

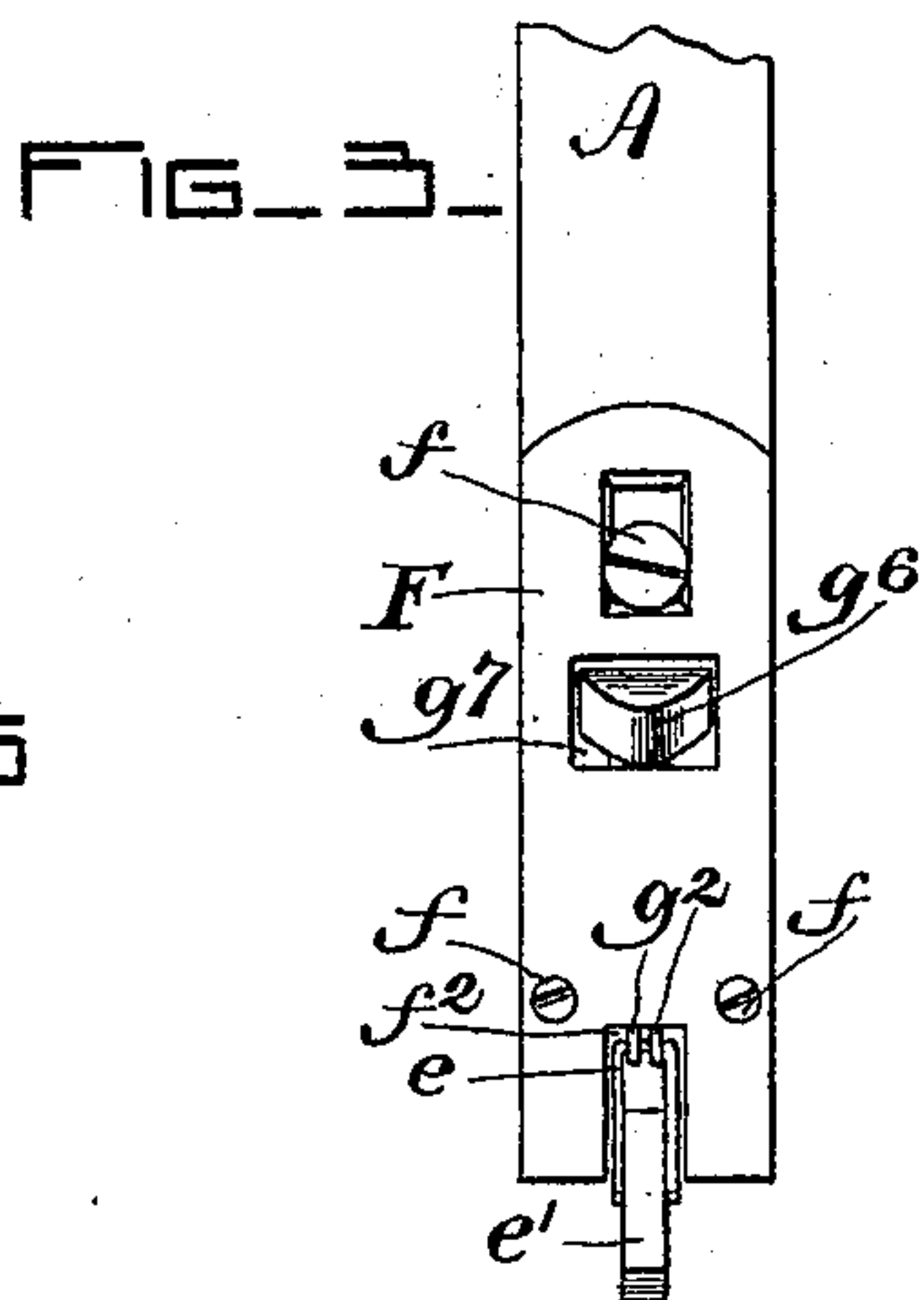
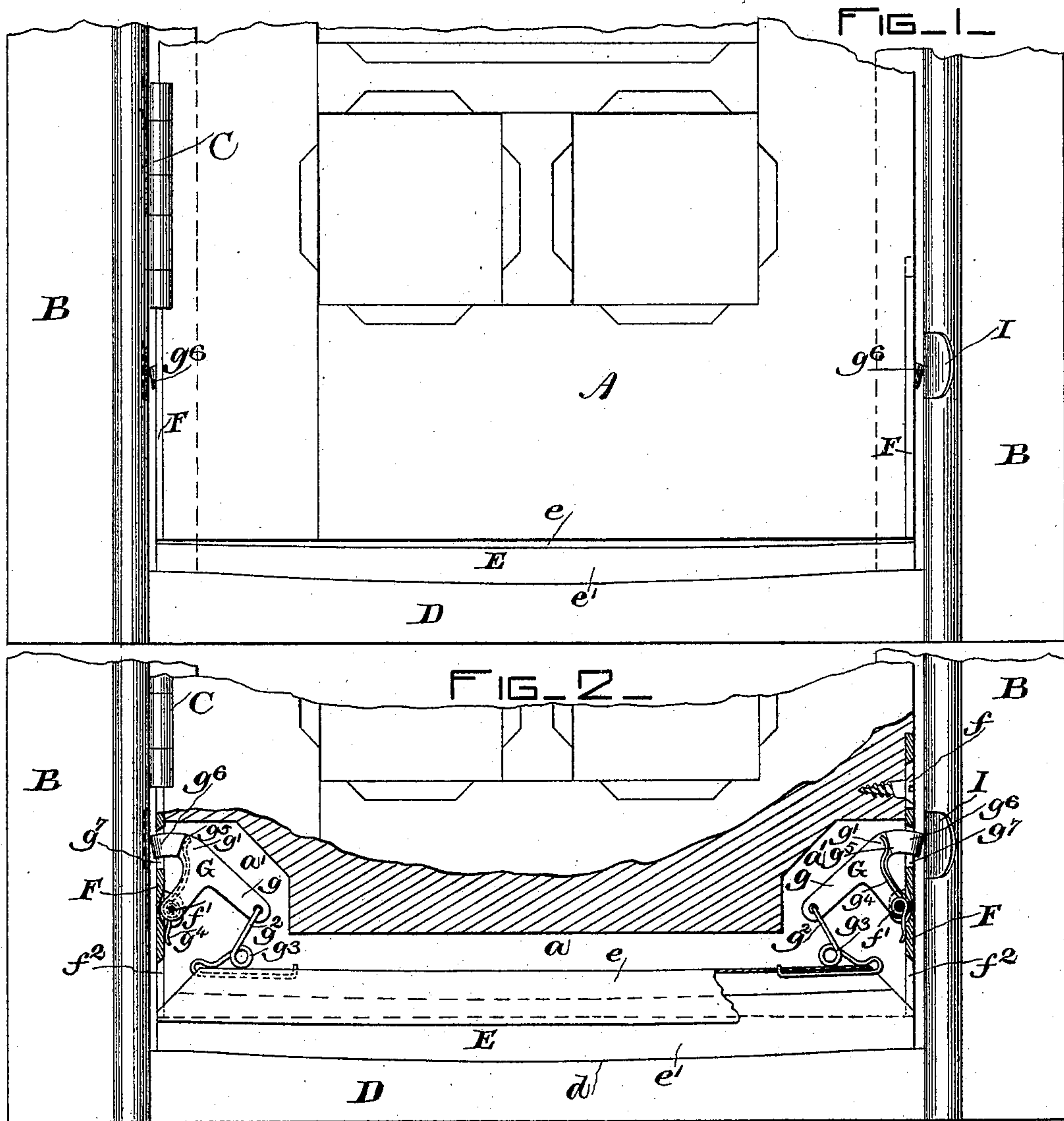
No. 618,733.

