

No. 730,607.

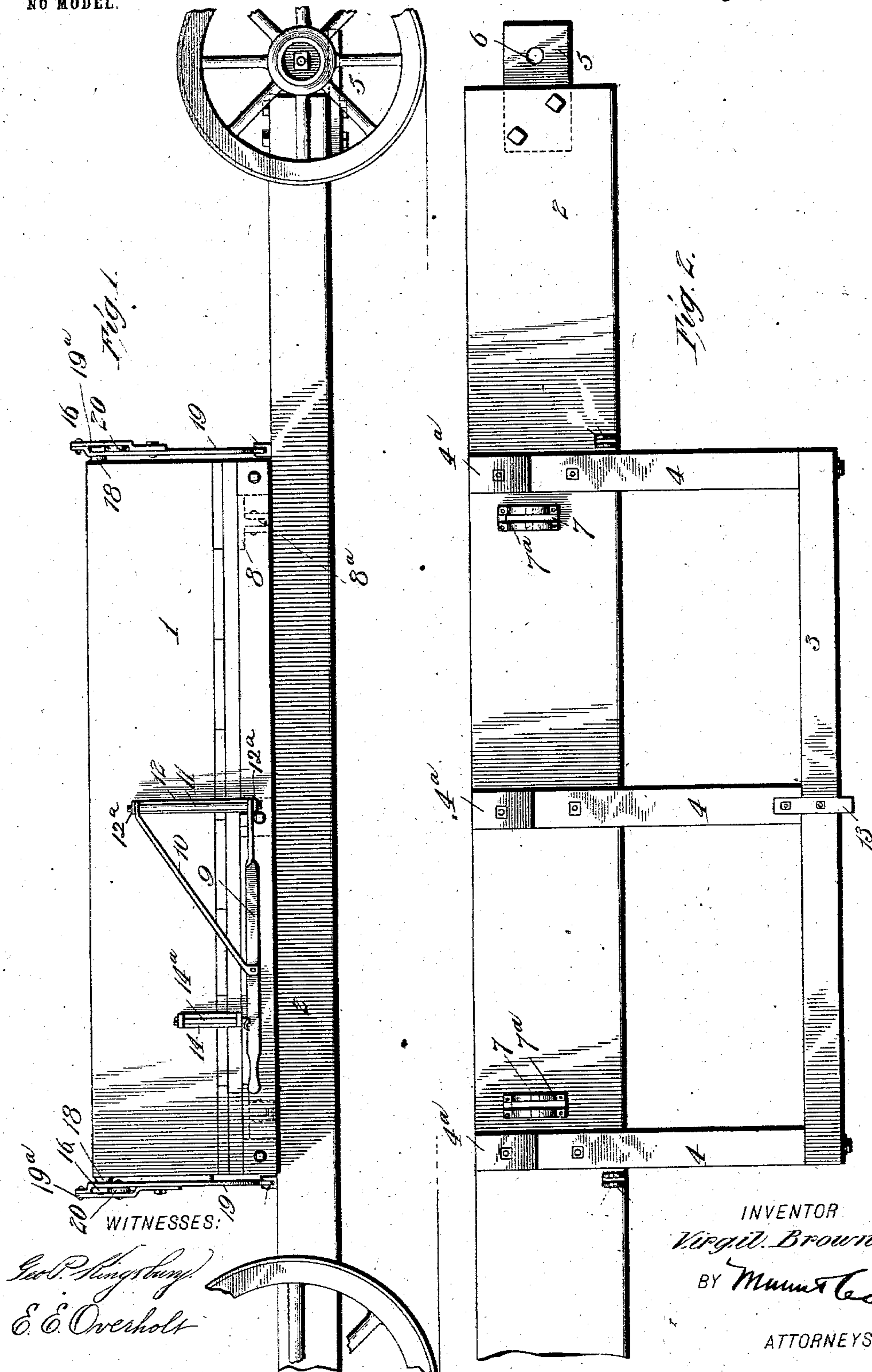
PATENTED JUNE 9, 1903.

