

(No Model.)

3 Sheets—Sheet 1.

M. C. RICHARDS.
DOOR HANGER.

No. 518,276.

Patented Apr. 17, 1894.

Fig. 2.

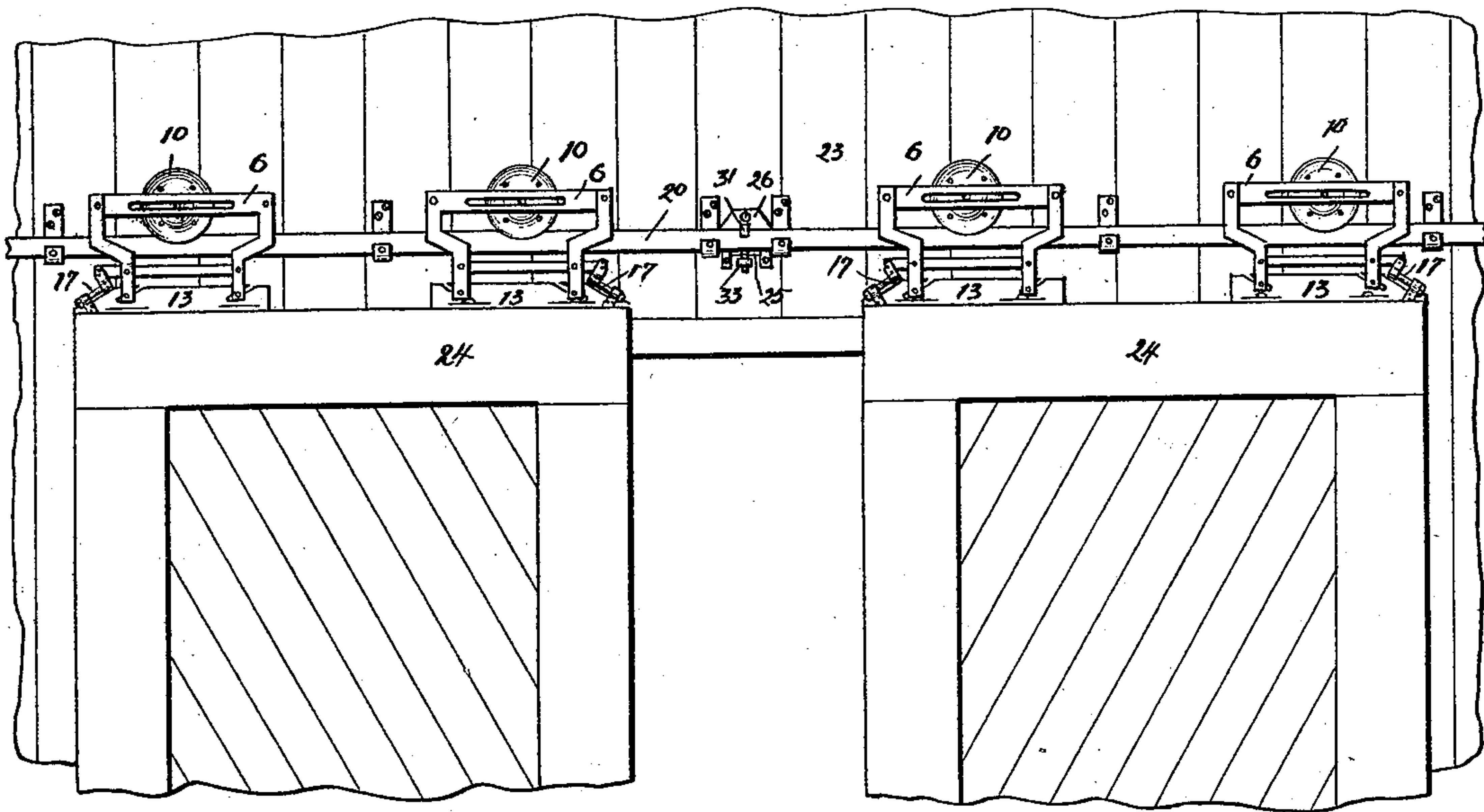
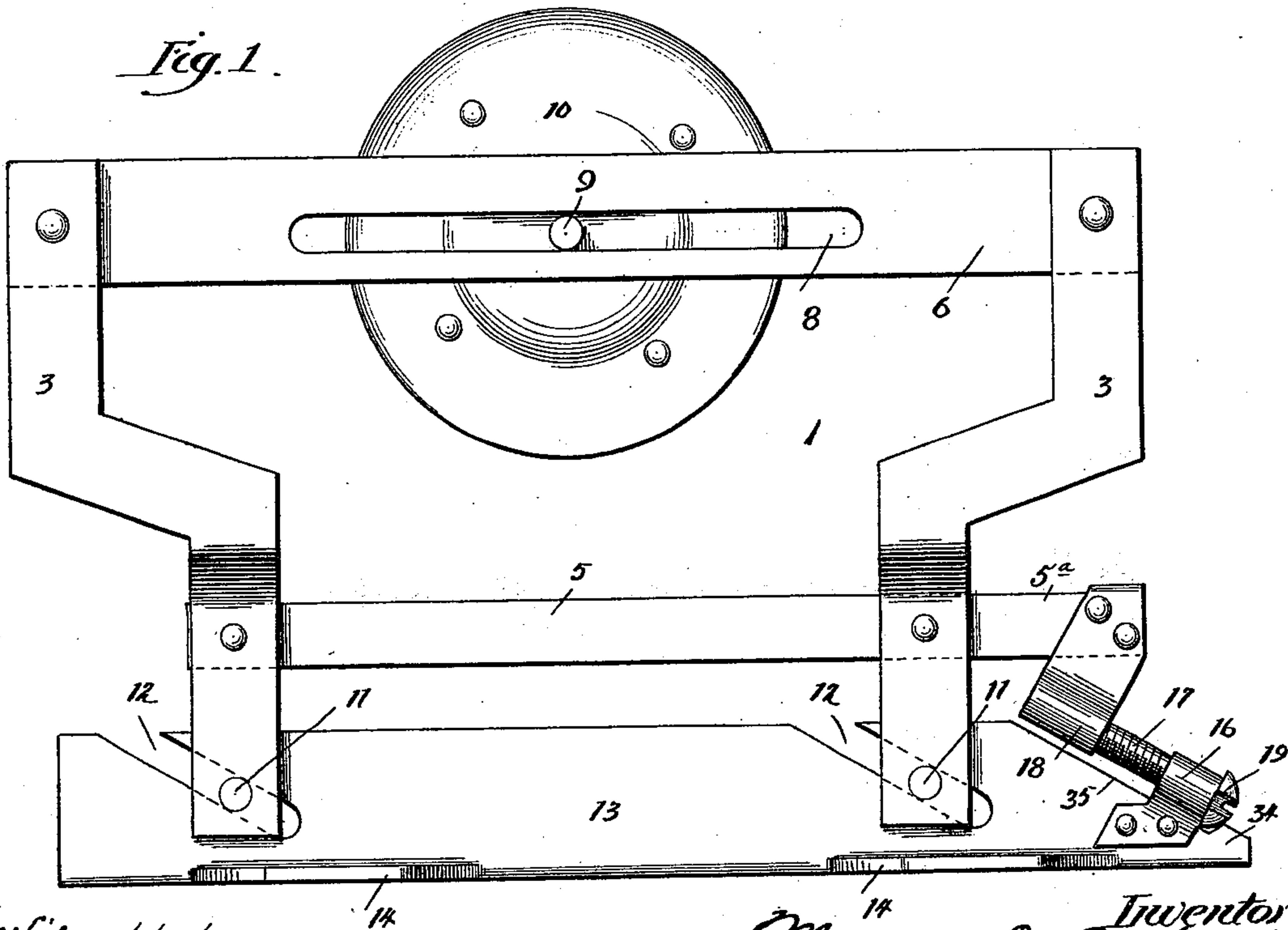


