

(No Model.)

R. M. JOHNSON.
DUMPING FREIGHT CAR.

No. 474,744.

Patented May 10, 1892.

Fig. 1.

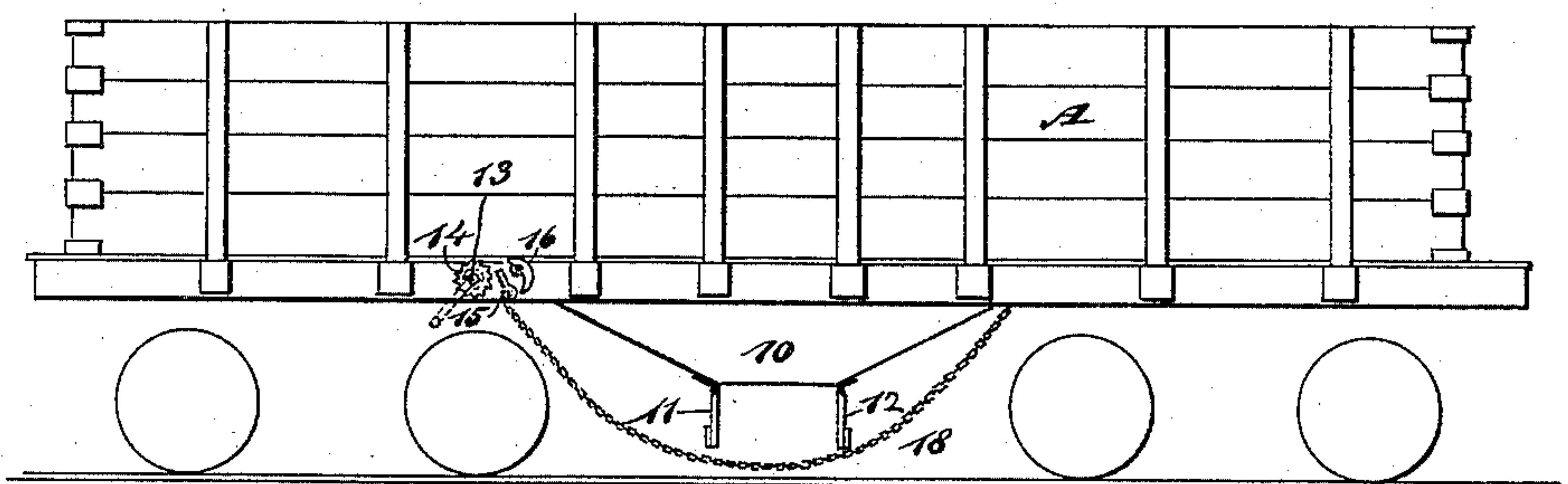


Fig. 2.