V. BROWN.
DUMPING WAGON.

APPLICATION FILED OCT. 7, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



INVENTOR
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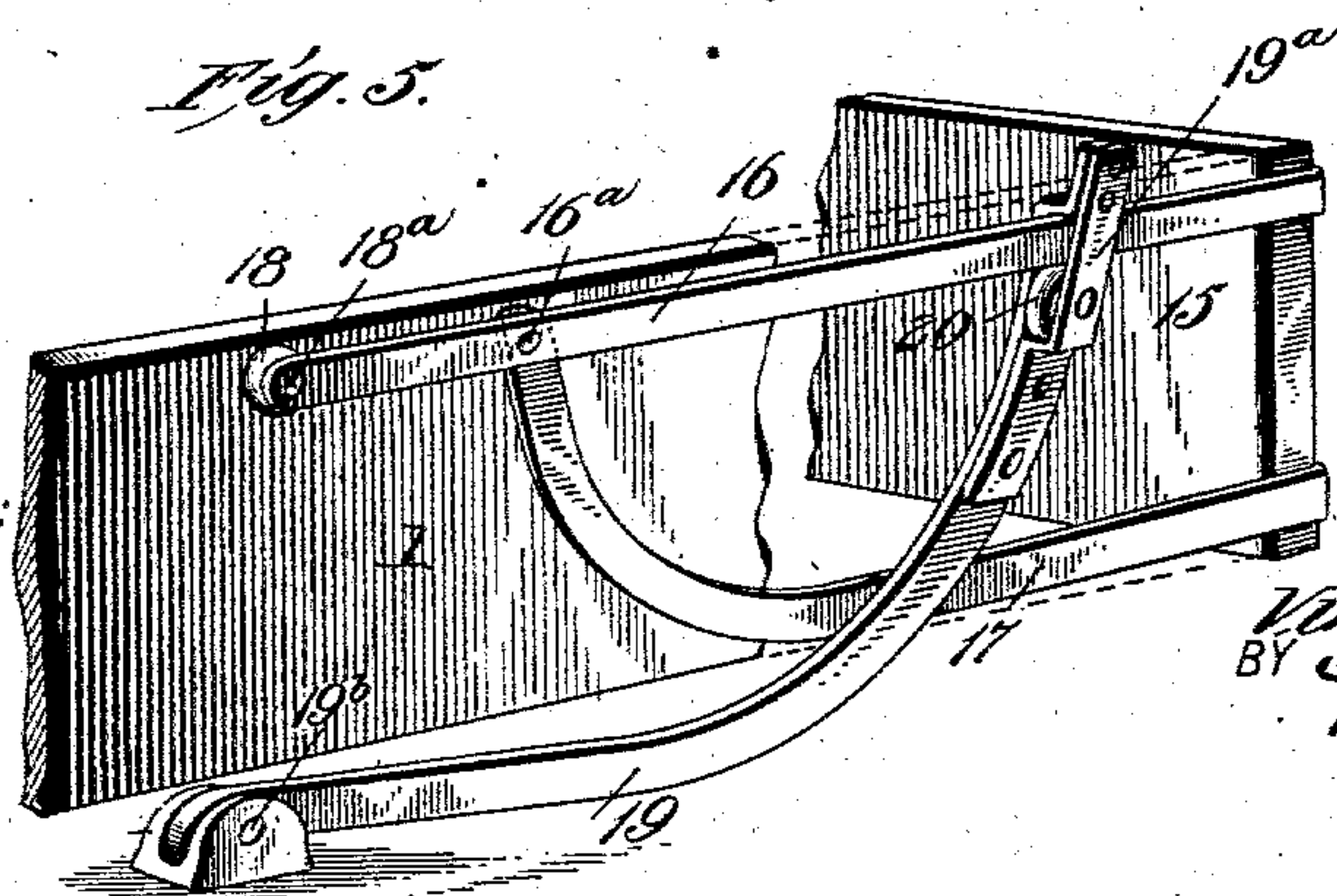
