Aug. 12, 1958 R. G. SMITH 2,846,815

TOY RAILROAD ACCESSORIES

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Fig. 1.

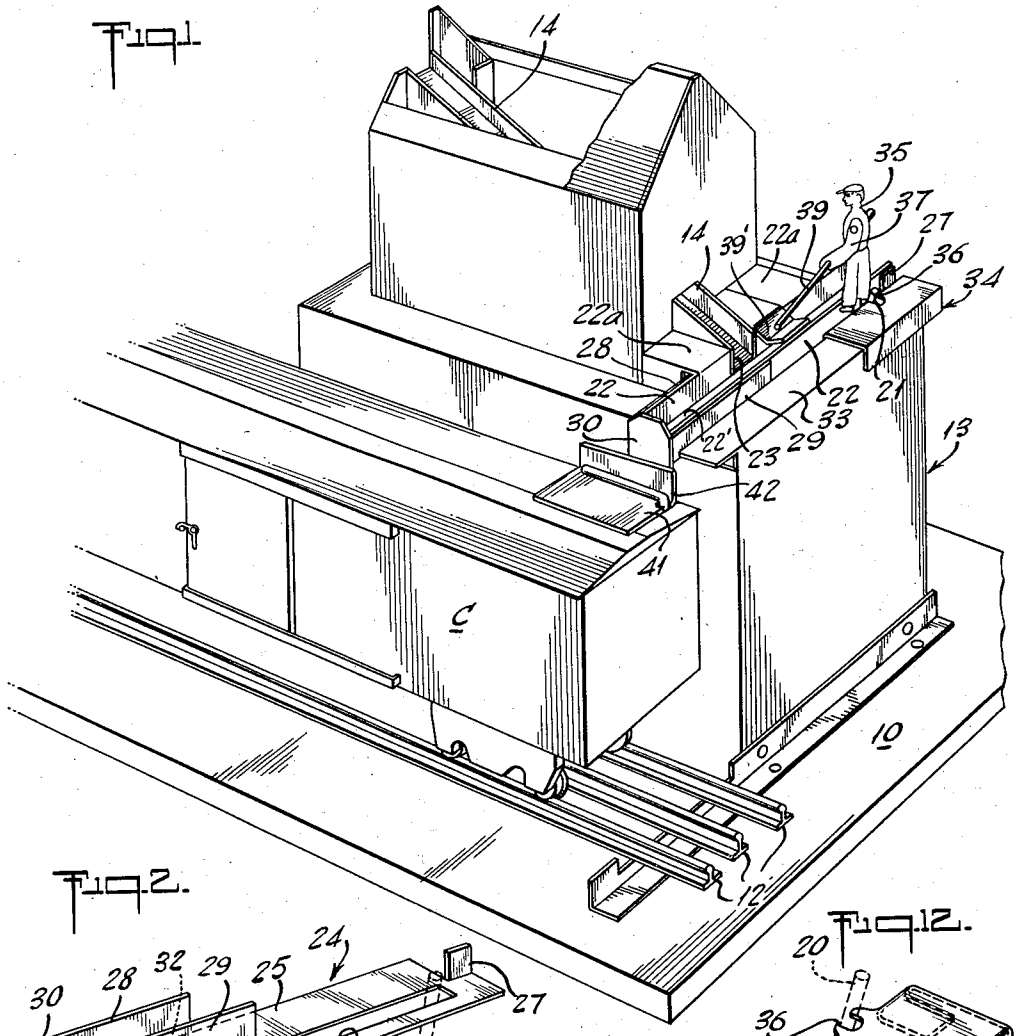


Fig. 2.

Fig. 3.

