No. 688,028. Patented Dec. 3, 1901.

W. PALEN.

ELEVATING CART.

(Application filed Aug. 1, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig 1

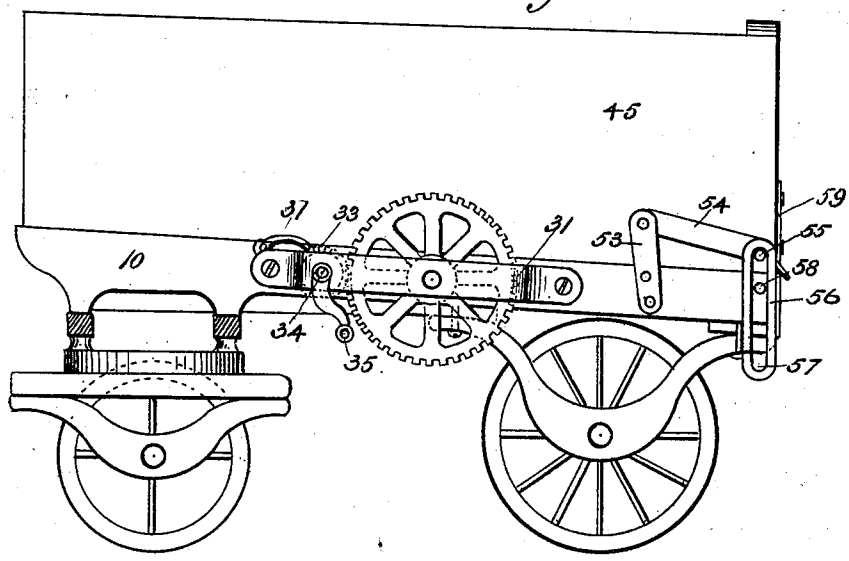
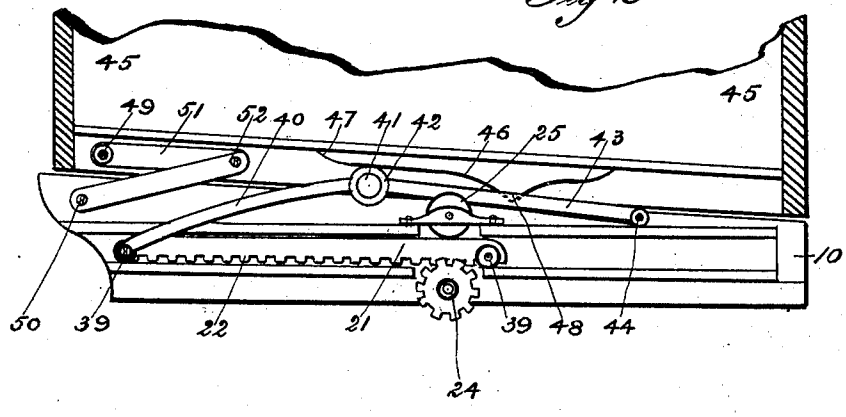


Fig 2



WITNESSES

F. A. Stewart

L. R. Bayer

INVENTOR

BY Willis Palen

Edgar Tate & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 688,028. Patented Dec. 3, 1901.

W. PALEN.

ELEVATING CART.

