No. 780,331. PATENTED JAN. 17, 1905.

J. H. FLETCHER.

BRACKET FOR MOUNTING SLIDING DOORS.

APPLICATION FILED OCT. 5, 1903.

Fig. 1.

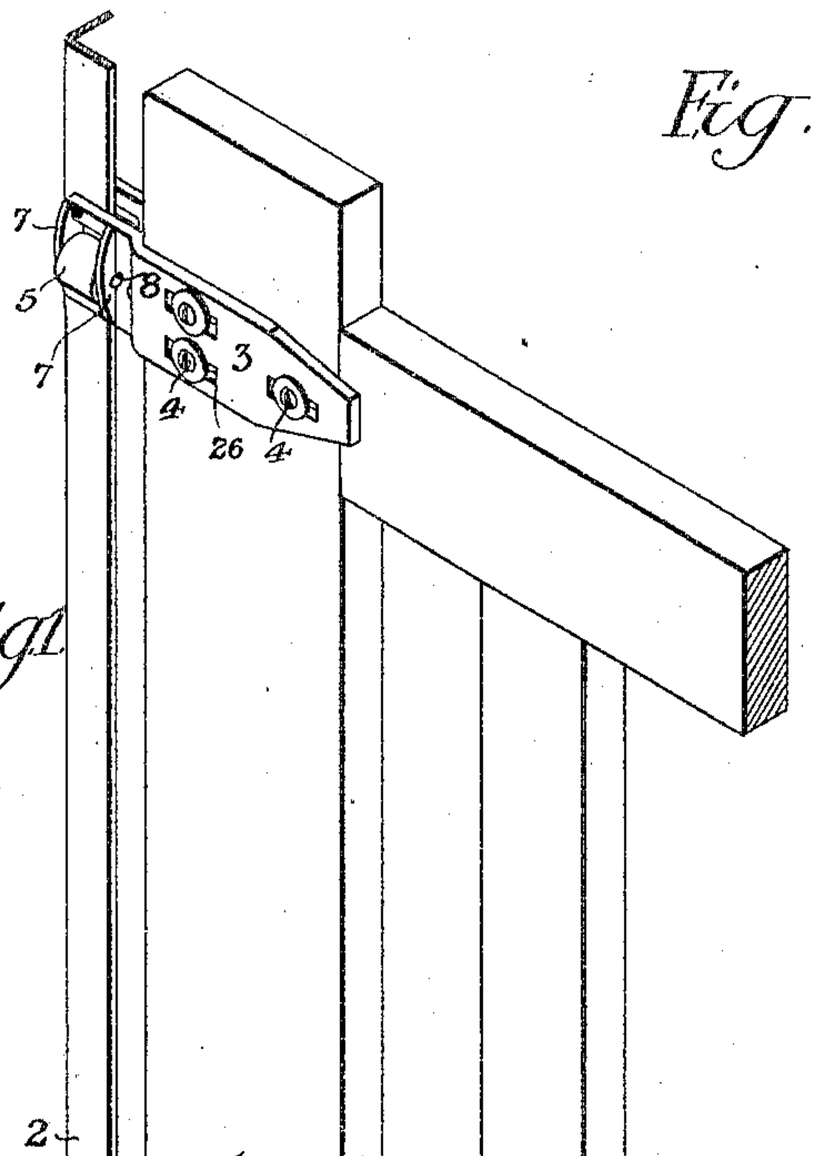

Fig. 2.

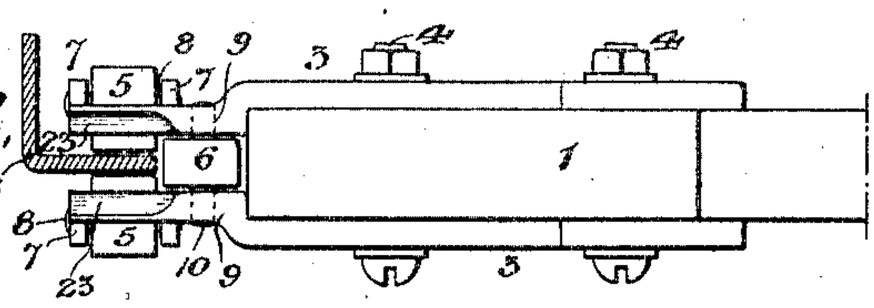

Fig. 3.