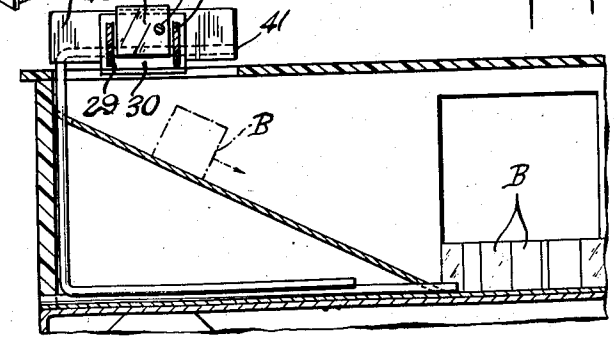
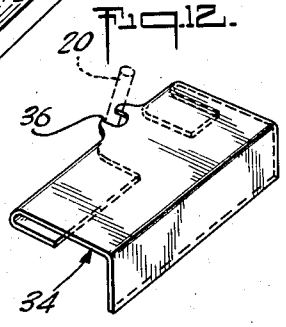


Fig. 12.



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Fig. 4.

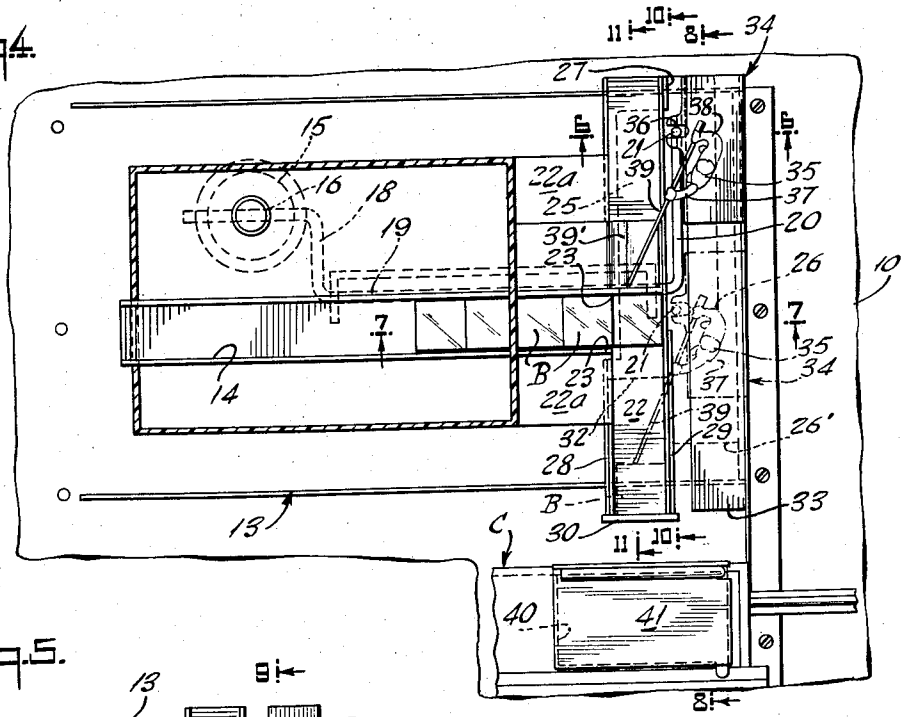


Fig. 5.

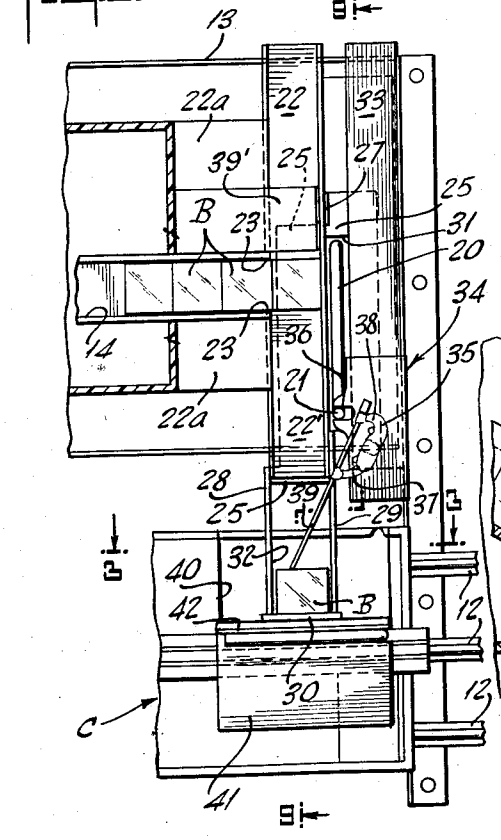


Fig. 6.

