

No. 704,395.

Patented July 8, 1902.

C. R. SOWDEN.  
AUTOMATIC THRESHOLD.

(Application filed Sept. 3, 1901.)

(No Model.)

Fig. 1.

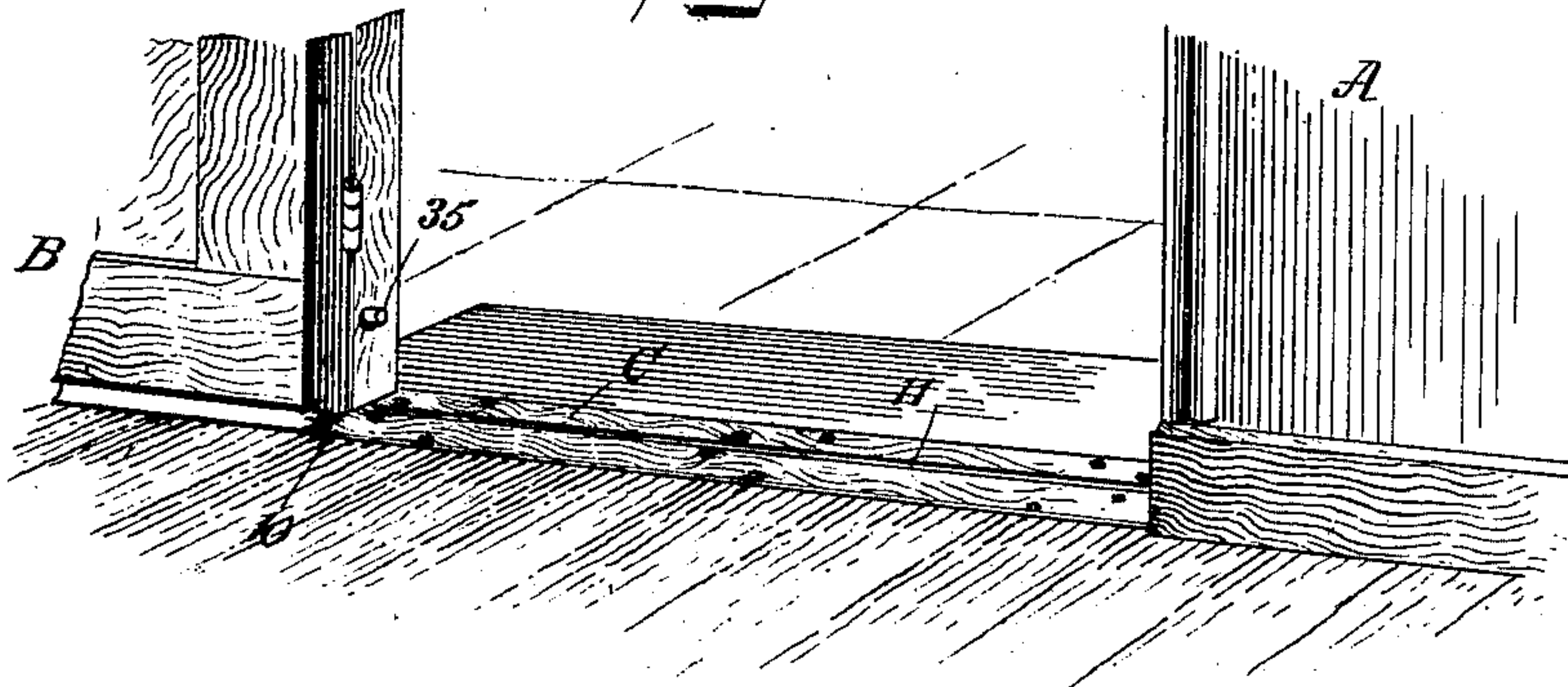


Fig. 2.

