No. 736,890. PATENTED AUG. 18, 1903.

W. T. SPILLANE.

CAR DOOR.

APPLICATION FILED MAY 23, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

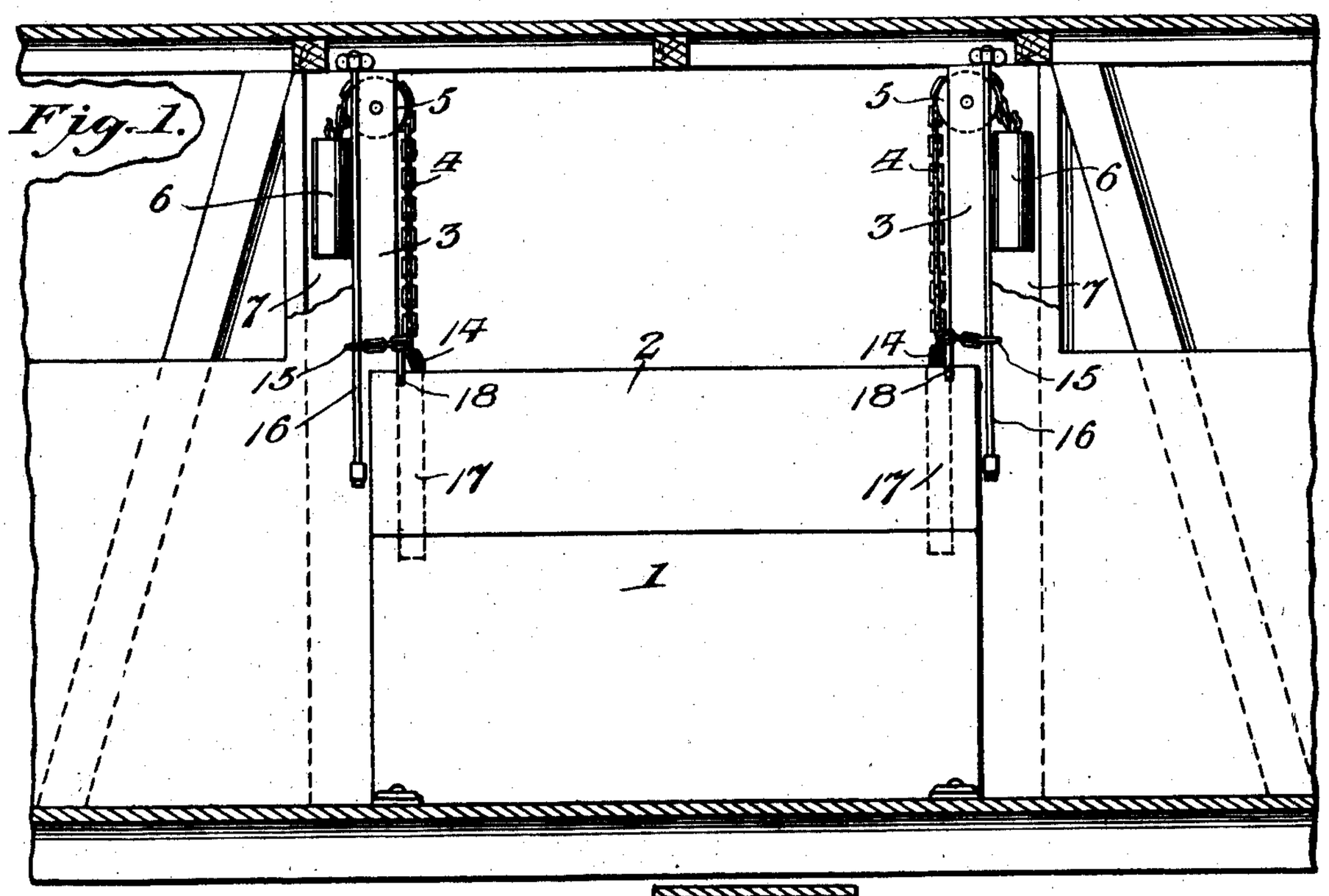
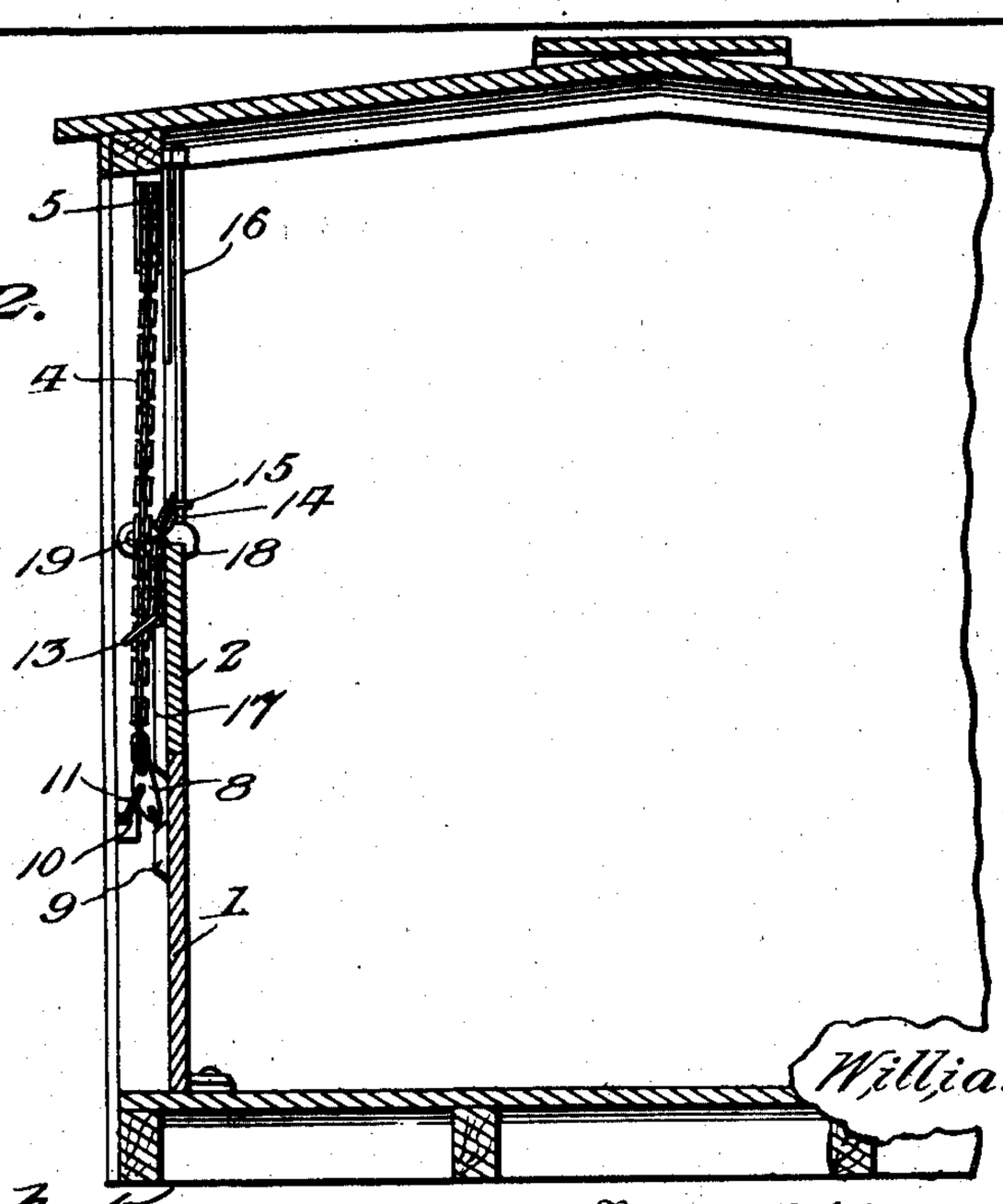


