

No. 720,183.

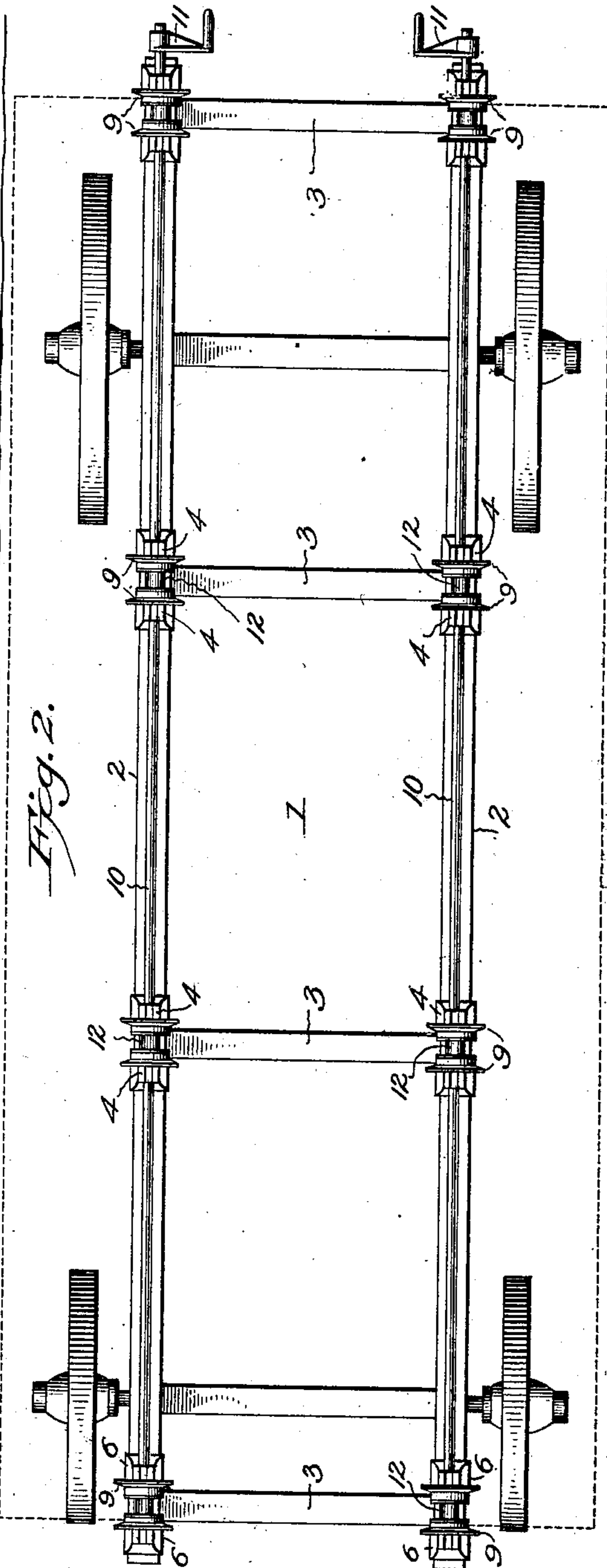
