

3 Sheets—Sheet 1.

No. 553,247.

Patented Jan. 21, 1896.

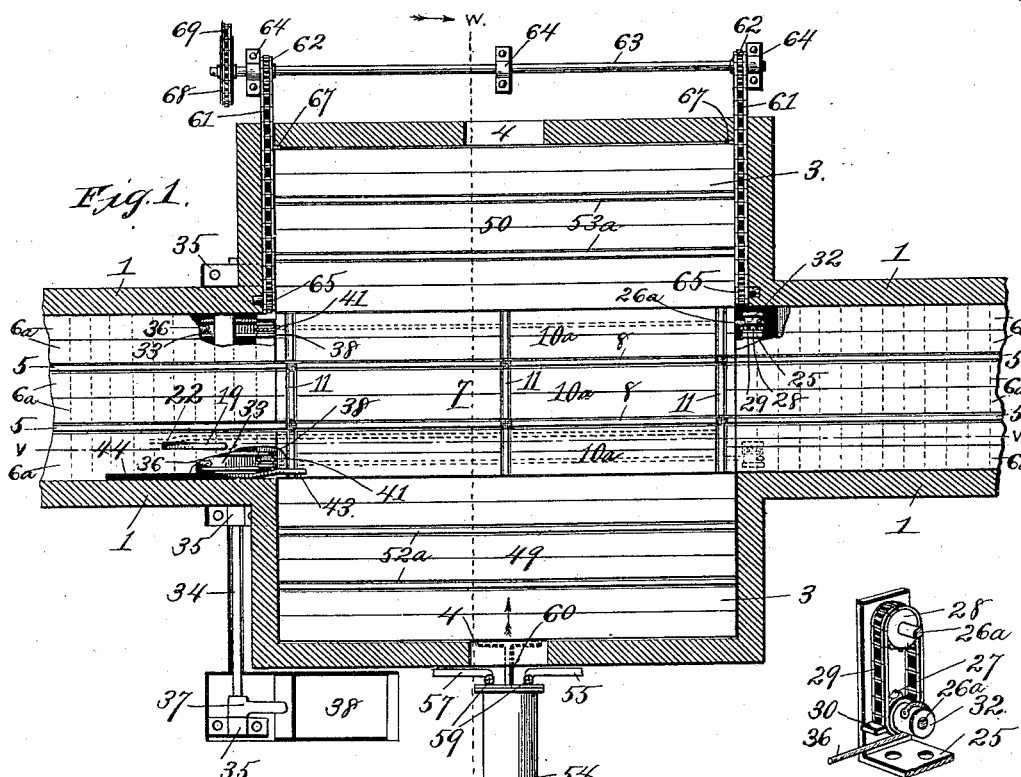


Fig. 2.

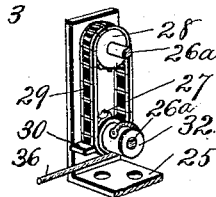
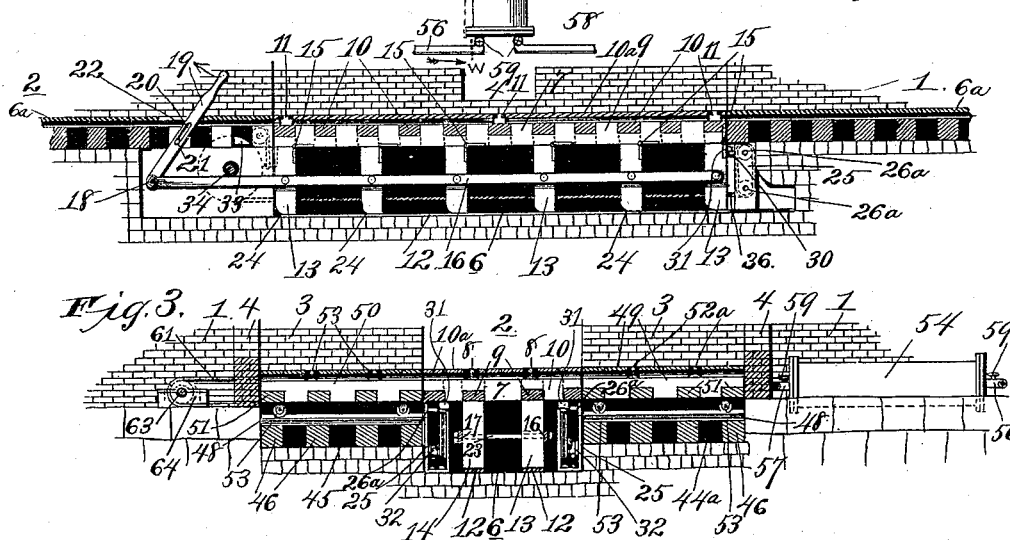


