No. 859,799. PATENTED JULY 9, 1907.

A. BECKER.

DUMPING CAR.

APPLICATION FILED MAY 26, 1906.

5 SHEETS—SHEET 1.

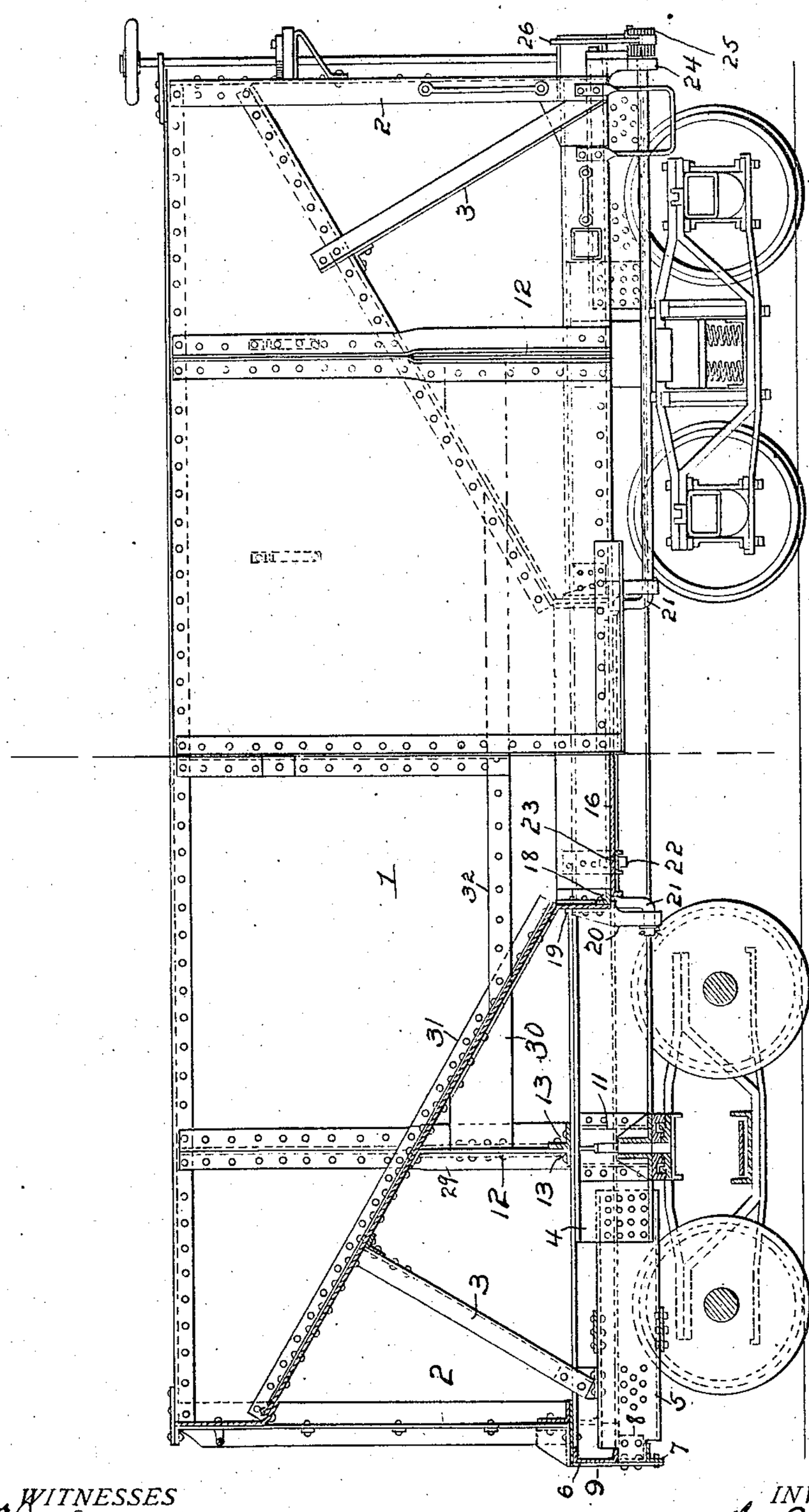

FIG. 1.

WITNESSES

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5 SHEETS—SHEET 2.

