

J. J. MAHAN & J. F. MORAN.

TOY.

APPLICATION FILED MAR. 10, 1908.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.

911,602.

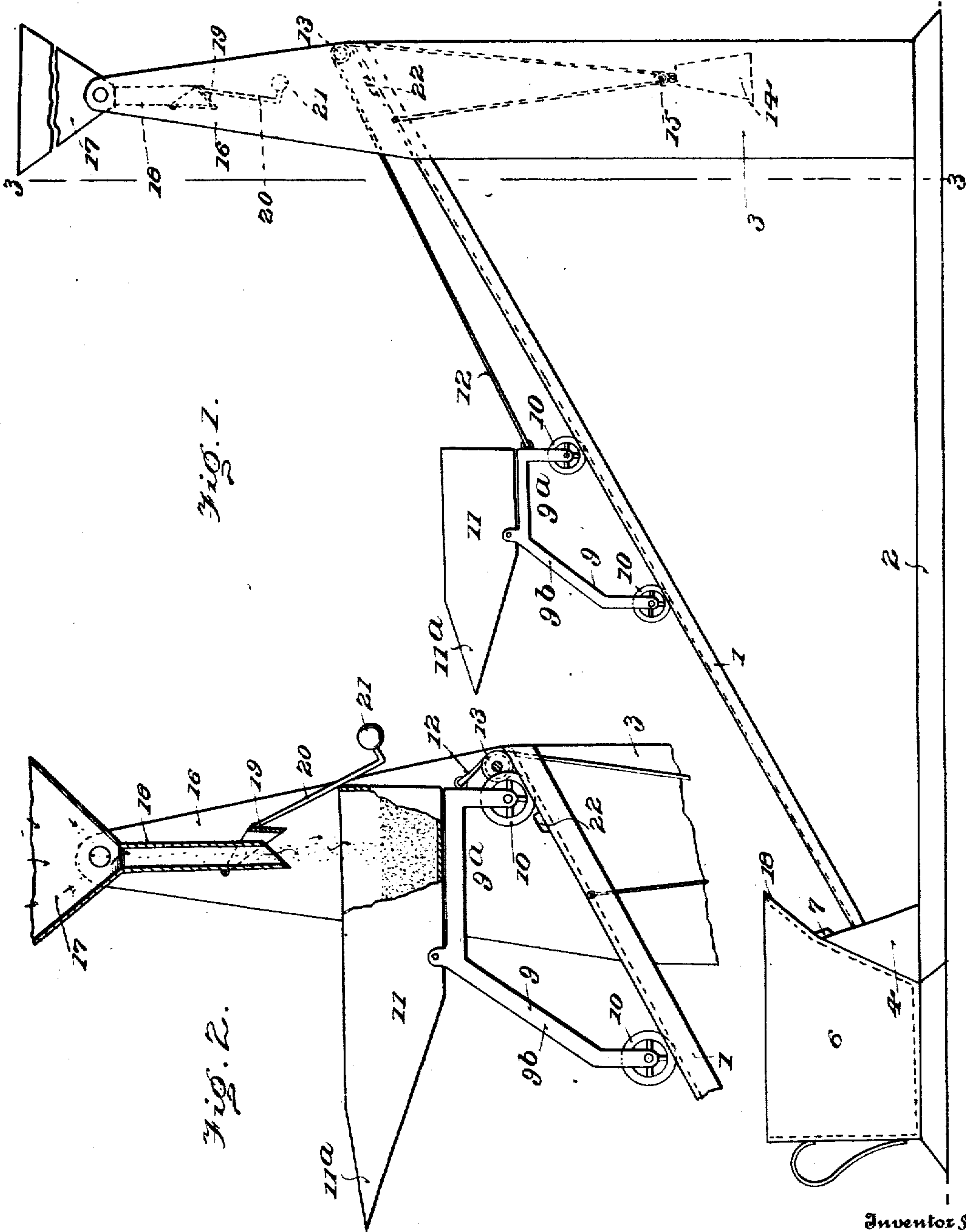


Fig. 1.

Fig. 2.

