

No. 747,381.

PATENTED DEC. 22, 1903.

R. S. COX.  
DUMP CAR.

APPLICATION FILED MAY 13, 1903.

NO MODEL.

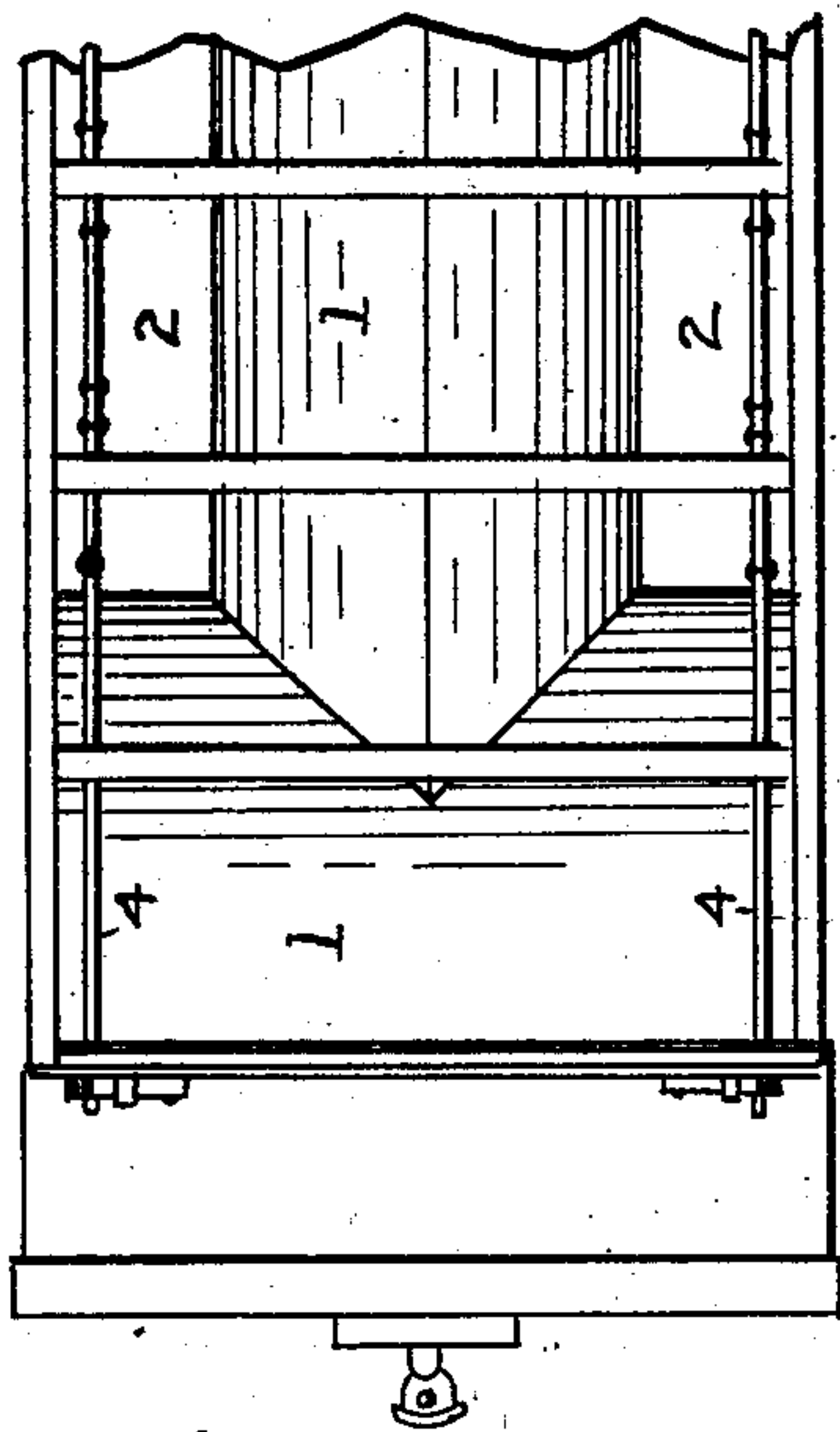


Fig. 2.

