No. 652,489. Patented June 26, 1900.

A. SANDBERG & O. VETTER.

WEATHER STRIP FOR DOORS.

(Application filed Apr. 12, 1900.)

(No Model.)

Fig. 1.

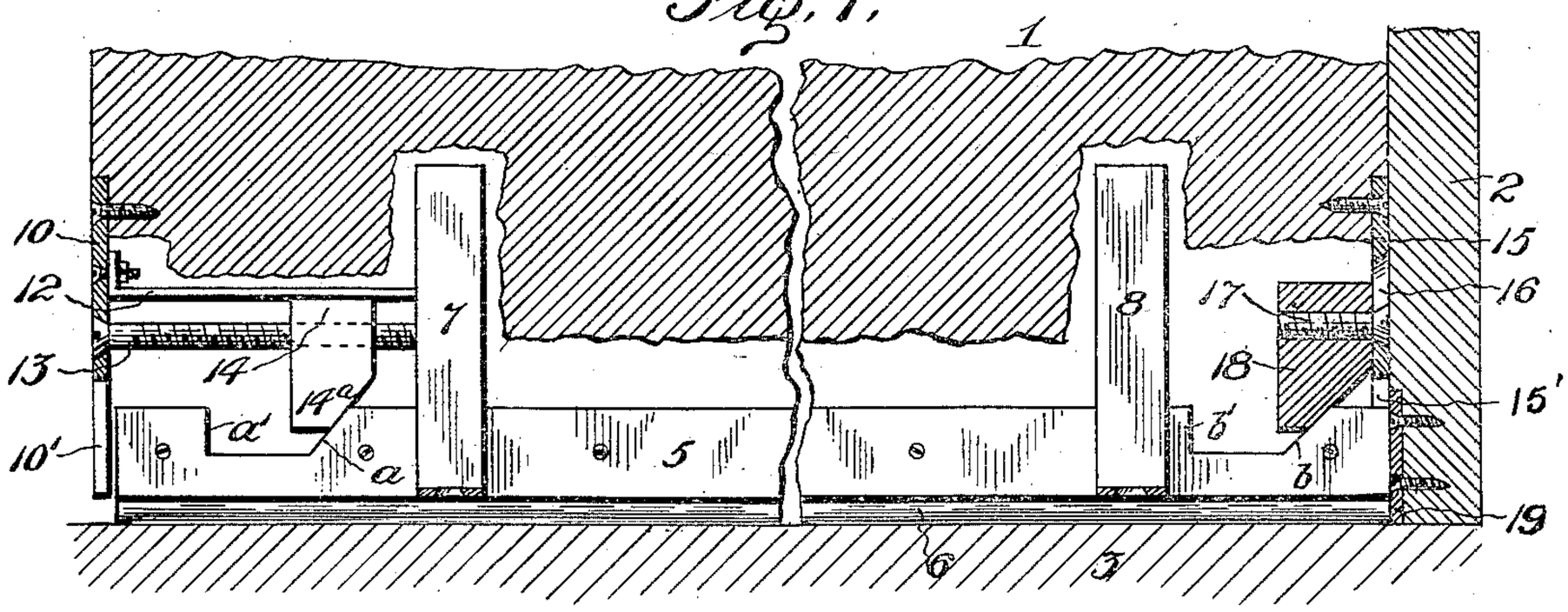


Fig. 2.