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Witnesses

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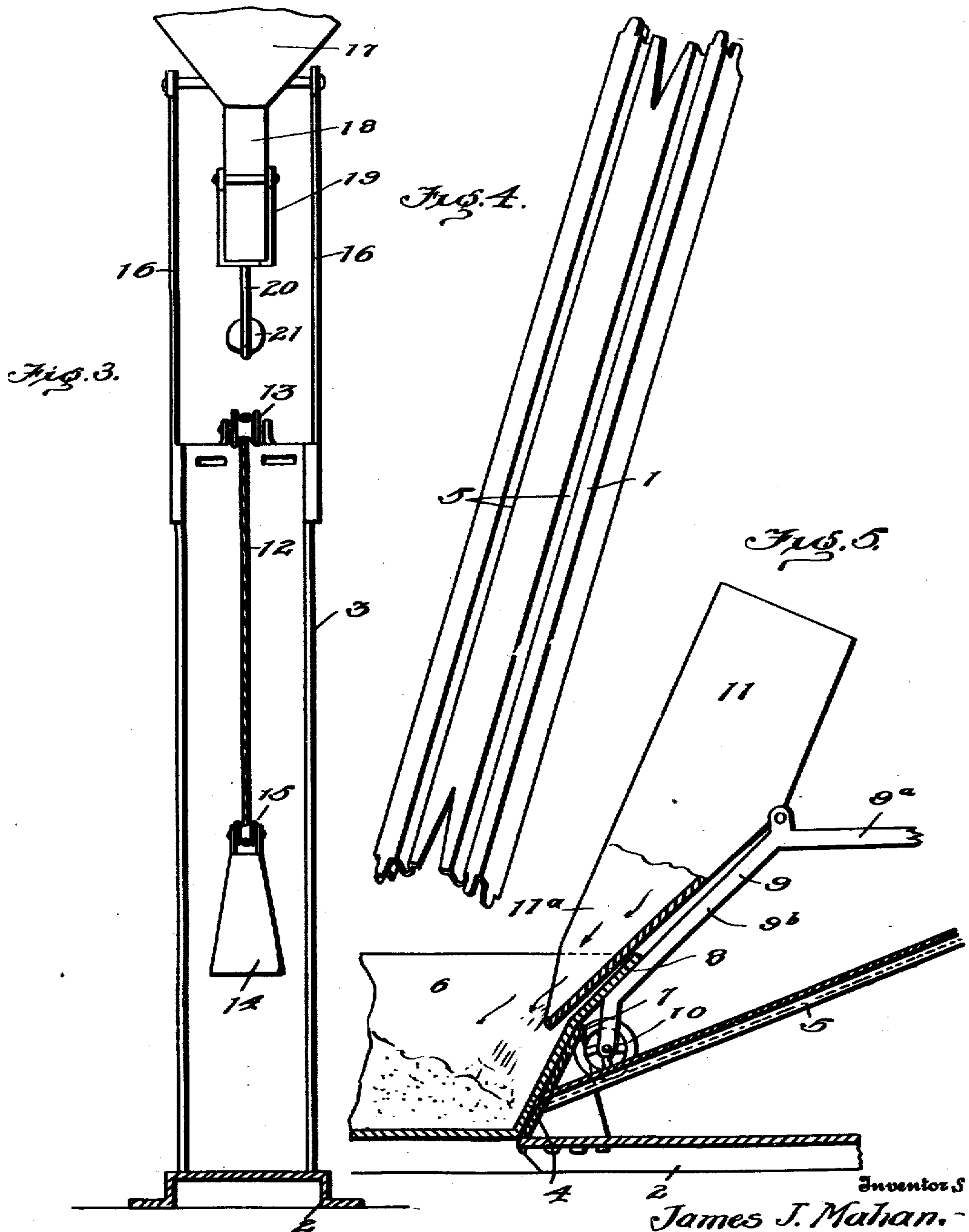
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UNITED STATES PATENT OFFICE.

JAMES J. MAHAN AND JOHN F. MORAN, OF JERSEY CITY, NEW JERSEY.

TOY.

No. 911,602.

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To all whom it may concern:

Be it known that we, JAMES J. MAHAN and JOHN F. MORAN, citizens of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Toys, of which the following is a specification.