Fig. 6a.



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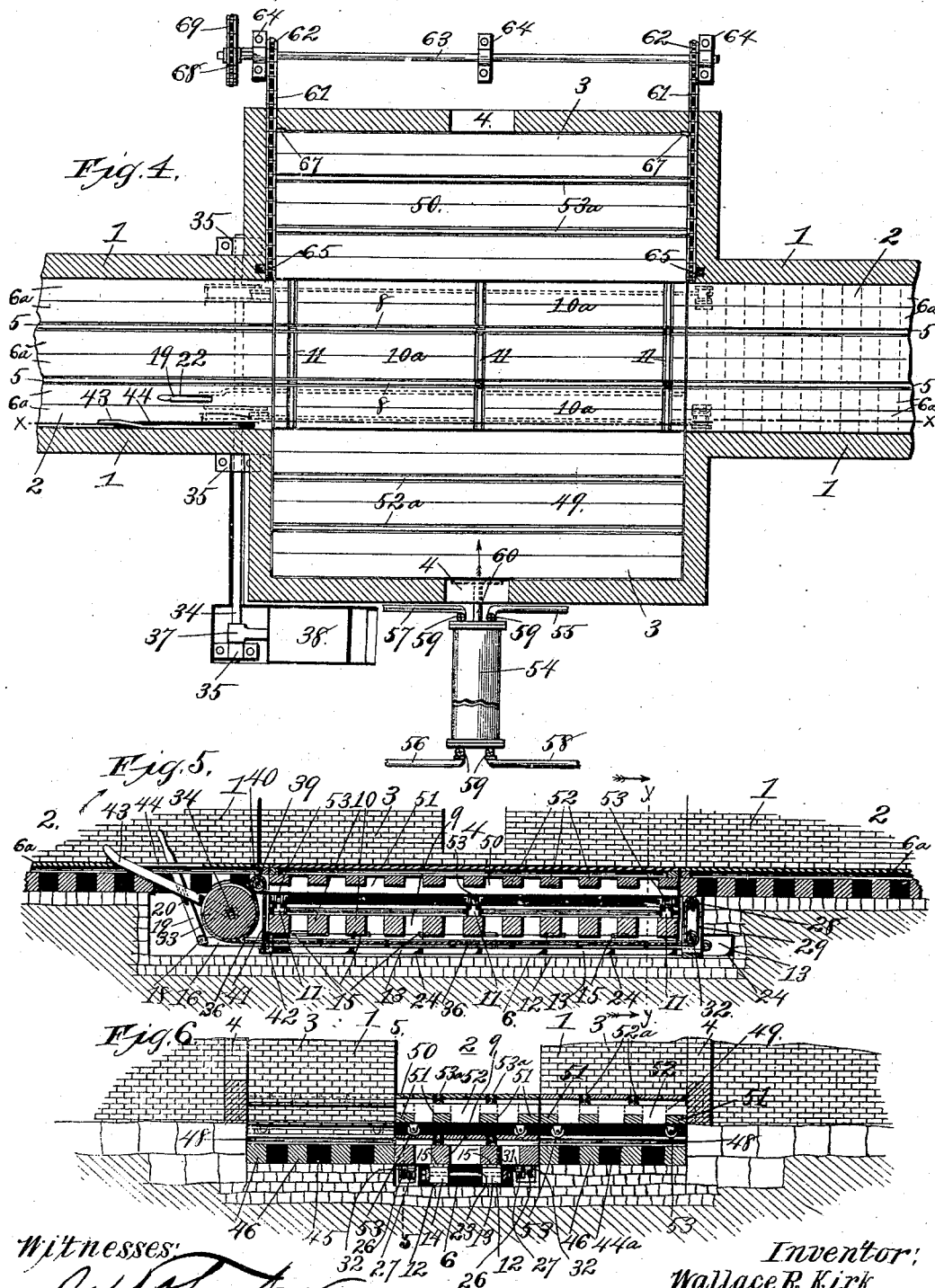
(No Model.)