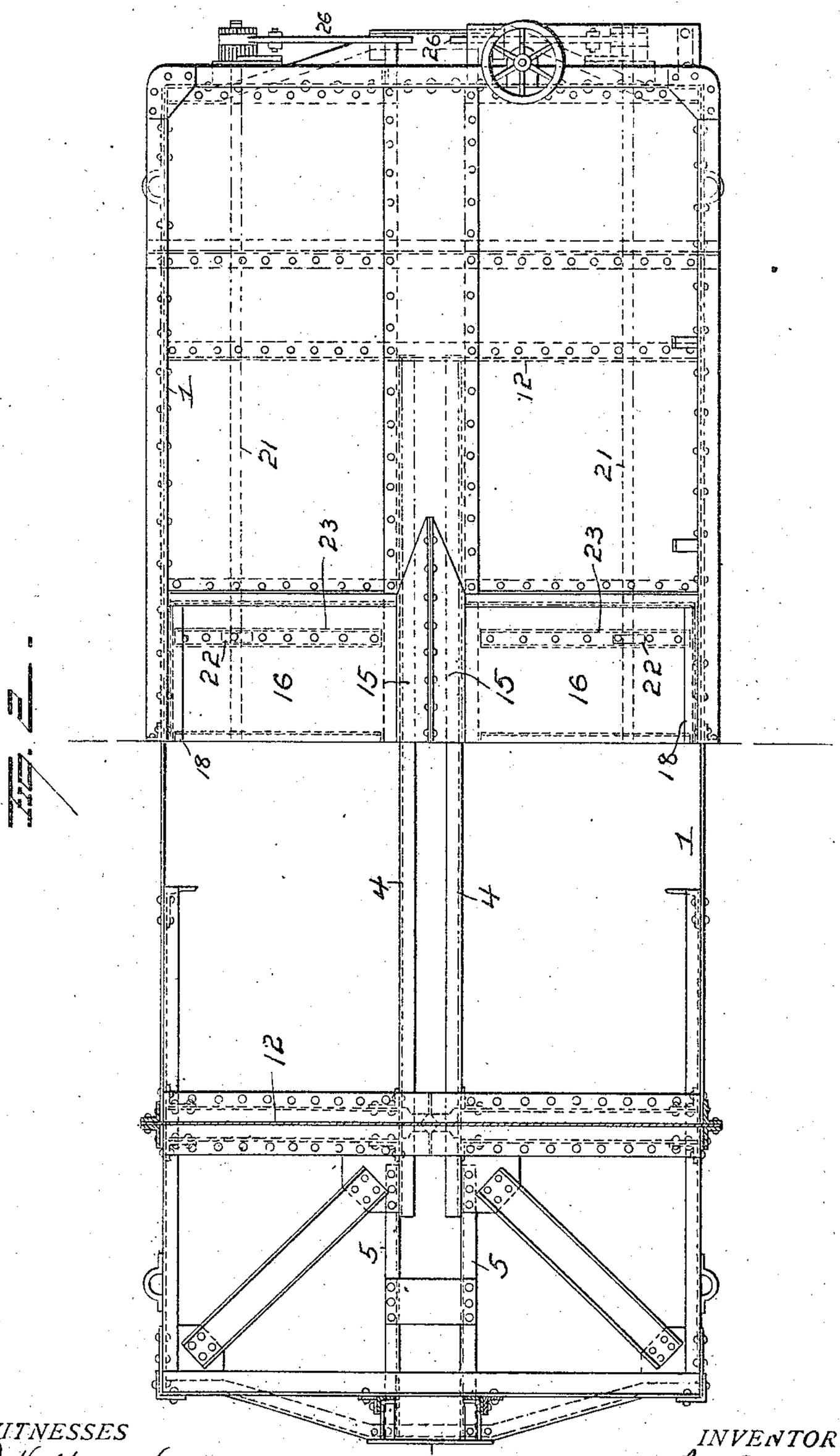

FIG. 2.

WITNESSES

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5 SHEETS—SHEET 3.

