

No. 846,568.

PATENTED MAR. 12, 1907.

J. C. HORNE & D. H. YATES.

DUMPING WAGON.

APPLICATION FILED DEC. 5, 1905.

3 SHEETS—SHEET 1.

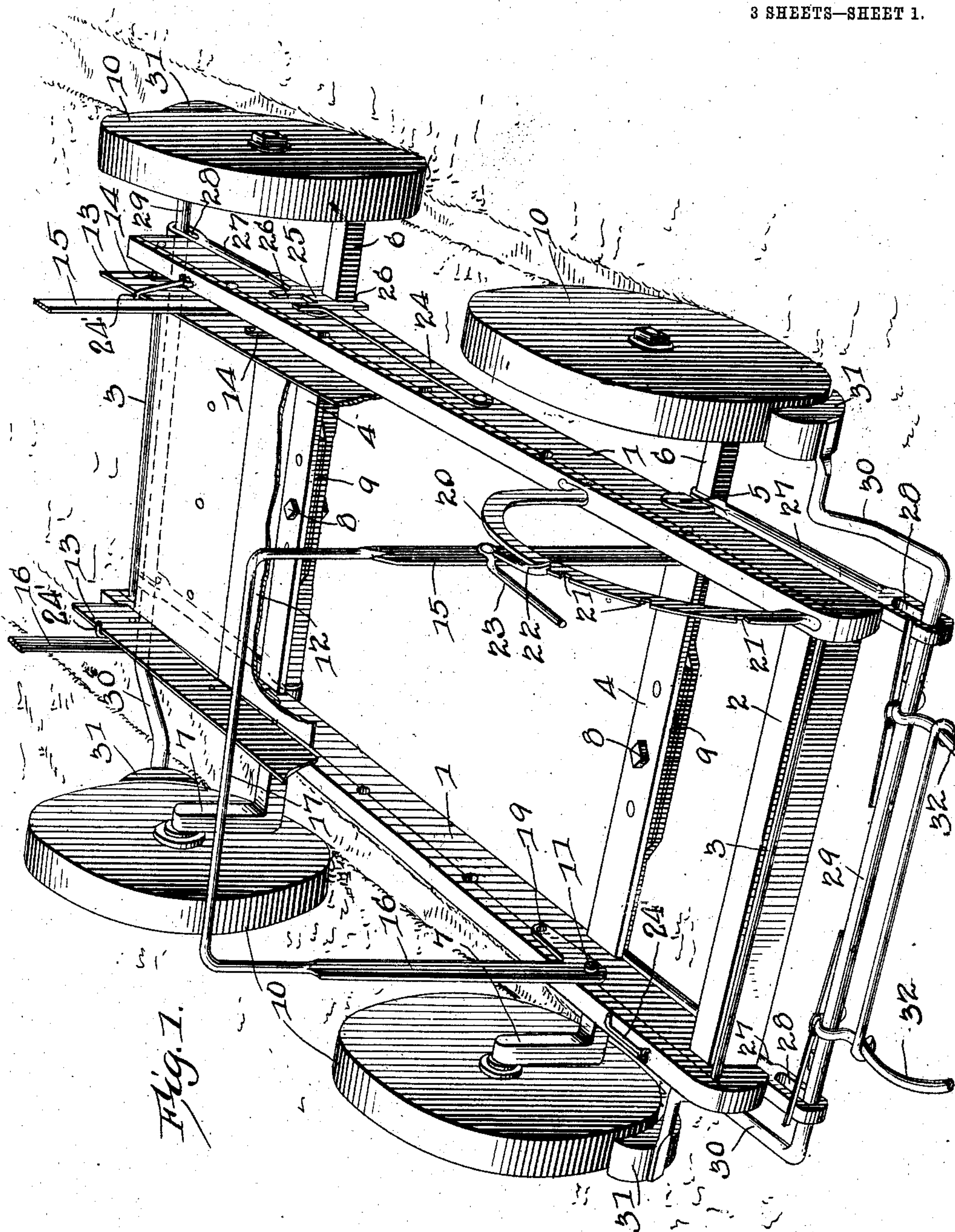


Fig. 1.