3 Sheets—Sheet 2.

W. R. KIRK.
RAILWAY SIDING.

No. 553,247.

Patented Jan. 21, 1896.



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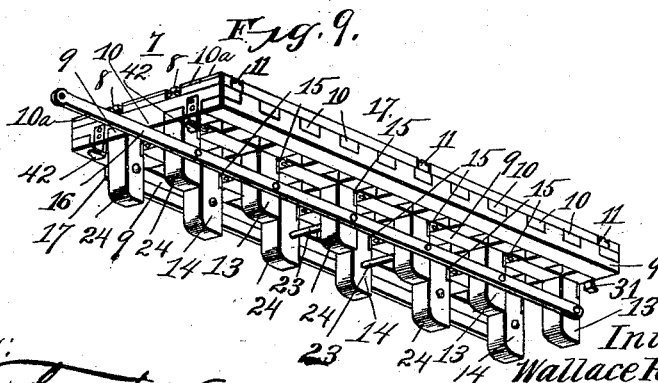
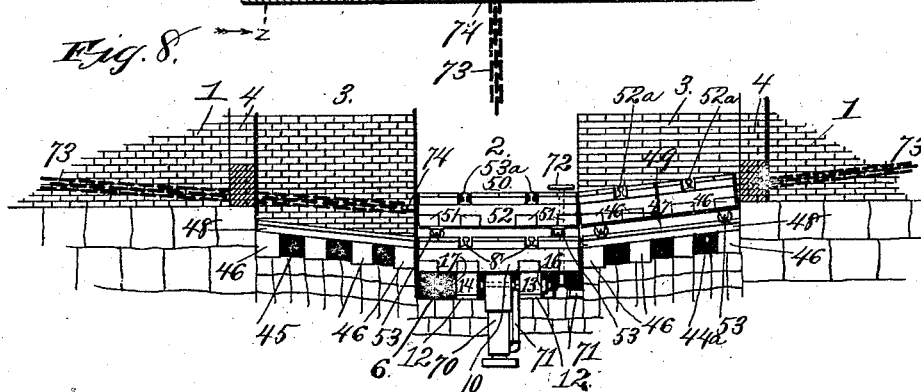
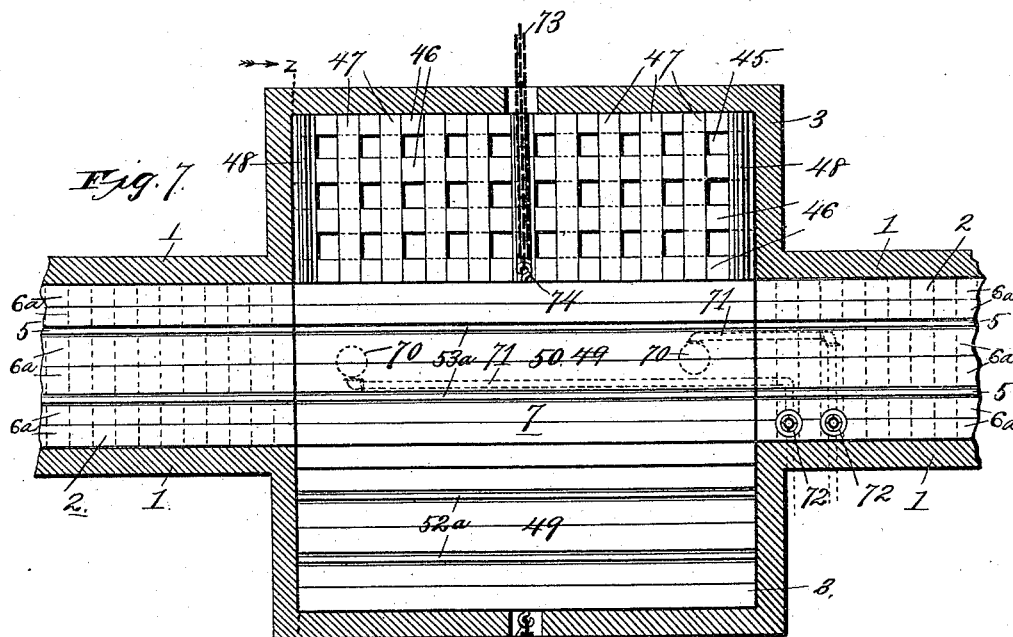
(No Model.)

