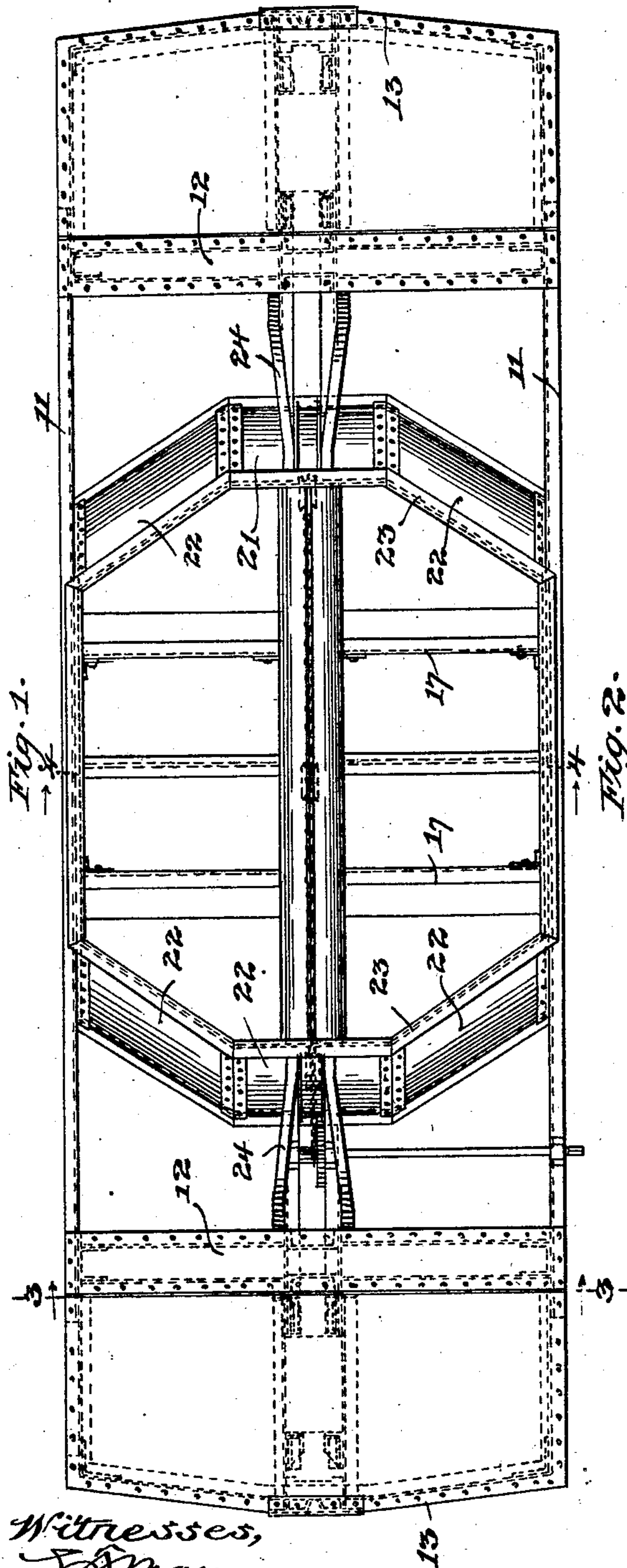


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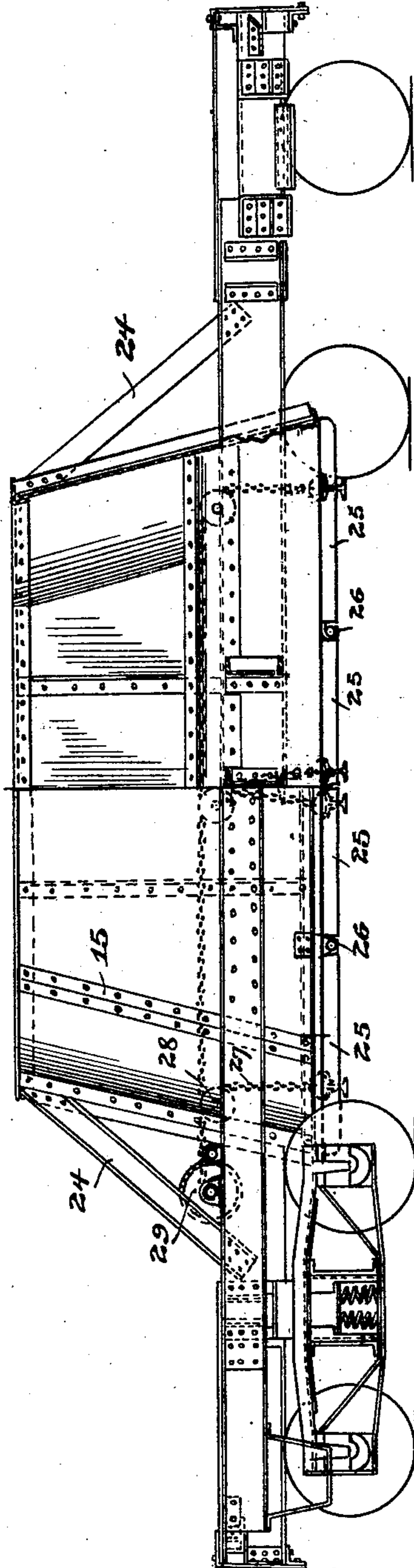
PATENTED JULY 23, 1907.

E. I. DODDS.
DUMPING CAR.
APPLICATION FILED DEC. 5, 1906.

3 SHEETS—SHEET 1.



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Fig. 3.

