No. 874,474. PATENTED DEC. 24, 1907.

W. L. WISE.

WEATHER STRIP FOR DOORS.

APPLICATION FILED AUG. 22, 1906.

Fig. 1.

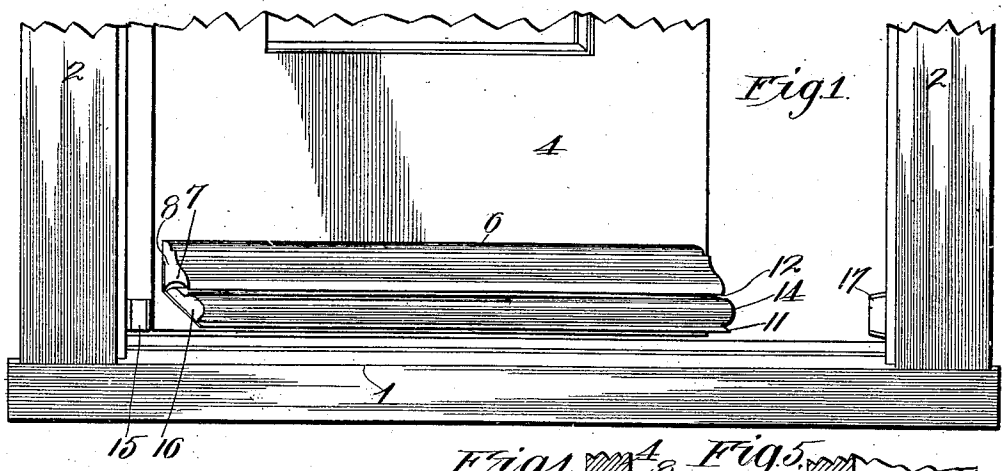


Fig. 4.

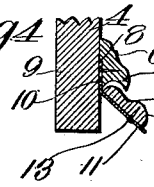


Fig. 5.

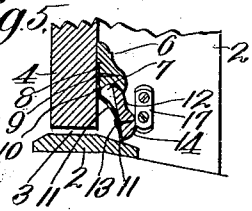
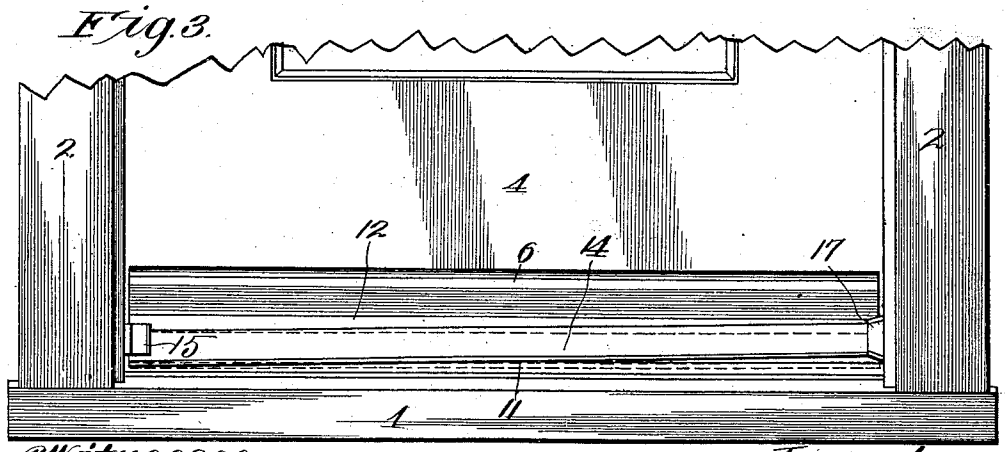


Fig. 2.

Fig. 3.



Witnesses

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By George L. Cloyd Atty.

UNITED STATES PATENT OFFICE.

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WEATHER-STRIP FOR DOORS.

No. 874,474. Specification of Letters Patent. Patented Dec. 24, 1907.

Application filed August 22, 1906. Serial No. 331,666.

To all whom it may concern:

Be it known that I, WILLIAM L. WISE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Weather-Strips for Doors, of which the following is a specification.

This invention relates to weather strips for doors and has for its object to produce a device of this character which can be easily and quickly attached to or removed from any door and which will prevent wind and water from passing under the door when closed.

A further object is to produce a weather strip for doors of simple, strong, durable and inexpensive construction.

With these objects in view the invention consists in certain novel and peculiar features of construction and combination of parts as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawing, in which:

Figure 1, represents an outer face view of the lower portion of a door and door frame equipped with a weather strip embodying my invention. Fig. 2, is a horizontal section of the same showing the door closed in full lines and open in dotted lines. Fig. 3, is an outer face view of the door and door casing with the former nearly closed in order to illustrate the position of the weather strip before the latter has been forced down for its full length upon the door sill. Fig. 4, is a vertical section of the lower end of the door and weather strip attached thereto, with said strip in the position it occupies when the door is open. Fig. 5, is a vertical section of the door, door sill and weather strip with the latter in the position it occupies when the door is closed.

In the said drawings 1 indicates a door sill and 2 the stiles of the door frame, said stiles being rabbeted as at 3 to receive the opposite edges of the door 4, the door being hinged at one edge as at 5 in the customary manner.