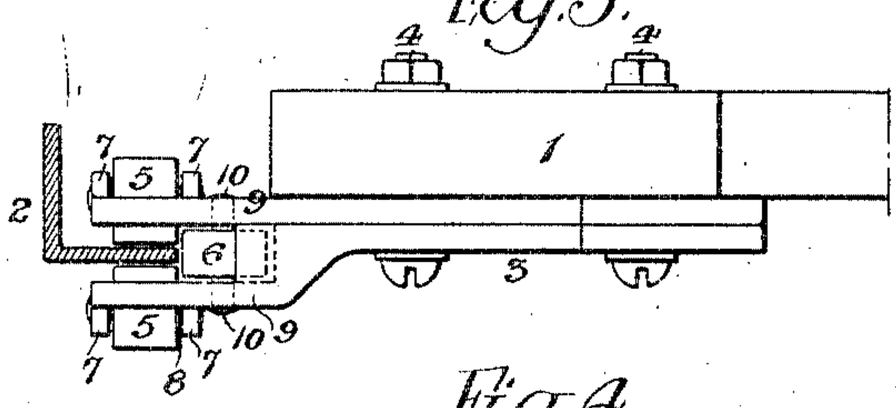

Fig. 4.

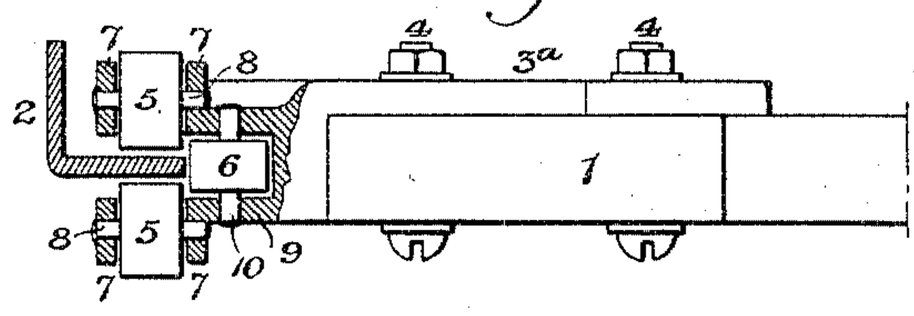

Fig. 5.

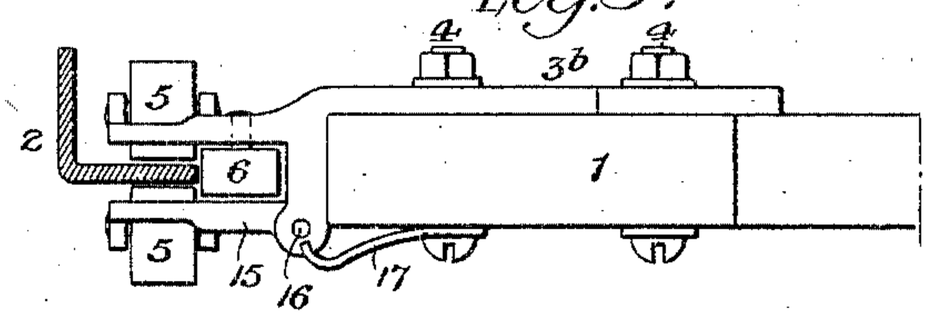

Fig. 6.

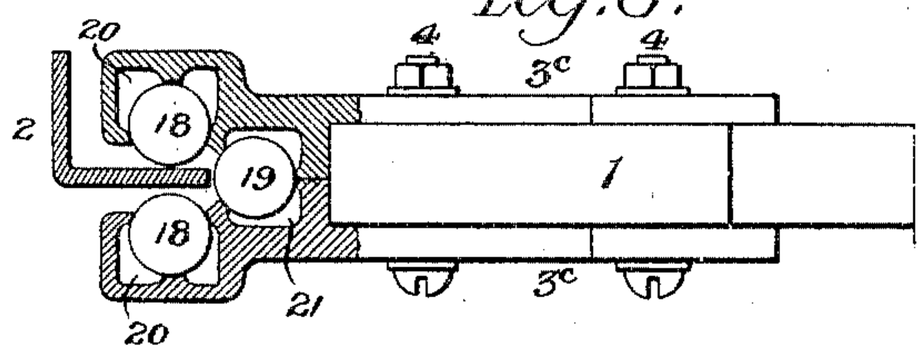

Fig. 7.

