

W. Chisholm.
Dumping Car.

Street, & Street.

N^o 79,445.

Patented Jun. 30, 1868.

Fig. 1.

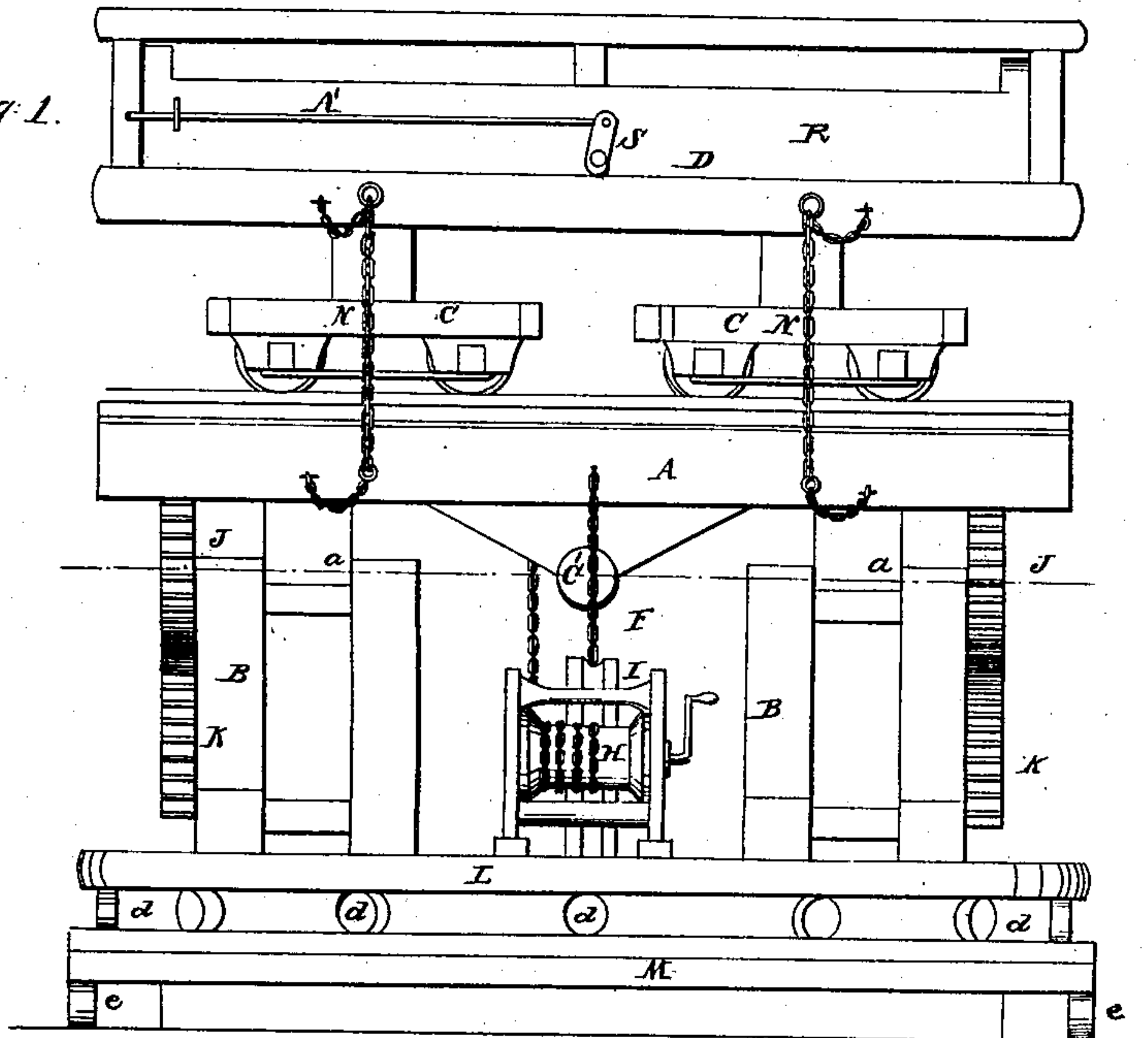
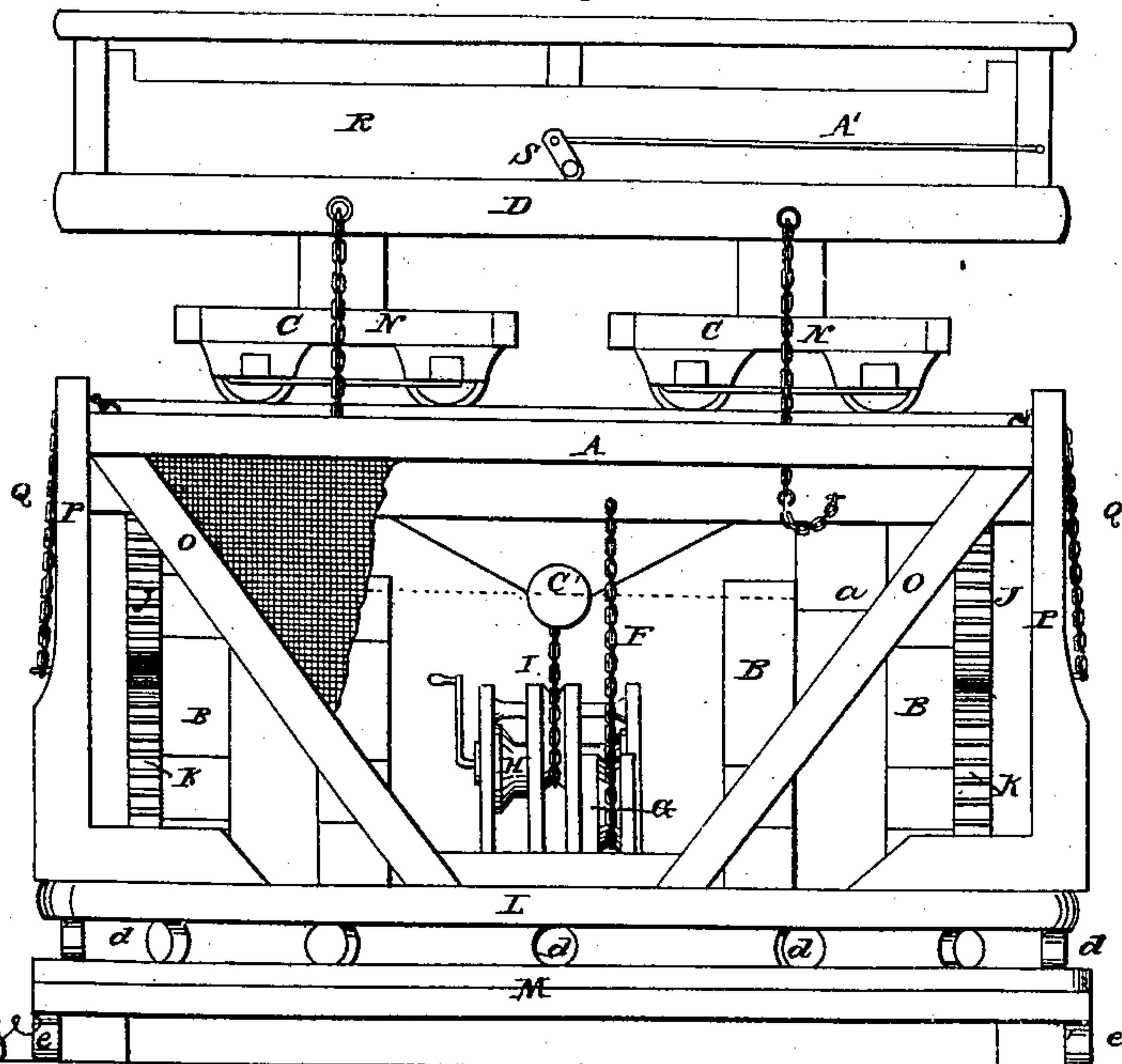


