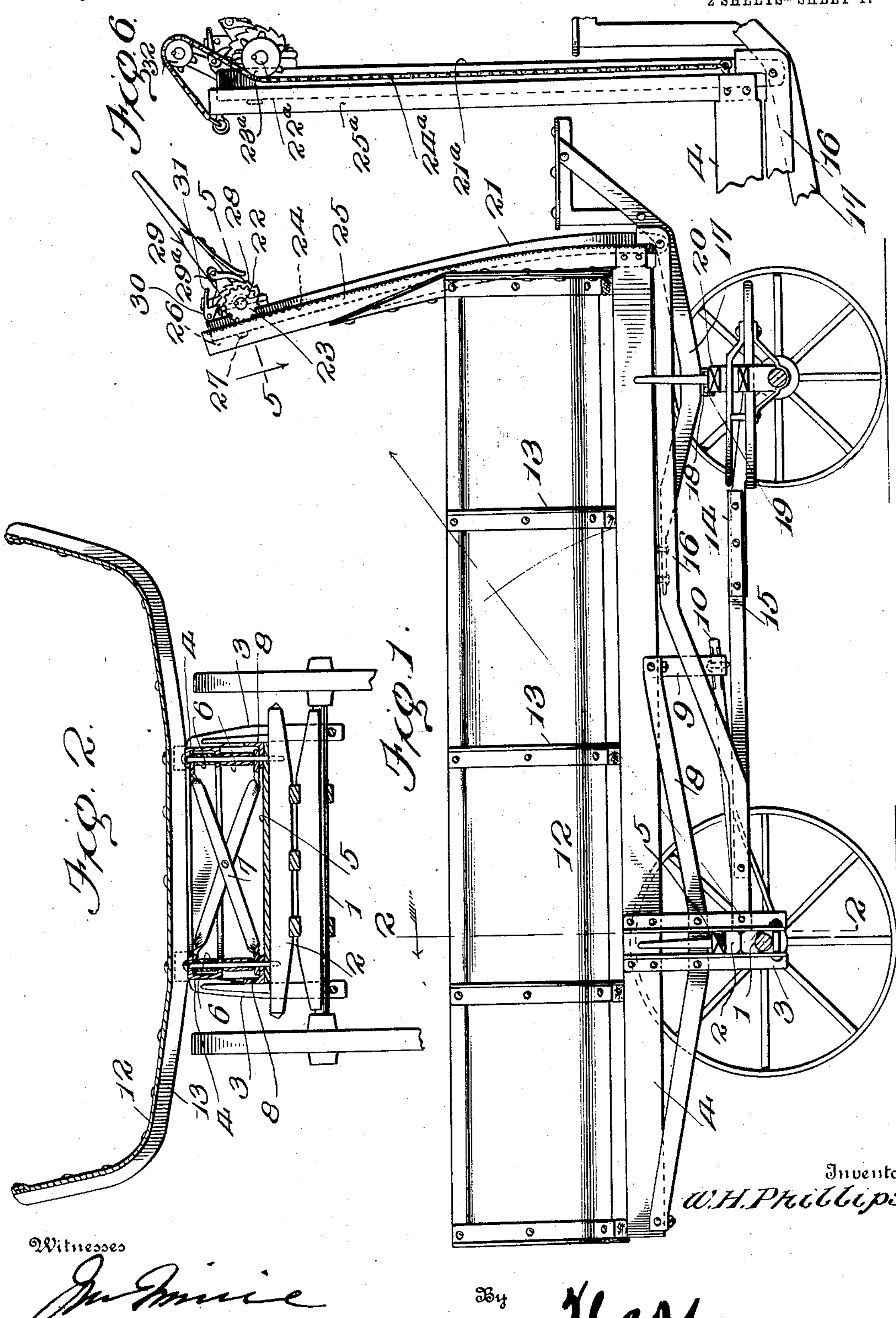
W. H. PHILLIPS.