(Application filed Aug. 1, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3

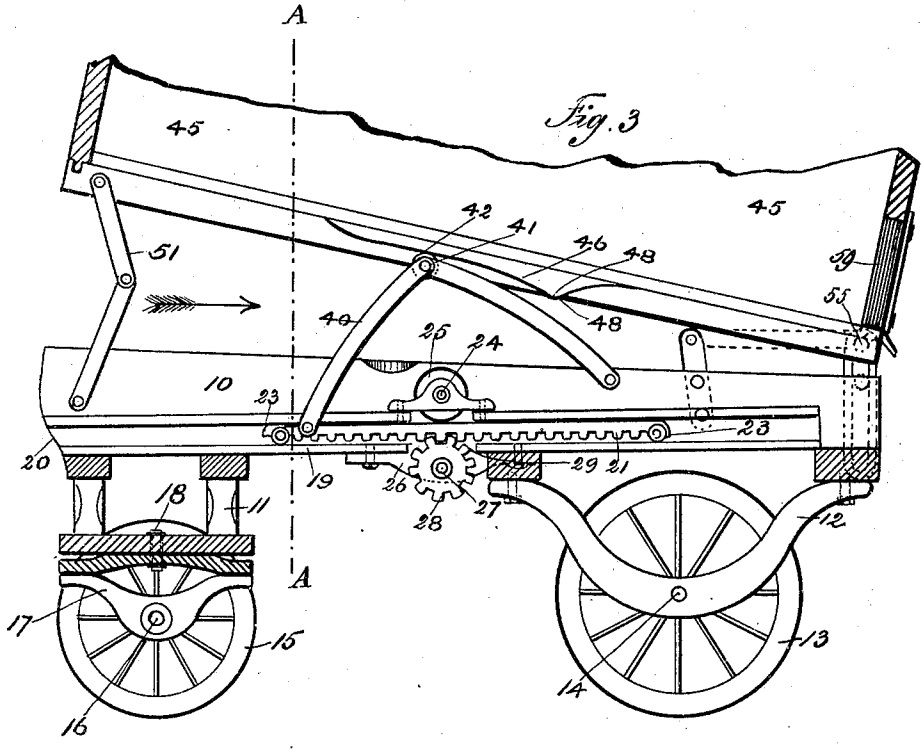
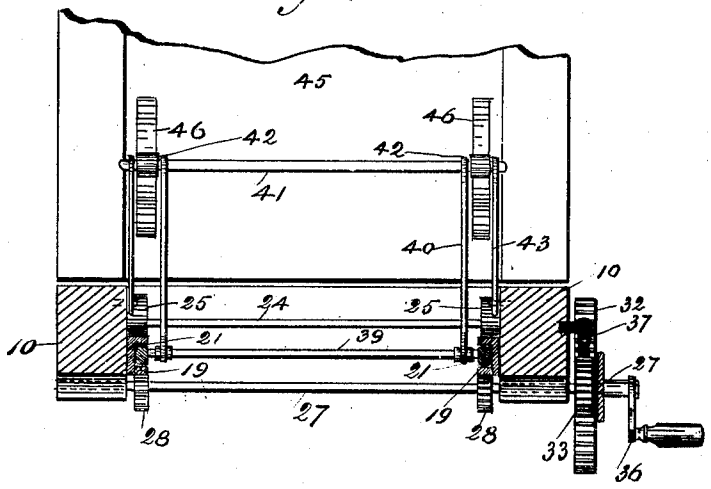


Fig. 4



WITNESSES

L. A. Stewart

L. R. Bayer

INVENTOR

BY Willis Palen

Edgar Tate & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIS PALEN, OF NEW YORK, N. Y.

ELEVATING-CART.

SPECIFICATION forming part of Letters Patent No. 688,028, dated December 3, 1901.

Application filed August 1, 1901. Serial No. 70,475. (No model.)

To all whom it may concern:

Be it known that I, WILLIS PALEN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Elevating-Carts, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide an elevating-cart for use in delivering coal and merchandise of like character through a chute of an extremely simple and cheap form of construction, of few parts, and little liability to get out of order.

To such ends my invention consists, in substance, of a supporting carriage-frame provided with traction-wheels, slideway-pieces secured to the top of the carriage-frame, extending upward and backward, an inverted rack-frame provided at the ends with antifriction-wheels adapted to move along the slideways, mounted upon such slideways, a shaft revolubly supported in the carriage or wagon frame below the slideways, gear wheels or pinions rigidly mounted upon such shaft, extending up through the slideways and meshing with the rack-gears of the rack-frame, a gear wheel or pinion rigidly secured upon such shaft adjacent to the end thereof, a crank-shaft, a crank rigidly secured to such crank-shaft, a gear wheel or pinion rigidly mounted upon such crank-shaft, meshing with the gear-wheel secured to the first-mentioned shaft, a ratchet-wheel carried by the crank-shaft, and a stop-pawl secured to the frame adjacent to such ratchet-wheel and coacting therewith to prevent reverse action of such crank-shaft, lifting-levers pivotally secured at one end to the rack-frame and at the other to a lifting-shaft, steadying-levers pivoted at one end to the wagon-frame and at the other to such lifting-shaft, antifriction-wheels carried by the lifting-shaft, a wagon body or box, guideways for the antifriction-wheels carried by such body or box, forward steadying-levers pivoted at the center, secured at one end to the forward portion of the wagon or carriage frame and at the other end to the wagon-box, standards secured to the wagon or carriage frame adjacent to the rear, the ends extending upward therefrom at either side of the wagon-body, a steadying-lever secured to each of such standards by a pivotal joint at one end and to the rear portion of the wagon body or box by a like pivot-point at the other end, and a slotted vertical guide-bar pivoted at the upper end to the rear end of the wagon-box and secured to the wagon or carriage frame by a bolt or pin passing through the slot thereof, although it is not to be understood that the invention is limited to a device necessarily comprising at once all of the devices or means before mentioned, as the invention consists of certain various combinations or arrangements of devices and parts and the construction of certain devices and parts, all substantially as hereinafter more particularly set forth in the specification and pointed out in the claims.