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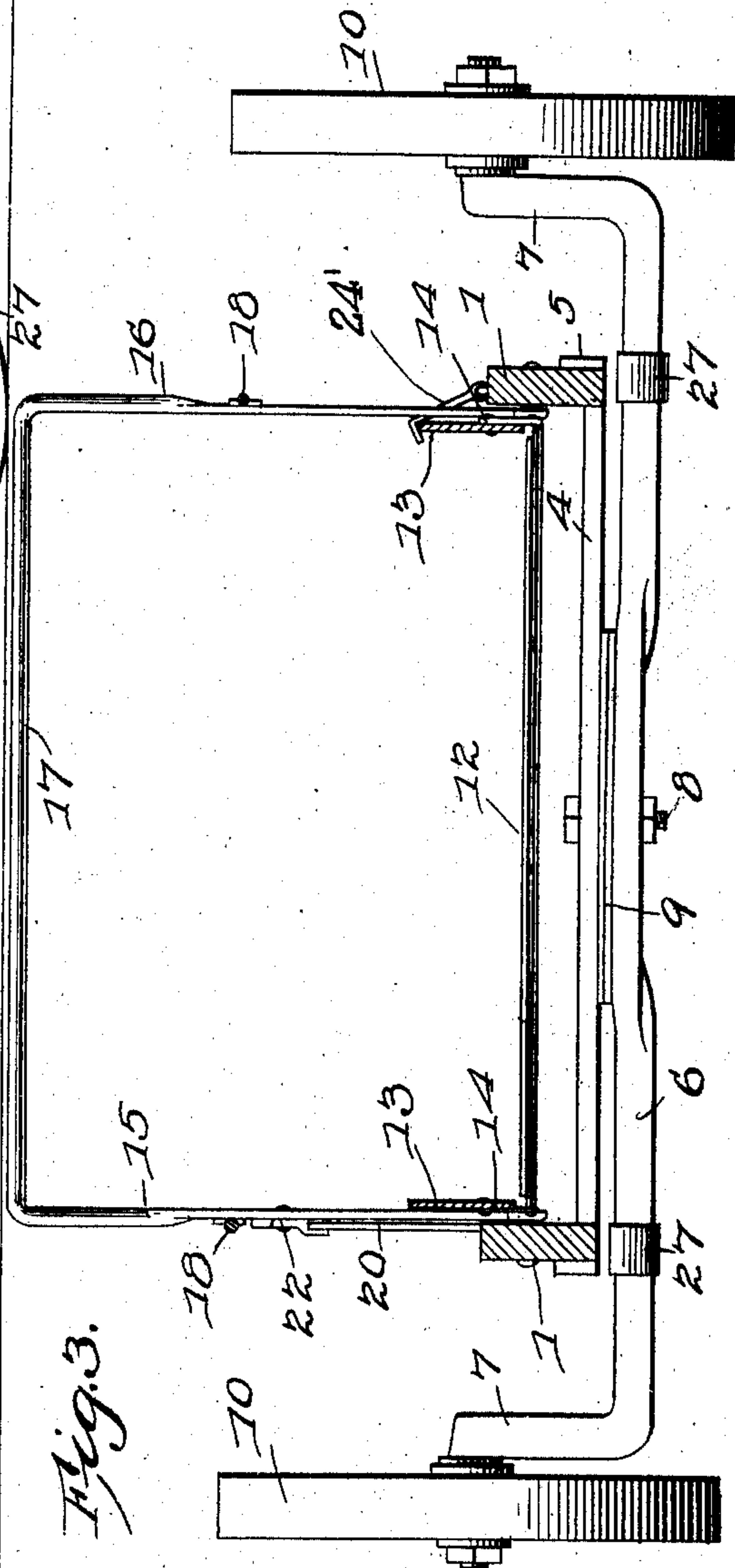
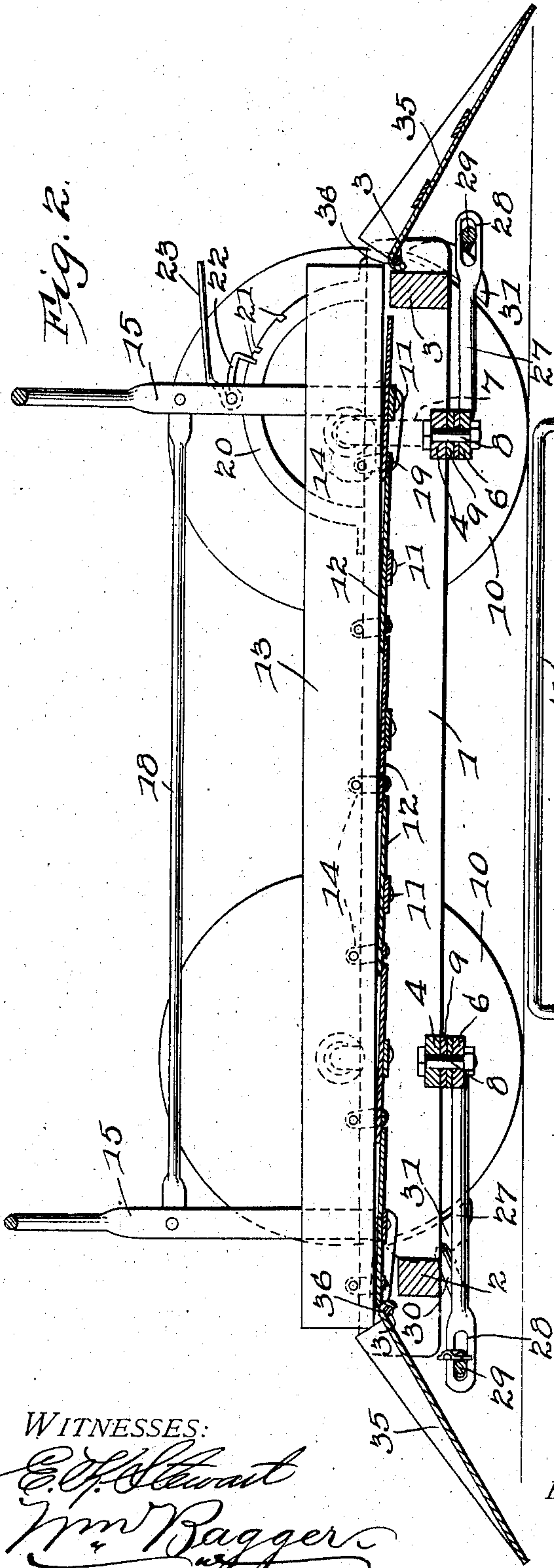
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3 SHEETS—SHEET 2.



