

No. 815,466.

PATENTED MAR. 20, 1906.

J. L. PHILLIPS.
DOOR FASTENER.

APPLICATION FILED AUG. 7, 1905.

3 SHEETS—SHEET 1.

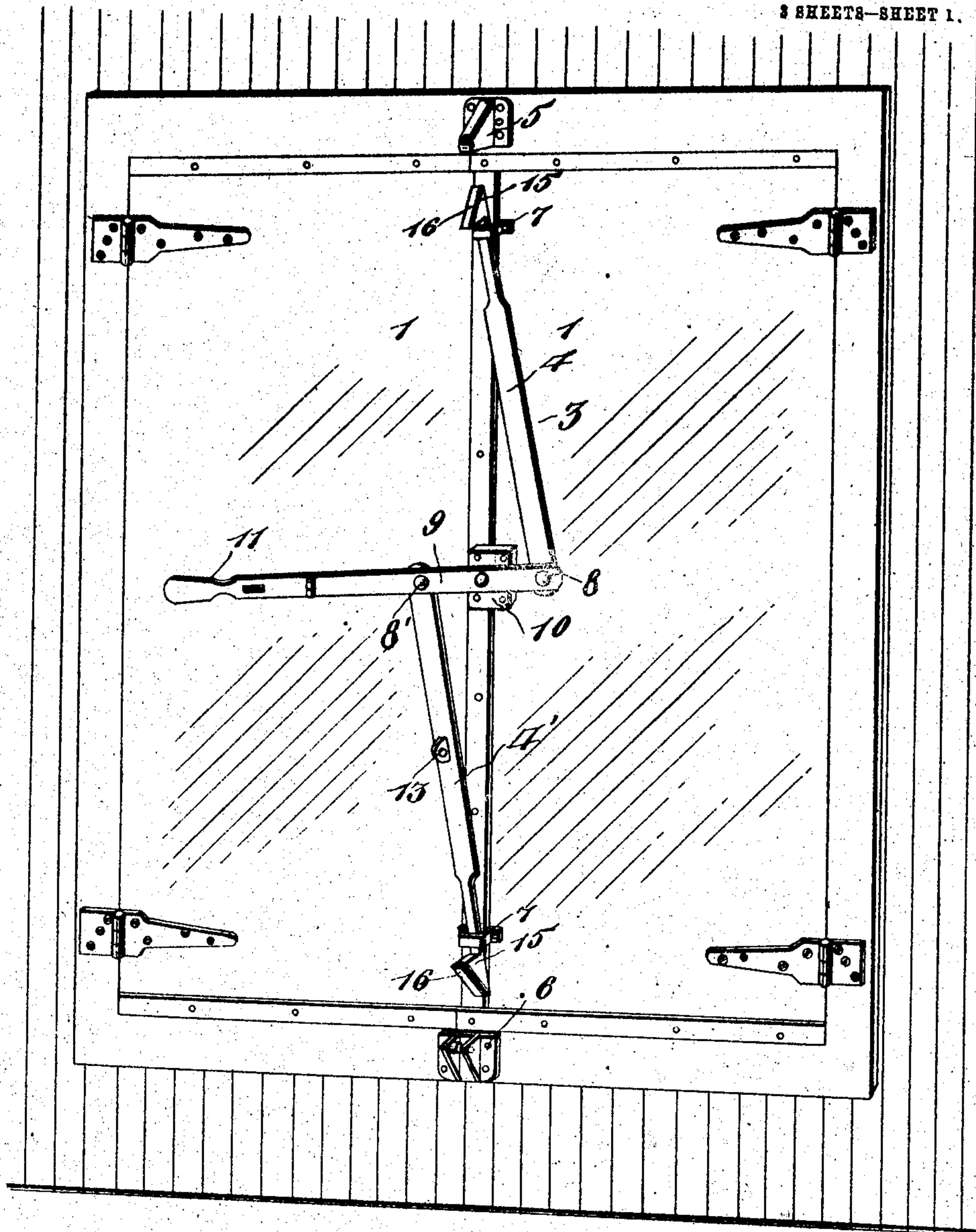


Fig. 1.

