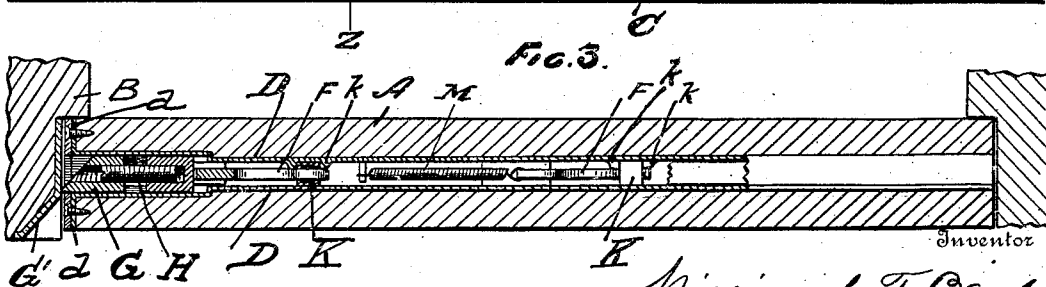
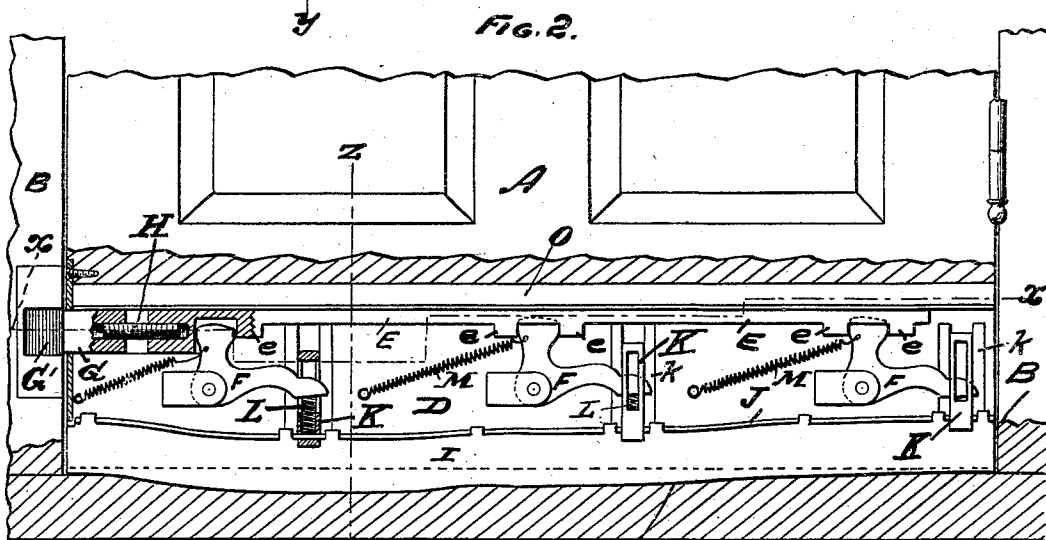
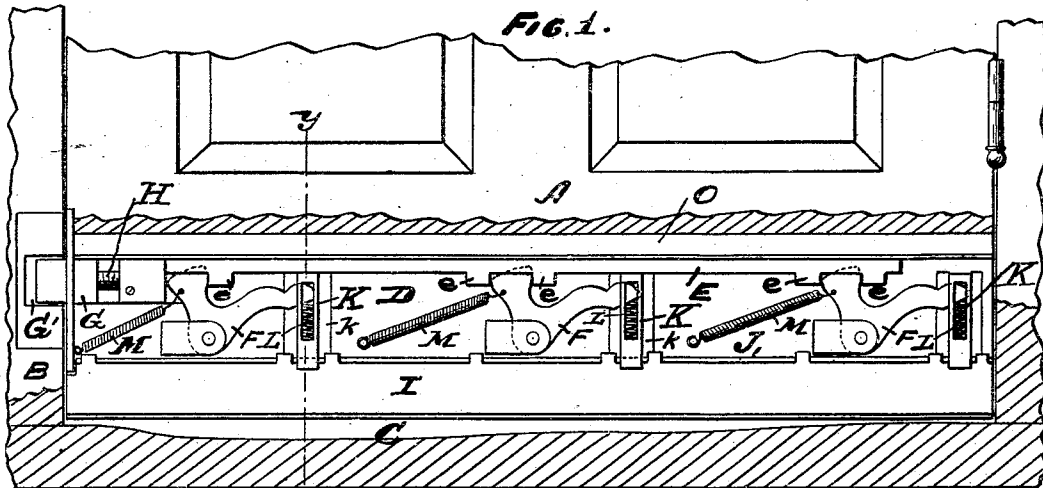


W. C. F. BEALE.
 WEATHER STRIP,
 APPLICATION FILED JULY 20, 1908.

938,107.

