

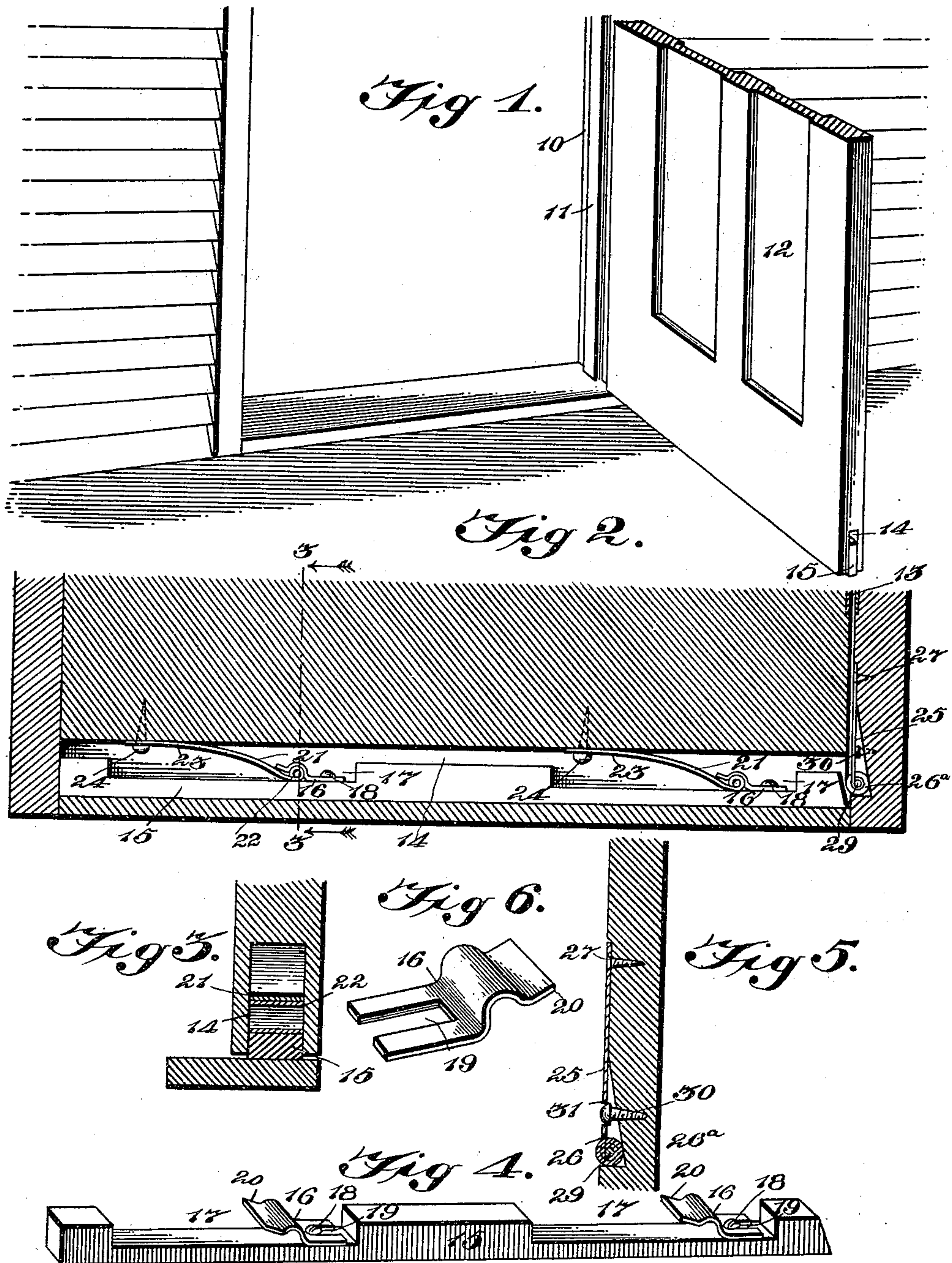
No. 659,455.

G. L. SCOVILLE.
WEATHER STRIP.

Patented Oct. 9, 1900.

(Application filed Feb. 10, 1900.)

(No Model.)