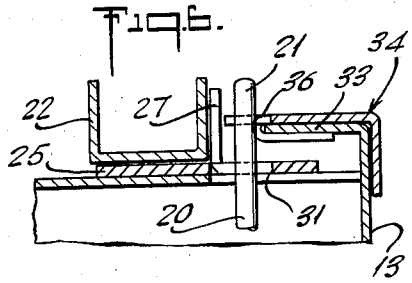
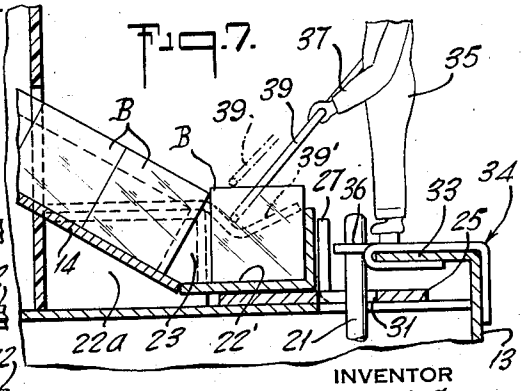


Fig. 7.



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Fig. 8.

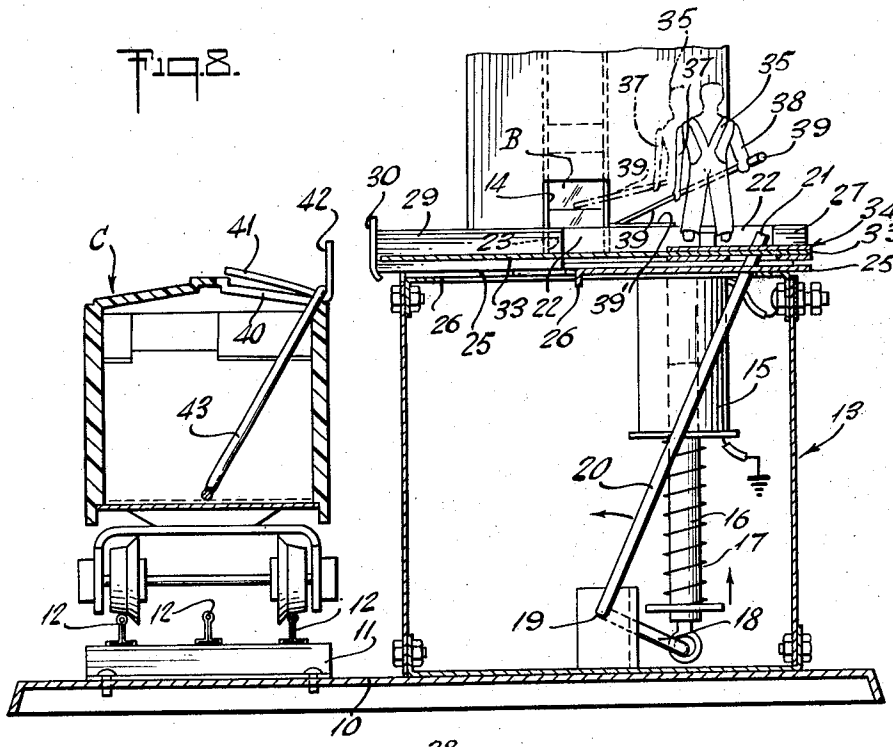


Fig. 9.

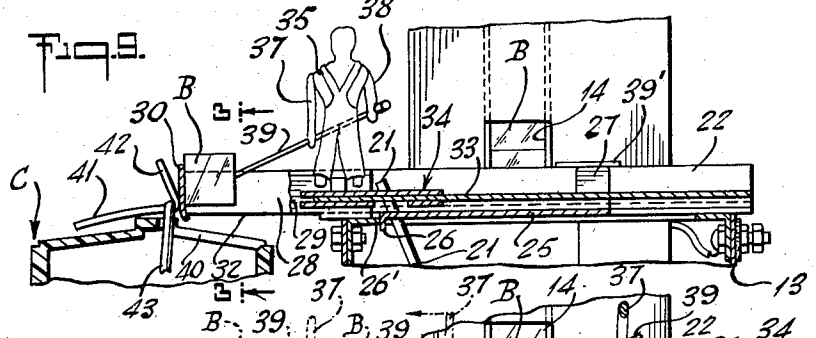


Fig. 10.