3 Sheets—Sheet 3.

W. R. KIRK.
RAILWAY SIDING.

No. 553,247.

Patented Jan. 21, 1896.



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UNITED STATES PATENT OFFICE.

WALLACE R. KIRK, OF KANSAS CITY, MISSOURI.

RAILWAY-SIDING.

SPECIFICATION forming part of Letters Patent No. 553,247, dated January 21, 1896.

Application filed March 2, 1893. Renewed June 21, 1895. Serial No. 553,616. (No model.)

To all whom it may concern:

Be it known that I, WALLACE R. KIRK, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Railway-Sidings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to railway-sidings, and the objects of my invention are to produce a siding in substitution for the ordinary Y in common use, by means of which a car may be transferred or shunted to one side and off the main-line track without affecting the position of the remaining portion of the train; to provide a siding by which the cars may be moved from or to the main line in much less time than in the usual way, and which occupies a space about the length of a car and the usual width of track; furthermore, to produce a siding which is strong, durable, and comparatively inexpensive of construction, and which can be operated with only a comparatively small expenditure of power.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as will be hereinafter fully described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a plan view of a railroad-siding constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view taken on the line *vv* of Fig. 1. Fig. 3 represents the vertical transverse sectional view taken on the line *ww* of Fig. 1. Fig. 4 is a plan view of a railroad-siding constructed in accordance with my invention and showing the central platform in its depressed position. Fig. 5 is a vertical longitudinal sectional view taken on the line *xx* of Fig. 4. Fig. 6 is a vertical transverse sectional view taken on the line *yy* of Fig. 5. Fig. 6^a is a sectional perspective view of one of the supporting-brackets for the lifting mechanism. Fig. 7 is a plan view of a modified form of a railroad-siding constructed in accordance with my invention and showing a side or laterally-movable platform located above and supported upon the central depressed plat-

form. Fig. 8 is a vertical transverse sectional view taken on the line *zz* of Fig. 7. Fig. 9 is a perspective view of the central platform or table and showing thereunder the hinged legs which are adapted to support said table in its elevated position.

Before entering upon a detail description I wish to state that this invention is designed particularly as an improvement over the patent granted to me May 10, 1892, No. 474,665, for railway-siding; and the improvement essentially consists in providing a central platform vertically adjustable to form a way open always for the passage of a train and for teaming; also, a pair of side platforms adapted alternately to rest upon said central platform (when depressed) for the reception of the car to be sided or shunted, and means for moving said side platforms upon or to one side of said central platform in such manner that the shunted car will not obstruct the main line or the alley-way where the main line is laid. The warehouses located upon opposite sides of alley-ways or other narrow and confined spaces between said buildings in many instances are entirely deprived of railway-car facilities, because the cars when moved to the warehouses obstruct the entire alley-way and prevent the passage therethrough of a train to convey goods to a different warehouse, and therefore have to depend upon teaming in order to convey their goods or merchandise to or from the warehouses. My invention obviates these difficulties, the train being adapted to enter an alley-way and transfer or shunt laterally off the main line the car for the destined warehouse. Then should the car be a middle one couple up the remaining cars and pull or back out of the alley-way, thus leaving the shunted car to be freighted or relieved of its freight at the pleasure of the merchant, and also leaving the alley-way open for the passage of cars or teams.