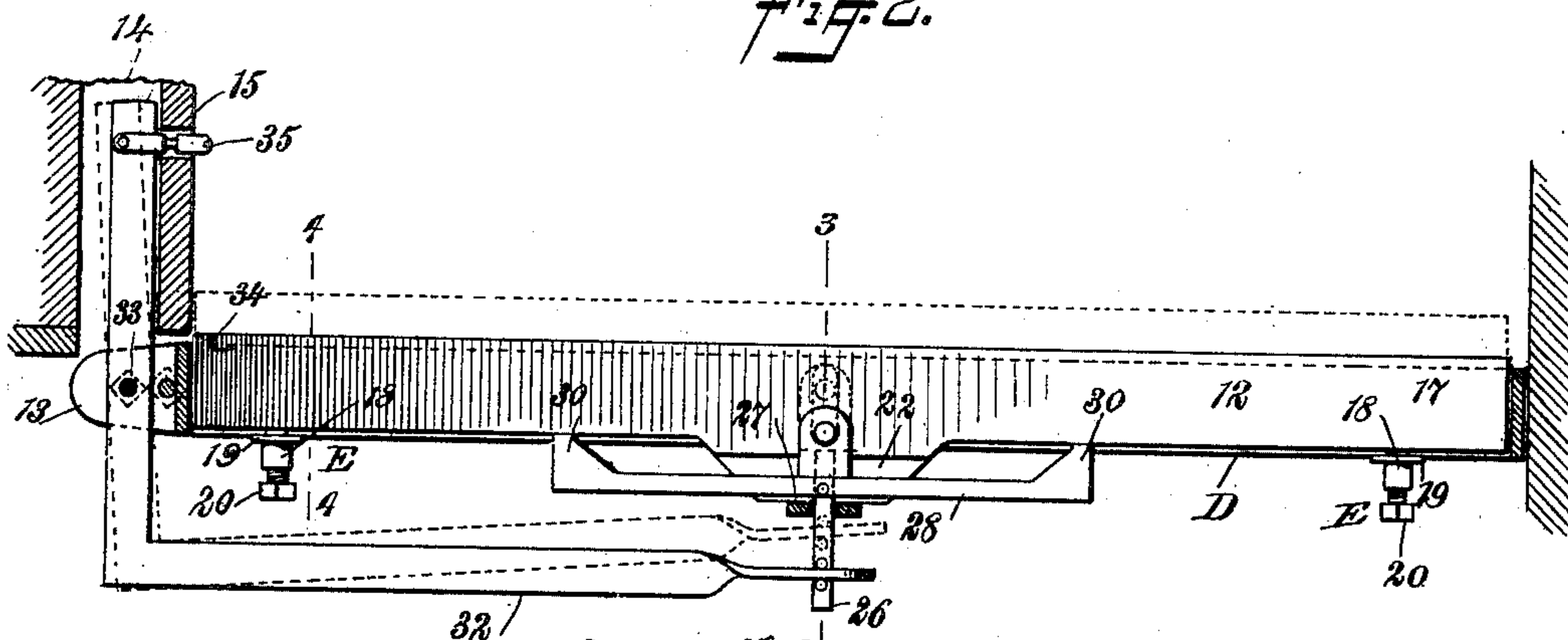
