No. 682,834. Patented Sept. 17, 1901.

# W. O. SHADBOLT.

## DUMPING WAGON.

(Application filed June 27, 1901.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

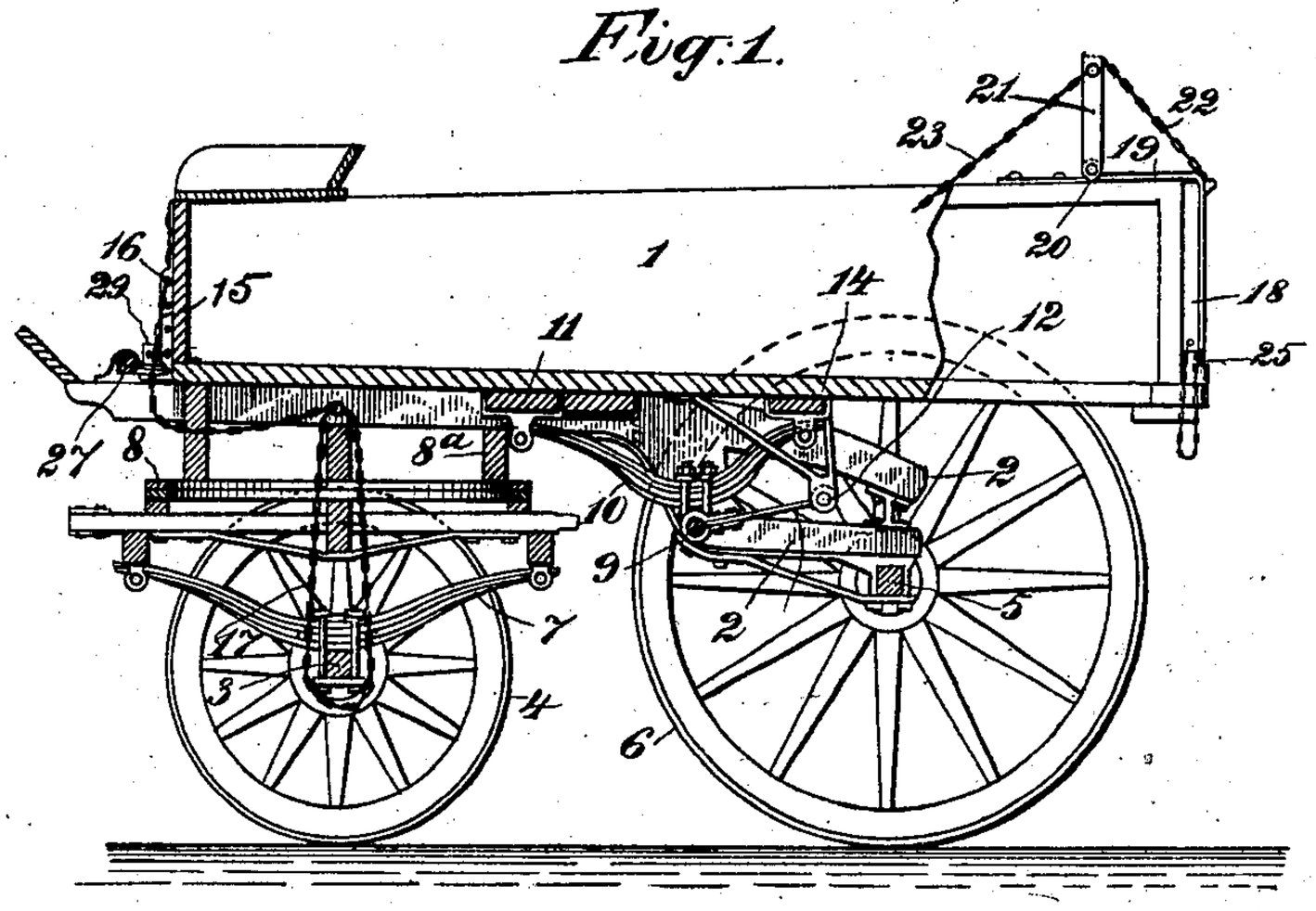
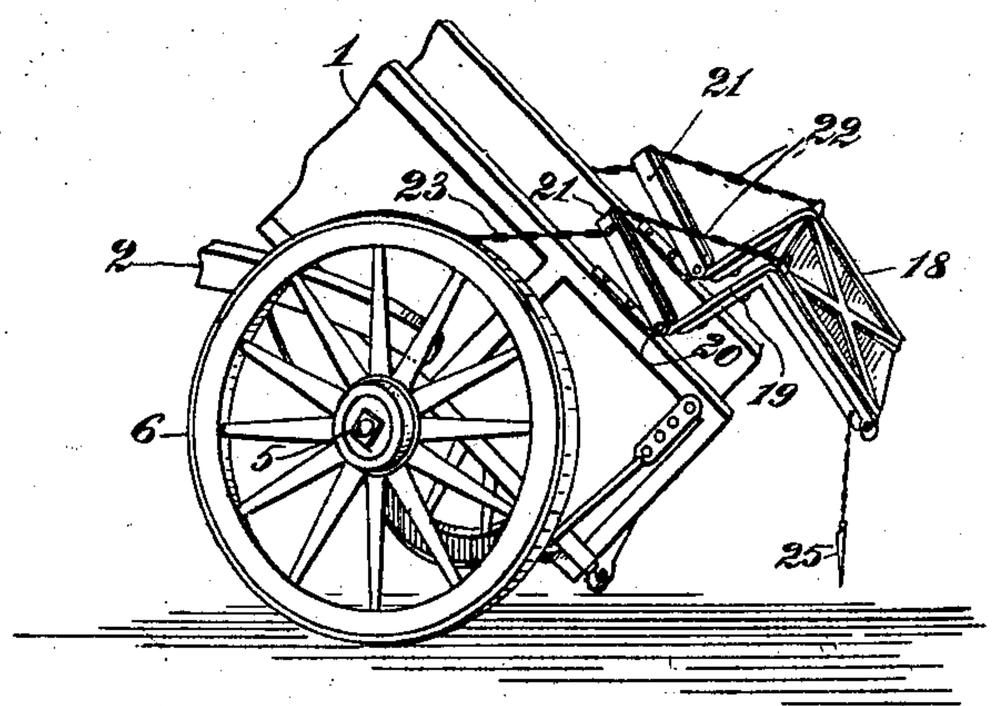



