

C. L. MURRAY.
GATE.
APPLICATION FILED JULY 11, 1912.

1,052,266.

Patented Feb. 4, 1913.

3 SHEETS—SHEET 1.

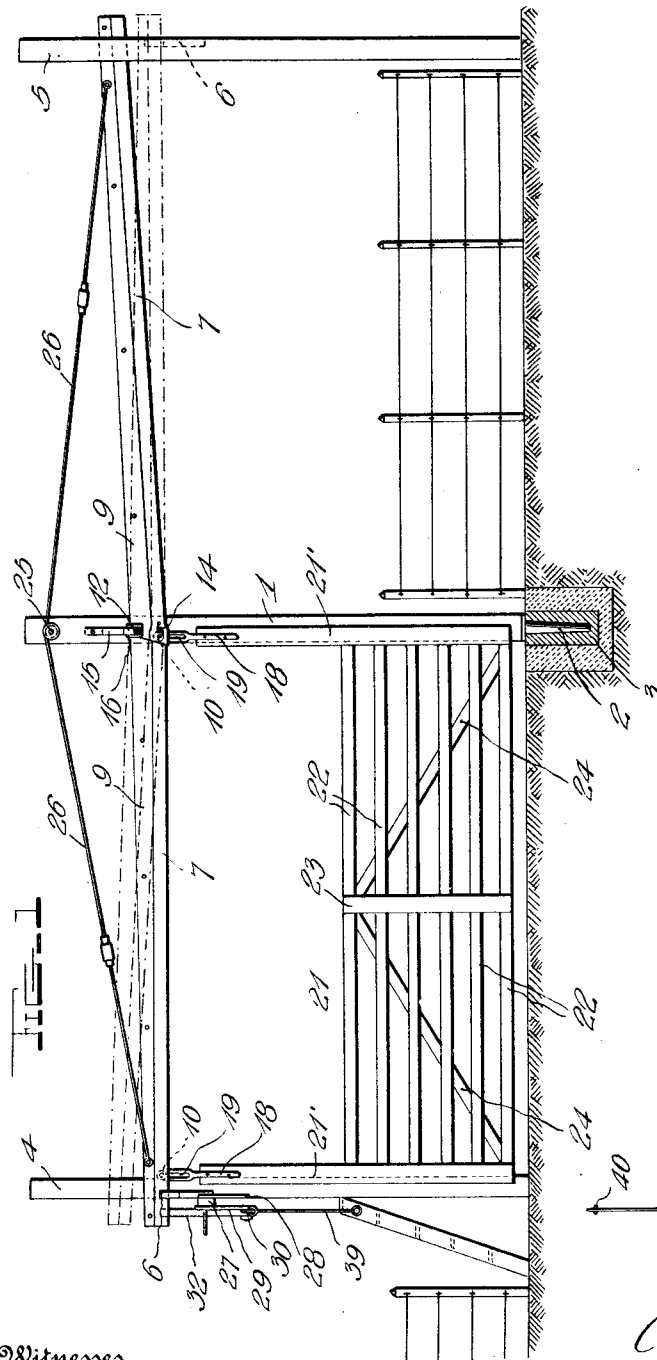


FIG. 1

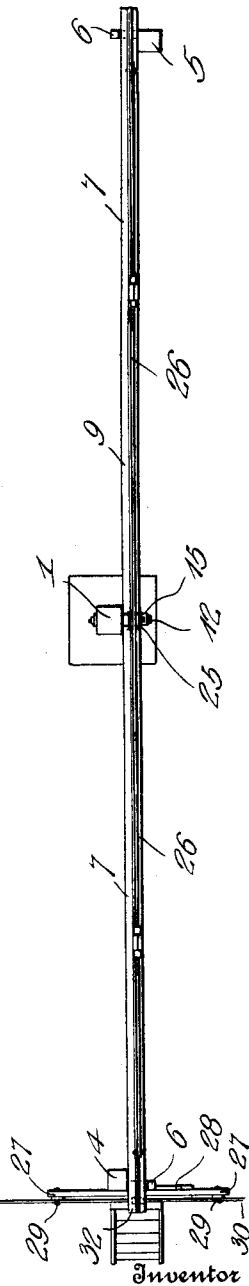


FIG. 2

Witnesses

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3 SHEETS—SHEET 2.