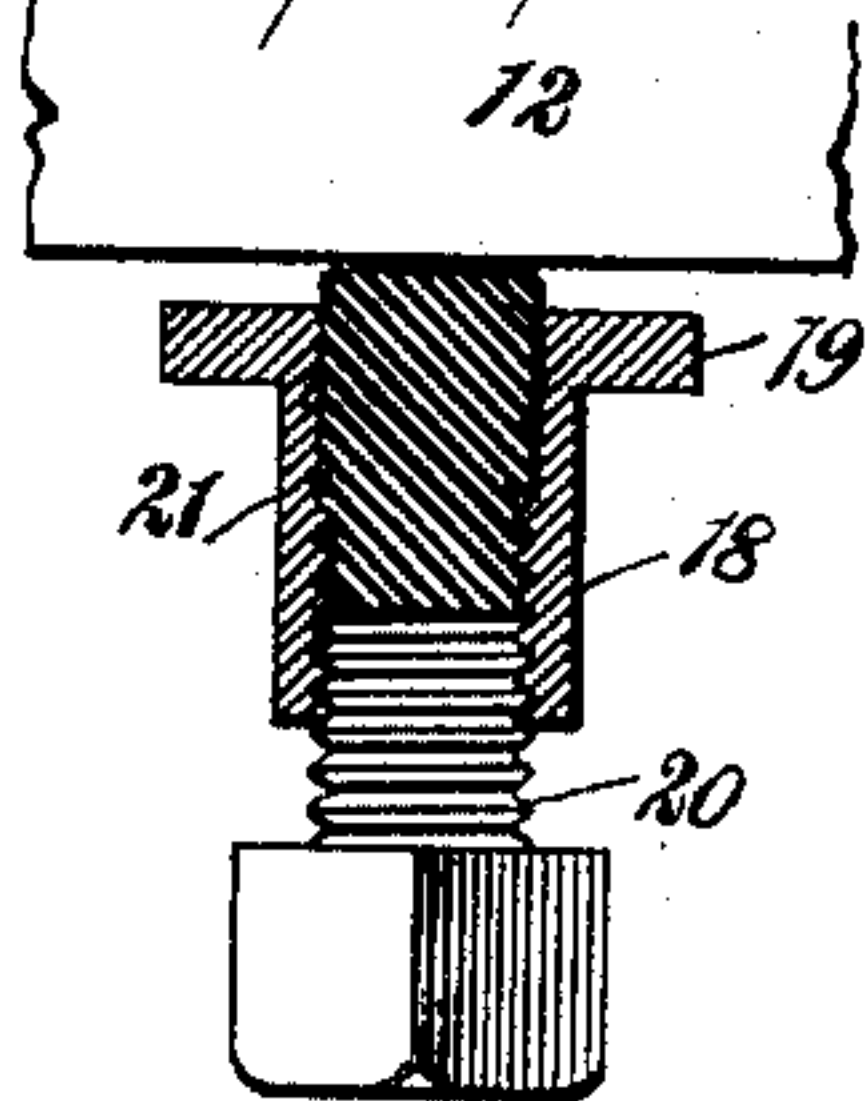