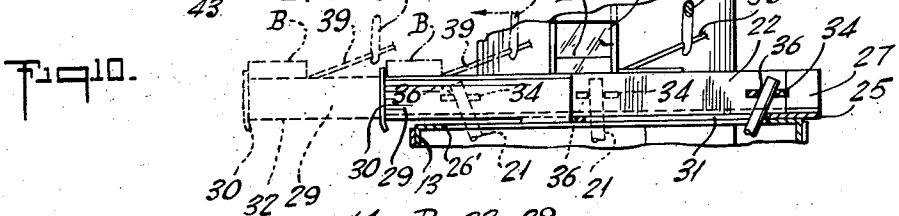
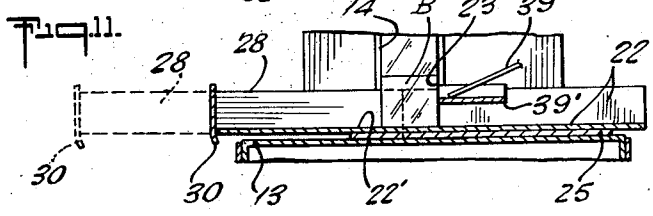


Fig. 11.



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TOY RAILROAD ACCESSORIES

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Application January 26, 1955, Serial No. 484,258

11 Claims. (Cl. 46—245)

The present invention relates to toy railroad accessories and is more particularly directed toward devices for effecting the loading of toy merchandise from a trackside structure onto a toy car on the track.

The operation of full size railroads requires the use of refrigerated cars for perishable freight and express. Many of these cars utilize ice as a refrigerant and it is customary to provide icing stations for transferring ice from an ice manufacturing or storage plant to the cars. To load such a car, the ice is dropped down through a hatch in the car roof.

The present invention is directed toward a toy railroad accessory whereby the loading of ice in such a refrigerator car may be simulated. The invention contemplates an accessory having means to store a supply of toy merchandise simulating ice and an operating mechanism, preferably remotely controllable, for shifting a cake of toy ice from storage position to a position where it may be dropped to the refrigerator car.

In carrying out such operations according to the present invention the ice is shifted by a manikin from a position lateral of the track and above the level of the car roof across the space between the trackside structure and the car and over the roof of the car. The toy car body is preferably of the type to simulate an iced refrigerator car and has a self-closing door in the roof which is opened by the shifting of the ice by the manikin. On deenergization of the mechanism the parts are returned to normal position for a repeated operation if desired.

The accompanying drawings show, for purposes of illustrating the present invention, one embodiment in which the invention may take form, it being understood that the drawings are illustrative of the invention rather than limiting the same.

In the accompanying drawings:

Fig. 1 is a perspective view of the combined trackside accessory and toy car illustrating the car in position to receive the toy ice and the manikin retracted;

Fig. 2 is a perspective view of the movable carrier in which the ice is carried to the car;

Fig. 3 is a vertical sectional view taken lengthwise through the car on the line 3—3 of Figs. 5 and 9 showing a portion of the carrier in protracted position;

Fig. 4 is a top plan view with parts in section and showing the manikin in retracted position in full lines and in partially protracted position in dotted lines;

Fig. 5 is a view similar to Fig. 4 showing the manikin in fully protracted position and the car roof door open to receive the ice;

Figs. 6 and 7 are fragmentary sectional views on the lines 6—6 and 7—7, respectively, of Fig. 4;

Fig. 8 is a vertical sectional view on the line 8—8 of Fig. 4, showing the manikin in retracted or rest position, and the car roof door closed;

Figs. 9, 10 and 11 are fragmentary views of the mechanism shown in Fig. 8, illustrating the positions of the parts in the cycle of operation, Fig. 9 being taken on the line 9—9 of Fig. 5, Figs. 10 and 11 being taken on the lines 10—10 and 11—11 of Fig. 4; and

Fig. 12 is a perspective view showing the driving connection between the reciprocating manikin carrier and its oscillating driver.