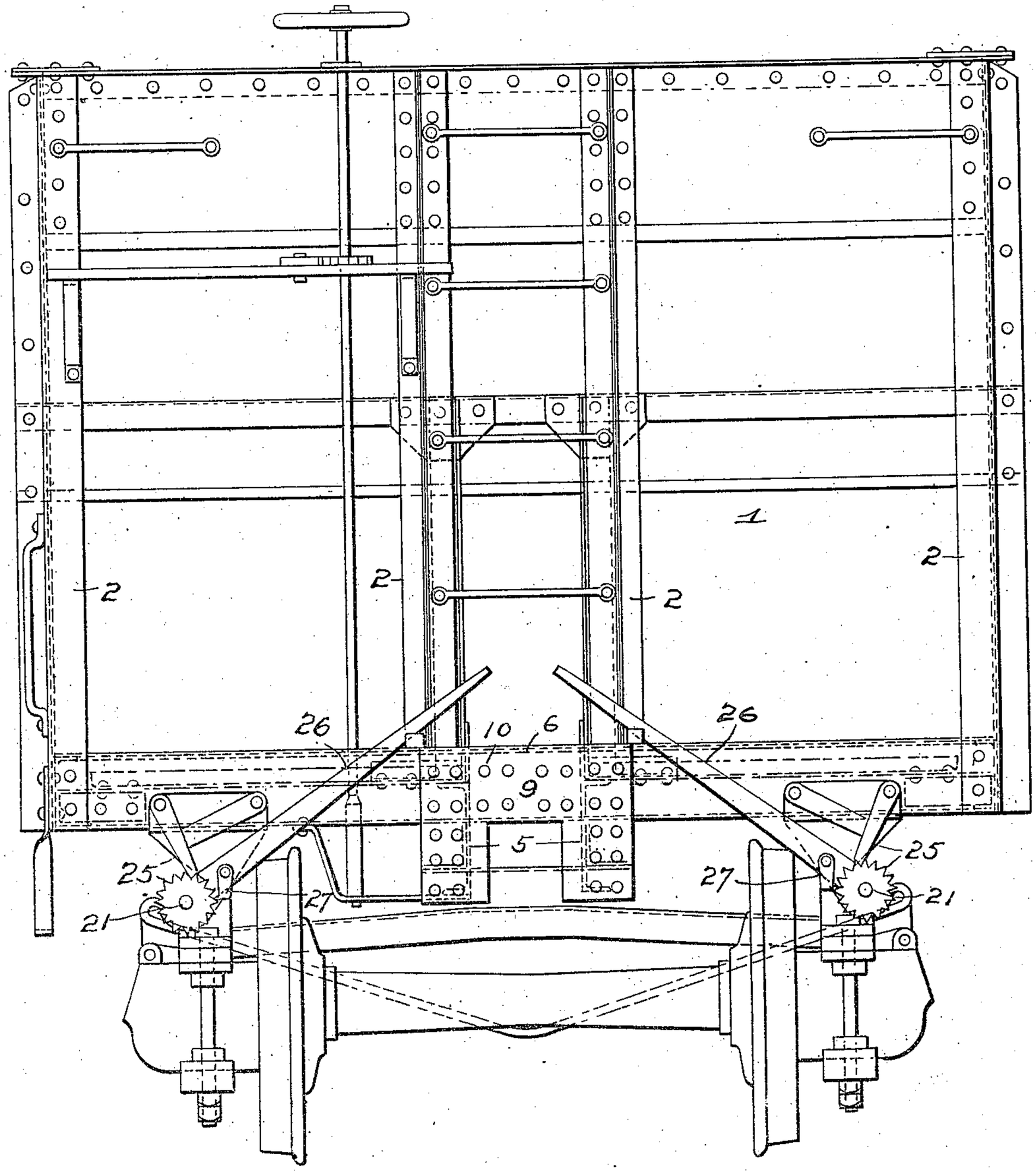

FIG. 3.

WITNESSES
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5 SHEETS—SHEET 4.

