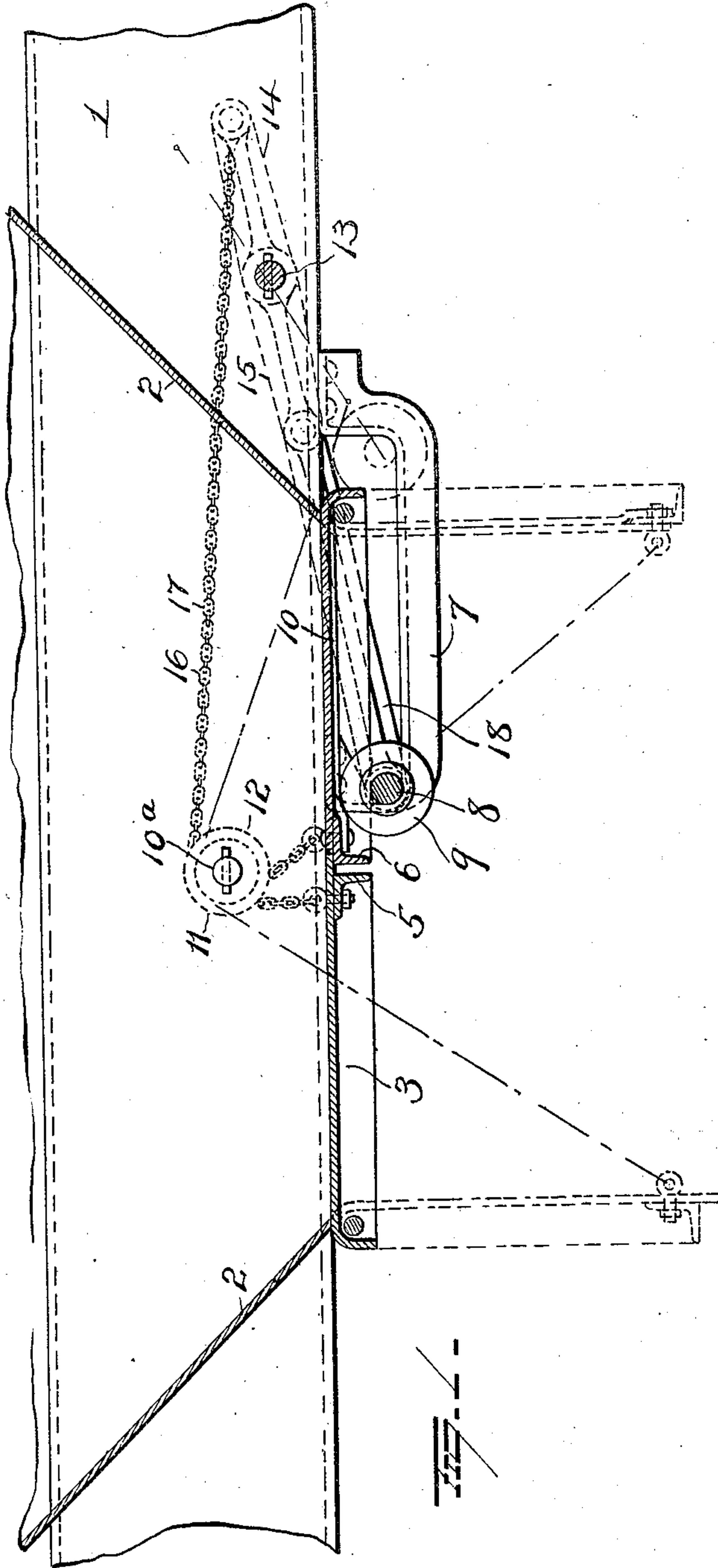


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DUMPING CAR.  
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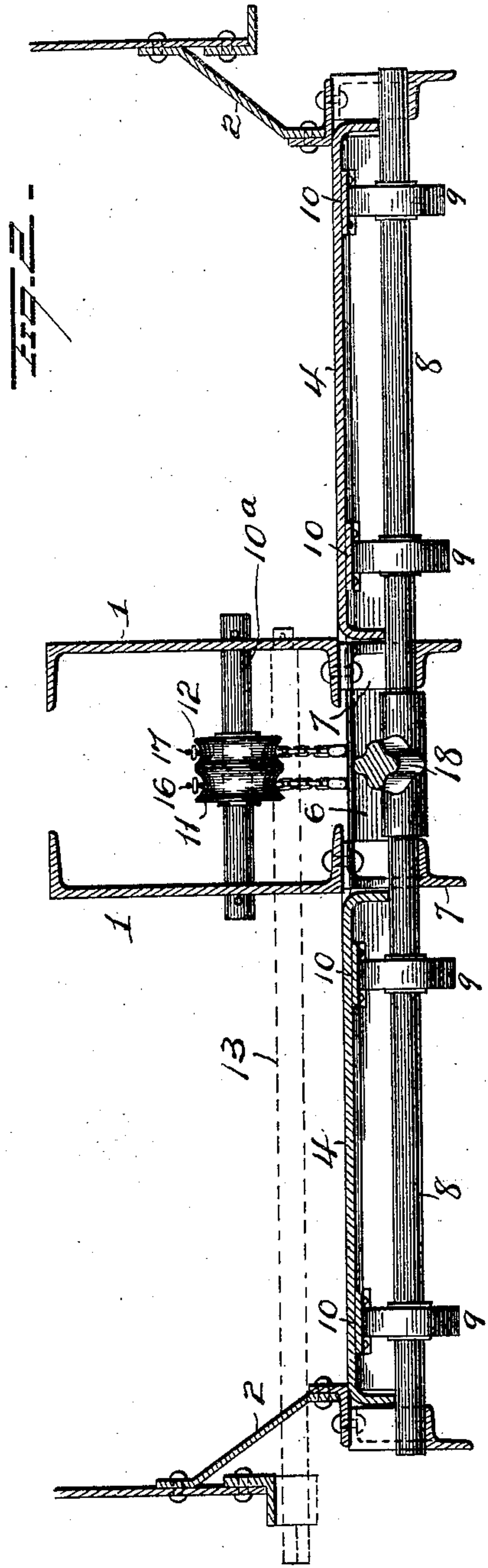
Patented Sept. 14, 1909.  
2 SHEETS—SHEET 1.