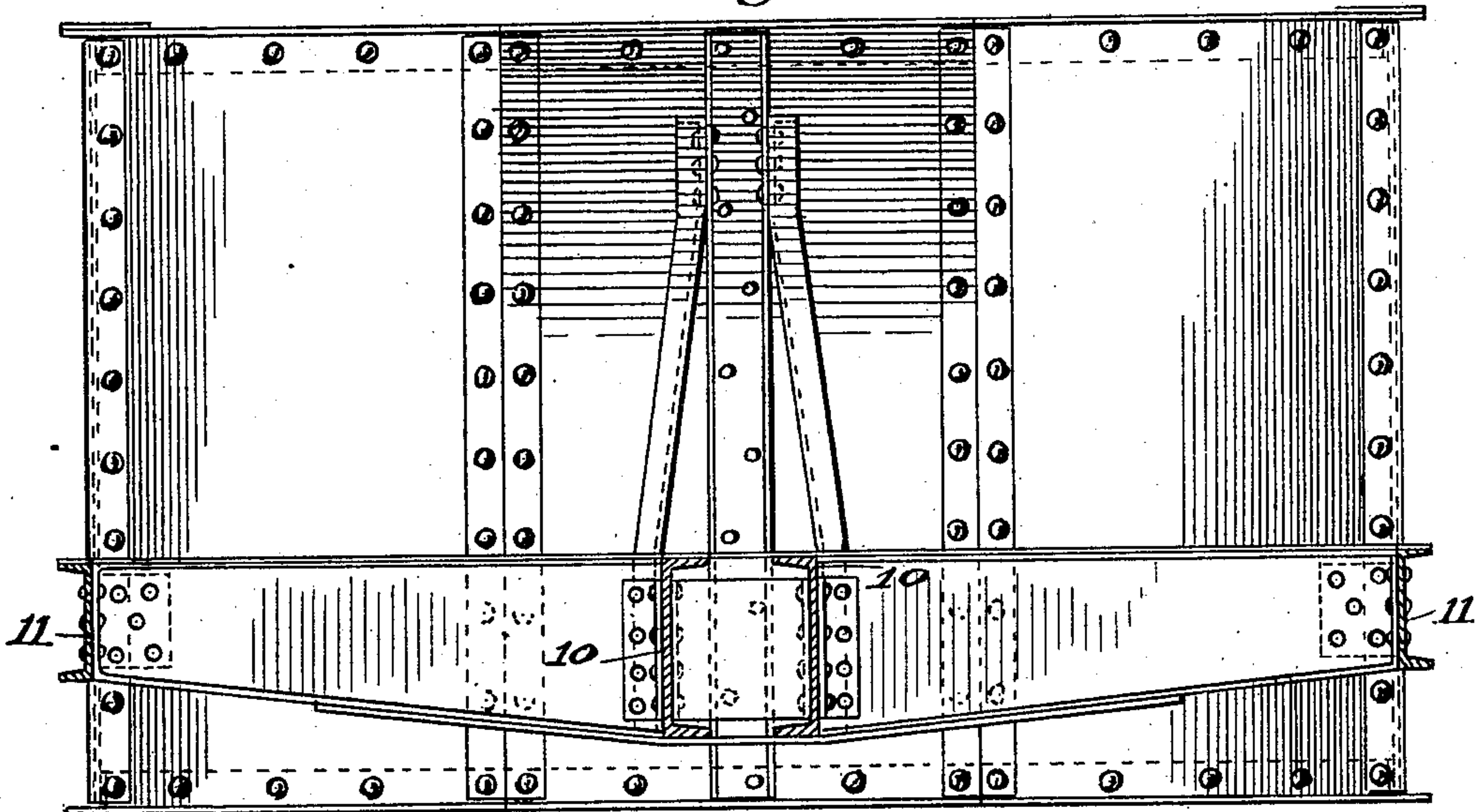
