W. BARBER.

DUMPING WAGON.

APPLICATION FILED MAY 10, 1915.

1,262,159.

Patented Apr. 9, 1918.

3 SHEETS—SHEET 1.

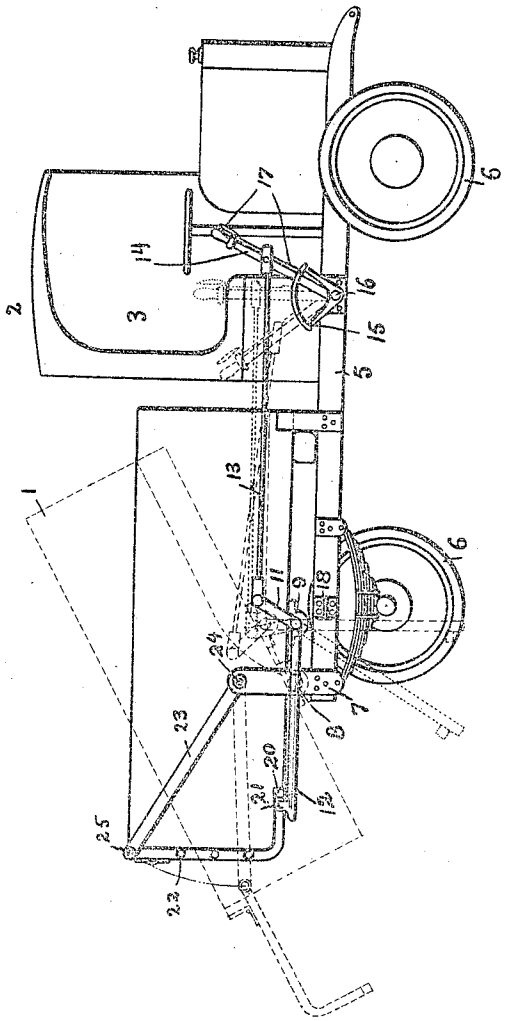


FIG. 1

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3 SHEETS—SHEET 2.

FIG. 2

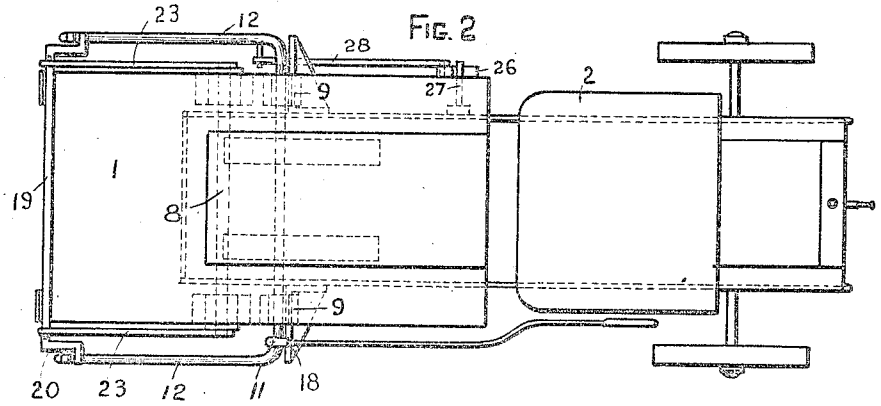


FIG. 3

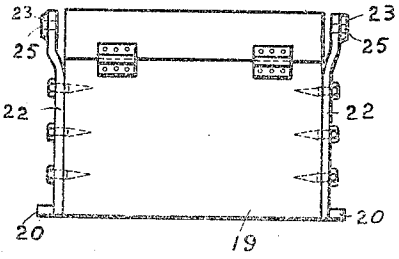


FIG. 4

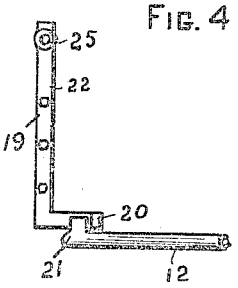


FIG. 5

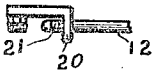


FIG. 6

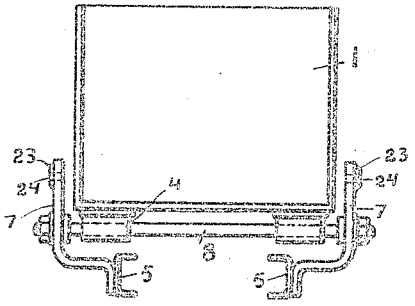
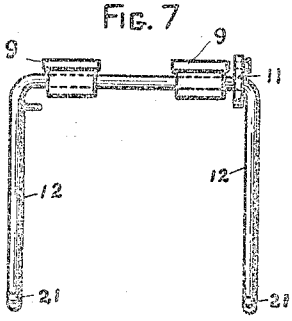


FIG. 7



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3 SHEETS—SHEET 3.