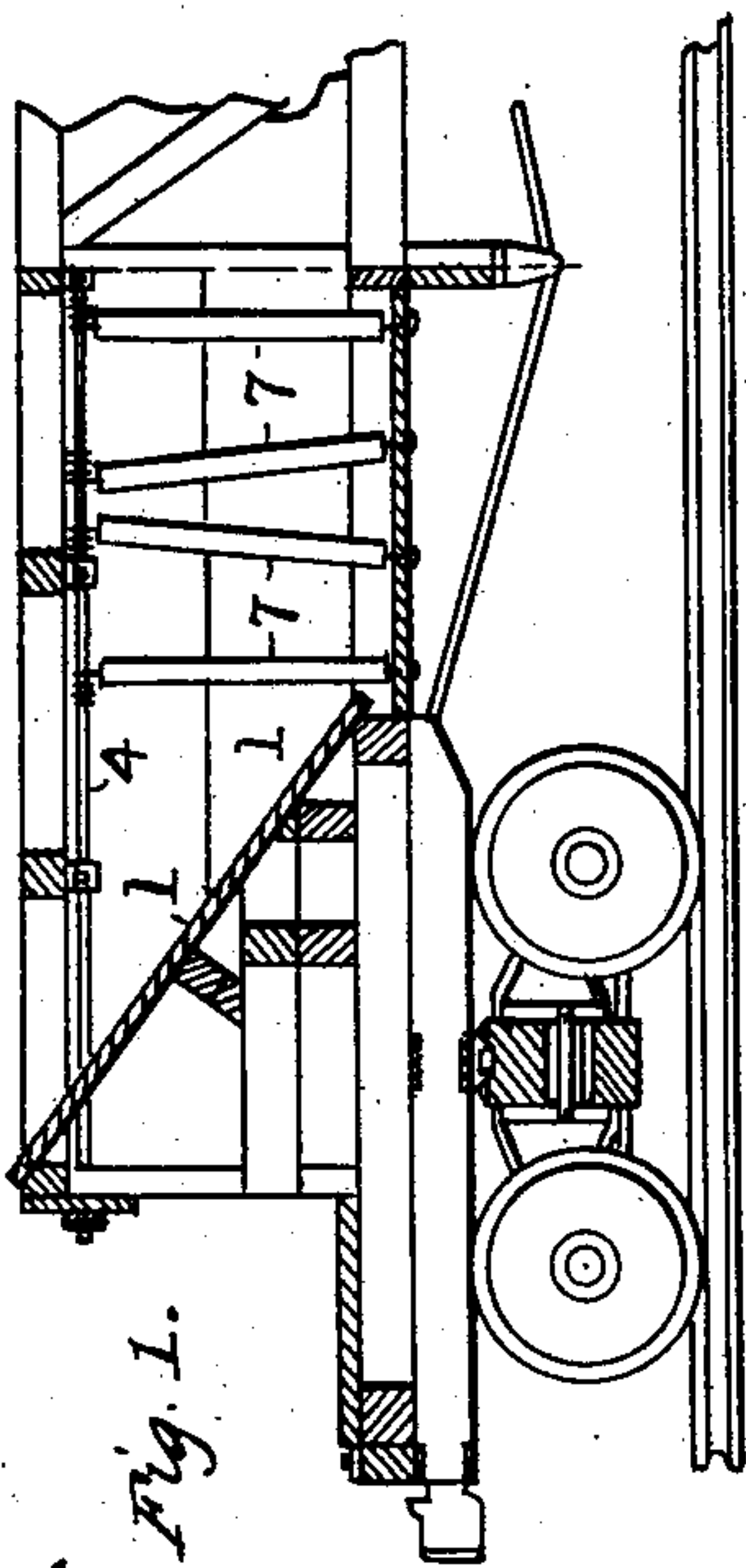


Fig. 1.