Fig. 5.



WITNESSES:

William P. Goebel.  
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Fig. 4.

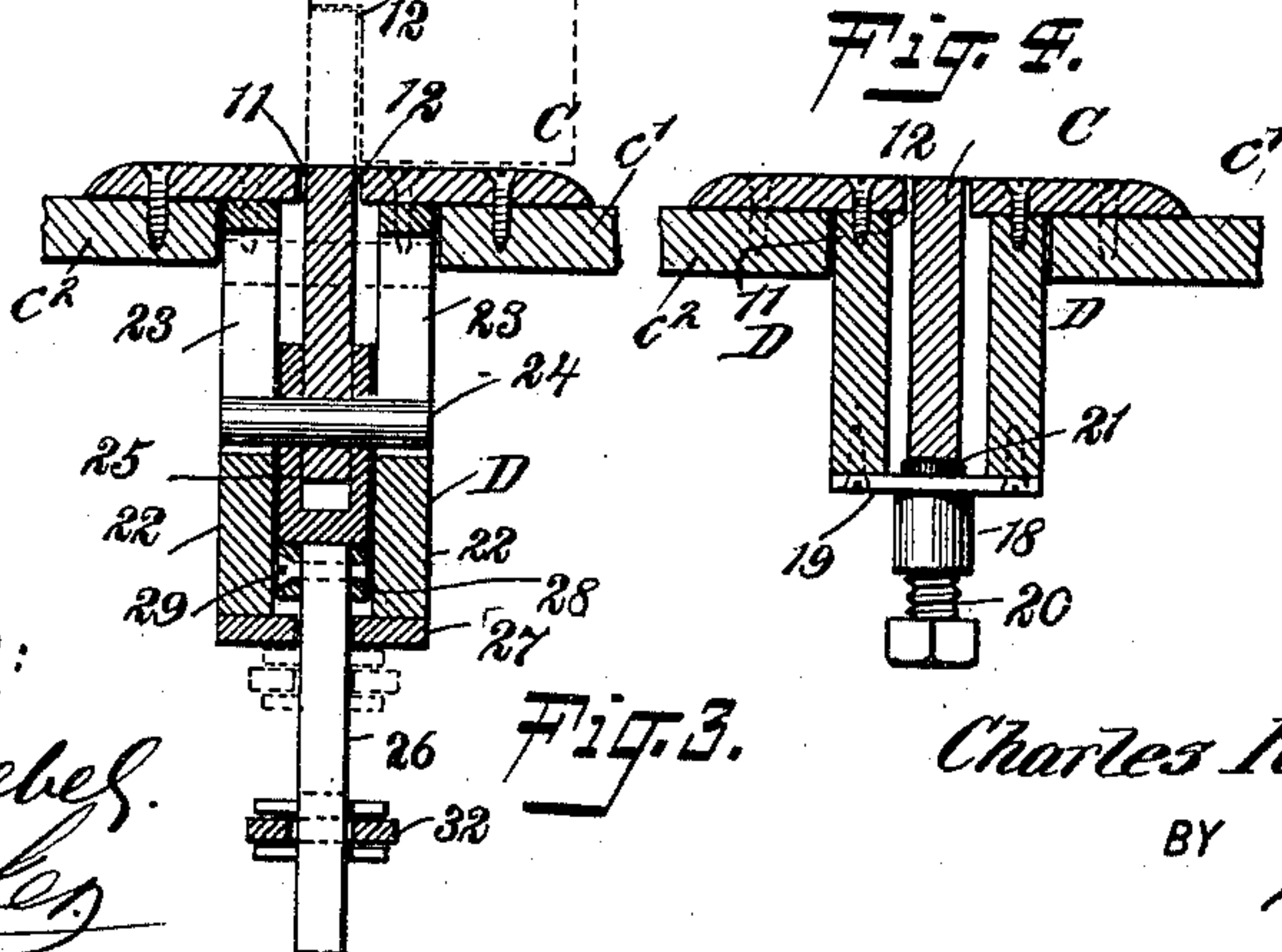
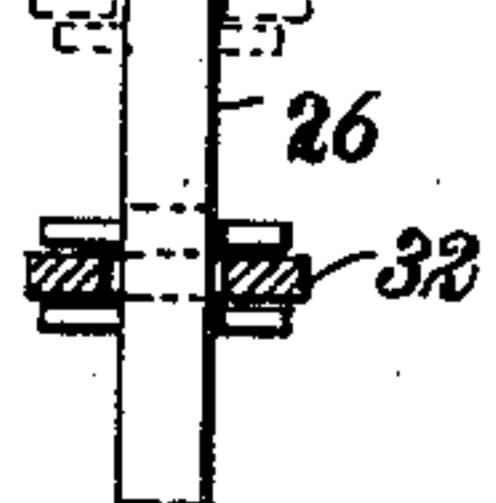


Fig. 3.



INVENTOR

Charles R. Sowden

BY

[Signature]

ATTORNEYS



# UNITED STATES PATENT OFFICE.

CHARLES R. SOWDEN, OF BASIN, MONTANA.

## AUTOMATIC THRESHOLD.

SPECIFICATION forming part of Letters Patent No. 704,395, dated July 8, 1902.

Application filed September 3, 1901. Serial No. 74,103. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES R. SOWDEN, a citizen of the United States and a resident of Basin, in the county of Jefferson and State of Montana, have invented a new and Improved Automatic Threshold, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide an automatic threshold which will be an improvement upon the device for which Letters Patent were granted to me January 19, 1899, No. 617,662, the improvements being such as to simplify the construction and render the device more positive in action.