Patented Oct. 26, 1909.

2 SHEETS—SHEET 1.



Witnesses

Grace E. Wynkoop.
 Lewis E. Flinders

By

William C. F. Beale

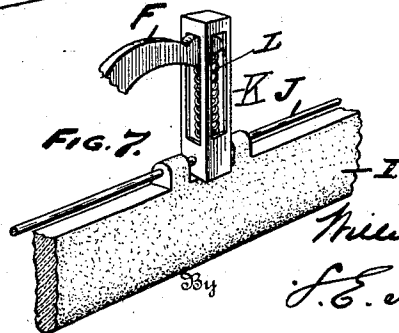
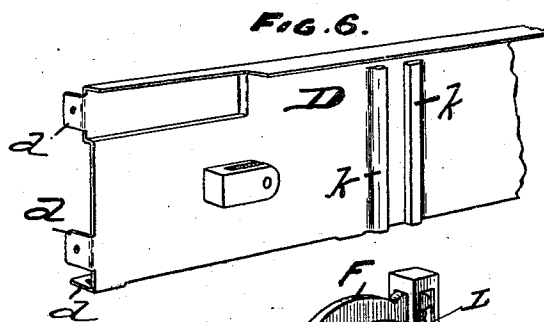
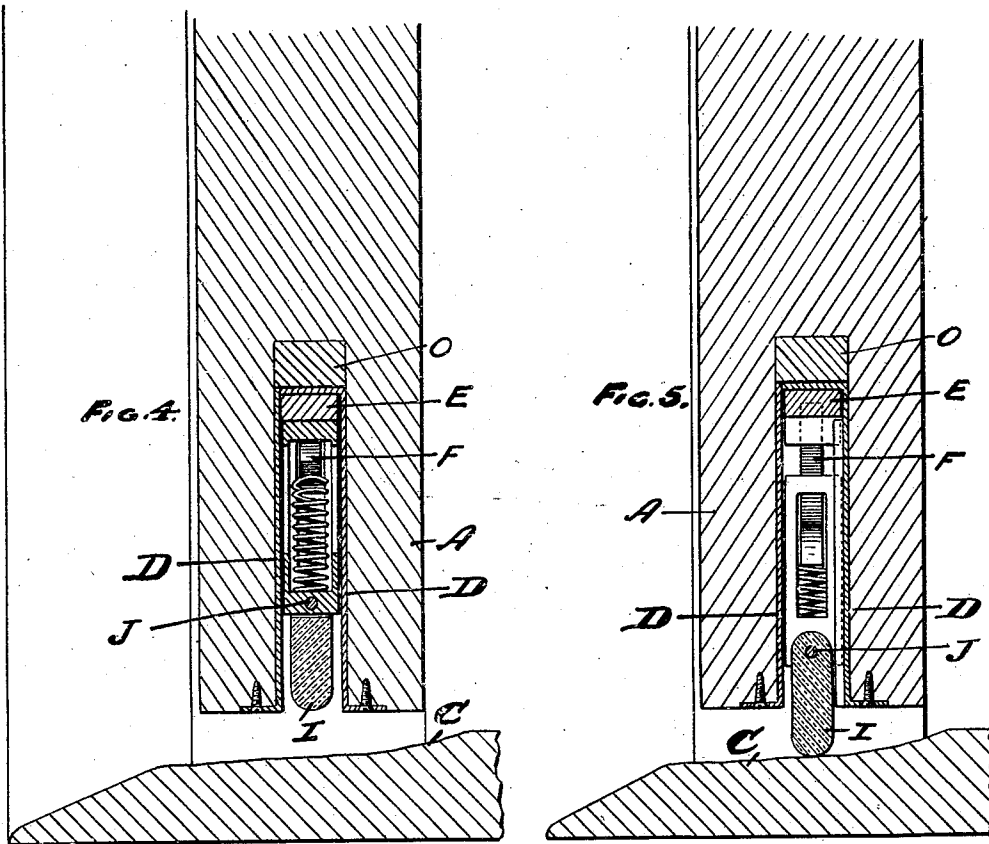
S. E. Thomas

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WILLIAM C. F. BEALE, OF DETROIT, MICHIGAN.

