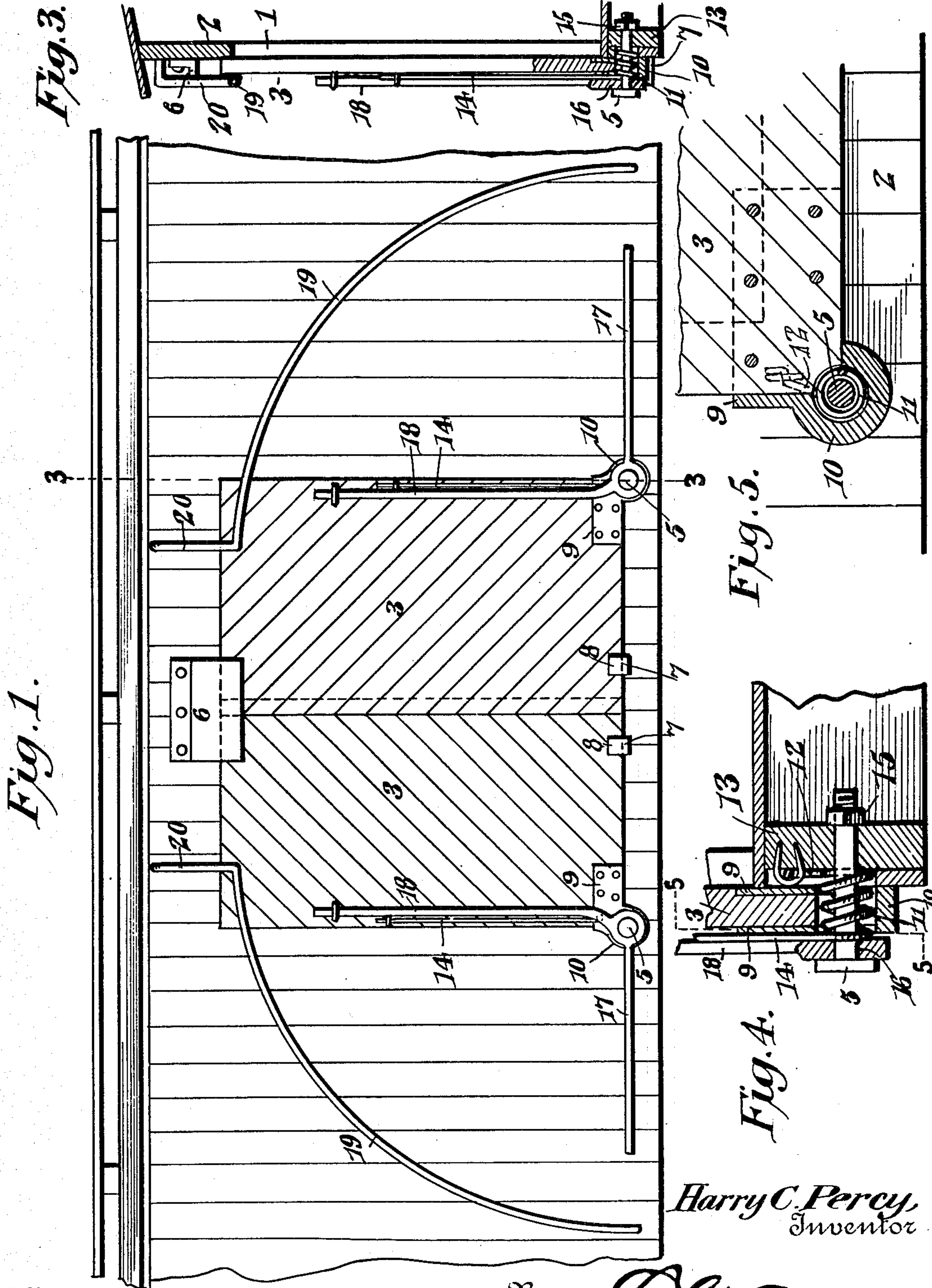


H. C. PERCY.
FREIGHT CAR DOOR.
APPLICATION FILED APR. 20, 1906.

2 SHEETS—SHEET 1.



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No. 860,245.

PATENTED JULY 16, 1907.

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2 SHEETS—SHEET 2.

Fig. 2.