Fig. 2.



Witnesses:

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W. H. Brown

Inventor:

W. Chisholm

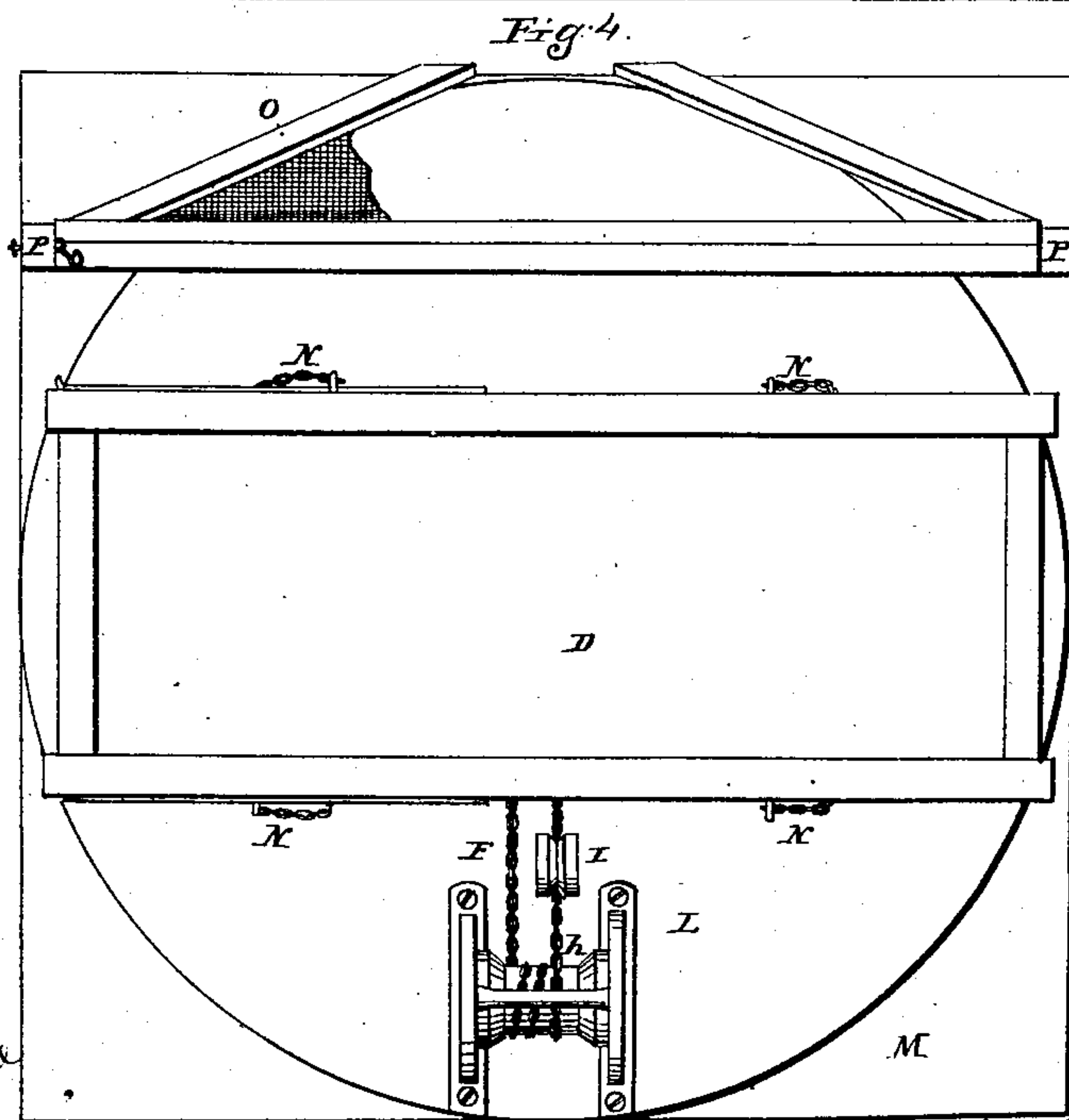
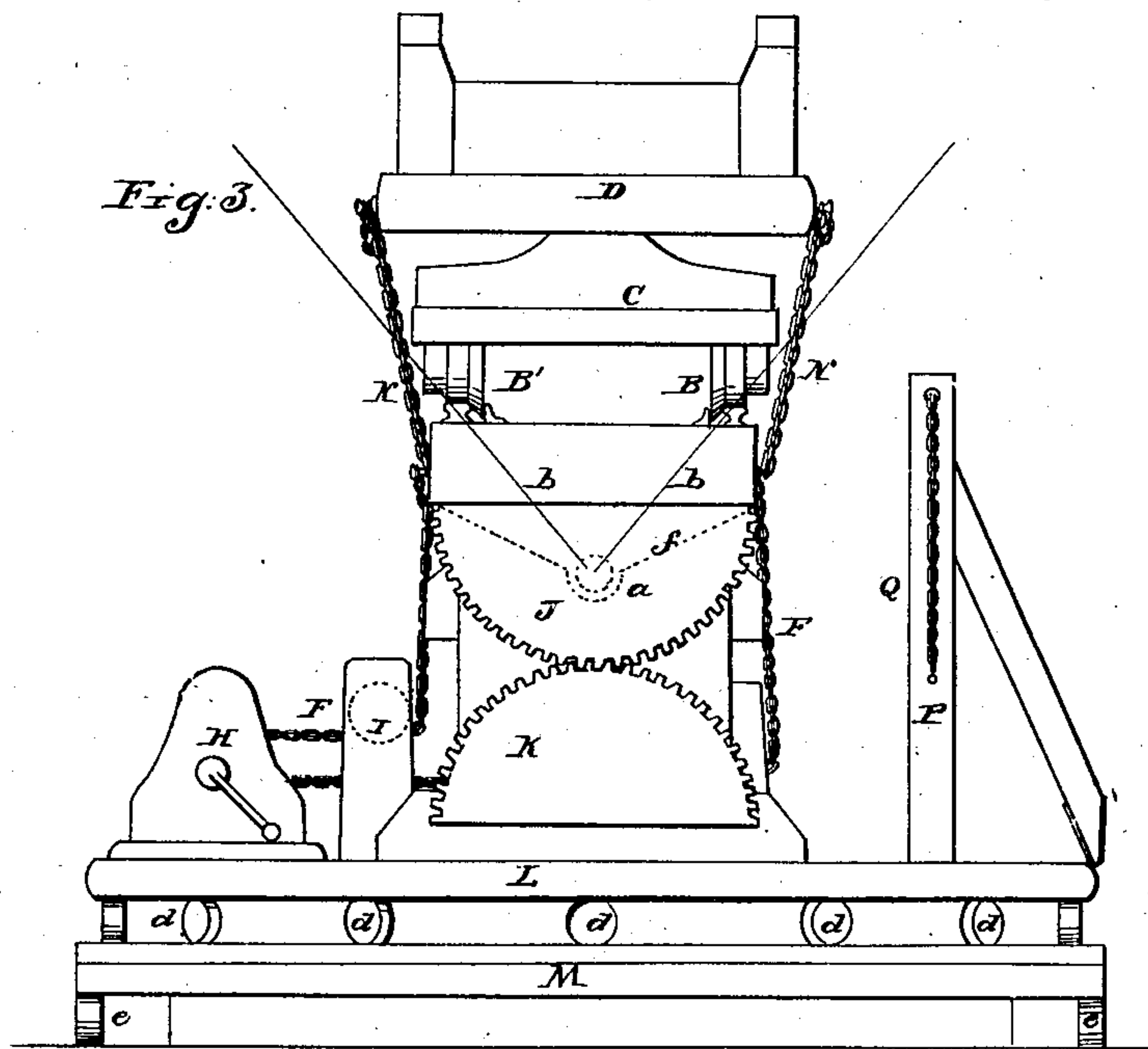
Sheet 2, 2 Sheets.

