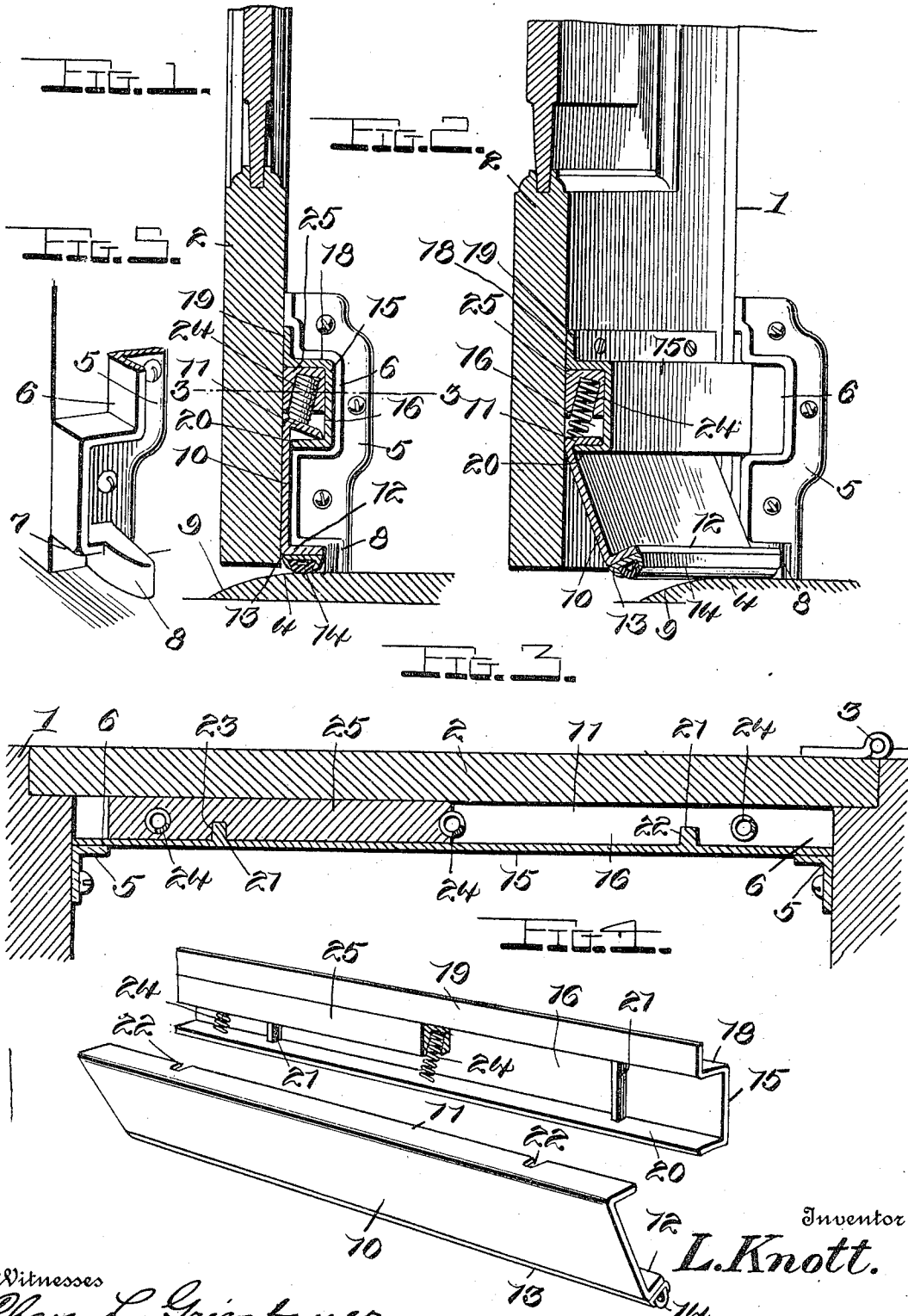


L. KNOTT.
WEATHER STRIP.
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1,052,728.

Patented Feb. 11, 1913.



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UNITED STATES PATENT OFFICE.

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WEATHER-STRIP.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEVI KNOTT, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Weather-Strips, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in weather strips adapted for use in connection with doors and windows, and especially adapted for use on car doors, the invention consisting in the construction, combination
15 and arrangement of devices hereinafter described and claimed.

The object of the invention is to provide an improved weather strip which is cheap and simple, is strong and durable, may be
20 readily attached to a door or removed therefrom, and in which the parts which are subject to wear may be economically and expeditiously replaced so that the weather strip may be kept in perfect working order
25 for an indefinite period of time.

In the accompanying drawings Figure 1 is a vertical sectional view of a portion of a door and its frame provided with my improved weather strip, the door being closed;
30 Fig. 2 is a similar view of the same, the door being partly open and in perspective; Fig. 3 is a horizontal sectional view of the same on the plane indicated by the line 3—3 of Fig. 1; Fig. 4 is a detail perspective view
35 of the housing strip and the weather strip, showing the same detached from each other and also showing the spring carrying bar in the channel of the housing strip partly in section; and Fig. 5 is a detail perspective
40 view of the stop plate.