FIG. 8

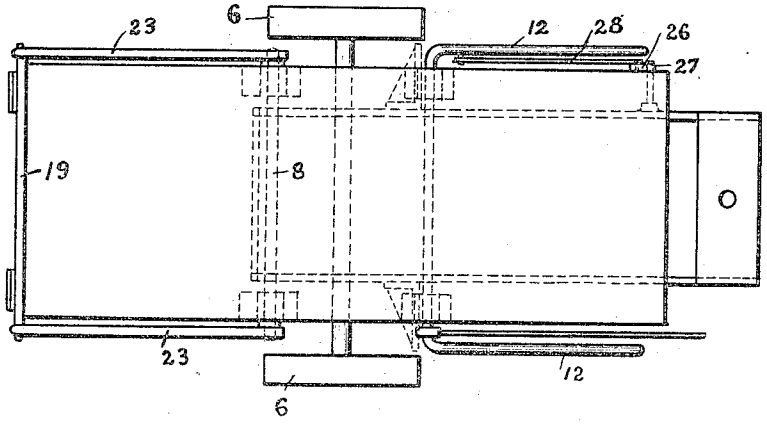


FIG. 10

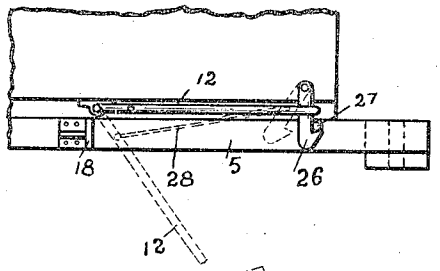
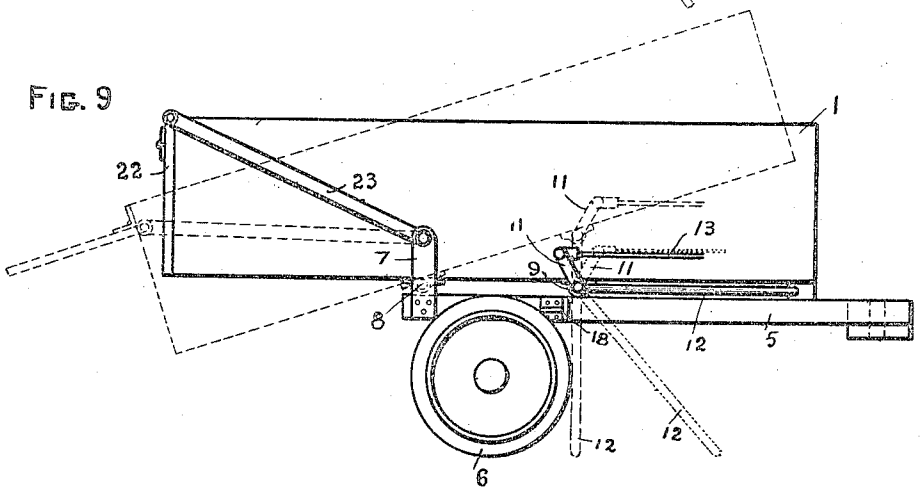


FIG. 9



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UNITED STATES PATENT OFFICE.

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DUMPING-WAGON.

1,262,159. Specification of Letters Patent. Patented Apr. 9, 1918.

Application filed May 10, 1915. Serial No. 27,032.

To all whom it may concern:

Be it known that I, WILLIAM BARBER, a citizen of the United States, residing in Brooklyn, county of Kings, State of New York, have made a certain new and useful Invention in Dumping-Wagons, of which the following is a specification.

This invention relates to dumping wagons.

The object of the invention is to provide a dumping wagon which is simple in structure, efficient in operation and economical to manufacture.

A further object of the invention is to provide a dumping body which may be associated with or form a part of a vehicle and to provide means operated by the movement of the vehicle to tilt the dumping body.

Further objects will appear more fully hereinafter.

The invention consists substantially in the construction, combination, location and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown by the accompanying drawings, and finally pointed out in the appended claims.

Referring to the drawings,

Figure 1 is a view in side elevation of a dumping wagon applied to a vehicle, and embodying my invention.

Fig. 2 is a top plan view of the same.

Fig. 3 is an end elevation of the tail board of the dumping body shown in the preceding figures.

Fig. 4 is a view in side elevation of the same showing means for locking the tail board in closed position.

Fig. 5 is a broken detail view in top plan showing the tail board lock.

Fig. 6 is a rear end view of the dumping body and its support with tail board removed.

Fig. 7 is a detached view of the body tilting means used in connection with my invention.

Fig. 8 is a top plan view of a modified form of dumping body embodying my invention.