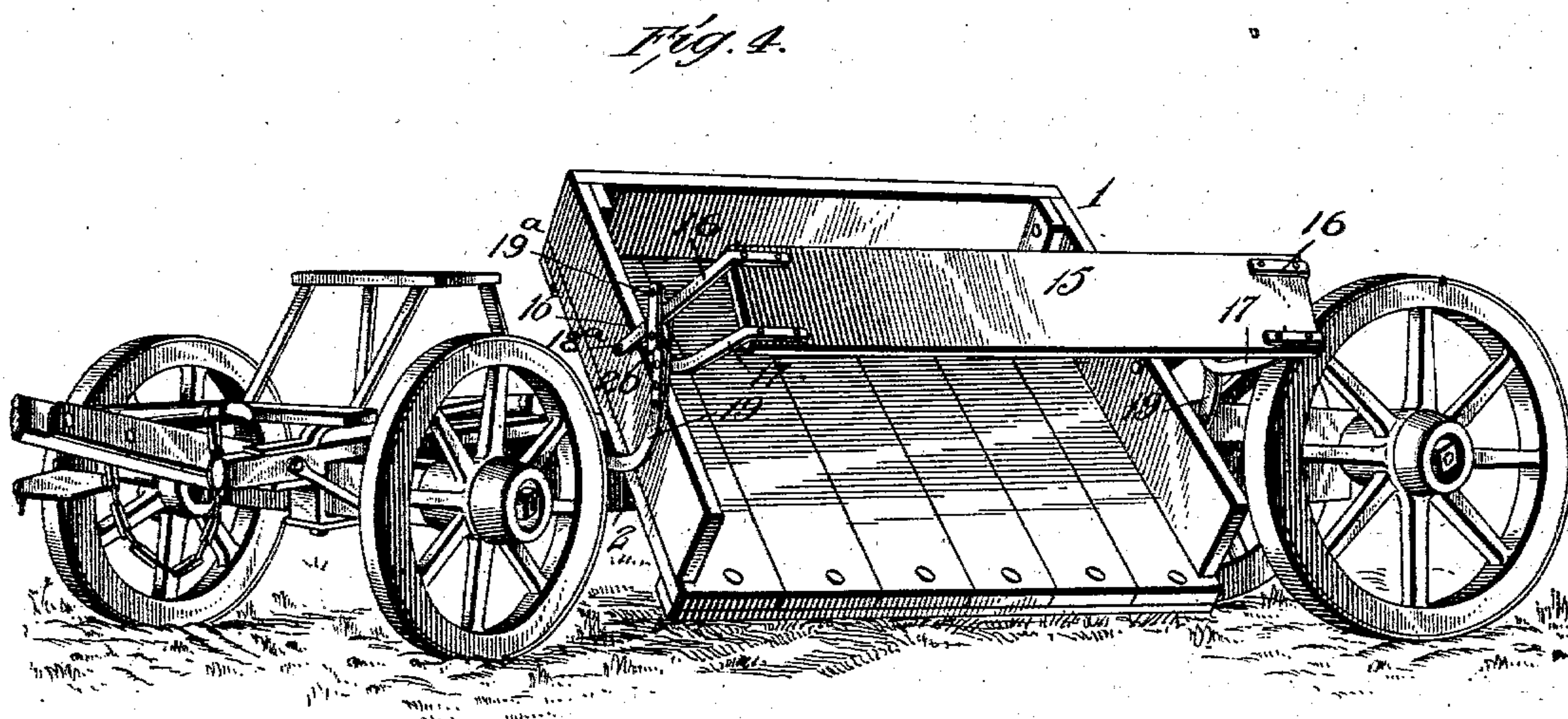
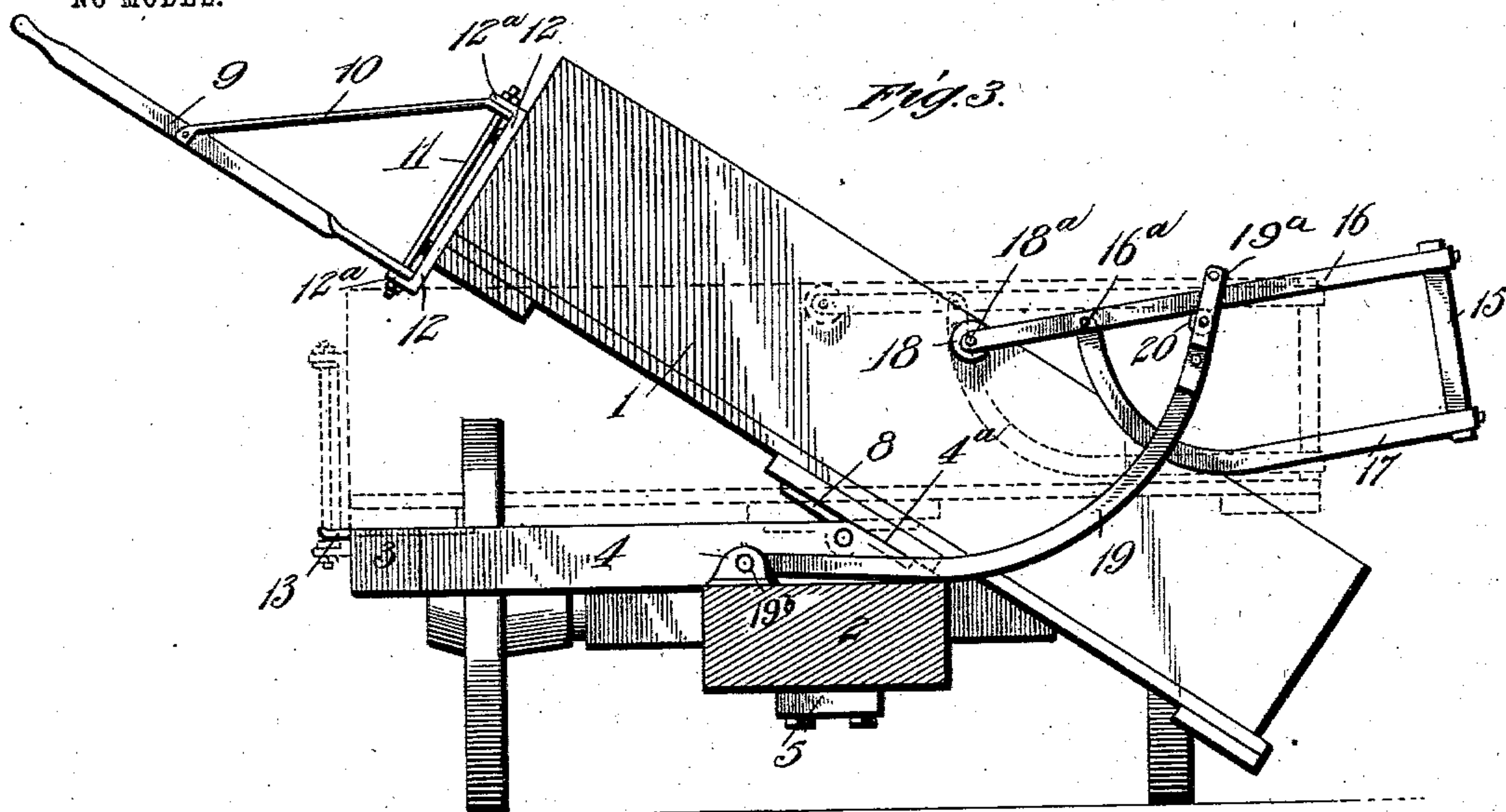
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NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

