

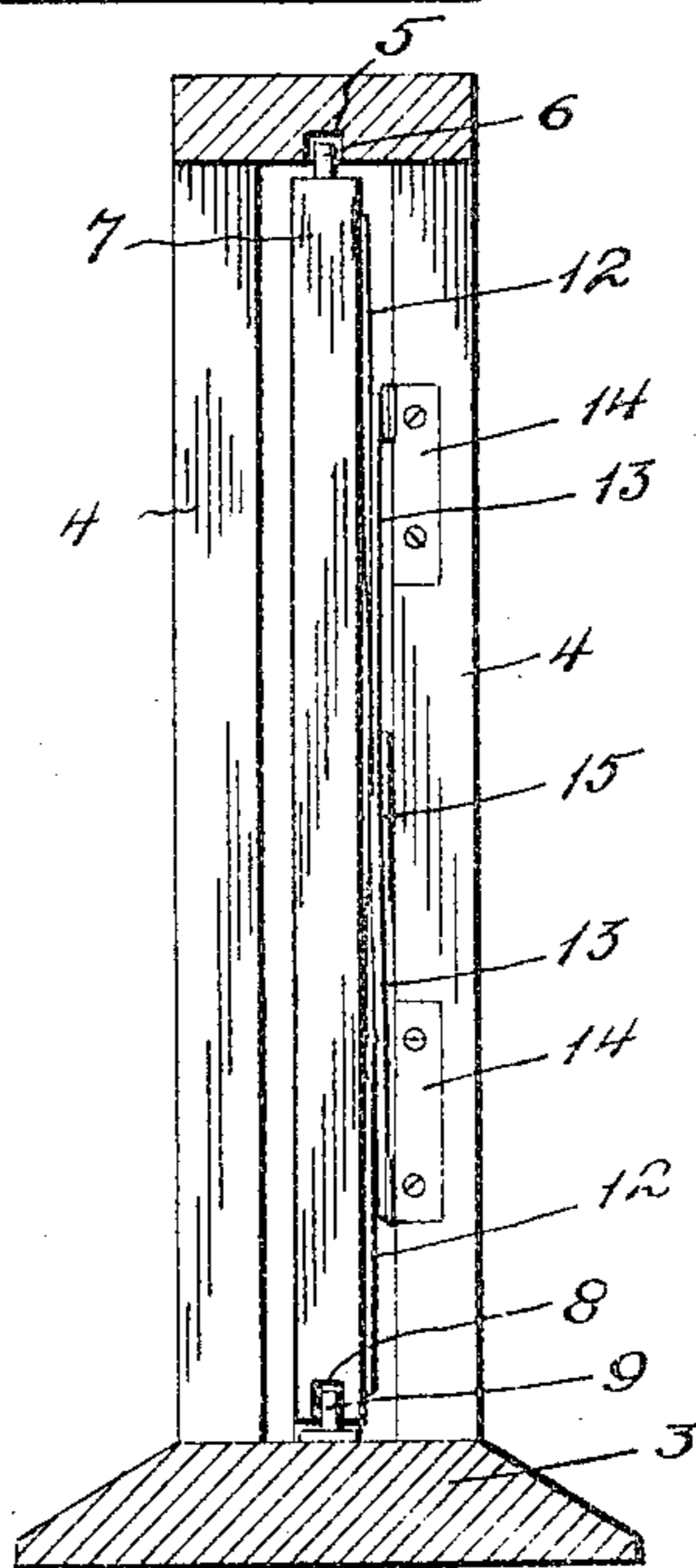