FIG. 3

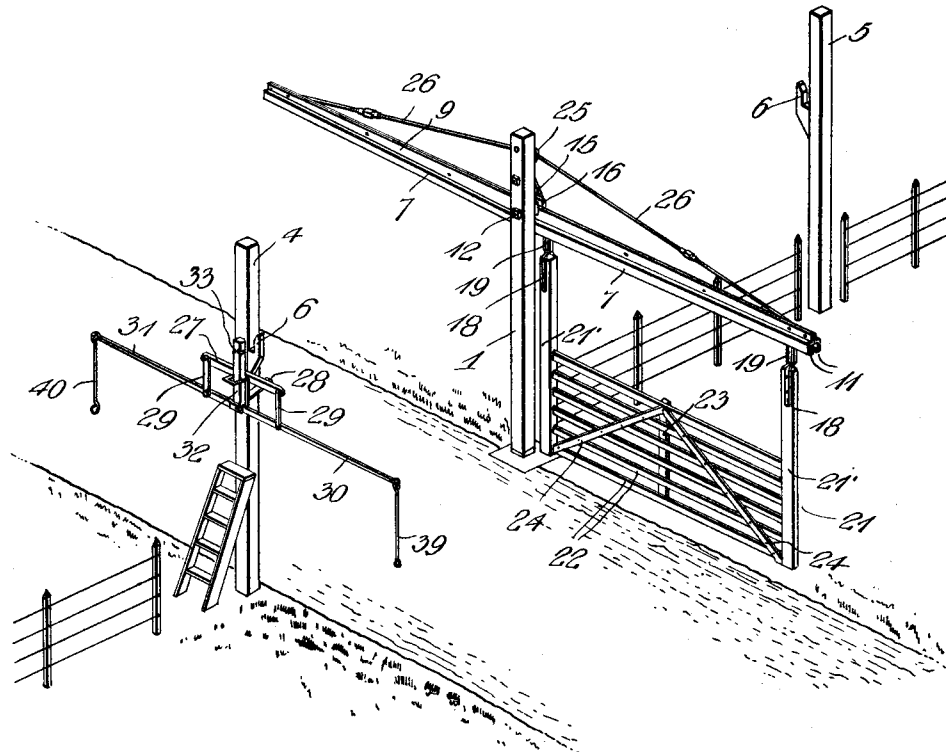


FIG. 10

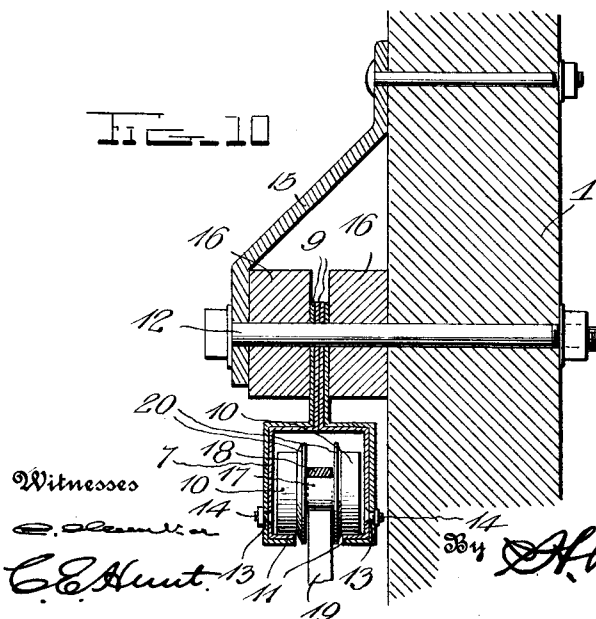
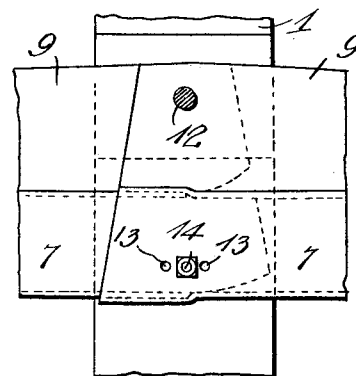