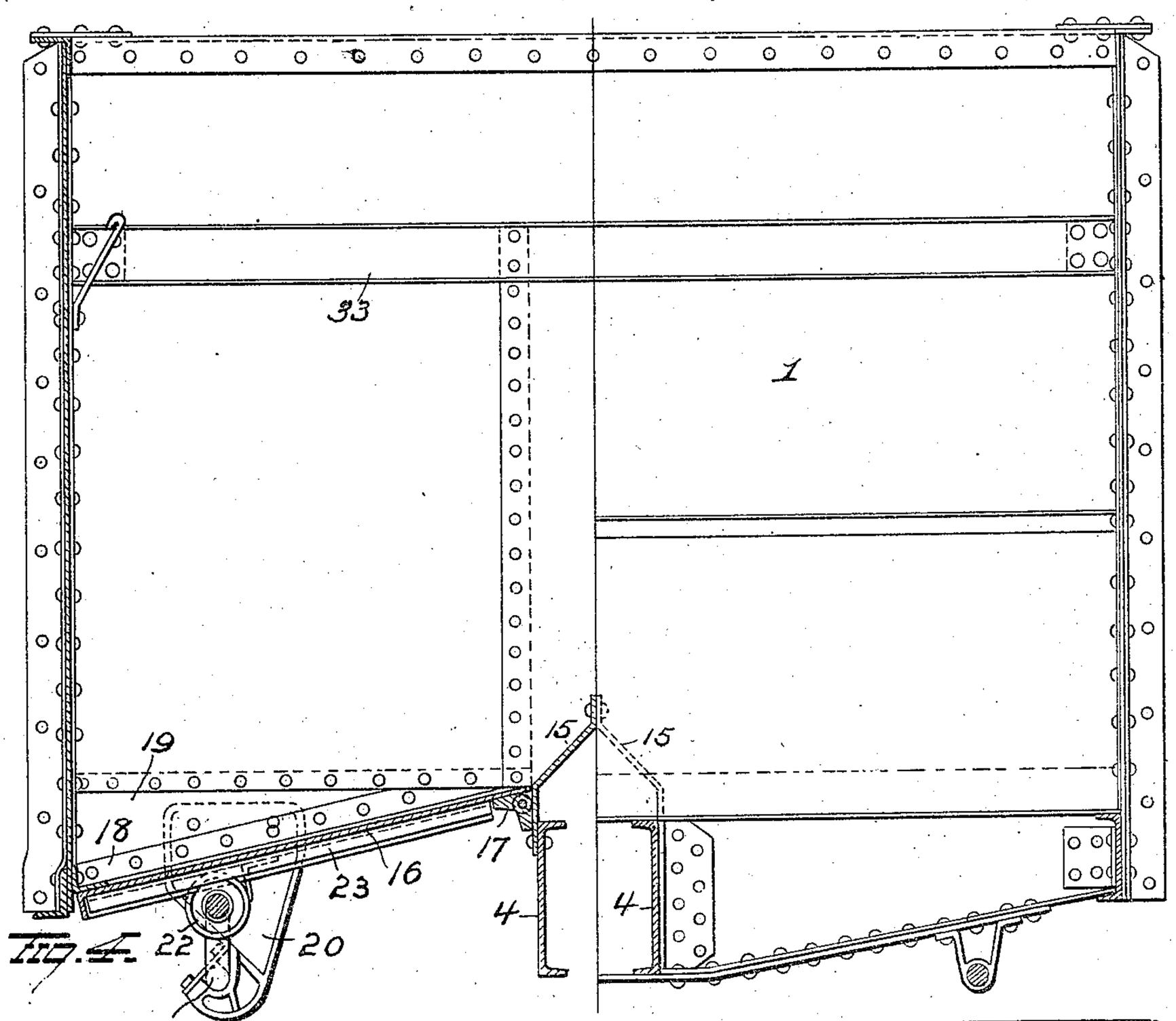

FIG. 4.