VIRGIL BROWN, OF WATROUS, TERRITORY OF NEW MEXICO.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 730,607, dated June 9, 1903.

Application filed October 7, 1902. Serial No. 126,286. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL BROWN, of Watrous, in the county of Mora, Territory of New Mexico, have invented a new and useful Improvement in Dumping-Wagons, of which the following is a specification.

My invention relates to dumping wagons, my object being to provide a wagon of this character that will be strong, durable, simple in construction, economical in manufacture, easy of operation, and one that can be easily loaded.

My invention consists in the novel features of construction and operation which will now be pointed out and claimed in the appended specification and illustrated in the accompanying drawings, which form a part of this application, and in which—

Figure 1 is a side elevation of my improved dumping-wagon. Fig. 2 is a top plan view of the frame which supports the body. Fig. 3 shows an end elevation of a portion of my invention, the wagon-bed being in its dumped position with its normal position indicated in dotted lines. Fig. 4 is a perspective view of my invention in its dumped position. Fig. 5 is a detail perspective view showing the construction of the arms and levers used at either end of my wagon-body for operating the gate.

My wagon includes a main frame upon which the body 1 is supported. This frame consists of the heavy longitudinal beam or plate 2, which is secured to the axles of the wagon, the parallel bar 3, upon which the side of the wagon-bed rests when in its normal position, and the transverse bars 4, which connect the longitudinal bar 3 with the main beam 2. This beam is secured, preferably, to the under side of the axles of the wagon in order that the body may be close to the ground, which is a decided advantage in the loading of heavy materials, such as stone, &c. It is furthermore desirable to have the body located near the ground in order that it may not have so far to fall when dumped, which would only impart undue strain and jar and would also require additional effort to bring it back to its normal position. At its rear end the beam 2 is bolted directly to the axle, while its front end is provided with the heavy iron plate 5, which is secured by bolts to the under side of the beam and projects a certain

distance in front thereof. The forwardly-projecting portion of said plate has a hole 6, designed to receive the king-bolt. (Not shown.) The hole 6 is located sufficiently in advance of the front end of the coupling-beam to prevent said end from interfering with the necessary oscillating movement of the front axle.