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WITNESSES:

J. H. Burridge

W. H. Burridge

INVENTOR:

W. Chisholm

United States Patent Office.

WILLIAM CHISHOLM, OF CLEVELAND, OHIO.

Letters Patent No. 79,445, dated June 30, 1868.

IMPROVED DUMPING-CAR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM CHISHOLM, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in the Mode of Dumping Railroad-Cars; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, plate 1, is a side elevation.

Figure 2, a view of the opposite side of fig. 1.

Figure 3, plate 2, is an end view.

Figure 4, a view of the top.

Like letters of reference refer to like parts in the different views presented.

In fig. 1, plate 1, A represents a detached section of a railroad-track, mounted upon and pivoted in the trusses B B, at the points a by means of trunnions, or other suitable bearings. The axial line of said points lies parallel with the track, so that said track can be made to vibrate laterally, as indicated by the red lines b, fig. 3, as and for a purpose hereinafter shown.

C are the trucks, and D a car mounted thereon, and represented as standing upon the track, all of which is or may be constructed in the ordinary way, with the exception of the sides of the car. Said sides, instead of being rigidly and permanently secured, are so hinged to the car that they can be lifted upward or opened, after the manner of a drop-door, the purpose of which will presently be shown.

F, fig. 1, is a chain, one end of which is attached to one side of the track, proceeding from thence down to and under the sheave G, thence to and around the windlass H, to the sheave I, thence to the track, to which it is attached.