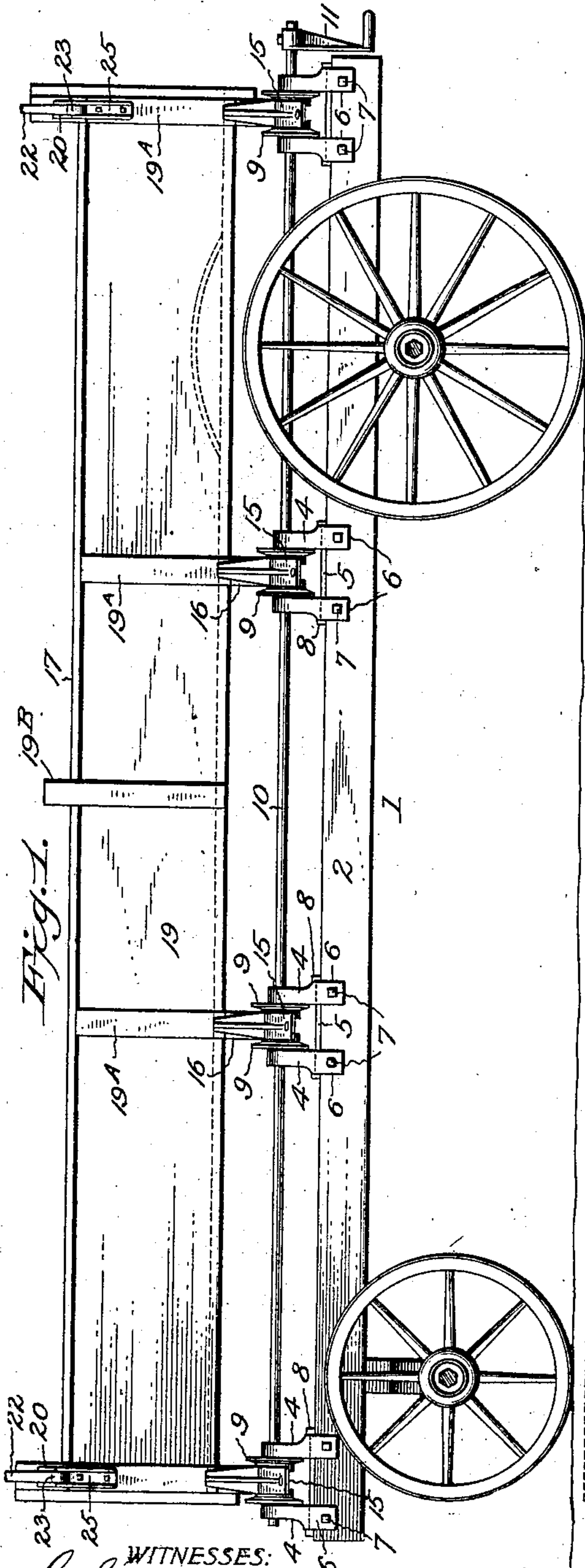
PATENTED FEB. 10, 1903.