The brackets 7 are secured by bolts or screws to the longitudinal beam 2 just inside the outer transverse bars 4. They are each provided with the upwardly-extending parallel ears 7^a, spaced apart to receive the downwardly-extending lugs 8^a of the body-plate 8, which are suitably secured to the wagon-body on its under side and are adapted to cooperate with the plates 7 to form a pivotal connection between the body and the frame A of the wagon. The body-plates 8 are located slightly nearer to the dumping side of the wagon-body than to the other side, which tends to impart to the said body at all times a slight tendency to dump.

The dumping-lever 9 is secured to the closed side of the wagon-body or the side opposite its dumping edge and is designed to assist in readily effecting the dumping process and also in bringing the wagon-body back to its normal position after its load has been dumped. This lever is preferably adjustably connected with the wagon-body, so it can be swung out, as shown in Fig. 3, for use, or in, as shown in Fig. 1, when not in use, and is reinforced by a brace-rod 10, riveted at one end to said lever and having an eye at its other end to receive the upper end of the bolt 11, the lower end of which bolt passes through an aperture at the inner end of said lever 9. The bolt 11 is held in proper relation to the wagon-body by the angle-bar 12, which is secured to the body by bolts and at either end has an outwardly-extending wing 12^a, provided with suitable apertures to receive the bolt, the lever and its brace-rod being held by the bolt 11 between the wings 12^a.

It will be seen that the lever 9 and its brace-rod 10 are free to swing on the bolt 11, and when the lever is used to dump the wagon-body or to bring it back to its normal position the same is swung out at right angles to the body, as shown in Fig. 3, whereby the

greatest possible amount of leverage is obtained.

The latch-bar 13 is rigidly secured to the frame of the wagon and projects outwardly from the center of the longitudinal bar 3. The wagon-bed is secured to this latch when it is desired to hold it in its normal position in engagement with the main frame, and the lever 9 is further utilized for forming the connection between the body and frame, as shown in Fig. 1, for it will be seen from Fig. 1 that when the latch is swung around against the side of the wagon-body, as there shown, the inner end of said lever will pass under the projecting end of said latch and it will be impossible for the bed to be dumped while the lever remains in that position. In order that the lever 9 may be secured in the position just described to prevent it from swinging out of engagement with the latch 13 and dumping the load at an inopportune time, I provide the drop-latch 14 for said lever. This latch comprises a bar slidable vertically on the wagon-body. The lower end of this bar is bent outwardly and upwardly and presents an inclined face to the upper side of the lever 9, so that when the said lever is swung around against the wagon-body it will engage the inclined end of the said keeper and will elevate it till it has passed behind it. The keeper will then drop downwardly by gravity and will prevent the bar from swinging outward.

I provide arms and levers at the ends of my wagon-body for automatically effecting the double purpose of lifting the gate thereof out of the way when it is desired to dump a load and for assisting in bringing it again into its normal position as the body is readjusted, so that one man can perform both operations by simply tilting the wagon-body by means of the dumping-lever 9. In order to effect this result, I provide operating-arms 16 and the auxiliary arms or braces 17. The arms 16 constitute swinging carriers for the dumping side or gate and are pivoted at their inner ends to the outer side of the ends of the wagon-body and near the top thereof. A boss 18 is interposed between the wagon-body and each arm at its pivotal point 18^a, which serves the double purpose of furnishing a good bearing for the pivot and of holding the arm slightly separated from the body in order that the upper ends of the auxiliary arms 17 and curved standard 19 may be easily received between the arm 16 and the wagon-body. The outer ends of the operating-arms 16 and of the auxiliary arms 17 are bent inwardly at right angles to their main or body portions, and these bent ends hook around the outer side of the gate 15 and are bolted thereto, the former near the upper and the latter near the lower edge of the gate. The auxiliary arms 17 at their inner ends are riveted or bolted to the arms 16 and serve the purpose of braces to assist the said arms 16 in holding the gate 15 in proper position.