Fig. 2.




WITNESSES:

F. H. Hinman

K. M. Caplinger

INVENTOR:

William Oscar Shadbolt

BY

Henry Connett

ATTORNEY

No. 682,834. Patented Sept. 17, 1901.

# W. O. SHADBOLT.

## DUMPING WAGON.

(Application filed June 27, 1901.)

(No Model.) 3 Sheets—Sheet 2.

Fig. 3.

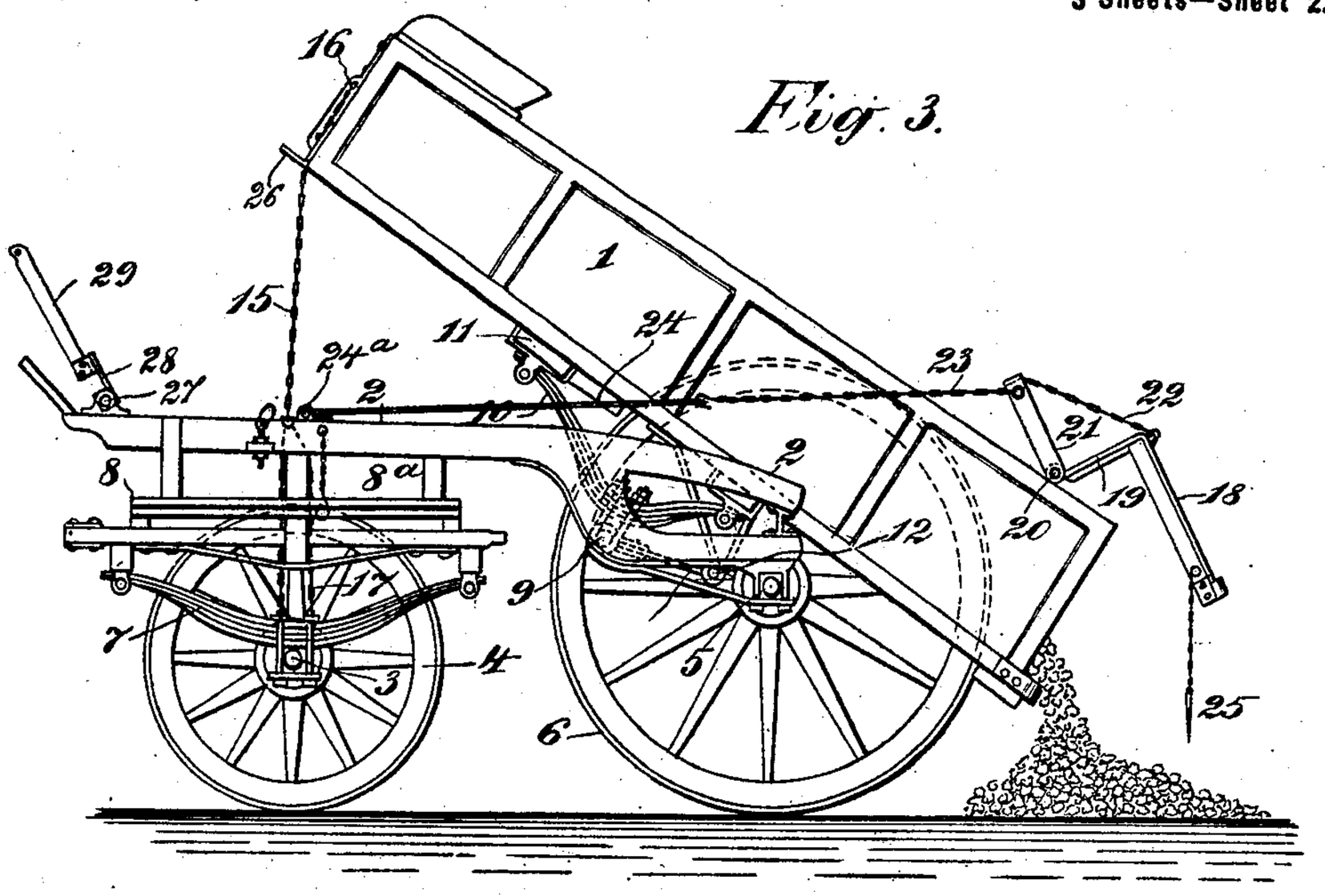
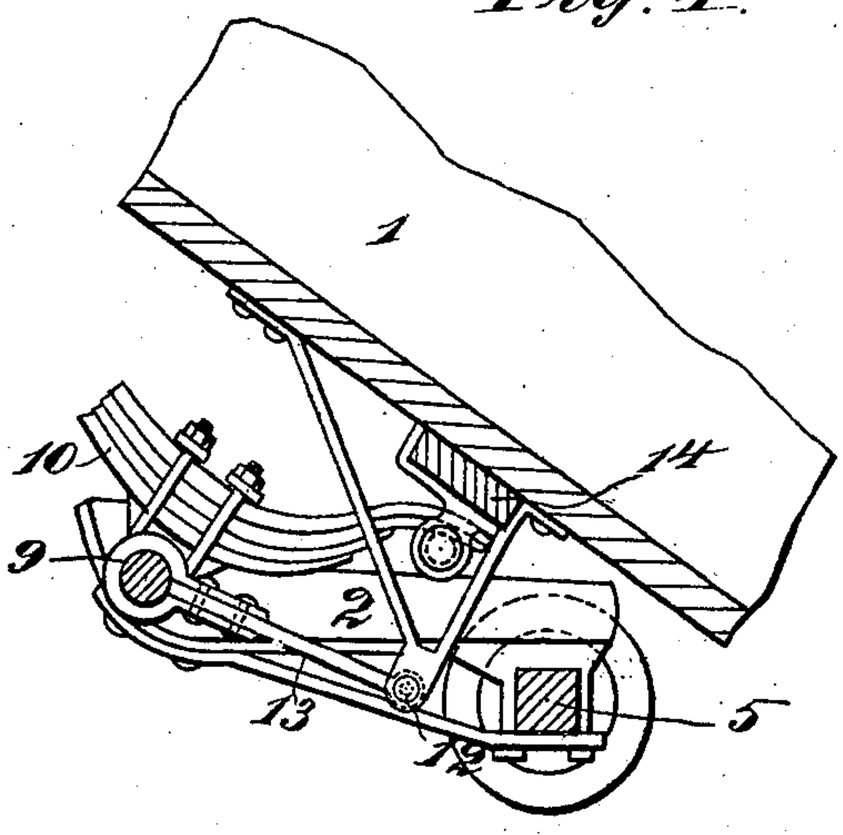



Fig. 4.