DUMPING VEHICLE.

APPLICATION FILED JAN. 27, 1909.

940,721. Patented Nov. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses

Inventor
W.H. Phillips

By

Attorneys

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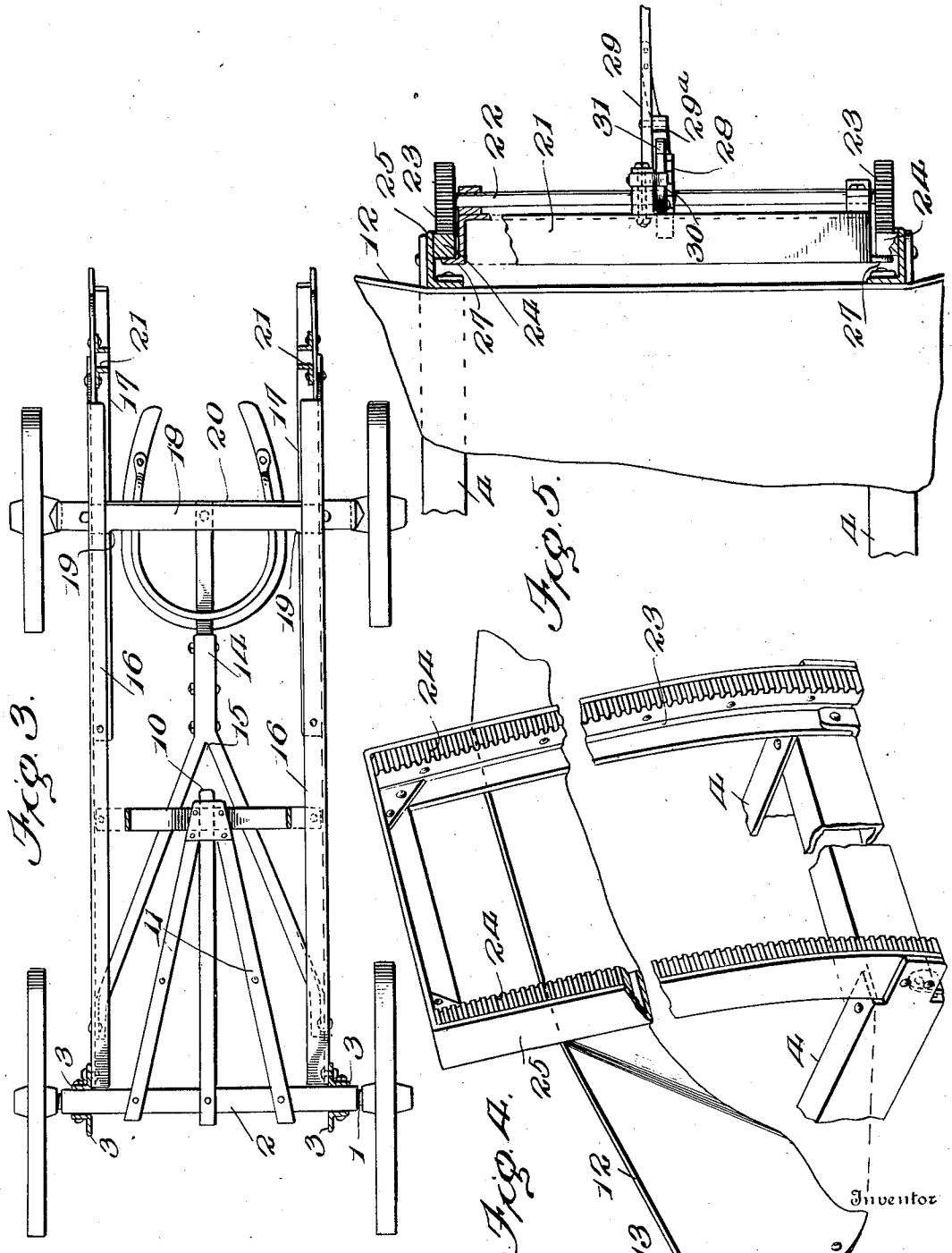

Fig. 3.

