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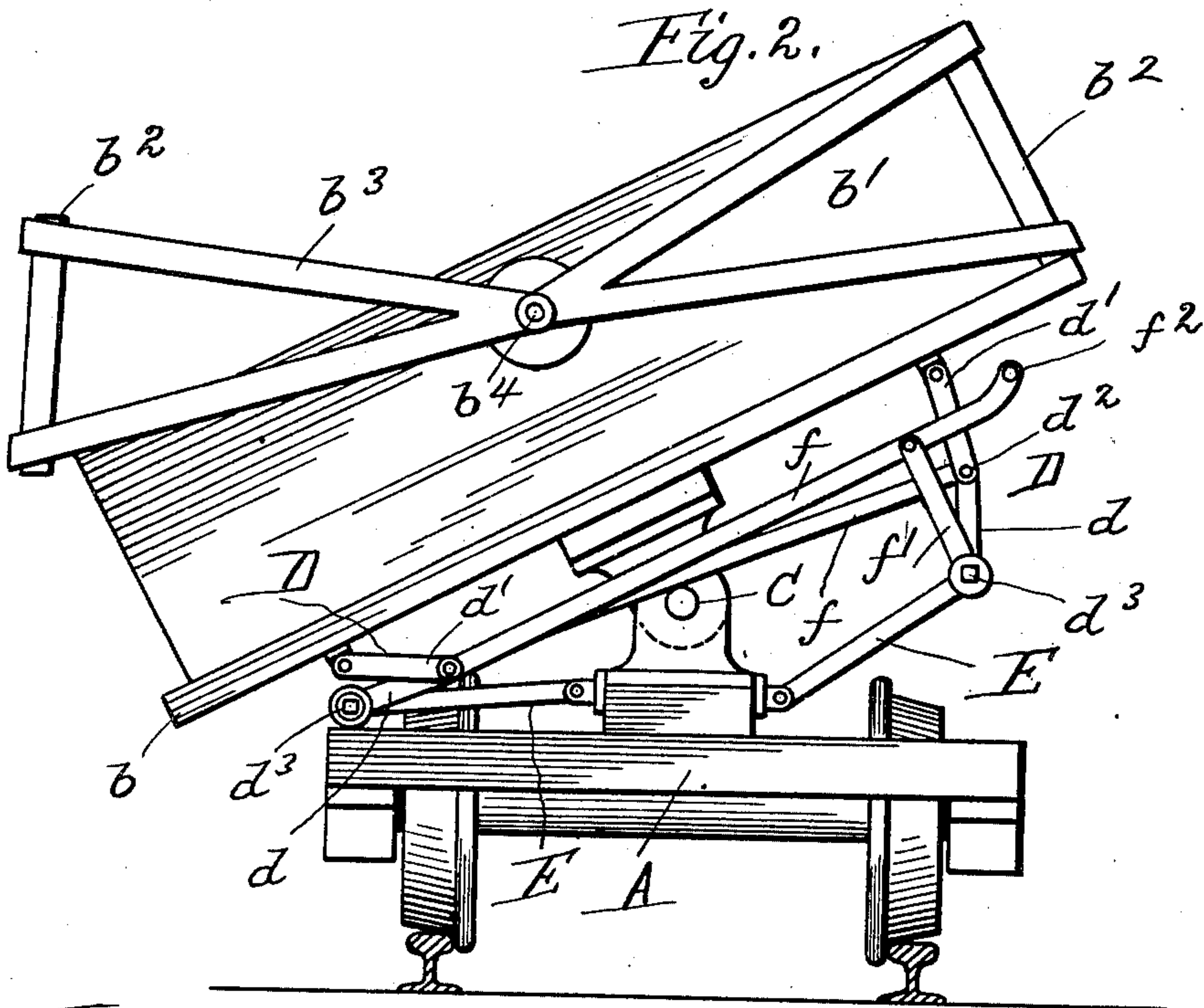
