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Patented July 2, 1901.

W. E. MORGAN.

AUTOMATIC WEATHER STRIP FOR DOORS.

(Application filed Mar. 25, 1901.)

(No Model.)

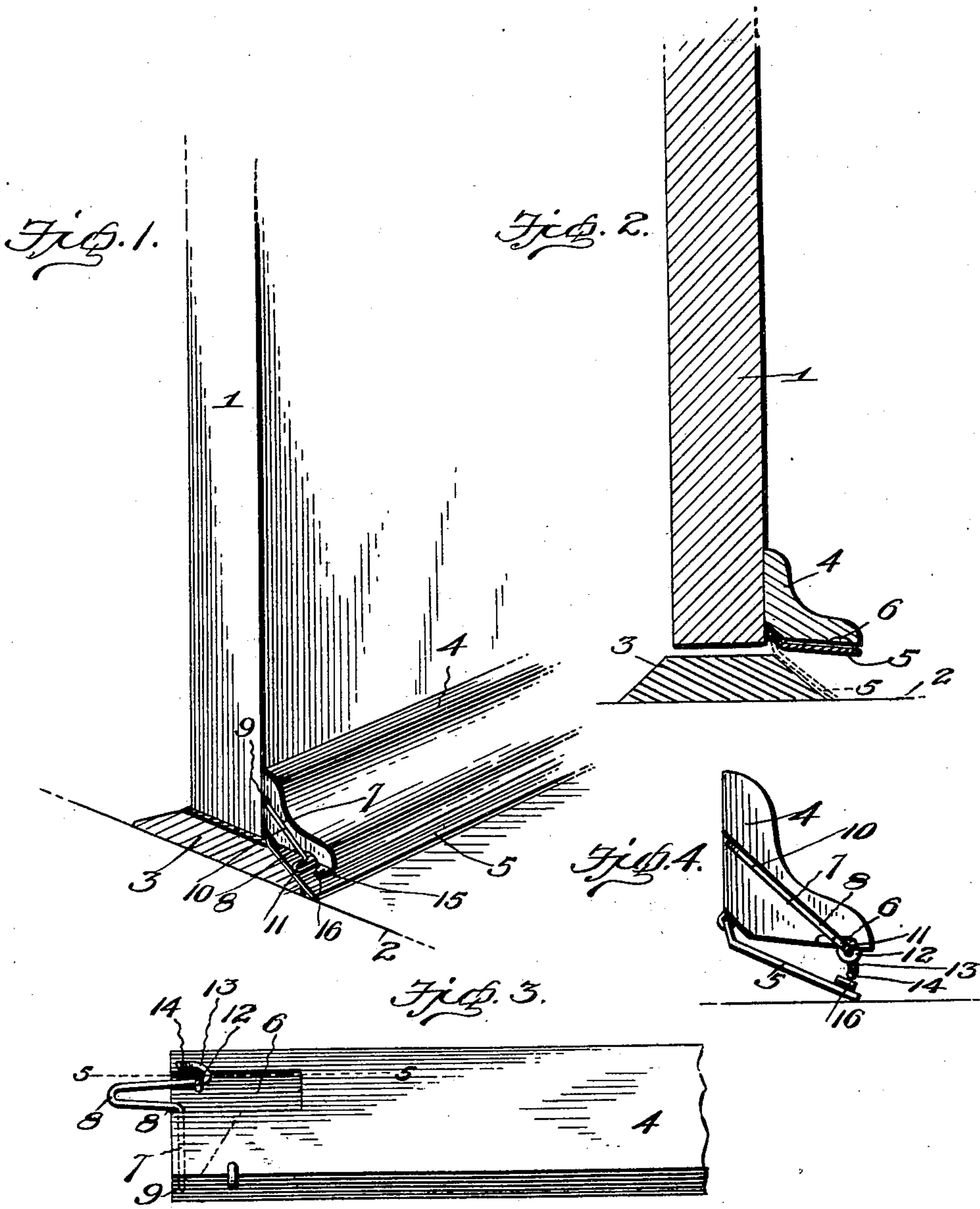


Fig. 5.
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UNITED STATES PATENT OFFICE.

WILLIAM E. MORGAN, OF MOUND CITY, ILLINOIS.

AUTOMATIC WEATHER-STRIP FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 677,681, dated July 2, 1901.

Application filed March 25, 1901. Serial No. 52,860. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. MORGAN, a citizen of the United States, residing at Mound City, in the county of Pulaski and State of Illinois, have invented certain new and useful Improvements in Automatic Weather-Strips for Doors; and I 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 automatic weather-strips for doors to close the space between the bottom of an outer door and its sill to prevent the entrance of wind, rain, snow, and the like, and particularly to a weather-strip having a hinged covering strip or plate adapted to drop down onto the carpet-strip when the door is closed and to be automatically elevated when the door is opened.