Fig. 1.



Witnesses:

John L. Jackson
Hattie McKibben

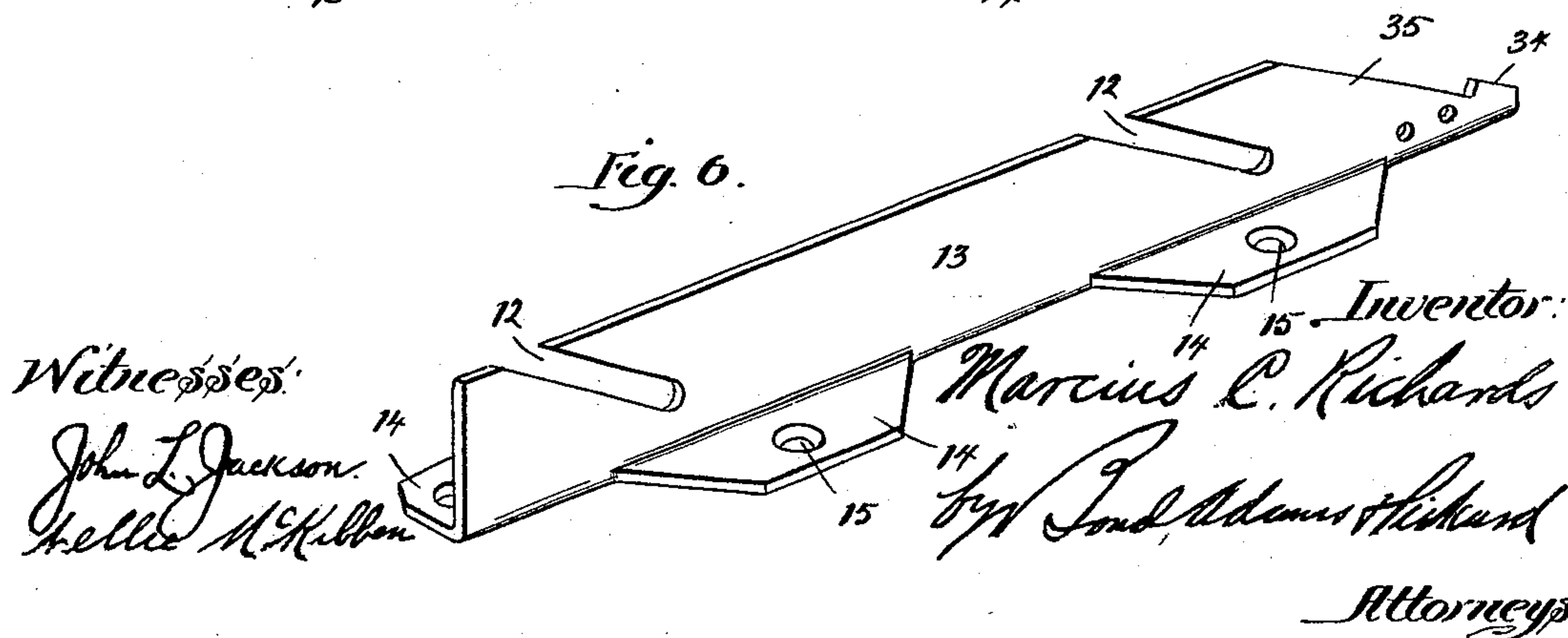