Fig. 2.



Witnesses

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

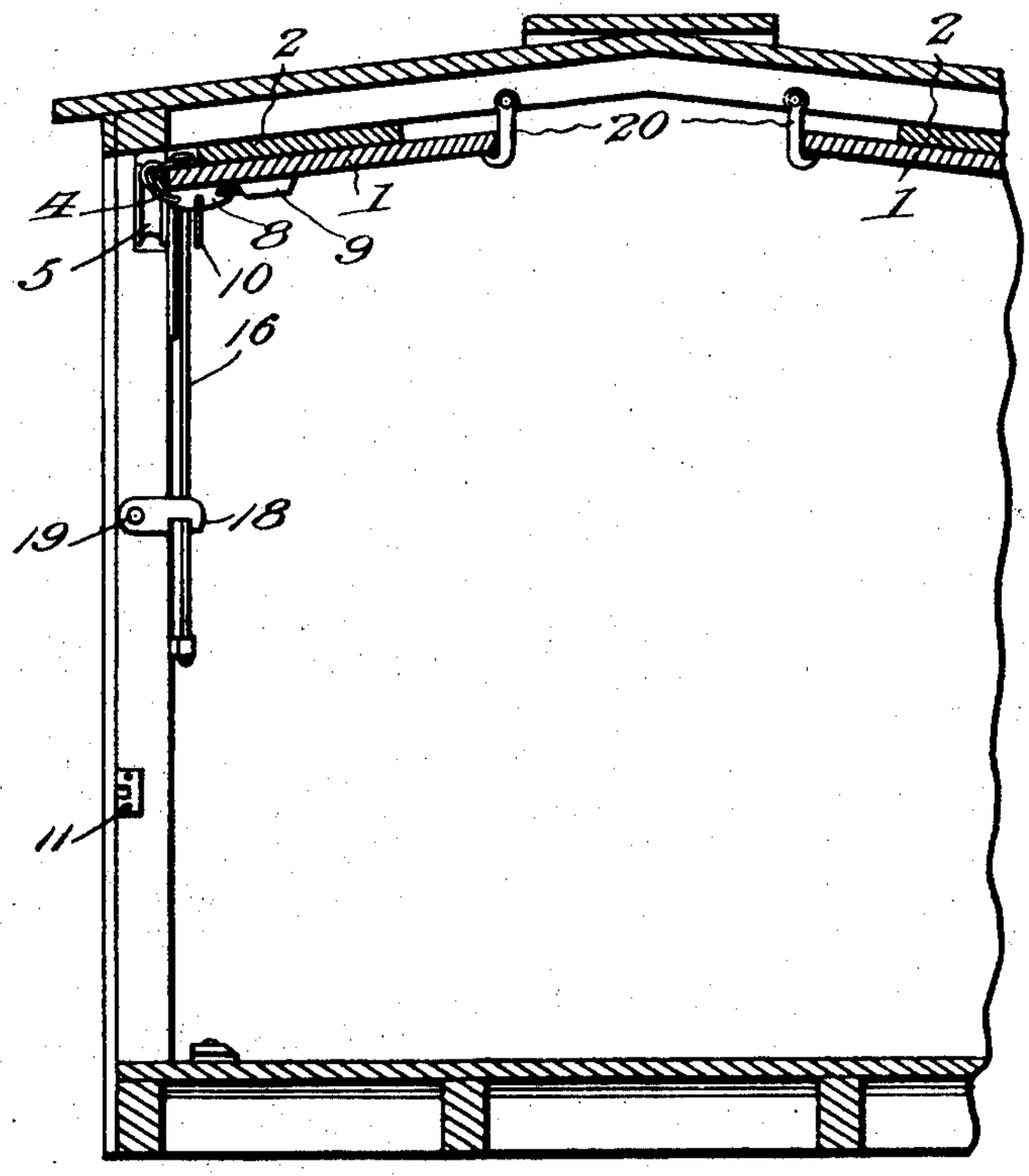
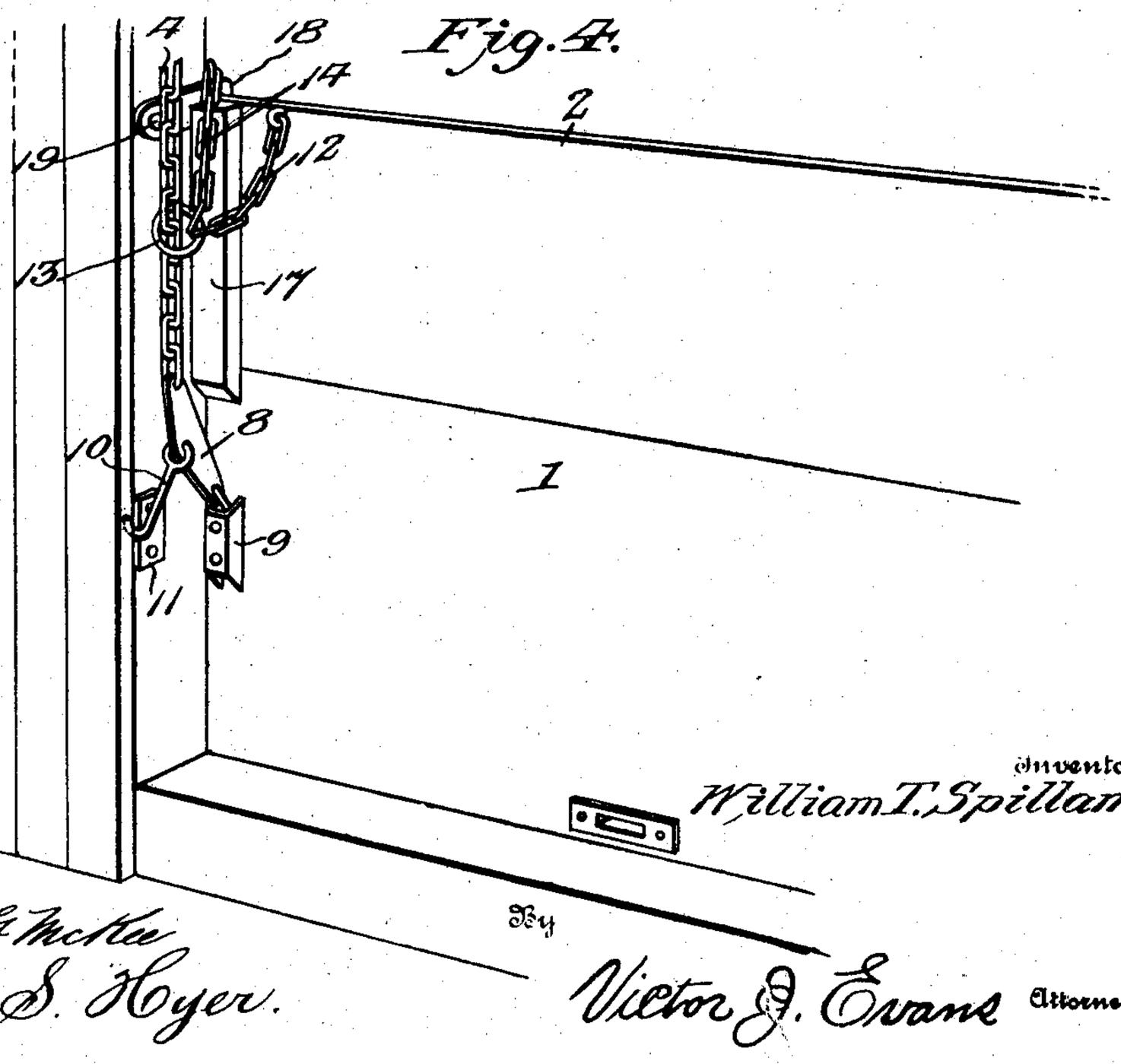