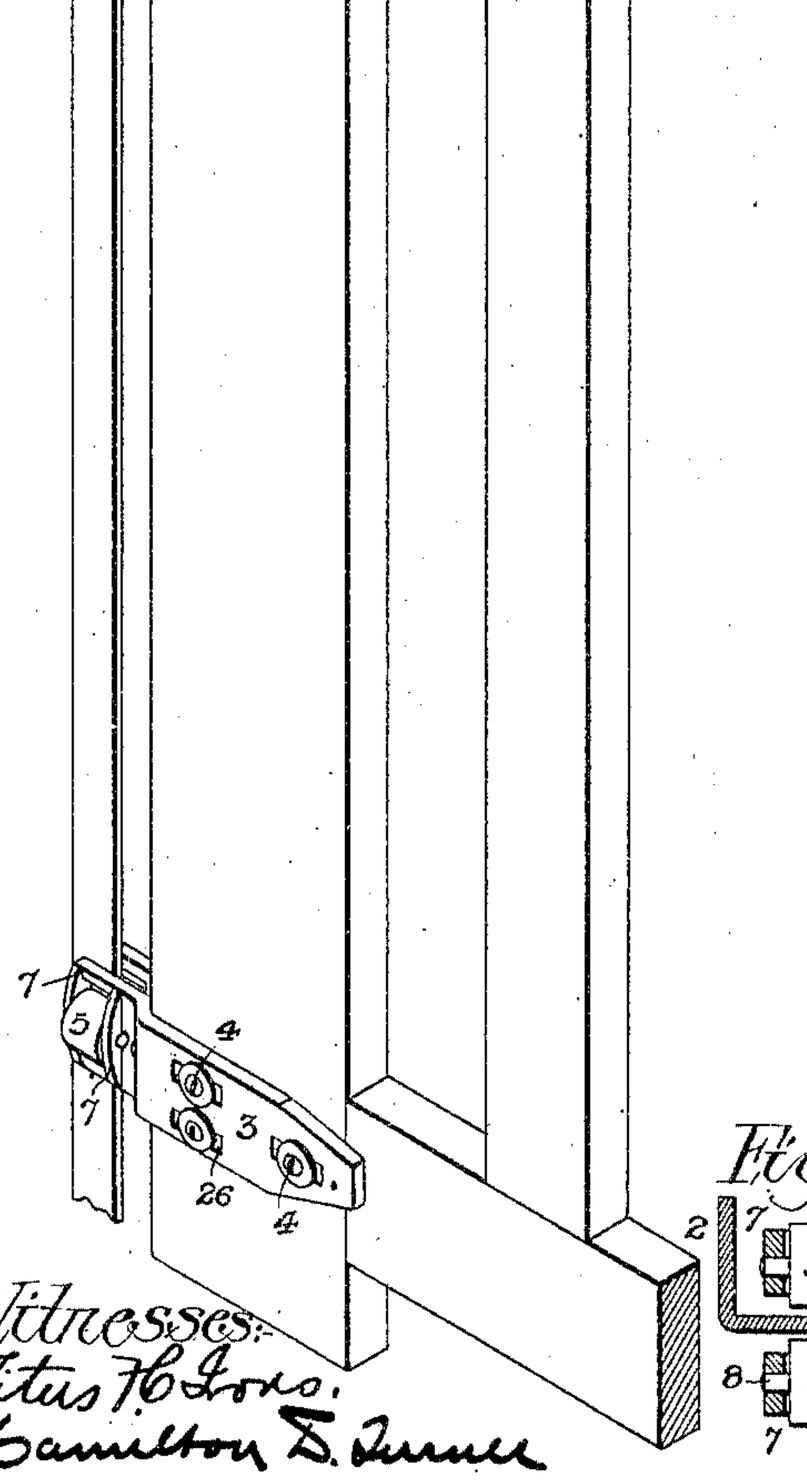

Fig. 8.

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UNITED STATES PATENT OFFICE.

JOSEPH H. FLETCHER, OF PHILADELPHIA, PENNSYLVANIA.

BRACKET FOR MOUNTING SLIDING DOORS.

SPECIFICATION forming part of Letters Patent No. 780,331, dated January 17, 1905.

Application filed October 5, 1903. Serial No. 175,841.

To all whom it may concern:

Be it known that I, JOSEPH H. FLETCHER, a subject of the King of Great Britain and Ireland, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Brackets for Mounting Sliding Doors, of which the following is a specification.

My invention relates to mountings for sliding doors, particularly the doors or gates of elevators or elevator-hatchways or gates or doors of any character designed to be raised vertically, the object of my invention being to provide a simple form of bracket carrying antifriction-rollers, which may be readily attached to any door, either during construction of the same or after it has been hung, that will render such doors easy of movement, prevent binding or sticking of the same, and reduce the friction of the engaging parts.

My invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a door, showing my improved guiding and antifriction means applied thereto. Fig. 2 is a plan view of the same. Figs. 3, 4, 5, and 6 are plan views, partly in section, illustrating modified forms of structures embodying my invention. Fig. 7 is a similar view illustrating a further modification, and Fig. 8 is a sectional view illustrating a still further modification of my invention.

At the present time, particularly with reference to elevator or elevator-hatchway doors or gates having a vertical movement, no satisfactory means have been provided to raise them easily. The common practice is to provide grooved ways for the edges of the doors or to provide grooves in the edges of the doors to engage ribs or strips on the jambs of the door-opening. All of these methods of mounting are unsatisfactory and at the best require the constant application of grease; and the object of my invention is to provide antifriction means for the doors of simple arrangement, cheap construction, readily mounted upon any door now in use, and serving to give complete satisfaction.