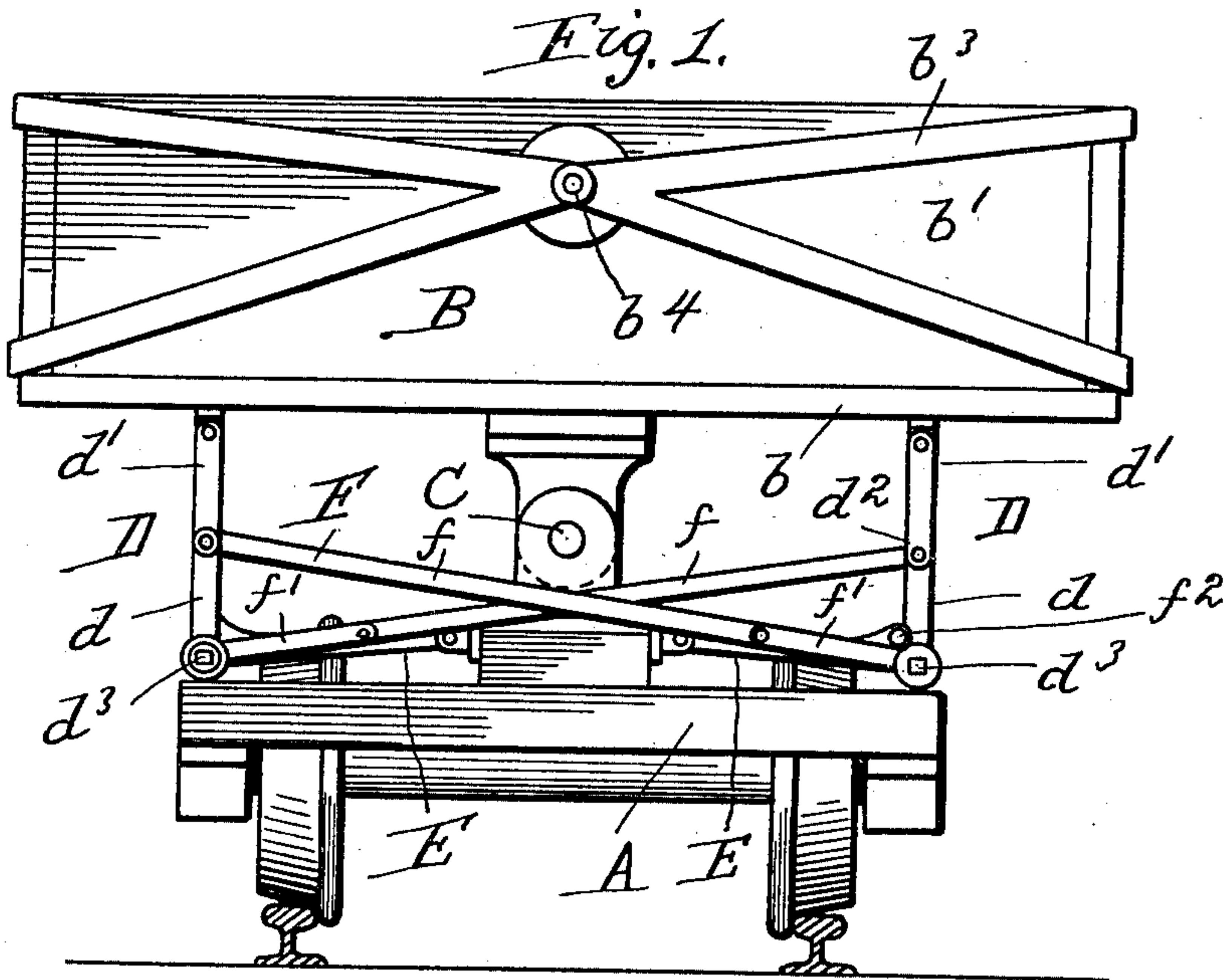
J. B. RHODES.
DUMP CAR.