E. M. SANDY.
DUMPING WAGON.

APPLICATION FILED NOV. 11, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:
G. Dargatz Elliott
Beers Thompson

INVENTOR
Edward M. Sandy
BY *H. S. Bailey* ATTORNEY.

No. 720,183.

PATENTED FEB. 10, 1903.

E. M. SANDY.
DUMPING WAGON.

APPLICATION FILED NOV. 11, 1902.

NO MODEL.

3 SHEETS—SHEET 2.

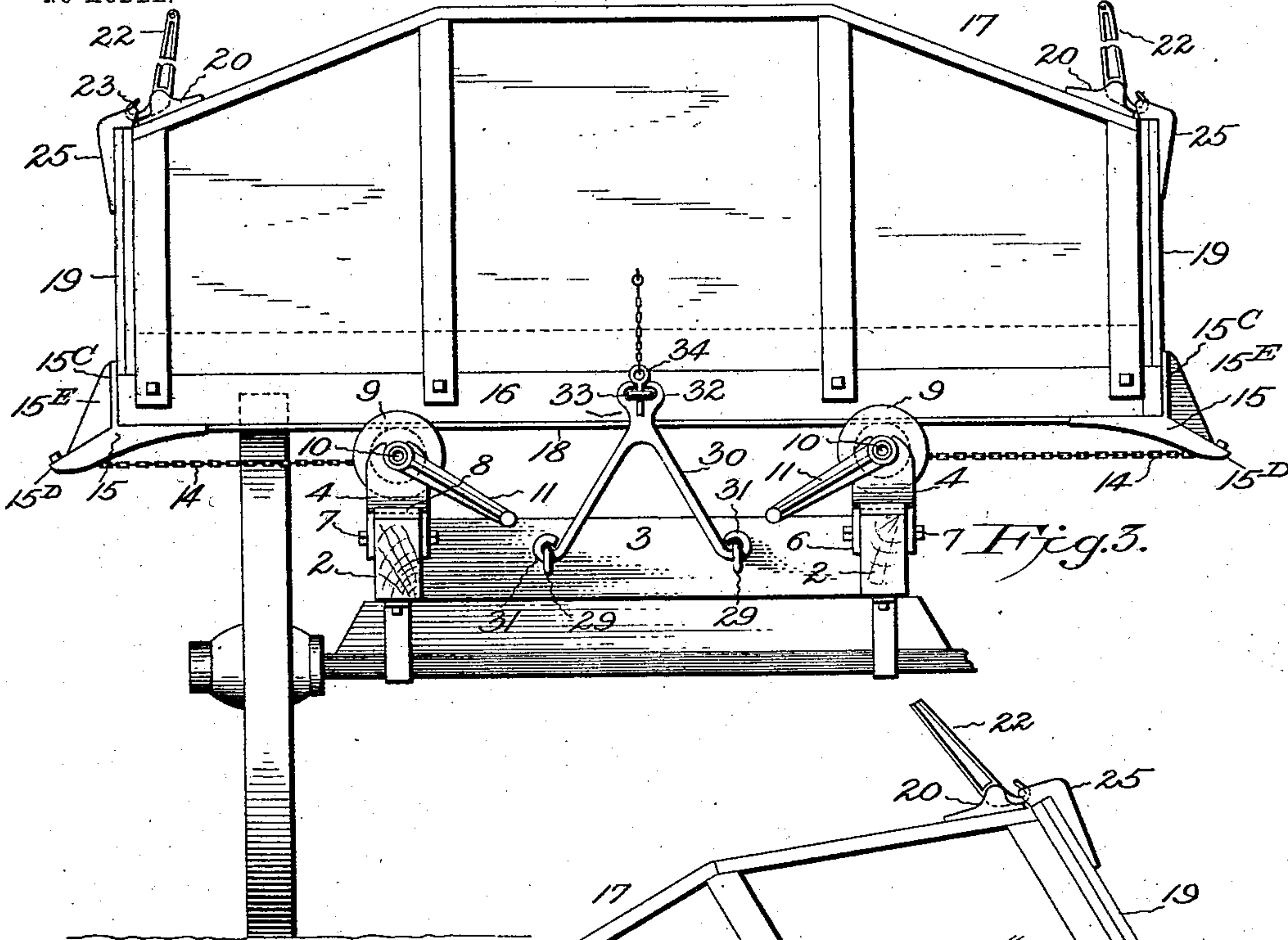
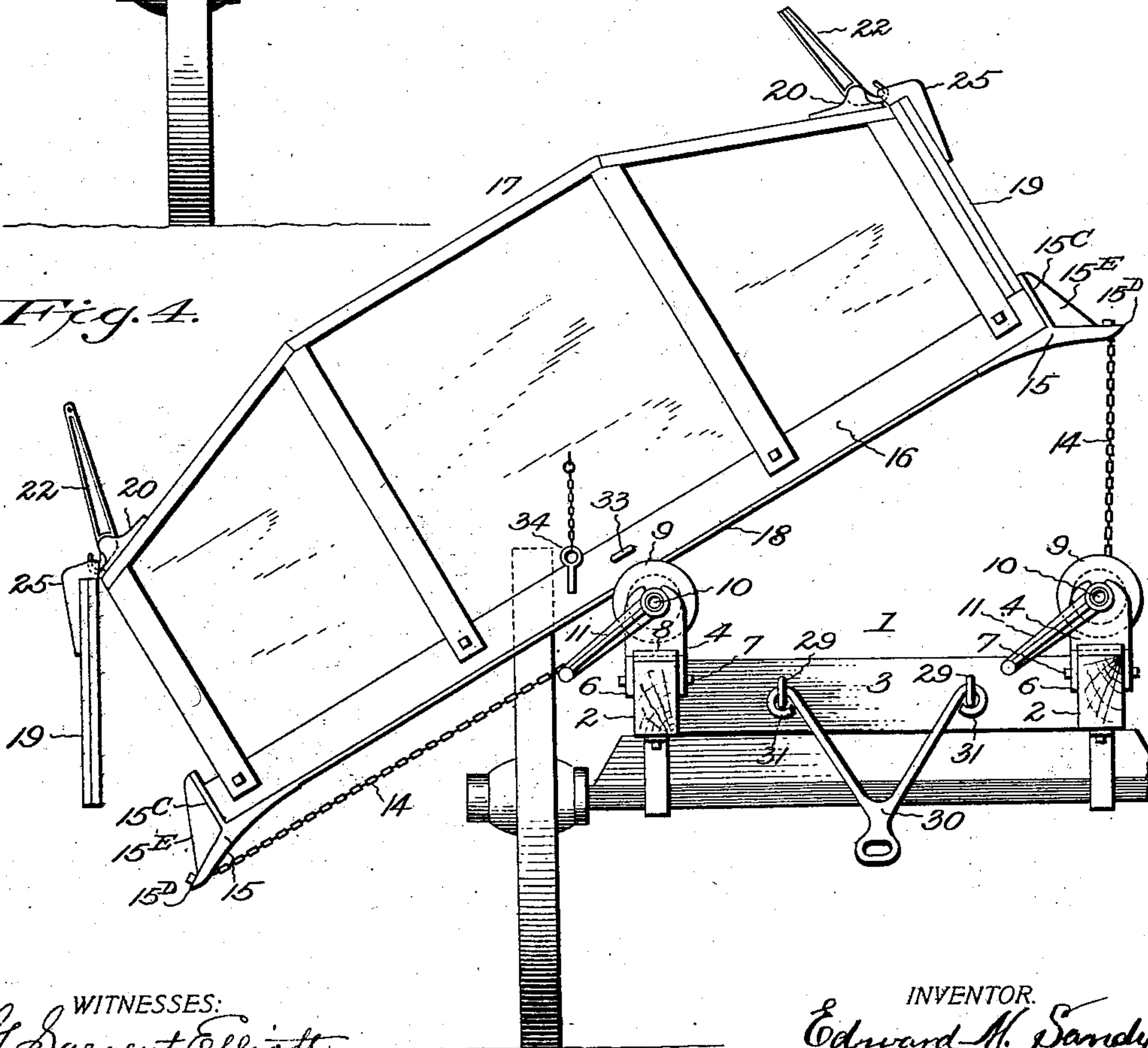