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3 SHEETS—SHEET 2.

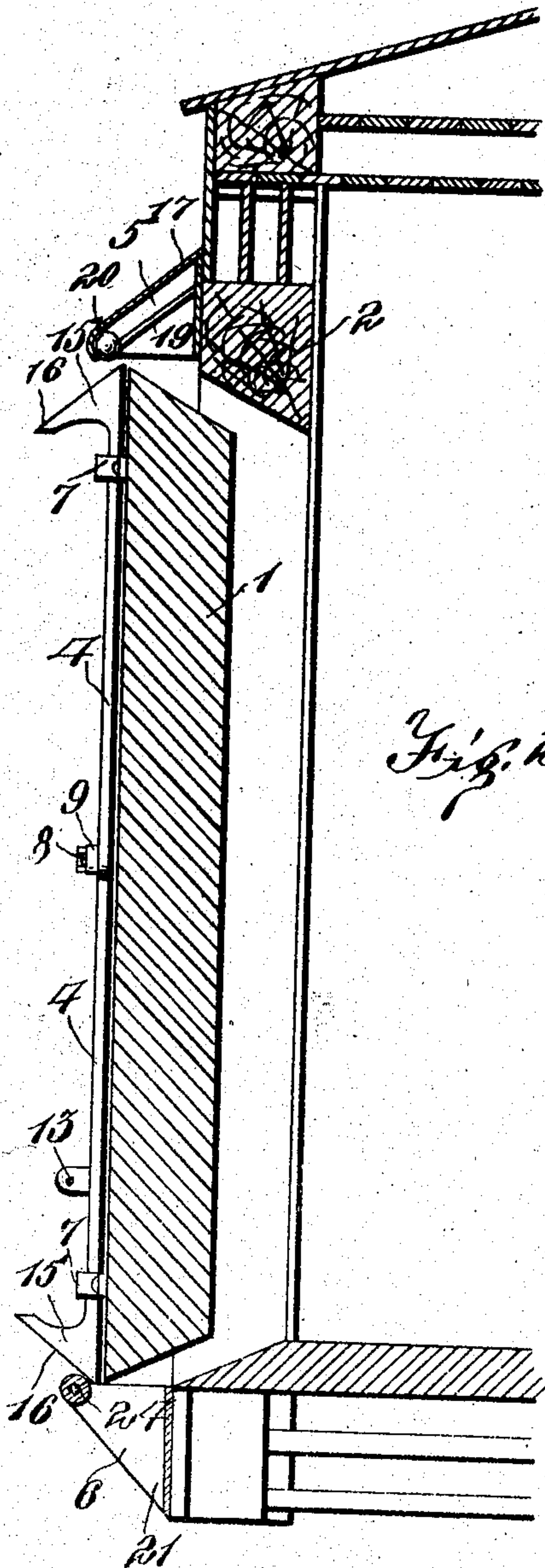


Fig. 2.