Patented Nov. 19, 1901.

(Application filed Apr. 22, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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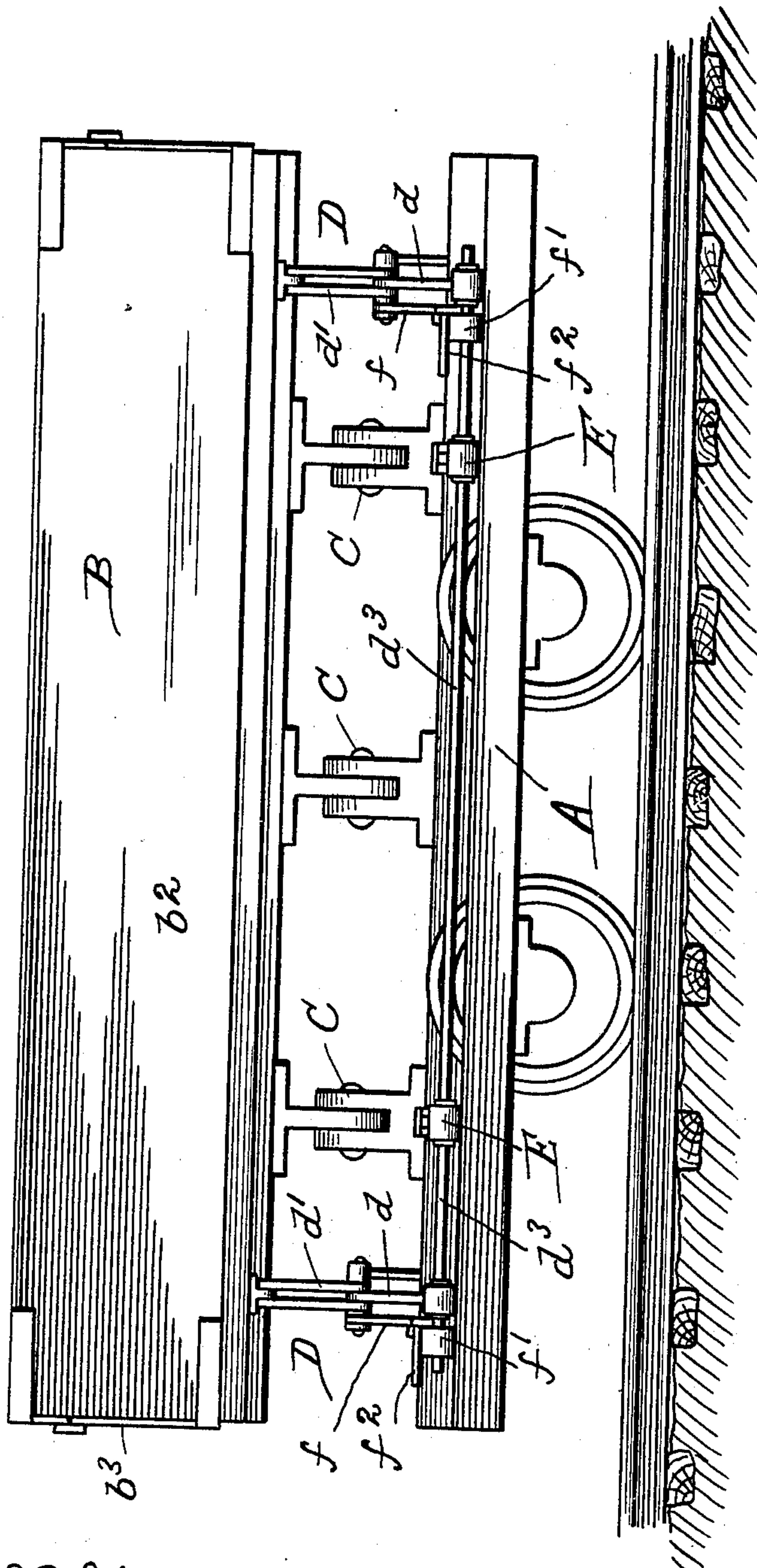
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Fig. 3.