J, fig. 3, is a segment of a cog-wheel, or it may consist of a segmental bearing, secured to the under side of the track, and put in connection with a corresponding segment, K, secured to the side of the truss. Segments corresponding to these are arranged upon the opposite end, as shown in figs. 1 and 2.

It will be observed that the structures above described stand upon a turn-table, L, mounted upon the casters or rollers d, and, also, that the platform M, on which the table turns, is mounted upon rollers e, the purpose of which will hereinafter be shown.

The practical use of this arrangement of devices is for unloading coal, ores, gravel, and all such like freight, from the ordinary long truck or open cars, by dumping the load instead of shovelling out the same, as is usually done; the operation of the same being as follows, viz:

The car is rolled on the track A, which, as above said, forms a part of the main line, and to which it is firmly secured by the chains N, or by any other suitable means. This being done, the chute O, fig. 2, which may be an open grate-like structure, or a plain tight one, is then adjusted immediately under the lower edge of the car, the upper side being secured in the posts P, so that the adjustment can be easily effected by means of the chains Q.

The side or door R of the car is now raised by withdrawing the bolt or lock S, by means of the rod A', to which access is had from the end of the car. Now, on turning the windlass in the proper direction, the track and car will be drawn to one side, as indicated by the dotted line f, fig. 3.

The inclination thus obtained to the car will be sufficient to cause the load to slide off, and into the chute, thereby discharging the load in the easiest, quickest possible manner; hence avoiding the great labor and expenditure of time required to unload the same in the ordinary way.

In order to protect the wheels from too heavy a pressure or strain, in consequence of the vibrating of the truck, a supplementary rail, B', fig. 3, is laid along the inside of the line-rails, so that when the car is tilted the inside of the flange of the upper wheels will press against the supplementary rail, and thereby release the strain from the flange of the lower wheels; hence, no breaking of the wheel-flanges will take place, in consequence of throwing the centre of gravity into or near the lower wheels.

It will be obvious that the car can be tilted to either side with equal facility, and should the apparatus be located at the end of a side track, as it may be, the track A can be turned around on the turn-table, so as to bring the side of the car transversely to the track, and thus discharge at the end of the road.

So, also, the platform on which the turn-table stands, being provided with rollers, the whole apparatus can be shifted or transferred from one side track to another; hence, by this means, one apparatus can be made to serve on a number of tracks.

By pivoting the track A transversely in the centre on the journals C', fig. 1, the track and car can be tilted endwise, thereby discharging the load from the end, instead of the side, as above described.

The segmental gearings, above referred to, may be used for tilting the track and car, instead of the chain and windlass, or it may be used for producing the vibratory action of the same.

By the use of a vibrating-track it will be obvious that no change will be required in the construction of the cars, with the exception of the slight one referred to in reference to the sides; hence, the long double truck-cars, in general use for gross freight, will require no material change to fit them for dumping their loads when run upon the vibrating-track and secured thereto, as above described.

The windlass may be dispensed with, and the track and cars tipped by means of a rack, operating in conjunction with the segmental wheels, or a rack and pinion, or screw, may be used for this purpose.

In the ordinary way of unloading a car of iron ore, coal, or lumber, &c., it takes about one hour, but with my improved mode it can be done in five minutes; and in loading up a vessel with coal or iron ore, it usually takes some three or four days, depending on its capacity, but with this mode it can be done in as many hours, as the coal can be discharged from the car down the chute into the vessel, through one or both hatchways at the same time, showing a great saving of time, and cost of labor, and detention of the vessel, as is ordinarily done.

By this mode of unloading coal, in consequence of the entire mass moving together, it is less broken up than when unloaded in the ordinary way; hence, it is in a better condition when it reaches the market, and is worth more, and better for use; also, there is a great saving in the use of cars, as they will not be detained so long in unloading.

What I claim as my improvement, and desire to secure by Letters Patent, is—

1. The construction and arrangement of a section of a railroad-track by means of trunnions or bearings to support the track, and thereby allow a longitudinal and transverse tilting and vibrating of the same, substantially as and for the purpose set forth.
2. The segments J K, in combination with the section of a track A and trunnions or bearings, as described.
3. The combination of the sectional tilting-track A with the turn-table L, for the purposes set forth.
4. The combination of the sectional tilting-track A, turn-table L, with a transfer-table M, in the manner as and for the purpose described.

WILLIAM CHISHOLM.

Witnesses:

W. H. BURRIDGE,
E. E. WAITE.