No. 671,339. Patented Apr. 2, 1901.

N. N. HAZELTON, Dec'd.

A. HAZELTON, Administratrix.

WEATHER STRIP.

(Application filed Jan. 26, 1901.)

(No Model.)

Fig. 1.

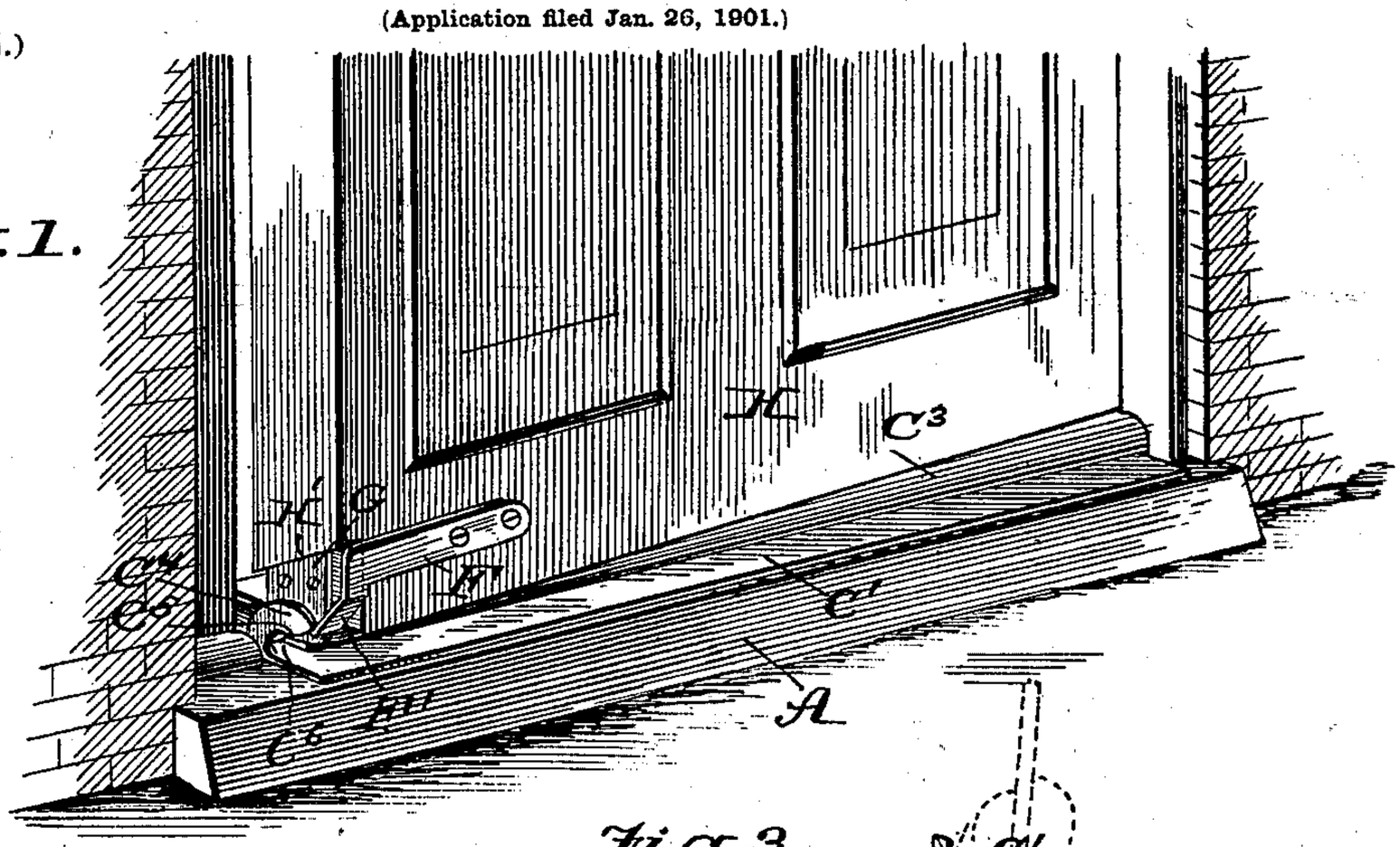


Fig. 2.