WEATHER-STRIP.

938,107.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed July 20, 1908. Serial No. 444,311.

To all whom it may concern:

Be it known that I, WILLIAM C. F. BEALE, citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful improvement in Weather-Strips; and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in weather strips shown in the accompanying drawings and more particularly pointed out in the claims.

The object of this invention is to provide means whereby the strip will automatically adapt itself to the varying conditions of a worn sill, effectually closing the opening between the door and sill irrespective of whether the opening between same when the door is closed is great or small, of equal width throughout, or an irregular shaped crack.

Another feature of the construction is the means provided for raising the strip immediately upon opening the door in order that the latter may freely swing over rugs or carpets and also to relieve the strip of the constant wear due to the friction caused by dragging it over the floor.

In the drawings accompanying this application: Figure 1 is a fragmentary elevation of a door and its casing, with parts in section, showing the strip in the position it occupies before the door is fully closed. Fig. 2 is a similar view showing the door completely closed and the manner in which the flexible strip adapts itself to the irregularities of a worn sill. Fig. 3 is a horizontal sectional view along the dotted line $x-x$ of Fig. 2. Fig. 4 is an enlarged cross-sectional view through the door and strip on the dotted line $y-y$ of Fig. 1. Fig. 5 is an enlarged cross-sectional view on the dotted line $z-z$ of Fig. 2. Fig. 6 is a perspective view showing a detail of the outer wall of the strip and the manner of securing it to the door. Fig. 7 is a perspective view of a detail showing the manner of securing the rubber or felt strip to the flexible rod.

Referring now to the letters of reference displayed upon the drawings: A indicates the door, B the casing, and C the sill.

D denotes the side walls of the weather

strip provided with outwardly projecting lugs or ears d , whereby it is secured to the door.

E is a reciprocating bar housed between the side walls D and provided with projecting lugs e , between each pair of which are lodged one arm of the bell crank levers F pivoted to the side walls D.

G is a latch-bolt connected to the end of the reciprocating bar E by a right and left screw-bolt H engaging the parts.

As shown in Fig. 3 the tapped hole in the latch-bolt G passes completely through it in order that the screw-bolt H may be conveniently adjusted by a screw driver from the outside.

G' is a beveled strike plate secured to the door casing to receive the impact of the latch-bolt whereby the connected reciprocating bar E is forced to the limit of its movement upon closing the door.

I is a flexible strip of rubber or other suitable material, suspended from the yielding rod J.

K are hollow sliding members traveling in suitable ways k formed in the side walls D, their lower ends being secured to the yielding rod or bar J.

L are springs housed within the hollow member K, against which bear the long arms of the bell-crank levers F.

M are coil-springs secured at one end to the bell-crank levers and at the other to the side walls D. The action of these springs is to return the bell-cranks and with them the reciprocating bar E back to their initial position immediately upon opening the door.

Having indicated the several parts by reference letters, the operation of the device will be readily understood.

To insure a sufficient movement of the rubber or flexible strip I, the screw-threaded bolt H is adjusted by means of a screw driver inserted through the hole in the latch-bolt. Upon closing the door the latch-bolt contacting with its beveled strike plate forces the reciprocating bar E to the limit of its movement, at the same time tilting the several bell-crank levers, and by them forcing down the sliding members K carrying the yielding rod J to which the rubber strip I is attached.

It will be seen that the yielding rod J to which the rubber strip is secured readily adapts itself to the worn or irregular surface of the sill, while the action of the re-

reciprocating bar E acting in conjunction with the bell-crank levers F and sliding members K force the rubber strip into close and intimate relation with the surface of the sill upon closing the door. So also it will be seen that the springs L housed within the sliding members permit of a greater flexibility of movement, allowing the strip to readily adapt itself to the contour of the sill without danger of straining or breaking the parts. Immediately upon opening the door the reciprocating bar E is released from its forced position while the springs connected with the bell-cranks serve to force it back to its initial position, at the same time lifting the rubber strip from contact with the sill.