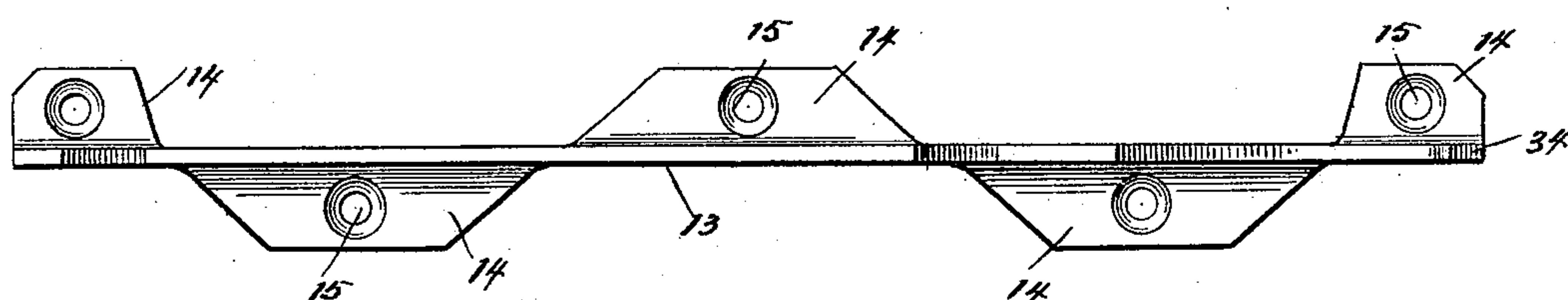
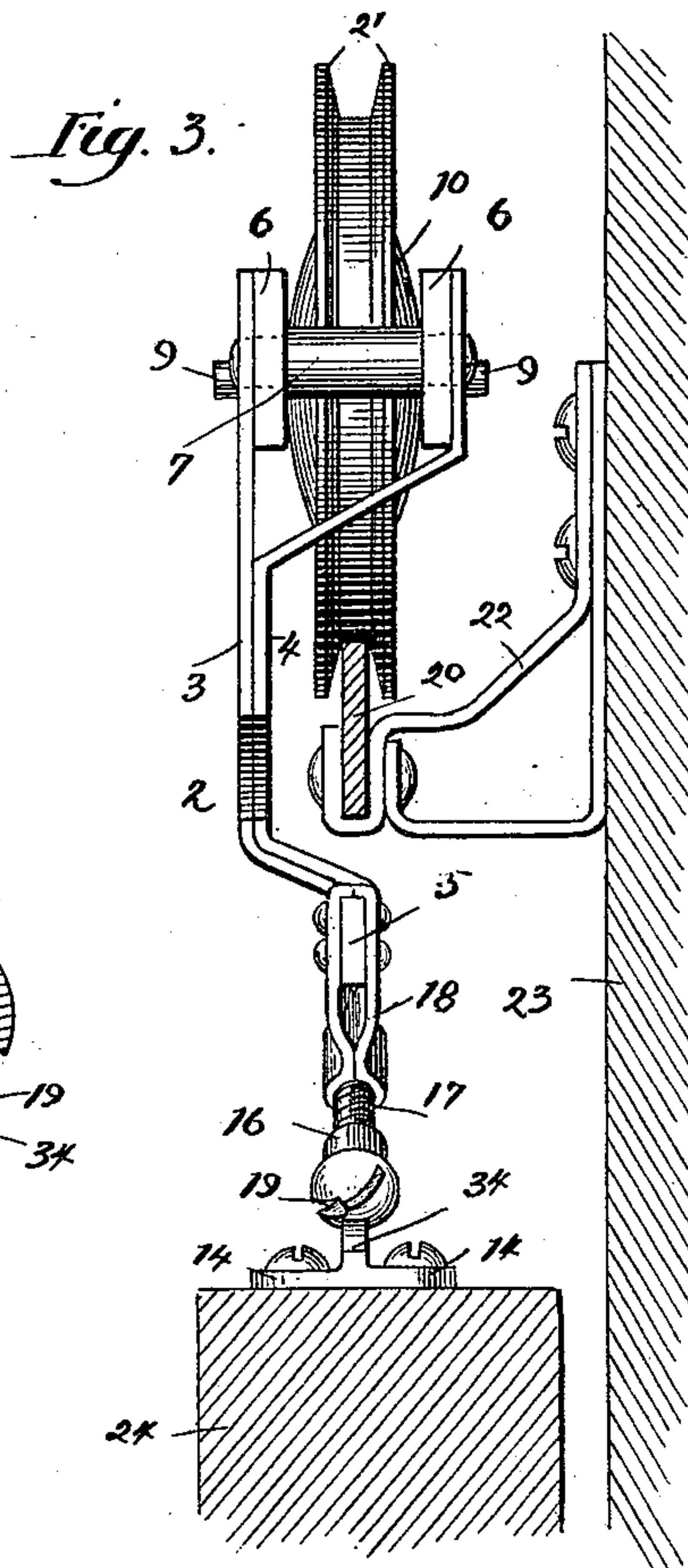
Inventor
Marius C. Richards
By *Edw. Adams Wilson*