Fig. 9 is a view in side elevation of the same.

Fig. 10 is a broken view in side elevation showing means to lock the dumping body in its normal position.

The same part is designated by the same reference numeral wherever it occurs throughout the several views.

In carrying out my invention I provide any suitable form of vehicle, truck or the like, whether employing horse or motor power, upon the frame of which I mount a dumping body suitably hinged thereto to tilt thereon with means, if desired, to normally lock the same against tilting movement, and I provide the dumping body, with a hinged tail board or rear end gate. I also provide suitable tilting means controllable by the driver of the vehicle, which, when moved into position for use in tilting the body releases the body and its tail board and which also, by a movement of the vehicle causes the body to tilt to dump its contents and the tail board to open to permit of the dumping of the contents.

This, in a brief way, sets forth the general objects and purposes of my invention, and while I have shown, and will now describe, various arrangements for carrying my invention into practical use and operation, it is to be understood that many changes and variations in the details of structure may readily occur to persons skilled in the art and still fall within the spirit and scope of my invention as defined in the claims. I do not desire, therefore, to be limited or restricted to the exact details shown.

In carrying out my invention in one form of embodiment thereof, as shown, for illustration, in Fig. 1, I employ a suitable vehicle, indicated, generally at 2 and having a frame 5, with a driver's seat, indicated at 3, and the usual supporting and steering wheels 6. These various parts may be of the usual or any well known type or construction. In vertically extending brackets 7, attached to the respective sides of the vehicle frame 5, at or near the rear end

thereof is mounted a transversely extending member 8, forming a hinge support for the dumping body 1, which is carried by and supported upon the vehicle frame, said body being connected to the transverse member 8 by means of suitable boxes 4, to form hinge connections therewith.

Suitably hinged to the body 1 are legs 12 arranged, when in normal retracted position to be raised into horizontal position, as shown in full lines in Fig. 1, but when required for use designed to be rocked down into inclined position for the free ends thereof to engage the ground so that by moving the vehicle in the required direction the free ends of the legs dig into the ground and in coming into vertical position, as indicated by dotted lines in Fig. 1, due to the movement of the vehicle, cause the body 1 to tilt upon its pivotal supporting member 8, to dump its contents. After the dumping operation is completed the body is restored to its normal position and the legs returned to initial retracted position by moving the vehicle in the opposite direction to again bring the legs into angular position and then suitably rocking the legs into their normal retracted position. In the arrangement shown for accomplishing these operations the legs 12 form the free ends of a yoke shaped member which is journaled in suitable bearing boxes 9, secured to the bottom of the body at a point in front of the hinge axis 8 of the body.

The legs 12 are controlled from the front end of the vehicle and from a point located conveniently to the driver in any suitable manner. A simple arrangement is shown wherein, in the illustrative structure shown, the hinged yoke member forming part of the legs is provided with a vertically extending crank arm 11, to the upper end of which is connected a rod 13, which extends to the front end of the vehicle, and to a point convenient to the driver's seat where it is connected to a lever 14, pivoted as at 16, and rocking or swinging alongside a locking segment 15, and having a locking latch device 17 coöperating with said segment. By releasing the locking latch device 17, and rocking the lever 14, the legs 12, may be rocked down into the angular or inclined position shown in dotted lines in Fig. 1, or into retracted or normal position shown in full lines in said figure. When said legs are swung down into inclined position for the free ends thereof to engage the ground, and the vehicle is moved, as, for instance, by backing it in the form shown in Fig. 1, the ends of the legs dig into the ground thereby causing the body 1 to be tilted as the continued backing movement of the vehicle causes the legs to approach a vertical position. If desired, a suitable stop device, such as an angle plate 18, secured to the side of the vehicle frame, may serve to prevent the legs from rocking beyond a vertical position.

After the contents of the body have been dumped the parts are restored to their normal positions by causing the vehicle to move forwardly a distance sufficient to cause the legs 12 to assume their angular or inclined position, thereby permitting the body 1 to resume its horizontal position. Then, by operating the lever 14, the legs 12 are rocked up into their retracted position.

It may sometimes be desirable to lock the end gate or tail board of the body closed and, also, to release and open the same automatically. I accomplish these results in the following manner.

The end gate or tail board 19 is hinged, in the usual manner to the rear end of the body, and is provided with angular straps or projections 20 over or behind which hook portions 21 of the legs 12 engage when said legs are in retracted position. By these means the tail board is locked in closed position, and is released by rocking the legs down into position to tilt the body.