Referring now to the drawings, where similar numerals designate similar parts throughout the figures, 1 designates the walls of two opposite warehouses or other buildings, between which is the narrow alley-way or space usually found in manufacturing and commercial districts, these warehouses or other buildings in order to receive the benefit of my invention being formed with recesses 3 a

little greater than the length and width of a car of the usual construction, and being adapted, as hereinafter explained, to receive in such space or recess the shunted or transferred car, so that the freight carried by said car may be easily and conveniently removed through an opening 4 into the building or warehouse, thus obviating the necessity of teaming, or the delays incident to the running of the train into the alley, unloading and pulling or backing out, so that a different car may be entered to convey goods to the same or a different warehouse, as is the usual custom of transferring the freight to the warehouse or building.

5 designates the main-line tracks which pass through the alley-way or space between the warehouse, the sleepers or cross-ties of which are covered by boarding or planking 6^a, the upper surface of which is on a plane even with the tops of the rails, so that wagons or carts when necessary may be enabled to pass through the alley.

As it would be impossible to lay an ordinary siding-switch or spur in the confined space or alley-way formed between the warehouses of manufacturing and commercial districts, I form a shallow pit or trench between every pair of oppositely-disposed recesses 3, as illustrated in the drawings, or opposite a single recess so formed in a building upon one side of the alley-way only. This pit or trench 6 is paved, preferably, to insure a solid foundation to support the weight of the freighted cars, as will be hereinafter explained.

A central platform or table 7 is provided with the longitudinal track-rails 8, forming a continuation of the main-line rails 5 at specified times, as will be hereinafter explained. This platform is adjustable bodily in a vertical plane and is formed of a series of longitudinal beams 9 and transverse beams 10, which are secured firmly together and upon which are secured the longitudinal track-rails 8. This central platform is also boarded or planked at 10^a to continue the even surface formed by the planking 6^a. A series of tracks 11 are provided which extend transversely across the entire width of the platform, the object of which will be hereinafter referred to. A pair of longitudinally-extending rails or bars 12 are laid and secured upon the bottom of the trench, upon which are adapted to rest two series of supporting-legs 13 and 14, which are hinged at 15 to the under side of the inner longitudinally-extending beams of the platform. These supporting legs are arranged at intervals for the entire length of the platform, the series 13 being connected pivotally to a longitudinally and horizontally extending link-bar 16 and the series 14 being connected pivotally together by means of a longitudinally and horizontally extending link-bar 17. The link-bar 16 preferably extends or projects a suitable distance beyond the end supporting-leg and is pivotally connected at 18 to the lower end of a hand-lever 19, pro-

vided with a longitudinal slot 20, which pivotally engages a pin 21 on the end of one of the cross-ties or sleepers of the main track, the upper end of said lever 19 projecting through a slot 22 in the planking 6^a a suitable distance beyond the upper surface therefor and to the outer side of the adjacent main-line track-rail. As will be evident, when the supporting-legs 13 and 14 are folded to their horizontal position and the central platform is depressed, as shown in Figs. 4, 5, 6, and 8, the horizontal plane of the link-bar 16 and also the link-bar 17 will be lowered, therefore necessitating the slot 20 in the lever 19 to allow of said movement when pivotally operated. In order to insure the simultaneous folding of the supporting-legs 13 and 14, two or more of the supporting-legs 13 and 14 and their respective link-bars 16 and 17 are pivotally connected together by through-pivots 23, and in order to allow of the free folding of the said supporting-legs 13 and 14 the lower end thereof, diagonally opposite their hinge or pivotal point, is curved or beveled at 24.

I will now proceed to describe the means for elevating said table or platform. At one end and near each side margin of said platform and located beneath the adjacent end of the main-line track a suitable distance are vertically secured a pair of supporting brackets or frames 25, between the vertical side arms of which are journaled to revolve loosely on transverse and horizontally-arranged rods 26^a the sprocket-pinions 27 and 28, as shown clearly in Fig. 6^a, and an endless chain 29 connects and is adapted to travel upon said sprockets. Each chain is provided at a suitable point with an arm or offset 30, which engages at the under side of the depending brackets 31, which are bolted or otherwise suitably secured to the under side of the central platform. The lower sprocket-pinions 27 are preferably formed each with a drum portion 32, and at the opposite end of the platform and located a suitable distance below the main-line track the large drums or grooved wheels 33 are rigidly mounted upon a rock-shaft 34 journaled in a suitable number of bearings 35. Cables 36 are secured at their opposite ends to said drums or grooved wheels and to the drums 32 of sprocket-pinions 27. One end of the rock-shaft 34 extends preferably to the inner side of the adjacent warehouse and is provided with an arm 37, on which is secured a counterweight 38, the object of which will be hereinafter explained. Revolvably mounted upon bolts 39 in the opposite ends of the cross-tie of the main line adjacent to the central platform and a slight distance above the grooved wheels or drums 33 are guide-pulleys 40, upon which are supported and adapted to travel cables 41, the lower ends of which are secured to pendent brackets 42 bolted or otherwise secured to the under side of the platform, and the opposite ends of which pass under and are secured to the grooved wheels or drums. A rock arm