The present invention relates in general to amusement devices and more particularly to a novel form of toy embodying novel means for causing a car to travel up and down upon an inclined track.

The object of the invention is to design a toy of this character which is of inexpensive construction and comprises few and durable parts well adapted to withstand the rough usage to which such devices are ordinarily subjected.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a toy embodying the invention. Fig. 2 is an enlarged side elevation of the upper portion of the same, portions being shown in section. Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detail view of the track. Fig. 5 is an enlarged view of the lower portion of the track, the car being shown in position when dumping and parts being broken away and shown in section.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the track which is disposed in an inclined position and is supported by means of a horizontal base 2 located under the track, and a vertical standard 3 engaging the upper end of the track. A stop 4 is located at the lower end of the track and projects upwardly above the same so as to engage a car and prevent the same from running off the track. These members are preferably constructed of sheet material as shown upon the drawing, the longitudinal edges of the track and base being extended laterally to form stiffening ribs and longitudinal grooves 5 being formed in the track to receive the wheels of the car. A receptacle 6 is disposed at the

lower end of the track adjacent the stop 4 and in the present instance is provided with a hook 7 adapted to engage the upper edge of the stop. It will also be observed that the receptacle is formed with a lip 8 which overhangs the track.

The car itself comprises a frame 9 having the wheels 10 mounted thereon, the said wheels being designed to travel along the grooves 5 formed in the track 1. Specifically describing the frame 9 it will be observed that the same is formed with a horizontal portion 9^a and an inclined portion 9^b, the latter being designed to engage the overhanging lip 8 of the receptacle when the car is at the limit of its downward movement. Pivotaly mounted upon the frame 9 is the car body 11 which normally rests upon the horizontal portion 9^a of the frame and is designed to be tilted into a dumping position so as to discharge its contents into the receptacle when the car reaches the lower end of the track. One end of the car body is inclined forwardly as indicated at 11^a and is designed to extend over the overhanging lip 8 of the receptacle when the car has moved downwardly into engagement with the stop 4, the momentum of the car causing the car body to be tilted into a dumping position. When the car is again moved upwardly however the lip 8 coöperates with the inclined end 11^a of the car body to again tilt the said car body into an upright position upon the horizontal portion of the car frame 9.

A cable 12 is secured to the upper end of the car and passes over a pulley 13 at the upper end of the track, the said cable having an operative connection with a weight 14 which is of sufficient mass to overcome the tendency of the car to move down the track and draw the same toward the upper end of the track when the car is empty. In the present instance the cable 12 passes around a pulley 15 carried by the weight and has the extremity thereof secured to the track. It will also be observed that the standard 3 supporting the upper end of the track is formed with side flanges which inclose the weight and shield the same from view.

Mounted upon a support 16 and disposed over the upper end of the track is a hopper 17, the said hopper being adapted to discharge the contents thereof through a spout 18. The lower end of this spout is cut off at

an angle and a swinging closure 19 coöperates with the end of the spout to control the discharge therethrough. An arm 20 rigid with the swinging closure projects downwardly into the path of the car and has the end thereof extended laterally and provided at its extremity with a weight 21, the said weight tending to normally swing the closure against the end of the spout so as to shut off the discharge from the hopper.

In the operation of the device a quantity of sand or similar material is placed within the hopper 17 and when the car is drawn to the limit of its upward movement by means of the weight 14, the car body engages the arm 20 projecting downwardly from the closure 19 and swings the latter so as to permit the sand within the hopper being discharged into the car body. As soon as a sufficient quantity of sand has entered the car body to overcome the action of the weight 14 the car moves down the inclined track and the weight 21 swings the closure 19 over the mouth of the spout 18 so as to shut off further discharge therethrough. When the car reaches the lower end of the track the car body 11 is tilted as previously described so as to dump the contents thereof into the receptacle 16. The weight 14 then operates to again draw the car up the inclined track, the lip 8 of the receptacle coöperating with the inclined end 11* of the car body to tilt the car body into an upright position as it is drawn away from the receptacle. When the car again reaches the upper end of the track the closure 19 is again swung away from the mouth of the spout and sand discharged into the car body as in the previous instance, this operation being repeated until the sand within the hopper has been exhausted.