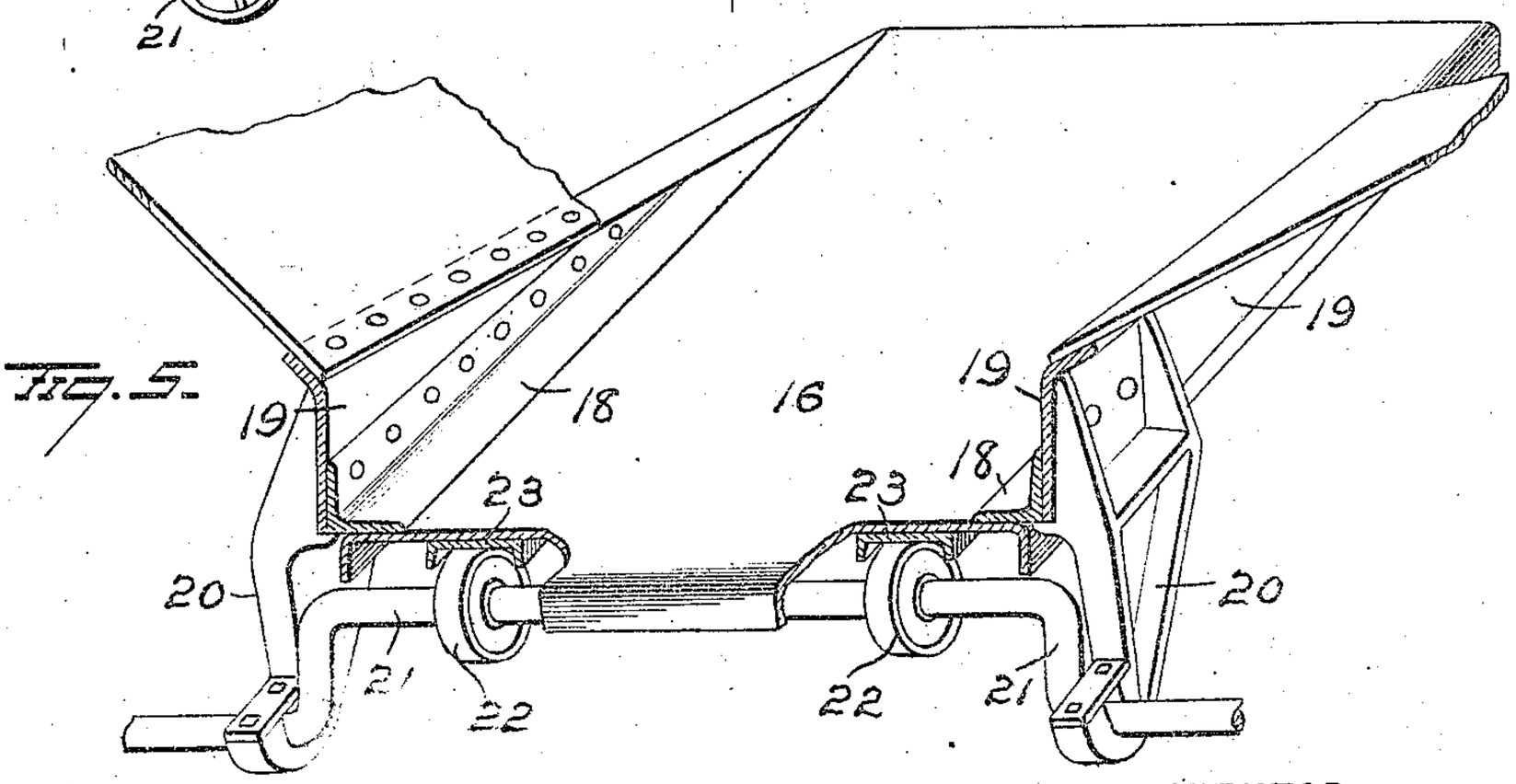

FIG. 5.

WITNESSES

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DUMPING CAR.

APPLICATION FILED MAY 26, 1906.

5 SHEETS—SHEET 5.

Fig. 5.