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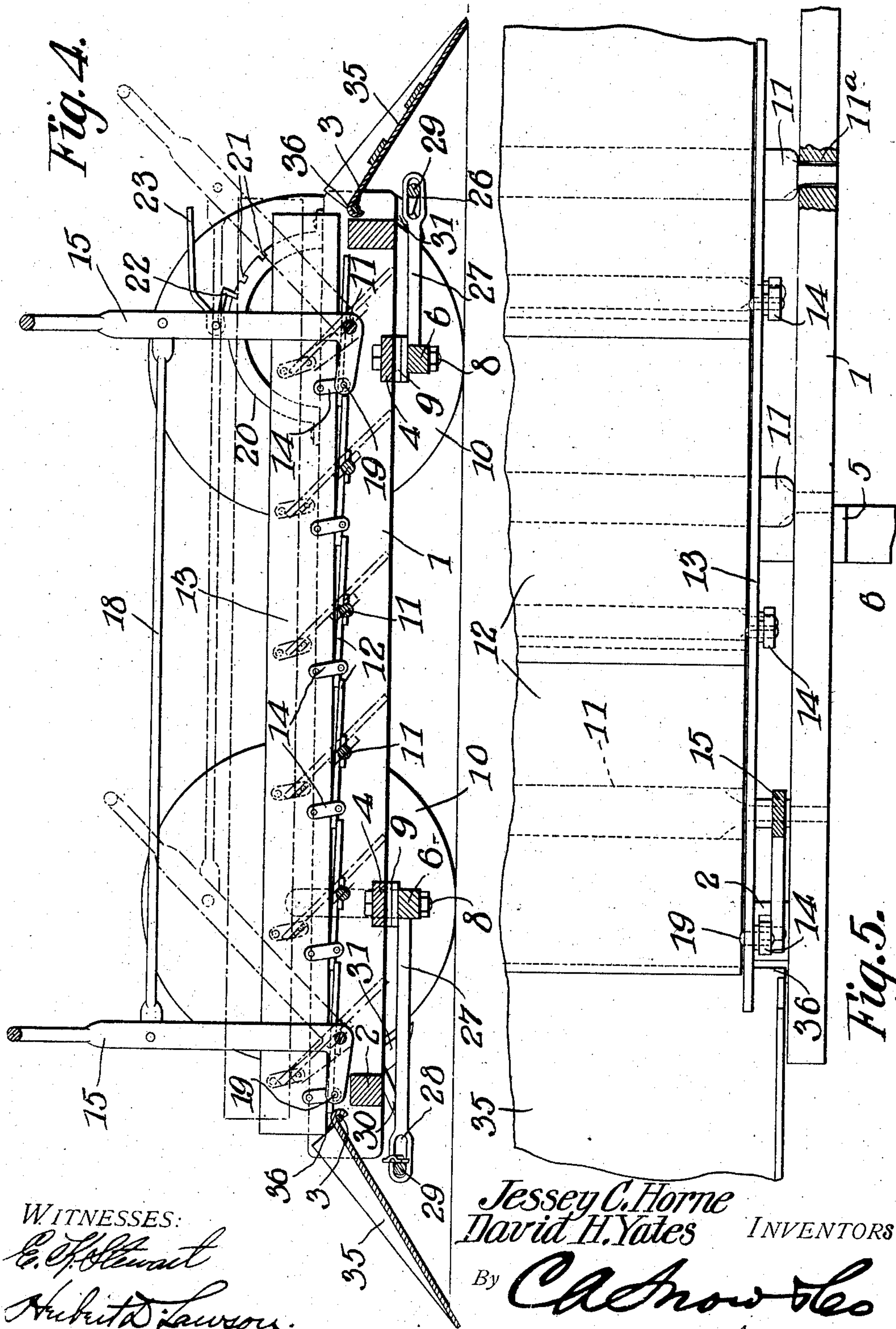
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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DUMPING-WAGON.

