No. 841,185. PATENTED JAN. 15, 1907.

C. E. SAINT CLAIR.

WEATHER STRIP.

APPLICATION FILED MAY 19, 1906.

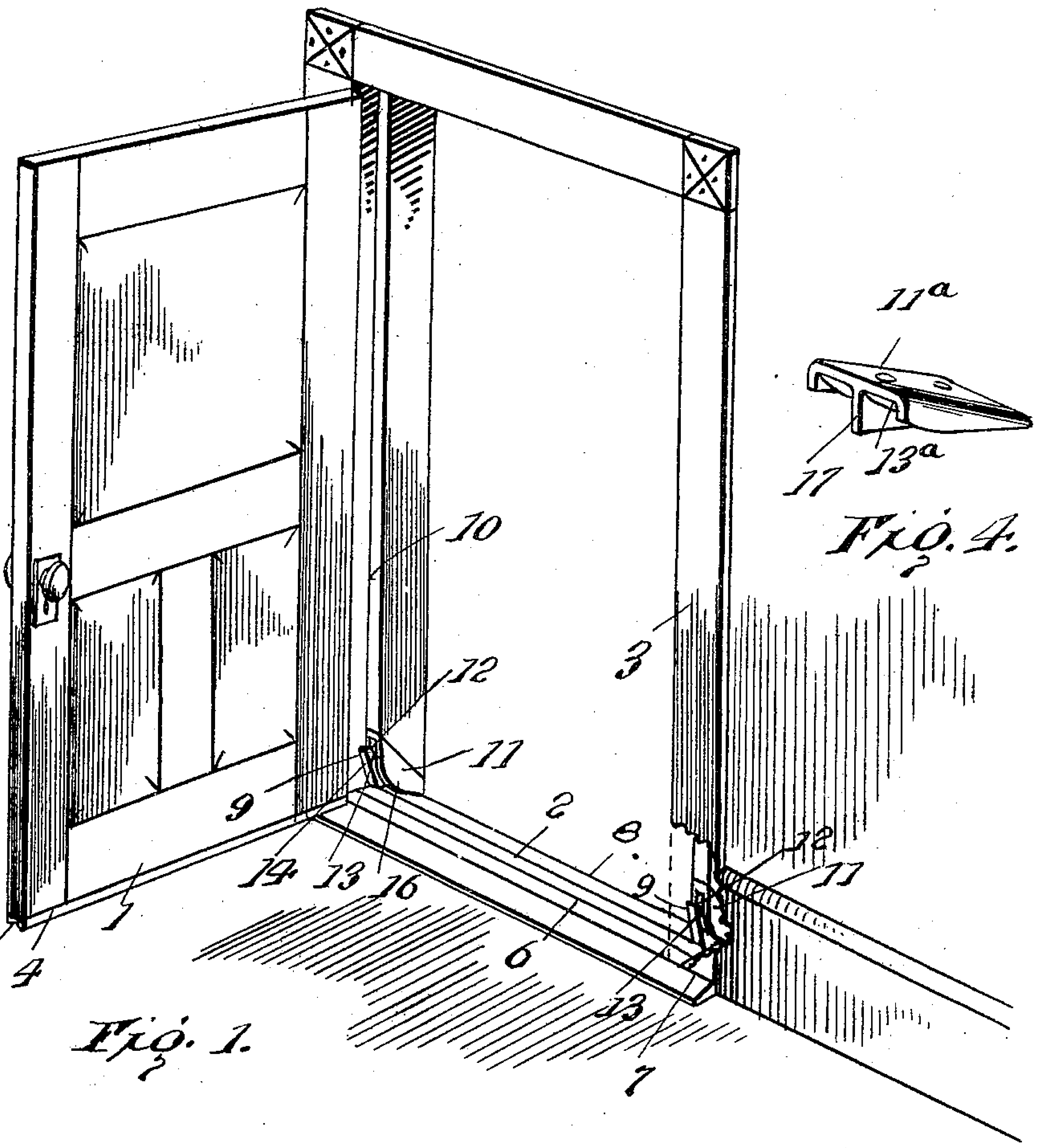

Fig. 4.

Fig. 1.