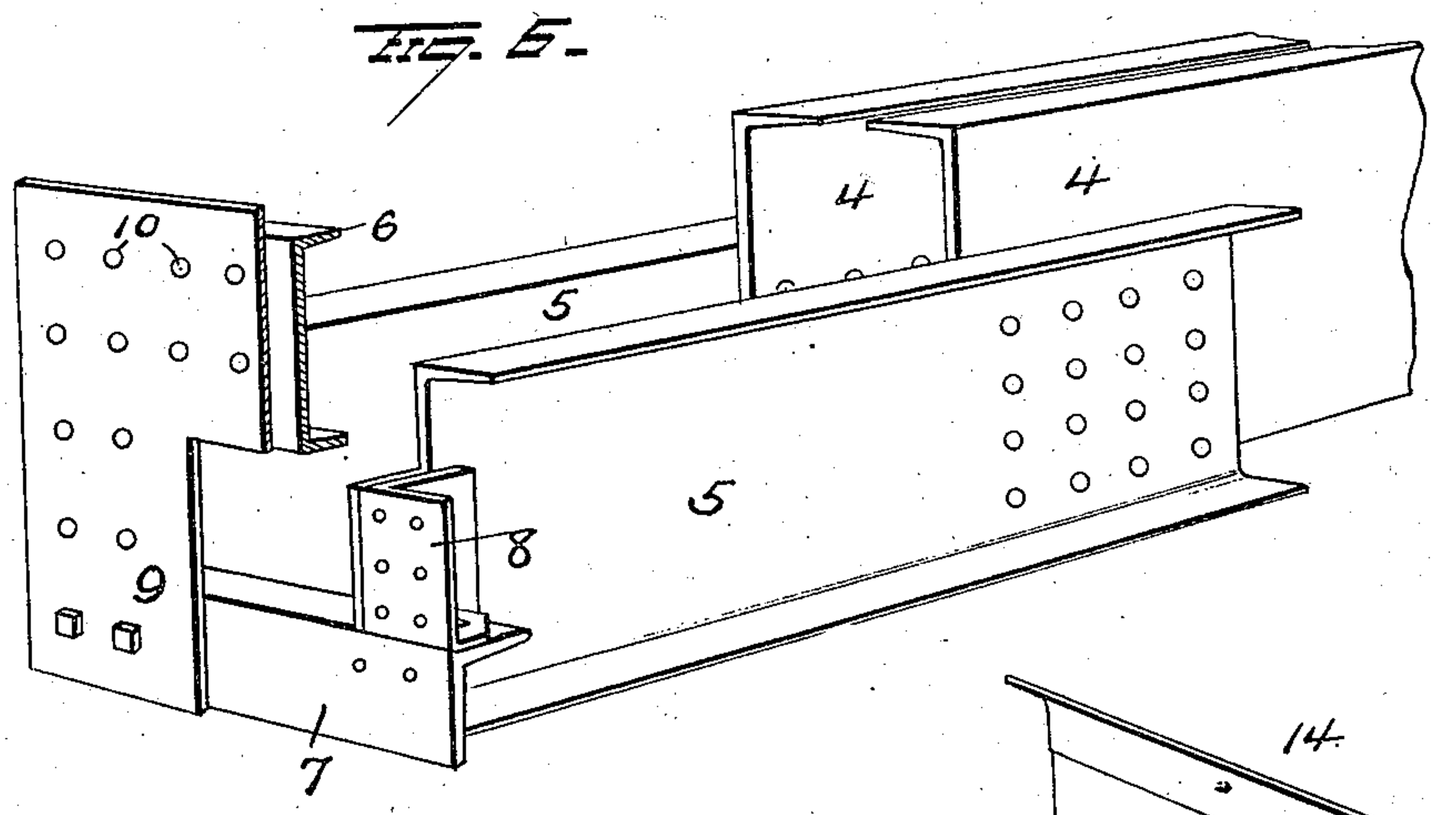


Fig. 7.

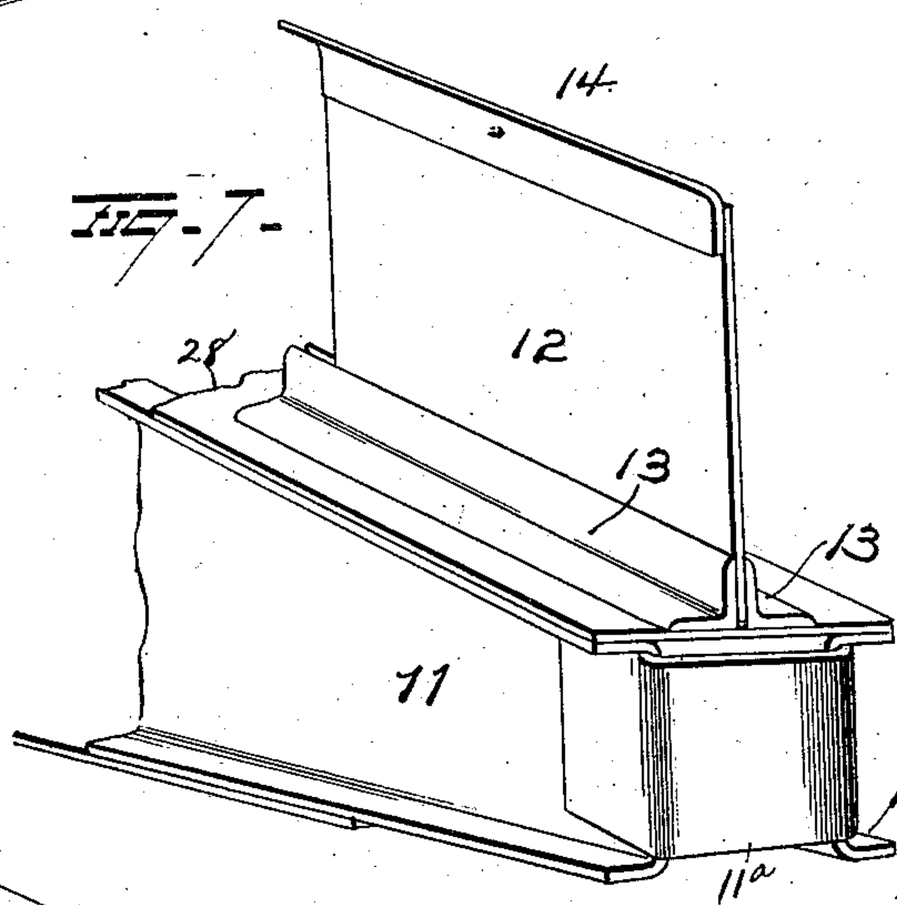
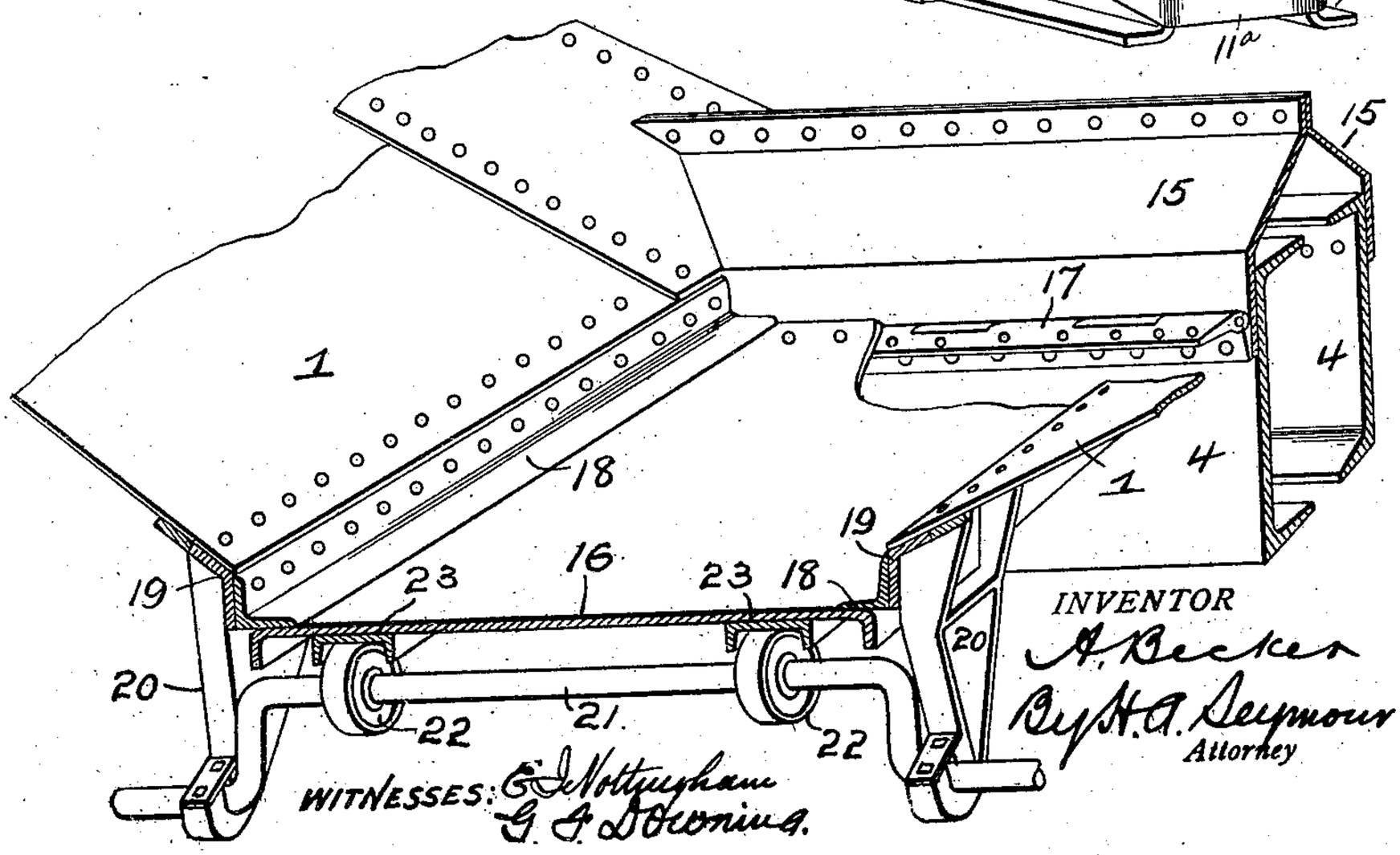