In the accompanying drawings, forming part of this specification, in which like characters of reference designate corresponding parts in the several views, Figure 1 is a side view in elevation of my improved elevating cart or wagon in the lowered position assumed by it for purposes of traction. Fig. 2 is a side view of the lifting mechanism upon the right-hand side of such wagon or cart, the wagon box or body and the connecting-shafts being shown in central vertical section. Fig. 3 is a view showing portions of the vehicle and such mechanism in a partially-lifted position, and Fig. 4 is a view of the lifting mechanism in a partially-raised position in vertical cross-section on the line *a a* of Fig. 3 looking from the front.

To form my improved elevating carriage or wagon, I provide a suitable rectangular wagon-frame of any desired form of construction, usually of the common one shown, consisting of the side pieces 10, joined together by the front frame 11 and the rear frame 12, the rear traction-wheels 13 being mounted upon an axle 14, rigidly mounted in the frame 12, and the front wheels 15 being mounted upon a like axle 16, carried by a frame 17, pivoted by a king-pin 18 to the frame 11. Firmly bolted to the side pieces 10, upon the inner sides thereof adjacent to the bottom and extending longitudinally thereof, are metallic slide-pieces 19, provided on the inner side with the slideway-slot 20, in which slide

freely back and forth the rack-bars 21, provided on the under side with the rack-teeth 22 and provided at either end with antifriction-wheels 23, pivoted thereto, upon which such rack-bars are supported in the slideway-slots 20, so that the rack thereof is out of contact with the lower side of such slideway-slot. Secured at the ends in the side frame-pieces 10 and extending from one to the other is a shaft 24, on which are secured adjacent to either end the rack rod or bar securing wheels 25, which bear upon the back of such rods or bars, so as to prevent the same from springing upward, and located immediately below the shaft 24 and pivoted in suitable bearings 26, secured to each of the side pieces 10, is a revoluble shaft 27, upon which is mounted adjacent to either end a gear wheel or pinion 28, each of which extends up through a slot 29 in the lower side of the slideway-pieces 19, so as to mesh with the rack-gear bar or rod 21, and this shaft 27 extends outward beyond the side pieces 10 and through a supporting-bracket 31, between which and the side bar 10 is rigidly mounted upon said shaft 27 a gear wheel or pinion 32, meshing with a smaller gear wheel or pinion 33, rigidly mounted upon a crank-shaft 34, provided with a hand-crank 35, which shaft is revolubly mounted in the yoke 31 and is provided with a ratchet gear-wheel (not shown) adapted to engage with a gravity or spring pawl 37, or such pawl may, as shown, engage with the wheel 33, by which the reverse action of such train of gear-wheels is prevented when the wagon-box is in the raised positions shown in Fig. 3.

Rigidly securing the rack-bars one to another at the front and rear ends thereof, so as to form a rack-bar frame, are suitable rods or shafts 38 and 39, and pivoted to such shaft 39 at the lower end are the lifting-levers 40, which are pivoted at their upper ends to the lifting-shaft 41, upon which are mounted the antifriction lifting-wheels 42, and pivoted in like manner at the upper ends to such lifting-shaft 41 and extending backwardly therefrom are the steadying-levers 43, each of which is pivoted at its rear end to its adjacent side piece 10 upon a pivot-stud 44. Rigidly secured upon the under side of the wagon body or box 45 at either side are the lifting slideway-pieces 46, usually of the gentle-curved form shown, merging on a gentle curve 47 at the forward end into the under side of the wagon body or box and being provided adjacent to the rear end with a downwardly-extending point 48, against which slideways abut and along which travel in the operation of the device the antifriction-wheels 42 of the lifting-levers 40. Pivoted at one end to the wagon box or body 45, as shown at 49, and at the other to the side pieces 10 of the wagon-frame, as shown at 50, one on either side, are the forward steadying-levers 51, of the jointed form shown, being provided with a central pivot 52. Rigidly secured upon the side pieces 10, adjacent to the rear end thereof and upon the outside, are the standards 53, to the upper ends of which are pivoted, at the front ends thereof, the rear steadying-levers 54, which are at their rear ends pivoted to the wagon body or box, as shown at 55, from which pivot-point extends downward a steadying-piece 56, provided with a slot 57, through which slot passes a pivot-stud 58, rigidly secured to the side frame 10.