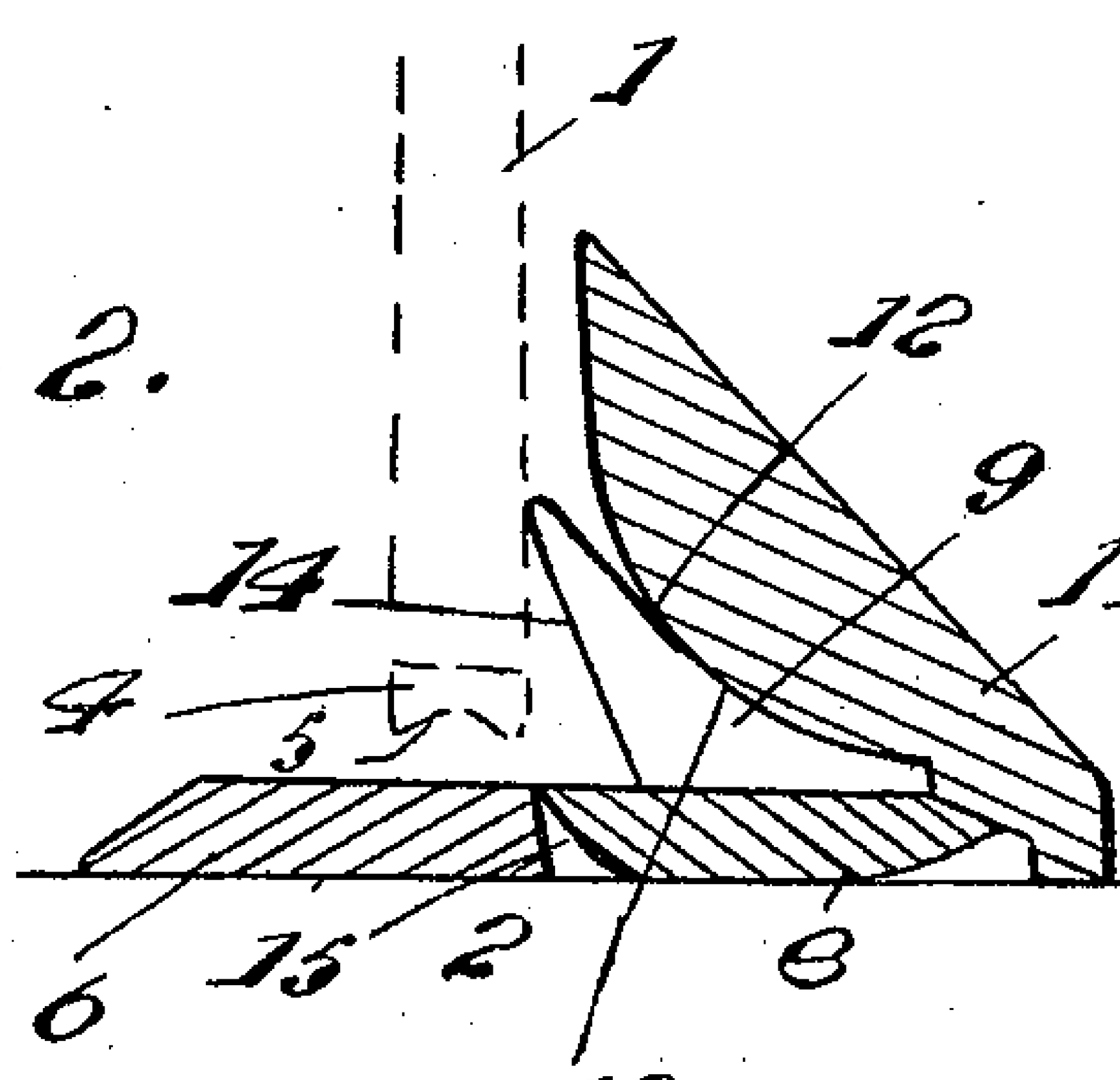

Fig. 2.

