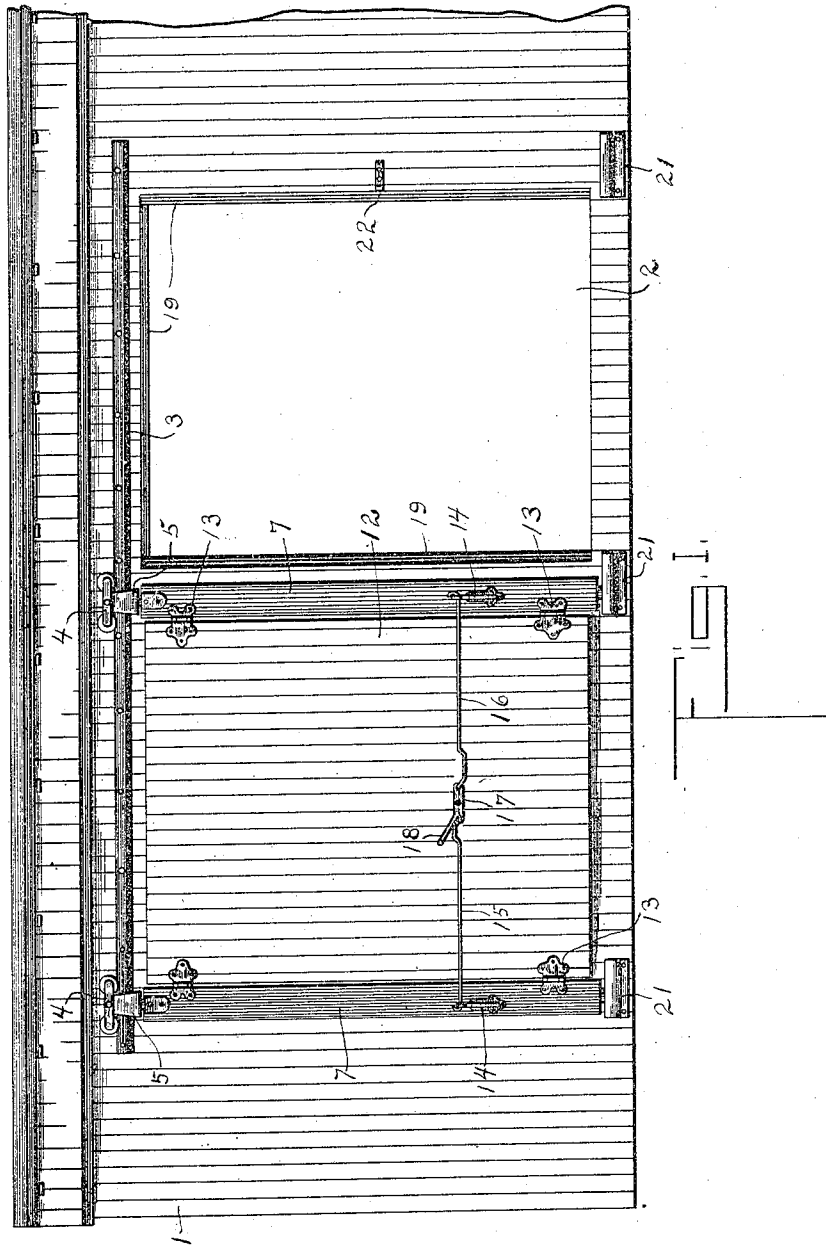


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SLIDING DOOR.
APPLICATION FILED NOV. 8, 1916.

Patented Aug. 21, 1917.
2 SHEETS—SHEET 1.