For the purposes of this specification a door frame is indicated at 1 and a door is indicated at 2, hinged at one side as at 3 and adapted to be closed in or opened from the frame. At one side of the frame, here
45 indicated as the bottom thereof, is a sill strip 4 against which the weather strip closes. At one side of the frame, in one of its lower corners, is a stop 5, here shown as a plate
50 fastened in place by means of screws and having a recess 6 near its upper end, a recess 7 at its lower end, and a wall forming the rear side of the recess 7 and providing a projecting wedge-shaped cam 8. The sill

strip 4 is provided on its upper side near 55 its outer edge with a bevel 9.

The weather strip 10 is, in practice, made of thin plate or sheet iron or steel and is provided at its upper side with an angular overhanging flange 11 which inclines down- 60 wardly and is provided at its lower side with a right angle flange 12. On the under side of the lower flange 12 is a channel strip 13 in which is placed a packing strip 14 which is made, preferably, of rubber or may 65 be made of any other suitable material. The packing strip may be readily inserted in or removed from the channel strip and hence, when worn, may be renewed at in- considerable expense. On the inner side of 70 the door, at a suitable distance from the lower edge thereof, is a housing strip 15 which is also preferably made of thin plate or sheet iron or steel and is formed with a channel 16 in the side opposed to the door, 75 the upper wall 18 of the said housing strip being provided with an upwardly extending vertical flange 19 which is secured to the door as by means of screws or other suitable de- 80 vices. The lower flange or bottom wall 20 of the housing strip terminates short of the door and is at right angles thereto. The upper portion of the weather strip 10 passes through the space or slot formed between the door and the opposing edges of the bot- 85 tom wall 20 of the housing strip, the flange 11 which forms an angular projection from the weather strip bearing on the said bottom wall 20 of the housing strip and co-acting therewith to form a pivotal connection be- 90 tween the weather strip and the door, whereby the weather strip is adapted to swing angularly toward and from the door.

On the rear wall of the housing strip, and projecting into the channel thereof, are 95 spaced ribs 21. The flange 11 of the weather strip 10 has notches 22 which are engaged by the said ribs, said ribs and notches co-acting to prevent the weather strip from moving endwise in the housing strip. A 100 bar 25 is placed in the upper side of the channel of the housing strip and has notches 23 which are engaged by the ribs 21. The said bar has vertical openings which are open at the lower side thereof and closed at 105 its upper side and in the said openings are the upper ends of coiled presser springs 24, the lower ends of which bear on the flange

11 which forms the angular projection on the upper side of the weather strip. It will be understood that the pivotal axis of the weather strip is at the edge of the flange 11 at a distance from the door.

When the door is open the springs 24 act on the flange 11 to turn the strip 10 angularly and swing the lower side thereof outwardly from the door. When the door is closed the lower side of the weather strip at the inner corners thereof engages the stop cam 8 and the weather strip is thereby turned downwardly and disposed parallel or substantially so with respect to the door and against the inner side of the latter, the angular movement of the weather strip causing its lower edge, or the packing strip 14 which is carried thereby, to be pressed firmly against the sill strip of the door, thereby effectually closing and sealing the crack at the bottom of the door.

It will be understood that while I have herein shown and described my weather strip as applied only to the lower side of a door it may also be applied to any side of the door and the weather strip may also be used in connection with shutters, windows, or other like closures.

While I have herein shown and described what I now consider a preferred form of my invention I would have it understood that minor changes may be made in the form, construction and arrangement of the several parts without departing from the spirit of the invention and within the scope of the appended claims.

Having thus described my invention I claim:

1. A device of the class described, comprising a housing having a lower horizontal wall, said housing secured to the door with the edge of its lower wall spaced there-

from, a weather strip having its two edges angularly flanged, the lower flange extending at right angles to the strip and the upper flange to form an acute angle therewith, said strip arranged in the space between the lower wall of the housing and the door with its flange bearing upon the lower wall of the housing with its extreme edge, and a spring disposed within the housing and bearing with its upper end against the upper wall thereof and with its lower end against the flange at its point of junction with the strip.

2. A device of the class described, comprising a housing having a lower horizontal wall, said housing secured to the door with the edge of its lower wall spaced therefrom, a weather strip having its two edges angularly flanged, the lower flange extending at right angles to the strip and the upper flange to form an acute angle therewith, said strip arranged in the space between the lower wall of the housing and the door with its flange bearing upon the lower wall of the housing with its extreme edge, a bar arranged within the upper part of the housing and provided with downwardly opening sockets, and helical springs mounted within the sockets and bearing with their lower ends against the flange at its point of junction with the strip, and a stop arranged to bear against the lower flange of the strip in the closed position of the door to press the same against the door to compress the springs.

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

LEVI KNOTT.

Witnesses:

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