Fig. 8.



WITNESSES: G. deNottingham
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UNITED STATES PATENT OFFICE.

ANTON BECKER, OF COLUMBUS, OHIO.

DUMPING-CAR.

No. 859,799. Specification of Letters Patent. Patented July 9, 1907.

Application filed May 26, 1906. Serial No. 318,873.

To all whom it may concern:

Be it known that I, ANTON BECKER, a resident 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.

My invention relates to improvements in dumping cars, and more particularly to an improved steel hopper bottom car having drop doors, one object of the invention being to insure the strength and durability of the car and to so construct and arrange the same that it can be easily operated to dump to either side through doors at the bottom.

A further object is to improve various features of construction of a car of the class to which my invention relates.

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

In the accompanying drawings; Figure 1 is a side elevation of a car embodying my improvements. Fig. 2 is a top plan view Fig. 3 is an end elevation. Fig. 4 is a view in cross section. Fig. 5 is a fragmentary perspective view of one of the doors. Figs. 6 and 7 are detail views showing parts of the car underframe construction, and Fig. 8 is a fragmentary perspective view illustrating a slightly modified form of door.

1 represents the hopper body, composed of steel plates securely riveted together and to angle uprights 2 and 3.

The car is provided with a channel center sill 4 having channel draft sills 5 securely riveted to the respective ends thereof. The end sills 6 and draw bar carrier-angles 7 extend across the ends of the draft 5. The carrier angles and end sills are connected by gusset plates 8, as clearly shown in Fig. 6 and face plates 9 are secured to the end sills 6, carrier angles 7 and gusset plates 8, by means of rivets 10. The face plates 9 are recessed or notched to accommodate the draft appliances.