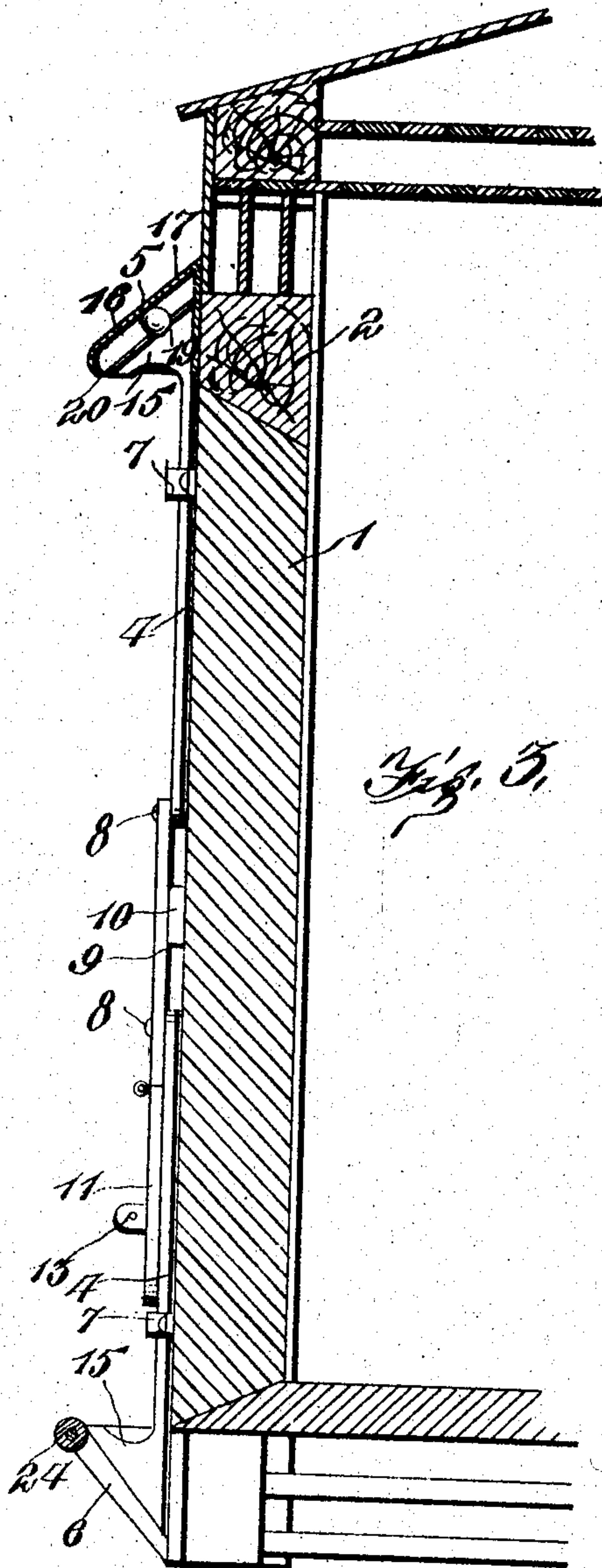


Fig. 3.

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3 SHEETS—SHEET 3.

