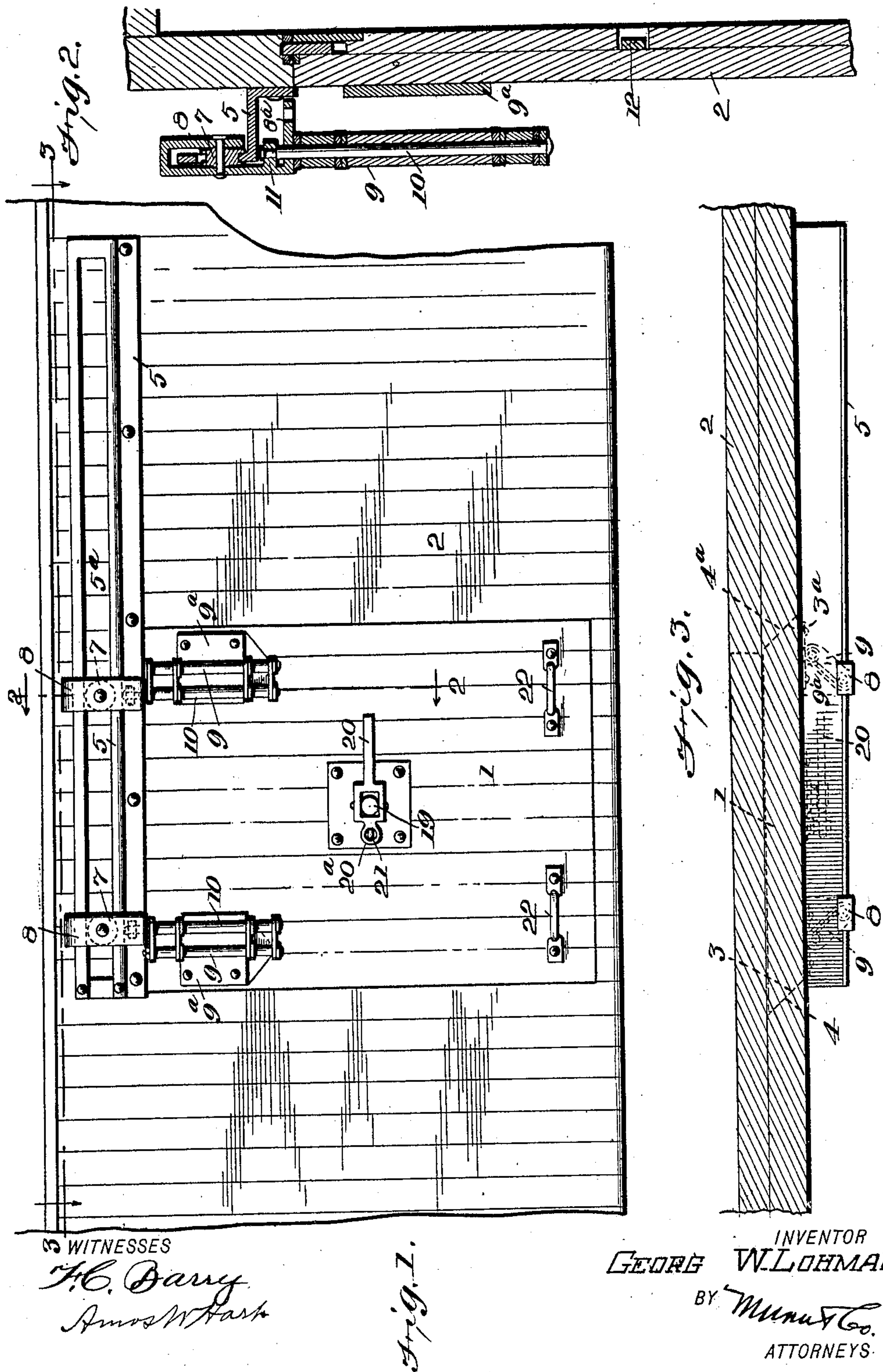


G. W. LOHMAN.
BOX FREIGHT CAR DOOR.
APPLICATION FILED JULY 30, 1908.

Patented June 22, 1909.
3 SHEETS—SHEET 1.

926,067.