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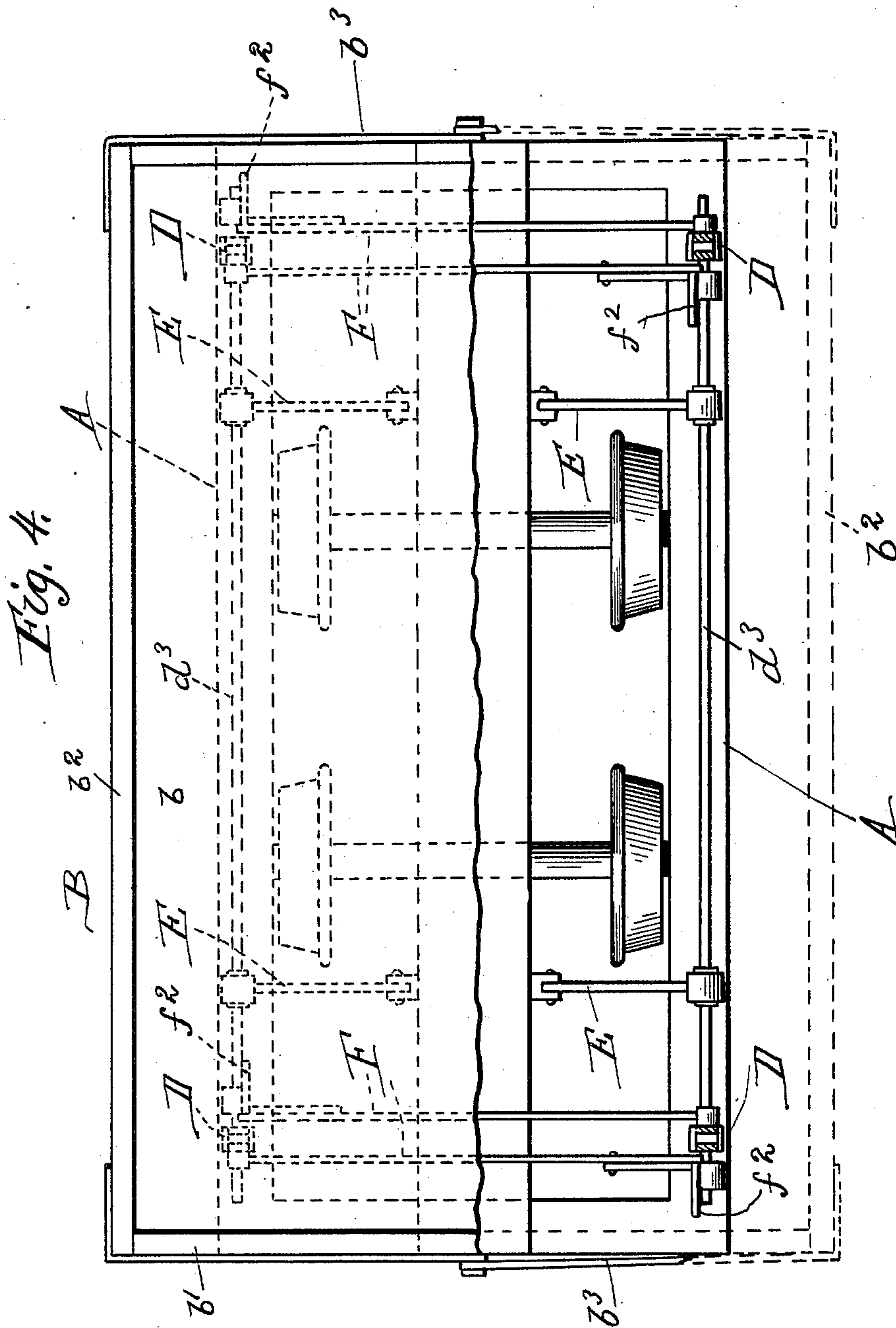
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UNITED STATES PATENT OFFICE.

