No. 640,296. Patented Jan. 2, 1900.

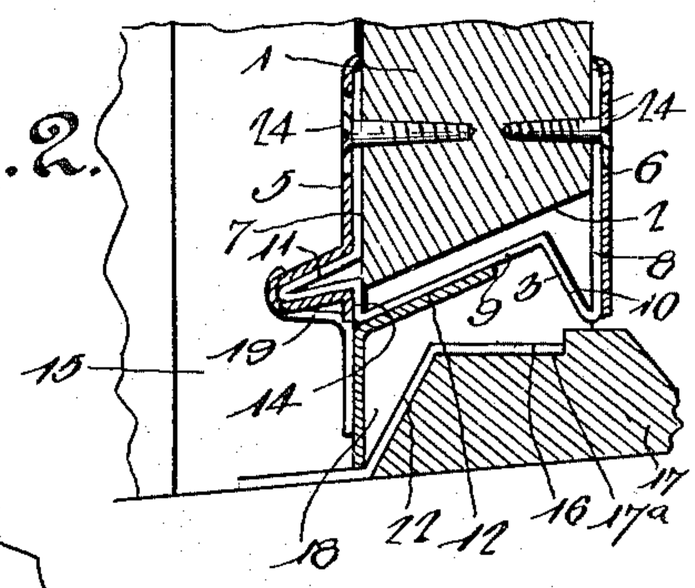
# W. B. MAHAN.

## WEATHER STRIP.

(Application filed Jan. 31, 1899.)

(No Model.)

Fig. 2.