WITNESSES

H. C. Barry
Amos W. Park

Fig. 1.

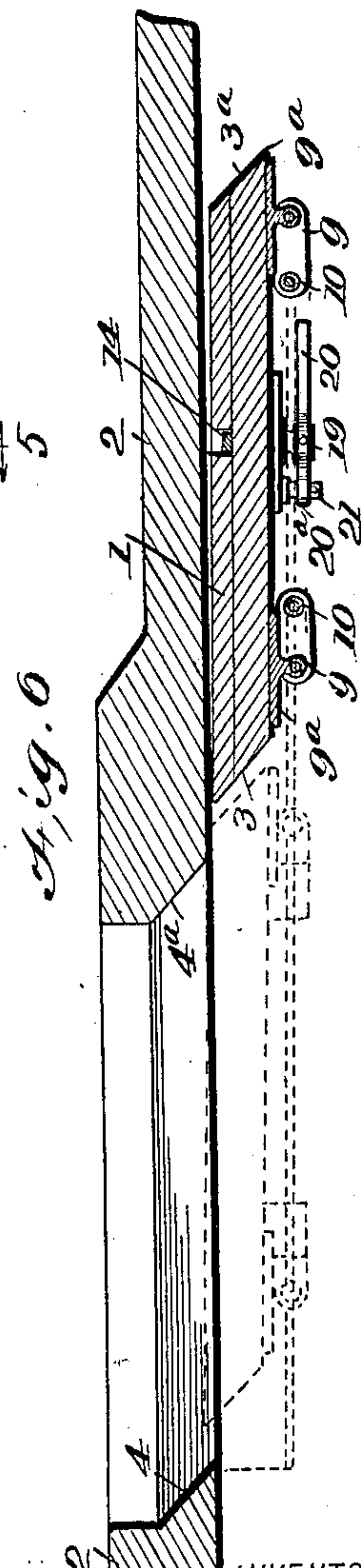
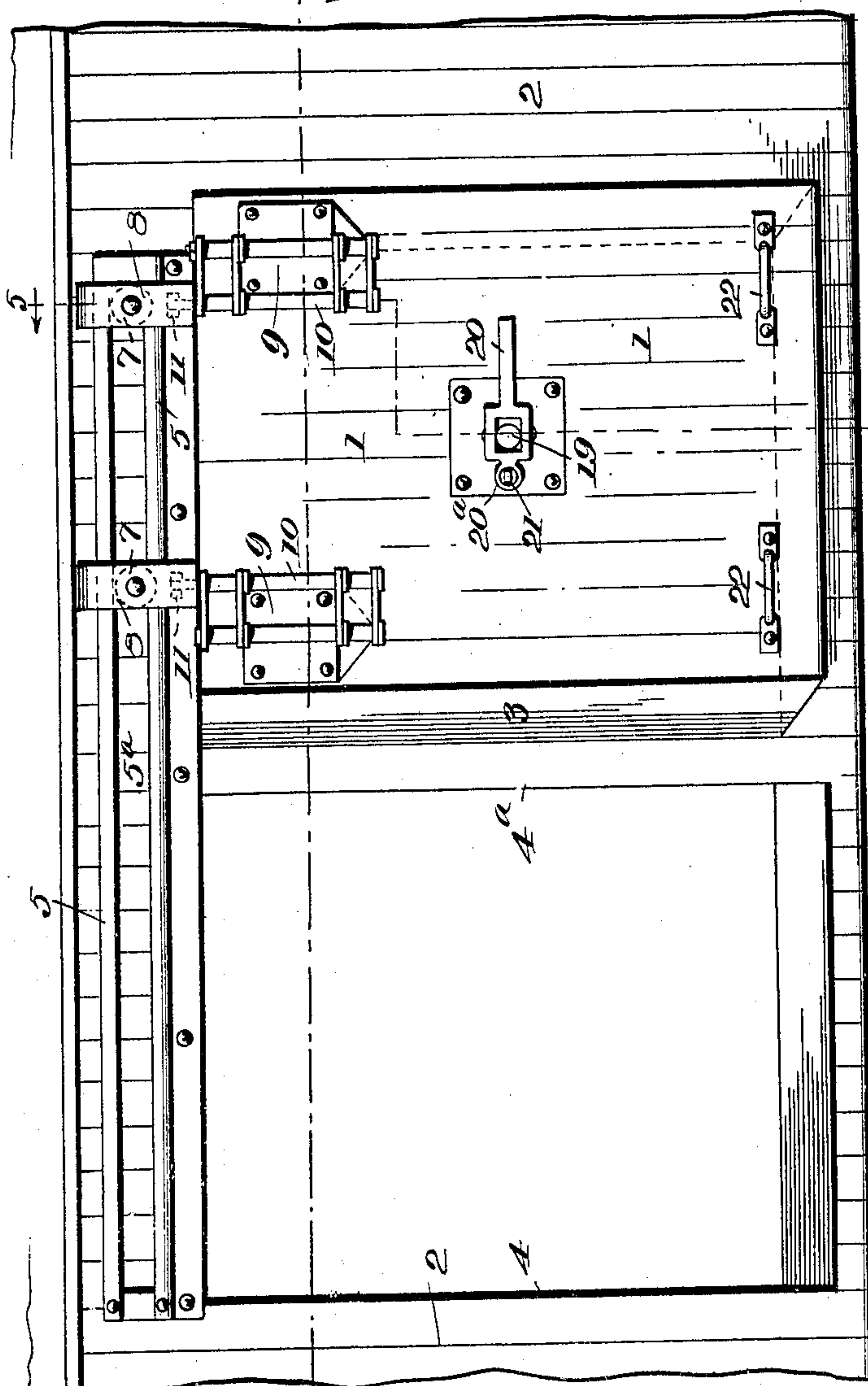
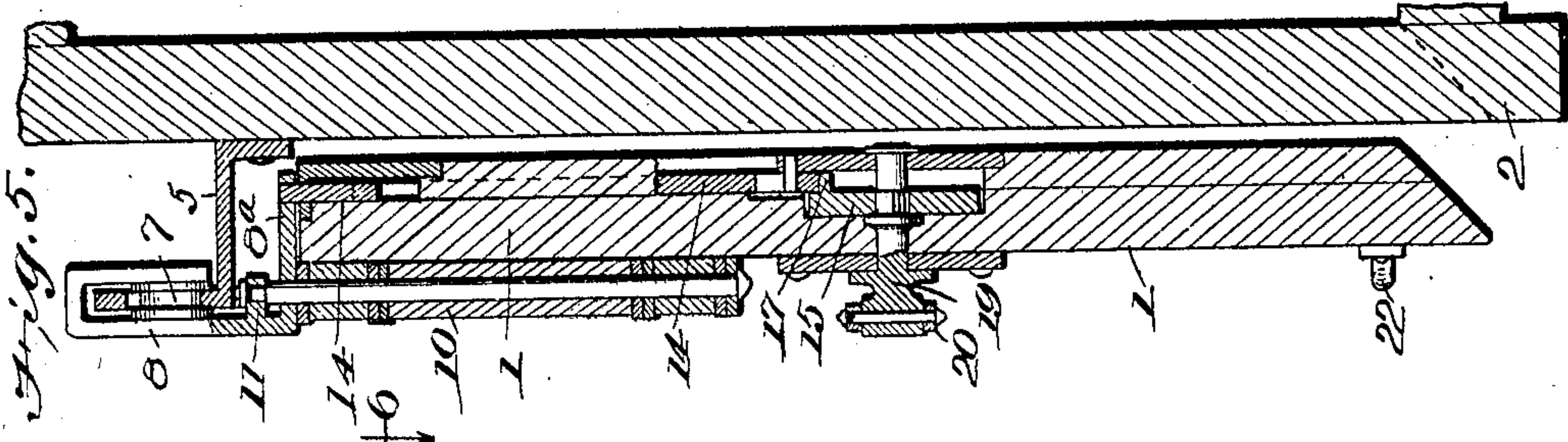
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