Fig. 6

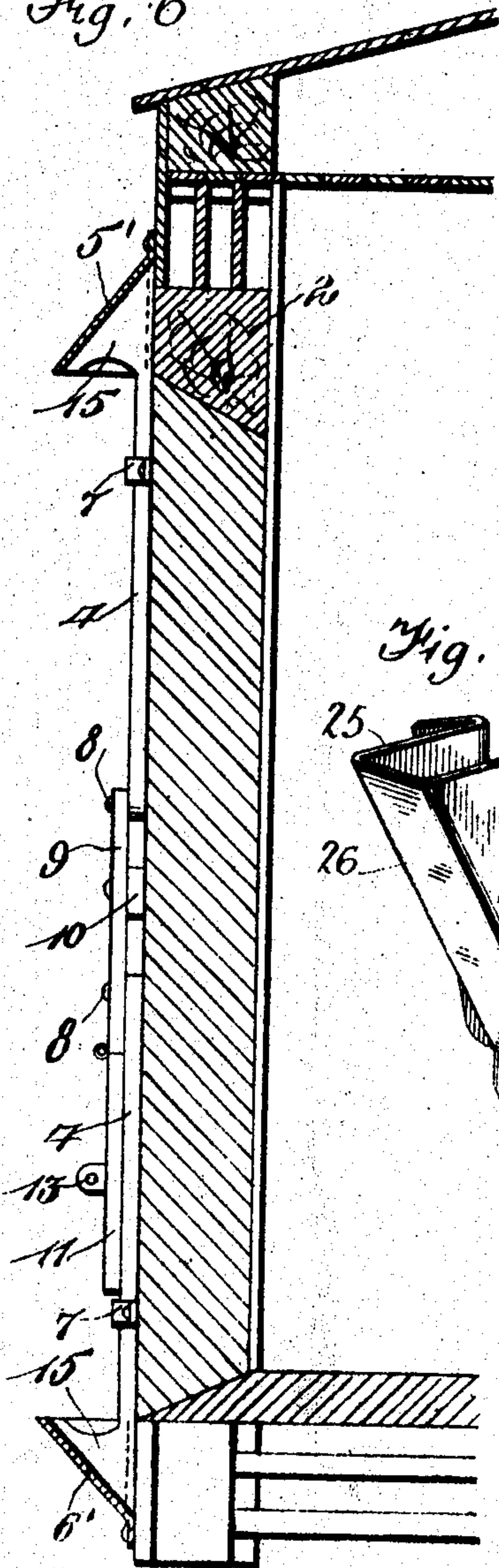


Fig. 7