The device for controlling the position of the gate includes the curved standards 19, suitably supported on the longitudinal beam 2 of the main frame at each end of the wagon-body and extending outwardly and upwardly and provided in their upper ends with rollers 20, upon which the lower edges of the arms 16 rest. Since the supporting-standard 19 remains stationary, it follows that when the wagon-body is dumped the arms 16 and 17 will remain substantially where they were, as will also the side 15 of the body, which side they support, the gate being lifted slightly as the body reaches the dumped position. Hence when the wagon-body is dumped it will have moved downward from the gate 15, and the side of the body will be opened to permit the free emptying of the load. However, since the wagon-body is pivoted at its bottom to the frame and the arm 16 is pivoted to the body near its top immediately above the pivot upon which the bed turns and the standard 19 remains stationary it follows that when the body is dumped the inner end of the arm 16 will be slightly lowered and will also move somewhat nearer to the stationary roller 20, the effect of which will be to elevate the outer ends of the arms 16 and 17, together with the gate 15 of the body. The purpose of the roller 20 is to permit the free longitudinal movement of the arm 16 upon the curved-standard 19. The farther out the arm 16 moves upon the roller 20 the greater will be the lever-power which the side 15 of the wagon-body will exert to assist in bringing the body back to its normal position when the load is emptied, for in this case the arm 16 becomes a lever, the roller 20 the fulcrum, and the weight 15 the power to effect this result. This arrangement will not perceptibly affect the operation of dumping in its initial stage, but will retard it somewhat as the wagon-bed becomes more inclined. This, however, is rather an advantage than a disadvantage, for when the operation of dumping is once fairly begun there is a superabundance of power to finish it, so that my invention practically stores up a portion of the surplus power of the dump and utilizes the same to assist in bringing the body back to its normal position.

As will be seen from Fig. 4, the upper end of the supporting-standard 19 is provided with the keeper 19^a, and in the space intervening between the keeper and the standard the roller 20 is located, so that its pivot may be supported at each end. Through this intervening space the arm 16 also passes. By preference I pivot the standard 19 at its inner lower end to the wagon-frame at 19^b, as this will permit the lifting of the gate 15 by hand wherever desired without tilting the body of the wagon.

In the dumping operation as the pivot-point 18^a approaches the roller 20 it is evident that there must be sufficient vertical space between the arms 16 and 17 to permit the stand-

ard 19 to be received between them, and in order to provide for this the parts may be loosely jointed or some of the parts may be bent to permit the desired operation, as preferred.

From Fig. 2 it will be seen that in the construction of the main frame of my wagon the transverse beams 4 thereof are provided at their inner ends with the iron plates 4^a, which serve as large washers or clamps for the bolts that pass through them, so that the same may be screwed up unusually tight without tearing or bruising the wood.

From the construction of the main frame it will be seen that one side of my wagon is somewhat heavier than the other, and in order to counterbalance this slight additional weight on one side I load the other side slightly heavier, so that my wagon as a whole is evenly balanced, and the additional weight being on the tilting side of the bed will cause it to dump all the more promptly.

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

1. In dumping-wagons the combination of the main frame; the latch-bar carried thereby; the tilting body pivotally mounted on said frame; the handle-lever for dumping said body; said lever being pivoted to the body and adapted to swing against the side thereof and into and out of engagement with the said latch-bar; a drop-latch secured to the side of the body in position to engage said swinging lever whereby to lock the lever against the side of the body; a removable gate for the opposite side of the body; swinging carriers supporting said gate at their outer ends and pivoted to the body at their inner ends; braces for said carriers; controlling devices comprising standards pivotally supported on the main frame and having rollers bearing loosely underneath the swinging carriers, upon which rollers the carriers are free to move when the wagon-body is dumped; said swinging carriers normally occupying a horizontal position with their pivot-points above the tilting pivot of the wagon-body, whereby the dumping of the body not only causes said arms to move outwardly upon the controlling devices, but also elevates their outer ends and with them the gate as specified and set forth.

2. A dumping-wagon comprising a main frame having a longitudinal coupling-beam; a parallel bar at one side thereof; transverse beams connecting the main beam with the parallel bar; a wagon-body pivotally mounted on the main frame; a dumping-gate therefor; arms for supporting said gate; and standards cooperating with said arms and having friction-rollers to permit the free movement of the latter upon the former as specified and set forth.

3. In dumping-wagons the combination of a main frame; a tilting body mounted thereon; a swinging handle-lever carried on one side of said body; a latch-bar on the main frame

adapted to cooperate with said lever to detachably secure the body to the frame; and a latch by which to secure said handle-lever in engagement with the latch-bar as specified and for the purpose set forth.