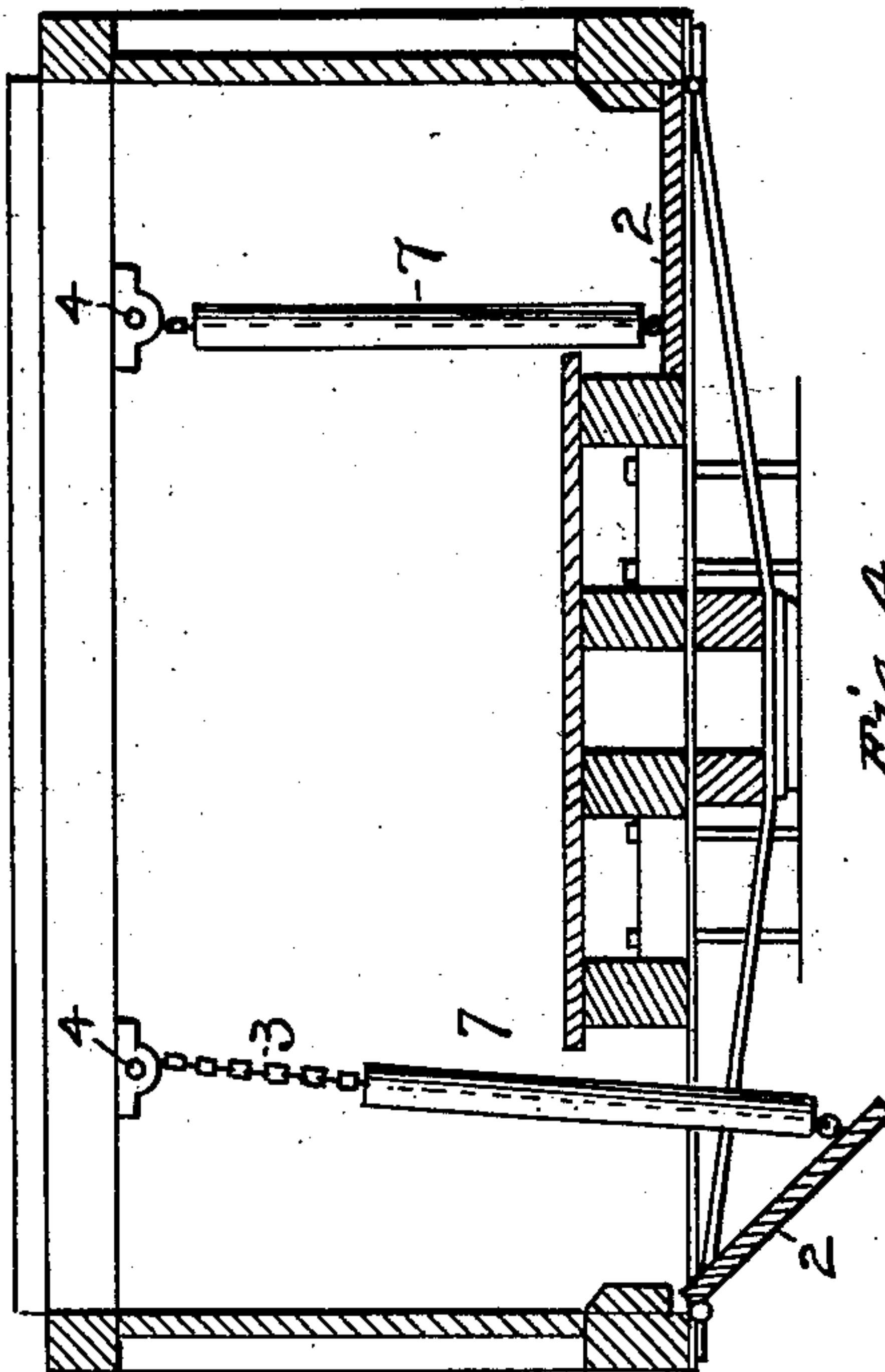


Fig. 4.