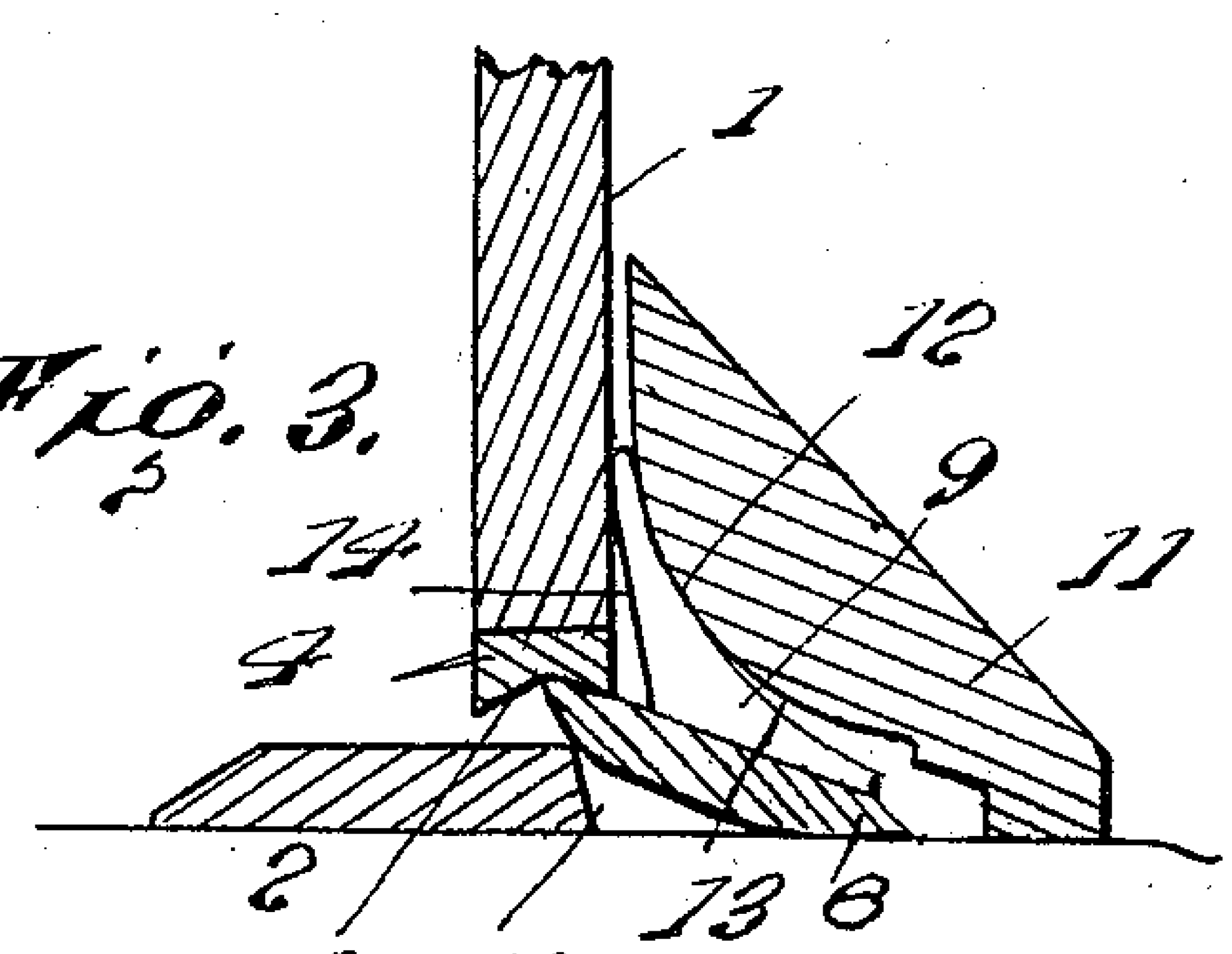

Fig. 3.

Inventor

C. E. St Clair

Witnesses

J. M. Imrie

W. N. Woodson.

By

V. B. & A. B. Lacey, Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES E. SAINT CLAIR, OF STAR CITY, INDIANA.

WEATHER-STRIP.

No. 841,185. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed May 19, 1906. Serial No. 317,656.

To all whom it may concern:

Be it known that I, CHARLES E. SAINT CLAIR, a citizen of the United States, residing at Star City, in the county of Pulaski and State of Indiana, have invented certain new and useful Improvements in Weather-Strips, of which the following is a specification.

The object of the present invention is to provide an improved threshold-strip by the use of which a weather-tight joint is obtained between the bottom of the door and the sill.

