A. CAMPBELL.

DUMP CAR.

APPLICATION FILED JAN. 31, 1908.

**913,357.**

Patented Feb. 23, 1909.

4 SHEETS—SHEET 1.

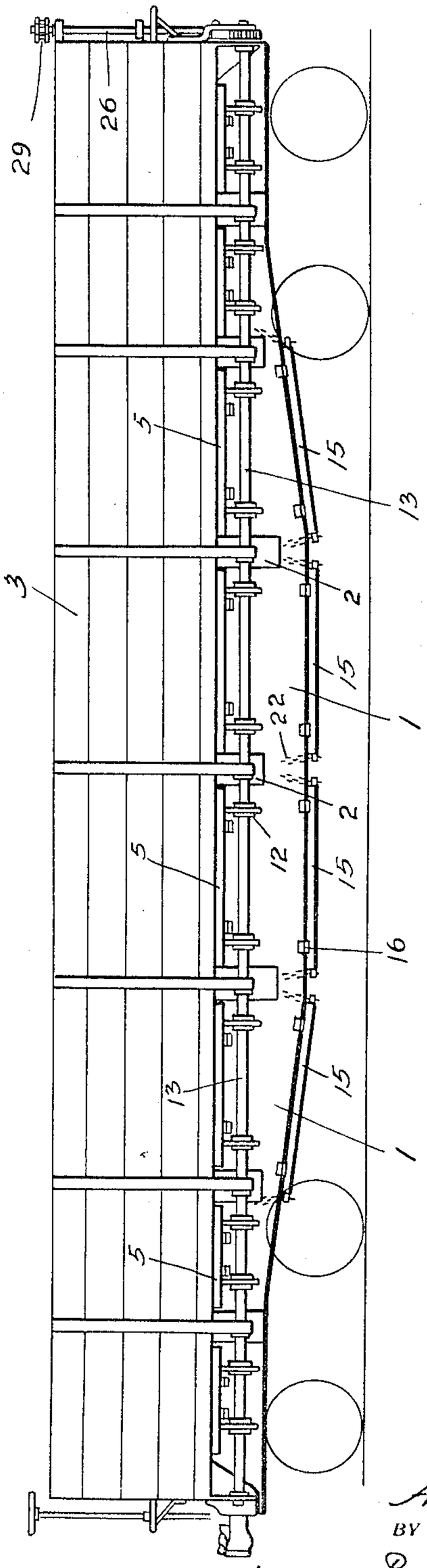


Fig. 1.

WITNESSES:

F. B. Townsend

H. W. Munday

INVENTOR

Argyle Campbell

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Munday, Evarts, Cedenk & Clarke,

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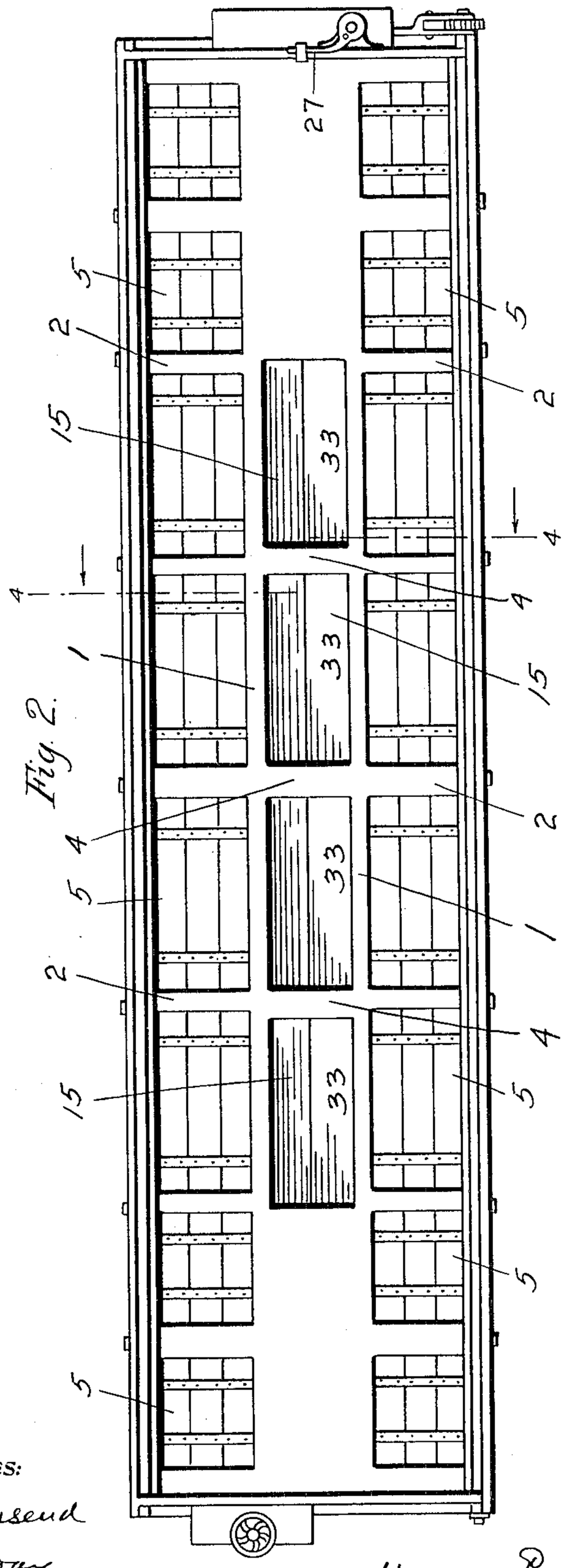