The object of the invention is to provide a threshold with a weather-strip so constructed that when the door is closed the weather-strip will be automatically carried upward to an engagement or entering connection with the bottom face of the door for the purpose of excluding the weather, dust, &c., from the room, which weather-strip when the door is opened will be about flush with the threshold-strip or at a point below its upper face.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a portion of the door-frame and door, illustrating the improved threshold applied, the weather-strip being in its lower position. Fig. 2 is a horizontal section through the lower portion of the door-frame and the threshold-strip, illustrating the weather-strip and its operative parts in side elevation. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a similar section on the line 4 4 of Fig. 2; and Fig. 5 is a detail sectional view of the carrier of the stop device for the weather-strip, the stop device appearing in side elevation.

A represents a door-frame of any approved construction, B an ordinary hinged door, which may or may not be provided with a rabbet 10 at the outer face of its bottom, and C represents a threshold-strip, of metal, which extends over the sill C' and over the flooring C<sup>2</sup>. The threshold-strip is provided with a

longitudinal slot 11 over the space between the flooring and the sill, and said threshold-strip extends from face to face of the door-frame A. A vertically-movable weather-strip 12 is adapted to pass through the slot 11, and the weather-strip is of a length equal to the distance between the door-jambs.

The weather-strip 12 may be of any suitable or approved material—as, for example, it may be made of wood or metal or of rubber—and may have a yielding upper edge, if so desired. The weather-strip 12 is secured to the upper portion of a box-frame D, which frame preferably abuts at one end against one door-jamb and is provided with a horizontal fixed extension 13 at its opposite end, which extension is carried beneath the opposing jamb or is otherwise placed in communication with the chamber 14 of such jamb, as is shown in Fig. 2. This chambered jamb is provided with an opening 15 in its outer face or the face against which the hinged edge of the door strikes when the door is closed.

The threshold-strip C, by reason of the slot 11, is in two sections, as the slot extends from end to end of the strip. The strip is preferably attached in the following manner, and, as shown in Figs. 3 and 4, the outside member of the threshold-strip is secured by screws or the like to the sill C' and to the box-frame D, and the other section of the threshold-strip is secured in like manner to the box-frame D and the flooring C<sup>2</sup>.

The box-frame consists of parallel side pieces connected at or near their ends in any suitable manner. Stop devices E are employed to check or stop the downward movement of the weather-strip 12 between the side members of the box-frame D, and these stop devices are located one near each end of the bottom portion of the said box-frame. Each limiting or stop device E consists of an interiorly-threaded sleeve 18, extending downward from a bridge-plate 19, and the said bridge-plates are secured transversely to the bottom portion of the said box-frame and is particularly shown in Fig. 2. Each sleeve 18 receives a screw 20, having a head adapted to be turned by a wrench or screw-driver, or both, and each screw 20 is provided with an elastic upper end portion 21, against which the lower edge of the threshold-strip rests when said strip 12 is



in its lower position. The extent to which the threshold-strip may drop is regulated by the adjustment of the screws 20.

Each side piece of the box-frame D is provided at its center with a downwardly-extending check-section 22, and above the said check-sections vertical slots 23 are made in the central portions of the side pieces of the box-frame D, as is best shown in Fig. 3. These slots receive the ends of a pin 24, the said pin being passed through the lower central portion of the weather-strip 12 and through the upper forked or bifurcated section 25 of a stem 26, which fork 25 extends up at each side of the weather-strip, as is shown in Fig. 3, and the stem 26 is made to move freely through an opening in a bridge-plate 27, attached to the central lower portions of the check-sections 22 of the said box-frame D. A lifting-bar 28 is employed in connection with the stem 26, the said stem being passed through the center of the said lifting-bar and secured thereto in an adjustable manner, if desired, by a pin or a screw 29, as is also shown in Fig. 3. This lifting-bar 28 is provided with upwardly-extending head-sections 30 of equal height or vertical depth, and these head-sections 30 of the lifting-bar have equal bearing upon the lower edge of the weather-strip 12 at equal distances from the center of the said weather-strip, as is shown in Fig. 2, so that when the stem 26 is raised the lifting-bar 28 is also carried upward and causes the weather-strip 12 to be elevated and extend beyond the upper face of the threshold strip or sill an equal distance at each of its ends.