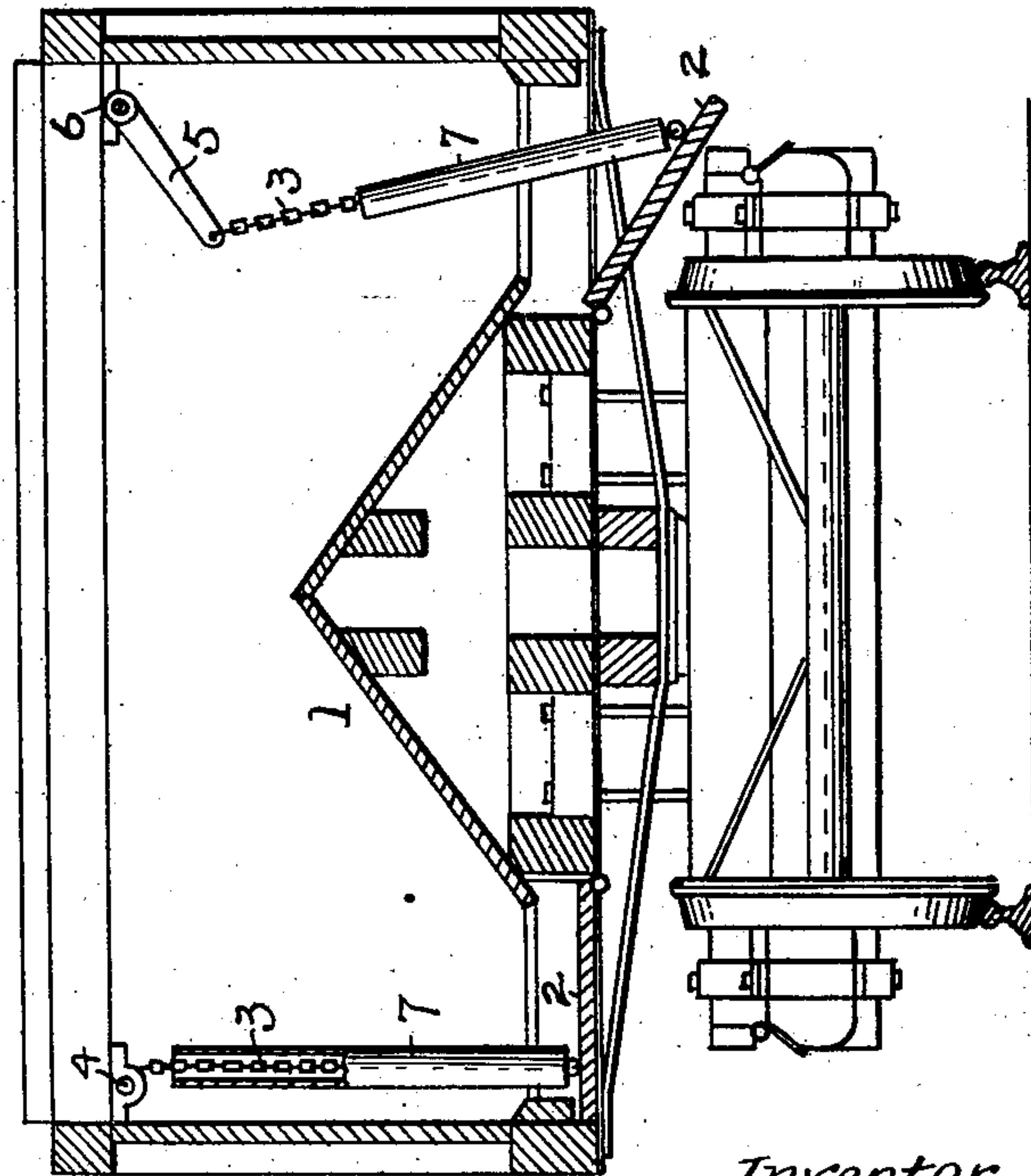


Fig. 3.

