

A. M. ULMER & F. FOWLER.  
WEATHER STRIP.

Patented Mar. 11, 1890.

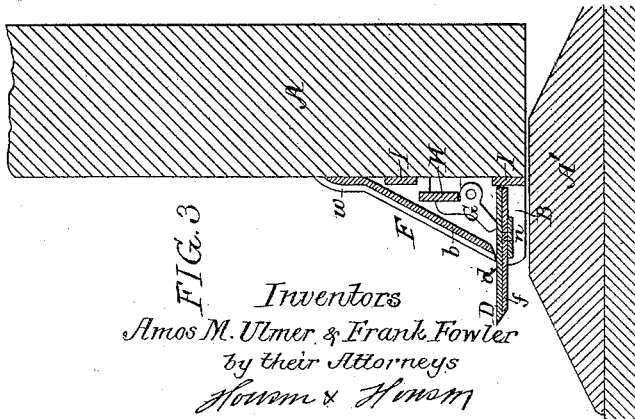


FIG. 3

*Inventors*  
Amos M. Ulmer & Frank Fowler  
by their Attorneys  
Hosmer & Hosmer

# UNITED STATES PATENT OFFICE.

AMOS M. ULMER AND FRANK FOWLER, OF PHILADELPHIA, PENNSYLVANIA.

## WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 423,292, dated March 11, 1890.

Application filed December 19, 1889. Serial No. 334,332. (No model.)

*To all whom it may concern:*

Be it known that we, AMOS M. ULMER and FRANK FOWLER, both citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Weather-Strips for Doors, of which the following is a specification.

One object of our invention is to so construct a weather-strip for doors that the same will be lifted by a positive action so as to clear the sill as the door is opened and will be gradually lowered to its proper position on or in advance of the sill as the door is closed; a further object being to so construct the device that it is applicable to doors of varying width. These objects we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a view, partly in section and partly in plan, of a door with weather-strip constructed in accordance with our invention, the upper fixed or guard portion of the strip being removed. Figs. 2 and 3 are sectional views showing the movable portion of the weather-strip in different positions, and illustrating also part of the fixed or guard portion of the strip; and Fig. 4 is a sectional perspective view of part of the door with one end of the weather-strip and its operating devices, part of the fixed portion or guard-strip being broken away in order to illustrate the operating devices for the movable portion of the strip.

A represents part of a door, to the front of which, near its opposite edges, are secured brackets B, and to the latter is hung by pivots  $\alpha$  the movable or swinging plate D of the weather-strip, the upper portion of this plate being beneath the inclined shield or hood-plate F, which is secured to the face of the door and constitutes the fixed portion of the weather-strip. The fixed shield-plate F is composed of a central section  $a$  and longitudinally-adjustable end sections  $b$ , and the swinging plate D likewise consists of a central section  $d$  and adjustable end sections  $f$ , for a purpose explained hereinafter. The pivoted plate D, when the door is closed, is permitted to swing downward, so that its lower edge is in contact or almost in contact with the sill  $A'$ , as shown in Fig. 2, or with

the floor in advance of the sill, this pivoted plate, however, being lifted as the door is opened, so that it will swing clear of the sill, as shown in Fig. 3.

In order to effect the automatic swinging of the plate D as the door is opened and closed, the pivots  $\alpha$  of said plate are so located that the outer portion of the plate is heavier than the inner portion, and consequently has a natural tendency to fall when said inner portion of the plate is free from restraint. Hung to one of the brackets B, however, is a bell-crank lever G, one arm of which acts upon the swinging plate D in the rear of its pivot, while the other arm is acted upon by a spring H, hung to a plate I on the face of the door and projecting slightly beyond the bracket B, as shown in Fig. 1. When the door is closed, this projecting end of the spring, by contact with the door-frame, is pressed inward against the face of the door, as shown in Fig. 2, and as the upper arm of the lever G is thus gradually released from the pressure of the spring the pressure of the other arm of the lever is withdrawn from the pivoted plate D, and the latter is consequently lowered gradually until it comes into contact with the floor or sill, as shown in Fig. 2. As soon as the door is opened, however, the movement of said door away from the frame permits the spring H to expand, as shown in Figs. 1 and 3, the consequence being that the upper arm of the lever G is pressed outward, while its lower arm is pressed downward and thus acts upon the plate D in the rear of its pivot, so as to lift said plate and permit it to clear the sill as the door is opened, as shown in Fig. 3.

There are often slight variations in width in different doors of the same general class; hence, in order to obviate the necessity for specially making the plates D and F of the weather-strip so as to adapt them to the particular door for which the strip is intended, we make both the fixed and swinging plates of the strip adjustable as to length, as before set forth, the swinging plate D of the strip comprising a central section  $d$  and short end sections  $f$ , secured to said central section by screws  $i$ , which pass through slots  $m$  in the sections  $f$ , and are adapted to plates  $n$  on the back of the same, so that said sections  $f$  can

slide longitudinally to permit of adjustment, a like construction being adopted in the case of the fixed plate F, which has the central sections *a* and opposite end sections *b* adjustably secured to the said section *a* by means of screws *i'*, slots *m'*, and plates *n'*, so that said plate F can be expanded until its end sections *b* are covered by the flanges *w* of the brackets B, as shown by dotted lines in Fig. 4.

It will be evident that the adjustable section at one end only of the plate may be used, if desired, where the required range of adjustment is but slight, and in some cases the swinging plate only need be adjustable, the hood-plate being a simple strip which can be cut to the required length.

We are aware that the fixed and swinging plates, adjustable to suit the width of the door, are, broadly considered, not new; hence our claim on this feature of the device is limited to the special means which we have devised for adjusting and securing the parts.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. The combination of the door and its brackets, the plate pivoted to said brackets, the lever acting on said plate, and the spring acting on the lever and projecting beyond

one of the brackets, so as to come in contact with part of the door-frame when the door is closed, substantially as specified.

2. The combination of the door and its brackets with the plate pivoted to said brackets, the lever acting on said plate, the spring acting on the lever, and a fixed shield or hood plate overlapping said pivoted plate and covering the operating-lever and the inner portion of the spring, substantially as specified.

3. The combination of the door and its brackets, the upper fixed plate and the swinging plate having end pivots adapted to said brackets, said swinging plate being composed of sections provided with adjusting devices comprising a longitudinally-slotted portion of one section, set-screws carried by the other section and passing through said slot, and a clamping-plate with which said set-screws engage, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

AMOS M. ULMER.  
FRANK FOWLER.

Witnesses:

R. SCHLEICHER,  
HARRY SMITH.