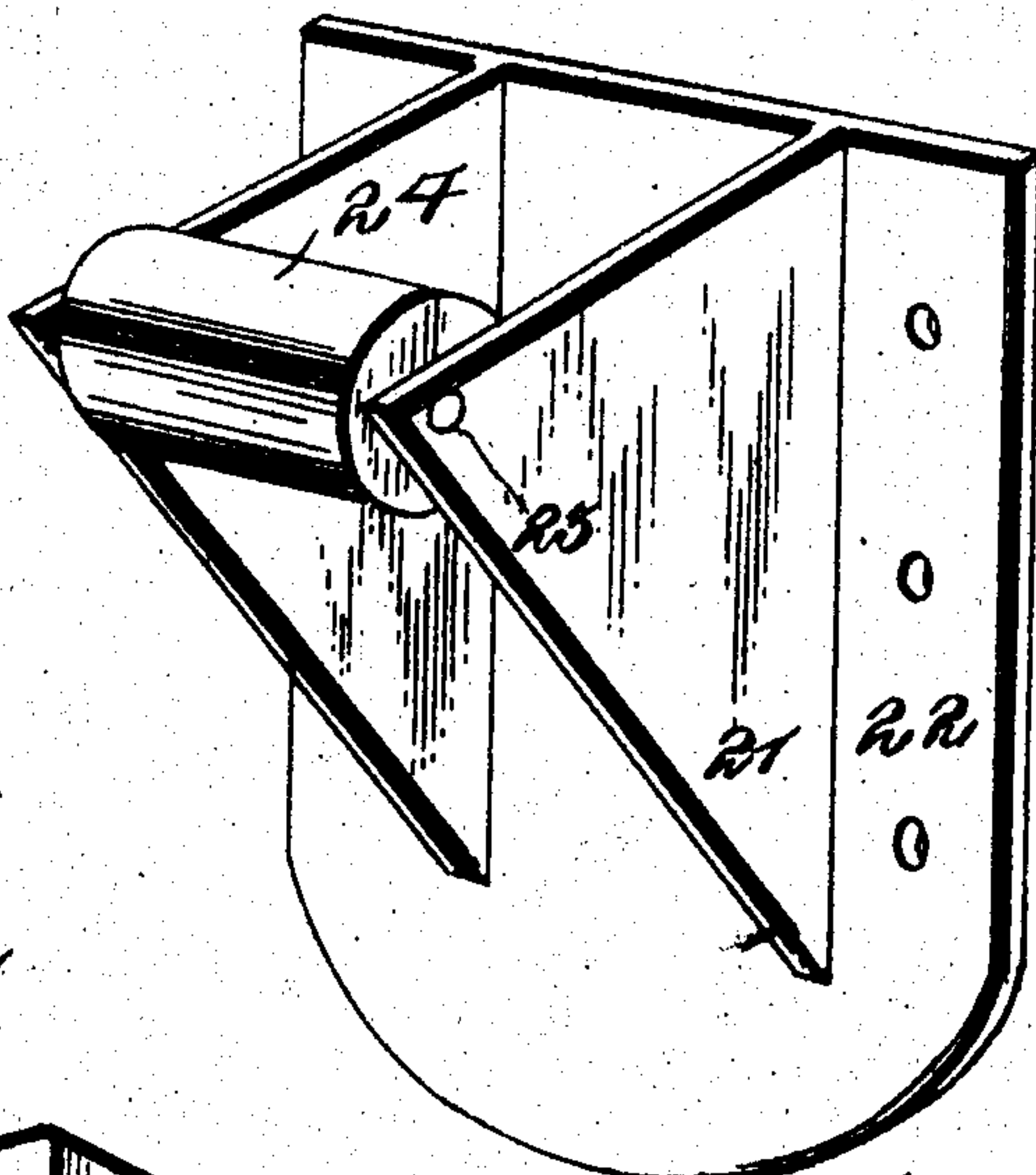
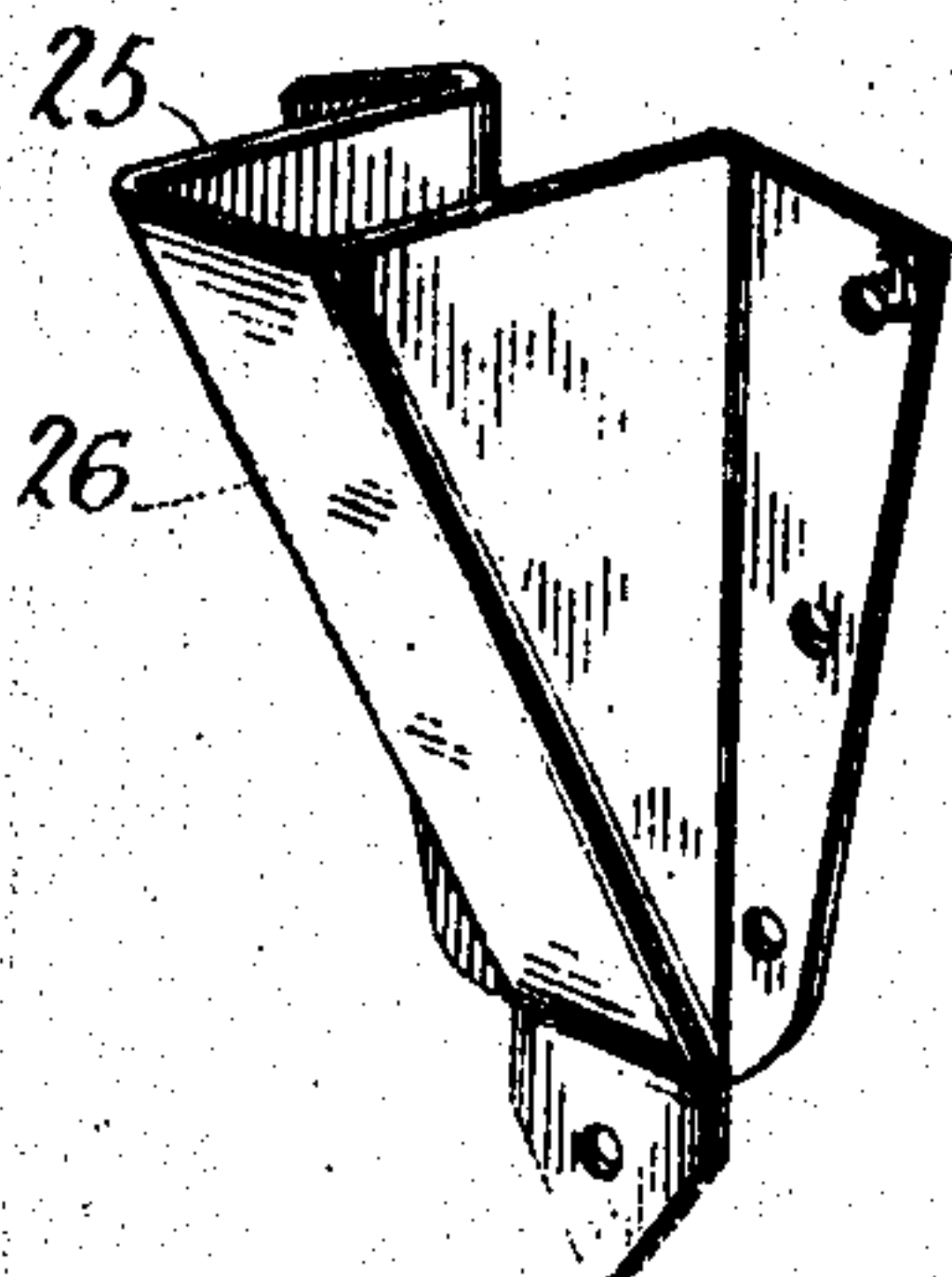