No. 846,568.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed December 5, 1905. Serial No. 290,444.

To all whom it may concern:

Be it known that we, JESSEY C. HORNE and DAVID H. YATES, citizens of the United States, residing at Madison, in the county of Madison and State of Florida, have invented a new and useful Dumping-Wagon, of which the following is a specification.

This invention relates to dumping-wagons generally, such as are used in the building, grading, and repairing of roads for the purpose of moving dirt and dumping or depositing the same; and among the objects of the invention are to present a dumping-wagon which shall possess superior advantages in point of simplicity, durability, and general efficiency and which, by reason of its peculiar construction, shall be particularly adapted for use in road building and repairing, provision being made whereby the wagon may be loaded quickly and efficiently, and the wagon being specially constructed, so that in passing over the newly-made road it will serve to pack and compact the surface of the same.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a perspective view of the dumping-wagon constructed in accordance with the principles of the invention. Fig. 2 is a longitudinal sectional view showing the wagon in position for loading. Fig. 3 is a transverse vertical sectional view. Fig. 4 is a longitudinal section through one side of the wagon and showing by full lines the relative positions of the side member 13 and the bottom plates 12 when said plates are closed and by dotted lines the positions of said parts when the plates are swung open. Fig. 5 is an enlarged plan view of a portion of the wagon.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The frame of the improved dumping-wagon is composed of the side beams or sills 1 1, which are spaced apart near the ends by the end pieces 2 2, which also serve to connect the sills. Rods or bolts 3 3 connect the sills adjacent to the end beams, and the sills are furthermore connected by means of the bolsters 4 4, having upturned ends 5, that abut exteriorly upon the sills.

The frame is supported by means of the axles 6 6, which are provided with drop-arches 7, whereby the frame is supported a short distance above the ground. The axles are connected with the bolsters by means of king-bolts 8, and wear-plates, as 9, are interposed between the axles and bolsters. The axles have spindles upon which the carrying-wheels 10 are supported for rotation, said carrying-wheels being made with very wide treads, it being the intention in practice to use wheels having eight-inch treads. One axle is made somewhat longer than the other, so that the wheels supported upon the two axles will be placed out of alinement, but overlapping each other to the extent of about one inch. The four wheels will thus combine to make two tracks each about fifteen inches in width, and the wagon will thus each time it passes over the road serve to pack the surface of the same to a width of about thirty inches, thus serving the purposes of a roller. By driving the wagon in different tracks as it passes to and fro over the road the surface of the latter will thus be compacted and finished without the use of a roller.