Patented Jan. 31, 1899.

A. ROSE.
WEATHER STRIP.

(Application filed Feb. 10, 1898.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

ALEXANDER ROSE, OF LYNN, MASSACHUSETTS.

WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 618,733, dated January 31, 1899.

Application filed February 10, 1898. Serial No. 669,824. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER ROSE, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Weather-Strips; and I do hereby 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.

The present invention relates to improvements in weather-strips, and more particularly to an automatic weather-strip which is arranged at the lower edge of a door or window which has a swinging movement on hinges and in which the weather-strip is arranged to be forced in contact with the door or window-sill by the act of closing the door or window.

The object of the present invention is to produce a weather-strip of the type above set forth which will have a close contact with and be yieldingly forced against the door or window-sill.

A further object of the present invention is to so construct the holder for the cushion or elastic portion of the weather-strip that said holder may be adjusted to cause the yielding portion of the weather-strip to conform to a door-sill even if said door-sill should be considerably worn away.

To the above end the present invention consists of a weather-strip movably connected to a door or window, means actuated by the closing of the door or window to throw said weather-strip in contact with the door or window-sill, and intermediate yielding connections between the weather-strip and its actuating means.

The invention also consists of a weather-strip comprising an elastic or cushion portion and a holder for said cushion portion, said holder constructed and arranged to be adjusted to cause the cushion portion of the weather-strip to conform to a door-sill which has been worn away.

The invention further consists of the devices and combinations of devices which will be hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a view of the lower portion

of a door and door-frame with the invention applied thereto. Fig. 2 shows a view similar to Fig. 1 with the lower portion of the door broken out to show details of construction. Fig. 3 shows in side elevation the lower portion of a door.

Similar letters of reference will be used to designate corresponding parts throughout the specification and drawings.

In the drawings, A represents a door, which may be of any usual and ordinary construction, and B represents the door-frame, the door being secured by hinges C to one side of the door-frame B to swing for the purpose of opening and closing the door, all as is usual in such construction.