Fig. 4.



WITNESSES:
G. Sargent Elliott
J. C. Thompson

INVENTOR.
Edward M. Sandy.
BY
H. S. Bailey, ATTORNEY.

No. 720,183.

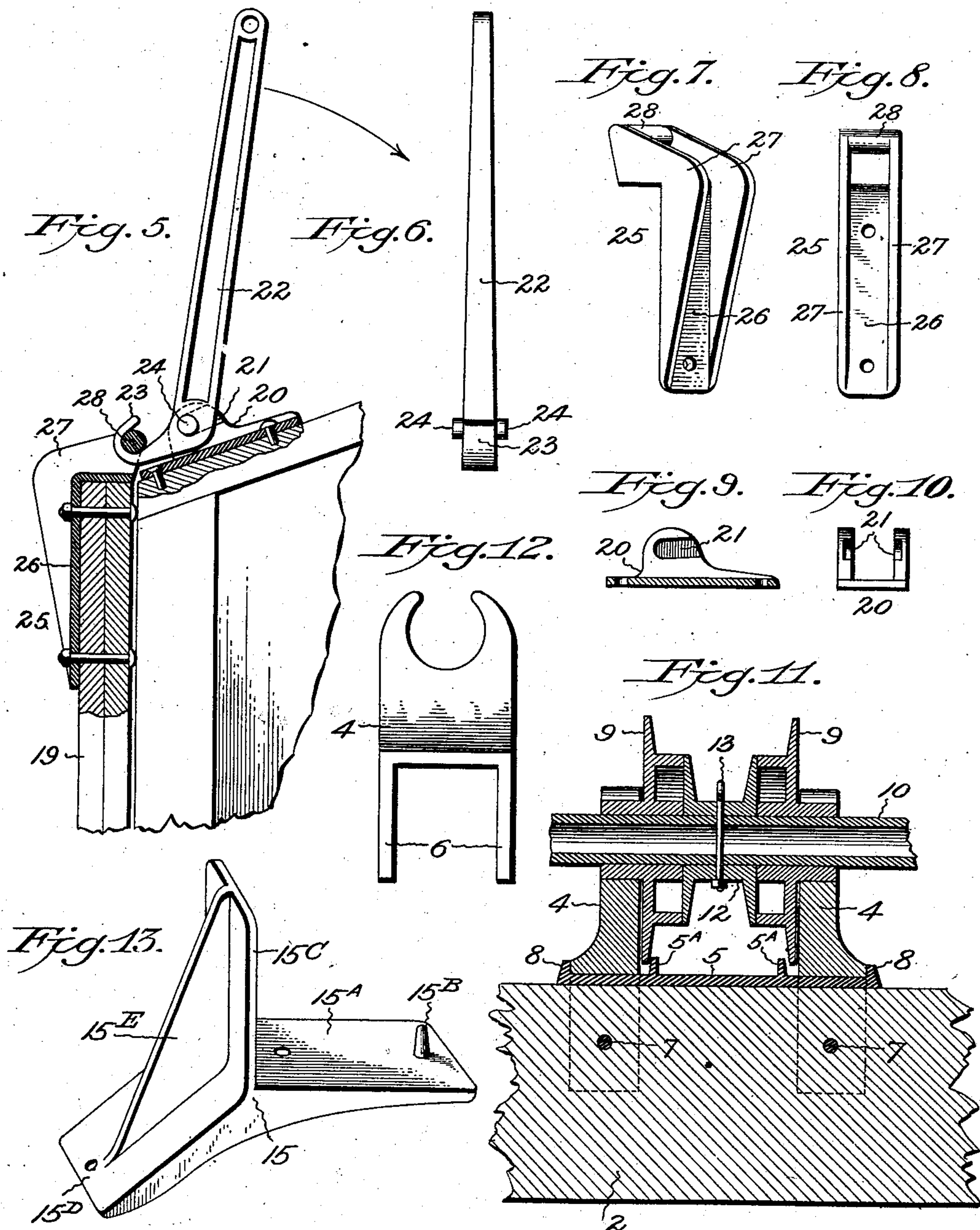
PATENTED FEB. 10, 1903.

E. M. SANDY.
DUMPING WAGON.

APPLICATION FILED NOV. 11, 1902.

NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES:

G. Dargent Elliott
Bessie Thompson

INVENTOR.

BY Edward M. Sandy

A. S. Bailey ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD M. SANDY, OF GREELEY, COLORADO, ASSIGNOR OF FIVE-TWELFTHS TO CLARENCE A. GRANGER AND HY TIMOTHY, OF GREELEY, COLORADO.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 720,183, dated February 10, 1903.

Application filed November 11, 1902. Serial No. 130,877. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. SANDY, a citizen of the United States of America, residing at Greeley, in the county of Weld and State of Colorado, have invented certain new and useful Improvements in Dumping-Wagons; 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 dumping-wagons.

The object of the invention is to provide a wagon which can be dumped from either side, and to this end I provide a suitable supporting-frame, which is mounted upon wheels, the said frame being made up of a pair of longitudinal side beams, which are connected by brace-beams, so as to form a rigid structure. Secured at suitable points upon each side beam is a pair of bearings, in each of which is journaled the hub of a divided sheave, and a rod is passed through the hubs of the divided sheaves on each side of the frame, the said rods having a movement independent of the sheaves and being provided at their rear ends with a crank-handle. A spool is rigidly secured upon the rods between the members of each divided sheave, and a chain is secured to each spool and to a suitable wagon-body, having tracks or ways upon its under side, which rest upon the divided sheaves, the body being adapted to be moved to either side by the said chains in order to be dumped, the sides of the wagon being arranged to open outward for this purpose, as will be fully set forth in the accompanying specification and claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved dumping-wagon. Fig. 2 is a plan view of the supporting-frame and running-gear, the body being shown in dotted lines. Fig. 3 is a view of the rear end of the wagon, the body being in its normal position. Fig. 4 is a similar view, the body being shown as moved to one side and