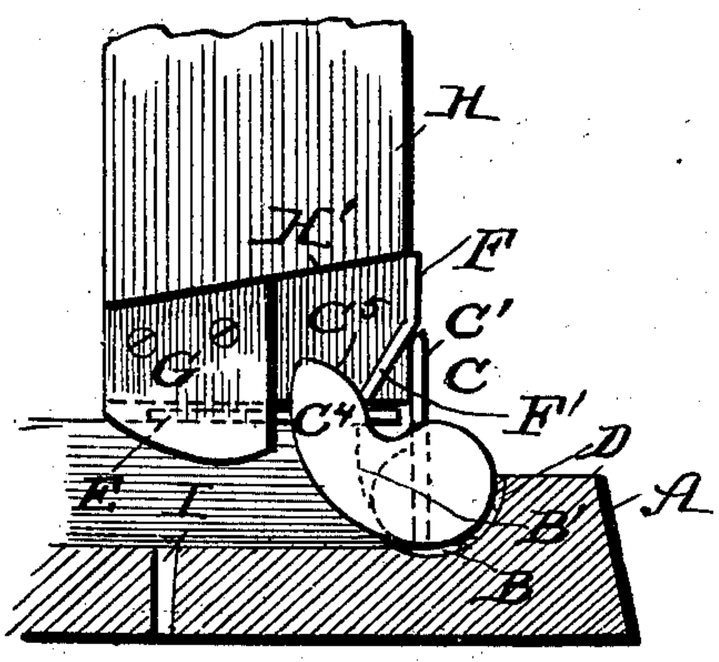


Fig. 3.

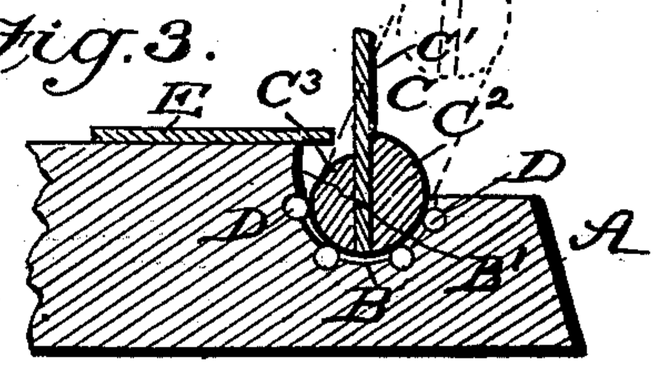


Fig. 4.

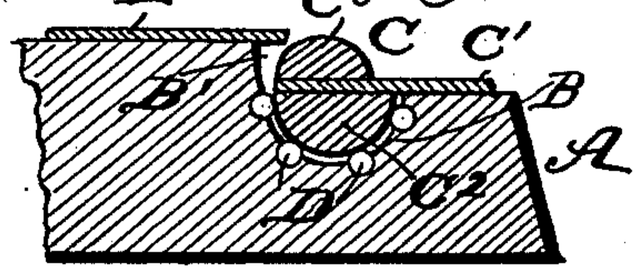


Fig. 5.