Witnesses

Norris A. Clark.

Richard H. Tucker.

Inventor

Robert S. Cox.

By J. A. Whitney  
Att'y.



# UNITED STATES PATENT OFFICE.

ROBERT SAYER COX, OF BUFFALO, NEW YORK.

## DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 747,381, dated December 22, 1903.

Application filed May 13, 1903. Serial No. 156,907. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT SAYER COX, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Dump-Cars, of which the following is a specification.

This invention relates to dump-cars; and its object is to facilitate the discharge of the load from cars having outwardly-opening portions, and especially those of the hopper-bottom type. In such cars there are a plurality of downwardly-opening hinged doors in the bottom of the car-body held closed by chains, which are attached to the free edges of the doors and pass up through the car-body to winding-shafts or to lifting-arms on rock-shafts located at the top of the car. An instance of this construction is found in my prior patent, No. 476,366.

It has been found in practice that with certain kinds of loads, such as coarse rock or coal or the like, the lifting-chains become jammed in the load, and so the doors do not readily open when the chains are released. This is especially the case with hopper-bottom cars where the inclined floor and the jarring of the car causes the load to settle down solidly around the chains. The object of my invention is to overcome this difficulty, which I do by providing a loose freely-movable sleeve for each chain, preferably a tube of iron, through which the chain passes freely. The length of the sleeve is such that when the chain is wound up and the door is closed the sleeve extends from the door close up to the winding-shaft—that is, to near the top of the load. When the chain is released, it runs freely through the sleeve, which is held by the pressure of the load material until the door has opened wide enough to start the dumping, when said sleeve slides down the chain until caught by the door in position to be lifted back into position when the door is closed.

In the accompanying drawings, Figure 1 is a longitudinal section of one end of a hopper-bottom dump-car equipped with my invention. Fig. 2 is a top plan view of the same. Figs. 3 and 4 are cross-sections on a larger scale, the latter showing a flat-bottomed car with the doors arranged for dumping inside the track-rails instead of outside, as in Fig. 3.

The car shown is of the gondola type, having the inclined bottom 1 and the downwardly-opening doors 2 hinged thereto. To the free edges of the doors are fastened lifting-chains 3, which run up through the car-body to longitudinal winding-shafts 4 or to lifting-arms 5 or rock-shafts 6. On each chain is a sleeve 7, preferably a stout iron tube, of such a length as to extend from near the shaft to the door when the latter is closed. The sleeve is not attached to the chain or to any part of the car, but is free to slide on the chain. The closest packing of the load around this sleeve cannot prevent the free running of the chain when released, so that the dumping can be promptly and quickly effected without loss of time. This is especially advantageous when it is desired to dump at a given spot while the car is moving along the road.

I have shown and described the sleeve as applied to a chain; but it is evident that a similar protector can be applied to any other kind of closing member flexibly attached to an outwardly-opening portion of a dump-car.

Having thus described my invention, what I claim is—

1. The combination with a dump-car having an outwardly-opening portion, of a closing member flexibly attached to said portion, and a freely-movable unattached sleeve loosely inclosing said member.

2. The combination with a dump-car having an inclined bottom, of doors hinged to said bottom, lifting members attached to said doors, and freely-movable unattached sleeves loosely inclosing said members.

3. The combination with a dump-car having downwardly-opening hinged doors, of chains attached to said doors, shafts for lifting said chains, and freely-movable unattached sleeves loosely surrounding said chains and extending from near said shafts to said doors when the latter are closed.

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

ROBERT SAYER COX.

Witnesses:

WALTER ASPINWALL,  
GEO. A. BEUSLEY.