JAY B. RHODES, OF HARVEY, ILLINOIS, ASSIGNOR TO FREDERICK C. AUSTIN, OF CHICAGO, ILLINOIS.

DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 686,763, dated November 19, 1901.

Application filed April 22, 1901, Serial No. 56,933. (No model.)

To all whom it may concern:

Be it known that I, JAY B. RHODES, a citizen of the United States, residing at Harvey, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Dump-Cars, of which the following is a specification.

My invention relates to that class of dumping-cars in which the body or box is arranged to tilt sidewise and discharge the load at either side of the track.

Objects of my invention are to effectively support the car-body against tilting during loading and transportation, to provide supporting means which will not interfere with the tilting of the car-body when unloading, to provide a construction which will render the tilting of the car-body easy of accomplishment, and to provide simple and effective means for tilting the car-body, so as to increase the general efficiency and render the car satisfactory and serviceable.

To the foregoing and other useful ends the tilting car-body is normally maintained in a horizontal position by movable props or connections arranged at either side of the car. These props or connections are provided with means for locking them in their proper positions during loading and transportation. The locking devices thus employed are arranged so as to be readily accessible and capable of operating the props for the purpose of tilting the body, and thereby discharging the load.

The construction and operation of my improved dump-car will, however, hereinafter more fully appear.

In the accompanying drawings, Figure 1 is an end elevation of a dump-car employing the principles of my invention, the car body or box being shown in its normal horizontal position. Fig. 2 is a similar view, but showing the body tilted to one side. Fig. 3 is a side elevation of the car shown in Fig. 1. Fig. 4 is a plan of the car with a portion of the body broken away.

The wheeled truck A can be of any suitable or desired construction. The body or box B, which carries the load, is preferably constructed with a floor or bottom b , end walls b' b' , and swinging side gates b^2 b^2 . These gates are preferably provided with

arms b^3 , pivoted at b^4 to the end walls b' . The body can be mounted in any suitable manner, but is preferably supported so as to be capable of tilting sidewise about a longitudinal axis. For example, the body can be connected with the truck by a number of centrally-arranged pivotal or hinge-like connections C. With this construction and arrangement the body can be tilted sidewise, as shown in Fig. 2, so as to discharge its load at one side of the track.

In order to effectively maintain the body in a horizontal position while loading and also during transportation and at the same time to provide for the ready and easy tilting of the body when it is desired to unload the car, I provide the props or connections D, which are preferably arranged at either side of the car. In order to allow the body to tilt and discharge its load, these props are longitudinally contractible and are constructed in such manner as to be capable of rising clear from the truck. When the body tilts to one side, the props at that side will collapse or contract, while the props at the other side will rise with the body. Preferably each prop is in the form of a pair of links d and d' , connected at d^2 and capable of folding together. The upper links d' are pivoted to the bottom of the body. The lower links d are preferably pivoted to a shaft d^3 , so as to turn thereon. This shaft is preferably mounted to turn in the outer ends of the swinging arms E, which have their inner ends pivoted to the truck, and with this construction the shafts, as well as the articulated props, are free to rise from the truck.

