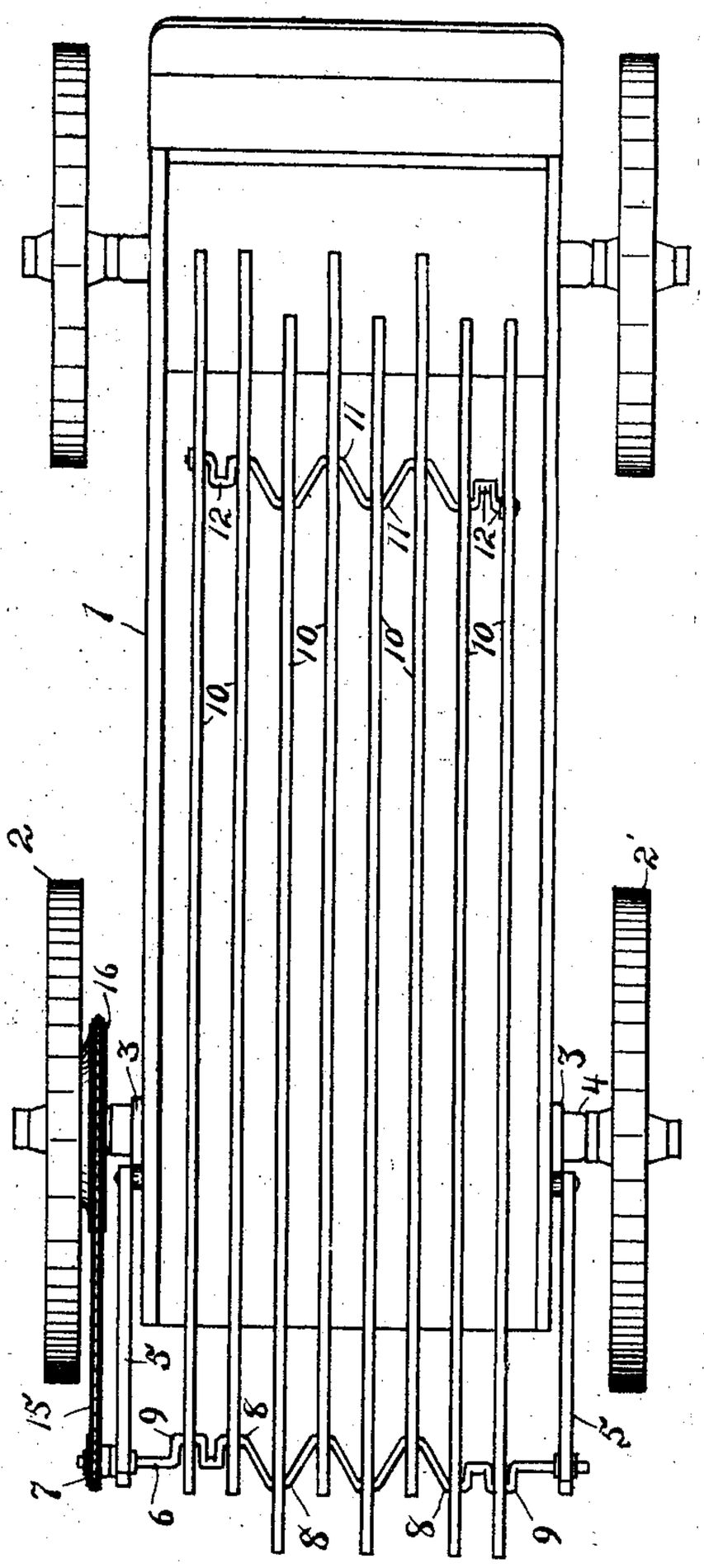
NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

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No. 768,302. Patented August 23, 1904.

# UNITED STATES PATENT OFFICE.

WILLIAM C. RASTETTER, OF FORT WAYNE, INDIANA.

## AUTOMATIC UNLOADER.

SPECIFICATION forming part of Letters Patent No. 768,302, dated August 23, 1904.

Application filed September 10, 1903. Serial No. 172,561. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM C. RASTETTER, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Automatic Unloaders; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in automatic unloaders for wagons; and the object thereof is to provide automatic means for gradually discharging fertilizing material from a wagon loaded with same; and a further object is to so construct the device that it may be readily attached to and detached from wagons of ordinary construction. I accomplish these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a wagon with the invention in place and showing a sectional view. Fig. 2 is a transverse section of the fore part of the drag-rails, showing the front crank-shaft. Fig. 3 is a rear end view of the drag-rails, showing the driving crank-shaft; and Fig. 4 is a plan of a wagon, showing the invention in place.

Similar numerals of reference indicate corresponding parts throughout the several views, and referring now to the same 1 is a wagon-box, and 2 and 2′ are the rear wheels of the wagon.