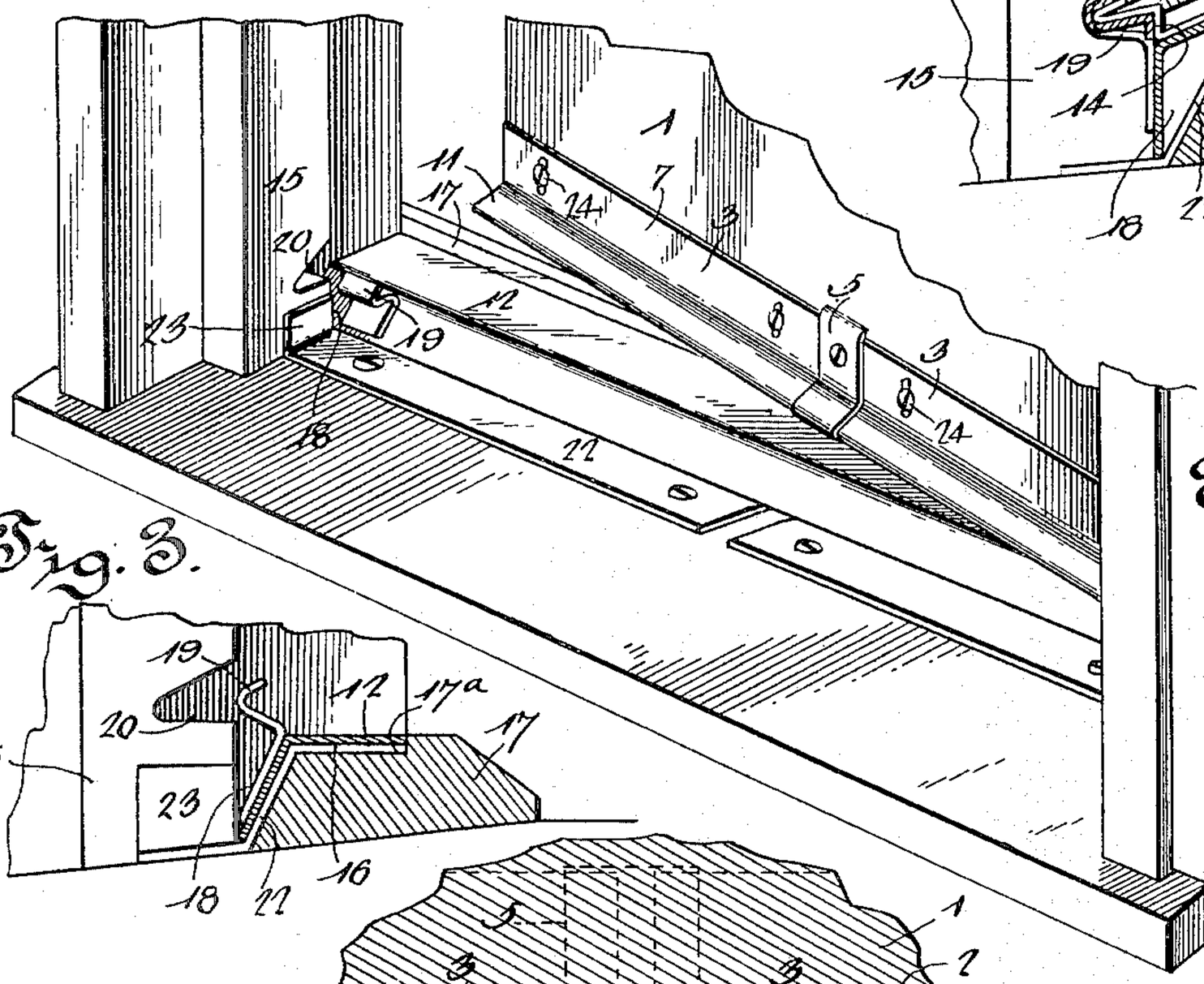




Fig. 1.

Fig. 3.



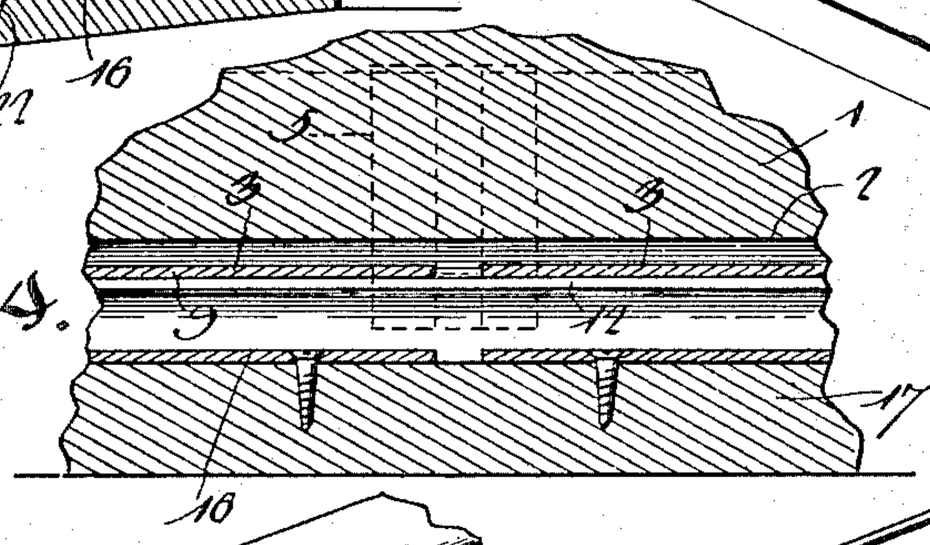




Fig. 4.

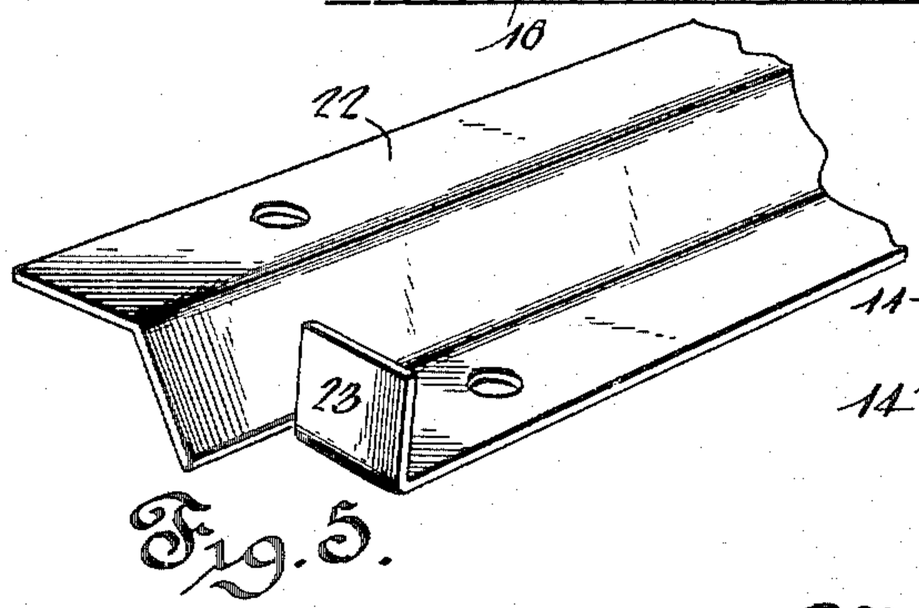



Fig. 5.