Fig. 5.

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. PHILLIPS, OF FAIRMOUNT, NORTH DAKOTA.

DUMPING-VEHICLE.

940,721. Specification of Letters Patent. Patented Nov. 23, 1909.

Application filed January 27, 1909. Serial No. 474,563.

To all whom it may concern:

Be it known that I, WILLIAM H. PHILLIPS, citizen of the United States, residing at Fairmount, in the county of Richland and State of North Dakota, have invented certain new and useful Improvements in Dumping-Vehicles, of which the following is a specification.

This invention comprehends certain new and useful improvements in dumping vehicles and relates particularly to an improved dumping rack which may be easily applied to any ordinary farm wagon and which will be simple in construction and efficient in operation to easily dump the load.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a dumping vehicle constructed in accordance with my invention. Fig. 2 is a transverse sectional view thereof on the line 2—2 of Fig. 1. Fig. 3 is a plan view of the running gear of the vehicle, portions of the body being shown in section. Fig. 4 is a detail perspective view partly broken away of the front end of the vehicle body or box. Fig. 5 is a horizontal sectional view on the line 5—5 of Fig. 1 and Fig. 6 is a detail side view illustrating a modification hereinafter specifically described.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the rear axle of my improved dumping vehicle and 2 the bolster thereof.

3 designates standards that are arranged in transversely opposite pairs and embrace and are clamped to the bolster and axle as shown. To the upper end of these standards 3 longitudinally extending sills 4 are riveted, bolted or otherwise secured, the said sills extending both forwardly and rearwardly from the standards.

5 designates a cross-bar which is designed to rest upon the bolster 2 and which is secured to posts 6 that serve to strengthen the longitudinal sills 4, and 7 designates diagonal braces that are secured to the sills and posts 6. Additional bracing is secured by means of the truss beams 8 fastened at their front and rear ends to the sills 4 and secured intermediate of their ends to the lower ends of the posts 6. Preferably, the sills 4 are constructed of channel material, although it is to be understood that they may be of any desired construction.

A stirrup 9 is secured to the sills 4 at the front ends of the truss beams 8, the said stirrup supporting the front end of a relatively short or supplemental reach 10, to which the hounds 11 are secured. The sills 4 support the bed 12 of the wagon, the said bed constituting the dump pan or trough and may be of any desired construction or design. In the present instance the bed includes transversely extending bars 13 and is provided with a closed front end and an open rear end which may be maintained closed by any suitable construction of end gate (not shown).

The main reach 14 is secured in the usual manner to the front axle, and in the present instance said reach is braced or forked at its rear end as indicated at 15, the forked members being pivotally secured to longitudinally extending arched beams 16. These beams are trussed near their forward ends as indicated at 17 and are connected together by a cross-brace 18, saddle brackets 19 being secured to said cross-brace and designed to engage the front bolster 20. The beams 16 are pivotally connected at their rear ends to the standards 3.

A hoisting frame 21 is pivotally connected to the forward ends of the beams 16 to swing about a horizontal axis. A transversely extending shaft 22 is journaled on the frame 21 near the upper end of the latter, and pinions 23 are secured fast on said shaft. These pinions are designed to mesh with vertically extending racks 24 that are formed on or secured to the vertically extending side bars of the rack frame 25, said rack frame being secured in any desired way to the front ends of the sills 4 and to the front of the trough or bed 12. The rack frame 25 is formed with longitudinally extending channels 26 and the hoisting frame 21 is formed with lugs 27 designed to work in said channels so

as to maintain the proper guiding movement of one frame relative to the other in the dumping operation of the bed.

