May 3, 1927. 1,627,135

R. ARIO

MOVING VAN

Filed March 29, 1926 4 Sheets-Sheet 1

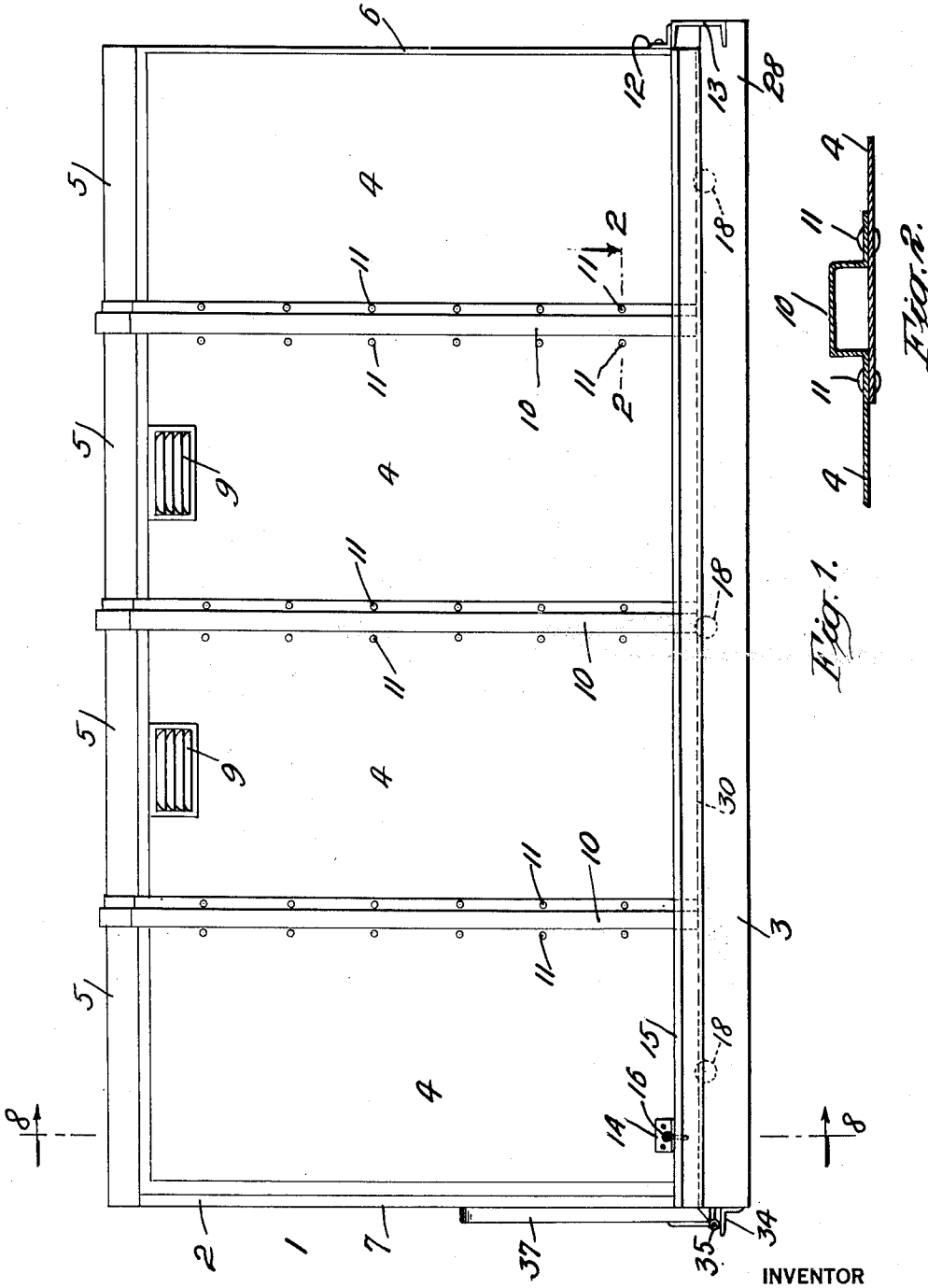


Fig. 1.

Fig. 2.