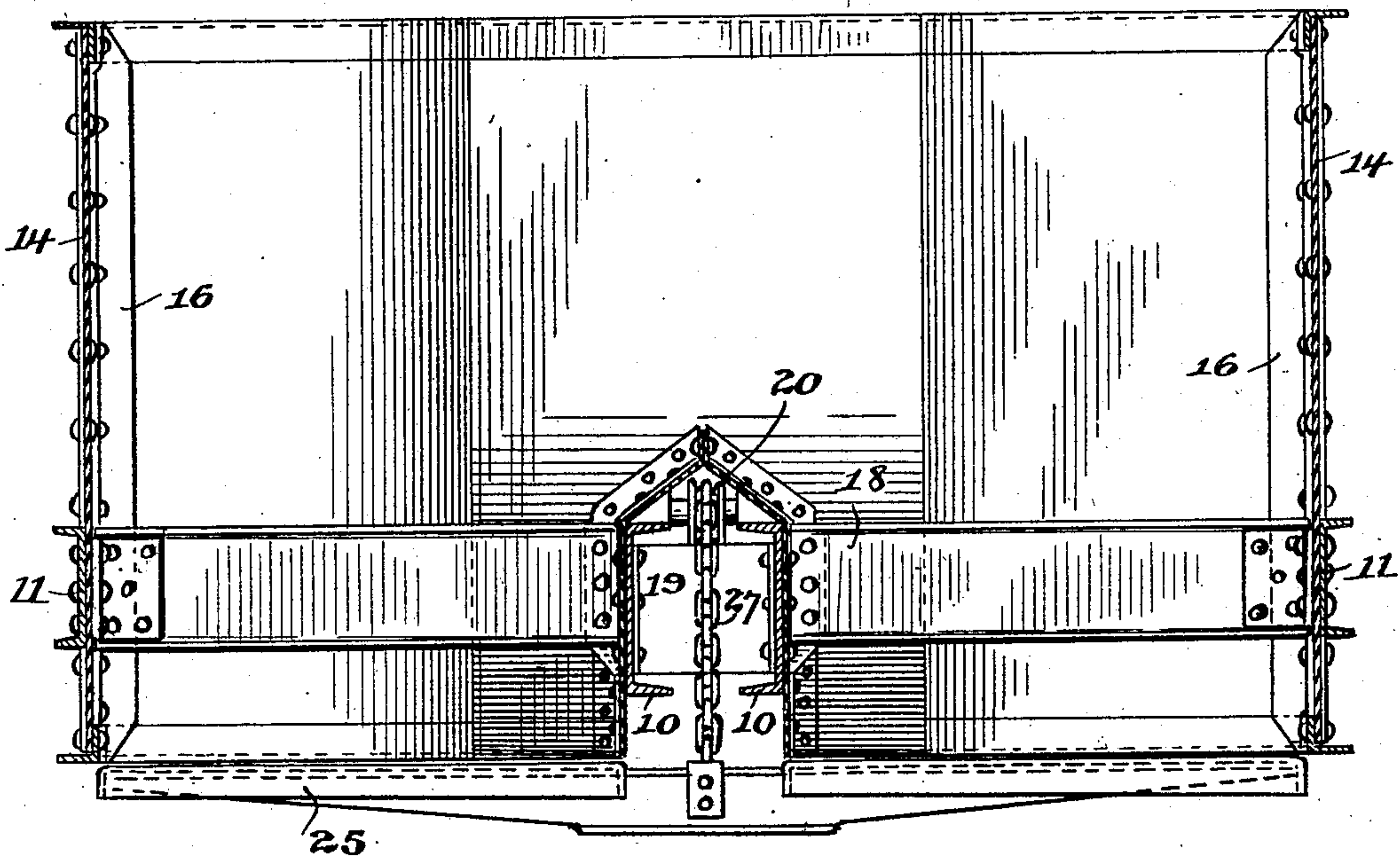