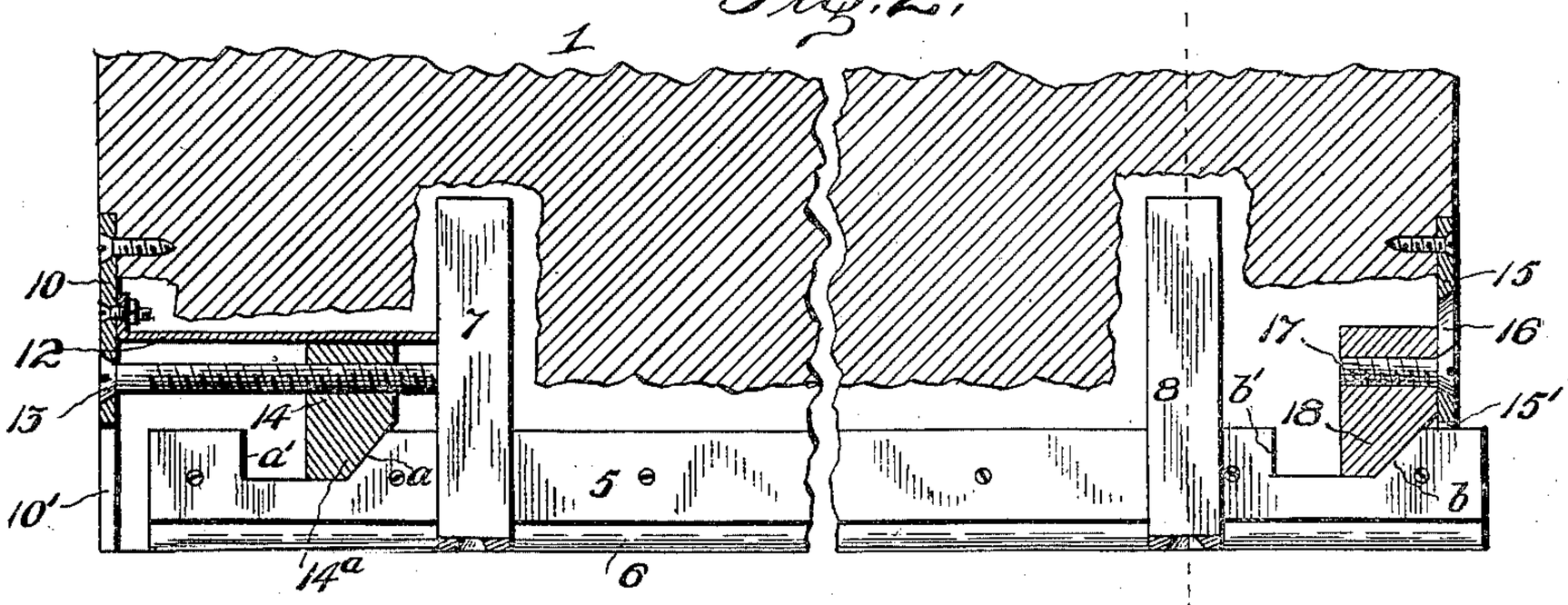


Fig. 3.

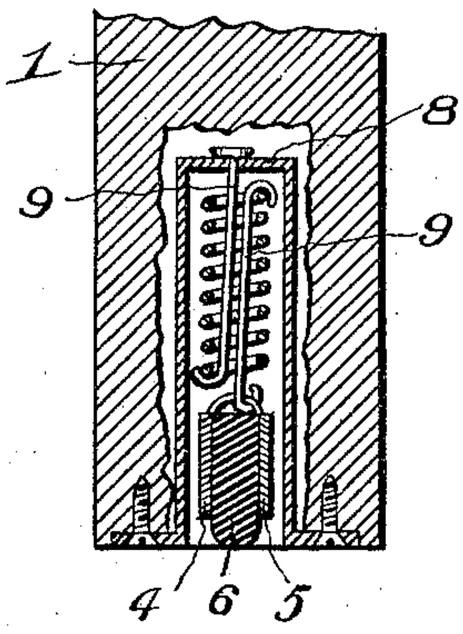


Fig. 4.

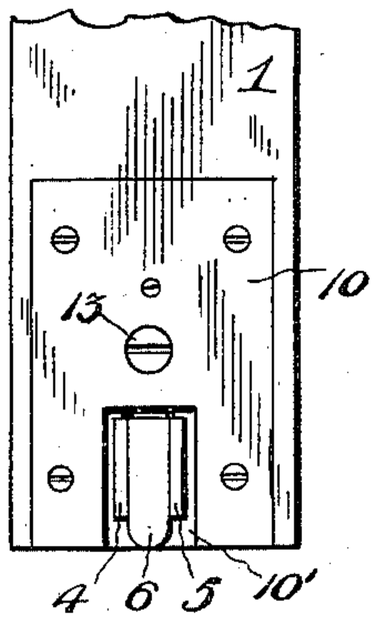
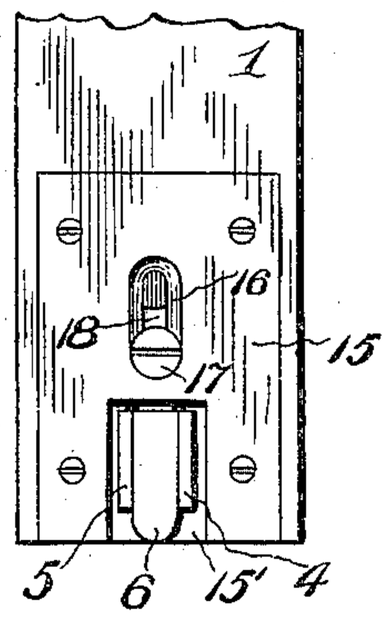


Fig. 5.



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UNITED STATES PATENT OFFICE.

AUGUST SANDBERG AND OTTO VETTER, OF CHICAGO, ILLINOIS.

WEATHER-STRIP FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 652,489, dated June 26, 1900.

Application filed April 12, 1900. Serial No. 12,561. (No model.)

To all whom it may concern:

Be it known that we, AUGUST SANDBERG and OTTO VETTER, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Weather-Strips for Doors; and we 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.

This invention relates to weather-strips, and particularly to that class of weather-strips for the lower edges of doors and which are automatically thrown into and out of use by opening and closing the door.

The object of this invention is to produce a device of this character which can be easily applied to any door, which will be strictly automatic and positive in its operation, which can be readily adjusted to shut up spaces of different widths or can be entirely thrown out of operation, and which will make an air and water tight connection between the lower edge of the door and the sill.

With these objects in view our invention consists in the construction and arrangement of the several parts, which will hereinafter appear, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through the lower end of a closed door and its jambs, showing our device applied thereto, the parts being forced downwardly in contact with the sill. Fig. 2 is a similar view of an open door, the parts being in a retracted position. Fig. 3 is a transverse vertical section of the same, taken through one of the coiled-spring-supporting brackets. Fig. 4 is a front edge view of the lower portion of a door. Fig. 5 is a rear edge view of the same.