tilted, as when the load is dumped. Fig. 5 is a fragmentary view of one corner of the wagon-body, showing the manner of hinging the side-boards and of raising them in order that they may swing outward when the body is tilted. Fig. 6 is an edge view of one of the supporting-levers upon which the side-boards are hinged. Fig. 7 is a perspective view of one of the hangers which are secured upon the upper corners of the side-boards, so as to be engaged by the supporting-lever. Fig. 8 is a front elevation of the same. Fig. 9 is a sectional view of one of the bearings for the supporting-lever. Fig. 10 is an end elevation thereof. Fig. 11 is a sectional view through one of the divided sheaves, the tubular rod to which the spool is secured, and the bearings which support the sheaves. Fig. 12 is an end elevation of one of the bearings for the divided sheave; and Fig. 13 is a perspective view of one of the castings secured at each end of the tracks upon the under side of the wagon-body, which hold the side-boards normally closed and to which one end of each of the chains for moving the body is attached.

Referring to the accompanying drawings, the numeral 1 refers to the frame which supports the body of the wagon. This frame is made up of side beams 2, which are connected at suitable points by brace-beams 3, so as to form a rigid structure, and is mounted upon wheels in the usual manner. At each end of each side beam 2, and also at intermediate points upon the same, are secured bearings 4, which are arranged in pairs and are of the form shown in Figs. 11 and 12. These bearings rest upon metal plates 5, which lie upon the tops of the side beams and have depending members 6, which straddle the said beam and are secured thereto by bolts 7, which pass through the beam and through each member 6. The opposite ends of the plates 5 are upturned, as shown at 8, and these upturned ends define the space between each two bearings and prevent their spreading outward. In each bearing is journaled the hub of one member 9 of a divided sheave, and through the hubs of the sheaves on each side of the frame is passed a rod 10, each rod extending the entire length of the frame and each being

provided with a crank 11 at its rear end. A spool 12 is interposed between the two members of each divided sheave and is rigidly secured to the rod 10 by an eyebolt 13. The spools are thus turned with the rods, but the rods pass loosely through the hubs of the sheaves, which consequently have a movement independently of the said rods. To each of the eyebolts 13 is secured one end of a chain 14, the opposite end of which is secured to a casting 15, one of which is bolted to each end of a series of timbers 16, forming the bottom support of a wagon-body 17. The under side of each timber 16 is faced with a metal strip 18, and the said timbers form tracks or ways, which ride upon the tread portions of the divided sheaves 9 when the body is moved to either side, as will presently more fully appear. If desired, the spool 12 may be dispensed with and the chain secured to eyebolt 13, so as to be wound directly upon the rod 10 between the members of the divided sheave, which will in this event be prevented from working toward each other by upward extensions 5^A, formed on the plate 5, which will contact with the flange of each member of the sheave and prevent the movement above mentioned, as will fully appear by reference to Fig. 11.

The body of the wagon comprises a bottom, which is arched at its rear end above the rear wheels, as shown in dotted lines, Fig. 1, front and rear ends, which are secured to the bottom, and side gates 19, which are hinged at their upper edges to the ends, so as to swing outwardly at the bottom. The side gates 19 are hinged to the ends in the following manner: Upon each upper corner of the ends is bolted a casting 20, of the form illustrated in Figs. 9 and 10, comprising a horizontal portion or plate through which the securing-bolts pass, and side members which extend vertically therefrom and which are provided on their inner faces with grooves 21, which extend nearly across the said faces in a substantially horizontal direction, one end of said grooves being open, while their opposite ends terminate in a semicircular shoulder. These castings 20 form bearings for a combined lever and support 22, from which the side gates 19 are suspended. Each lever comprises a vertical grasping portion, the lower end of which extends at an angle and terminates in a hook 23. On each side of the lower end of these levers a lug or trunnion 24 is formed, and when the levers are placed in the castings 20, as shown in Fig. 5, the trunnions 24 will lie within the grooves 21 in the side members of the said castings and will abut against the shoulders formed by the closed ends of the grooves, and the hooked ends 23 will extend slightly beyond the vertical edges of the ends of the body. The side gates are each provided at their upper corners with a casting or hanger 25, of the form shown in Figs. 5, 7, and 8, each comprising a vertical and horizontal plate portion 26, which fits upon the side and over the

upper edge of the side gate and is bolted thereto. The plate is provided on each side with a web 27, which extends at right angles thereto, and these webs are connected at their uppermost ends by a pintle 28, which is designed to be engaged by the hook 23 of the lever 22.