FIG. 11



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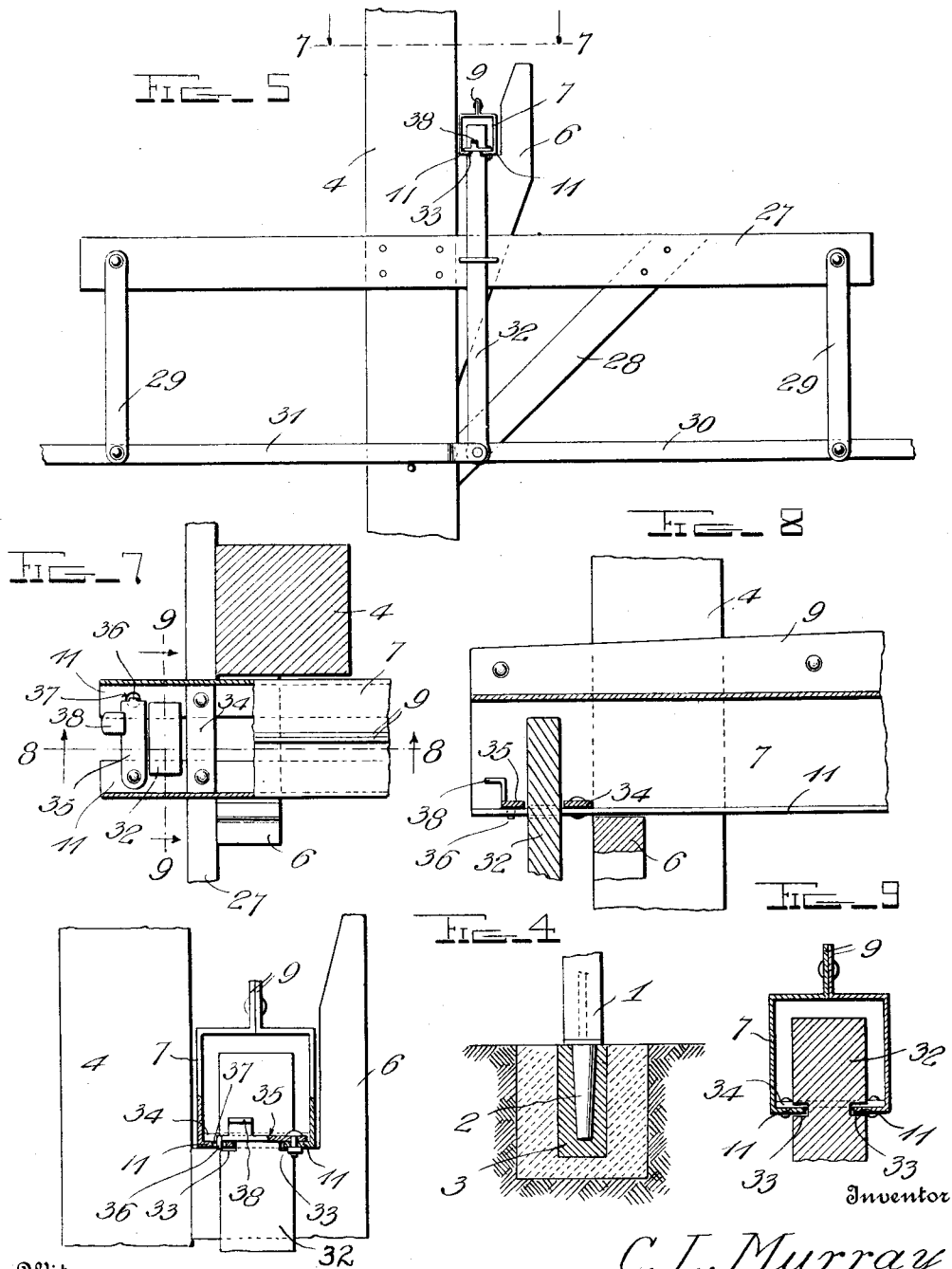
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UNITED STATES PATENT OFFICE.

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GATE.