The object of the invention is to provide a weather-strip of this character embodying simple and effective catch mechanism for automatically dropping and elevating the hinged plate, which mechanism is automatically retracted and projected by the opening and closing of the door.

With this and other minor objects in view, which will appear as the nature of the invention is better understood, the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a door and sill embodying my invention. Fig. 2 is a cross-section of the same. Fig. 3 is a bottom plan view of the weather-strip. Fig. 4 is an end view thereof, and Fig. 5 is a detail longitudinal section on line 5 5 of Fig. 3.

Referring now more particularly to the drawings, the numeral 1 represents the door, 2 the sill, and 3 the carpet-strip. To the lower portion of the door, at a suitable distance from the floor, is secured a stationary transverse strip 4, to which is hinged, at its inner longitudinal side edge, a covering strip or plate 5, which is adapted when the door is closed to drop down on the outside of the carpet-strip, and thus close the space between the bottom

of the door and the said carpet-strip, and when the door is opened to be elevated to clear the carpet-strip, so that the door may be swung open.

Spring-actuated catch mechanism is provided for engaging and elevating the covering strip or plate and releasing the same to allow it to drop down. As clearly shown in Figs. 2 and 4, the under side of the stationary strip 4 is provided with a longitudinal space or recess 6, which communicates with a transverse groove or recess 7, formed in the inner end of said strip—that is, that end arranged adjacent to the hinged side of the door. A spring-actuated catch 8, composed of spring-wire, is secured at one end to the rear face of the strip 4, as shown at 9, and thence projects forwardly to form an arm 10, which is free to move in the said groove 7. At its outer or forward end the said arm 10 is bent upon itself at right angles to form a loop-shaped contact-piece 11, one of the arms of which is extended inwardly beyond the other and is arranged to move within a guide loop or eye 12, arranged within the said space or recess 6. The end of the said arm of the contact-piece which forms the free end of the catch is thence bent outwardly to form a hook 13, which engages with the guide and limits the outward movement of the contact-piece. From this hook extends a downwardly and outwardly inclined catch 14, which is adapted to engage a keeper-opening 15, formed in the covering or protecting strip 5. The outer side wall of this opening is bent upwardly to form an inclined guide wall or ledge 16, which engages the catch 14 on its downward movement and guides it to the opening. By employing this inclined guide wall or ledge and inclining the catch, as shown, the contact-piece in moving outwardly also draws the catch outwardly, and the latter, bearing against the said inclined wall, elevates the covering strip or plate until it rests against the under side of the stationary strip 4, and at the same time this construction and arrangement of the parts compensates for variations in the distance between the bottom of the stationary strip and the floor, so that if only the tip of the inclined catch comes into contact with the inclined wall or guide-ledge of the opening a positive lifting movement will occur upon the outward movement of

the catch, by which the protecting plate or strip will be positively elevated.

When the door is closed, the contact-piece 11 abuts against the hinge-jamb of the door-frame and is retracted thereby and forced back into the space or recess 7, thereby withdrawing the catch 14 from engagement with the opening 15 and allowing the covering strip or plate to drop down on the outside of the carpet-strip 3 and to thus close the space between the bottom of the door and the said carpet-strip. This action, it will be noted, permits the covering strip or plate to drop down without limitation, free from the catch, until it comes in contact with the floor, whereby a close contact between the covering-plate and the floor is secured. As the door is opened the contact-piece is released and the tension of the spring-actuated catch member forces the inclined catch 14 outward, whereby it is caused to engage the inclined wall or guide-ledge of the opening 15, by which it is guided to said opening, and the outward projection of the catch causes the said inclined wall or ledge to travel upward thereon, thereby elevating the covering strip or plate, so that the door may be readily swung open.

While the preferred embodiment of the invention is as herein disclosed, it will of course be understood that changes in the form, proportion, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

1. In a weather-strip, the combination of the covering-strip hinged or pivoted to the lower end of the door and provided with a

keeper, and a spring-actuated catch member adapted to engage said keeper and retracted and projected by the opening and closing of the door, the covering-strip being adapted to drop down free from engagement with the catch member upon the closing of the door and to be engaged and elevated by said catch member upon the opening of the door, substantially as described.

2. In a weather-strip, the combination of a hinged or pivoted covering-strip provided with a keeper-opening having an inclined guide-wall, and a spring-actuated catch projected and retracted upon the opening and closing of the door, said catch member having an inclined catch device cooperating with the said guide-wall and opening to elevate the covering-strip when brought into engagement therewith, substantially as described.

3. In a weather-strip, the combination of a fixed strip secured to the lower edge of the door, a hinged covering strip or plate upon the under side of said fixed strip and provided with an opening having an inclined guide wall or ledge, and a spring-actuated catch member composed of spring-wire secured to the fixed strip and bent to form a movable arm, a contact-piece, and an inclined catch member cooperating with the said inclined wall or guide-ledge and keeper-opening in the covering-strip, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM E. MORGAN.

Witnesses:

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