INVENTOR
RUDOLF ARIO
BY Benedict & Wine
his ATTORNEY

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R. ARIO

MOVING VAN

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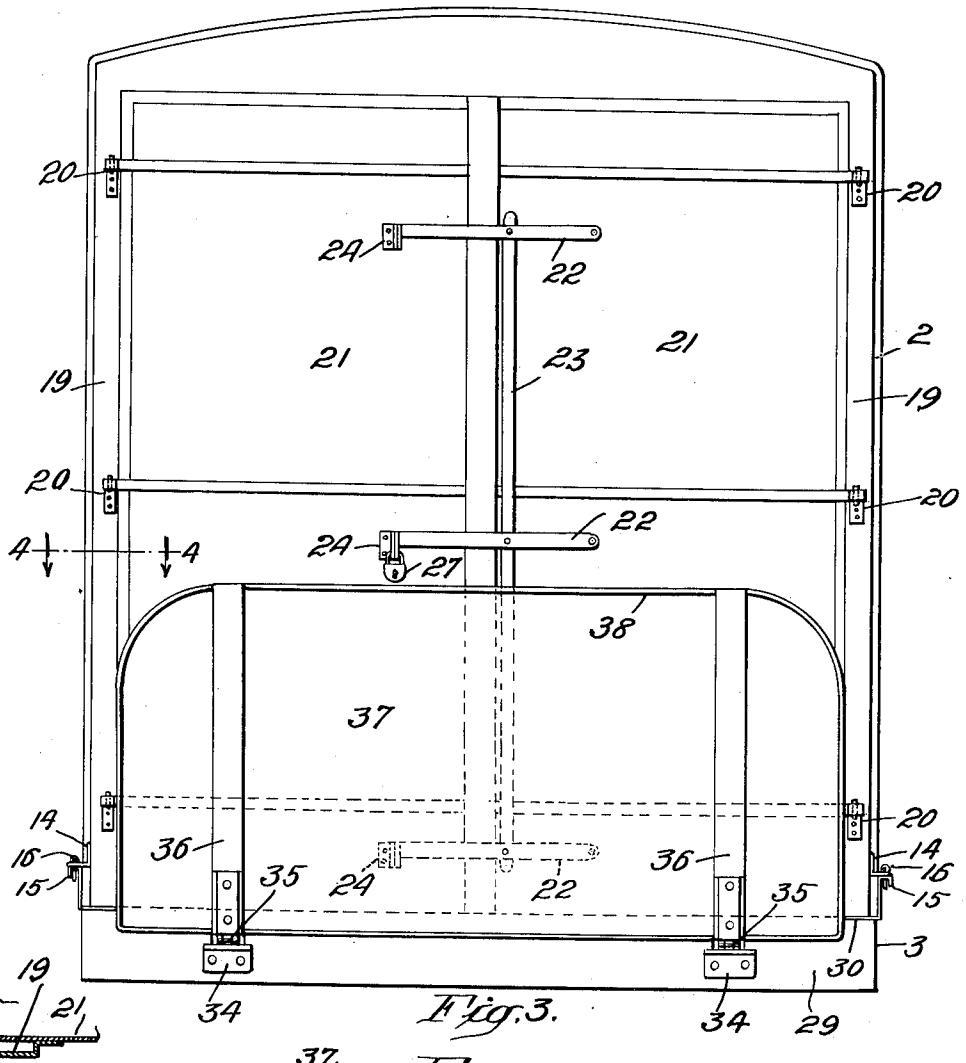


Fig. 3.



Fig. 4.

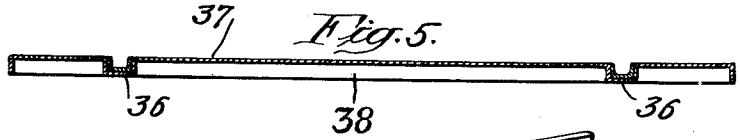


Fig. 5.

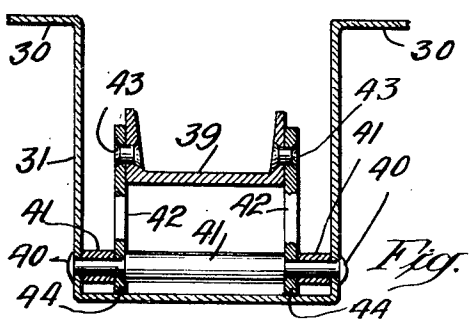


Fig. 7.