The device may either be lodged within a channel cut in the edge of the door as shown in the drawings or it may be secured to the side of the door and the parts boxed in as desired. When lodged in a channel as shown in the drawings, I prefer to cut the channel deeper than is necessary to receive the device, filling the space at the top with a wooden strip O. My object in doing this is that in case it should be necessary to trim off the bottom of the door on account of the latter sagging, the strip may also be trimmed down and the device moved up in the channel to adapt itself to the changed conditions.

While I have described this invention as applied to doors it may be employed with equal advantage on windows.

Having thus described my invention, what I claim is:—

1. In a device of the character described, a supporting frame secured to the door, a reciprocating bar housed in the frame and having a socket in one end, a screw bolt projecting from said socket, a door frame engaging member provided with a socket to receive the projecting end of said screw bolt, the door frame engaging member being adjustable toward and away from the reciprocating bar by said screw bolt, a weather strip mounted in said supporting frame, a continuous flexible element by which the weather strip is supported, means between the reciprocating bar and the weather strip to force the latter downwardly when the bar is reciprocated in one direction, and means for elevating the weather strip when the bar is moved in the opposite direction.

2. In a device of the character described, a supporting frame secured to the door, a reciprocating bar housed in the frame and having a socket in one end, a screw bolt projecting from said socket, a door frame engaging member provided with a socket to receive the projecting end of said screw bolt, the door frame engaging member being adjustable toward and away from the reciprocating bar by means of said bolt, a weather strip mounted in said supporting frame, a

flexible element by which the weather strip is supported, bell cranks mounted in the supporting frame for engagement by the reciprocating bar when the latter is moved in one direction to effect a lowering of the weather strip, and yieldable means having connection with said bell cranks to move the latter and thereby shift said bar in the opposite direction when the door is opened to permit of a raising of the weather strip.

3. In a device of the class described, a supporting frame adapted to be secured to a door, a reciprocating bar housed in the frame and adapted to be moved in one direction by closing the door, a weather strip, a continuous flexible metallic bar to which said weather strip is secured, connections including flexible elements between the bar and said strip to force the latter downwardly when the bar is moved inwardly on closing the door, and means having connection with the aforesaid connections for elevating the weather strip when the bar is reciprocated in the opposite direction upon opening the door and consequently effecting a raising of the weather strip.

4. In a device of the class described, a supporting frame secured to the door, a reciprocating bar housed therein adapted to be moved by closing the door, a door engaging member, a screw bolt connecting the door engaging member and reciprocating bar, a plurality of bell-cranks adapted to be actuated by the reciprocating bar, a weather strip, a flexible metallic bar to which said weather strip is secured, movable members secured to said flexible bar and adapted to be operated by the bell-cranks, and suitable springs interposed between the arm of the bell-cranks operating the movable members and said members.

5. In a device of the class described, a supporting frame secured to the door, a reciprocating bar housed therein adapted to be moved by closing the door, a latch-bolt, a screw-bolt connecting the latch-bolt and reciprocating bar, a plurality of bell-cranks adapted to be actuated by the reciprocating bar, a weather strip, a flexible metallic bar to which said weather strip is secured, movable members secured to said flexible bar and adapted to be operated by the bell-cranks, suitable springs interposed between the arm of the bell-cranks operating the movable members and said members, and springs adapted to lift the weather strip and return the reciprocating bar to its initial position.

6. In a device of the character described, a supporting frame adapted to be secured to the door, a reciprocating bar housed in the frame and projecting at one end beyond the door for engagement with the door frame to force the reciprocating bar inwardly of the frame when the door is closed, guide-ways secured to the interior of said frame, hollow

members slidable in said guide-ways, a
spring in each hollow member, a weather
strip having connection with said hollow
slidable members, bell cranks disposed in the
5 frame and having one end for engagement
with the springs of said hollow members
with their opposite ends disposed for en-
gagement by said bar, whereby upon inward
movement of the bar the bell cranks are
10 moved upon their pivots and compress the
springs of said hollow members to effect a
lowering of the weather strip, and springs

having connection with the bell cranks to
move them in the opposite directions upon
their pivots when the bar is reciprocated in 15
the opposite direction upon opening the
door to effect a raising of the weather strip.

In testimony whereof, I sign this speci-
fication in the presence of two witnesses.

WILLIAM C. F. BEALE.

Witnesses:

GRACE E. WYNKOOP,
SAMUEL E. THOMAS.