1,052,266.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed July 11, 1912. Serial No. 708,925.

To all whom it may concern:

Be it known that I, CHARLES LEVI MURRAY, a citizen of the United States, residing at Mancos, in the county of Montezuma and State of Colorado, have invented certain new and useful Improvements in Gates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in gravity opening and closing gates.

One object of the invention is to provide a gate of this character having an improved construction and arrangement of track and means whereby the same is operated to cause the gate to automatically open and close.

Another object is to provide a gate supporting mechanism adapted to be swung around to one side of the road to permit a high load to readily pass.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a side view of my improved gate showing the same in closed position and illustrating in dotted lines the position of the track for opening the gate; Fig. 2 is a plan view of the same; Fig. 3 is a perspective view showing the gate and its supporting and operating mechanism swung around to the side of the road to permit the passage of high loads; Fig. 4 is a vertical sectional view illustrating the manner in which the center post of the supporting and operating mechanism is revolubly mounted to permit the same to be swung around alongside the road; Fig. 5 is a side view of the latch post for supporting the end of the track which projects across the road; Fig. 6 is an enlarged elevation of a portion of one of the track supporting posts and the end of the track; Fig. 7 is a horizontal sectional view, taken on the line 7—7 of Fig. 5; Figs. 8 and 9 are detail sectional views, taken respectively on the lines 8—8 and 9—9 of Fig. 7; Fig. 10 is an enlarged vertical sectional view of the central track supporting post, showing more particularly the pivotal mounting of the track; and Fig. 11 is a front view of the inner ends of the track members and the upper end of the central supporting post,

showing the manner in which said ends are adjustably connected.

In the embodiment of the invention I provide a central track-supporting post 1 having on its lower end a spindle 2 which is revolubly engaged with a bearing socket 3 set into a concrete base or otherwise anchored in the ground alongside the roadway where the gate is to be placed. In line with the post 1 and on the opposite side of the road is arranged a side track-supporting post 4. On the opposite side of the center post 1 and spaced the same distance therefrom as the post 4 is a second side track-supporting post 5. The post 5 is offset from or out of line with the posts 1 and 4, for a purpose which will hereinafter appear. On the sides of the posts 4 and 5 which face each other, and near the upper ends of the posts are track-supporting brackets 6 with which the ends of the gate supporting track are engaged when in operative position.

Pivotaly secured to the track-supporting post 1 near its upper end is a gate supporting track 7, said track being formed in sections, each of which consists of pairs of plates or bars bent longitudinally to form upper connecting flanges 9 which are bolted or otherwise rigidly secured together to form the track members. The lower portions of the bars or plates are bent laterally at right angles, thence downwardly and inwardly to form the roller receiving portions of the track in which are adapted to travel the supporting rollers 10 of the gate. The rollers 10 when engaged with the lower portion of the track are entirely inclosed and protected from the weather, and when thus arranged the rollers engage and travel on the inwardly turned lower edges 11 of the bars or plates forming the members of the track.

The inner ends of the track sections have an adjustable telescoping engagement and are pivotaly connected and supported by a track supporting bolt 12 arranged through the overlapping flanges 9 of the track sections and secured in the track supporting post 1 as shown. The overlapping sides of the roller receiving portions of the track have formed therein series of bolt holes 13 which are arranged in arcs concentric with the bolt 12 and are adapted to be brought into alignment and to receive fastening bolts 14, whereby the sections of the track are secured when adjusted to the desired angles.

The outer end of the bolt 12 is engaged with a guide bracket 15 secured to the outer side of the post 1 and spaced a suitable distance therefrom by spacing blocks 16 as shown.

The gate supporting rollers 10 are preferably of double form and are connected and spaced apart by short integral shafts 17 with which are engaged the upper ends of hangers 18, in the upper ends of which are elongated shaft engaging openings or slots 19 with which the shafts of the pulleys are engaged, said hangers having bifurcated lower ends which are engaged with and secured to the extended upper ends of the bars 21' of the gate frame. By providing the hangers 18 with the elongated shaft receiving openings with which the shafts of the pulleys are engaged, it will be seen that the gate is permitted to rise slightly at either or both ends. The opposite members of the pulleys 10 are provided on their inner ends with annular flanges 20 which engage the inner edges of the pulley receiving portions 11 of the tracks, and hold the pulleys in alinement when the gate is shifted from one end to the other of the track.