The castings 15, hereinbefore referred to, to which one end of the chains 14 is secured, are of the form shown most clearly in Fig. 13, and comprise a horizontal portion 15^A, which is secured to the under side of the bottom supports or track 16 by bolts or by a bolt and a lug 15^B, a vertical portion or keeper 15^C, which extends a slight distance above the lower edges of the side gates and holds them normally closed, and a member 15^D, which is a forward and downward continuation of the other two members and has secured thereto one end of the chains 14, a strengthening-web 15^E being formed between this member and the member 15^C. I preferably employ four of these castings 15 on each side of the body, and consequently four of the bottom supports or tracks 16. The side gates are each provided with vertical strengthening-battens 19^A at points coincident with the castings 15 and centrally with a batten 19^B, which extends slightly above the upper edge of the gate. These central battens may be connected by a rope, which will prevent the side gates from sagging outward when the wagon is heavily loaded.

The wagon-body is supported upon the divided sheaves 9, so as to have a lateral movement in either direction; but in order to hold the body in its normal position or centrally upon the supporting-sheaves, as when the wagon is being loaded or is in motion, I employ the following device: Into each of the end braces of the frame 1 is screwed a pair of eyebolts 29, and attached to these eyebolts so as to have a swinging movement thereon is a holding device 30, which, as shown in Figs. 3 and 4, is substantially V-shaped, the ends of the arms being formed into eyes 31, which engage the eyebolts 29, while the opposite end or apex is formed into an eye 32, which is designed to fit over the eye of an eyebolt 33, which is screwed into the track or bottom support 16 at each end of the body and is held against accidental displacement therefrom by a pin 34, which passes through the eye of the bolt 33, the pin being attached to the end of the body by a chain. By this device the body is securely held against lateral movement.

The operation of my improved dumping-wagon is as follows: When it is desired to load the same, the body is moved to the position shown in Fig. 3 through the medium of the cranks, rods, and chains and is secured by the holding device 30, and after being loaded and conveyed to the point where the load is to be dumped the holder 30 is dropped to the position shown in Fig. 4, when the body may be moved laterally either to the right or

left. If the load is dumped from the left side, (looking from the rear,) the right-hand crank is turned and the chains on that side will draw upon the body and shift it to the left, the track 16 riding upon the sheaves 9. When the body reaches the point where its center is just above the left-hand set of sheaves, the body will begin to tilt, and the right-hand chains, which have been wound around their rod, may then be paid out, so as to allow the body to tilt gradually, and thus prevent any sudden strain upon the supporting-frame or tilting mechanism. The levers 22, which support the side gate, are then moved in the direction of the arrow, Fig. 5, when the gate will be raised sufficiently to escape the keepers 15° and will swing outward, as shown in Fig. 4, allowing the load to discharge. The right-hand crank is then turned and the body is drawn to a horizontal position. The left-hand chains are then drawn upon, the body is shifted to a central position, and is held therein by the holder 30. The side gate is lifted by the levers 22, so as to drop behind the keepers, and the wagon is again ready to be loaded.

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

1. In a dumping-wagon, the combination of a body having supporting-levers located at the ends thereof; side gates having hinge connection at their upper edges with the said levers, so that their lower edges may swing outward, and keepers which normally hold the gates closed; a frame having revoluble supports upon which the body is mounted; rods which pass loosely through the said supports, having crank-handles at their rear ends; chains attached to the rods and to the body, by which the body may be moved laterally in either direction, and means for holding the body stationary when the same is being loaded or when the wagon is in motion, substantially as shown.