Witnesses

John Maupin.
J. F. Riley

By *his* Attorneys, George L. Scoville

Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

GEORGE L. SCOVILLE, OF WEST SUPERIOR, WISCONSIN, ASSIGNOR TO THE
INTROSTILE COMPANY, OF DULUTH, MINNESOTA.

WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 659,455, dated October 9, 1900.

Application filed February 10, 1900. Serial No. 4,779. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. SCOVILLE, a citizen of the United States, residing at West Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Weather-Strip, of which the following is a specification.

The invention relates to improvements in weather-strips.

One object of the present invention is to improve the construction of that class of weather-strips wherein a slidable strip is fitted in the recess in the bottom edge of the door to dispense with a threshold-strip on the door-sill, and to simplify the construction and render the device efficient and reliable in operation, so that on closing the door the strip will be positively depressed into firm engagement with the door-sill to exclude the weather.

A further object of the invention is to provide means by which the slidable weather-strip may be readily adjusted or tilted to fit any slant of the floor that may be caused by the settling of a building or otherwise and to enable such adjustment to be effected without taking the door off the hinges.

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 door, partly open, provided with a weather-strip constructed in accordance with this invention. Fig. 2 is a vertical sectional view in the plane of the jamb and the door, the latter being closed. Fig. 3 is a transverse sectional view on line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the slidable weather-strip. Fig. 5 is a detail sectional view of the bumper. Fig. 6 is a detail perspective view of one of the adjustable bearings.

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

10 designates the door-jamb, which is provided with the usual internal bead or shoulder 11, against which the door 12 may press or bear when it is closed, the door being hinged

at 13 to the jamb. All of these parts are ordinary in the art, and no novelty therefor is herein claimed.

To accommodate the slidable weather-strip, a recess or channel 14 is cut in the lower edge of the door, and in said recess is snugly fitted a slidable strip 15, which may be made of any suitable material. This strip 15 is suspended or hung within the recess or channel of the door by springs, which serve to actuate the strip, thereby dispensing with means for guiding the strip in its proper play and for connecting the strip to the door other than by the springs. The strip 15 is capable of a vertical play or movement simultaneously with its endwise movement, and the suspension-springs are arranged to give the proper travel to the strip when the door is open, so that the edge of the strip will lie practically flush with the corresponding edge of the door when the latter is opened. The suspension and actuating springs 21, which are inclined, consist each of a flat piece of elastic metal which is provided at its lower end with a rounded or spirally-bent journal 22 and with a flat head 23. The journal 22 of the spring is made by coiling or twisting the lower end of the metal upon itself, and the flat head, which is arranged at the upper end of the spring, lies at an angle to the inclined spring-shank. The springs are secured within the channel or recess of the door by fitting the flat head 23 against the lower horizontal face of the door-recess and by passing screws 24 through the spring-heads 23, so that the upper ends of the springs are fastened securely to the door. The rounded journals 22 of the springs are adjustably connected to the upper edge of the strip 15 by means of bearings 16, arranged in recesses 17 and secured to the said strip by screws 18 or other suitable fastening devices, which pass through longitudinal slots or bifurcations 19 of the bearings. Each bearing, which may be constructed of any suitable material, is preferably formed of a single piece of sheet metal having a straight lower or base portion and an upwardly-extending curved portion provided with a lip or flange 20. The straight horizontal portion is provided with the said slot or bifurcation 19, and the curved portion, which extends upward over the bottom of the

recess 17, is adapted to interlock with the journal of the spring, the lip or flange being adapted to guide the bearing into engagement with the journal of the spring and facilitating such engagement. By this construction the bearings are detachably interlocked with the springs, and the strip may be applied to and removed from the door without taking the latter off its hinges.