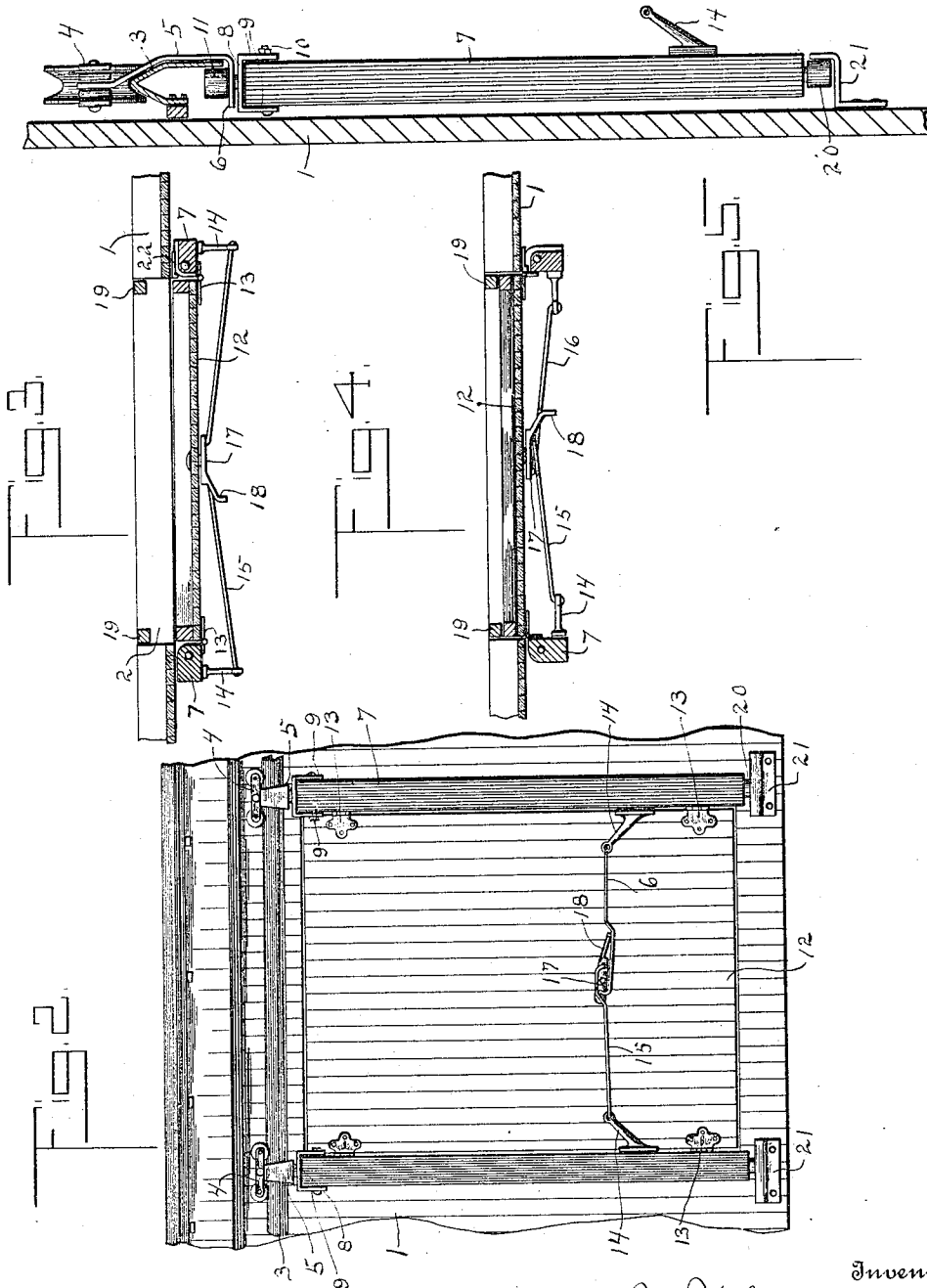
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By Walter W. Haskell,
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UNITED STATES PATENT OFFICE.

ARTHUR W. WHEELER, OF STERLING, ILLINOIS.

SLIDING DOOR.

1,237,731.

Specification of Letters Patent.

Patented Aug. 21, 1917.

Application filed November 8, 1916. Serial No. 130,136.

To all whom it may concern:

Be it known that I, ARTHUR W. WHEELER, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Sliding Doors, of which the following is a specification.

My invention has reference to sliding doors for buildings and other structures, and has for its principal purpose the support of a door in such a manner as to be slidable along the face of the building in the usual manner, and also so as to be capable of being swung inwardly into the door opening, so as to have the outer face thereof flush with the side of the building, and form a perfectly tight closure for such opening. The door is also secured in place so that there is no danger of its becoming loose, or swinging outwardly at the bottom, which is an objectionable feature of the ordinary freight car doors.

The construction, arrangement and operations of the various parts of my device will more fully appear from the following specification, reference being had to the drawings accompanying the same, in which:

Figure 1 is a front elevation of my invention, as the same appears when applied to a box-car, with the door at one side of the opening. Fig. 2 is a similar fragmentary view, with the door in place in the opening. Fig. 3 is a cross-section on the broken line $x-x$ of Fig. 2, with the door in position in front of the opening. Fig. 4 is a similar view with the door swung into position in the opening. Fig. 5 is a detached view of one of the posts 7.