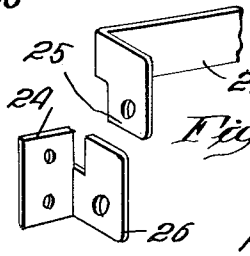


Fig. 6.

INVENTOR
RUDOLF ARIO
BY Benedict & Ware
his ATTORNEY

May 3, 1927. 1,627,135

R. ARIO

MOVING VAN

Filed March 29, 1926 4 Sheets-Sheet 3

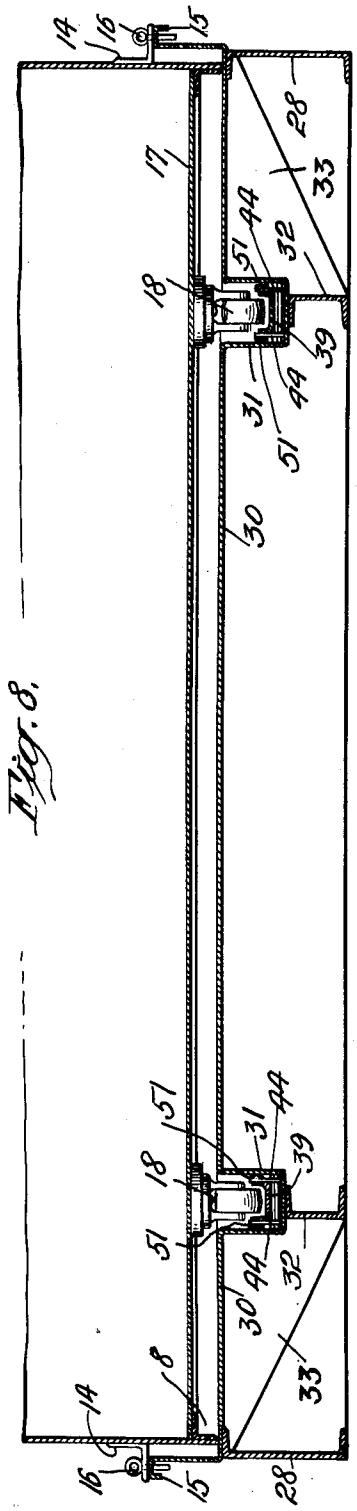


Fig. 8.

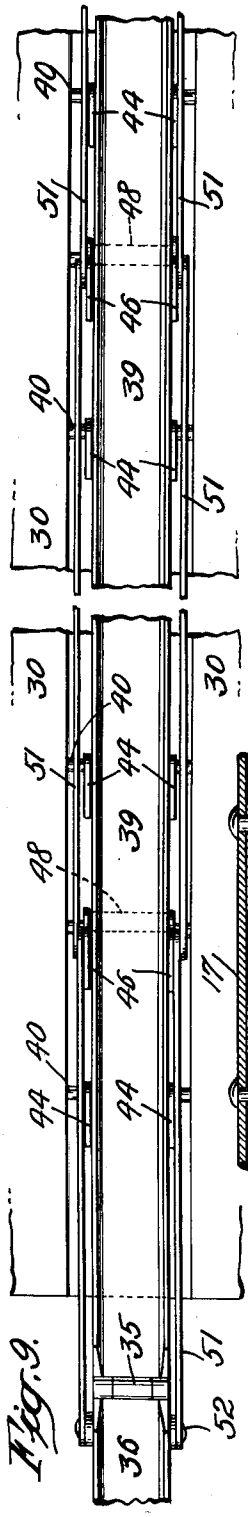


Fig. 9.

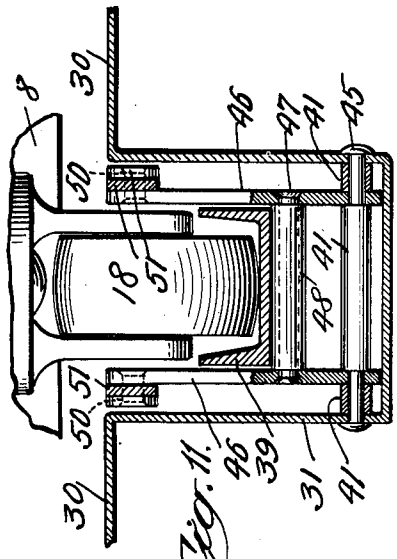


Fig. 11.