In carrying out the invention the lower edge of the door is formed with a longitudinal groove, and the threshold-strip is formed in two sections, one of them being fixed while the opposite one is movable and engages with the door, so that when the door is closed one of the edges of the movable strip is swung inwardly and upwardly into the groove in the bottom of the door.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a perspective view of a door and door-frame, showing the threshold-strip applied thereto. Fig. 2 is a vertical sectional view through the threshold-strip and the lower portion of the door, the former being in the position assumed when the door is open. Fig. 3 is a similar view with the door closed, and Fig. 4 is a perspective view of the guide-block used with double doors.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The numeral 1 designates a door of any conventional type which is mounted upon a door-frame comprising the sill 2 and jambs 3. A door-strip 4 is secured to the lower edge of the door, and this strip is formed with the V-shaped groove 5. The inner section 6 of the threshold-strip is permanently secured to the sill 2 and is provided at its ends with notches 7 for the reception of the jambs 3. The outer section 8 of the threshold-strip fits loosely between the door-jambs and is formed at its ends with the upwardly-extending arms 9. The strips 10, which extend along the jambs 4 and serve as stops for the door, have their lower ends cut away for the blocks 11, which are secured to the jambs at points close to the sill 2. These blocks 11 have their lower corners rounded, as seen at 12. The upper portions of the arms 9 upon the movable section 8 of the threshold-strip are depressed or curved inwardly at 13, so as to correspond to the rounded corners 12 of the blocks against which they fit. The ends of the arms 9 adjacent the door 1 project inwardly and upwardly to form the inclined walls 14, which are spaced from the edges of the strip and assume an inclined position when the door is opened and the strips are in normal position, as shown in Fig. 2. The adjacent edges of the two sections 6 and 8 of the threshold-strip are both beveled outwardly, the beveled portion of the movable section 8 being taken upon a greater angle than that upon the fixed section, however, in order to provide the space 15 between the members and prevent any binding effect. In the preferred construction side flanges 16 project downwardly upon the sides of the rounded corners 12 of the blocks 11 and tend to confine the arms 9 upon the section 8.

When the door 1 is opened, the weight of the movable section 8 causes it to fall against the sill 2, and the two sections 6 and 8 are preferably of the same thickness, so as to form a flush surface when both rest upon the sill. When the door is closed, the inner ends of the arms 9 engage with the door and cause the depressed surface 13 of the arms to turn upon the rounded corners 12 of the blocks 11 until the inclined walls 14 assume a vertical position and fit against the door, as seen in Fig. 3. This turning movement causes the inner edge of the movable section 8 to swing inwardly and upwardly, so as to fit within the V-shaped groove 5 in the door-strip and form a weather-tight joint.

A modification is shown in Fig. 4, which is adapted for use in connection with double doors. In this case a movable section 8 is provided for each door, the outer end of each of the sections being formed the same as for a single door and operating in the same manner within the blocks 11. The block 11^a for the reception of the transverse ribs upon the adjacent ends of the movable sections has a double formation, being formed with the two rounded or curved guideways 13^a, separated by the vertical wall 17. In either case, however, the operation of the strip is the same, and attention is directed to the peculiar movement of the sections 8, due to

the coöperation of the rounded corners or guideways 12 upon the blocks 11 and the depressed portions 13 of the arms 9.

In the actual construction of the strip the inclined wall at that end of the strip adjacent the hinged end of the door will not project inwardly as far as the inclined wall at the opposite end of the strip, since in order to prevent binding it is desirable that both of the inclined walls engage with the door at approximately the same time when the door is closed.

Having thus described the invention, what is claimed as new is—

The combination with a door and its frame, the latter embodying jambs, of a sill for the bottom of the door-frame, said sill being constructed of two transversely-extending sections of which one section is stationary and the other is loose and mounted to rock upon its lower face, said loose section being provided at its ends with outstanding arms concaved on those edges that are farthest from the door, as it is swung toward them, and blocks secured to the lower end of the door-jambs and adapted to accommodate the loose section of the sill, each of said blocks being provided with a convex or rounded corner adapted to engage the concave side of the respective arms of said loose section, the parts being so proportioned that the upper ends of said arms normally stand out beyond the said blocks, whereby when the door is closed it will engage said outstanding ends of the arms and turn the same in a vertical plane so as to carry the outer edge of the loose section upwardly and over the adjacent edge of the other section.

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

CHARLES E. SAINT CLAIR. [L. S.]

Witnesses:

WILLIAM JENKINS,

JOHN DEAMORD.