WITNESSES:

F. H. Ulman

H. M. Caplinger

INVENTOR:

William Oscar Shadbolt

BY Henry Connett

ATTORNEY

No. 682,834.

Patented Sept. 17, 1901.

# W. O. SHADBOLT.

## DUMPING WAGON.

(Application filed June 27, 1901.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 5.

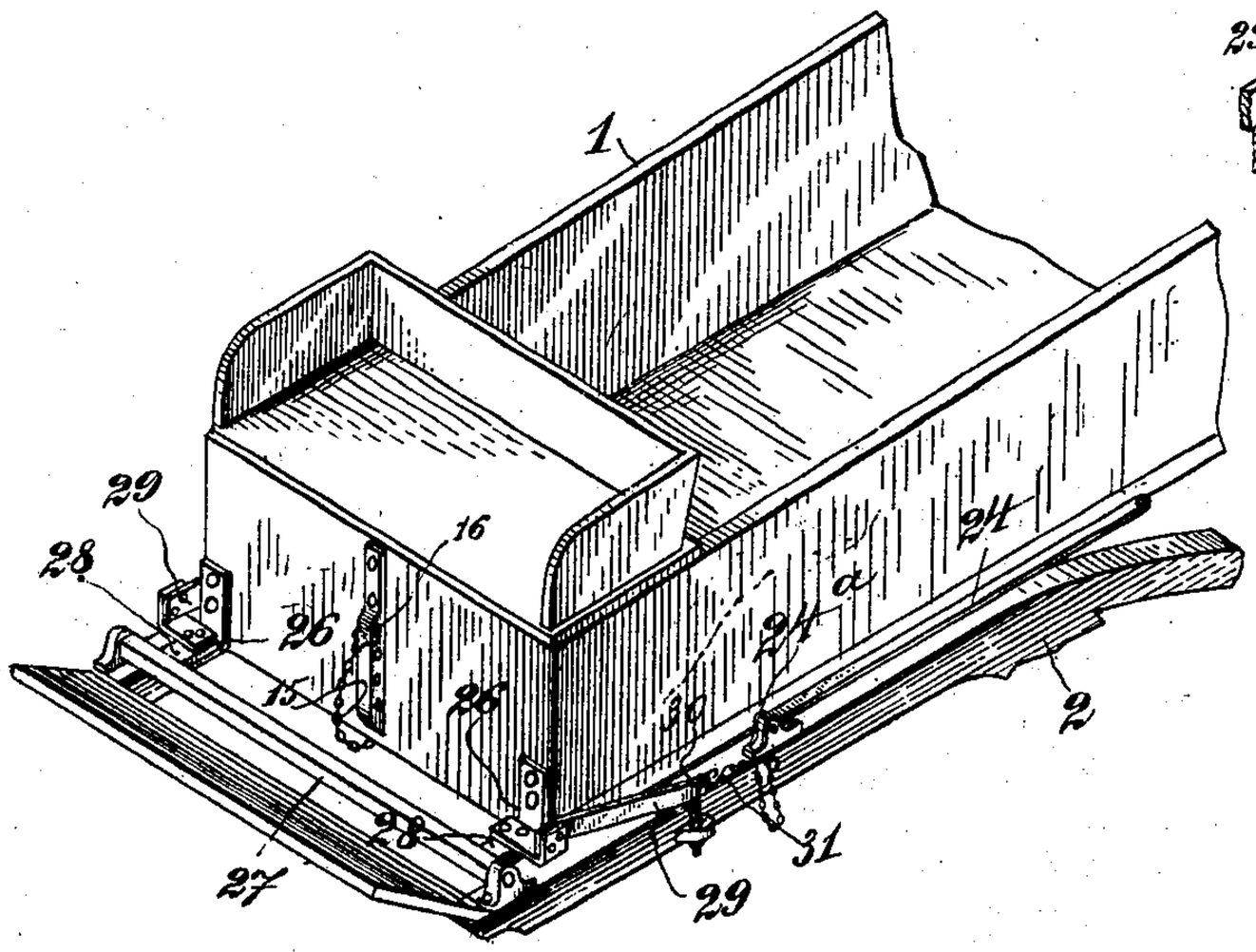



Fig. 5a

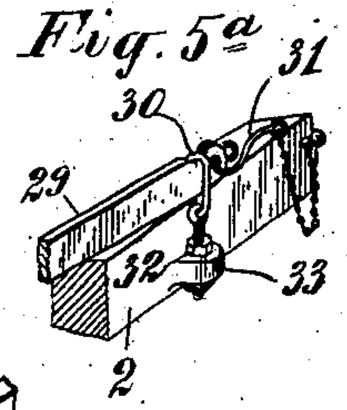
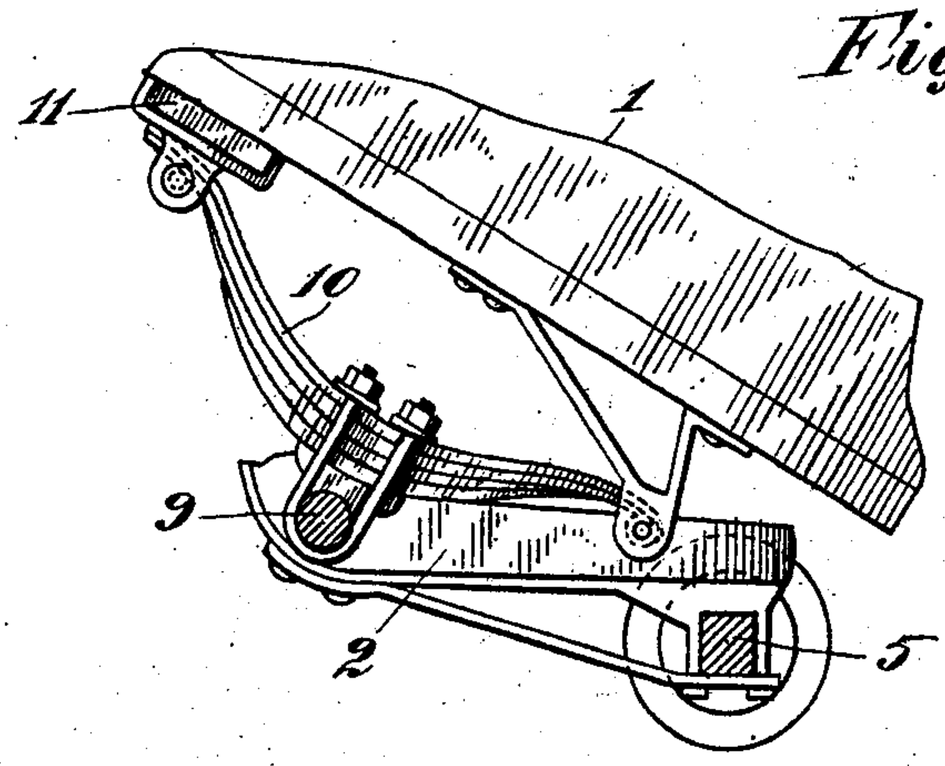



Fig. 6.




WITNESSES:

F. W. Hinman

H. M. Caplinger.

INVENTOR

William Oscar Shadbolt.

BY

Henry Connett

ATTORNEY

# UNITED STATES PATENT OFFICE.

WILLIAM OSCAR SHADBOLT, OF BROOKLYN, NEW YORK.

## DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 682,834, dated September 17, 1901.

Application filed June 27, 1901. Serial No. 66,209. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM OSCAR SHADBOLT, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, and city and State of New York, have invented certain new and useful Improvements in Dumping-Wagons, of which the following is a specification.

This invention relates to the general class of four-wheeled dumping-wagons of which that illustrated in my Patent No. 665,137, dated January 1, 1901, is an example. A wagon of this character has fifth-wheels and springs at its front end, springs at the back mounted to rock in a frame, which latter is supported at the front on the fifth-wheel frame and at the back on the rear or hind axle, and a body mounted on and dumping with the rear springs.