The body bolsters of the car are shown at 11 and each comprises two channeled irons having their flanges projecting outwardly, and connecting plates 11^a uniting said channel irons. A plate 28 bridges the channel iron members of each body bolster and is secured at its longitudinal edges upon the upper flange of the bolster members. A web plate 12 is disposed edgewise over each plate 28 and rigidly secured thereto by means of two angle irons 13, one at each side of said web plate. The web plate 12 extends the full length of the body bolster and is secured at its ends to the sides of the body by means of angle irons 29.

A supporting sheet 14 is secured to the upper edge of each web plate 12 and these supporting sheets 14 serve to connect the web plates with the inclined floors of the body. Horizontal plates 30 are secured at one end to the respective web plates 12 and at their other ends to the floor plates near the lower ends of the latter. The floor plates are also secured to the sides of the car body as shown at 31, and braces 32 extend from one inclined portion of the floor to the other, said braces 32 being also secured to the sides of the car body. In order to effectually brace the body 1, a transverse beam 33 extends from one side wall to the other thereof slightly below the top of said body 1.

Deflector plates 15 are secured to the outer faces of the center sill and said plates project upwardly into the bottom of the car body and also toward each other with their upper edges riveted together, said parts thus serving to direct the contents of the car to the doors 16 which normally close the car bottom. Each door 16 is provided throughout its full width with a hinge 17, by means of which it is connected with an outer side face of the center sill. When closed, the doors will be disposed in an outwardly and downwardly inclined position with their side edges bearing upwardly against angle iron stops 18 secured to depending hopper sheets 19 riveted at the open hopper bottom.

Depending brackets 20 are secured to the outer faces of the sheets 19 and provide bearings for crank shafts 21. Rollers 22 are mounted on the crank shafts 21 and are movable in channel tracks 23 on the under faces of the doors, to open and close the latter when the crank shafts are operated. The shafts 21 extend to one end of the car, where they are supported in bearings 24 and are provided with pawl and ratchet mechanism 25, to lock them in position. Levers 26, provided with pawls 27, are provided to engage ratchet wheels 27^a and turn the shafts, as will be readily understood.

In Fig. 8, the door is shown in a horizontal position when closed, but the inclined door is preferred, as a greater degree of inclination can be given to the door when open, to more effectually dump the contents of the car. It will be observed that by turning the shafts to swing the crank arms and rollers outward and downward, the doors will be permitted to swing open and that by turning the shafts in the reverse direction, the doors will be raised to their closed position and held there.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to limit myself to the precise details herein set forth.

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

1. In a hopper car, the combination with the body, and a body bolster, of a plate disposed upon the bolster, a web plate disposed edgewise over said plate and secured to the

inclined floor of the body, and angle irons at both sides of the web plate and securing the latter to the plate on the body bolster.

2. In a hopper car, the combination with the body, of a body bolster comprising two channel members, a horizontal plate located upon the flanges of said channel bolster members, a web plate disposed edgewise over said plate, means securing the upper edge of said web plate to the inclined floor of the body, and two angle irons secured respectively to the sides of said web plate and to the horizontal plate on the bolster.

3. In a car, the combination with a hopper shaped body, of a center sill extending across the open bottom of the body, doors hinged to the side walls of the center sill and constructed to close the bottom of the hopper body, brackets secured to the hopper body, crank shafts mounted in said brackets, rollers on the crank shaft to run against the bottoms of the doors, and means for turning the crank shafts.

4. In a car, the combination with a hopper shaped body, of a center sill extending across the open bottom of the body, deflector plates secured to the outside faces of the center sill and secured together at their upper edges above the center sill, doors hinged to the center sill and closing the hopper bottom, crank shafts, rollers on the crank arms of said shafts, channel tracks on the bottom of the doors to receive said rollers, and means for turning the shafts for opening and closing the doors.

5. In a car, the combination with a hopper shaped body, of a center sill extending across the open bottom of the body, deflector plates secured at their lower edges to the outer faces of the center sill and secured together above the center sill, doors hinged to the center sill, hopper sheets having angle irons strips secured at their lower inclined edges to hold the doors inclined when closed, brackets secured to the hopper sheets, and crank shafts supported in the brackets and controlling the operation of the doors.

6. In a car, the combination with a body, of channel center sill supporting the body, channel draft sills secured to the center sill at the end thereof, an end sill across the upper portions of the ends of the draft sills, a draw bar carrier angle across the lower portion of the ends of the draft sills, corner irons secured to the draft sills and to the carrier angle, and a face plate across the ends of the draft sills, said face plate secured to the end sill and carrier angle and having a recess to accommodate a coupling shank.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ANTON BECKER.

Witnesses:
A. W. BRIGHT,
S. W. FOSTER.