

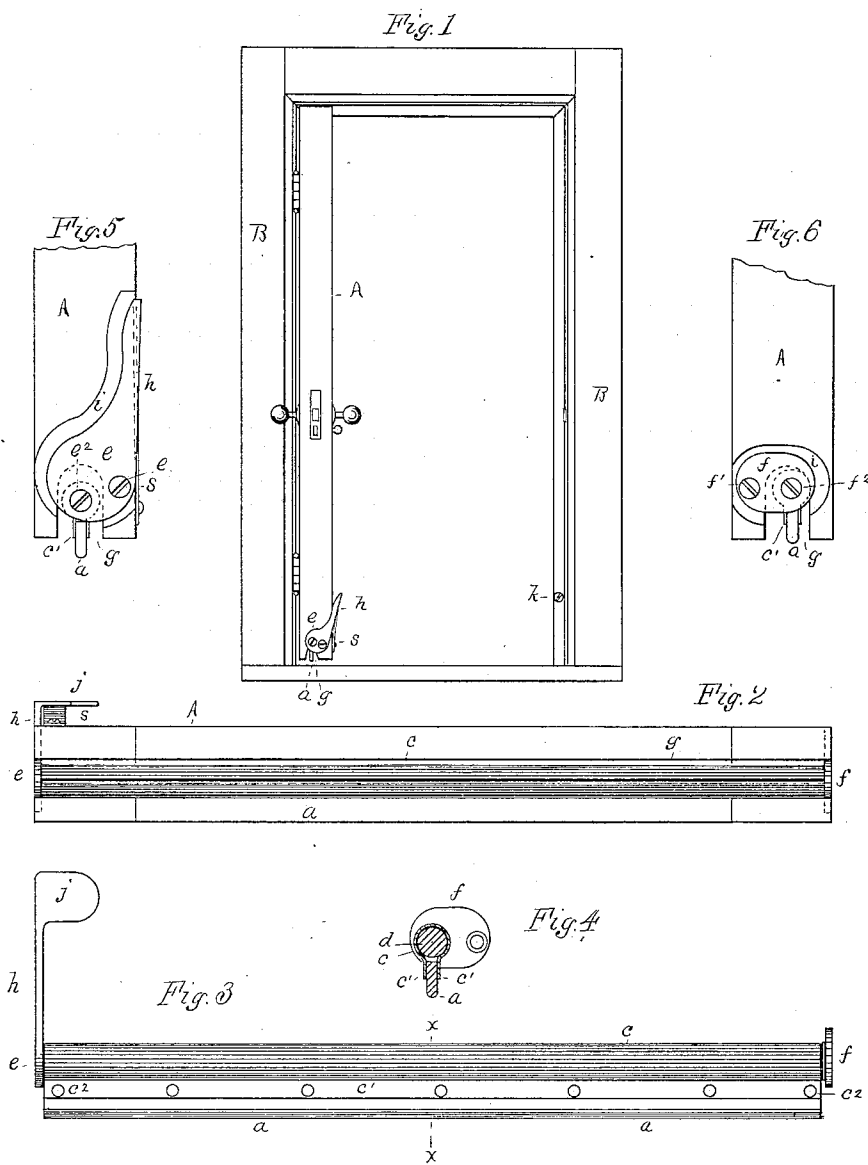
(No Model.)

G. HULL & H. KIRK.

WEATHER STRIP.

No. 362,964.

Patented May 17, 1887.



Witnesses:
A. L. O'Brien.
H. B. Pabb

Inventors:
George Hull
Henry Kirk
By P. H. Gunkel
Attorney

UNITED STATES PATENT OFFICE.

GEORGE HULL, OF WEST SUPERIOR, WISCONSIN, AND HENRY KIRK, OF MINNEAPOLIS, MINNESOTA.

WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 362,964, dated May 17, 1887.

Application filed September 28, 1886. Serial No. 214,712. (No model.)

To all whom it may concern:

Be it known that we, GEORGE HULL and HENRY KIRK, citizens of the United States, and residents, respectively, of West Superior, in the county of Douglas and State of Wisconsin, and of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Weather-Strips, of which the following is a specification.

Our invention relates to devices for adjusting weather-strips by the opening and closing of doors; and the object of the invention is to provide a device that will cause the weather-strip to descend and close the space between the door and threshold when the door is closed, and to rise free from the threshold when the door is being opened.

Our improvements are illustrated in the accompanying drawings, in which—

Figure 1 represents a door-case and door with our improvements attached; Fig. 2, an enlarged view of the lower end of the door, showing the weather-strip attached; Fig. 3, a detail view of the weather-strip and its attachments; Fig. 4, a sectional view on the line *x x* of Fig. 3; and Figs. 5 and 6 are respectively views of the lower ends of the opposite edges of the door, showing the weather-strip attachments.

A in the drawings represents a door, and B the door-case, in which it is hung.

a is a weather-strip, of rubber or other suitable flexible material, and *c* is a tubular piece of sheet metal, having its edges *c'* extending outwardly, and the weather-strip is inserted between the projecting edges *c'* and held by rivets *c''*.

d is a rod extending through the hollow of the tube *c*.

In the lower edge of the door is a groove, *g*, extending the width of the door, and into this groove the rod and tube are inserted with the weather-strip projecting downward.

e and *f* are plates pivoted by pivots *e' f'*, respectively, on the same side of the groove *g* to the edges of the lock-stile and hanging stile of the door, the wood being cut away, as shown at *i i*, sufficiently to let in the plates flush with the surface of the door; and to these plates the ends of the rod *d* are eccentrically

secured by pivots *e' f'*, so that as the plates are turned the rod and the weather-strip it carries will be raised or lowered. The plate *e* has an upwardly-projecting arm, *h*, on the end of which is a lip, *j*, parallel with the face of the door, and a spring, *s*, which may be either flat or spiral, bears against the under side of the lip to hold it out from the door. When the door is closed, the lip *j* comes in contact with the door-case, and is pressed back to the surface of the door. Thus the lever-arm *h* is operated to turn the plate or cam *e* and thrust the rod and weather-strip downward. When the door is being opened, the spring *s* carries the lever-arm outward and operates the cams to lift the rod and weather-strip.

On the door-case B there may be provided a screw, *k*, or other adjustable projection, with which the lip *j* would come in contact as the door is closed. By this means the extent to which the weather-strip would be made to descend could be regulated.

We do not wish to limit ourselves to the exact construction and arrangement of parts shown and described, for it is obvious that many variations may be made without departure from the principle of operation in our improvements.

What we claim, and desire to secure by Letters Patent, is—

1. The combination, with a door having a groove in its end, of a vertically-movable weather strip therein, cams pivoted to the edges of the stiles of the door and pivoted to the ends of said weather-strip at right angles thereto, and a spring-actuated arm on one of said cams for engaging the door-case to lower the weather-strip, substantially as set forth.

2. The combination, with a door having a groove in its lower end, of a weather-strip held by the tubular holder *c*, the rod *d*, carrying said holder, the cams *e* and *f*, for raising and lowering said rod, the lever *h*, having the lip *j*, for operating said cams, and the spring *s*, engaging said lever, substantially as and for the purpose set forth.

GEORGE HULL.
HENRY KIRK.

Witnesses:

N. G. HORAN,
P. H. GUNCKEL.