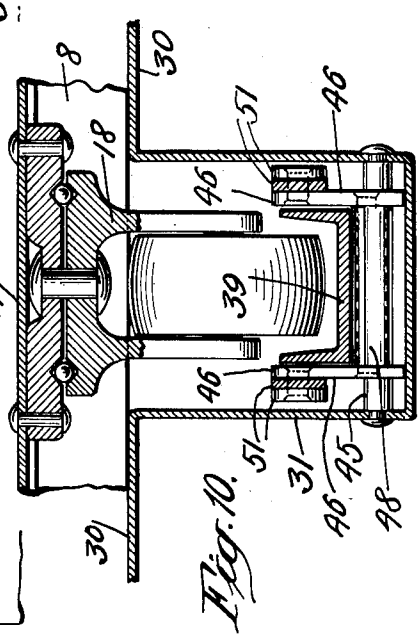


Fig. 10.

INVENTOR
RUDOLF ARIO
BY Benedict & Wire
his ATTORNEY

May 3, 1927. 1,627,135

R. ARIO

MOVING VAN

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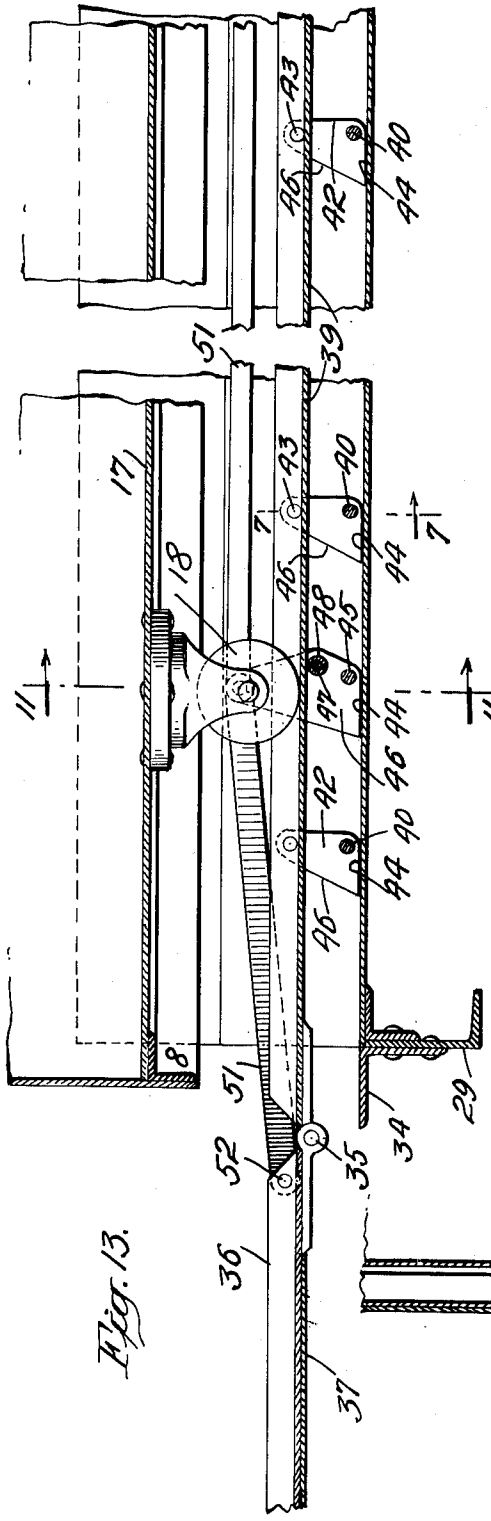


Fig. 13.