The operation is self-evident from an examination of the drawings, as it will be seen that the parts being in the loaded and tractive position (shown in Fig. 1) assumed by them for the transportation of the loads when the point of delivery is reached to discharge the load from the rear of the wagon box or body 45 it is only necessary to rotate the crank 35 in the proper direction, when the consequent reciprocation of the rack-bars 21 in the slideways to the rear will cause a movement of the lifting-bars 40 into the position shown in Fig. 3, and even further, and that as such lifting-levers 40 are moved thus to the rear the pressure exerted by the wheels 42, carried by the shaft 41 upon the curved under side of the slideways 46, will lift the wagon body or box 45, with its contained load, up into the position shown in Fig. 3, and it is also evident that when this lifting operation is carried to the extreme and until the wheels 42 have almost reached the extreme downwardly-depending point 48 of such slideways 46, during the latter portion thereof, the central hinged or pivoted steadying-bar 51 having reached its extreme upward movement, during this later operation of such movement only the rear portion of the wagon box or body will be lifted, such movement being permitted by the slotted stud-piece 56. By this arrangement it will be seen that in extreme cases and where it is desired to raise the wagon body or box to an extremely high position such slotted stud-pieces admit of this and that in other cases where the same is not necessary the load may be discharged by merely lifting the forward portion of such wagon box or body at such time the parts will be in the position shown in Fig. 3, and the load may be, as in other cases, discharged through the discharge-orifice 59. As the slideways are lower at the front than at the rear, this causes the load to tend to keep the wagon-box steadier upon the frame when in the tractive position than would otherwise be the case.

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

1. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, actuating gear-wheels rigidly mounted upon a shaft meshing with the teeth of such rack-bar, means for rotating such shaft, lifting-levers pivoted at one end to the

rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, substantially as shown and described.

2. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, a shaft, actuating gear-wheels rigidly mounted upon the shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and steadying-levers each consisting of two pieces pivoted together at the center, the outer free end of one of which is pivoted to the wagon body or box and the other to the frame, substantially as shown and described.

3. In a device of the class described, the combination with a wagon-frame, longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, a shaft, actuating gear-wheels rigidly mounted upon the shaft meshing with the teeth of such rack-bar, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and a slotted steadying-piece secured to the rear end of the wagon body or box through the slot of which passes a stud secured to the wagon body or frame secured to the rear end thereof on either side, substantially as shown and described.

4. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, a shaft, actuating gear-wheels rigidly mounted upon the shaft meshing with the teeth of such rack-bar, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, a steadying side piece secured to either side of the wagon body or frame adjacent to the end thereof extending upward alongside the wagon box or body, a steadying-lever pivoted at its forward end to the top of such steadying-standard and at its rear end with the wagon body or box, and a slotted steadying-piece pivotally secured to the rear end of such steadying-lever through the slot of which passes a stud secured in the wagon body or frame, substantially as shown and described.

5. In a device of the class described, the combination with a wagon frame or body of an elevating wagon-box carried by the frame, a reciprocating rack-frame, the rack-teeth of which extend downward and forward, a slideway supporting such rack-frame so that the same may be reciprocated, lifting mechanism connecting the rack-frame with the wagon-box in such manner that reciprocation of such gear will elevate the wagon-box, a gear-wheel or gear-wheels meshing with the rack-gear and means for rotating such gear-wheels so as to cause reciprocation of the rack-frame, substantially as shown and described.

6. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocated in such slideways the rack-teeth of which extend downward, actuating gear-wheels rigidly mounted upon a shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon box or body upon the movement of such lifting-levers upon the reciprocation of the rack-bars, substantially as shown and described.

7. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, a shaft actuating gear-wheels rigidly mounted upon the shaft mesh-

ing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the other end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and steadying-levers each consisting of two pieces pivoted together at the center, the outer free end of one of which is pivoted to the wagon body or box and the other to the frame, substantially as shown and described.