The sills or side members of the wagon-frame are provided with bearings 11^a for rock-shafts 11, carrying plates 12, which overlap one another and cooperate to form the floor or bottom of the wagon. The plates 12 are preferably made of iron or steel of suitable dimensions, and side members 13, likewise constructed of iron or steel, are provided, said side members being connected with the overlapping corners of the plates by means of links 14.

The rock-shafts 11, that support the plates 12 at the ends of the frame, are provided at the ends thereof with upwardly-extending arms or levers 15 and 16, said levers 15

being connected by overhead arches 17, while the levers 15 15 and 16 16, respectively, are connected with each other by means of longitudinal link-rods 18. The levers 15 and 16 are preferably bell-cranks, the short arms of which are extended from the fulcrums 11 of the levers and are pivoted, as at 19, to the lower ends of the links 14, which connect the end plates with the side members 13, this construction being resorted to for the purpose of increasing the strength of the device.

Suitably supported upon one of the sills adjacent to one of the levers 15 is a segment 20, having a plurality of notches 21, any one of which may be engaged by a locking member 22, which is pivotally connected with the lever 15 and which is provided with an operating-handle 23. By this mechanism the plates 12, constituting the floor, may be locked or secured in an approximately horizontal position overlapping one another, or they may be locked in various tilted or inclined positions for the purpose of dumping or discharging the load more or less rapidly, as may be desired. At each corner of the frame except at the corner where the segment 20 is located there is pivoted a hook 24', said hooks being pivoted upon the sills in such a position as to enable them to catch over the upper edges of the side members 13, which latter may thus be locked upon the plates 12.

When it is desired to dump the contents of the wagon, levers 15 and 16 are unlocked from the segment 20 and are swung upon their fulcrums 11, so that the pivotal connections 19 between the short arms of the levers and the links 14 will be pushed upward, thereby lifting the side members 13 and causing them to pull upward on all of the links connected to them. This will obviously result in the simultaneous turning of all the plates 12. The levers 15 and 16 can be locked at any desired angle, so as to hold the plates 12 either partly or entirely open, thereby regulating the discharge of the contents of the wagon. It is of course understood that in order to carry out this dumping operation it is first necessary to disengage the hooks 24' from the side members 13.

Exteriorly upon one of the sills is pivoted a lever 24, having a head 25, provided with opposite-disposed notches 26, adapted to engage over the axles 6, one of which may thus be locked or secured against turning upon the king-bolt. The locking-lever 24 may be readily reversed from end to end, so as to engage either one of the axles, as will be readily understood.

The axles are provided with draft-rods 27, the ends of which have slots 28, in which are mounted the hitching-bars 29. The ends of the latter are bent to form cranks 30, upon

which brake-shoes 31 are mounted, said brake-shoes being adapted to engage treads of the adjacent wheels. A tongue is provided having hounds 32, which are adapted to be detachably connected with either one of the hitching-bars 29, said tongue being capable of being shifted from one end of the vehicle to the other.

It will be readily seen that when draft is exercised upon the hitching-bar 29 the latter will move forwardly in the slots 28 of the draft-rods, and the brake-shoes will thus be carried out of engagement with the wheels. In moving downhill the vehicle will roll down against the hitching-bar, which is held back by the team, and the brake-shoes will thus be automatically set whenever needed.

In connection with the improved dumping-wagon and for the purpose of enabling the same to be loaded there are used two inclined planes or aprons 35, each provided at its upper edge with a flange 36, adapted to engage over one of the rods 3 at the ends of the frame. Over these inclined planes teams attached to scrapers of ordinary construction may pass on and off the bed of the improved dumping-wagon, thus enabling the scraper-loads to be deposited upon the latter.