As a simple and effective arrangement for locking the folding and articulated props in position to maintain the body in a horizontal position the props at one side of the car are connected with the shaft at the other side by means of braces F. Each brace preferably consists of a rod or bar f , pivoted at one end to a prop, the point of attachment being preferably the juncture of the links d and d' , and pivoted at its opposite end portion to the end of an arm f' , which is keyed to the shaft d^3 . One end of the rod or bar f is provided with a stop f^2 , which rests upon the arm f' when the toggle-brace thus composed of members

f and f' is straightened out, as in Fig. 1. In this way each brace F is jointed or articulated in such manner as to readily break joint in an upward direction, but is rigid from end to end, as far as downward movement of such joint is concerned. The stops f^2 are also adapted to serve as handles. By grasping one of these handles and pulling upward the props on the opposite side of the car will fold or break joint inwardly, thereby allowing the body to tilt down at such side, so as to discharge its load. As the arms f' are keyed to the shaft, the raising of one will raise both—that is to say, the manipulating of one of the braces F will cause a similar movement on the part of the one at the opposite end of the shaft. In this way both props at one side of the car can be collapsed simultaneously by raising either stop or handle at the opposite side.

The normal horizontal position of the body is shown in Fig. 1, in which the props are rigidly braced by the articulated self-locking braces F . In Fig. 2, however, the body is tilted to the left as a result of the props at that side being collapsed or contracted. When the props at one side are thus contracted and the body tilted over at the side, the props at the other side will be raised clear of the truck, as shown in Fig. 2. In fact, it will be seen that when the props at one side are folded down or collapsed the entire mechanism at the other side is raised clear of the truck. In this way the props are adapted to either prevent or permit tilting of the body, as the case may require, and the swinging arms E insure against displacement of the shafts d^3 . When returned to its normal position, the body is automatically locked against further tilt, as the braces F readily fall into their normal position, and thereby automatically lock the props against buckling or contracting.

From the foregoing it will be seen that when one of the toggle-braces F is caused to break joint the toggle-prop to which it is attached will also be caused to break joint, so as to allow the car-body to tilt, and that such arrangement can be duplicated and the two so connected that the operation of one will cause a simultaneous action on the part of the other. The means thus provided for bracing the body are simple and effective and have the further advantage of being easily operated regardless of how heavily the car may be loaded. It will also be seen that the body tilts without causing disconnections of any of the various parts of the bracing devices. In this way the car is capable of extended use without getting out of order.

The gates b^2 are, as previously stated, arranged to swing upward, so as to permit the load to slide out at the depressed side of the

body. The gates can be raised by hand or automatically by suitable mechanical devices. This, however, forms no part of my present invention, and the gates can therefore be operated in any suitable or desired manner.

What I claim as my invention is—

1. A dump-car comprising a truck, a tilting body mounted thereon, jointed props pivoted to the body and having vertically-swinging connections with the truck, and means for locking said props in position to maintain the body in position for loading and transportation.

2. A dump-car comprising a truck, a tilting body mounted thereon, movable props arranged between the body and truck, and jointed self-locking braces for locking the props in position to maintain the body in a horizontal position.

3. A dump-car comprising a truck, a tilting body mounted thereon, jointed props depending from the bottom of the body, shafts carried by the lower ends of said props, swinging arms connecting the shafts with the truck, and jointed braces connecting the props at one side with the shaft at the other side.

4. A dump-car comprising a truck, a tilting body mounted thereon, props arranged between the truck and body, each prop consisting of a pair of connected links, the upper link being pivoted to the body, the lower link having a swinging connection with the truck, and articulated braces for locking the props in position to maintain the body in a horizontal position.

5. A dump-car comprising a truck, a tilting body mounted thereon, articulated props arranged between the truck and body, and self-locking articulated braces for locking the props in position to maintain the body in a horizontal position.

6. The combination in a dump-car of a tilting body mounted upon a suitable truck; a toggle-prop for supporting the body in a horizontal position; and a locking device comprising a jointed brace having one member connected with the toggle-prop, and having another member pivotally supported and arranged to form a vertically-swinging arm.

7. A dump-car comprising a tilting body mounted upon a suitable truck; two oppositely-arranged sets of toggle-props depending from the car-body; a pair of rock-shafts each connected with one set of toggle-props; vibratory arms connecting the rock-shafts with the car-truck; and jointed connections between each set of toggle-props and a rock-shaft attached to an opposite set of toggle-props.

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