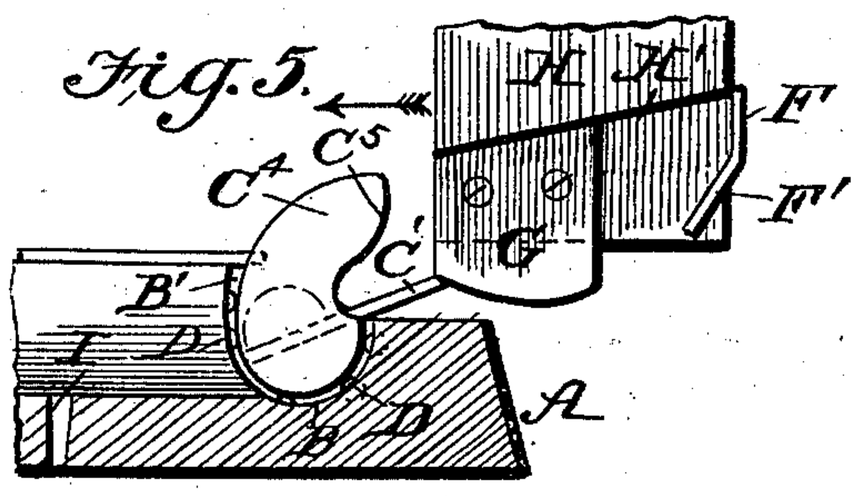
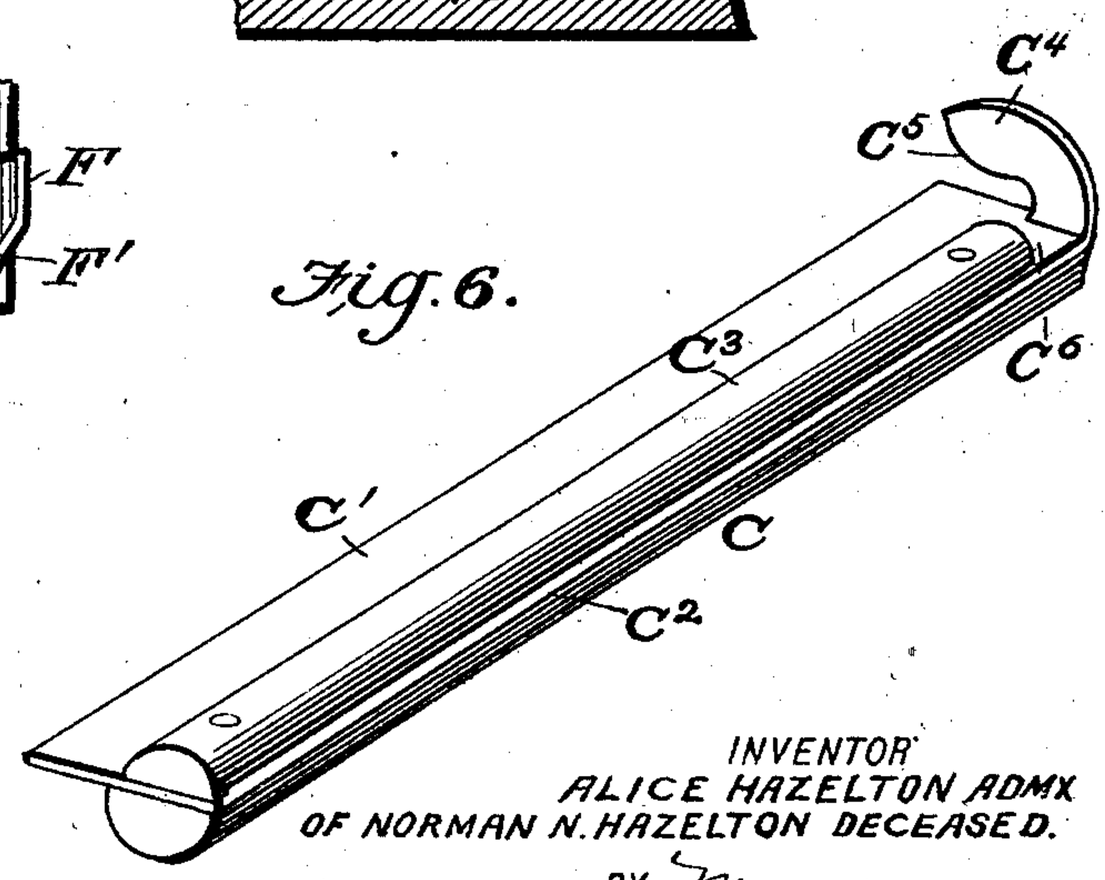


Fig. 6.



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WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 671,339, dated April 2, 1901.

Application filed January 26, 1901. Serial No. 44,891. (No model.)

To all whom it may concern:

Be it known that NORMAN N. HAZELTON, deceased, late a citizen of the United States, who resided at Lamoni, in the county of Decatur and State of Iowa, invented certain new and useful Improvements in Weather-Strips, of which the following is a specification.