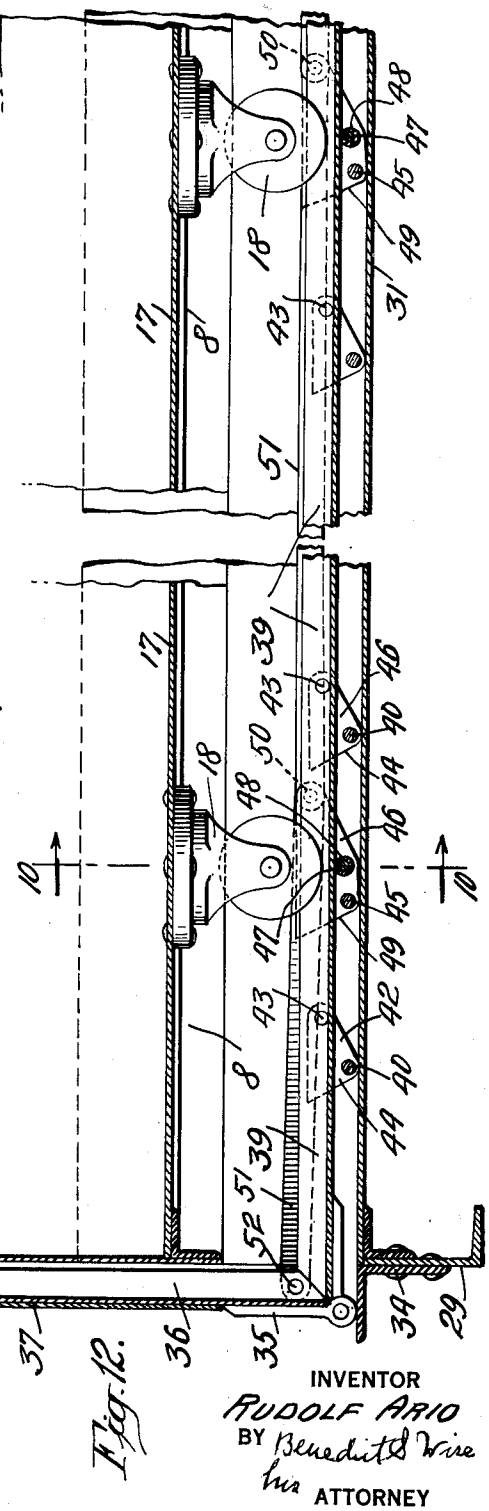


Fig. 12.

INVENTOR
RUDOLF ARIO
BY Benedict & Wise
his ATTORNEY

Patented May 3, 1927. 1,627,135

UNITED STATES PATENT OFFICE.

RUDOLF ARIO, OF BROOKLYN, NEW YORK.

MOVING VAN.

Application filed March 29, 1926. Serial No. 98,150.

The object of my invention is to provide a moving van, platform and body, which are so made, arranged and disposed that the body is removable from the platform of the chassis on which it is mounted and also to provide a means for raising or lowering the van body from the platform and guiding in on or off the platform while it is being moved. This and other objects are accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more detailed description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a side elevation of a platform with a van body mounted thereon, both embodying my invention.

Figure 2 is a sectional view, taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a rear elevation of the structure shown in Figure 1.

Figure 4 is a sectional view, taken on the line 4—4 of Figure 3, looking in the direction of the arrows.

Figure 5 is a sectional view of the tailboard.

Figure 6 shows a detail of the fastening means.

Figure 7 is a sectional view showing a portion of a track and track supporting means, the section being taken on the line 7—7 of Figure 13, looking in the direction of the arrow.

Figure 8 is an enlarged sectional view, the section being taken substantially on the line 8—8 of Figure 1, with the upper part of the van omitted.

Figure 9 is a plan view of a track and its attendant mechanism.

Figures 10 and 11 are sectional views, showing the track in its depressed and elevated positions, Figure 10 being on the line 10—10 of Figure 12 and Figure 11 being taken on the line 11—11 of Figure 13, both views being taken looking in the direction of the arrows.

Figures 12 and 13 are longitudinal sections showing a track and a portion of a van body, the track being shown depressed in Figure 12 and elevated in Figure 13.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved moving van 1 has a van body 2, a platform 3 and a suitable chassis or other supporting means for the platform, not shown, as such supporting means forms no part of my invention.