Fig. 5.

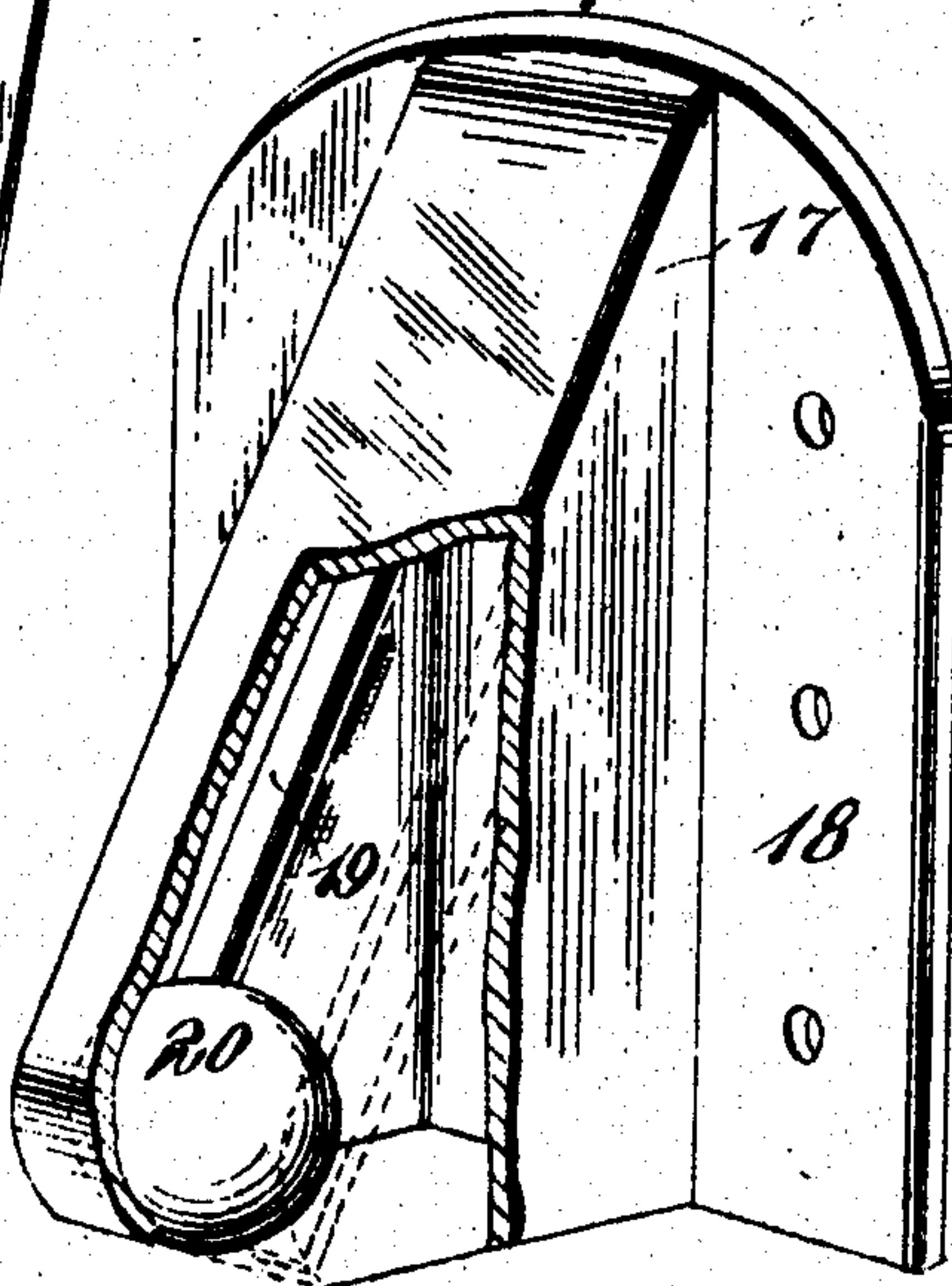


Fig. 4. Inventor
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Witnesses
Forrest G. Smith
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UNITED STATES PATENT OFFICE.

JOHN L. PHILLIPS, OF ROCHESTER, NEW YORK.

DOOR-FASTENER.

No. 815,466.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed August 7, 1905. Serial No. 273,160.

To all whom it may concern:

Be it known that I, JOHN L. PHILLIPS, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Door-Fasteners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in fastening devices for doors of all kinds, and particularly for doors of refrigerators and refrigerator and produce railway-cars.

The object of the invention is to provide a simple, comparatively inexpensive, and efficient device of this character by means of which the doors of stationary refrigerators, refrigerator-cars, and the like may be easily and tightly closed, so as to render them practically air-tight. Shippers using refrigerator and produce cars now find it difficult to close the doors in such cars with the fastenings now in use, as they cannot apply force to the doors until they are about one-half of an inch from their tightly-closed position. This necessitates the pounding of the doors with a sledge or other heavy tool, so that they are soon split and mutilated, and a considerable amount of time and labor is unnecessarily consumed. With the present invention the shape and construction of the keepers, or of the lateral extension upon the sliding bolts, enable me to apply, by means of the fastenings, considerable force to the doors when they are open several inches.