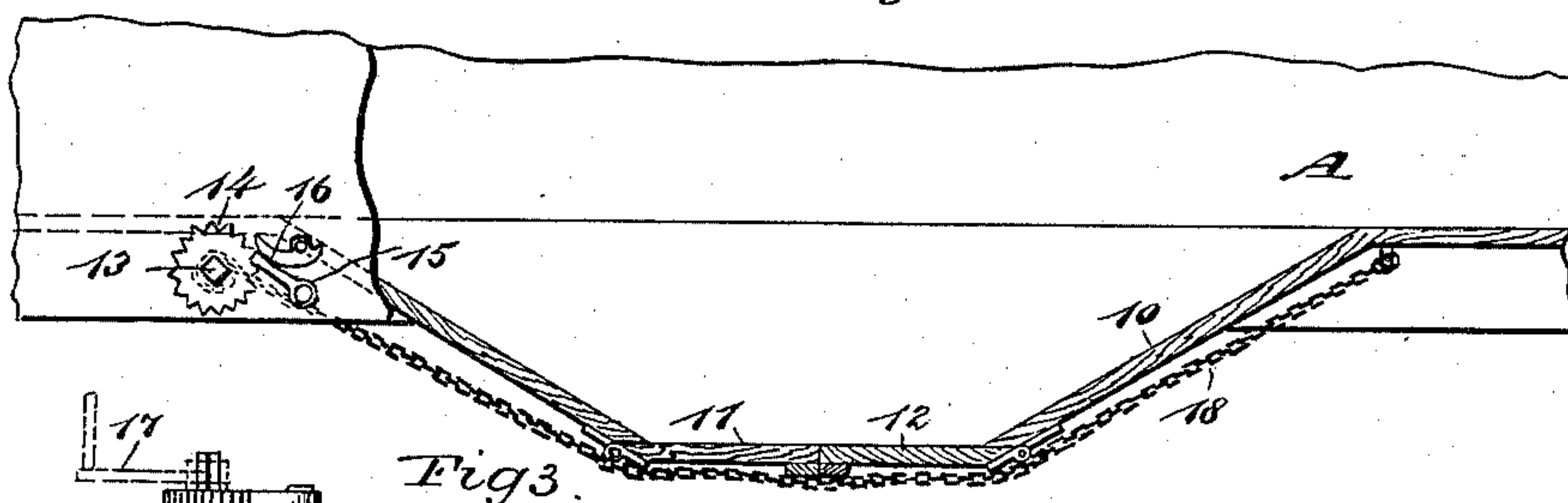
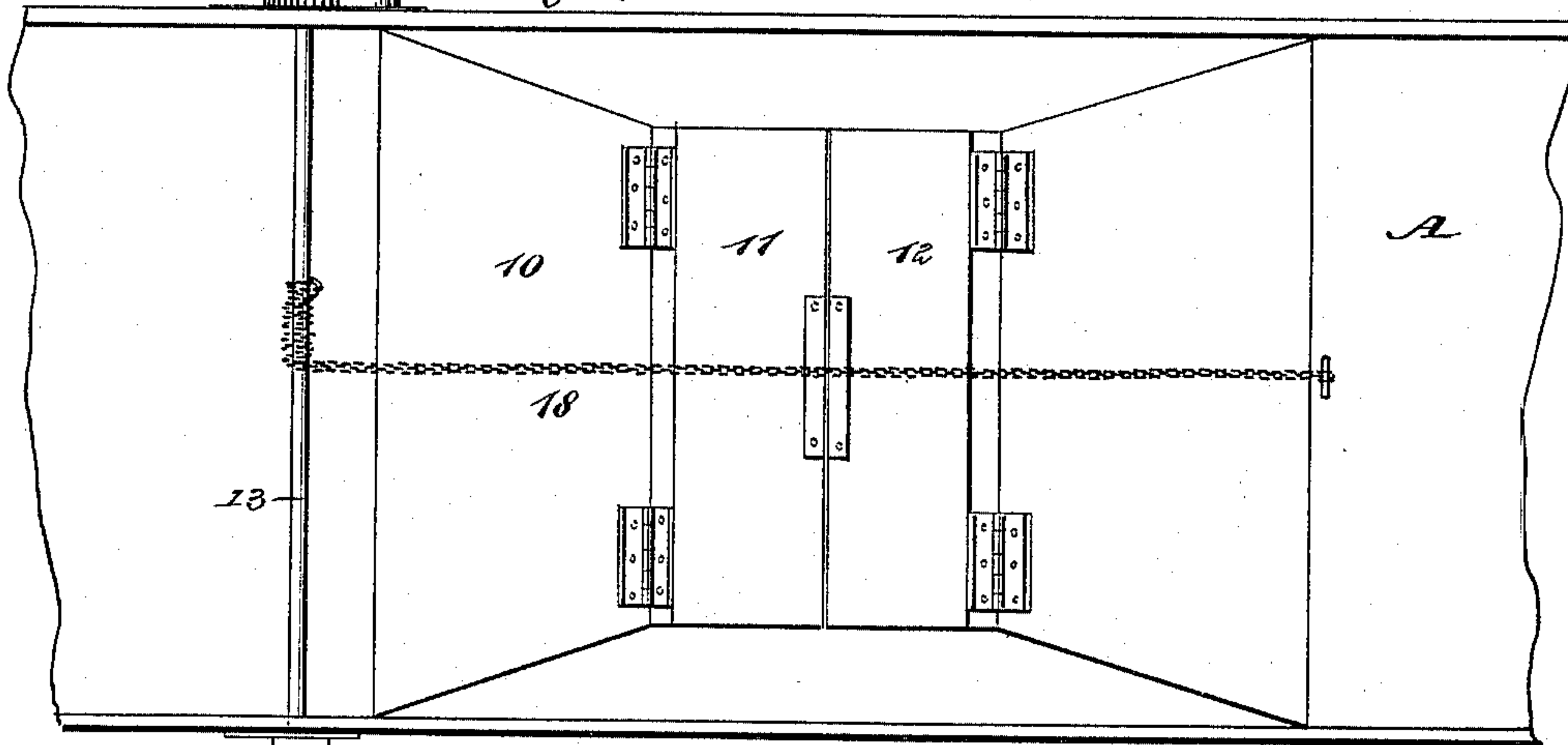


Fig. 3.



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ROBERT M. JOHNSON, OF FLEMINGTON, NEW JERSEY.

DUMPING FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 474,744, dated May 10, 1892.

Application filed January 6, 1892. Serial No. 417,173. (No model.)

To all whom it may concern.

Be it known that I, ROBERT M. JOHNSON, of Flemington, in the county of Hunterdon and State of New Jersey, have invented a new and useful Improvement in Dumping Freight-Cars, of which the following is a full, clear, and exact description.