The van body 2 may be made of any suitable material, in any suitable form, and is preferably made of sheet metal with side plates 4, top plates 5, a front 6, a back 7 and a bottom frame 8, all of which may be of any suitable design, although in the preferred embodiment of my invention, I provide ventilators 9 on the middle panels and the ribs 10 connecting the plates 4 are made, as shown in Figure 2, that is, beginning with the rear, the first three plates are flanged to form an integral rib 10, as indicated in Figure 2, and at each side of this rib are rivet holes through which rivets 11 may be passed to secure the parts together. As many of these rivets are used as needed.

The front 6 is provided with an angle 12 secured by rivets or any other suitable means and placed near the bottom so that it may rest on a front bolster 13 of the platform 3 and the rear panel 4 also carries a short angle 14 which is placed, as shown, with a hole on its horizontal web that registers with a corresponding hole on a flange 15 of the platform 3 so that a pin 16 may be passed through each angle 14 and through the adjacent hole in the flange 15, as shown in Figures 1 and 8, to hold the body in place when at rest on the platform.

The frame 8 has some crossings 17 at convenient locations and on the under side of these crossings are mounted roller casters 18, in the conventional manner. These casters are preferably ball bearing casters, as shown, so that the body may be moved in any direction, when on a floor, with ease and facility.

The rear of the body 2 has at each side a moulding 19 and each moulding carries a series of hinges 20 to which are secured the swinging doors 21 which are of the conventional kind. One door has a series of latches 22 pivotally mounted thereon and these latches are united by a link 23. The ends of these latches engage suitable catches 24 which may be made in any desired way. In the preferred embodiment of my invention the central catch 24 is made, as shown in Figure 6, so that the laterally extending end 25 of the latch 22 will register with the corresponding off set end 26 of the catch 24

and the off set ends are perforated with registering perforations so that a padlock 27 may be inserted through these perforations and lock the latches securely. The purpose of this is to permit the owner of the contents of the van to keep the contents under lock and key at all times while the goods are in storage, it being understood that the van is loaded, taken to a warehouse, the body removed and stored while loaded and it remains in this condition until it is again loaded on to a platform and taken to the place where it is emptied or the body may be loaded on to a freight car and hauled to the town where it is to be loaded and then it is put on a platform on a chassis of the kind herein disclosed and taken to its destination where it may be either stored or unloaded, as desired.

The platform 3 has side sills 28 as well as an end bolster or crossing 13 at the front end and a crossing 29 at the rear end and such other intermediate crossings and bolsters as may be required to make the frame sturdy and strong without unduly increasing its weight. These side sills 28 may be omitted, if desired, to decrease the weight. The frame composed of these various elements is surmounted by a flooring 30 which is composed of integral sheet metal which extends from one flange 15 to the other flange 15 and throughout the length of the platform. From the flanges 15 this platform extends vertically to the horizontal portion and thence across to the other vertical part which rises to the other flange 15. At suitable intervals this floor 30 has suitable channels 31 which are made integral therewith to form spaces for the movable tracks which will be described below. These channels 31 preferably rest on the chassis frame 32 reinforced by brackets 33, as shown in Figure 8, or these channels 31 may be supported in any other suitable way. It is the purpose of this design to make a light and rigid structure and this may be done in any of several ways and the preferred embodiment is the one described.

The rear crossing 29 of the frame 3 has two angles 34 riveted thereon in line with the tracks described below and the depressions 31, this crossing being recessed for the purpose. Under certain conditions, hinges 35 rest on these angles and these hinges have one end of each secured to the tracks 36 of the tailboard 37 which tailboard is preferably shaped, as shown in Figures 3 and 5, with a suitable flange 38 extending about its edges, except at the tracks 36. The other ends of the hinges 35 are fixed to tracks 39 which rest in and are supported from the depressions 31 in the following manner. The depressions 31 have a series of pivots 40 going across from side to side (see Figure 7 and Figure 12) and on these pivots are mounted suitable spacers 41 and between the spacers are inserted links 42 which are connected to the track 39 by means of pivots 43. The links 42 are so shaped that they have edges 44 which may be swung in a manner described below so as to rest on the bottom of a trough 31, as shown in Figure 13. As many of these pivots 40 and their attendant parts are used as desired in order that each track 39 may be properly supported at all places.