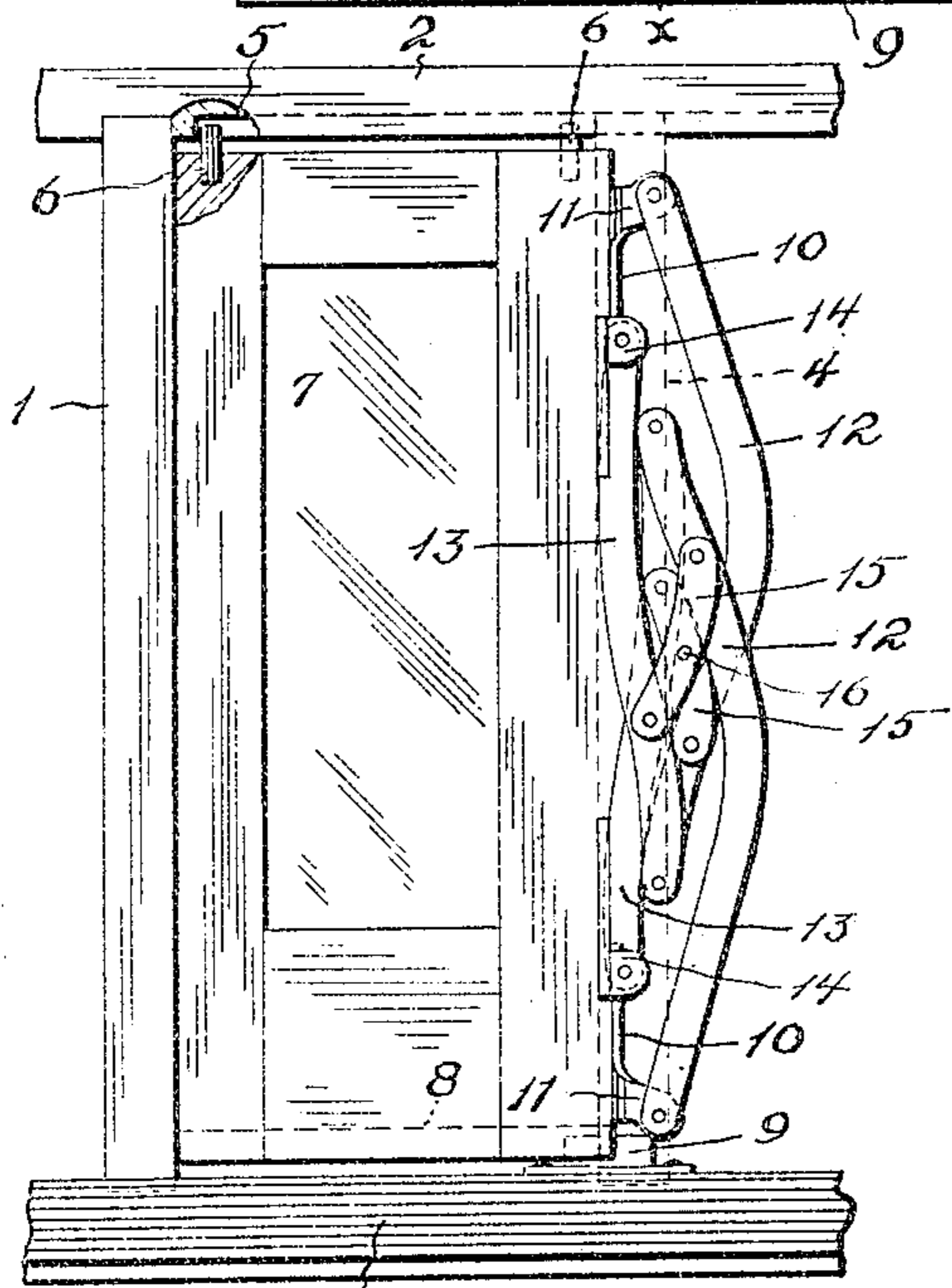