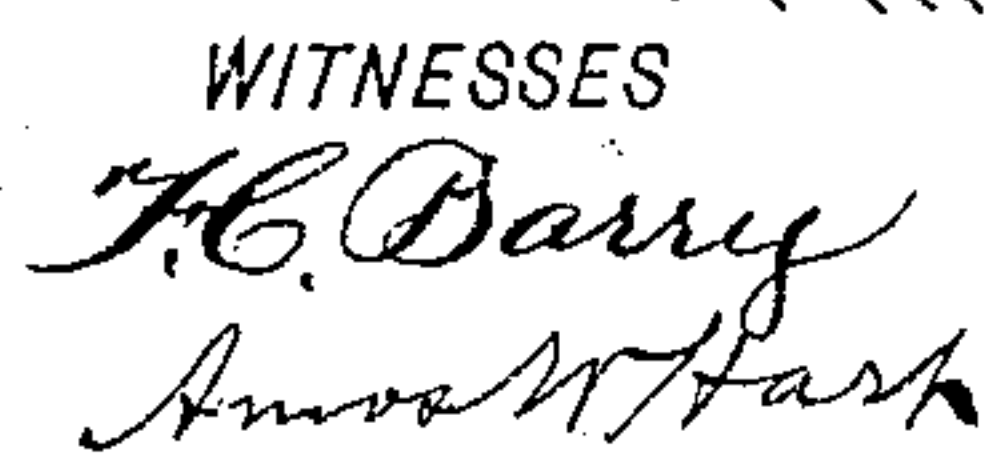
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Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORG W. LOHMAN, OF BERWICK, PENNSYLVANIA.