The construction of the entire device with regard to dimensions and strength of the parts is such as to enable the teams carrying the scrapers to pass in succession over the wagon-bed, depositing the loads upon the latter until a sufficient load has been accumulated upon the dumping-wagon. Draft will then be applied to the latter, and it will be moved to the place where the material is to be dumped. This place being reached, the bottom plates 12 are tilted by the means provided for the purpose to enable the load to be dumped, the dumping being performed quickly or by degrees, as may be desired, for the purpose of dumping the load all in one place or scattering it over an extended surface, as may be desired.

It will be observed that turning of the improved dumping-wagon is never required, since the team may be reversed, driven over the wagon-bed, and hitched to the opposite end. When the draft is shifted from one end of the wagon to the other, the lever 24 is also reversed for the purpose of locking the axle which is temporarily the rear one. This feature of the invention is particularly important when the device is to be used in making cuts or fills where room is limited and it would be inconvenient and impracticable to turn a wagon.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood.

The construction is simple and inexpensive, and a dumping-wagon is provided which will

be found particularly useful for the purpose of building, grading, and repairing roads, as hereinbefore set forth.

Having thus described the invention, what is claimed is—

1. In a dumping-wagon, a frame having side sills, end pieces spacing and connecting the sills, and bolsters having upturned ends abutting exteriorly upon the sills.
2. A frame having side sills, end members spacing and connecting the same, binding-rods adjacent to and spaced from the end members, and bolsters having upturned ends abutting exteriorly upon the sills.
3. A frame, bolsters connected with said frame, axles pivotally connected with the bolsters, and a lever connected pivotally with the frame and having a head provided with oppositely-disposed notches adapted to engage either one of the axles.
4. A frame, bolsters connected with said frame, axles pivotally connected with the bolsters, and means for locking one of the axles against rotation.
5. In a dumping-wagon, a frame, rock-shafts journaled in said frame, bottom plates supported upon the rock-shafts and overlapping one another, and arms or levers extending upwardly from one of the rock-shafts and connected by an overhead arch.
6. In a dumping-wagon, a frame, rock-shafts journaled in the frame, bottom plates supported upon the rock-shafts and overlapping one another, levers extending from the rock-shafts at the ends of the frame, and link-rods connecting said levers.
7. In a dumping-wagon, a frame, rock-shafts journaled in the frame, bottom plates secured upon the rock-shafts and overlapping one another, arms or levers extending from the rock-shafts at the ends of the frame, overhead arches connecting said levers in pairs across the wagon-bed, and link-rods connecting said levers in pairs at the sides of the wagon-bed.
8. In a dumping-wagon, a frame, rock-shafts journaled in the frame, bottom plates supported upon the rock-shafts and overlapping one another, a pair of side members, links connecting the side members with the overlapping corners of the bottom plates, an

arm or lever connected with one of the rock-shafts, a stop member pivoted upon said lever, and a segment secured upon the frame and having notches adapted to be engaged by the stop member.

9. In a dumping-wagon, a bed-frame having bolsters, drop-arch axles pivotally connected with the bolsters, draw-bars connected with the axles and having slots near their outer ends, hitching-bars slidable in said slots and provided with cranks at their extremities, and brake-shoes connected with the cranks.

10. In a dumping-wagon, a bed-frame having bolsters, axles pivotally connected with the bolsters, means for locking one of the axles against rotation upon its pivot, draft-bars connected with the axles and having slots near their outer ends, hitching-bars slidably supported in the slots of the draft-bars, brake-shoes connected with the hitching-bars, and a draft member such as a tongue having hounds adapted to be detachably connected with the hitching-bars.

11. In a dumping-wagon, a bed-frame having side sills and end pieces, binding-rods adjacent to and spaced from the end pieces, wheel-carrying axles supporting the bed-frame, rocking bottom plates supported in the bed-frame, means for securing the bottom plates at various adjustments, and inclined planes having flanges adapted for engagement with the binding-rods at the ends of the bed-frame.

12. In a dumping-wagon, a frame, rock-shafts journaled in the frame, bottom plates supported upon the rock-shafts and overlapping one another, a pair of side members, links connecting the side members with the overlapping corners of the bottom plates, and hooks pivoted upon the frame and adapted to engage the side members.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JESSEY C. HORNE.
DAVID H. YATES.

Witnesses:

T. C. VANN,
J. H. HAVEN.