Fig. 4.



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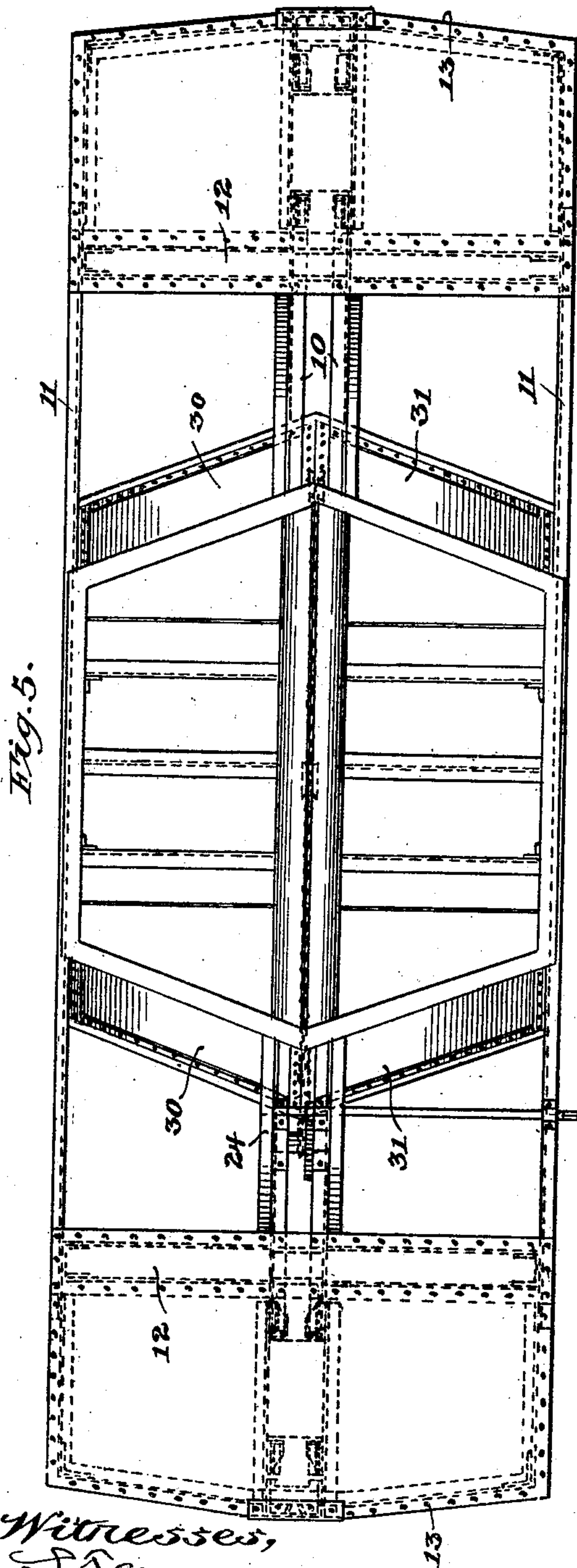
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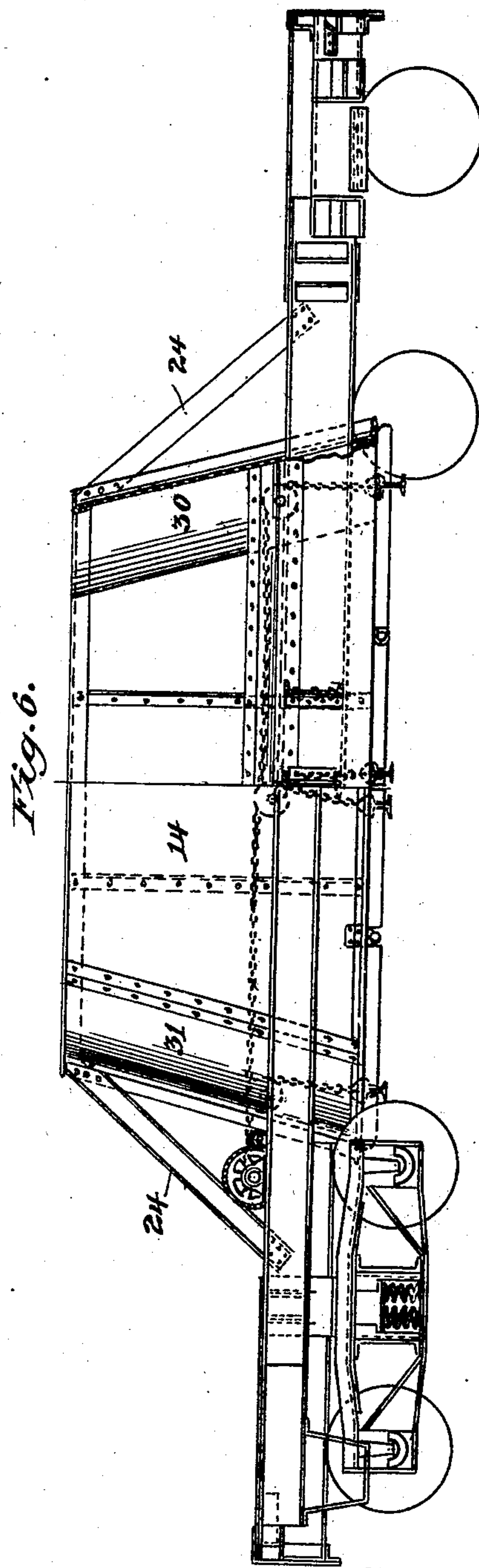
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF PULLMAN, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DUMPING-CAR.