934,268.



WITNESSES

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*G. J. Downing*



INVENTOR

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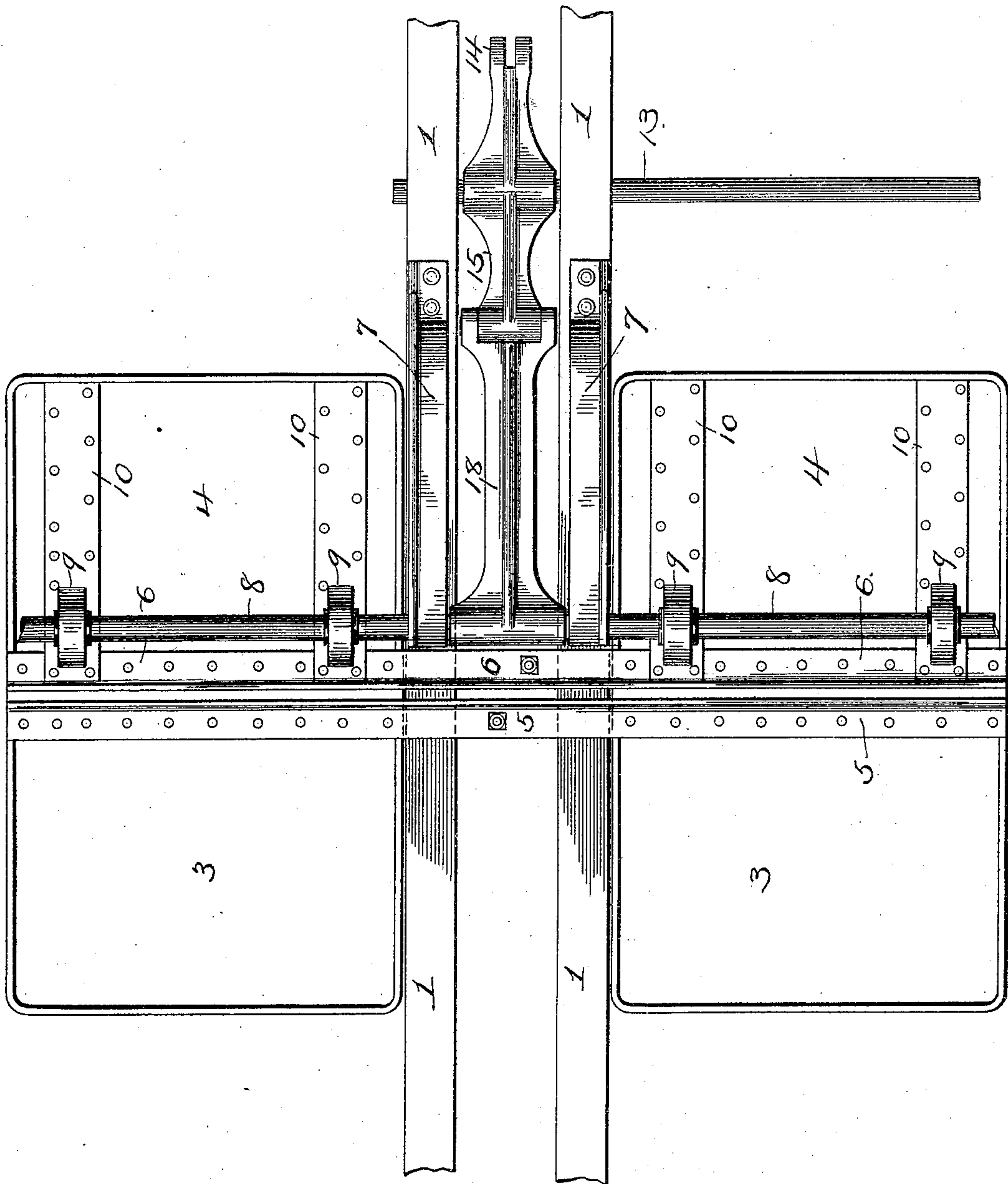
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# UNITED STATES PATENT OFFICE.