Fig. 2.

WITNESSES:

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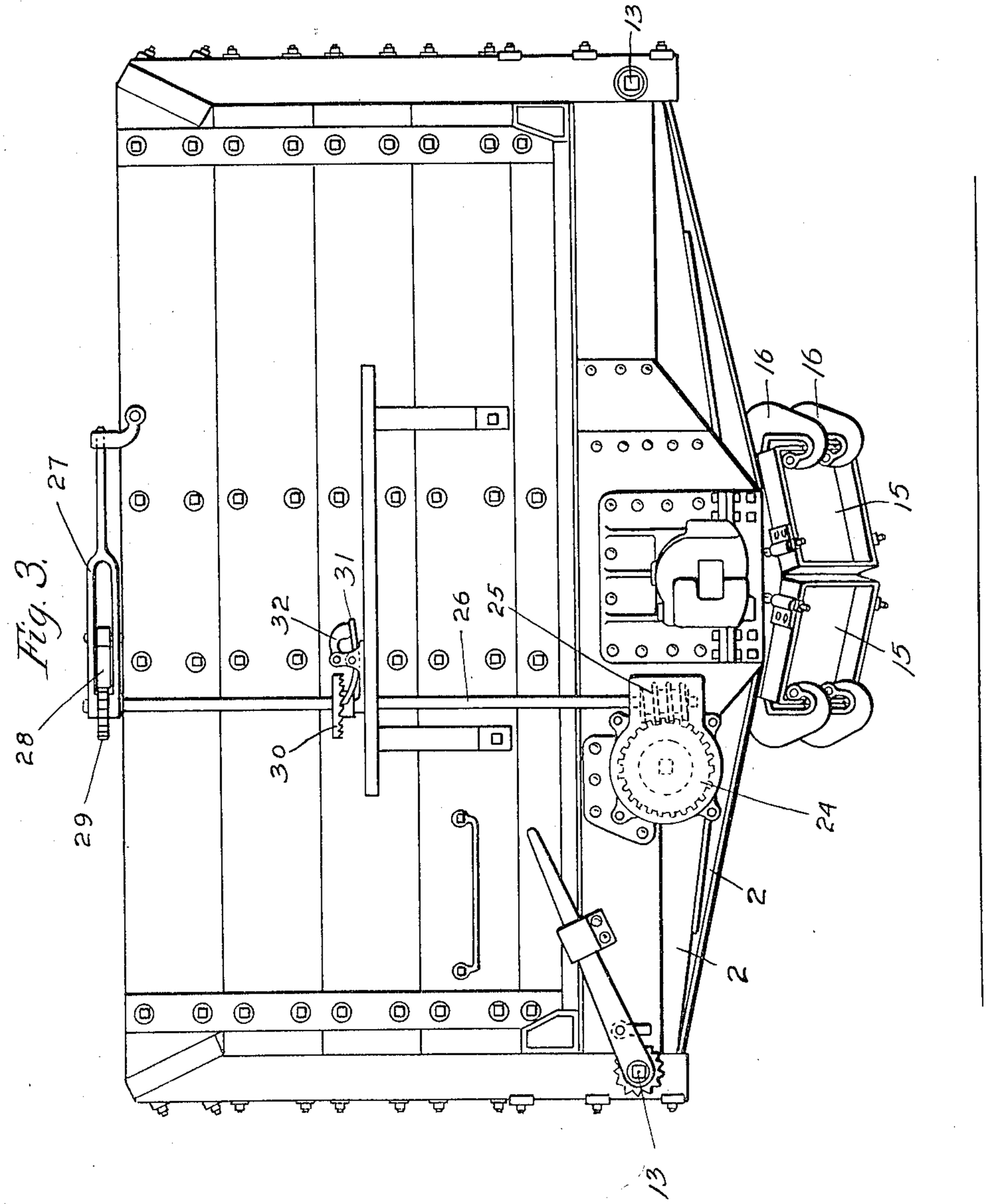


Fig. 3.