Attorneys.

3 Sheets—Sheet 2.

No. 518,276.

Patented Apr. 17, 1894.



(No Model.)

3 Sheets—Sheet 3.

M. C. RICHARDS.
DOOR HANGER.

No. 518,276.

Patented Apr. 17, 1894.

Fig. 7

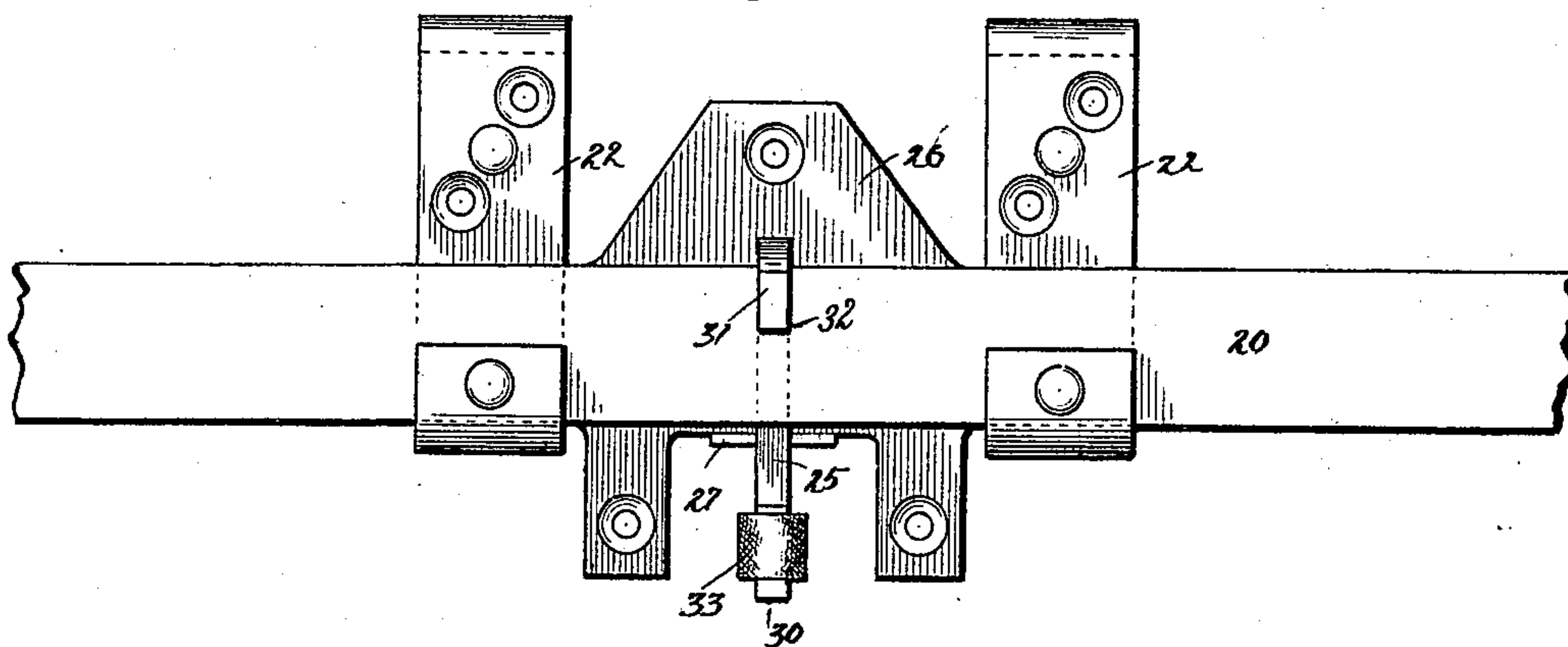