No. 861,207.

Specification of Letters Patent.

Patented July 23, 1907.

Original application filed July 6, 1904, Serial No. 215,492. Divided and this application filed December 5, 1906.
Serial No. 346,436.

To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dumping-Cars, of which the following is a specification.

My present invention has for its object the improvement of dumping cars whereby the lading may be readily and completely unloaded when the discharging doors are opened. To accomplish this result the car-body is made so as to have a bottom opening larger than its top, the end walls being inclined inwardly and upwardly to assist in the discharging operation. With such a construction, a moist lading, which ordinarily has a strong tendency to adhere or stick to the car-body walls can be completely discharged, the weight of the load being used, as will be readily understood, to cause it to leave the walls and drop through the door openings.

In the accompanying drawings, I have illustrated two desirable embodiments of my invention, and on the various views like reference characters refer to the same parts throughout.

Figure 1 is a plan view of the preferred embodiment of my invention; Fig. 2 is a partial side elevation and partial longitudinal central section of the dumping car shown in Fig. 1; Fig. 3 is a vertical section adjacent to one of the body bolsters, on line 3—3 of Fig. 1; Fig. 4 is a vertical cross section on the line 4—4 of Fig. 1; Fig. 5 is a plan view of a modified form of car; and Fig. 6 is a partial side elevation and partial longitudinal section of the car shown in Fig. 5.