The invention is an improvement in weather-strips applied to or embodied in the threshold of a door, and has for its objects, among others, to provide means whereby the ingress of snow and water may be prevented, by which the door may readily operate the weather-strip proper into and out of position to shut off the ingress of snow and water, and by which the operation of such weather-strip proper may be facilitated.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the invention as in use, a portion of the door being broken away and the door being shown partially open. Fig. 2 is a detail cross-section drawn alongside the swinging edge of the door, the door being closed and the other parts being in the position assumed when the door is closed. Figs. 3 and 4 are cross-sections of the threshold and weather-strip proper, showing the latter in Fig. 3 in the position it assumes when the door is closed and in Fig. 4 in the position it assumes when the door is opened. Fig. 5 is a detail sectional view drawn alongside the swinging edge of the door, showing the weather-strip proper with its guard-plate slightly elevated and illustrating how the door, if moved in the direction indicated by the arrow, will adjust the weather-strip proper to the position shown in Fig. 4 before the arm of such part is engaged by the operating part on the door, and Fig. 6 is a detail perspective view of the weather-strip proper.

The threshold A is provided in its upper face, near its outer edge, with a longitudinal recess B, in which is seated the weather-strip proper, C, so the latter can turn or partially rotate. To facilitate this, it is preferred to curve the base of the recess B circularly, as shown, and provide it with a plurality of balls or similar antifriction devices D, which project into the recess and receive the bearing of the weather-strip C. The rear wall B′ of the recess B is prolonged upwardly and rearwardly to the upper face of the threshold, and a retaining-plate E is secured upon the threshold and projects at its forward edge over the recess B and contracts the mouth thereof, as will be understood from Figs. 3 and 4. It will also be noticed from Figs. 3 and 4 that the upper face of the threshold in advance of the recess B is arranged in a lower plane than the upper face of such threshold in rear of such recess, which construction permits the insertion and removal of the weather-strip proper in certain adjustments thereof, as will be more fully described.

The weather-strip proper is shown as constructed with the guard-plate C′ and below the same with a curved segmental rib C^2 and above the same with a curved segmental rib C^3, which is curved on a smaller arc than the rib C^2, coincides at its rear edge with that of the rib C^2, and terminates at its front edge in rear of the corresponding edge of the rib C^2, as is clearly shown in Figs. 3 and 4. By this construction it will be seen from Fig. 4 that when the weather-strip proper is adjusted with its guard-plate flat upon the depressed front face of the threshold, as shown in said Fig. 4, the overlapping plate E will prevent the withdrawal of the part C from its recess, also that such withdrawal cannot be accomplished until the part C has been adjusted to the position shown in Fig. 3, when it can be lifted in the direction indicated by dotted lines, which illustrates how the weather-strip proper can be inserted into and removed from the threshold. It will also be noticed that the position of the weather-strip proper (shown in Fig. 3) is only assumed by such part in the operation of the device when the door is closed, as shown in Fig. 2, so there is no danger of the accidental displacement of the weather-strip proper, since it is only adjusted to the position shown in Fig. 3 by the closing of the door, which when closed will lock the part C in place, or intentionally when it is desired to insert or withdraw the part C.

At one end of the weather-strip C is provided an arm C^4, formed on its edge C^5 for engagement by the operating-plate F at the

swinging edge of the door, and the rib C^3 is cut away at C^6, adjacent to the arm C^4, to permit the operation of the wedge-plate G, which is also secured to the door at the swinging edge thereof.

The door H is provided at the lower end of its swinging edge with a notch H′, in which is secured the plate G and which is overlapped by the free end of the operating-plate F. This plate F is secured to the outer face of the door and has at its free end a tongue F′, which projects over the notch H′ and is inclined inwardly toward the inner face of the door from its upper to its lower edge, so that in opening the door the tongue F′ will operate with a wiping action upon the guard-plate C′ to adjust the part C from the position shown in Fig. 2 to that shown in Figs. 1 and 4. The plate G is secured in the notch H′ near the inner face of the door and has its lower edge G′ curved or inclined, so it will operate with a wedging action upon the plate C and force such plate down to the position shown in Fig. 4 in case it should accidentally have been moved into the position shown in Fig. 5 when the door was open. In such case the wedging edge G′ will ride upon the plate C′ and throw the strip C to the position shown in Fig. 4 before the tongue F′ operates upon the arm C^4 to move the weather-strip to the position shown in Fig. 2.

Where desired or necessary, the weather-strip may be provided with suitable vents I to drain off any water that may get into the recess for the weather-strip proper.

From the foregoing it is obvious the weather-strip will operate when the door is opened as a wear-plate for the sill, will not interfere in any way with the use of the sill, will be adjusted by the door to position to serve as a weather-strip when the door is closed, can only be inserted or removed when tilted to one position, and will not assume such position in the use of the device except when the door is closed, at which time the door will prevent the withdrawal of the weather-strip proper, so that the latter can only be inserted or removed when intentionally adjusted to a certain position when the door is opened.