Fig. 8

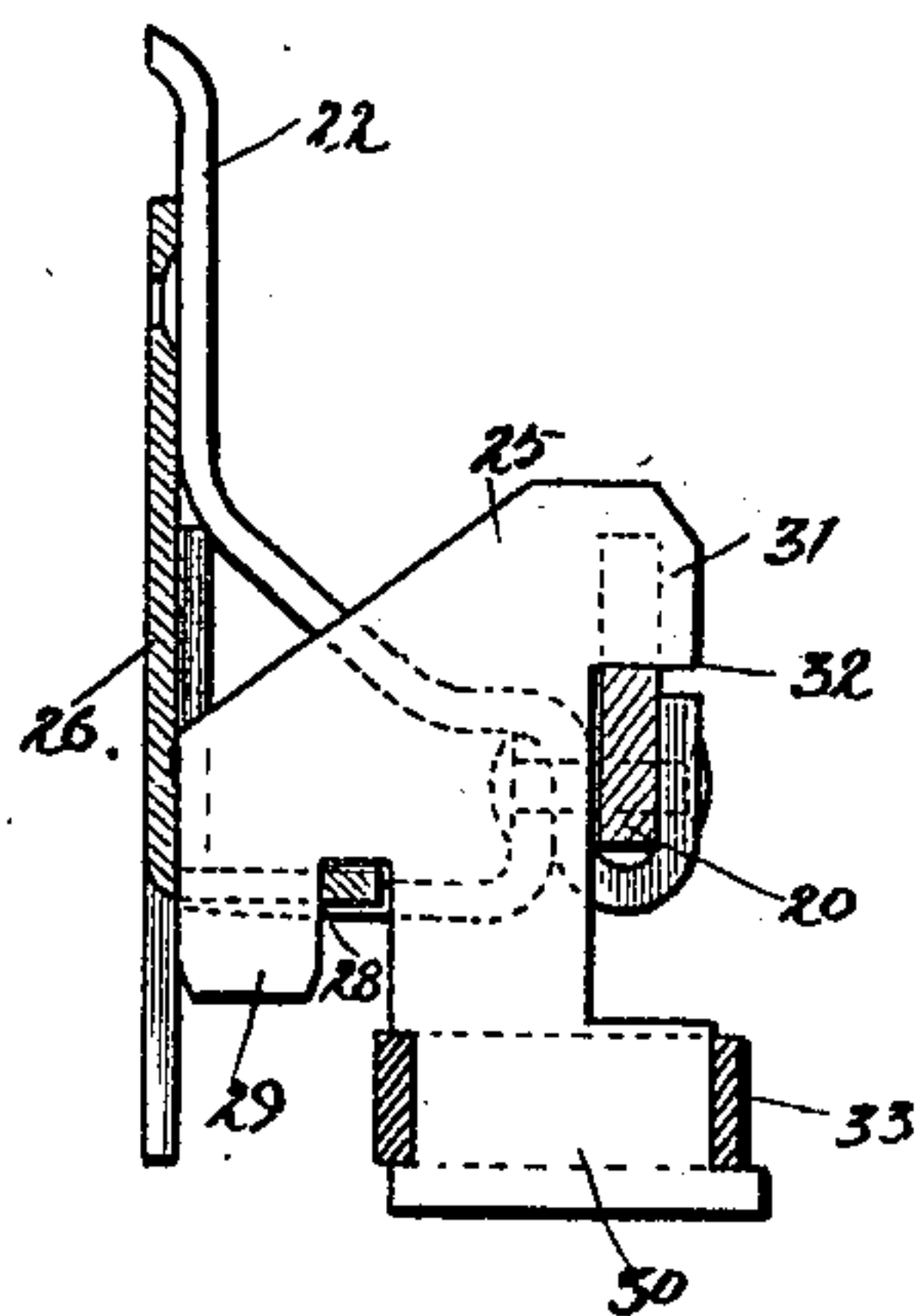
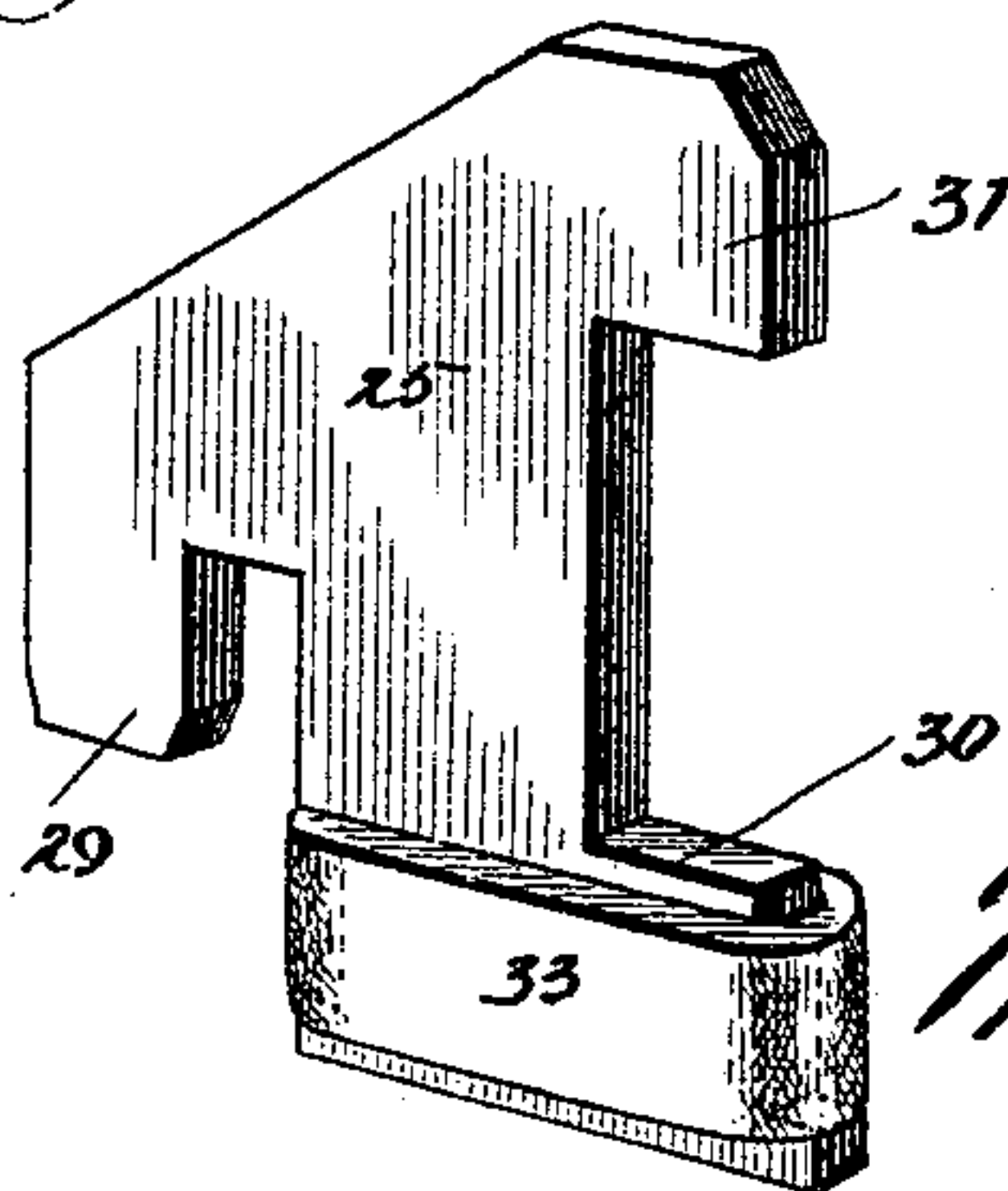


Fig. 9



Witnesses,

John L. Jackson
Charles McKibben

Inventor
Marius C. Richards
By Fred Adams Hubert
Atty's.