The longitudinal adjustment of the bearing for the spring is to enable the strip to be tilted or inclined at either end, so that it will conform to the configuration of and fit snugly against the floor or sill at any slant of the same that may be caused by the settling of the building or otherwise. If the bearing be moved toward the spring, the corresponding end of the strip 15 will be thrown downward or lowered, and by moving it in the opposite direction it will be elevated. Either bearing may be adjusted in this manner, and the adjustment is effected without taking the door off the hinges and by simply detaching the bearings from the lower ends of the springs and thereby removing the strip. The journals of the springs slip under the bearings which hook over the journals, thereby holding the strip in position so that any jarring of the door will not throw it out of place and yet permitting the strip to be disengaged and removed by a slight pressure on its front end. The adjustment of the weather-strip by means of the bearings obviates the necessity of placing the springs the exact distance apart, for the reason that the strip may be readily adjusted to bring it into a position parallel with the floor whether the latter be horizontal or slightly inclined. The springs and strip are thus connected for the strip to be carried or sustained wholly by the springs, and the latter serve to raise the strip when the door is open, so that the lower edge of the strip will lie practically flush with the lower edge of the door. The springs, which have their upper ends fixed to the door, are adapted to have their free ends move or travel in an arc of a circle in order to impart an endwise movement to the strip simultaneously with its vertical movement.

The depression of the strip 15 when the door is closed is effected by a bumper 25, which is attached to the door-jamb in a position to lie in the path of the slidable strip. This bumper consists of a strip or length of spring metal having a slot or fork 26 at one end, and said bumper-spring is arranged in a vertical position on the door-jamb to have its upper end fastened securely thereto by a screw 27, which passes through a suitable opening in said bumper-spring and is embedded in the jamb. The lower forked end of the bumper-spring receives an antifriction-roller 26^a, which is journaled loosely, as at 29, in the free end of the spring, and this roller is adapted to ride against the end of the slidable strip 15, thus reducing the friction between the bumper-spring and the end of

the slidable strip. To prevent the bumper-spring from yielding unduly under the impact or pressure of the spring-controlled strip 15, I employ an adjustable stop-screw 30, which is secured in the door-jamb at a point between the fastening-screw 27 and the antifriction-roller 26^a. This stop-screw offers resistance to the inward movement of the bumper-spring under the pressure of the strip 15 when the door is closed, and said screw 30 may be adjusted more or less in relation to the bumper-spring to project the latter at variable distances from the face of the door-jamb, whereby the bumper may be adjusted to depress the strip 15 more or less, and thus secure nicety of adjustment of the spring-pressed strip, so as to compensate for shrinkage of the door or sill and effect the tight closing of the space between the door and sill by the weather-strip. The head of the stop-screw 30 is accessible through an opening 31, which is formed in the bumper-spring to permit the operator to introduce the point of a screw-driver or other implement for engagement with the screw to adjust the latter; but the diameter of the opening 31 is less than the width of the screw-head in order that the latter may have proper bearing against the bumper-spring to offer resistance to the inward movement of the bumper when the slidable strip presses against the friction-roller, which is carried by the bumper-spring.

Changes may be made in the form of some of the parts while their essential features are retained and the spirit of the invention embodied. Hence I do not desire to be limited to the specific form of all the parts, as shown, reserving the right to vary therefrom.

What is claimed is—

1. The combination with a door, of inclined springs secured to the same, a slidable weather-strip, and means for adjustably connecting the ends of the springs to the weather-strip, whereby the latter may be tilted in either direction, substantially as and for the purpose described.

2. The combination with a door, of inclined springs secured to the same, a slidable weather-strip, and adjustable bearings mounted on the weather-strip and receiving the lower ends of the springs and adapted to permit the weather-strip to be tilted in either direction, substantially as described.

3. The combination of a door, provided at its bottom with a longitudinal recess, a slidable weather-strip arranged within the recess, inclined springs secured to one of the parts, and means carried by the other part for detachably engaging the adjacent ends of the springs, whereby the weather-strip may be removed from the door by a slight longitudinal pressure and without taking the door off of the hinges, substantially as described.

4. The combination with a door, of inclined springs mounted thereon, a slidable weather-strip, and bearings adjustably mounted on the weather-strip and provided with project-

ing portions arranged to hook over the ends of the springs and detachably engaging the same, substantially as described.

5 5. The combination with a door, of inclined springs secured to the door and provided at their lower ends with rounded portions or journals, a slidable weather-strip, and the slotted longitudinally - adjustable bearings secured to the weather-strip and having
10 curved portions engaging the adjacent end

of the springs and provided with projecting lips, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 15 the presence of two witnesses.

GEORGE L. SCOVILLE.

Witnesses:

C. H. CROWNHART,

A. C. TITUS.