4. In dumping-wagons, a main frame having a longitudinal beam; a tilting body mounted on said frame; a swinging handle-lever for dumping said body; means carried on one side of the frame for engaging said lever to detachably unite said body and frame; and a drop-latch for holding the lever in position to keep the body locked to the frame as specified.

5. In dumping-wagons, a main frame including a longitudinal coupling-beam; a tilting body pivotally mounted on said beam; a gate for said body, a curved standard mounted on said longitudinal beam; arms pivoted to the wagon-body above its tilting pivot and extending outwardly to one side thereof to support the removable gate; said arms being supported by the curved standard; and a roller carried by said standard upon which said arms move as set forth.

6. In dumping-wagons, a main frame; a tilting body mounted thereon; a swinging lever for tilting said body; a removable gate for said body; arms supporting said gate and pivoted to the wagon-body above its tilting pivot and extending outwardly therefrom; a fixed standard supporting said pivoted arms; and so related thereto that the arms move outwardly thereupon to elevate the removable gate as the wagon-body is dumped and cause the weight of said section to have increased lever-power to bring the body back to its normal position as specified and described.

7. In dumping-wagons, a main frame; a tilting body mounted thereon; a gate for said body; arms pivoted to the body for supporting said removable gate; a controlling device having a fulcrum for each of said arms whereby the arms will move outward upon their fulcrums and at the same time elevating the removable gate of the body as set forth and for the reasons specified.

8. In dumping-wagons, a main frame including a longitudinal beam secured to the under side of the axles; a tilting body mounted thereon; a gate for said body; lever-arms pivoted to the body at their inner ends above its tilting pivot, and supporting the removable side at their outer ends; a controlling-standard supported by the main frame and extending upwardly and engaging with the under side of the lever-arms at a point between their pivoted inner ends and the gate whereby to form the fulcrums for said arms and along which, when the wagon-body is tilted, said arms move outwardly, lowering their inner ends, which move on the arc of a circle struck from the pivot-point of the wagon-body, and elevating their outer ends which support the removable side, whereby the wagon-body is counterbalanced by its gate when it is dumped.

9. In dumping-wagons the combination of

a main frame, a tilting body mounted thereon, a latch-bar on the main frame, a swinging hand-lever hinged at one end to the side of said body opposite its dumping side, and adapted to swing out into a position at right angles to the direction of length of the wagon-body to form a dumping-lever for said body, and also adapted to swing around against the side of the body to which it is attached, into a position longitudinally parallel therewith to engage the aforesaid latch-bar, and a latch on the side of the wagon-body to engage the free end of said handle-lever to lock said lever in engagement with said latch-bar on the main frame, as set forth.

10. In a dumping-wagon, the combination with the dumping-body and the main frame of a handle-lever for dumping the wagon-body; said lever being hinged at one end to the side of the wagon-body opposite its dumping side and adapted to swing out into a position at right angles to the longitudinal extent of the wagon-body to form a dumping-lever to dump said body, said lever being also adapted to swing around into longitudinal alinement with the wagon-body against the side thereof to which it is attached, to engage the frame of the wagon to lock the body in connection with said frame.

11. In a dumping-wagon, the combination with the main frame and the pivoted body, having the dumping-gate and a swinging carrier connecting the gate with the body, of the controlling device operating upon the swinging carrier and along which the said carrier

is slidable, whereby to open the gate as the body is dumped.

12. The combination of the main frame; the dumping-body; the gate; the swinging carrier secured to the gate and pivoted to the body; and a controlling device supported on the main frame, and having a portion bearing loosely beneath the swinging carrier whereby the latter may slide along the controlling device in dumping the body, substantially as set forth.

13. The combination of the main frame; the dumping-body; the gate therefor having a swinging carrier pivoted to the body; and a controlling device having a sliding engagement at one end with the gate-carrier, and pivoted at its other end to the main frame, whereby the controlling device may support the gate in dumping the wagon and the gate may be raised whenever desired without dumping the body substantially as set forth.

14. The combination of the main frame having a latch projection; the body; the handle-lever pivoted at one end to the body, whereby it may be admitted to operative position or against the side of the body and engaging in the latter adjustment with the latch-bar of the main frame, whereby to secure the body to the main frame; and a latch for securing the handle-lever in such adjustment as set forth.

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Witnesses:

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