The horizontal member of an elbow-lever 32 is adjustably attached to the lower portion of the stem 26, and the vertical member of this lever extends up in the chamber 14 of the chambered door-jamb, as is shown in Fig. 2, and is fulcrumed by means of a pin or bolt 33 to the extension 13 of the box-frame D. This end of the box-frame D is usually strengthened by an additional bolt 34. At the upper portion of the upper member of the said lever 32 a plunger 35 is pivoted to the lever, and this plunger extends out through the opening 15 in the chambered door-jamb, so that when the door B is closed the hinged edge of the door will strike the plunger 35 and force the same within the chambered jamb 14, causing the horizontal end of the lever 32 to be elevated, and consequently the weather-strip 12 to be raised, which weather-strip at its upper edge will either engage with the bottom of the door B or will enter the rabbet 10 therein, heretofore referred to. When the door is opened, the weather-strip 12 drops to its normal position through gravity, particularly since the horizontal member of the lever 32 is of greater length or is of greater width than the vertical member, and the plunger 35 again extends outward to be again pressed inward by the door when it is closed.

It will be understood that the plunger 35

may be adapted to either jamb of the door and that the plunger is preferably made adjustable.

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

1. A door-sill or threshold having a slot therein, a box-frame to which the door-sill or threshold is attached, a weather-strip extending practically from end to end of the box-frame and capable of moving in the slot of the sill or threshold, a lifting-bar having bearing at its ends against the lower edge of the weather-strip, and a lever in operative and adjustable connection with the said lifting-bar, which lever is operated by the movement of the door as the said door is opened and closed.

2. The combination with a sill or threshold having a longitudinal opening therein, a box-frame to which the sill or threshold is attached, a weather-strip having vertical movement in the frame and adapted to extend through the slot in the sill or threshold, an equalizing-bar carried by the said frame and having engagement with the threshold-strip at both sides of its center, guides for the said equalizing-bar, which equalizing-bar is likewise a lifting-bar, a lever connected with the equalizing-bar, adapted in one position of the lever to raise the equalizing-bar, and a plunger carried by the lever and adapted to be operated by a door while opening or closing, as described.

3. In automatic thresholds, the combination, with a box-frame, a sill or threshold attached to the upper portion of the box-frame and provided with a longitudinal opening therein, a weather-strip mounted to slide vertically in the said box-frame and extend through the openings in the said sill, stop devices carried by the said frame, and in adjustable engagement with the lower edge of the weather-strip at its end portions, and an equalizing or lifting bar having bearing against the bottom of the weather-strip at each side of its center, of a shifting device for the lifting or equalizing bar, which shifting device has guided movement in the said frame, an elbow-lever fulcrumed upon the box-frame, having one end connected with the said shifting device, and a plunger connected with the opposite end of said lever, adapted to be operated by the opening and closing of a door, as described.

4. A door-sill or threshold having a slot therein, a frame to which the door-sill or threshold is attached, a weather-strip mounted to slide vertically in said slot, stop devices for the end portions of the weather-strip carried by said frame for engagement with the lower edge of the weather-strip, and devices for raising and lowering the weather-strip, acting thereon at points each side of the center of the weather-strip, substantially as described.

5. In automatic thresholds, a frame, a sill



or threshold carried by the upper portion of  
the frame and having an opening therein, a  
weather-strip mounted to slide in the frame  
and through the opening in the sill, stop de-  
5 vices for adjustable engagement with the  
weather-strip, and devices for raising and  
lowering the weather-strip, as set forth.

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

CHARLES R. SOWDEN.

Witnesses:

J. FRED. ACKER,  
EVERARD B. MARSHALL.