UNITED STATES PATENT OFFICE.

MARCIUS C. RICHARDS, OF AURORA, ILLINOIS, ASSIGNOR TO THE WILCOX MANUFACTURING COMPANY, OF SAME PLACE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 518,276, dated April 17, 1894.

Application filed October 28, 1891. Serial No. 410,134. (No model.)

To all whom it may concern:

Be it known that I, MARCIUS C. RICHARDS, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a view showing the arrangement of the hangers upon the doors and the position of the stop. Fig. 3 is an end elevation showing the door hanger in position upon the track. Fig. 4 is a side elevation of a portion of the hanger, part being in section. Fig. 5 is a top or plan view of the attaching plate. Fig. 6 is a perspective view of the same. Fig. 7 is a front elevation of the track, showing the supporting brackets and stop. Fig. 8 is a side elevation of the stop; and Fig. 9 is a perspective view of the stop.

My invention relates to door hangers adapted to be secured to sliding doors so that they may be readily moved, and the objects of my invention are to improve the construction of door hangers in general; to provide improved devices for adjusting the hanger; and to provide an improved stop for the track to limit the travel of the door. I accomplish these objects as illustrated in the drawings and as hereinafter specified. That which I regard as new will be pointed out in the claims.

In the drawings,—1, indicates a door hanger, of which 3 is the yoke which carries the wheel, and 13 is the plate for attaching the hanger to the door. The yoke 2 is composed of straps 3 and 4 at each end, which are united by horizontal straps or bars 5 and 6 to form a suitable frame for carrying the other portions of the hanger. The straps 3 and 4 are separated from each other at their upper ends, and are united by cross bars 7 which pass through the straps 3 and 4 and the bars 6, as best shown in Fig. 3. The diameter of the cross bars 7 between the straps 6 is somewhat greater than at the ends, as indicated by dotted lines in Fig. 3, by which construction shoulders are formed which hold the upper portions of the straps 3 and 4 at the proper distance from each other.

8, indicates elongated slots which are formed in the straps 6, and are adapted to form bearings for the journals 9 of the wheel 10 of the

hanger which is mounted between the two horizontal straps 6, as best shown in Fig. 3. The lower portions of the straps 3 and 4 extend downward a short distance below the strap 5, as best shown in Fig. 1, and near their lower ends each pair of straps 3 and 4 is provided with a pin 11, as best shown in Fig. 1. The pins 11 are adapted to move in inclined slots 12 formed in the upper portion of the attaching plates 13, as best shown in Figs. 1 and 6. The attaching plate 13 is provided with ears 14, projecting at right angles to the main portion of the plate and alternately on opposite sides thereof. The ears 14 are adapted to rest upon the top of the door, and are provided with screw holes 15, whereby they may be screwed to the tops of the doors. The attaching plate is formed by cutting the plate to a suitable shape by means of dies and then bending the ears until they lie at right angles to the main portion of the plate. By this means a durable and cheap plate is made. One end of the attaching plate 13 is inclined as shown at 35 in Fig. 1, and is provided with a boss 16, through which is passed an adjusting screw 17, which is adapted to be screwed into a boss 18 secured upon the 5^a of the strap 5, which end 5^a is extended a suitable distance beyond the adjacent straps 3 and 4. The boss 18 is provided with a screw-threaded socket, but the boss 16 is not.

34 indicates a projecting portion or fin formed in the lower portion of the end of the plate 13, at a point below the boss 16, as best shown in Figs. 1 and 6. The fin 34 is adapted to form a stop for the head of the screw 17 to prevent its withdrawal from the boss 16 as hereinafter explained. In order to permit of the insertion of the screw, its head is provided with a groove 19 slightly larger than the fin 34. By turning the screw so that the groove 19 is on the under side, the screw may readily be inserted in the boss 16 and when the head of the screw passes the fin 34, and the screw is turned so that the groove 19 is out of coincidence with said fin, the latter constitutes a stop for the head of the screw to prevent its withdrawal from the boss 16. By adjusting the screw by a screw-driver or other suitable means, the distance between the plate 13 and the strap 5 may be regulated, the pins 11 moving in the slots 12. By this construction, the plate 13 and the yoke

are rigidly maintained at the desired position from each other, and the objectionable lifting of the door when it is moved, common to most forms of door hangers, is avoided. The parts
5 of the yoke are so bent that the vertical portion of the plate 13 will lie in the plane of the wheel 10 and the track which supports it, whereby all the parts will be in a perpendicular position, and greater strength will be secured.
10

20, indicates the rail which is adapted to support the wheel 10, which wheel is provided with flanges 21 to prevent it from leaving the rail. The rail 20 is supported by suitable
15 brackets 22, which are secured to the wall 23 of the house. I prefer to use brackets similar in construction to that set forth in my former Patent No. 394,611, granted December 18, 1888; but any other desired form of bracket
20 may be used.