Owing to the fact that the weight 21 bears against the car there would be a tendency for the car to start upon its downward movement before a sufficient quantity of sand had been discharged therein to completely counterbalance the weight. To overcome this difficulty slight projections 22 are provided in the track adjacent the upper end thereof, the said projections engaging the rear wheels of the car when the latter member is in position to receive sand from the hopper. These elevated portions of the track are just sufficient to counteract the effect of the weight 21 of the closure 19 and prevent the weight from starting the car prematurely upon its downward travel.

While I have described the device as operated by sand it will be obvious that any analogous material such as fine shot or the like might be used without departing from the spirit of the invention and the term sand is intended to include any such material which might be substituted therefor. It may also be mentioned that owing to the

receptacle 6 being removable the sand accumulating therein can be readily returned to the hopper.

Having thus described the invention, what is claimed as new is:

1. In a device of the character described, the combination of an inclined track, a car mounted to travel upon the track, and means for causing the car to ascend the track, said car being formed with a tilting body, means at the upper end of the track actuated by the car for automatically loading the car to cause the same to descend, and a receptacle at the lower end of the track in position to be struck by the car to tilt the same and into which the contents of the car are discharged by the tilting of the body thereof, the said receptacle being formed to be struck by the body of the tilted car to again move the same into normal position as the car ascends.

2. In a device of the character described, the combination of an inclined track, a car mounted to travel upon the track, means for causing the car to ascend the track, the said car being formed with a tilting body, means at the upper end of the track for automatically loading the car, and means at the lower end of the track for automatically tilting the car body to unload the same.

3. In a device of the character described, the combination of an inclined track, a car mounted to travel upon the track, a hopper at the upper end of the track, a closure for the hopper, a swinging arm connected to the closure and projecting into the path of the car and normally operating by the force of gravity to hold the closure in a closed position, and means for preventing the swinging arm from prematurely starting the car down the track.

4. In a device of the character described, the combination of an inclined track, a car mounted to travel upon the track, means for causing the car to ascend the track, the said car comprising a tilting body formed with an inclined end, means at the upper end of the track for automatically loading the car to cause the same to descend, and a receptacle at the lower end of the track into which the car automatically discharges its load, the said receptacle being formed with a lip adapted to coöperate with the inclined end of the car body to move the same into an upright position as the car ascends the track.

5. In a device of the character described, the combination of an inclined track, a car mounted to travel upon the track, means for causing the car to ascend the track, a hopper at the upper end of the track, a swinging closure for the hopper, a weighted arm rigid with the swinging closure and projecting into the path of the car whereby the closure is opened when the car reaches the upper end of the track, means for preventing the weighted arm from prematurely starting the

car upon the track, and means for dumping the car at the lower end of the track.

6. In a device of the character described, the combination of an inclined track, a car 5 mounted to travel upon the track, means for causing the car to ascend the track, a hopper at the upper end of the track, a closure for the hopper, a swinging arm connected to the closure and projecting into the path of the 10 car and normally holding the closure in a closed position, the car engaging the swinging arm to open the closure when it reaches the upper end of the track, a projection upon the track for preventing the swinging arm 15 starting the car prematurely down the track, and means at the lower end of the track for dumping the car.

7. In a device of the character described, the combination of an inclined track, a car 20 mounted to travel upon the inclined track, means for causing the car to ascend the track, a hopper at the upper end of the track, a spout leading from the hopper and having the end thereof cut off at an angle, a 5 swinging closure cooperating with the said end of the spout for controlling the discharge from the hopper, an arm rigid with the

swinging closure and projecting into the path of the car, the said arm operating by the force of gravity to normally hold the closure 30 in a closed position and being engaged by the car to open the closure when the car reaches the upper end of the track, means for preventing the swinging arm starting the car prematurely down the track, and means for 35 dumping the car at the lower end of the track.

8. In a device of the character described, the combination of an inclined track, a stop at the lower end of the track, a receptacle 40 having a detachable connection with the stop, a car mounted to travel upon the track and adapted to discharge its contents into the receptacle, means for causing the car to ascend the track, and a hopper at the upper 45 end of the track for automatically loading the car to cause it to descend.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES J. MAHAN. [L. S.]

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Witnesses:

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