In the drawings a suitable base 10 is illustrated. It is of a size to support in any convenient fashion, the cross ties 11 and rails 12 of toy railroad track, and a structure 13 close to the track and suitable to represent mechanism for handling toy ice at an elevation above the car body. There is room for a car C to pass by. The structure 13 carries a chute 14 adapted to receive toy merchandise B, which may be made of transparent plastic to simulate ice. These blocks will be referred to as "ice."

Suitably housed in the structure 13 is a solenoid 15 with a magnetizable plunger 16 biased downwardly by a spring 17. The plunger is connected to a crank 18 pivoted at 19 and having an oscillating arm 20. The spring biases these parts to the full line position of Figs. 1, 2, 4, 6 and 8, so that the upper end 21 of the arm 20 is remote from the track.

The roof of the ice house structure 13 is provided with brackets 22*a* which fixedly carry a transversely extending article support and guide 22 above the level of the roof of the car C and adjacent the upper end 21 or the arm 20.

The shaped article support 22 has an opening 23 at one side to receive the ice from the sloping chute 14 and a bottom 22' along which the article may be shifted from chute 14, as more clearly shown in Figs. 4, 7 and 11.

The body 13 also carries a fixed guide 33 on which is mounted a carrier 34 for a manikin 35. This carrier has an opening 36 to receive the arm 20 so that the carrier may reciprocate back and forth with the arm. The manikin has arms 37 and 38 which carry a pusher which may be brought against the ice cake and form one of a pair of gripping members adapted to transport the ice cake over the gap which separates the trackside structure from the car. The arm 37 is pivoted for up and down movement, as indicated by the dotted lines in Figures 7 and 8.

The other gripping member is indicated at 30. It is at the end of a transversely movable slider 24 (Fig. 2) having a flat portion 25 under the article support 22, a stop 26 engageable with a fixed stop 26' (see Fig. 9) and guides 27, 28 and 29 which engage its sides. It is slotted at 31 to provide a lost motion connection with the arm 20. It is open as indicated at 32 so that there is no support directly under the ice as the pusher brings the ice cake against it and pushes the slider along.

The car C may be any car having an open body to receive toy merchandise, or may have a manually operable top door. It preferably has a hatch or roof opening 40 and a door 41 with a flange or lip 42, at such an elevation as to be in the path of movement of the member 30. The door is carried on an arm 43 and gravity biased toward closed position.

When the parts are in the normal or inactive position of Figs. 1, 2, 4, 6, 7 and 8, the manikin and movable parts are in the positions indicated, cakes of ice are in the chute 14 and on the article support 22, and the car is brought to the proper position on the track. Upon energization of the solenoid the parts are shifted to the left, as indicated in the drawings. The manikin moves the pusher against the near (or right hand) side of the cake of ice, as shown in Figs. 8, 9 and 10 and shifts the ice to the left. When the ice cake reaches the member 30 the carrier is moved beyond the side of the ice house, across the space between the ice house and car and over the car roof. This will bring the member 30 against the car roof door and open it.

When the magnet coil is deenergized, the spring 17 restores the parts. As the manikin is directly connected

to the arm 20 it moves the pusher back from the ice cake and releases the same so that it can fall through the hole 32 into the car. The shifter 24 is moved back after the arm 20 has traversed the long slot 31. The return of the carrier permits the car roof door 41 to close by itself. Another cake of ice has slid down into the support 22, and as the manikin returns, the end of the pusher lifts and falls behind it to rest on the plate 39'.

In the absence of an ice cake to shift, the arm 20 reaches the left end of the slot 31 and shifts the carrier over the car roof and opens the door.

Since it is obvious that the invention may be embodied in other forms and constructions within the scope of the claims, I wish it to be understood that the particular form shown is but one of these forms, and, various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A toy article handling mechanism for shifting a toy article from a horizontal support on which it rests across a gap, and releasing it to drop, comprising a horizontally reciprocable pusher normally behind the article, a reciprocable obstacle in front of the article and initially spaced from the article, and an electromagnet spring biased to a normal position and drivingly connected with the pusher and obstacle and acting, when energized to shift the pusher toward the article, then push the article while supported by the horizontal support against the obstacle and then push the article while held between the pusher and obstacle across the gap, and, when deenergized acting to first separate the pusher and obstacle to release the article, and to then return both the pusher and obstacle to normal position.