BOX-FREIGHT-CAR DOOR.

No. 926,067.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed July 30, 1908. Serial No. 446,119.

To all whom it may concern:

Be it known that I, GEORG W. LOHMAN, a citizen of the United States, and a resident of Berwick, in the county of Columbia and State of Pennsylvania, have made certain new and useful Improvements in Box-Freight-Car Doors, of which the following is a specification.

The object of my invention is to provide box-freight cars, also barns, carriage houses and other inclosures with an improved door adapted to slide parallel to the side of the car or other structure and to swing into the adjoining sides of the same and to be locked thereto.

The details of construction will be hereinafter described and illustrated in the accompanying drawings in which—

Figure 1 is a side view of a portion of a box-car body provided with my improved door which is shown closed; Fig. 2 is a vertical cross-section on the line 2—2 of Fig. 1; Fig. 3 is a horizontal section on the line 3—3 of Fig. 1; Fig. 4 is a side view of a portion of a box-car with my improved door in the open position; Fig. 5 is a mere regular vertical cross-section on the line 5—5 of Fig. 4; Fig. 6 is a horizontal section on the line 6—6 of Fig. 4; Fig. 7 is an inside view of the car door, illustrating particularly the locking mechanism, a portion of the plates covering the same being removed and the mechanism shown in the locking position; Fig. 8 is another view of the locking mechanism in the retracted position; Fig. 9 is a perspective view of a portion of the car door with one of the swinging hangers; and Fig. 10 is a detail perspective of a portion of the locking mechanism.

In the several views 1 indicates the car door and 2 the side of a box-car to which it is applied. As indicated in Figs. 4 and 6 the vertical side edges 3, 3^a of the door are beveled and in Fig. 6 the vertical side edges 4, 4^a of the door-way are correspondingly beveled. The door is hung from a fixed L-shaped track 5 secured to the car body above the door-way as shown in Fig. 3. This track 5 inclines inward or toward the end which is adjacent to the doorway by which arrangement it facilitates closing and opening the door. In other words, when the door is slid on the track for closing it, the front beveled edge 3 is guided inward and engages the beveled edge 4^a of the door-way

as indicated by dotted lines, Fig. 6. It is apparent that in opening the door the opposite beveled edge 3^a is guided out of the door-way and away from the side of the car in a manner which would not be practicable without the bevel referred to.

The track 5 is provided with a slotted guideway 5^a, Fig. 1, in which grooved-rollers 7—see Fig. 5—are adapted to run, the same being journaled in L-shaped hangers 8 which are pivoted to the swinging hangers 9 attached to the car. There are two swinging hangers which are attached to the outer side of the door adjacent to its opposite side edges. The hangers proper are in skeleton form and are secured to plates 9^a which are in turn secured by bolts, screws, or rivets to the door 1.