8. In a device of the class described, the combination with a wagon-frame, longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, a shaft, actuating gear-wheels, rigidly mounted upon the shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and a slotted steadying-piece secured to the rear end of the wagon body or box through the slot of which passes a stud secured to the wagon body or frame secured to the rear end thereof on either side, substantially as shown and described.

9. In a device of the class described, the combination with a wagon-frame of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward at one end to the rack-bars provided at the upper end with antifriction-wheels, lifting-levers pivoted to said rack-bars, steadying-levers pivoted to such lifting-levers at one end and pivotally secured to the wagon-frame at the other end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, a steadying side piece secured to either side of the wagon body or frame adjacent to the end thereof extending upward alongside the wagon box or body, a steadying-lever pivoted at its forward end to the top of such steadying-piece and at its rear end with a wagon body or box and a slotted steadying-piece pivotally secured to the rear end of such steadying-lever through the slot of which passes a stud secured in the wagon body or frame, substantially as shown and described.

10. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocated in such slideways the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, actuating gear-wheels rigidly mounted upon a shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon box or body upon the movement of such lifting-levers upon the reciprocation of the rack-bars, substantially as shown and described.

11. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways, supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, a shaft actuating gear-wheels rigidly mounted upon the shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the other end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and steadying-levers each consisting of two pieces pivoted together at the center, the outer free end of one of which is pivoted to the wagon body or box and the other to the frame, substantially as shown and described.

12. In a device of the class described, the combination with a wagon-frame, longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, a shaft, actuating gear-wheels, rigidly mounted upon the shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lift-

ing-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and a slotted steadying-piece secured to the rear end of the wagon body or box through the slot of which passes a stud secured to the wagon body or frame secured to the rear end thereof at either side, substantially as shown and described.

13. In a device of the class described, the combination with a wagon-frame of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith lifting-levers pivoted at one end to the rack-bars and provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, a steadying side piece secured to either side of the wagon body or frame adjacent to the end thereof extending upward alongside the wagon box or body, a steadying-lever pivoted at its forward end to the top of such steadying-piece and at its rear end with a wagon body or box and a slotted steadying-piece pivotally secured to the rear end of such steadying-lever through the slot of which passes a stud secured in the wagon body or frame, substantially as shown and described.

14. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, rack-bar-securing wheels in contact with the back of the rack-bars, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, actuating gear-wheels rigidly mounted upon a shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, substantially as shown and described.

15. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, rack-bar-securing wheels in contact with the back of the rack-bars, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, a shaft actuating gear-wheels rigidly mounted upon the shaft meshing with the teeth of such rack-bars, means for rotating such shaft lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the other end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and steadying-levers each consisting of two pieces pivoted together at the center, the outer free end of one of which is pivoted to the wagon body or box and the other to the frame, substantially as shown and described.

16. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, rack-bar-securing wheels in contact with the back of the rack-bars, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, a shaft, actuating gear-wheels rigidly mounted upon the shaft meshing with the teeth of such rack-bars, means for rotating such shaft, lifting-levers pivoted at one end to the rack-bars provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, and a slotted steadying-piece secured to

the rear end of the wagon body or box through the slot of which passes a stud secured to the wagon body or frame secured to the rear end thereof at either side, substantially as shown and described.

17. In a device of the class described, the combination with a wagon-frame, of longitudinal slideways supported thereby, a rack-frame having side rack-bars reciprocating in such slideways, the rack-teeth of which extend downward, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, rack-bar-securing wheels in contact with the back of the rack-bars, wheels carried by the rack-bars supporting the same in the slideways so that the teeth will be out of contact therewith, lifting-levers pivoted at one end to the rack-bars and provided at the upper end with antifriction-wheels, steadying-levers pivoted to such lifting-levers at the upper end and pivotally secured to the wagon-frame at the lower end, a wagon body or box supported by the frame, suitable slideways secured to the wagon body or box coacting with the ends of the lifting-levers so as to cause lifting of the wagon body or box upon the movement of such lifting-levers upon the reciprocation of the rack-bars, a steadying side piece secured to either side of the wagon body or frame adjacent to the end thereof extending upward alongside the wagon body or box, a steadying-lever pivoted at its forward end to the top of such steadying-standard and at its rear end to the wagon body or box and a slotted steadying-piece pivotally secured to the rear end of such steadying-lever through the slot of which passes a stud secured in the wagon body or frame, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses.

WILLIS PALEN.

Witnesses:
HARRY W. FOELLER,
JOHN H. BURNS.