2. The toy article of claim 1, wherein the driving connection for the pusher is positive in both directions and the driving connection for the obstacle includes a lost motion connection to permit limited relative movement of the pusher and obstacle in each direction.

3. The toy article of claim 1, having a manikin behind the pusher and to which it is pivoted for vertical movement so that the pusher may on its return movement ride up over another article on the support and drop behind it.

4. The toy article of claim 1, having a downwardly sloping chute leading to the support to supply articles to the support.

5. A trackside accessory for toy railroads for dropping toy articles onto toy cars on track alongside which the accessory is located in spaced relation to form a gap, said accessory including a fixed structure having a horizontal article support extending laterally of the track-adjacent side thereof at a level above the top of the toy car to be loaded and along which an article may be shifted toward the said side, a first reciprocable member including a manikin and pusher normally behind the article on the article support and movable toward the article to push it toward said side, a second reciprocable member in the path of the pushed article and mounted free to move beyond the said side when pushed by the article so as to pass the article across the gap and acting in conjunction with the pusher to support the article when pushed beyond the article support, and electromagnetic means, spring biased to normal position for actuating the reciprocable members back and forth and effecting a separation of said elements while in protracted position so that the article is released to drop.

6. The combination of claim 5, having a downwardly inclined chute leading to the article support, and having a stop opposite the chute to position the article in the path of the pusher.

7. The combination of claim 5, wherein the article pusher is secured to the manikin for vertical movement so that when returning to the normal position the pusher may ride up over an article in the article receiving station.

8. The combination of claim 5, wherein the reciprocable members are secured to the structure for longitudinal reciprocation parallel with one another and at right angles to the direction of the track.

9. A toy for simulating the loading of a railway car by dropping articles through an opening in its roof, comprising a toy railroad track, a toy railroad box car on the track and having an opening in its roof through which articles may be dropped, and a trackside structure secured to the track spaced laterally of the car body to form a gap and past which the car is movable, the trackside structure having above the level of the car roof and extending laterally from its car-adjacent side an article support along which an article is shiftable from a laterally disposed receiving station toward the car, two reciprocable members, one including a manikin and manikin actuated article pusher normally behind the receiving station and the other an obstacle in the path of the article being pushed along the article support toward the car, and reciprocable member actuating means to actuate the pusher to first push the article toward the car and against the obstacle and cause the article to be gripped between the pusher and obstacle and then be carried therebetween over the gap and the roof opening, and to then cause the pusher and obstacle to separate and release the article while above the roof opening, characterized in that the car roof has a normaly closed door covering the opening and the second reciprocable member has an element engageable with the door to open it when being shifted by the pusher and article.

10. A toy article handling mechanism for shifting a toy article from a support on which it rests across a gap, and releasing it to drop, comprising a pusher reciprocable in the same plane as said support and normally behind said article, a reciprocable obstacle in front of the article and initially spaced from the article, and means to reciprocate said pusher whereby to shift the pusher toward the article, then push the article while supported by the support against the obstacle and then push the article while held between the pusher and the obstacle across the gap, and thereafter to separate the pusher and obstacle to release the article, and to then return both the pusher and obstacle to normal position.

11. A toy for simulating the loading of a railway car by dropping an article through an opening in its roof, comprising a toy railroad track, a toy railroad car on the track and having an opening in its roof through which articles may be dropped, a normally closed door covering the opening, and a trackside structure secured to the track spaced laterally of the car body to form a gap, and past which the car is movable, the trackside structure having above the level of the car roof and extending laterally from its car-adjacent side an article support, a pusher in the same plane as said support normally behind the article, a reciprocable obstacle between the article and said car, means to reciprocate said pusher to push the article toward the car and against the obstacle and cause the article to be gripped between the pusher and obstacle and then be carried therebetween over the gap and the roof opening, and then to cause said door to open and then to cause the pusher and obstacle to separate and release the article into the car.

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