WITNESSES:

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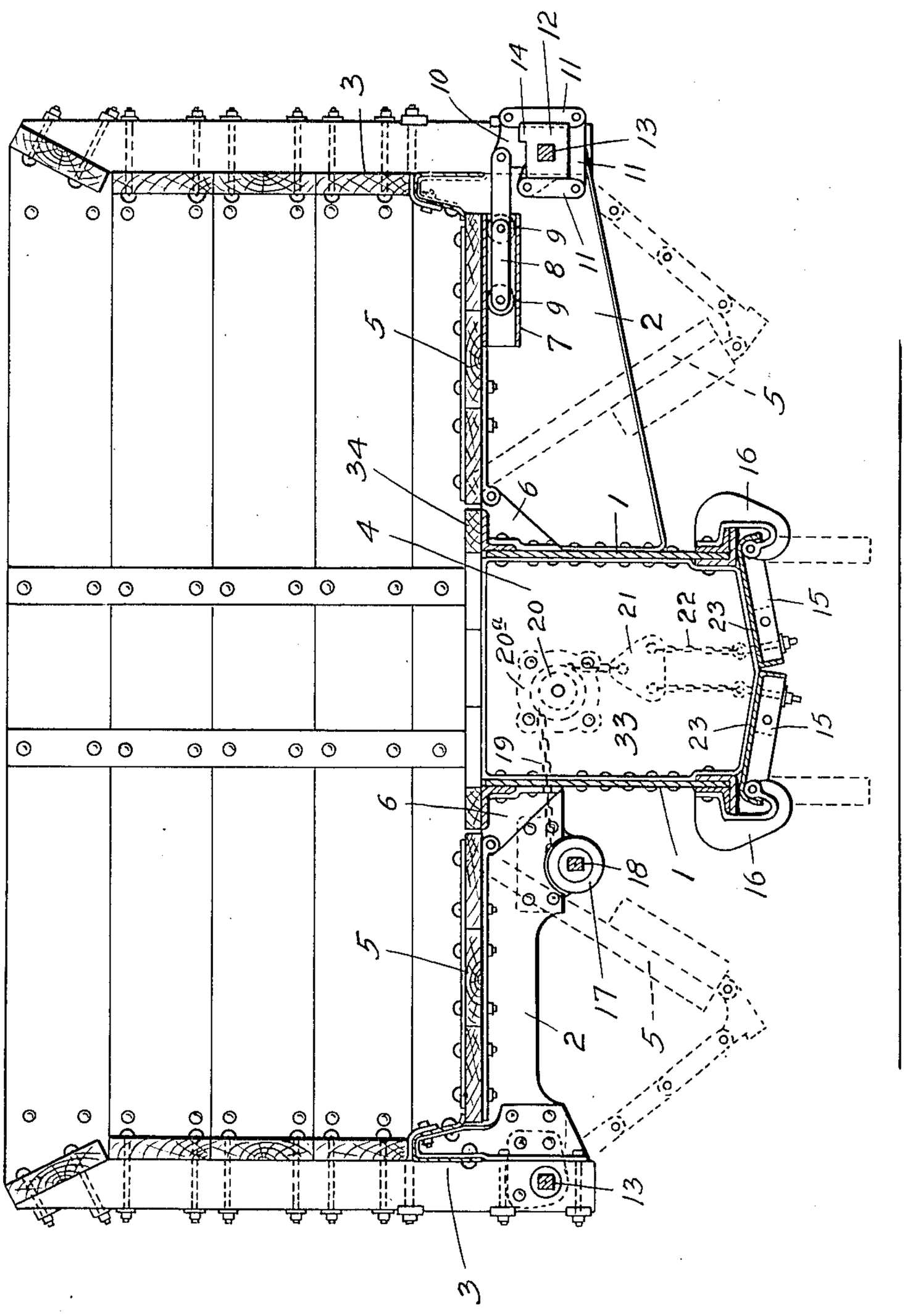


Fig. 4.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## DUMP-CAR.

No. 913,357. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed January 31, 1908. Serial No. 413,554.

*To all whom it may concern:*

Be it known that I, ARGYLE CAMPBELL, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Dump-Cars, of which the following is a specification.