Fig. 4.



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No. 736,890. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM T. SPILLANE, OF REDLAKE FALLS, MINNESOTA.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 736,890, dated August 18, 1903.

Application filed May 23, 1903. Serial No. 158,520. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. SPILLANE, a citizen of the United States, residing at Redlake Falls, in the county of Red Lake and State of Minnesota, have invented new and useful Improvements in Car-Doors, of which the following is a specification.

This invention relates to car-doors, the object in view being to provide a sectional and movable car-door for freight-cars, the construction of which will admit of the ready displacement of the door from the doorway and the hoisting and folding of the same upward and its suspension from the roof or ceiling of the car. The construction is such that after the car has been emptied and preparatory to reloading the same the door may be swung downward to place and quickly adjusted into its proper position and relation to the doorway. The door is composed of sections which may be individually placed in position as the car is being loaded.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is an inside elevation of a car-door constructed in accordance with the present invention and showing the means for raising and lowering the same. Fig. 2 is a vertical transverse section through the same, showing the door in position. Fig. 3 is a similar view showing the door folded and elevated. Fig. 4 is an enlarged detail perspective view looking toward the outer side of the door.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

The freight-car door contemplated in this invention comprises two sections, 1 designating the lower or main section, and 2 the upper or auxiliary section, the sections when in position resting one upon the other edge to edge, as shown in Fig. 2. Both sections of the door are adapted to rest against the inner faces of the door-posts 3, which they overlap, as shown in Fig. 1.