The gate 21 may be of any suitable construction, and is here shown as consisting of the end bars 21' which are connected by a series of cross bars or slats 22, said slats and end bars being braced by a centrally disposed vertical brace bar 23, and diagonally arranged brace bars 24.

Engaged with a grooved guide pulley 25 revolvably mounted on the gate supporting post 1 above the pivotal connection of the track 7 is a track bracing cable 26, the ends of which are secured to the outer ends of the track sections whereby the latter are braced and held in position. By constructing and arranging the track 7 as herein shown and described, it will be seen that when the latter is rocked on its pivotal connection with the post 1 or one end of the track raised, the gate 22 will roll back on the track toward the opposite or lower end thereof, thereby opening or closing the gate.

In order to raise and lower the ends of the track I provide a track lifting mechanism comprising a cross bar 27 which is secured to the side track-supporting post 4 which is located adjacent to the side of the roadway. The bar 27 projects a suitable distance beyond the opposite sides of the post 4 and is made rigid by a brace 28 as shown. Pivotaly connected at their upper ends to the ends of the bar 27 are lever supporting hangers 29, to the lower ends of which are pivotaly connected track lifting levers 30 and 31 which are pivotaly connected to the lower end of an upwardly projecting track lifting bar 32, the upper end of which projects into the adjacent end of the track. The upper end of the bar 32 has in its opposite sides notches 33 with which are engaged the

inner edges of the adjacent parts 11 of the roller receiving portion of the track. The upper end of the bar 32 is further secured in the end of the track by a cross bar 34 which is riveted to the parts 11 of the track adjacent to one side of the upper end of the bar 32, while on the opposite side of the bar is arranged a latch-plate 35, one end of which is pivotally secured to the part 11 on one side of the track. On the free end of the latch-plate 35 is formed a depending fastening lug 36, which when the plate is in operative position, is engaged with an aperture 37 in the part 11 on the opposite side of the track. On the outer edge of the latch-plate is arranged a releasing member 38, by means of which the free end of the latch-plate may be lifted and the lug 36 disengaged from the aperture 37 to permit the plate to be swung outwardly and the upper end of the bar 32 disengaged from the end of the track. When the latch-plate is in a closed position, the upper end of the bar 32 is securely fastened between said plate and the rigid fastening plate 34 as shown. Pivotaly connected to the outer ends of the levers 30 and 31 are depending operating rods 39 and 40 whereby the levers are actuated to raise and lower the track and thereby open or close the gate.

In order to open the gate either of the rods 39 or 40 is grasped and pulled downwardly, thereby rocking the lever to which the same is attached, which operation will raise the track lifting bar 32 and the end of the track to which the bar is secured. In thus raising this end of the track the opposite end thereof will be lowered, thus causing the gate to roll back on the track to open position. In order to close the gate after the same has thus been opened, the lever operating rod on the opposite side thereof is pushed upwardly, thus rocking the lever to which the same is connected, which operation will pull the track lifting bar 32 and the end of the track to which the same is attached, downwardly and the opposite end of the track upwardly, which will cause the gate to roll back to a closed position, as will be readily understood. By constructing and arranging my improved track as herein shown and described, it will be seen that the sections of the track may be adjusted to project in a substantially horizontal plane or in line with each other and the raising and lowering mechanism dispensed with. In this arrangement the gate may be manually pushed or pulled to open and closed positions on the track.

As hereinbefore stated, the gate supporting post 1 is revolvably mounted to permit the gate and its supporting-track to be swung around alongside the road to allow high loaded teams to pass, and in order to permit the track bar to be thus swung around

the track lifting bar is disengaged from the end of the track. The disengagement of the lifting bar from the track is preferably accomplished manually by first releasing the latch plate 35 and afterward pulling the end of the bar out of engagement with the track. After the lifting bar has been disengaged from the track the ends of the same are lifted at the proper inclination to clear the brackets 6 and thus disconnected from the posts 4 and 5, whereupon the post 1 together with the track and gate may be swung around alongside the roadway in the manner described. By arranging the posts 4 and 5 out of alinement and placing the bracket 6 on the sides of the posts which face each other, it will be seen that the disengagement of the track is readily accomplished and that the posts 4 and 5 will not interfere with the lateral swinging of the track. In order to provide for the manual disengagement of the track lifting bar from the end of the track and the latter from the brackets 6, suitable steps are provided at the base of the post 4 to permit these parts to be reached.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as claimed.