D represents a door-sill, which for the purpose of illustrating the adjustability of the present invention is shown as having a concave upper surface *d* and is intended to represent a door-sill which has been considerably worn away.

In the lower edge of the door A is formed a recess *a*, which extends from side to side of the door A and which at each end communicates with vertical recesses *a'*, as clearly shown in Fig. 2 of the drawings. In the recess *a* is arranged for vertical movement therein the weather-strip E, which comprises a holder *e* and an elastic cushion-strip *e'*. The holder or carrier *e* consists of a trough-shaped strip of brass or other suitable metal, which receives the upper edge of the elastic cushion-strip *e'*, said strip *e'* being secured in the trough-shaped holder *e* by some suitable cement or in any other suitable manner. By forming the trough-shaped holder *e* of brass or other suitable bendable metal the said holder may be bent or curved, as clearly shown, in order to adjust said holder and the elastic cushion-strip carried thereby to conform to the curved surface of the worn door-sill D.

It is designed that the weather-strip E shall be projected from the recess *a* and brought into close contact with the upper surface of the door-sill D by the closing of the door A and that said weather-strip E by the opening of the door shall be retracted or raised in the recess *a*, to secure which result in the illustrated embodiment of the present invention the weather-strip is arranged as follows: At each side of the door A there is secured a

plate F, said plates being constructed of any suitable metal and secured to the outer edges of the door by screws f or in any other suitable manner. Pivoted at f' in ears upon the inner face of the plates F are suitable levers G, which are arranged to swing about their fulcrums f' in the recesses a' , as clearly shown. The levers G have at their upper ends arms g and g' , the inner arms g arranged to support and actuate the weather-strip E, whereby as said levers G swing about their fulcrums f' the weather-strip E may be raised or lowered, and in order that said weather-strip may be yieldingly connected with the levers G and yieldingly forced in contact with the door-sill D the connections between said weather-strip E and the levers G consist of suitable springs g^2 , said springs being connected at one end with the holder e of the weather-strip E and at their opposite ends to the inner ends g of the levers G, the springs g^2 being preferably formed with the intermediate coil g^3 , as clearly shown. The levers G are swung about their fulcrums to raise their inner ends g , and thus raise the weather-strip E, by means of suitable springs g^4 , which are coiled about the fulcrums f' of the levers G and which at one end bear against the inner surface of the plates F and at their opposite ends bear against shoulders g^5 formed on the arms g' of the levers G.

In order to cause the levers G to be forced in the opposite direction against the tension of the springs g^4 to project the weather-strip E from the recess a , the arms g' of said levers are formed with projecting cam-shaped ends g^6 , which, as clearly shown in Fig. 3, are beveled upon each side and which when the door is opened will be normally projected from the openings g^7 formed in the plates F, and said cam-shaped ends g^6 of the levers G when the door shall be closed will engage with the inner sides of the door-frame and be forced back into the openings g^7 , thus rocking the levers G and, through the springs g^2 , depressing the weather-strip E and forcing it out of the recess a , causing it to be forced into close contact with the upper surface of the door-sill D.

For the purpose of insuring the proper guiding of the weather-strip E in its vertical movements I prefer to provide the plates F with vertical slots f^2 at their lower ends, in which slots the ends of the weather-strip E are arranged to have a free vertical movement.

It will be seen from the foregoing that upon

closing the door the lever G at the left-hand side thereof will be first brought into contact with the side of the door-frame to depress the left-hand end of the weather-strip E and that as the door continues to move on its hinges to close the same the lever G on the right will come into contact with the side of the door-frame to depress the opposite end of the weather-strip, so that when the door shall have been finally closed both ends of the weather-strip shall be firmly but yieldingly forced into contact with the upper surface of the door-sill.

If desired, I may secure a suitable wear-plate I upon the side of the door-frame at the point where the cam ends of the levers G come in contact therewith.

While I have specifically described the invention in its application to a door, I desire to state that I do not intend to limit myself to said application, inasmuch as it is clearly applicable to windows where said windows are arranged to be swung on hinges, as in the case of a door.

It is to be noted that in the present invention the elastic and yielding connection between the actuating-levers and the weather-strip insures that the weather-strip will be closely brought in contact with the door-sill, and yet yieldingly, so that should the levers be moved inwardly after the weather-strip has been brought to a stop against the door-sill they will simply compress the connecting-springs and not subject the parts to any rupturing strain.

Having fully described the construction and mode of operation of my invention, I claim as new and desire to protect by Letters Patent of the United States—

In combination with a door, of a weather-strip arranged along the lower end thereof, and actuating mechanism at the ends of the weather-strip, each comprising a lever G having one end projecting through the edge of the door, a spring g^2 provided with an intermediate coil g^3 , connecting the other end of the lever G with the end of the weather-strip and means for oscillating the lever to raise the weather-strip, substantially as described.

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

ALEXANDER ROSE.

Witnesses:

JOHN J. COLLINS,
A. O. ORNE.