In order to raise the front end of the bed or rack 12 and to tilt the said rack upon the rear axle as an axis, the said shaft 22 carries a ratchet wheel 28 which is fast thereon. A hand lever 29 is mounted on the shaft 22 and actuates a spring-pressed push pawl 29^a which engages the ratchet wheel 28 so that the movement of the hand lever and the turning of the shaft in one direction will raise the front end of the bed or rack 12 through the instrumentality of the pinions 23 and racks 24.

30 designates a detent which is spring-pressed into engagement with the ratchet wheel 28 and which is formed with a forwardly extending finger 31 designed to be engaged by the pivot end of the pawl 29^a when the hand lever 29 is raised. By this means the pawl may be caused to engage the detent 30 and release it from the ratchet wheel 28 so as to permit the front end of the bed or rack 12 to lower.

As a modified form of my invention reference is to be had to Fig. 6 which illustrates, instead of the relatively stationary racks 24, chain racks 24^a which are carried by the rack frame 25^a and which are designed to be engaged by the pinions 23^a of the actuating shaft 22^a. In this embodiment of my invention, idlers 32 are preferably carried by the hoisting frame 21^a, the rack chains 24^a passing around said idlers and being held in proper engagement with the pinions 23^a.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very simple, durable and efficient construction of dump rack for vehicles which may be applicable for use in connection with any conventional type of running gear or which may be embodied as parts of the vehicle in the construction of the latter. In adapting the mechanism for vehicle running gear it is only necessary to substitute for the ordinary long reach of the gear, my forked reach 14 and the relatively short reach 10, the latter having movement into and out of the forked portion of the main reach 14, as the rack or bed of the vehicle is tilted in one direction or the reverse.

Having thus described the invention, what is claimed as new is:—

1. A dumping vehicle, comprising front and rear axles, a main reach secured to the front axle and formed with a forked rear end, standards secured to the rear axle, a dumping rack supported upon said standards, a relatively short reach secured to said rack and axle and designed to be received in the forked end of the main reach, longitudinally extending beams secured to the rear end of the main reach and pivotally connected at their rear ends to said standards, and means carried by the forward ends of the rack and beams for raising the front end of the rack upon the rear axle as an axis.

2. A dumping vehicle, comprising front and rear axles, a main reach connected to the front axle and formed with a forked rear end, standards secured to the rear axle, a dumping rack supported by said standards, a relatively short reach connected to said dumping rack and to the rear axle and designed to be received in the forked rear end of the main reach, longitudinally extending beams pivotally connected at their ends to said standards, the main reach being secured to said beams near the rear ends of the latter and the beams being arranged to support the front end of the rack in the lowered position thereof.

3. A dumping vehicle comprising front and rear axles, standards secured to the rear axle, a dumping rack supported by said standards, said dumping rack embodying longitudinally extending sills, a stirrup connected to said sills, a relatively short reach connected to the rear axle and supported at its forward end by said stirrup, beams pivotally connected at their rear ends to said standards and designed to support the forward end of the rack in the lowered position thereof, and a main reach connected to said beams and to the front axle.

4. A dumping vehicle comprising front and rear axles, standards embracing and clamped to the rear axle, a dumping rack supported by said standards, means for tilting said rack, a reach connecting the front and rear axles and a relatively short reach connected to the rear axle and to the dumping rack.

5. A dumping vehicle comprising front and rear axles, standards secured to the rear axle, a dumping rack supported by said standards, beams supported on the front axle and pivotally connected at their rear ends to the standards, a reach connected to the front axle and to the beams at the rear ends of the latter and means for tilting said rack.

6. A dumping vehicle comprising front and rear axles, standards secured to the rear axle, a dumping rack supported by said standards, beams mounted on the front axle and pivotally connected at their rear ends to the standards, a reach connected to the front axle and connected at its rear end to the beams, a relatively short reach connected to the rear axle and to the rack and means for tilting said rack.

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

WILLIAM H. PHILLIPS. [L. S.]

Witnesses:

LOUIS R. ABBOTT,

G. E. BALLARD.