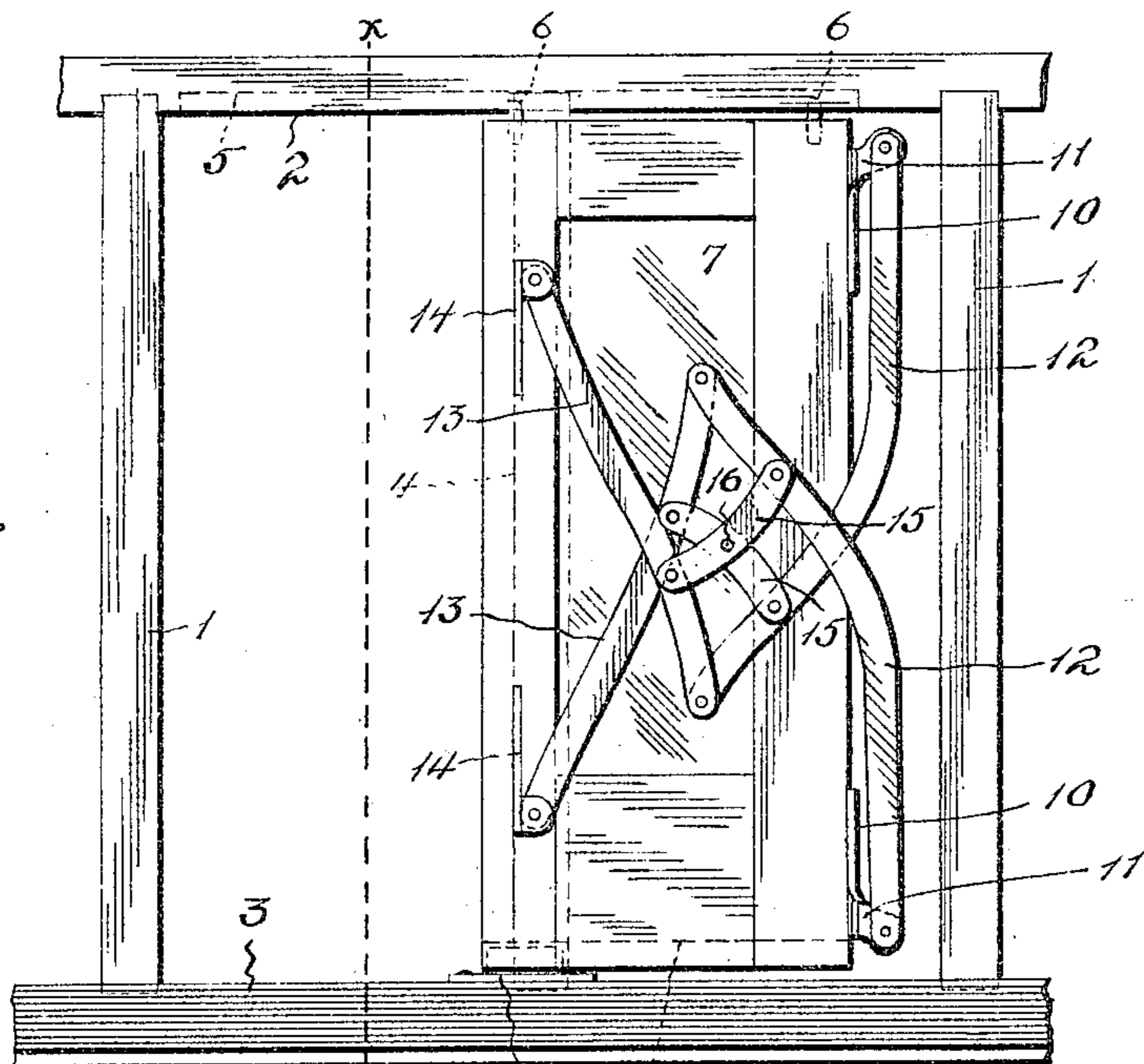
No. 803,033.