Having thus described my invention, what I claim is:

1. A gate of the character described, comprising a revolubly mounted central track-supporting post and side track-supporting posts spaced a suitable distance from said central post, track members adjustably connected at their inner ends and pivotally mounted on said central post whereby said track members may be tilted, means whereby the outer ends of the track members are loosely supported on said side posts, and a gate slidably mounted on said track members.

2. A gate of the character described, comprising a revolubly mounted central track-supporting post and side track-supporting posts spaced a suitable distance from said central post, track members adjustably connected at their inner ends and pivotally mounted on said central track-supporting post whereby said track members may be tilted, means whereby the outer ends of the track members are loosely supported on said side posts, a track tilting mechanism operatively connected with one end of said track members whereby the latter are tilted to open and close the gate, and a gate mounted on said track members and adapted to auto-

matically shift to an open position when the track members are tilted in one direction and to a closed position when said members are tilted in the opposite direction.

3. A gate of the character described, comprising a central track supporting post having on its lower end a spindle, a bearing socket anchored in the ground to receive said spindle whereby said post is revolubly supported, track supporting posts positioned from said central post, track receiving brackets secured to said posts, a track pivotally mounted on said central track supporting post and having its ends projecting upwardly at suitable angles from the center of the track and adapted to be engaged with the brackets on said side posts, a cable supporting pulley revolubly mounted on said central post, and a track bracing cable connected at its ends to the ends of the track and having an operative engagement with said pulley, means whereby said track is tilted, and a gate slidably mounted on the track and adapted to shift from open and closed positions when the track is tilted.

4. A gate of the character described, comprising a central track-supporting post, a gate supporting track comprising oppositely projecting members the ends of which have an overlapping adjustable engagement, a track-supporting bolt engaged with the overlapped ends of said track members and secured in said post whereby the members are supported and adjustably connected, said overlapping ends of the track members having therein series of adjusting holes, adjusting bolts to engage said holes whereby the members of the track are secured in their adjusted positions, means to support the outer ends of said track members, and a gate mounted to travel thereon.

5. A gate of the character described, comprising a revolubly mounted central track-supporting post, side track-supporting posts spaced suitable distances from said central post, one of said side posts being arranged out of line with the other post, track-supporting brackets secured to the facing sides of said side posts, a gate supporting track pivotally mounted intermediate its ends on said central supporting post and having its ends engaged with the brackets on said side posts, a gate slidably mounted on said track, a track tilting mechanism comprising a suitably supported cross bar, track tilting levers pivotally mounted thereon, and a track lifting bar pivotally connected at its lower end with the inner ends of said levers and having a detachable connection at its upper end with one end of said track whereby when said levers are operated in the proper direction the track will be tilted, and the gate thereby caused to slide to open or closed position.

6. A gate of the character described, com-

prising a revolubly mounted central track-supporting post, side track-supporting posts spaced suitable distances from said central post, a gate supporting track pivotally mounted on said central post, means to detachably support the outer ends of the track on said side posts, a gate slidably mounted on said track, a track tilting mechanism comprising a suitably supported cross bar, hangers secured to the ends of said bar, track tilting levers pivotally mounted on said hangers, a track lifting bar pivotally connected at its lower end with the inner ends of said levers and having its upper end projecting into the adjacent end of the track, said end of the bar having

notches to receive adjacent parts of the track, a stationary bar holding plate secured to the track and engaged with one side of the upper end of said track lifting bar, and a pivoted latch engaged with the opposite side of the bar whereby the upper end of the latter is detachably secured to the end of the track. 20

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 25

CHARLES LEVI MURRAY.

Witnesses:

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D. N. FRENCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