In practice, it is customary to provide each sliding door with two hangers, one being secured to the upper edge of the door near each end, as shown in Fig. 2, and the hangers are
25 made in pairs so that the adjusting screws 17 of the hangers on each door will lie next to the edge of the door, so that access may be more easily had to them for adjusting purposes. In the drawings I have shown two
30 doors 24 mounted as above described.

In order to prevent the door from moving too far, it is customary to provide a suitable stop secured to the bracket in such manner that when the door has moved the proper distance the wheel of the hanger will come in
35 contact with the stop and further motion will be prevented. When, however, it is desired to gain access to the adjusting screw upon the rear or innermost hanger of the door, it is necessary that the door should be moved
40 past the stop, as otherwise the door would not move sufficiently out of its compartment to expose such screw. In order to provide for such action I have provided a stop 25, which is so placed as to be adapted to act as
45 a stop for the hangers, but which may be removed when desired. In doorways provided with two doors 24, the stop 25 is placed at the meeting point of the two doors, as shown in
50 Fig. 2, and it is secured in position in the following manner:

26, indicates a plate which is secured to the two brackets 22 in any suitable manner, and may also be secured to the wall. The plate
55 26 is provided with a short horizontal portion 27, which projects at right angles to the body of the plate, and is provided with a slot 28, as shown in Fig. 8. The stop 25 is of about the shape shown in Fig. 8, being provided
60 with downward extending portions 29 and 30, and a forward extending portion 31. The downward extension 29 is adapted to fit into the slot 28, and the forward extension 31 is adapted to fit into a slot 32 formed in the
65 rail 20. The extension 30 extends downward between the projection 29 and the rail 20, as best shown in Fig. 8.

33, indicates a rubber band or bumper which encircles the lower portion of the projection 30, and is adapted to be struck by the hanger. 70 The shock incident to the contact of the hanger with the stop is thereby lessened.

When it is desired to remove the stop 25, it is moved upward until the projections 29 and 31 are free from their respective sockets, 75 and by turning the stop until it is parallel with the rail 20 it may readily be withdrawn. By this construction, the difficulties usually attending the adjustment of the rear hanger are overcome. 80

By constructing the yoke of straps, as described, its construction is greatly cheapened, and it may be made much lighter. Its manufacture is also greatly simplified, as the various parts may readily be cut from a sheet 85 of metal and be pressed into the proper shape.

That which I claim as new, and desire to secure by Letters Patent, is—

1. In a door hanger, the combination with a yoke having a boss 18, of an attaching 90 plate 13 having at one end portion a projecting fin 34 and a boss 16, and an adjusting screw 17 having a head provided with a groove 19 to receive the fin in connecting the screw with the bosses so that the fin constitutes a 95 stop for the screw, substantially as described.

2. In a door hanger, the combination of a yoke composed of vertical straps 3 and 4 having pins 11, upper horizontal straps 6 having slots 8, cross bars 7 interposed between said 100 straps, and a lower horizontal strap 5 having an end extension provided with a boss 18, with a wheel 10, an attaching plate 13 having inclined slots 12, fin 34 and boss 16, and a screw 17 connecting the boss on the lower horizontal 105 strap with the boss on the attaching plate and having a head provided with a groove 19 to receive the fin on the attaching plate, substantially as described.

3. The combination with the wheeled yoke, 110 and the wheel-supporting rail of a door-hanger, of a plate 26 adapted to be attached to a door frame and having a slot 28, and a stop 25 having pendent projections 29 and 30 extending downward through the slotted part 115 of the said plate, and a forwardly extending portion 31 engaging the said wheel-supporting rail, substantially as described.

4. The combination with the wheeled yoke, 120 and the wheel-supporting rail of a door-hanger, of a plate 26 adapted to be attached to the door frame and having a slot 28, a stop 25 having pendent projections 29 and 30 extending downwardly through the slotted part 125 of the said plate, and a forwardly extending portion 31 engaging the said wheel-supporting rail, and a band 33 applied to the said pendent projection 30 below the slotted part of the plate, substantially as described.

MARCIUS C. RICHARDS.

Witnesses:

GEORGE H. HALE,
T. H. WAY.