My invention relates to improvements in dump cars, and more particularly to dump cars having steel center sills.

In steel frame dump cars heretofore in use, although the steel center sills are frequently required to be very deep as, for example, from twenty to thirty inches, the space between the center sills has not been utilized to increase the load receiving capacity of the car.

The object of my invention is to provide an improved construction of steel frame dump car, in which the space between the center sills may be effectually utilized as part of the load carrying or receiving capacity of the car, and the center of the load as a whole materially lowered, and in which the load, or a portion thereof, may be dumped either centrally or to the side as required.

My invention consists in the means I employ to practically accomplish this object or result as herein shown and described and more particularly specified in the claims.

In the accompanying drawing forming a part of this specification, Figure 1 is a side elevation of a steel under frame dump car embodying my invention. Fig. 2 is a plan view. Fig. 3 is an end elevation, and Fig. 4 is a vertical cross section on the broken line 4—4 of Fig. 2.

In the drawing, 1—1 represent the center sills of a steel under frame dump car, the same being preferably spaced about two feet apart, and preferably from twenty to thirty inches in depth according to conditions or requirements.

2 are the transverse diaphragms of the steel under frame extending between the center sills 1—1 and the side framework 3. Extending at intervals between the center sills 1—1 are flanged diaphragms 4. At each side of the center sills 1, a series of side dump doors 5 are hinged at their inner edges to hinge brackets 6 secured to the center sills near the upper edges thereof. These side dump doors 5 are each furnished at the outer edge with suitable means for raising and lowering the doors, the same preferably consisting in a guide or box 7 on the under side of each door near the outer edge thereof, a sliding bar or latch 8 furnished with anti-friction rollers 9, a notched link 10 and connecting links 11 and a polygonal drum 12 on a winding shaft 13, which has a notch 14 to engage the notch of the link 10. The diaphragms 4 between the center sills divide this space into a series of load carrying pockets, each of which is furnished with a pair of central dump doors 15, which are hinged at their outer edges to hinge brackets 16 secured to the center sills at the lower edges thereof. These central dump doors 15 are also furnished with suitable means for raising and lowering them, the same preferably comprising a winding drum 17 on longitudinally extending shaft 18 and a chain 19 passing over a roller or pulley 20, journaled on a bracket $20^a$ secured to the central diaphragm 4. If desired, both doors 15—15 of each pair may be operated by the same shaft 18, by providing the connecting chain 19 with an equalizer 21 and branch connection 22.

As illustrated in the drawing, the center sills are shown as being of the girder type, or with their lower edges upwardly inclined at the portions thereof adjacent to the trucks and this gives a longitudinal inclination to the two pairs of doors 15, 15 adjacent to the trucks, while the two middle pair of doors 15, 15 are longitudinally horizontal. The doors 15, 15, when closed, as illustrated in Fig. 4, abut at their ends against the lower edges or flanges 23 of the central diaphragms 4, and these flanges or lower edges 23 are preferably transversely inclined about as illustrated in the drawing. The operating shaft 18 for the central dump doors 15 is preferably operated by means of a worm gear 24 thereon which meshes with a worm 25 on an upright shaft 26 at the end of the car and which is furnished with a pawl lever 27 and pawl 28 and ratchet 29. The upright shaft 26 is preferably further provided with a locking ratchet 30 engaged by a pawl lever 31 held in operative position by a hinged weight 32.

The central load carrying pockets 33 below the general level of the car floor 34 and between the center sills, preferably occupy substantially the entire space between the car trucks. They materially increase the load

carrying capacity of the car, materially lower the load as a whole and thus increase the stability of the car, and also afford means for centrally dumping a portion of the load, this being particularly serviceable in distribution of ballast.

I claim:—

1. In a dump car, the combination with deep girder type center sills spaced apart substantially as set forth, and having a load carrying space between them, of side dump doors hinged at their inner edges to the upper edges of the center sills and central narrow dump doors hinged at their outer edges to the lower edges of the center sills, said narrow dump doors following the contour of the lower edges of said girder type center sills substantially as specified.

2. In a dump car, the combination with center sills spaced apart substantially as set forth and having a load carrying space between them, of side dump doors opening from the upper edges of said center sills, and central narrow dump doors opening from the lower edges of said center sills, substantially as specified.

3. In a dump car, the combination with girder type center sills spaced apart substantially as set forth, of side dump doors on each side of the center sills and central narrow dump doors between the center sills, said narrow dump doors following the contour of the lower edges of said girder type center sills substantially as specified.

ARGYLE CAMPBELL.

Witnesses:
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