or lever 43 is mounted upon the shaft 34 adjacent to one of the grooved wheels or drums and preferably about midway of the shaft 34 and extends upward through a slot 44 in the planking of the main line. The counter-weight 38 is adapted to counterbalance the weight of the platform, being in an elevated position when the platform is depressed, and being in a depressed position when the platform is elevated. Now, in order to elevate the platform, the lever 43 is grasped and operated in the direction indicated by the arrow, Fig. 5. This causes the winding of the cables 36 and 41 upon the grooved wheels or drums 33, and simultaneously the lifting operation of the endless chains 29, and the endless chains 29 bearing against the under side of the brackets depending from the central platform and the cables 41 being secured to the brackets 42 raise the platform to the position shown in Figs. 1, 2 and 3, and at the same time the supporting-legs by gravity automatically unfold to their vertical position and support the platform in its elevated position. To depress the platform, the tripping-lever 19 is operated in the direction indicated by the arrow, Fig. 2, which is easily accomplished because most of the weight of the platform is borne by the counterbalance-weight, and the curved or beveled ends 24 allow said legs to be tripped easily by the lever 19. The lever 43 is simultaneously operated in the reverse direction from that indicated by the arrow, Fig. 5, which causes the counterbalance-weight to be elevated and the platform to be depressed. The depression of the central platform causes the supporting-legs 13 and 14 to assume the horizontal position shown in Figs. 5 and 6, and rest upon the rails 12, thus forming a solid and substantial support for the platform in its depressed position, and for the weight of the cars adapted to be borne thereby.

Upon opposite sides of the main trench 6 the trenches 44^a and 45 are formed, which are also preferably provided with a foundation of paving-blocks and upon which is built a stationary platform of longitudinally and transversely extending timbers 46 and 47 respectively, as shown in Fig. 7. These platforms are provided with a series of transversely-extending tracks 48, which are adapted to longitudinally and horizontally align with the transverse tracks 11 of the central platform when said central platform is in its depressed position. Mounted upon these tracks 48 are the laterally-movable platforms 49 and 50, which are also composed of a series of longitudinally and transversely extending timbers 51 and 52 respectively, and provided with supporting rollers or wheels 53 on their under side, which wheels or rollers normally rest upon the tracks 48. The platforms 49 and 50 are also provided with longitudinally-extending track-rails 52^a and 53^a respectively, which are adapted at times, as will be hereinafter explained, to

form a continuation of the main-line track. To accomplish this it is necessary to provide means for moving said platforms laterally upon or from the central platform when depressed. To this end I provide at one side of the platform 49 a hydraulic cylinder 54, which is provided with the usual supply and escape pipes 55 58 and 56 57, controlled by the usual hand-valves 59. A piston rod or stem 60 extends through an opening (not shown) formed through the wall of the warehouse and is bolted or otherwise suitably secured to the adjacent outer edge or margin of the sliding platform. Now when the central platform 7 is depressed and the transverse tracks 48 and 11 are in horizontal alignment by the operation of the valves 59 of the supply-pipe 58 and outlet-pipe 57 the water is allowed to flow inside of the cylinder 54, forcing the piston in the direction indicated by arrow, Figs. 1 and 4, and moving the side platform 49 upon the central depressed platform and in the same horizontal plane with the main-line track, the rollers 53 of course traveling upon the transverse tracks 11. To move this platform back to its original position the valves 59 of the supply-pipe 55 and the outlet-pipe 56 are operated, when the water rushing through the pipe 55 forces the piston-head in the opposite direction and moves the platform 49 back to its original position, as will be readily understood. I also show in Figs. 1 and 4 a pair of endless chains 61, one at each end of the platform 50, which are adapted to travel over a pair of sprocket-pinions 62 mounted upon and near the opposite ends of a shaft 63, which is journaled in suitable bearings 64, preferably inside the adjacent warehouse. The inner portions of these chains engage the sprocket-pinions 65, which are mounted in any suitable manner adjacent to the inner side margin and at opposite ends of the platform 50. These chains also carry projections or arms 67, which are secured to the adjacent ends of the lateral platform 50. A sprocket-wheel 68 is mounted upon one end of the shaft 63 and is connected by a chain 69 with suitable machinery to operate said wheel to actuate or cause to move the said platform upon or from the central platform when depressed.