My invention relates to an improvement in dumping freight-cars, and has for its object to so construct and locate the dumping mechanism that the dumping-doors may be opened as readily in inclement weather as in fine weather, and whereby, no matter to what an extent the contents of the car may be packed together by the action of the weather or otherwise, the condition of the contents will have no effect whatever upon the operation of the dumping mechanism.

A further object of the invention is to so construct the dumping mechanism that the entire area of the discharge-opening in the car-bottom may be exposed when occasion may demand.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a car-body, illustrating the application of the invention thereto. Fig. 2 is a partial vertical section through the bottom of the car-body, and Fig. 3 is a bottom plan view of a portion of the car-body and likewise of the dumping mechanism.

The operation of the dumping mechanism of freight-cars as at present constructed is often seriously interfered with by reason of the contents of the car becoming wet and then frozen, in which event it frequently happens that the car must be unloaded from the top, as the dumping mechanism at present employed is located within the body of the car, and therefore when the contents of the car become packed by reason of being frozen or through other means the shaft carrying the dumping and supporting chains for the dump-

doors is difficult to manipulate, and often when one succeeds in turning the shaft under the conditions above set forth the supporting or dumping chains refuse to act, and consequently the dumping-doors cannot be opened.

It is the prime object of this invention to obviate such difficulty and to so locate and construct the dumping mechanism that it will be protected at all times from the weather, and whereby upon occasion it may be expeditiously and conveniently manipulated to open or to close the dump-doors. It frequently happens, also, that freight-cars provided with dump-doors are loaded with very bulky freight. In this event it is very desirable that the entire outlet-opening should be unobstructed, so that the freight may be expeditiously discharged, and to provide a means for accomplishing this result is a further object of the invention.

The body A of the car may be of the usual or of any approved construction and likewise the chute 10, located in the bottom of the car, provided with the discharge or exit opening, which opening is normally closed through the medium of two doors 11 and 12, hinged to the sides of the opening, the length of the doors extending transversely of the car, as is best shown in Fig. 1.

A single winding-shaft 13 is employed, and this shaft, instead of being located within the body of the car above the bottom, is located below the car at one side, as shown in Figs. 2 and 3. This shaft extends from side to side of the car, and is provided at one extremity with any approved form of locking mechanism. Preferably, however, the locking mechanism consists of a ratchet-wheel 14, attached to one end of the shaft outside of the car-body, which is engaged by a pawl or detent 15, the said pawl or detent being held in this position by a gravity-keeper 16, as is best shown in Fig. 2. Whenever the shaft is to be manipulated, the keeper is thrown out of engagement with the pawl and the pawl out of engagement with the ratchet, as shown in Fig. 1. The shaft may be revolved in any suitable or approved manner. Ordinarily, however, it is manipulated through the medium of a key or crank 17. One or more chains 18 are secured to the shaft 13. Ordinarily, how-

ever, one chain only is employed, which transversely crosses both of the doors 11 and 12, and the chain is thereupon secured in any suitable or approved manner to the bottom of the car. Thus the chain at one end is permanently secured to the car-bottom and at its opposite end is attached to the shaft. As heretofore stated, however, if in practice it is found desirable more than one chain may be used; but all of the chains will be attached in like manner as is the single chain illustrated in the drawings.

It will be observed that both the shaft and the chain are located beneath the car-bottom, and consequently are protected from the weather, and that no matter how hard the contents of the car may be packed the contents will exert no influence whatever upon the action of the chain or the shaft.

In operation, to dump a car the shaft is manipulated to loosen the chain, as shown in Fig. 1, whereupon both doors drop vertically downward of their own weight. If the car is loaded with a material such as sand, earth, or small coal, the chain may remain across the opening, as it will not interfere with the free exit of the material; but when the car is loaded with bulky material it is desirable that the opening disclosed by the falling doors be not obstructed in the least. Therefore as the chain 18 is slack when the doors are opened the chain may be carried in direction of either side of the car a sufficient distance to engage with the ends of the doors, the doors at that time serving to prevent the chain from passing over or across the discharge-opening.

It is evident that the device is exceedingly simple, that it is positive and reliable in its action, and that it may be manipulated at all times, no matter what the condition of the weather; and it is further evident that the attachment may be made to any car provided with dump-doors.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an article of manufacture, a dumping-car provided with a winding-shaft located below the bottom portion thereof, and a chain attached to the shaft and extending transversely across the dumping-doors, the opposite end of the chain being secured, also, beneath the car, as and for the purpose set forth.

2. The combination, with a dumping freight-car, of a winding-shaft located below the bottom of the car, said shaft being provided with a locking mechanism, and a chain secured at one end beneath the car and passed transversely across the dumping-doors, the opposite end of the chain being secured to the winding-shaft, substantially as described, whereby the dumping mechanism of the car is protected against the inclemency of the weather and is not affected by the condition of the contents of the car, and whereby, also, the chain may be carried in a direction to disclose the full area of the discharge-opening of the car, as herein specified.

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