The above and other objects, which will appear as the nature of my invention is better understood, are accomplished by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a door with my improved fastening device applied thereto, the device being shown in its open unfastened position. Fig. 2 is a vertical sectional view through the same, the parts being in the position shown in Fig. 1. Fig. 3 is a similar sectional view, showing the fastening device in its closed position. Figs. 4 and 5 are perspective views of the two keepers. Fig. 6 is a sectional view similar to Fig. 3, showing a slightly-modified and more simple form of the invention; and Fig. 7 is a detail perspective view of one of the keepers shown in Fig. 6.

Referring to the drawings by numeral, 1

denotes a door or doors, and 2 denotes a door-frame of a refrigerator, refrigerator-car, produce-car, or any other object upon which my improved fastening device 3 may be used. As shown in Fig. 1, the device 3 is mounted upon one of two hinged doors, which closes the door-opening in the frame 2 and consists of two connected slidable bolts 4 and 4', mounted upon one of the doors 1, and two keepers 5 and 6, which are mounted upon the frame 2 above and below the door-opening. The bolts 4 4', as shown, are in the form of metal bars, which have their outer portions slidably mounted in guides 7, provided upon the door, and their inner portions flattened and pivotally connected, as at 8 8', to an operating and locking lever 9. The latter is pivotally mounted, as shown at 10, at about a central point between the pivots 8 8' and the upper and lower ends of the door 1. Hingedly connected to the long end of the lever 9 is a handle 11, which also forms a locking-hasps for securing the device in its closed position. This is effected by forming the handle or hasp 11 with a slot to receive an apertured lug 13, provided upon the lower bolt 4, and through the aperture in which may be passed the bail of a padlock or any other suitable locking device, as will be readily understood.