In the drawings herewith, 1 represents the door or gate, and 2 the side rail, one of such rails being mounted on each side of the said door or gate. Carried by the doors, preferably at the four corners of the same, are the brackets 3, which are secured in place by suitable bolts 4 and carry a series of small rollers 5 and 6. The rollers 5 serve to engage the side faces of the rail, which in the present instance is a section of L-shaped angle-iron, while the end roller 6 engages the edge of said rail. For the rails T-iron may be employed, or in some instances it may be desirable to employ channel-iron of U shape, or strips of wood of proper width and thickness may be used. The brackets 3 are provided with ears 7, arranged to receive pins 8, carrying the rollers 5, such pins being riveted thereto, so that the rollers turn on the same. The rollers 6 are held between the projecting ends 9 of the brackets 3, and the pins 10 for the same are secured in said projecting ends in the same manner as the pins 8.

The brackets carrying the rollers may be secured to any door now in use without the necessity of cutting or altering the door in any manner.

In the form of structure shown in Figs. 1 and 2 the brackets 3 embrace the door.

In the form of structure shown in Figs. 3, 4, and 5 the brackets are arranged on one side of the door only, the form shown in Fig. 3 having two brackets, which are held together and to one side of the door by means of the usual bolts 4. In the form shown in Fig. 4 a single casting 3^a forms the bracket, the projecting portion of which is arranged to carry both rollers 5 and the end roller 6. In the form shown in Fig. 5 a single bracket 3^b is employed, having a hinged section 15. This section carries one of the rollers 5 and is hinged at the point 16. A spring 17 is employed to keep these sections together, and this spring is secured to the bracket by one of the bolts 4.

In the form of structure shown in Fig. 6 a pair of brackets 3^c are employed, which brackets have their projecting portions arranged to carry antifriction-balls 18 and 19, the balls 18 being arranged in cups 20 and held in place by upsetting a portion of the metal surround-

ing said cups, while the ball 19 is mounted in a cup 21, that is formed one-half in each of the brackets 3^c.

In the form of bracket shown in Fig. 7 a channel-iron rail 22 is employed, the inner faces of which are engaged by the rollers 5^a and 6^a. The brackets 3^d in this instance are in pairs and are mounted in the same manner as in the form of structure shown in Figs. 1 and 2.

In some instances it may be necessary or desirable to arrange the brackets carrying the rollers in such a manner that the door may be moved along a curved track. To facilitate this movement for gentle curves, it will only be necessary to reduce or bevel a portion of the projection of the brackets carrying the rollers 5—such, for instance, as is shown at 23 in Fig. 2. While this may be sufficient for a great many purposes, it is often desirable to provide a form of bracket that will permit the movement of the gate on a short curve. For this purpose, therefore, I propose to swivel the end of the bracket carrying the rollers to the other portion of the same in the manner shown in Fig. 8. In this instance the end 24 is made in one piece, and the other portion of the bracket is also made in one piece. This latter portion carries a stud 25, over which the end 24, carrying the rollers, is placed, and the stud is then riveted down, securing the parts together and providing a joint that will permit the roller-carrying portion to turn with respect to the gate when it is desired to move the gate around a curved track. A mounting of this character will also facilitate the movement of the door should the rail become bent or twisted from any cause. The brackets are provided with slots 26 in order to make them adjustable, and the bolts 4 pass through these slots.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination with a sliding gate or door, of adjustably-mounted brackets secured to the four corners of the same, and antifriction members carried thereby, said brackets being made in halves and so arranged that each half carries an antifriction member, and said halves when brought together providing a bearing for another member.

2. The combination with a sliding gate or door, of adjustably-mounted brackets carried by the four corners of the same, said brackets made in halves and suitably secured to the door, the leaves of the same being slotted to provide for adjustment on the door, each of said leaves having a projection with bearing-sockets, antifriction-rollers journaled in said projections, each of said sections having registering openings, and a third antifriction-roller journaled in said registering openings and confined in place by the two halves of the bracket after the same has been mounted on the door.

3. A sliding door or gate having a series of adjustable brackets secured to the four corners of the door or gate, said brackets being made in separable halves, suitable means for securing said brackets to the gate, projections carried by each of said brackets, antifriction-rollers journaled in said projecting portions, registering apertures in the halves of said brackets, a pin mounted in said apertures, and an antifriction-roller mounted on said pin, in combination with the rail for guiding said door or gate, the rollers carried by the projecting members of the bracket contacting with the faces of said rail while the roller journaled between the halves is arranged to engage the edge of the rail.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH H. FLETCHER.

Witnesses:
MURRAY C. BOYER,
JOS. H. KLEIN.