In the drawings, 1 denotes the lower portion of a door, 2 the jambs, and 3 the sill.

4 and 5 denote thin metal plates of a length equal to the width of the door to which they are to be applied. These plates are bolted together to clamp between them a flexible packing-strip 6, of rubber or felt, which is of a length equal to said strips, thus forming the weather-strip.

The plates 4 and 5 are recessed or cut away on their upper edges, near their ends, to form the shoulders *a a'* and *b b'*. The shoulders *a* and *b* are beveled off rearwardly for a purpose hereinafter to appear.

7 and 8 are bail-shaped metal brackets having their lower free ends bent laterally at a right angle to the vertical portion of the brackets and provided with screw-holes. Spring-controlled rods 9 are connected to the tops of the brackets 7 and 8, and the lower depending ends of the rods 9 are connected to the upper edges of the bars 4 and 5, so that the said bars are supported by the rods 9 between the legs of the bail-shaped brackets 7 and 8.

In the lower edge of the door is formed a mortise or slot extending the entire width thereof. Into the mortise are inserted the brackets 7 and 8 and the weather-strip. Screws are passed through the holes in the lateral extensions on the lower ends of the said brackets into the lower edge of the door, thus securing the brackets firmly in place.

10 is a flat metal plate set into the lower front edge of the door and provided on its lower face with an open-ended slot 10'.

12 is a plate or bracket connecting the inner side of the plate 10 with the bracket 7.

13 denotes a screw-bolt passing through a hole in the plate 10 and having its inner end swiveled in the bracket 7 and being provided on its outer end with a countersunk head bearing in the plate 10, as shown.

Mounted on the screw-bolt 13 is a lug or block 14, having its upper side bearing against the plate or bracket 12, which holds the block against rotation with the screw-bolt. The lower side of the lug or block 14 is provided with an extension 14^a, having one of its ends beveled off to coincide with the adjacent beveled shoulder *a* of the weather-strip formed by the plates 4 and 5 and the packing-strip 6.

15 denotes a flat metal plate set into the rear edge of the door and provided at its lower end with an open-ended slot 15', through which works the inner end of the weather-strip. The plate 15 is also provided with a slot 16, the vertical edges of which are beveled inwardly, so as to be engaged by the beveled head of a clamping-screw 17.

18 denotes a lug or block with which the clamping-screw 17 has threaded engagement, so that upon loosening the screw the block may be moved upwardly or downwardly with-

in the limits of the slot 16. The lower end of the block or lug 18 is beveled off to coincide with the adjacent beveled shoulder *b* of the weather-strip.

The operation of our improved weather-strip is as follows: When the door is open, the force of the spring-controlled rods 9 is exerted to hold the weather-strip in a retracted or raised position, the lower edge of the packing-strip being then flush with the lower edge of the door, the rods 9 being connected to the weather-strip at such positions that the strip will in its retracted position protrude beyond the rear edge of the door a certain distance when the same is open. Upon closing the door the protruding end of the weather-strip will be brought to bear upon a metal plate 19, set in the adjacent door-jamb, and upon further closing of the door the strip will be forced inwardly, so the beveled shoulders *a* and *b* of the strip will be brought into contact with the beveled ends of the lugs 14 and 18, when, by reason of the said beveled surfaces being forced against each other, the weather-strip will be forced downwardly and held against the tension of the spring-controlled rods 9 and into close contact with the door-sill 3. Upon opening the door the strip will again be retracted by the spring-controlled rods 9. It will be readily seen that by turning the screw-bolt 13 the lug 14 can be adjusted to cause a greater or less obstruction to the beveled shoulder *a* of the weather-strip, and likewise the lug 18 may be adjusted to cause more or less obstruction to the beveled shoulder *b* of the strip, in consequence of which the strip will be forced downwardly to a corresponding degree or either of the lugs may be adjusted independently of the other, which will cause one end of the strip to be lower or higher than the other to fill up inequalities in the space beneath the door caused by an unequal shrinkage or settling of the sill.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of our improved device will be readily understood, and a further explanation of the same is not deemed necessary.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described our invention and set forth its merits, what we claim, and desire to secure by Letters Patent, is—

1. The combination with the supporting-brackets of the weather-strip, spring-controlled rods for connecting said brackets and said weather-strip, adjustable lugs or blocks located in the path of longitudinal movement of said weather-strip to force the same against a door-sill, substantially as set forth.

2. The combination with the supporting-brackets of the weather-strip, adapted to be applied to the lower edge of a door, spring-controlled rods for connecting said brackets and said weather-strip, a horizontally-adjustable lug and a vertically-adjustable lug located in the longitudinal path of movement of said weather-strip and adapted to engage beveled shoulders thereon, for the purpose of forcing said strip downwardly into contact with the door-sill, substantially as set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

AUGUST SANDBERG.
OTTO VETTER.

Witnesses:
OSCAR CARLSON,
PETER OLSON.