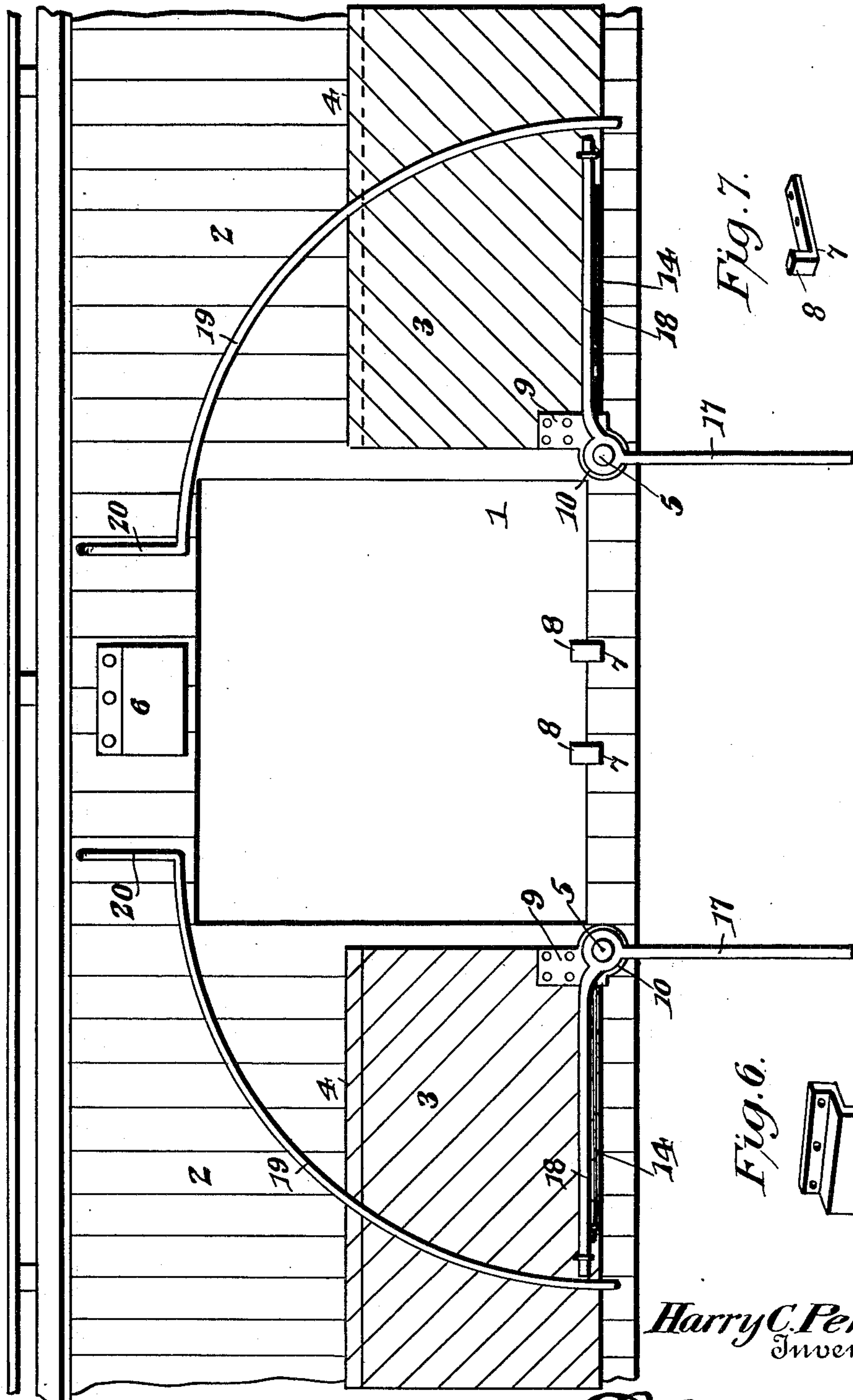


Fig. 7.



Fig. 6.



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UNITED STATES PATENT OFFICE.

HARRY CHICHESTER PERCY, OF NATCHITOCHES, LOUISIANA.

FREIGHT-CAR DOOR.

No. 860,245.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed April 20, 1906. Serial No. 312,937.

To all whom it may concern:

Be it known that HARRY CHICHESTER PERCY, a citizen of the United States, residing at Natchitoches, in the parish of Natchitoches and State of Louisiana, has invented a new and useful Freight-Car Door, of which the following is a specification.

The invention relates to improvements in freight car doors.

The object of the present invention is to improve the construction of freight car doors, and to provide a simple, inexpensive and efficient one, adapted to be easily opened and closed, and having means for assisting the closing movement and for cushioning the opening movement of the door.

A further object of the invention is to provide a car door having pivoted sections adapted, when open, to lie above the plane of the bottom of the car, to prevent them from being injured when in their open position.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims, hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is an elevation of a portion of a freight car provided with a sectional door constructed in accordance with this invention, and shown closed. Fig. 2 is a similar view, the door being open. Fig. 3 is a vertical sectional view, taken substantially on the line 3—3 of Fig. 1. Fig. 4 is an enlarged detail sectional view, illustrating the manner of pivotally mounting the door sections on the car. Fig. 5 is a detail sectional view on the line 5—5 of Fig. 4. Fig. 6 is a detail view of the upper keeper. Fig. 7 is a similar view of one of the lower stops or keepers.

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

The freight car door is divided vertically centrally of the door opening 1 of the car 2, to form two door sections 3, which are oblong and which have inner vertical overlapping abutting edges 4. The door sections are pivoted by bolts 5 at their lower outer corners, and they are adapted, in opening, to swing downwardly and outwardly from the vertical position illustrated in Fig. 1 to the horizontal position shown in Fig. 2. The door sections, when closed, have their inner portions arranged within an upper keeper 6, and their lower inner portions are supported by a pair of lower keepers or stops 7. The upper keeper 6 consists of a plate provided with a projecting L-shaped portion, which extends outwardly and downwardly from the upper portions of the door sections at the inner edges

thereof. The lower keepers or stops 7 are substantially L-shaped, and consist of horizontal shanks and upwardly projecting lugs or heads 8, which are arranged to engage the outer faces of the door sections to hold the same against outward movement. The inner portions of the door sections rest upon the lower stops or keepers 7, when closed, as clearly illustrated in Fig. 1 of the drawings.