ANTON BECKER, OF COLUMBUS, OHIO, ASSIGNOR TO THE RALSTON STEEL CAR COMPANY, OF COLUMBUS, OHIO.

## DUMPING-CAR.

934,268.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed November 23, 1908. Serial No. 464,853.

*To all whom it may concern:*

Be it known that I, ANTON BECKER, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Dumping-Cars; and I do hereby 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.

This invention relates to improvements in dumping cars, and more particularly to means for operating drop-doors of hopper bottom cars,—one object of the invention being to provide simple and efficient means for closing oppositely hinged doors simultaneously.

A further object is to so construct and arrange drop-door operating means for hopper bottom cars that the doors will be supported as well at the sides of the car as at the longitudinal center.

With these objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal section of a portion of a hopper bottom car showing the application of my improvements. Fig. 2 is a transverse sectional view, and Fig. 3 is a bottom plan view.

1, 1, represent the members of a center girder and 2, 2, the inclined portions of the hopper bottom of a car. At each side of the center girder, pairs 3, 4, of drop-doors are located and hinged at the lower edges of the inclined portions 2 of the hopper bottom. An angle bar 5 is secured to the under faces of the doors 3 slightly removed rearwardly from the free edges thereof, said bar 5 being made continuous and extending across the center girder members. A similar angle bar 6 is secured to the other pair of doors 4, and also extends across the center girder members,—the angle bar 6 being made to project beyond the free edges of the doors 4 so as to receive or be overlapped by the free edges of the doors 3 for the purpose of supporting the latter through the medium of the same devices which support the doors 4.

Elongated guide brackets 7, 7, are secured to the lower flanges of the respective center girder members and serve to support a shaft

8 which extends from side to side of the hopper bottom and which has secured thereto or mounted thereon a series of rollers 9. Two rollers 9 are provided for each drop-door and run on the bottom faces thereof (or on guide plates or trackways 10 secured to bottom faces) in proximity to the side edges of the door so that when said shaft shall have been moved in the guide brackets to a point at one end thereof under the meeting edges of the doors, the latter will be supported along said meeting edges and also at or near the side edges of said doors.

A shaft 10<sup>a</sup> is located between the center girder members approximately in line with the meeting edges of the doors and carries pulleys 11, 12. A shaft 13 is located between the center girder members, at a point beyond the hopper bottom of the car, and to this shaft arms 14 and 15 are secured. A chain 16 is secured at one end to the angle bar 5 which connects the doors 3 and from this connection said chain passes over the pulley 11 and at its other end is connected with the free end of the arm 14. A similar chain 17 is secured to the angle bar 6, passes over pulley 12 and at its other end is connected with the said arm 14. The arm 15 on the shaft 13 is pivotally connected with one end of a bar 18 and the other end of this bar is connected with the shaft 8. The shaft 13 is extended laterally from the center girder to a convenient point at the side of the car where it may be provided with suitable means for manually operating it.

Assuming that the doors have been dropped and it is desired to raise or close them, the operator will rotate the shaft 13, causing a movement of the arm 14 which will, through the medium of the chains 16 and 17, raise the doors 3 and 4. At the same operation the movement of the arm 15 will, through the medium of the bar 18, cause the shaft 8 to travel from one end of the guide brackets to the other and assist in raising the doors 4. When the doors shall have become closed, they will be supported in such position by the shaft 8 in the manner hereinbefore explained.

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

1. The combination with a hopper bottom car provided with a center girder, of drop doors located at respective sides of the cen-



ter girder, means carried by the center girder for operating the drop doors, and a shaft for supporting the drop doors in their closed position.

- 5 2. The combination with a hopper bottom car provided with a center girder, of drop doors at respective sides of the center girder, means supported by the center girder for operating said drop doors, a laterally  
10 movable shaft, means for moving said shaft, and rollers carried by said shaft and adapted to run on the drop doors near their side edges and support the same in closed position.
- 15 3. The combination with a hopper bottom car provided with a center girder, of pairs of drop doors at each side of the center girder, bars connecting the drop doors at one side of the center girder with those at the  
20 other side, pulleys mounted between the center girder members, a shaft supported by the center girder, arms projecting from said shaft, chains connecting one of said arms with the bars connecting the drop doors, said  
25 chains passing over said pulleys, a laterally

movable shaft for supporting the drop doors in their closed position, means for supporting said shaft, a bar connected with said shaft and a connection between said bar and the other arm of the first mentioned shaft. 30

4. The combination with a hopper bottom car provided with a center girder comprising two members, of drop doors at respective sides of said members, means carried by the center girder for raising said drop doors, 35 guide brackets secured to the center girder members, a shaft mounted in said guide brackets and provided with means for engaging the drop doors near their side edges, and means for moving said shaft through 40 the guide brackets to a point beneath the meeting edges of the doors for supporting said doors in their closed position.

In testimony whereof, I have signed this specification in the presence of two sub- 45 scribing witnesses.

ANTON BECKER.

Witnesses:

E. S. CULVER,  
F. A. LIVINGSTON.