In addition to the pivots 40 there are a number of other pivots 45 which run parallel to the pivots 40 and are mounted in much the same way. These pivots carry levers 46 which are larger than the links 42 and these levers 46 carry connecting pins 47 with rollers 48 mounted thereon which are adapted to bear against the under side of a track 39. The levers 46 are held in place by suitable spacers 41 corresponding to the spacers on the pivots 40 and these levers have an edge 49 adapted to rest on the bottom of a trough 31 which edge corresponds to the edge 44 of the links 42. The upper ends of the levers 46 are provided with pivots 50 which carry a series of links 51 which connect the levers 46 on one side together and also connect these levers with the sides of the tracks 36 of the tailboard 37 through suitable pivots 52. The purpose of this is to have the lowering of the tailboard pull up the ends of the levers 46 and thereby cause them to raise the tracks 39 and this raising continues until the edges 44 and 49 rest on the bottoms of the depressions 31 at which time the pivots 43 and rollers 48 have gone a little beyond the dead centers so that when the tracks are elevated, as just described, the rollers 18 are elevated and they in turn elevate the van body 2 so that then the van body is lifted clear of the platform and flanges 15 and bolster 13 and the van body can then be moved and be guided by the tracks 39 in the depressions 31 and the tracks 36 in the tailboard 37, it being assumed that the free end of the tailboard rests on a suitable platform, or other support, which is ready to receive the van body. The van body is then moved on its rollers in the usual manner and may be shifted on the floor to which it is moved in the conventional way and a new van body substituted, after which, when the second van body is in a suitable place, the tailboard may be raised and then the van body will be lowered until it rests, as above described, with its rollers off the tracks 39 after which the pins 16 may be removed from the first van body and reinserted through the flanges 14 and 15, as above described. If desired, these pins may be removed before the first van body is shifted. They will have to be removed if made long enough not to clear the flange 15

when the body 2 is elevated, as above described.

When the tailboard 37 is elevated so that it occupies a vertical position, the tracks 39 are lowered through the action of the levers and links above described and then the hinges 35 are shifted so as to rest on their respective flanges 34.

From the foregoing, it is evident that the structure hereinbefore described is such that the van body is raised or lowered by the shifting of the tailboard and it is obvious that the tailboard may be readily grasped and manipulated through the tracks 36 which project in a convenient manner for this purpose.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but that it is broad enough to cover all structures that come within the scope of the annexed claims.

Having thus described my invention, what I claim is:

1. A van body with rollers, a platform under said van body and movable tracks under said rollers, a tailboard pivotally connected to said tracks, links and levers supporting said tracks and links and pivots connecting the tailboard and levers so that by raising or lowering the tailboard the tracks may be raised or lowered and made to disengage the rollers or engage and raise the same so as to permit the van body to be shifted from the platform.

2. A platform with depressions, pivots in said depressions, links and levers carried by said pivots, tracks carried by said links and levers and means for raising or lowering said tracks as the same is carried by said links and levers.

3. A platform with depressions therein, pivots in said depressions, links and levers carried by said pivots, tracks carried by said links and levers and means pivotally connected to said tracks for shifting said levers, whereby the tracks may be raised or lowered.

4. A platform with depressions, pivots in said depressions, links pivotally mounted on said pivots, tracks pivotally connected to said links and means for shifting said tracks so that the same will swing on said links and means for limiting the movement of said links after they have passed their dead centers.

5. A platform with depressions, pivots in said depressions, links mounted on said pivots, tracks pivotally connected to said links, a tailboard with tracks, said tailboard being pivotally connected to the first mentioned tracks so that the tracks in the tailboard and the tracks in the depressions will register and means connecting the tailboard with the tracks in the depressions, whereby the shifting of the tailboard will raise or lower said last mentioned tracks.

6. A platform having a frame with a floor mounted thereon and a bolster at the front, the floor having depressions to receive tracks and upwardly extending flanges at the sides, movable tracks mounted in said depressions and means for moving the tracks so as to raise or lower the same, a van body adapted to be raised or lowered by said tracks and angles projecting laterally from the van body and adapted to engage the said flanges and the bolster when the van body is lowered.

In testimony whereof, I have hereunto set my hand this 20th day of March, 1926.

RUDOLF ARIO.