3 3 are brackets secured to the rear axle 4 of the wagon, and 5 5 are swinging arms, which are pivoted at their lower ends to the said brackets, so as to swing vertically. The upper rear ends of said arms extend beyond the rear end of the wagon-box sufficiently to clear it when moved to a vertical position. In the upper ends of said arms is mounted transversely a driving crank-shaft 6, one end of which extends beyond the side of the respective arm and has mounted thereon a sprocket-wheel 7. The said shaft 6 has a number of cranks 8 set in opposite series at one hundred and eighty degrees and one or more cranks 9 set, respectively, at ninety degrees respecting the cranks 8. Drag-rails 10 are mounted, respectively, upon the said cranks and are driven thereby when said driving crank-shaft is rotated. Near the forward ends of said drag-rails is mounted a crank-shaft 12, which ranges parallel with the driving-shaft 6 and has cranks 11, corresponding in number and position with the cranks 8 of the shaft 6, and also cranks 13, corresponding in number and position with the cranks 9 of the shaft 6. The said shaft 12 is mounted upon and carried by the said drag-rails. Each of the drag-rails has a series of depending teeth 14. The drag-rails thus connected are collectively movable to higher or lower positions respecting the wagon-box, or either of the ends of the drag-rails may be elevated or lowered respecting the opposite ends of the same.

The shaft 6 is actuated by means of a sprocket-chain 15, which engages a sprocket-wheel 7 and is trained upon and driven by a driving sprocket-wheel 16, the latter being fixed upon the rear wagon-wheel 2 and carried thereby.

In using this invention the apparatus may be removed from the wagon for convenience of loading by disconnecting the arms 5 from the brackets 3 and the sprocket-chain 15 from the sprocket-wheel 16, leaving the said sprocket-wheel and brackets intact, or instead of removing the apparatus from the wagon the drag-rails may be simply placed in vertical position by lifting the forward ends and allowing the rear ends, together with the arms 5, to gravitate to a lower position. To discharge the load from the wagon, the drag-rails are placed in horizontal position directly upon the fertilizing material 17 which forms the load, and as the wagon is drawn forward the drag-rails are actuated because of their connection with the driving mechanism. The motion of the drag-rails is in accord with that of the respective cranks. Thus when in uppermost position the motion is in a forward direction, and when lowermost the motion is toward the back end of the wagon. The forward crank-shaft 12 is actuated by the drag-

rails, which receive their motion by the driving crank-shaft 6. The effects of "dead-center" are prevented by the relative arrangement of the several cranks. The lowermost of said drag-rails rest upon and are supported by the load, and the uppermost of said drag-rails are held clear of the load because of the position of their respective cranks. As the motion of the lowermost drag-rails is backward, the upper surface portion of the load is engaged by the depending teeth of the drag-rails and drawn backward accordingly and discharged through the open end of the wagon-box, from which it drops to the ground. As the load diminishes the drag-rails descend by gravitation. Thus the fertilizing material is gradually discharged from the wagon-box as the wagon is drawn forward over the field, which effects a more or less equal distribution of said material over the trail of the wagon.

Having described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic unloader for wagons, a set of drag-rails having depending teeth; a transverse shaft having cranks formed therein, some of said cranks arranged oppositely and one or more arranged at right angles, the said shaft being attached by its cranks to said drag-rails near their forward ends and being adapted to be actuated and supported thereby; a transverse driving crank-shaft having cranks corresponding in number and relative position with the cranks of the former shaft, the said driving crank-shaft supporting said drag-rails by its cranks and being adapted to actuate the same; swinging arms having pivotal connections with the axle of the wagon at their lower ends and affording bearings for said driving crank-shaft at their upper ends; and means in connection with the rear wheel of the wagon to drive said crank-shaft.

2. In an automatic unloader for wagons, a set of drag-rails having depending teeth; a shaft having cranks formed therein which are connected respectively to said drag-rails near their forward ends; the said shaft being without support other than that afforded by said drag-rails; crank mechanism in connection with said drag-rails near their rear ends to actuate the same; and means in connection with the rear wheel of the wagon to drive said crank mechanism, the said drag-rails being adapted to rest upon and be supported by the contents of the wagon.

3. In an automatic unloader for wagons, a set of drag-rails having depending teeth, the said set being adapted to be supported by and upon the load to be discharged; crank mechanism in connection with said drag-rails to actuate the same; swinging arms having pivotal connections at one of their ends with the wagon and supporting connections at their opposite ends with said set of drag-rails; and means to drive said crank mechanism.

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

WILLIAM C. RASTETTER.

Witnesses:
W. G. BURNS,
M. J. BLITZ.