Connected to the lower or main section 1 at opposite sides thereof are chains 4, which extend upward and pass over guide-pulleys 5, arranged near the top of the car, said chains being provided at their ends with weights 6, which serve to counterbalance the weight of the door-sections and which work up and down in guideways or boxes 7 at opposite sides of the doorway, as shown in Fig. 1. The opposite or lower ends of the chains 4 are connected to yokes 8, the latter being connected at their opposite ends to the main door-section 1, as shown at 9. Connected to the central portion of the yoke 8 is a hook 10, the extremity of which engages an eye-plate 11, secured to the inner face of the door-post, as best shown in Fig. 4, the hooks 10 at the opposite side edges of the door serving to hold the lower door-section in place, as shown in Fig. 2, and the weights 6 serving to hold the hooks in engagement with the eye-plates and draw the door-section 1 outward, so as to bear firmly against the door-posts.

The upper door-section 2 has connected therewith at opposite ends stay-chains 12, provided at their free ends with runners 13 in the form of rings, which embrace and slide upon the chains 4, as shown in Fig. 4, so that when the upper section 2 is displaced and slid downward behind or upon the inside of the section 1 it is suspended in that place by means of said stay-chains 12. Guide-chains 14 connect at one end to the runners 13 and are provided at their opposite ends with rings or runners 15, which are adapted to move up and down on vertically-extending guides or rods 16, extending from the top of the car downward approximately half-way, as shown in Figs. 1 and 3. The upper door-section 2 is provided near its opposite ends with cleats 17, the lower ends of which project below the bottom edge of the door-section 2, so as to overlap and extend downward upon and outside of the lower or main door-section 1, as shown in Figs. 1, 2, and 4, thus serving to properly position the door-sections relatively to each other. 18 designates a pair of hook-shaped hasps, which are pivotally mounted at 19 upon opposite sides of the doorway and adapted to be swung downward, so as to engage over the top edge of the door-section 2 and hold the same firmly against the door-posts in the manner shown in Figs. 2 and 4.

When in operative position, the door-sec-

tions rest one upon another, edge to edge, as shown in Figs. 2 and 4. In order to remove the door, the hasps 18 are unhooked, and the section 2 is then lifted so as to disengage the lower extremities of the cleats 17 from the main section 1. The section 2 is then allowed to slide downward behind the section 1, the downward movement thereof being limited by means of the stay-chains 12 and also guide-chains 14. The hooks 10 are then disengaged from the eye-plates 11, which leaves both sections of the door free to be moved upward. As the weight of the door-sections is counterbalanced by the weights 6, the door as a whole may be readily elevated and then swung upward, as shown in Fig. 3, and fastened to the ceiling or roof of the car by means of suspension-hooks 20 or other suitable means. In lowering the door to its operative position the operation just described is reversed.

Having thus described the invention, I claim as new—

1. A car-door comprising a plurality of door-sections, counterbalancing-weights for said door, chains connecting the lower door-section with said weights, stay-chains connecting the upper door-sections with the weight-carrying chains, and means for fastening the door-sections in place.

2. A car-door adapted to move upward and downward, in combination with a counterbalancing-weight therefor, a chain connected at one end to said weight and at its opposite end to a yoke which is in turn connected to the car-door, a hook also connected with said yoke, and an eye arranged in the doorway with which said hook is adapted to be engaged, substantially as described.

3. A car-door comprising a plurality of sections, chains and counterbalancing-weights for assisting in raising said door, stay-chains connecting the upper door-section with the weight-carrying chains, vertically-extending guides, guide-chains connecting the upper door-section with said guides, and pivoted hasps for engaging the upper door-section.

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

WILLIAM T. SPILLANE.

Witnesses:
THOS. GERMO,
PETER K. OLSON.