The skeleton hangers may be constructed in several different ways, but I prefer to form them of parallel bars which are connected by transverse links, one of the bars being hinged to a plate 9^a and the outer bar indicated by 10 projecting above the top of the hanger and passing through the lower or horizontal portion of the L-shaped wheel hanger 8. A lug 11 is applied to such upper end of the bar for the purpose of connecting it permanently with the L-shaped hanger 8. It is apparent that by this construction and arrangement of the hangers 9 they are adapted to swing in a horizontal plane and thus to open out from, or close against, the side of the door. In Figs. 4, 5 and 6, the door 1 is open and the hangers are closed parallel to the same, or flat against its side, while in Figs. 1, 2, and 3, the door 1 is shown in the closed position and the hangers are swung outward or stand at an angle to the door. The lower or horizontal portion 8^a of the hangers 8 is extended inward far enough to approach closely to the side of the car, or, more strictly, to the pendent portions of the track, whereby they are adapted to serve as guards or stops preventing the wheel brackets 8 from swinging too far inward when the door is being closed, as they would otherwise do.

I propose to employ any suitable mechanism for locking the door in the closed position whereby it is held flush with the adjacent side of the car body or other structure; but I have devised and employ in connection with the door and the swinging brackets a very efficient locking mechanism which will now be described. The same comprises—see Figs. 7 and 10—three slidable bars 12, 13,

and 14, and a rotatable disk 15. The two bars 12 and 13 are arranged practically horizontal, and their inner ends are pivoted eccentrically to the disk 15 and on opposite sides of its pivot. The third bar 14 is forked at its outer end and provided at its inner end with a slot 14^a that receives a guide-pin 16 fixed in the plate whereon the eccentric is pivoted. The latter is provided with an eccentric flange 17 on which the inner end of the locking bar 14 is supported and rides. It is apparent that if the disk be rotated in one direction, it will push all the bars 12, 13, and 14, outward and cause them to engage sockets 18, which, as shown in Fig. 7, are fixed in the sides and top of the door-way; while, if the disk be rotated in the opposite direction, the several bars will be retracted to the position shown in Fig. 8, thus unlocking the door. For operating the disk I employ a pivot bolt 19, see especially Figs. 4 and 5. The same is squared where passing the disk 15 and its enlarged head lies outside the face of the door 1. A lever hasp 20, is pivoted to the head of the bolt and extended on one side so that it may be conveniently grasped and operated for rotating the bolt and thereby rotating the disk 15 as before described. The opposite end of the hasp 20 is provided with a loop 20^a—see Figs. 1, 4, and 6—which is adapted to receive an eye-bolt 21 that is fixed to a plate on the front of the door. When the lever hasp 20 is in the position shown in Fig. 6, with its eye 20^a passed over the eye-bolt 21, it may be locked by passing a padlock or other device through the eye-bolt, and thus the several locking bars 12, 13, and 14, will be held in locking position. In one such position they lock the door 1 in the door-way flush with the sides 2

of the car or other structure; but when the door is released and moved out of the door-way and slid to one side of the latter as shown in Figs. 4, 5, and 6, the locking bar 14 may be forced up so that its forks pass through the slotted horizontal portions of the wheel hangers 8. In Fig. 5 such engagement of the bars 14 with the hangers 8 is shown. Thus the door 1 is held, when in the open position, locked to the wheel brackets and closed against the hinged hangers 9. In brief, by the locking mechanism provided, the door may not only be locked in the closed position, flush with the side of the car, but it may be locked to the hinged hangers and supports 9 when in the open position, so that it will run freely and be kept from hard frictional contact with the side of the car.

The lower portion of the door may be provided with handles 22 as shown, to facilitate movement of the door to the closed position and for retracting it to the open position.

I claim:

The combination, with an inclosure having a door-way and a track fixed thereover, of a slidable door, track hangers having a horizontal lower portion provided with a socket, swinging hangers hinged to the door in vertical position and pivotally connected with the wheel hangers, and the locking mechanism including a slidable bolt adapted, when the door is in the open position and parallel to the side of the inclosure, to engage the sockets of the wheel hangers and thus lock the door parallel to said side, substantially as described.

GEORG W. LOHMAN.

Witnesses:

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GID. BEISHLINE.