In order to automatically open the end gate or tail board, I propose to utilize the tilting movement of the body. This can be accomplished in many different ways. A simple arrangement is shown wherein I secure to the vertical edges of the end gate plates or arms 22 to the upper end of each of which is pivotally connected one end of a link 23, as at 25, the other ends of said links being pivotally connected to the upper ends of the brackets 7, as at 24. With this arrangement it will be seen that when the body 1 tilts about its axis 8 the links 23 will rock about their axes 24, and by reason of the relation of these pivoted axes, and the difference in radius length of the links and the upper portion of the rear end of the body, as they pivot around their respective centers of movement, as the body tilts into the position thereof indicated by dotted lines in Fig. 1 the end gate will be automatically rocked or swung into open position.

To lock the body in its normal position I hinge to the side thereof near its forward end, a locking dog 26, see Figs. 8 and 10, arranged to engage a pin or stud 27, on the frame 5 of the vehicle. A rod 28, connects the dog 26 to the leg 12, so that when said leg is rocked downwardly from its normal retracted position the dog 26 is rocked out of engagement with the pin 27, thereby releasing the body.

In Figs. 1 and 2 I have shown an arrangement wherein the vehicle is backed after lowering the tilting legs in order to effect the tilting of the body. It may sometimes be

desirable to cause the body to tilt by a forward movement of the vehicle. In that case it is only necessary to arrange the legs to extend forwardly instead of rearwardly of the vehicle. This arrangement is shown in Figs. 8, 9 and 10. In this arrangement the legs, when lowered instead of being inclined rearwardly are inclined forwardly of the vehicle, and consequently the tilting action of the body is secured by a forward movement of the vehicle.

Having now set forth the object and nature of my invention, and various arrangements embodying the principles thereof, what I claim as new and useful and of my own invention and desire to secure by Letters Patent is,—

1. A vehicle having a frame, a dumping body, brackets connected to said frame, a supporting member carried by said brackets, said body being hinged to tilt upon said member, legs pivotally connected to said body at one side of the tilting axis thereof, means to rock said legs downwardly into contact with the ground, whereby, by moving the vehicle said body is tilted, an end gate having projections, said legs having hook ends to engage said projections to hold the end gate closed when the legs are in retracted position, said projections being released when said legs are rocked downwardly.

2. A vehicle having a frame, a dumping body, brackets connected to said frame, a supporting member carried by said brackets, said body being hinged to tilt upon said member, legs pivotally connected to said body at one side of the tilting axis thereof, means to rock said legs downwardly into contact with the ground, whereby, by moving the vehicle said body is tilted, an end gate having projections, said legs having hook ends to engage said projections to hold the end gate closed when the legs are in retracted position, said projections being released when said legs are rocked downwardly and means operated by the tilting movement of the body to open said gate.

3. In a vehicle, a frame including a transversely extending shaft, a body having hinge boxes pivotally connected to said shaft, legs pivotally connected to said body, and means to positively rock the free ends of said legs into and out of contact with the ground whereby, by moving the vehicle when the free ends of said legs are in contact with the ground, said body is rocked on said shaft.

4. In a vehicle, a frame including a transversely extending shaft, a body having hinge boxes pivotally journaled on said shaft, legs pivotally connected to said body, and means located at the front of said vehicle for positively rocking the free ends of said legs into contact with the ground whereby, by moving said vehicle, said body is rocked on said shaft.

5. In a vehicle, a frame including a transversely extending shaft, a body having hinge boxes pivotally journaled on said shaft, legs pivotally connected at one end to said body and having their free ends extending toward the rear end of said body, and means to rock the free ends of said legs into contact with the ground whereby, by moving the vehicle rearwardly, said body is rocked on said shaft, and a stop for limiting the movement of said legs.

6. In a vehicle, a frame including a transversely extending shaft, a body having hinge boxes pivotally journaled on said shaft, legs pivotally connected at one end to said body, and means to positively rock the free ends of said legs into contact with the ground whereby, by moving the vehicle, said body is rocked on said shaft, an end gate for said body, and means connected to said gate and operated by the rocking movement of said body to open said gate.

7. In a vehicle, a frame including a transversely extending shaft, a body pivotally mounted on said shaft and provided with an end gate, means for locking said end gate, legs pivotally connected to said body, and means for unlocking said gate and simultaneously dropping said legs, whereby when said vehicle is moved, said body is rocked on said shaft and said gate is opened.

8. The combination with a vehicle including a supporting frame, and a dumping body pivotally connected on a transverse axis to said frame, of legs pivotally connected to said body in advance of the pivotal axis of the latter, means to rock said legs into contact with the ground whereby by moving the vehicle said body is tilted about its pivotal axis, a lock to hold the body in normal position, and means to automatically release said lock.

In testimony whereof I have hereunto set my hand in the presence of the subscribing witnesses, on this 7th day of May A. D., 1915.

WILLIAM BARBER.

Witnesses:
WALTER A. DARBY,
M. A. GRAERE.