The outer ends of the bolts 4 4' are provided with wedge-shaped heads 15, which are adapted to enter the keepers 5 6 to force the door or doors tightly to a closed position and to retain them in such position. These heads 15 are, as shown, in the form of lateral extensions, which are preferably formed integrally with the bolts or bars 4 4' and have their outer or end faces beveled, as shown at 16. The heads or extensions 15 are considerably larger than the width or thickness of the bolts 4 4', so that a wedging action is obtained which will be sufficient to force the door or doors tightly closed should they be slightly sprung or warped or should the packing be very thick.

The upper keeper 5, which is clearly shown in Fig. 4 of the drawings, comprises a casing 17 of substantially triangular form, which is adapted to be secured to the frame 2 by screws or the like, which are passed through apertured flanges 18. Within the casing 17 is an upwardly and inwardly inclined guide or guide-groove 19, in which is mounted an antifriction ball or sphere 20. The inclination of the guide 19 is about the same as that of the beveled face 6 of the lateral extension

15 on the bolt 4, and the ball or sphere 20 is adapted to be engaged by said face or surfaces 16 when the bolt 4 is moved upwardly to its closed position. (Shown in Fig. 3 of the drawings.)

5 The lower keeper 6 (shown in Fig. 5 of the drawings) also comprises a casing 21 of substantially triangular form, which is secured upon the lower portion of the frame 2 by screws or the like passed through apertures in an attaching-flange 22. In the outer end of the casing 21 is journaled, as shown at 23, an antifriction-roller 24, which coacts with the inclined face 16 of the lateral extension of the bolt 4'. This roller 24 rotates as the bolt 4' is moved downwardly to its closed position and reduces the friction between it and its keeper 6.

20 While I preferably provide a keeper of the form shown in Fig. 5 at the bottom of the door-frame and a keeper as shown in Fig. 4 at the top of the same, it will be understood that either of these keepers may be used either at the top or at the bottom of the frame and that any other desired form of keeper may be employed.

30 In Fig. 6 of the drawings I employ keepers 5' 6' of substantially triangular form and fasten them to the top and bottom of the door-frame 2 by screws or bolts or by any other preferred means. The keeper 25, as clearly shown in Fig. 7 of the drawings, has no antifriction rollers or balls, but is adapted to have its inclined face 26 engaged by the inclined face of the enlargement 5' of one of the sliding bolts 4 4'. The engagement of these inner portions produces the same result as if an antifriction roller or ball was used, except that not quite as much force is exerted to close the doors. When the triangular-shaped keepers (shown in Figs. 6 and 7 of the drawings) are used, the lateral extensions upon the

ends of the sliding bolts 4 may be omitted in order to cheapen the construction; but not quite as good result would be obtained by so doing.

The construction, use, and advantages of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that owing to the provision of the large wedge-shaped extensions or heads 15 upon the sliding bolt 4 and also owing to the large size and peculiar shape of the keepers, which size and shape permit them to be engaged by the sliding bolts 4 4' when the doors are open from two to four inches, the doors may be forced tightly into the door-opening when the proper force is applied to the levers 9. Hence no beating or pounding upon the doors, with its accompanying damage to them, will be required in order to tightly close the doors.

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

A fastening device of the character described comprising hollow triangular keepers secured at opposite points upon a door-frame, antifriction-rollers mounted to rotate in said keepers, a pair of bolts mounted to slide and engage said keepers, said bolts each having a laterally-extending wedge-shaped enlargement conforming in shape to the interior contour of the keepers, and a lever connected to the said bolts for simultaneously extending them, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN L. PHILLIPS.

Witnesses:

RAYMOND G. PHILLIPS,
E. M. PHILLIPS.