J. Cross.

Weather Strip.

No. 78,790. Patented Jun. 9, 1868.

Fig. 4.

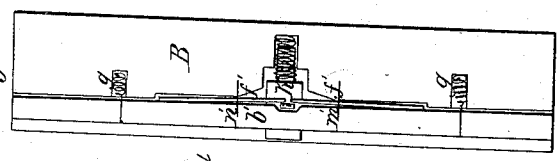


Fig. 3

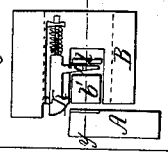


Fig. 2

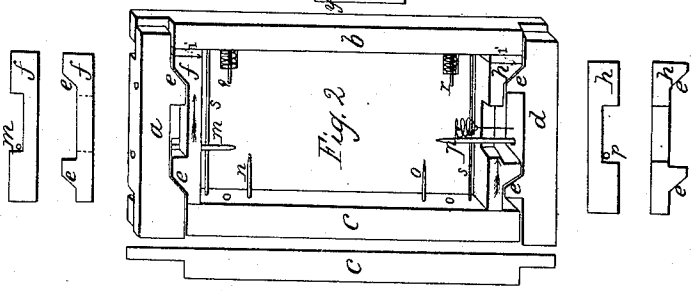
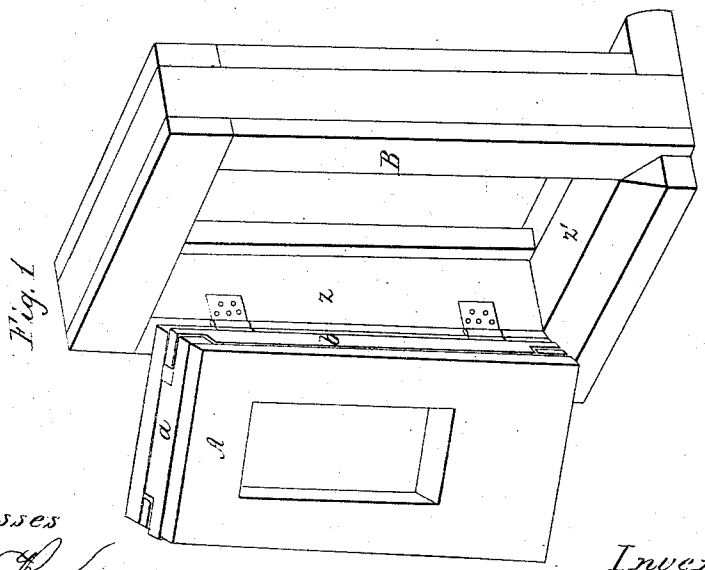


Fig. 1



Witnesses

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JAPHETH CROSS, OF ADRIAN, MICHIGAN.

Letters Patent No. 78,790, *dated June* 9, 1868.

IMPROVED WEATHER-STRIP.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAPHETH CROSS, of the city of Adrian, Michigan, have invented a new and useful Improvement in Weather-Strips; and I do hereby declare that the following is a full, clear, and exact description, which will enable others skilled in the art to make and use my invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, like letters referring to like parts.

My invention consists in the construction of a movable weather-strip for doors, in such a manner that by the closing of the door the strips are made to throw out from the grooves in the edges and ends of the door wherein they are embedded, against the jambs and sill of the door-frame, the strips being drawn back again into the grooves upon the opening of the door.

It consists, also, in a modified form of the above, whereby the movable strips, on closing the door, are thrown out of grooves, cut in the jamb-casing, against the front edge and top end of the door, and again drawn into the grooves upon the opening of the same.

In the drawings—

Figure 1 represents a perspective view of a door-frame, with a door hung, and standing partly open, and showing the top and one side piece of my improved weather-strip as embedded in the door ready for use.

Figure 2 represents the weather-strips as detached from the door, and in detail.

Figure 3 represents a plane section of a modified form of my weather-strip, passing horizontally through the door and door-frame, midway between the top and bottom.

Figure 4 represents a vertical section passing through the red line *x y* in fig. 3, omitting the door A.

A represents the door.

B represents the door-frame.

a represents the weather-strip at the top of the door.

b represents the weather-strip at the hinged edge of the door.

c represents the weather-strip at front edge of the door.

d represents the bottom weather-strip.

f represents a bed-piece, with two inclined planes, similarly to the inclined planes on the two strips *a* and *d*, and is bedded into the groove in the top of the door, with its straight side down.

h represents a similar bed-piece, embedded into the groove in the bottom end of the door.

i', in fig. 2, represents rubber, or other elastic material, placed between the bed-pieces *f* and *h* and the strip *b*.

m, *n*, *o*, *p*, *q*, and *r*, in fig. 2, represent guide or steady-pins, to hold the strips *a*, *c*, *d*, and *b*, in position.

l, in figs. 3 and 4, represent levers, turning upon the fulcra *f'*, and striking, at their outer ends, against the strip *b'*, *n'* and *m'* being small steady-pins to hold the levers and strip *b'* in position, allowing only a motion to and from the jamb.

k is a small spring-catch, with a prong, *i*, which rests on the ends of the levers *l*.

g are two coil-springs, which tend to hold the strip *b'* against the bottom of the groove in the rabbet of the jamb of the frame B.

z and *z'* are the jamb and sill of the door.

Having thus described the construction of my improved weather-strip, its operation is as follows:

As you shut the door, A, the weather-strip, *b*, is brought against the jamb, *z*, and pressed into the groove of the door. This strip, in turn, pressing against the rubber *i'*, fig. 2, causes a longitudinal sliding of the bed-pieces *f* and *h*, which presses the weather-strip *c* against the jamb on the other edge of the door, at the same time raising the strip *a*, and lowering the strip *d*, by the inclined planes *e*, the one to form a joint against the jamb over head, the other to strike the sill of the door-frame B, the steady-pins *m* and *p* preventing any longitudinal movement of the strips *a* and *d*.

By opening the door, the coil-springs around the steady-pins *q* and *r*, force the strip *b* partly out of the groove in that edge of the door, and by means of the wires *s*, fig. 2, draw the strip *c* back into its groove.

The bottom strip *d* is raised by a coil-spring in its groove in the bottom of the door.

The inclined planes *e* allow the top pieces *a* and *d* to be brought deeper into their respective grooves as the bed-pieces *f* and *h* are drawn in the direction indicated by the arrows on opening the door.

In figs. 3 and 4 the operation is as follows:

As the door A is closed (see fig. 3) the corner strikes against the spring-catch *k* and forces it endwise, the prong *i* pressing upon the ends of the levers *l*, which, turning upon their fulcra *f'*, press the strip *b'* out of the groove in the jamb of the door-frame, and against the edge of the door, thus preventing the passage of wind between them.

The same device is to be attached to the jamb over the top of the door.

Upon opening the door, a coil-spring throws the catch *k* back, when the coil-springs *g* draw the strip *b'* back in its groove where it was before.

I design using the device, which is shown in figs. 1 and 2, for windows also, in which case the window-sill would take the place, and cause the same effect, as did the jamb *z* in pressing the weather-strip *b* into the groove of that edge of the door, and the cross-jamb of the window-frame is designed to produce the like result with the upper sash of the window.

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

Claim.

1. The combination of the strips *a*, *b*, *c*, and *d*, with the bed-pieces *f* and *h*, to be used in doors and windows, all constructed in the manner and for the purposes substantially as set forth.

2. The combination of the spring-catch *k* with the levers *l* and strip *b'*, constructed and operating in the manner set forth.

JAPHETH CROSS.

Witnesses:

W. F. CORNELL,

MARY COSTELLO.