PATENTED OCT. 31, 1905.

C. W. TONKINSON.
DOOR HANGER.

APPLICATION FILED JAN. 12, 1905.

Fig. 1.



WITNESSES:
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M. B. Eckley.

Fig. 3. INVENTOR
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CHARLES W. TONKINSON, OF COLUMBUS, OHIO.

DOOR-HANGER.

No. 803,033.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed January 12, 1905. Serial No. 240,701.

To all whom it may concern:

Be it known that I, CHARLES W. TONKINSON, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification.

My invention relates to a new and useful improvement in door-hangers.

The object of the invention is to provide simple means of superior construction for supporting a sliding door so that it may be easily and readily opened or closed.

Another feature resides in the provision of a number of levers and links pivotally connected to each other and at one end pivotally connected to the door and at the other end to a fixed support and obviating all slotted connections or ways and producing a rigid support in the movement of whose parts there is no lost motion.

Finally, the object of the invention is to provide a device of the character described that will be strong, durable, efficient, and simple and comparatively inexpensive to make, and one whose parts will not be liable to get out of working order.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a partial side elevation of a door-frame, showing my improved hanger supporting a door in its open position. Fig. 2 is a partial side elevation of a door-frame, showing my hanger supporting a door in its closed position and a portion of the door and the door-frame being broken away to illustrate one of the guiding-pins; and Fig. 3 is a transverse vertical section through the door-frame on the line *xx* of Fig. 1, showing the door and hanger in end elevation.

In the drawings, the numeral 1 designates the door-frame, which comprises the lintel 2, sill 3, and intermediate beams or posts 4. The lintel 2 is provided with a longitudinal groove 5, adapted to receive and guide pins 6, projecting upwardly from a door 7, adapted to slide between the posts 4. The door 7 is formed along its lower edge with a groove 8, into which projects the upwardly-extending portion of the guide-piece 9. It will be understood that some means for preventing lateral swaying of the door during its move-

ment must be provided and that I have merely shown and described the above means as a practical form, it being evident that various forms of guide devices might be employed.

The invention consists more especially in the hanger, which I will now describe.

Secured upon the rear edge and near the upper and lower ends of the door 7 are pivot-brackets 10, having offset lugs or ears 11, to which are pivotally secured the outer or free ends of inwardly-curved levers 12. The levers 12 cross each other about midway the height of the door and have their inner ends slightly curved upward and downward, respectively. The inner ends of the said levers 12 are connected to the inner curved ends of short levers 13, which cross each other like the levers 12. It is to be observed that both the levers 12 and 13 are formed in the shape of a compound curve and that while the inner ends of the two lower levers 12 and 13 are pivoted together and the inner ends of the two upper levers 12 and 13 are also pivoted together at the point where each lever crosses its mate there is no connection and the levers are free to slide across each other, thus compensating for the vertical movement when the door is moved inward and outward. The outer ends of the levers 13 are pivoted to brackets 14, secured to the inner side of the front post 4, nearer the upper and lower ends of the said post, although not so near as the brackets 10, which will be clear from the drawings.

For the purpose of holding the levers 12 and 13 in proper relation to each other and causing them to assist each other in their movement, I connect them near their points of intersection by means of curved crossed links 15, which links are disposed so as to curve away from each other at the rear of their pivot-point 16 and toward each other in front thereof. It is apparent that when the levers 12 are moved by the door the crossed links 15 will cause the levers 13 to move in harmony with the said first-named levers, and thus properly support the door during its movement. When the door is moved forward to its closed position, the levers are gradually drawn together, and, owing to their curved form, will overlies each other and close up in a compact position, as shown in Fig. 2. It is also apparent that by reason of the curved conformation of the levers the pivot-lugs 11 may be made shorter, thus reducing the space required between the rear end of the door and the door-frame when the door is in its open po-

sition, as shown in Fig. 1. It is also to be observed that there are no slots or ways at any of the pivot-points of the levers or the links, by the elimination of which rattle is obviated
5 and a noiseless and steadily-operating device is produced.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

10 1. A hanger for doors comprising a plurality of curved levers pivoted directly to each other at their inner ends, and a pair of pivoted links connecting the levers.

15 2. In a door-hanger, the combination with a door, the frame therefor and means for guid-

ing the door, of a plurality of pivoted curved levers connected to the door and its frame, and a plurality of pivoted links connecting the levers.

3. A hanger for doors comprising a plural- 20 ity of curved levers pivoted directly to each other, and links crossing each other pivoted together and having pivotal connection with the levers.

In testimony whereof I affix my signature in 25 presence of two witnesses.

CHARLES W. TONKINSON.

Witnesses:

A. L. PHELPS,
M. B. SCHLEY.