Referring first to the car illustrated in Figs. 1 to 4, inclusive, it will be observed that the car underframe includes the usual channel center sills 10—10, channel side sills 11—11 disposed with their flanges extended outwardly, body bolsters 12—12 and end sills 13—13. The car-body through which the center sills pass, and which is located wholly within the side sills, comprises the side plates 14, which are vertical and parallel, and whose end edges 15—15 converge upwardly. These side plates, which are preferably made of sheet-metal, are riveted directly to the webs of side sills 11, as is clearly shown in Fig. 4, and on their inner surfaces are provided with the upright angle stakes 16, to the inwardly-projecting legs of which are attached the ends of transverse channels 17, which act to tie together the two sides of the car. Centrally disposed transversely of the car-body, there is provided an I-beam 18 connected in any convenient manner to the side walls. As will be readily understood from an inspection of Fig. 4, these transverse beams 17 and 18

are omitted between the center sills, but between the latter I nevertheless employ any suitable number of channel spacers 19. In order to deflect the lading from the center sills, I inclose that portion of them within the car-body inside of a hood 20 having an oppositely-inclined top surface to direct the lading to either side of the center sills, as will be obvious from an inspection of Figs. 1 and 4. Each end wall of the car-body comprises a central portion or plate 21 substantially rectangular in shape and upwardly inclined inwardly, and at each side of this central plate or end-wall portion there are provided supplemental corner plates 22, which are also inwardly inclined, and which connect the edges 15 of the side walls to the adjacent edges of the central end-wall plates 21. As is usual in dumping cars, I provide a coping angle-iron 23, which extends around the top edge of the walls forming the car-body. In order to prevent this body from shifting longitudinally and in order to brace the same lengthwise, at each end there is used a pair of channel braces 24, which at their upper ends are fastened to the body and at their lower ends are riveted to the outer faces of the channel center sills. Substantially the whole bottom of this car is composed of the hinged doors 25, hinged at the points 26 and operated by means of the chains 27 passing over sheaves 28, the chains being adapted to be wound on and paid out from a drum 29 at one end of the car. When in closed or horizontal position, these doors form a substantially flat and flush bottom for retaining the lading in the car, but when the drum 29 is operated to pay out the door-controlling chains 27, the doors drop so as to discharge the load, the latter readily dropping away from the inclined surfaces 21 and 22. Owing to the fact that the end walls slope inwardly, the weight of the lading acts to free the same from the inner surfaces of the walls, whereby substantially all of the load is discharged and none allowed to adhere to the walls. When a moist lading, such as ore, is used in a car with vertical sides and ends, or in a car having downwardly-inclined sides or ends, the lading adheres to the walls sufficiently so that in some cases it arches over the door openings, and can only be removed by means of a bar or similar tool to break up the arch. Although I have described this car as having center sills and side sills, it will be apparent that either may be omitted, provided the side walls of the car are made sufficiently strong to form plate girders to support the body and load.

The modified structure shown in Figs. 5 and 6 is substantially like that described above, with the exception of the end walls. In this car these end walls, instead of being each made of three parts, are com-

posed of only two parts 30 and 31, disposed at an acute angle with relation to one another. It will be noted that this modification is only slight, and that substantially all the advantages of the form of car shown in 5 Figs. 1 and 2 are found in the car illustrated in Figs. 5 and 6, since these end-wall portions 30 and 31 are inclined inwardly and upwardly, as in the construction described above.

10 This application is a division of my former application Serial No. 215,492, for steel car construction, filed July 6, 1904, to which reference is made.

15 To those skilled in the art it will be apparent that various minor mechanical changes may be made in the structure shown and described herein without departing from the substance of my invention or sacrificing its advantages.

I claim:

1. In a railway car, the combination of a car-body, the end walls of which are composed of a plurality of parts

disposed at an angle to each other and each inwardly 20 inclined upwardly, and one or more doors to open and close the bottom of said car-body, substantially as described.

2. In a railway car, the combination of a car-body, each end wall of which has a central portion upwardly and inwardly inclined and a portion each side thereof similarly inclined and joining said central portion to the side 25 walls of the car, and one or more doors to open and close the bottom of said car-body, substantially as described.

3. In a railway car, the combination of a car-body having vertical parallel side walls, the end edges of each of 30 which converge upwardly, said body having end walls each composed of a rectangular central portion upwardly and inwardly inclined and a portion each side thereof similarly inclined and joining the end edges of the side walls with the adjacent edges of said central portion, and 35 one or more doors to open and close the bottom of said car-body.

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Witnesses:

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