The object of the present invention is in part to provide such a wagon with the rear springs which turn with the body in dumping situated wholly in front of the rear axle, which latter may be straight or not cranked, in part to provide means for checking and limiting the movement of the body as it tilts in dumping, and in part to provide an automatically-operating means for actuating the tail-gate when the body dumps.

In the drawings, which serve to illustrate my invention, Figure 1 is a sectional elevation of the wagon, showing the body in its normal position on the frame and its rear part in side elevation. Fig. 2 is a perspective view illustrating the construction and operation of the tail-gate. Fig. 3 is a side elevation of the wagon, showing the body dumped. Fig. 4 is a detail fragmentary view of the rear springs and their mountings. Fig. 5 is a fragmentary perspective view showing the body-locking device, and Fig. 5ª is a detail of the locking device. Fig. 6 is a view similar to Fig. 4, showing a slightly-modified construction, which will be hereinafter described.

1 designates the body; 2, the frame; 3, the front axle; 4, the front wheels; 5, the rear axle; 6, the rear wheels; 7, the front springs, and 8 the fifth-wheels. The frame 2 consists of two side bars which are fixed at their front ends to the fifth-wheel frame 8ª and at their rear ends are supported on and secured to the rear axle. The form or contour of the side bars of the frame will be by preference as seen in Fig. 3.

In the frame, in front of the rear axle, is mounted a rocking fulcrum-bar 9, to which are secured the rear springs 10. The body is supported in dumping wholly on these springs, which rock with it. At their front ends the springs are secured to a transverse cleat 11 on the body and at their rear ends to brackets 12 on the body. Preferably the rear arms of the springs will be somewhat shorter than the front arms thereof; but in any case the rear arms will be of such length that in dumping they will or may pass down in front of the rear axle—that is, the whole of the rear springs will be in front of the rear axle—so that the body, which is mounted considerably above the bar 9, may dump to the fullest extent without interference with the axle.

In order to prevent the momentum of the body in dumping from straining the springs, upon which it is wholly supported, a coupling-link 13 is employed. This link is coupled at one end to the bar 9 and turns about the same, and at the other end—its rear end—to a bracket 14 on the body. This bracket is fixed firmly to the body, and in dumping the link 13 swings radially about the axis upon which the body turns. Preferably there will be two of these links, one near each spring, and they serve to resist the tendency of the body to slide on the springs. When the body dumps, its movement is limited by a chain 15, coupled or hooked to a bar 16 on the body at one end and secured at its other end to a loop 17, which will also be a chain by preference and which extends down and about the front axle. Thus the entire weight of the front part of the running-gears, including the front axle and wheels and the fifth-wheels and frame, is utilized to resist the sudden strain produced by the dumping of the loaded body, and this strain does not tend to lift the frame from the running-gears. This loop 17 will be situated about the middle of the axle by preference and will not in any manner interfere with the turning of the axle about the king-bolt. It may be explained that in a wagon of this character, where the load is often as much as eight tons and the tail of the body is not permitted to reach the ground, it is essential in order to check the strain that the

check shall take under the front axle in the form of a loop or stirrup, so as to pull upward thereon directly, and it should also be in the form of a loop which takes about or embraces the transverse members of the fifth-wheel frame, as clearly shown in Fig. 1. Otherwise the great strain will produce a twisting or torsional effect, which will soon destroy the structure.

In order that the tail-gate may shift or lift out of the way automatically when the body dumps, the device that will now be described is employed. The tail-gate 18 has at each side of the body hinging arms 19, which extend forward at right angles to the gate and are hinged to the body at 20, and hinged also at the same points are folding arms 21, the tops of which are coupled by brace-chains 22 to the upper edge of the tail-gate. Operating-chains 23 extend forward from the tops of the arms 21 and are coupled to suitable link-bars 24 or the like on the frame 2. As the body tilts in dumping the chains 23 turn the tail-gate about the hinging-points 20 to the position seen in Fig. 3. Normally the gate is held closed by a pin or key 25, as seen in Fig. 1, and when the gate is closed and the wagon is being driven from point to point the chains 23 may be unhooked and the arms 21 folded down flat.