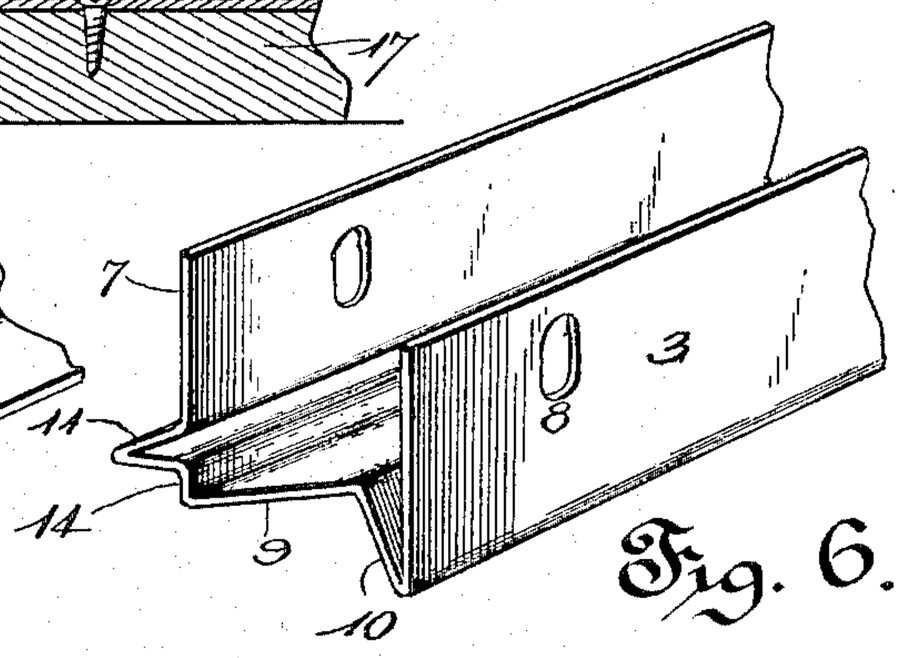



Fig. 6.

Witnesses
J. Paul Goldsmith.
T. G. Pilz

William B. Mahan, Inventor.
By his Attorneys,
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# UNITED STATES PATENT OFFICE.

WILLIAM B. MAHAN, OF PALMYRA, ILLINOIS.

## WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 640,296, dated January 2, 1900.

Application filed January 31, 1899. Serial No. 704,008. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. MAHAN, a citizen of the United States, residing at Palmyra, in the county of Macoupin and State of Illinois, have invented a new and useful Weather-Strip, of which the following is a specification.

The invention relates to improvements in weather-strips.

The object of the present invention is to improve the construction of weather-strips and to provide a simple, inexpensive, and durable one capable of adjustment to suit the width of a door and its casing and also to counteract sagging and adapted to operate automatically as the door opens and closes.

A further object of the invention is to enable the weather-strip proper to lie directly beneath the lower edge of the door when the latter is closed, to protect the weather-strip, and to provide means for swinging the same upward, adapted to be operated when the door is within about a half of an inch of being entirely closed, so that there will be no liability of the weather-strip catching the foot of a person.

Another object of the invention is to arrange the parts so that there will be no wood near the weather-strip to shrink or swell and interfere with the operation of the device.

Furthermore, the invention has for its object to provide a device which will permit the hinged or movable strip to be readily removed, so that dust and other accumulation may be swept from the sill.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a weather-strip constructed in accordance with this invention and shown applied to a door and its casing. Fig. 2 is a vertical sectional view taken transversely of the door, the latter being closed. Fig. 3 is a similar view of the door-sill, the door being open. Fig. 4 is a sectional view taken longitudinally of the central portion of the device, the door being closed. Fig. 5 is a detail perspective view of one of the sections of the adjustable sill-plate. Fig. 6 is a similar view of one of the sections of the shoe of the door.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a door having an inclined lower edge 2 and provided with an adjustable shoe receiving the lower edge of the door and composed of two sections capable of movement to and from each other on a door, so that they may be arranged to suit the width of the same. The lower edge 2 of the door inclines upward and inward, and the sections of the shoe 3 are separated at their adjacent ends by a slight intervening space, which is covered at the inner and outer faces of the door by front and rear plates or shields 5 and 6. By this construction a weather-strip may be cut a little short for a door, and it can be adjusted to suit the width of the same and applied thereto without any further cutting or trimming.