In Figs. 7 and 8 I provide a central platform constructed, as described, with two or more hydraulic jacks 70 of any suitable construction. These hydraulic jacks 70 are located beneath, preferably about midway the width and near the opposite ends of the central platform, and are connected to the water-supply (under pressure) through the medium of pipes 71 controlled by valves operated by hand-wheels 72. When it is desired to elevate the platform the valves are operated to allow the water to flow into the jacks, thus elevating the platform, as will be readily understood. When it is desired to depress or lower the platform the valves are operated in the reverse direction, allowing the platform by

gravity to descend and force the water back through the pipes, and when the platform 7 is depressed the desired side platform is designed and adapted by gravity to move over and upon the central platform. In order to accomplish this, the stationary or bed platforms formed of the longitudinal and transverse timbers 46 and 47, respectively, are arranged at an incline, so that the lateral rails 48 thereof will slant downward and inward from their outer ends to be flush or even with the upper ends of the transverse rails 11 of the central platform when depressed, as illustrated in Fig. 8. The laterally-movable platforms 49 and 50 are normally held upon said inclined platforms by suitable machinery attached to the opposite ends of the chains 73, which are attached to eyebolts 74, or are in other suitable manner secured to the side margins of the said laterally-movable platforms. When the central platform is depressed and it is desired to allow one of the laterally-movable platforms to be supported upon the same and form the continuation of the main-line track, the machinery (not shown) is allowed to slacken the chain 73, when the platform connected thereto by gravity moves to the position indicated in Fig. 8.

The operation of the device is as follows:

When the platforms are in the position shown in Fig. 1, the alley-way or space between the warehouses is free for the passage of trains for its entire length. Should it be necessary or desirable that one of the cars of a train be shunted or transferred to one of the recesses or spaces 3 to one side of the main track, the central platform is depressed, as described. The mechanism for moving said lateral platform to its position upon the central platform is then operated. The train then passes over the main-track line until the desired car rests upon said platform, which car is then uncoupled from the rest of the train. The machinery is then operated to withdraw the said platform upon which the car is located to its original position. Should it be also desired to transfer or shunt a car into the opposite recess or space, the central platform is continued in its depressed position and the opposite platform is actuated by its machinery to occupy a position over the depressed platform. The train is then coupled up and the desired car drawn to a position upon the platform. The car is then uncoupled from the remaining portion of the train and the platform containing the car is switched or shunted into the space desired, as will be clearly seen. The depressed platform is then elevated to its original position. The locomotive may then back and be coupled up to the remaining portion of the train, which may then be moved away.

It is to be understood that the central platform and also the laterally-movable platforms instead of being formed continuous for the whole length of the pits or trenches may be formed in two or more sections, each sec-

tion being operated, if desired, by its own mechanism, and that I do not confine myself to the specific means shown and described for operating said platforms.

From this description it will be seen that I have provided means whereby a car may be side-tracked or shunted in a confined space, such as an alley-way or narrow space, without obstructing the alley-way or the main line, and also the mechanism employed may be readily and easily operated, and the platforms are strong, durable, and comparatively inexpensive of construction.