The construction is simple, easily applied, and the provision of the antifriction-bearings D renders the operation of the weather-strip proper smooth and easy.

Having thus fully described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A weather-strip substantially as described, comprising a threshold having a longitudinal recess in its upper face, having such face in advance of the recess formed in a lower plane than the corresponding face in rear of the recess, the retaining-plate secured upon the threshold in rear of the recess and projecting at its front edge over the recess, and the weather-strip proper formed with the guard-plate, and with the curved ribs above and below the plane of such plate, the upper rib being curved on a smaller arc than the lower one and such ribs coinciding approximately at the rear edge of the weather-strip, all substantially as and for the purposes set forth.

2. The combination of the threshold provided with a recess forming a journal or seat for the weather-strip proper and having antifriction devices in the base of said seat, and the weather-strip proper having a guard-plate and a portion fitting and journaled in the recess of the threshold and provided with means whereby it may be automatically operated by the opening and closing of the door, and the door arranged to operate the weather-strip, substantially as set forth.

3. The combination of the threshold having a recess forming a seat for the weather-strip, the weather-strip proper having the guard-plate, a portion journaled in the threshold and a projecting arm, and the door having a wedge to operate upon the guard-plate of the weather-strip, and a plate or tongue for engagement with the arm of the said weather-strip, substantially as set forth.

4. The combination of the threshold having a recess forming a seat for the weather-strip proper and a retaining-plate overlapping the rear edge of said recess, and the weather-strip proper formed with a guard-plate and with curved portions at the rear edge of same fitting in the recess of the threshold, substantially as set forth.

5. The combination of the threshold having a seat for the weather-strip proper, the weather-strip proper composed of a guard-plate having an arm at one end and having curved ribs on its upper and under surfaces, and having the rib on the same side as the projecting arm cut away adjacent to said arm forming a way for the wedge-plate on the door, and the door having a wedge-plate for operation in line with the said way of the weather-strip, and with a tongue or plate for engagement with the arm of the weather-strip, substantially as set forth.

6. The combination of the threshold, the weather-strip proper journaled to said threshold and provided with a guard-plate, and having at one end a projecting arm, and the door provided at its swinging edge with a tongue for engagement with the arm of the weather-strip, said tongue being inclined inwardly from its upper to its lower edge whereby it will operate with a wiping action upon the guard-plate of the strip in opening the door, substantially as set forth.

7. The combination, substantially as described, of the threshold having a groove or recess forming a seat for the weather-strip proper, the weather-strip proper having a guard-plate, a portion journaled in the recess of the threshold, and a projecting arm at one end, the door provided at its swinging edge with a wedge-plate to operate upon the guard-plate of the weather-strip and also having in advance of said wedge-plate a tongue ar-

ranged to operate upon the arm of the weather-strip and inclined rearwardly at its lower end whereby it will operate with a wiping action upon the guard-plate of the weather-strip as the door is opened, substantially as set forth.

8. A threshold provided with a longitudinal recess forming a seat for the weather-strip proper and having its upper face in advance of such recess depressed relatively to its upper face in rear of such recess, the retaining-plate on the upper face of the threshold in rear of its recess and overlapping the rear edge of such recess, and the weather-strip proper having the guard-plate, a projecting arm at one end thereof and curved ribs above and below the plane of said guard-plate and curved on different arcs, combined with the door provided at its swinging edge with a wedge-plate arranged to operate upon the guard-plate of the weather-strip and with a tongue arranged to operate upon the arm as the door is closed and upon the guard-plate as the door is opened, substantially as and for the purposes set forth.

9. The combination of the threshold having a seat the weather-strip proper journaled in said seat, the door arranged to operate the weather-strip into one position when the door is closed, and into another position when the door is opened, and overlapping devices on the threshold by which to prevent withdrawal of the weather-strip proper when the latter is set to the position in which it is adjusted by the opening of the door, substantially as set forth.

ALICE HAZELTON,
Administratrix of the estate of Norman N. Hazelton, deceased.

Witnesses:
JAMES L. FENDER,
ANNA M. FENDER.