The shoe 3, which is composed of vertical inner and outer sides or walls 7 and 8 and an inclined bottom 9 to fit the lower edge of the door, is provided with inner and outer longitudinal ribs 10 and 11, consisting of substantially V-shaped bends. The inner V-shaped bend 10 extends downward from the bottom of the shoe at the inner wall thereof and forms a longitudinal shoulder, against which the free edge of a hinged weather-strip 12 may abut. The front or outer rib 11 is arranged at a slight inclination and is located above the bottom 9 to provide a longitudinal shoulder 14, adapted to abut against the vertical strips or beads 15 at opposite sides of the casing of the door. The front or outer plate or shield 5 is substantially L-shaped to conform to the configuration of the front of the shoe, and it is provided at the outer end of its lower arm with an inwardly-extending L-shaped flange, the lower portion or arm of the shield 5 being substantially V-shaped to conform to the configuration of the rib 11.

The weather-strip 12 consists of a strip of metal angular in cross-section and composed of two portions or flanges and conforming to the configuration of and adapted to fit flat against the adjacent portion of the sill 16 when the door is open. The threshold or carpet strip is provided at its outer side with a

recess 17ª, conforming to the configuration of the weather-strip, which has its upper flange flush with the adjacent portion of the upper face of the strip 17 when the door is open in order to present a smooth surface. The ends of the weather-strip fit in recesses 18, formed by the adjacent portions of the vertical strips 15 of the casing of the door and the horizontal carpet-strip, and the said weather-strip is hinged by this arrangement and is adapted to swing upward and downward as the door is closed and opened.

One end of the weather-strip is provided with a substantially L-shaped arm 19, offset outwardly and arranged to be engaged by the rib 11 when the door is within about a half an inch of its closed position, whereby when the door is closed the weather-strip will be swung upward against the shoe. The strips 15 at opposite sides of the casing of the door are provided with substantially V-shaped recesses 20, arranged at a slight inclination and adapted to receive the ends of the rib 11 when the door is closed.

The front portion of the strip 17 and the adjacent portion of the base of the sill are covered by a sill-plate 22, composed of two adjustable sections constructed of angle metal and consisting of inner and outer substantially horizontal flanges and an inclined connecting-flange. The outer or lower flange is secured to the base of the sill and the inner or upper horizontal flange is arranged on the threshold or carpet strip. The sections of the sill-plate are capable of adjustment to adapt them to doors of different widths, and they are provided at their outer ends with upwardly-extending flanges 23, arranged against the lower ends of the vertical strips 15. The shoe is provided at its inner and outer sides with slots to receive the fastening devices 24 for enabling the sections to be adjusted vertically to counteract any sagging.

The invention has the following advantages: The weather-strip, which is simple and comparatively inexpensive in construction, is adapted to be readily applied to a door, and it is capable of adjustment to suit the width of the same. The hinged strip, which effectually closes the space between the bottom of the door and the sill, is located directly beneath the door when the latter is closed, and it is thereby protected from the weather. The said hinged strip is not elevated until the door has nearly arrived at its closed position, and consequently there is no liability of it catching the foot of a person. The door and the sill adjacent to the hinged strip are covered with metal in order that there may be no shrinking or swelling of the parts to interfere with the operation of the device.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A device of the class described comprising a shoe arranged to receive the lower edge of a door and composed of sections capable of adjustment on the door to correspond to the width of the same, plates or shields arranged over the adjacent ends of the sections and covering the intervening space between them, and a movable strip designed to be mounted on a sill and adapted to be operated by the shoe, substantially as described.

2. A device of the class described comprising a shoe consisting of vertical walls and an inclined bottom, and provided with front and rear longitudinal ribs forming shoulders, and a hinged weather-strip arranged to swing upward against the inclined bottom of the shoe, substantially as described.

3. A device of the class described comprising a shoe consisting of sides, and a bottom, and provided with longitudinal ribs arranged at the inner and outer sides of the shoe, the inner rib forming a depending shoulder and the outer rib being arranged above the bottom of the shoe, and a movable strip arranged to be engaged by the shoe and adapted to swing upward against the bottom of the same, substantially as described.

4. A device of the class described comprising a shoe consisting of vertical sides, and an inclined bottom, and provided with an outwardly-extending front rib and having a depending rear rib, and a movable weather-strip constructed of angle metal and provided with an offset arm arranged to be engaged by the front rib of the shoe, substantially as described.

5. A device of the class described comprising a shoe adapted to receive the lower edge of a door and having an inclined bottom and provided with a front rib, and a movable weather-strip having an offset arm arranged to be engaged by the front rib of the shoe, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM B. MAHAN.

Witnesses:
E. W. RICHIE,
SCOTT ETTER.