2. In a dumping-wagon, a body having tracks upon its under side, and hand-levers located at its upper corners; side gates which are hinged at their upper edges to the said levers, so as to be raised thereby, and keepers which extend above the lower outside edges of the gates and hold the same normally closed; a supporting-frame having sheaves upon which the tracks, secured upon the under side of the body, ride; rods having crank-handles at one end, and which pass through the sheaves, but having a movement independent thereof; chains attached to the rods and to the ends of the tracks by which the body may be moved laterally in either direction, and a holding device by which the body may be held against lateral movement, when the wagon is in motion, substantially as shown.

3. In a dumping-wagon, a body having hinged side gates, and tracks which are secured to its under side; hand-levers secured upon the upper corners of the ends of the body,

the lower ends of which support the said gates, so that they may have an outward-swinging movement; castings secured to the ends of the tracks having upwardly-extending members which prevent the gates from swinging outward until raised by the said levers; a frame having bearings in which are journaled a series of divided sheaves upon which the tracks of the body ride; rods which pass loosely through the hubs of the sheaves, spools which are located between the members of each divided sheave, and which are rigidly attached to the rods; chains connecting the spools with the castings at the ends of the tracks by which the body may be moved laterally in either direction, and is limited in its lateral and tilting movement; and a holding device by which the body may be held against lateral movement when the wagon is in motion, substantially as shown.

4. In a dumping-wagon, a body having tracks upon the under side thereof, and hand-levers located at the upper corners, the lower ends of which are formed into hooks; side gates, having hangers at their upper corners, which are engaged by the hooked ends of the said levers so as to swing outward at their lower edges; castings secured to the ends of the tracks, having projections which normally hold the gates closed; and a frame having bearings which are arranged in pairs, and divided sheaves which are journaled in the said bearings; rods which pass loosely through the hubs of the sheaves and are provided at their rear ends with crank-handles, the rods having spools rigidly attached thereto, each of which lies between the members of one of the divided sheaves; chains attached to the spools and to the castings at the ends of the tracks, by which the body may be moved laterally in either direction and by which it is limited in its lateral and tilting movement; and a holding device, which is hinged to each end brace of the supporting-frame, and having an eye at its free end, which fits over a staple in the end tracks and is retained thereon by a pin, substantially as shown.

5. In a dumping-wagon a supporting-frame which is provided with a series of bearings arranged in pairs, in which are journaled divided sheaves, and rods which pass loosely through said sheaves, and are provided with crank-handles at their rear ends, in combination with a body having tracks which ride upon the sheaves and chains attached to the ends of the tracks and to the said rods; the said body being provided with side gates which swing outward at their lower edges, and with levers which support the said gates, and are adapted to lift the same vertically, as shown.

6. In a dumping-wagon a body having tracks upon its under side, which are provided at each end with keepers; and side gates, the lower edges of which are engaged by the said keepers; levers, which are fulcrumed in bearings attached to the upper corners of the

body; the lower ends of which support the said gates; the said levers being adapted to lift the gates out of engagement with the said keepers; in combination with a frame, having sheaves upon which the tracks of the body ride, and rods which pass loosely through the hubs of the sheaves, and are provided with crank-handles at their rear ends and with chains which are connected to the keepers at the ends of the tracks, substantially as shown.

7. In a dumping-wagon, a body the floor of which is arched transversely at its rear end, the said body being provided with tracks, and with side gates which are suspended from levers located at the upper corners of the body; in combination with a frame which is supported upon wheels, the said frame being provided with sheaves, upon which the tracks of the body ride, rods having crank-handles, which pass loosely through said sheaves, and chains connected to the rods and to the ends of the tracks, substantially as shown.

8. In a dumping-wagon, a body having tracks which are provided with keepers at each end, and side gates the lower edges of which are engaged by the keepers while their upper corners are provided with hangers; levers fulcrumed upon the upper corners of the body, the lower ends of which are formed into hooks and engage the hangers, so that the gates may be lifted to clear the keepers; in combination with a frame which is provided with sheaves upon which the tracks of the body ride, and with rods having crank-handles, which pass loosely through the hubs of the sheaves, and are provided with chains which are connected to the ends of the tracks, substantially as shown.

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

EDWARD M. SANDY.

Witnesses:

G. SARGENT ELLIOTT,
BESSIE THOMPSON.