Similar parts are indicated by corresponding numbers of reference throughout the several figures.

1 represents the side of a structure, in the present case being a section of an ordinary box-car, provided with an opening 2. Just above such opening is a rail 3, upon which are mounted wheeled travelers 4, from which depend hangers 5, having inwardly bent plates 6. A pair of posts 7 is supported from the hangers 5 by means of plates 8, pivotally connected with the plates 6 and having angle-plates 9 projected downwardly and secured to the inner and outer faces of the posts 7 by means of bolts 10. Above the plates 6 are rollers 11 which have a bearing against the inner face of the rail 3,

and prevent lateral movement of the upper part of the post outwardly.

The posts 7 comprise a frame, between which is supported a door 12, by means of hinges 13 attached to the outer face of the door and to the outer faces of the posts 7 at the contiguous edges thereof. The mounting of the posts 7 is such that they are rotatable axially, and upon being turned toward each other, as shown in Fig. 4, the hinges 13 are moved inwardly, carrying with them the door 12. To hold the posts 7 in their proper relation to each other, and also to assist in giving them a proper rotation, each of said posts is provided on its outer face with a bracket 14, connected by means of rods 15 and 16 with a turn-plate 17 pivoted to the face of the door 12, and provided with a handle 18. A partial rotation of the plate 17 operates to give to the posts 7 a quarter-turn inwardly, and when this is accomplished, with the door in position in front of the opening 2, such door is carried inwardly into the opening, completely closing the same. The edge of such opening is provided with strips 19, which form a stop for the door, and effect a tight closure thereof. In the case of refrigerator cars, large ice-boxes and similar structures requiring an exceptionally tight joint, the edges of the door and opening can be correspondingly beveled or otherwise shaped, so as to be practically air-tight.

To prevent the lower edge of the door swinging outwardly, the posts 7 are provided at their lower ends with rollers 20, which engage guides 21 fixed to the car 1 near the lower edge thereof, at points to hold said posts from swinging outwardly when the door is in fully open or closed positions. At the edge of the opening 2 is a stop 22, against which the frame of the door 12 contacts when the door is opposite the opening 2, the adjacent post 7 being slightly recessed to permit the same to pass the stop. The posts 7 are also rounded at one of their inner corners to permit the same to rotate without striking against the face of the structure.

When in a closed position the door is opened by reversing the movement of the plate 17, rotating the posts 7 outwardly, carrying with them the door 12, into a position to be rolled to one side of the opening, and fully clear the same.

The inner ends of the rods 15 and 16 are bent to permit an overlapping thereof when the door is moved inwardly, also permitting the handle 18 to be moved downwardly to a point lower than the pivotal point of the plate, so that it will not accidentally release. For further security said plate and handle can be provided with any known fastening means, mounted on the door 12.

My device is easy of operation, and by reason of the door being supported at both of its edges, there is no danger of its sagging or getting out of place, no matter what the size of the door may be.

While my invention has been more particularly shown and described herein as applied to cars, it may be used in connection with buildings or any structure having an opening which it is desirable to close by means of a sliding door.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is:

1. In a device of the class described, a pair of posts slidably mounted and axially rotatable; and a door hingedly connected with said posts so as to be normally in line therewith and adapted to receive lateral movement upon a partial rotation thereof.

2. In a device of the class described, a pair of posts slidably mounted and axially rotatable; a door supported thereby so as to be normally in line therewith, and adapted to receive lateral movement upon a partial rotation of said posts; and means for

simultaneously operating said posts, to move said door inwardly or outwardly, as desired.

3. In a device of the class described, the combination with a structure provided with an opening, of a track secured to said structure; a pair of travelers on said track, provided with suitable hangers; posts supported from said hangers so as to be axially rotatable; a door hingedly connected with said posts so as to be normally in line therewith, and adapted to receive lateral movement upon a partial rotation thereof; and mechanism for turning said posts simultaneously toward each other.

4. In a device of the class described, the combination of a structure provided with an opening; a track secured to said structure; a pair of travelers on said track, provided with suitable hangers; posts depending from said hangers so as to be axially rotatable; a door supported by said posts so as to be normally in line therewith, and adapted to receive lateral movement upon a partial rotation thereof; guides for the lower ends of said posts; and mechanism for turning said posts simultaneously in opposite directions, to move said door inwardly or outwardly as desired.

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

ARTHUR W. WHEELER.

Witnesses:

W. N. HASKELL,
FRANK M. HASKELL.

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