6 indicates a molding strip having its lower surface concaved or hollowed as at 7 and rabbeted in the outer or flat face of said strip as at 8 and secured to the latter by suitable fastening devices 9 is an arm 10 of an obtuse-angle-shaped strip, said strip being preferably of spring brass of thin gage in order that its lower arm 11 may bend or buckle as hereinafter explained. Said lower end normally projects downward and outward from the molding 6 to a plane approximating the lower edge of the door as shown in Figs. 1 and 4. To stiffen this resilient arm 11 I preferably secure upon its outer or upper side a wide strip 12, the connection by preference being below the center of said arm as at 13; to permit the upper portion of said arm to bend or buckle as in Fig. 5 and the upper edge of the reinforce strip 12 to move outward until arrested by engagement with the outer wall of the concave surface 7 of the molding, which molding, as will hereinafter appear, forms a water and snow deflecting hood. At its lower edge the reinforce strip 12 is beaded or ribbed as at 14 for the purpose of guarding against transverse buckling of arm 11 at any point between its ends and thus insuring that the lower edge of said arm for its full length shall press yieldingly down upon the sill when the door is closed.

15 indicates a small angle plate secured to the stile at the hinge edge of the door, in the horizontal plane of the lower arm of the strip and in the path of the reinforce strip thereof so that as the door is closed the inner corner of said reinforce strip, which is preferably beveled off as shown at 16, shall come in contact with said angle-plate and be forced downwardly and inwardly until the lower edge of arm 11 is arrested by engagement with the sill. As the closing movement of the door continues, the resistance offered by the sill causes the arm 11 to buckle or bend longitudinally, this buckling or bending gradually extending from the hinge edge of the door until eventually the edge of the reinforce strip at the free edge of the door comes in contact with a stop 17 secured to the inner side of the corresponding stile. As the arm 11 of the strip feels the resistance of said stop the longitudinal buckling or bending of said arm reaches its corresponding edge. At this time the buckling of the arm at the hinged edge of the door is practically ended and said arm is engaging the sill for its full length so that as the door is finally closed it bends or buckles for its full length as indicated in Fig. 5 and completely cuts off the passage of wind or water between it and the sill, it being noted in this connection that because the reinforce strip cannot bend or buckle in any direction, there is no opportunity for transverse buckling or bending of the arm 11

which would permit air or water to pass under its lower edge. It will also be noted by reference to Figs. 4 and 5 that arm 11 not only bends or buckles longitudinally, but that it has a hinge movement with respect to arm 10. With the very thin metal, such as brass, it would be impracticable to depend upon the hinge movement alone because the strip would soon become so weakened that it would break. By also providing for the bending or buckling movement a large portion of the strain is transferred from the hinge point or angle of the strip to the body of arm 11 and as a result, as found in practice, a thin, resilient brass strip will last an indefinite length of time when used as described and shown. When the door is opened the arm 11 and reinforce strip resume their original relation with respect to each other and the door as shown in Fig. 4.

When the door is opened or closed the molding or hood overhangs the reinforce strip and arm 11 so as to deflect any rain or snow which may fall upon it onto the outer side of the reinforce strip, but even if the rain beat under said hood it would be impossible for it to enter below the door because of the interposition of the arm 11.

From the above description it will be apparent that I have produced a weather strip attachment for doors which embodies the features of advantage enumerated as desirable.

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

1. A weather strip for doors, comprising a spring metal angle plate having one arm disposed vertically and secured to the outer side of the door and its other arm extending downwardly and outwardly, a reinforce bar, means for securing the same to the upper and outer side of the last-named arm below the longitudinal center of the latter, and a molding secured to the outer side of the door and having its lower edge concaved or hollowed and overhanging the upper edge of said reinforce bar and adapted to limit outward movement of said edge.

2. A weather strip for doors, comprising a spring metal angle plate having one arm disposed vertically and secured to the outer side of the door and its other arm extending downwardly and outwardly, a reinforce bar, means for securing the same to the upper and outer side of the last-named arm below the longitudinal center of the latter, and a molding secured to the outer side of the door and having its lower edge concaved or hollowed and overhanging the upper edge of said reinforce bar and adapted to limit outward movement of said edge, in combination with means secured to the jamb of the door frame at the hinge side of the door and adapted to be engaged by the reinforce bar and force the latter with the lower arm of the angle plate down upon the door sill.

3. A weather strip for doors, comprising a spring metal angle plate having one arm disposed vertically and secured to the outer side of the door and its other arm extending downwardly and outwardly, a reinforce bar, means for securing the same to the upper and outer side of the last-named arm below the longitudinal center of the latter, and a molding secured to the outer side of the door and having its lower edge concaved or hollowed and overhanging the upper edge of said reinforce bar and adapted to limit outward movement of said edge, in combination with means secured to the jamb of the door frame at the hinge side of the door and adapted to be engaged by the reinforce bar and force the latter with the lower arm of the angle plate down upon the door sill, and a coöperating stop secured to the opposite jamb and adapted to engage the opposite end of the reinforce bar.

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

WILLIAM L. WISE.

Witnesses:
H. C. RODGERS,
G. Y. THORPE.