No. 622,138. Patented Mar. 28, 1899.

J. P. GARDNER.

WEATHER STRIP.

(Application filed Sept. 3, 1898.)

(No Model.)

Fig. 1.

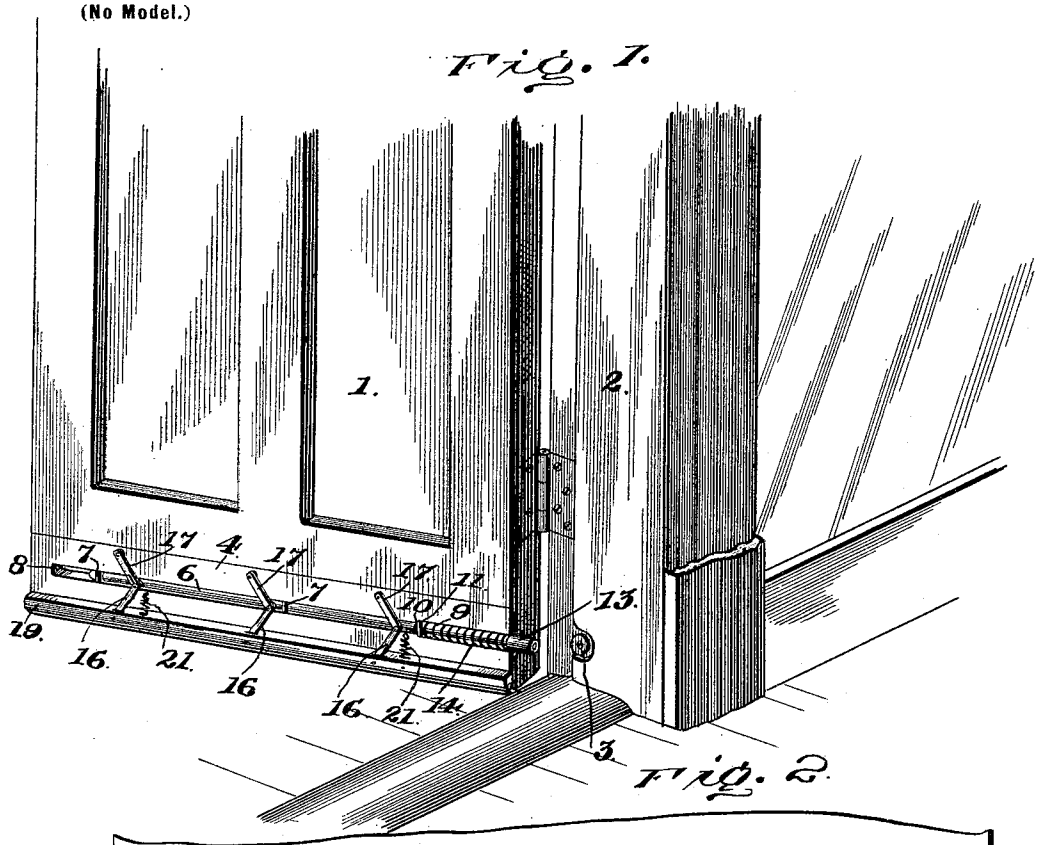


Fig. 2.

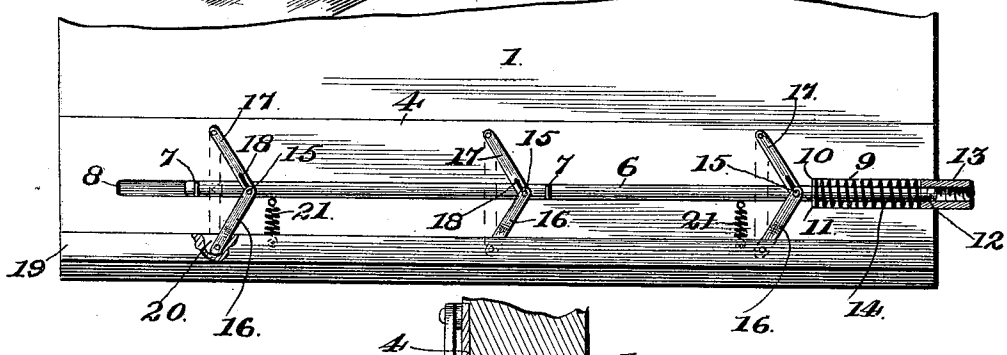
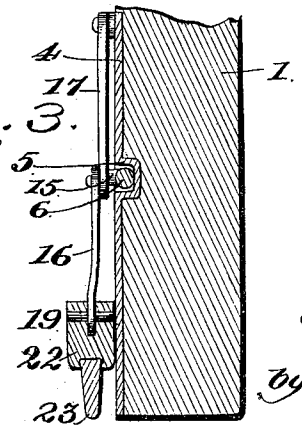


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN P. GARDNER, OF MIDDLEBURG, MARYLAND.

WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 622,138, dated March 28, 1899.

Application filed September 3, 1898. Serial No. 690,190. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. GARDNER, a citizen of the United States, residing at Middleburg, in the county of Carroll and State of Maryland, 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.

This invention relates to automatically-operating weather-strips; and it consists of the construction and arrangement of parts hereinafter described and claimed.

The object of the invention is to provide means for automatically elevating and depressing a weather-strip by the movements of a door in opening and closing the same to clear the threshold in opening said door and firmly pushing the weather-strip downwardly against the threshold when the door is closed to prevent the ingress of water or other material through the crack between the lower end of the door and the threshold.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a door and frame, showing the improved weather-strip applied thereto. Fig. 2 is an elevation of a part of the door and of the improved device having a portion in section. Fig. 3 is a transverse vertical section through the part of the door and device shown by Fig. 2.

Referring to the drawings, wherein similar numerals are utilized to indicate corresponding parts in the several views, the numeral 1 designates a door of a preferred form of construction, and 2 a frame. In the lower part of the frame and suitably mounted in a recess is a contact or wear plate or disk 3, and on one side of the door, at the lower end, is secured a supporting-plate 4, having a longitudinal indentation 5 therein to provide a seat for a sliding rod 6. The plate 4 serves as a convenient means of securing the several mechanisms and obviates wear directly on the door. The rod 6 is held in the indentation 5 by staples or clips 7, extending transversely across the seat formed by the indentation 5, and the said indentation stops short of the outer edge of the door, as at 8, to limit the movement of the rod, and at the inner edge of the door the said indentation is enlarged, as at 9, and against the shoulder 10 thus formed by the variation in diameter of the indentation a washer or analogous device 11 is mounted and formed with an aperture through which the rod has free movement, as will be readily understood. The outer end 12 of the rod is screw-threaded, and thereon is adjustably mounted a tubular striker 13, which is also internally screw-threaded and adapted to be adjusted to control the movement of the said rod. Between the inner end of the striker 13 and the washer or analogous device 11 a spring 14 is mounted in the enlargement 19 and surrounds the adjacent portion of the said rod. This spring operates to automatically slide or move the rod 6 to the right after the door is opened, and this operation takes place gradually as said door is swung clear of the threshold.

At regular intervals on the rod 6 pins 15 are fixed and engage the inner ends of links 16 and 17, the ends of the links 17 engaging the pins 15 being slotted, as at 18, to compensate for the movement of said links and effectually produce the desired result without breaking the several devices. The upper ends of the links 17 are pivotally attached to the support 4 adjacent the upper edge of the latter, and the lower ends of the links 16 are pivotally connected to the weather-strip 19 and move in slots 20, as clearly shown by Fig. 2.

When the rod 6 is free or the door open, the links 16 and 17 assume the position shown in Figs. 1 and 2 in full lines; but when the door is closed the said rod 6 is moved toward the left or outer edge of the door by the striker 13 being brought to bear against the disk 3, and the said links are then gradually moved to the position shown in dotted lines in Fig. 2 and the weather-strip depressed the required distance. To assist in elevating the weather-strip 19 as the tension exerted thereon by the links 16 and 17 is relaxed, auxiliary springs 21 are attached to the upper edge of the weather-strip and the support 4. These auxiliary springs act in conjunction with the spring 14, surrounding a part of the rod 6, and insure a rapid elevation, and the parts are thus prevented from being too slow in op-

eration, owing to diminution of retractile effort of the spring 14, which might arise after long use.

The weather-strip 19 is preferably composed of a head 22, as clearly shown by Fig. 3, having a rubber or analogous strip 23 secured in the lower portion thereof. It will be understood that an outer covering or sheathing of suitable material will be placed over the working parts and is not shown, because the interior or operating mechanism would be hidden thereby. This is a well-known arrangement and used in all devices of this character. Of course various forms of weather-strips can be used in this connection, and the sizes and dimensions of said strips, as well as the automatically-operating parts, can be varied and changes in the details of construction resorted to without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

The combination with a door or analogous device, of a support having a longitudinal recess therein enlarged at one end to form a shoulder, a rod slidingly mounted in said recess and having pins fixed thereon at regular intervals, a washer to bear against said shoulder of the recess and an inner screw-threaded end, a tubular striker adjustably mounted on the rod, a spring surrounding the rod in the enlarged end of the recess between the said washer and striker, pairs of links fitted to the pins on the rod, the lower ends of the upper series of the links being slotted and having the upper ends movably attached to the support, a weather-strip having the lower ends of the lower series of links pivotally connected to the upper edge thereof, supplemental springs having their upper portions secured to lower part of the support and their lower portions attached to the upper edge of the weather-strip, and clips over the rod to hold it in the recess.

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

JOHN P. GARDNER.

Witnesses:

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