Throughout the foregoing specification my invention has been described as being applied to alley-ways and shunting into buildings; but it can be used for teaming, transfer-depots, and private establishments whenever or wherever it is desirable to move single cars in and out upon a given line independently of each other, and can also be advantageously used for shunting cars from side tracks at way-stations with the view of taking cars from the middle of trains as well as the economizing of space.

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

1. A railway siding, comprising a vertically movable platform or table, and an auxiliary laterally movable platform adapted to be moved upon the vertical adjustable platform or to one side of the vertical adjustable platform, substantially as described.

2. A railway siding, comprising a vertically movable platform or table, and legs hinged to the under side of said platform, and adapted to unfold and support said platform, substantially as set forth.

3. A railway siding, comprising a platform having longitudinal tracks thereon, and means to elevate or depress said platform, in a vertical plane, in combination with a laterally movable platform adapted to be moved upon or to one side of the vertically movable platform, substantially as set forth.

4. A railway siding, comprising a vertically movable platform or table, provided with track-rails, and legs hinged to the under side of said platform and adapted to support said platform, and means to trip said legs when desired to depress said platform, substantially as set forth.

5. A railway siding, comprising a vertically movable platform, provided with track-rails and weights adapted to counterbalance said platform, and a laterally movable platform adapted to be moved upon or to one side of the vertically movable platform, substantially as set forth.

6. In a railway siding, the combination with a main line track, of a vertically adjustable platform provided with longitudinal track-rails, adapted to form a continuation of the main line, when the platform is in its elevated position, and a weight adapted to counterbalance said platform, and a laterally mov-

able platform adapted to rest upon or to one side of the vertically movable platform, substantially as set forth.

7. A railway siding, comprising a central platform provided with a longitudinal track, a number of hydraulic jacks located beneath and adapted to elevate said platform, in combination with a laterally movable platform adapted to rest upon or to one side of the vertically movable platform, substantially as set forth.

8. A railway siding, comprising a vertically movable platform provided with longitudinal track rails, and a number of supporting legs hinged to the under side of said platform, a link-bar pivotally connecting said supporting legs, and a lever pivotally connected to said link-bar, substantially as and for the purpose set forth.

9. A railway siding, comprising a central vertically movable platform provided with longitudinal track rails, and provided with lateral track rails, in combination with a laterally movable or auxiliary platform mounted on wheels or rollers, and adapted to travel on the transverse rails of the central platform, substantially as set forth.

10. A railway siding, comprising a vertically movable platform provided with longitudinal main track rails and with transversely extending rails, and laterally movable side or auxiliary platforms and means to move said side or auxiliary platforms upon or from said vertical adjustable platforms, substantially as described.

11. A railway siding, comprising a vertically movable platform, provided with longitudinal track rails, and provided with transversely arranged track rails, in combination with a laterally movable platform mounted upon rollers, and adapted to move by gravity upon the central platform when depressed, and means for withdrawing said laterally movable platform to its original position, substantially as set forth.

12. A railway siding, comprising a vertically movable platform provided with longitudinally arranged track-rails, in combination with a laterally movable platform, adapted to move upon the vertically movable platform when depressed, and longitudinally arranged track rails upon said laterally movable platform adapted to form a continuation of the main line, when the laterally movable platform is upon the vertically movable platform, substantially as described.

13. A railway siding, comprising a vertically movable platform, provided with longitudinal and transverse track rails, a stationary platform, at one side of said vertically movable platform, and transverse track rails upon said platform, adapted to align with the transverse track rails of the vertically movable platform at times, and a laterally movable platform mounted upon rollers resting upon the track-rails of the stationary platform, and adapted to move upon the vertically movable platform when depressed, substantially as described.

14. A railway siding, comprising a vertically movable platform, provided with longitudinal and transverse track rails, a stationary platform located at one side of said vertically movable platform, and having track-rails longitudinally aligned with the transverse rails of the vertically movable platform, and inclined downwardly and inwardly so that the inner end of said rails is in the same horizontal plane as the transverse rails of the vertically adjustable platform when depressed, and a laterally movable platform mounted upon rollers, resting upon said inclined tracks and means to hold said laterally movable platform upon the inclined rails, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

WALLACE R. KIRK.

Witnesses:

MAUD FITZPATRICK,
G. Y. THORPE.