The door sections are provided at their lower outer corners with hinge elements, consisting of shoes or casings 9, receiving the lower outer corners of the door sections, and provided with projecting eyes 10, through which pass the pivot bolts 5. The casings or shoes are provided with spaced inner and outer plates and connecting portions, the corners of the door sections being arranged between the inner and outer plates, as clearly shown in Fig. 4 of the drawings. The inner plate or side of the shoe or casing 9 is let into the inner face of the door section, and is flush with the same to prevent friction at the inner face of the door section.

The eyes 10 form casings or housings for coiled springs 11, which are disposed on the pivot bolts 5, and which are connected with the frame of the car and with the door sections, for preventing injury to the same, should the said door section be carelessly opened. The coiled springs are also adapted to assist the closing movement of the door sections, and their inner ends 12 are suitably secured to the sill 13 of the car 2, in suitable recesses thereof. The outer ends 14 of the coiled springs are extended to form arms, which are secured with the door sections at the outer faces thereof. The pivot bolts, which are provided at their outer ends with enlarged heads, have nuts 15 at their inner ends, the nuts being located at the inner face of the side sill 13, as clearly shown in Fig. 4 of the drawings. The pivot bolts also pass through eyes 16 of levers 17, which extend outwardly from the lower corners of the door sections, and which are arranged in a horizontal position when the door sections are closed, as shown in Fig. 1. These levers, which are provided with inner arms 18, form convenient handles for opening and closing the door sections, and the outer operating portions or arms of the levers are arranged in a vertical position when the door sections are open, as shown in Fig. 2. The inner arms 18 of the operating levers may be arranged on the door sections in any preferred position. In the drawings, the inner arms extend longitudinally of the door sections, adjacent to their outer vertical edges, and they are suitably secured to the same. The outer end or arms 14 of the springs are secured to the door sections contiguous to the inner arms or portions of the operating levers.

The springs are placed under tension through the opening movement of the door sections, which are thereby cushioned, and the closing movement of the door sections is correspondingly facilitated by the

springs. The enlarged ends of the pivot bolts 5 extend from the openings 7 of the eyes of the levers and the door sections, and exclude dust from the springs.

The car is provided at opposite sides of the door opening with curved guides 19, extending from the top of the car to the bottom thereof, and having their terminals suitably secured to the same. The curved guides consist of rods or bars, which are spaced from the side of the car, and which receive the outer corners of the door sections. The curved guards or guides 19 are provided at their upper ends with vertical extensions 20, which project above the door opening, as clearly shown in Fig. 3. The guards or guides maintain the free ends of the door sections in proper position with relation to the side of the car.

Any suitable means may be provided for locking the door sections in their closed position, and for enabling the door sections to be sealed.

It will be seen that the car door is exceedingly simple and inexpensive in construction, that the door sections are easily opened and closed, and that they are cushioned in their opening movement, to prevent them from being injured should they be carelessly thrown open. Also, it will be clear that the cushioning means also operates to assist the closing movement of the door sections.

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

1. The combination of a car door divided vertically to form two door sections, said sections being pivoted at their lower outer corners, whereby they are adapted to swing downwardly and outwardly beyond the door opening of a car without projecting below the latter, and operating arms extending from the outer lower corners of the door sections.

2. The combination of two pivoted door sections pro-

vided at their pivoted corners with eyes, coiled springs housed within the said eyes and disposed on the pivots of the sections and connected with the same to cushion their opening movement and to facilitate their closing movement, and means for operating the door sections to open and close the same.

3. The combination of two door sections pivoted at their lower outer corners, coiled springs disposed on the pivots of the door sections and provided at their outer ends with arms or portions connected with the door sections, and levers secured to the door sections and having arms extending from the lower outer corners thereof.

4. The combination with a car having a door opening of two door sections pivoted at their lower outer corners, means for operating the sections, and curved guides consisting of rods and arranged to receive the free ends of the door sections for maintaining the same in proper position with relation to the side of the car, said guides extending upward from the car at points beyond the door opening to the top portion of the door opening, and provided at the top with angular extensions connected with the car above the door opening.

5. The combination of two door sections pivoted at their lower outer corners, levers mounted on the door sections and provided with arms extending horizontally from the same when the sections are closed, curved guides arranged to receive the upper free ends of the door sections, and keepers forming stops and arranged to receive the lower ends of the door sections, when the latter are closed.

6. The combination of two door sections, shoes receiving the lower outer corners of the door sections and provided with eyes, coiled springs housed within the eyes and connected with the door sections, bolts passing through the eyes and pivoting the door sections, and levers mounted on the door sections and having eyes receiving the bolts, said levers being also provided with projecting operating arms.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY CHICHESTER PERCY.

Witnesses:

JERE. C. SULLIVAN,
J. W. FREEMAN.