Obviously this invention is not strictly limited in its details to the construction shown. For example, any flexible connectors may serve in lieu of chains, and by "chain" is herein meant any suitable equivalent device. The device for checking and limiting the dumping movement of the body may be any connector uniting the front axle with the body. The bar 16 on the front of the body is placed upright and provided with a series of holes for the attachment of the chain 15. This device is to limit the extent of the dumping movement and to prevent the tail of the body, if desired, from reaching the ground.

In order to lock the front end of the body to the frame, and thus prevent accidental dumping, the device best seen in Fig. 5 is employed. On the front end of the body are secured two bracket-lugs 26, and on the frame in front of the body is mounted a rock-shaft 27, provided with two lugs 28, adapted to take over the respective lugs 26 on the body. To the respective lugs 28 are secured arms 29, which extend rearwardly and engage each a loose locking-ring 30, Fig. 5ª, on the frame, which hold the lugs 28 down and keep the body from dumping. To disengage the arms 29 and allow the body to dump, the rings 30 are turned over the ends of the respective arms and the latter set free. A locking-hook 31 is hooked through a hole in the end of the arm to prevent accidental disengagement of the ring 30, and this latter has a screw-threaded stem or shank 32, provided with nuts, embracing the bracket 33 on the frame. This device serves to secure the stem to the frame and also permit it to be adjusted up or down at will for any purpose. The arms 29 may be connected directly or indirectly to the lugs 28, but preferably directly, as shown in Fig. 5. Preferably, also, there will be an arm 29 at each side of the body. The chains 23 may be unhooked from the respective link-bars 24, except at the time of dumping. The link-bars are hinged or linked to the side bars of the frame, as indicated at 24ª in Figs. 3 and 5. It is not absolutely essential that the upright arms 21 shall be capable of folding down. They may be left standing rigid. The folding down is mainly for the sake of appearances. The bracing-link 13 may be omitted in the case of light wagons, in which case the springs 10 will be secured at their rear ends to brackets on the body. This construction is illustrated in Fig. 6.

Having thus described my invention, I claim—

1. A dumping-wagon having its frame supported at the rear on the hind axle, a rocking fulcrum-bar mounted in the frame between the axles and forming the dumping-fulcrum of the body, full hind springs supported on said bar and situated wholly in front of the hind axle, and the body mounted on the front and rear ends of said springs and supported thereon during the entire dumping operation.

2. A dumping-wagon having a straight hind axle, a frame supported at its rear end on said axle, a rocking fulcrum-bar mounted in said frame in front of the hind axle, and forming the sole dumping-fulcrum of the body, full hind springs secured on said bar and situated wholly in front of said hind axle, and the body mounted on the front and rear ends of said springs, whereby the rear arms of said springs may pass clear of the hind axle in dumping.

3. In a dumping-wagon, the combination with the frame, and the dumping-body mounted thereon, of the tail-gate for the body provided with hinging arms 19 hinged to the body at 20, hinged upright arms on the body, braces connecting said upright arms with the tail-gate, and operating-connectors 23, coupled at one end to the hinged upright arms and at the other end to the frame of the wagon, substantially as set forth.

4. In a dumping-wagon, the combination with the frame and the body mounted to dump, of the tail-gate 18 for the body, provided with hinging arms 19, hinged to the body at 20, the arms 21, hinged at 20, the brace-chains 22, and the operating-chains 23, coupled at one end to the folding arms and at the other end to the frame, substantially as set forth.

5. A wagon having a frame, a dumping-body mounted in said frame, said body being provided at its front end with a projecting lug, a rock-shaft mounted on the frame in front of the body and having a lug adapted to take over said lug on the body, an arm

connected with the rocking lug and means for securing said arm to the frame, substantially as set forth.

6. The combination with the frame and the dumping-body mounted therein, said body provided with bracket-lugs 26 on its front end, of the rock-shaft 27, mounted in bearings on the frame in front of the body and provided with lugs 28 to overlap those on the body, the arms 29, connected with the respective lugs 28, the locking-rings 30 to engage the ends of the arms 29, and the stems supporting said rings, said stems being adjustably mounted in the frame, substantially as set forth.

In witness whereof I have hereunto signed my name, this 21st day of June, 1901, in the presence of two subscribing witnesses.

WILLIAM OSCAR SHADBOLT.

Witnesses:

HENRY CONNETT,

PETER A. ROSS.