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WEATHER STRIP FOR DOORS.

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Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses

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Inventor

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WEATHER-STRIP FOR DOORS.


To all whom it may concern:  
Be it known that I, WILLIAM H. McLEOD, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Weather-Strips for Doors, of which the following is a specification.

This invention relates to weather- strips for doors, and has for its object to produce a device of this character which operates efficiently and reliably and embodies the desirable features of simplicity, strength, durability, and cheapness of construction and attachment.

To this end the invention consists in certain novel and peculiar features of construction and organization, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a sectional perspective view of a door-frame and door equipped with a weather-strip embodying my invention. Fig. 2 is a vertical section of a door-sill, taken at the hinge edge of the door when the latter is closed. Fig. 3 is a larger section taken on the line III-III of Fig. 4. Fig. 4 is a horizontal section taken on the line IV-IV of Fig. 3.

In the said drawings, 1 indicates the door, hinged to the door-jamb 2 in the usual manner (not shown) and adapted to close against the strip 3 of jamb 4.

Indicates the door-sill, and 6 the threshold-strip, 7 indicating the downwardly-sloping outer surface of the same.

A weather-strip of length approximately corresponding to the width of the door consists of a substantially semicylindrical head 8 and a portion 9, having its upper side sloping downward and outward when the door is closed, the lower outer end of said portion 9 being preferably equipped with a rubber or equivalent strip 10.

In each end of the head 8 is a segment-shaped slot or recess 11, extending concentrically of the pivot-pins 12 of the strip, said pivot-pins extending through the outer ends of a pair of thin metal brackets 13, secured to the side edges of the door.

Indicates arms projecting upward from the outer ends of brackets 13 and provided with curved wings 15, which bridge and cover slots or recesses 11, and arms 16, projecting into said slots or recesses, as shown most clearly in Figs. 3 and 4.

17 represents expansive coil-springs occupying slots or recesses 11 and bearing at their opposite ends against the ends of said slots or recesses contiguous to the door and against said inwardly-projecting arms 16, so that 60 when resisted they hold the strip in a substantially horizontal position, as shown in Figs. 1 and 3, the arms 16 by engagement with the contiguous or outer ends of the slots or recesses limiting the movement which is imparted to the strip by said springs.

18 indicates a sheet-metal shield or guard secured near one edge, as at 19, to the door and having its opposite edge in contact with the rounded surface of the head 8 of the strip, 70 this shield or guard being adapted to prevent rain or snow from gaining access to the space between the door and strip. The lower edge of said shield or guard is adapted to maintain a substantially air-tight relation with the head to prevent air passing inwardly between the same and hence entering the building.

The strip 3 is cut away at its inner lower corner to provide a recess 20 to accommodate 80 the shield or guard when the door is closed and an extension 21 of said recess, the upper wall of said extension converging downwardly and outwardly with respect to the surface 7 of the threshold-strip, so that when 85 the door is closed the portion 9 of the strip will strike said inclined wall of the extension 21 and be forced downward until the lower edge of said portion is pressed tightly upon the surface 7 of the threshold-strip, as shown 90 in Fig. 2, so as to prevent air and water passing inwardly between the weather-strip and the threshold-strip. In this pivotal action of the weather-strip the springs 17 are compressed because arms 16 are stationary. (See Figs. 2 and 3.)

When the door is opened, the strip is withdrawn from the recess, and as a result the springs 17 rotate the strip back to its original or horizontal position, so that it will be clear above the floor during practically the entire opening and closing operation.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

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

1. In a device of the character described, a door, brackets projecting from said door,
and provided with inwardly-projecting arms, a weather-strip pivoted to and between said brackets and provided with curved slots or recesses in its ends to receive said inwardly-projecting arms, and expansive springs occupying said slots or recesses and interposed between said arms and the ends of the slots or recesses contiguous to the door.

2. In a device of the character described, a door, brackets projecting from said door, and provided with inwardly-projecting arms, a weather-strip pivoted to and between said brackets and provided with curved slots or recesses its ends to receive the inwardly-projecting arms, expansive springs occupying said slots or recesses and interposed between said arms and the ends of the slots or recesses contiguous to the door, and arms projecting from the brackets and forming covers for the open sides of said slots or recesses to retain the springs therein.

3. In a device of the character described, a door, brackets projecting from said door, a weather-strip pivoted to said brackets and provided with a curved slot or recess, an arm rigid with respect to the brackets and projecting into said slot or recess, and an expansive spring occupying said slot or recess and interposed between said arm and the end of the slot or recess contiguous to the door.

4. In a device of the character described, a weather-strip, comprising a semicylindrical head and a portion tapering outwardly from said head and provided in the ends of the latter with curved slots or recesses, brackets at opposite ends of and forming pivotal supports for said strip, arms projecting upward from said brackets and provided with curved wings covering the major portions of said slots or recesses and the arms projecting into said slots or recesses, and expansive coil-springs occupying said slots or recesses and bearing at their opposite ends against said inwardly-projecting arms and the opposite ends of the slots or recesses.

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

WILLIAM H. McLEOD.

Witnesses:

H. C. Rodgers,
G. Y. Thorpe.