

J. N. BARBER.
ADJUSTABLE DOOR SILL OR SADDLE.
APPLICATION FILED MAY 6, 1910.

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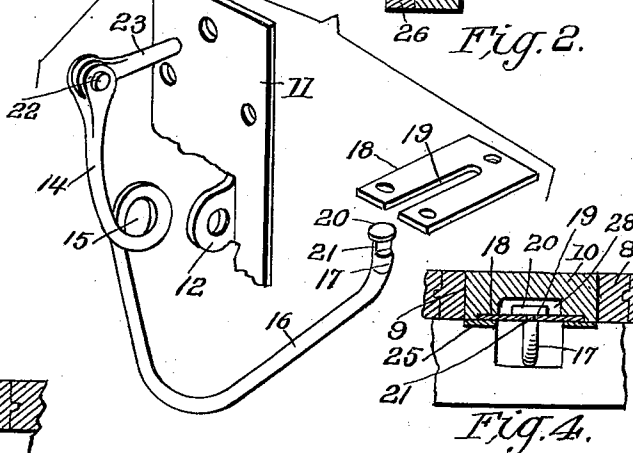
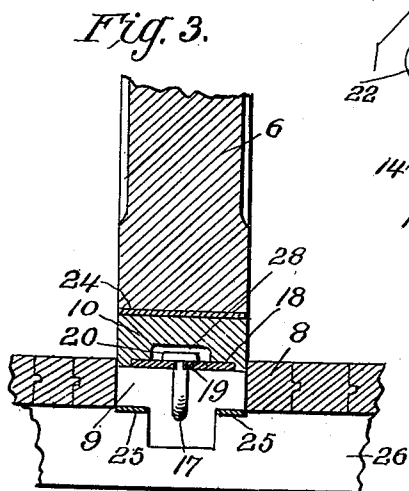
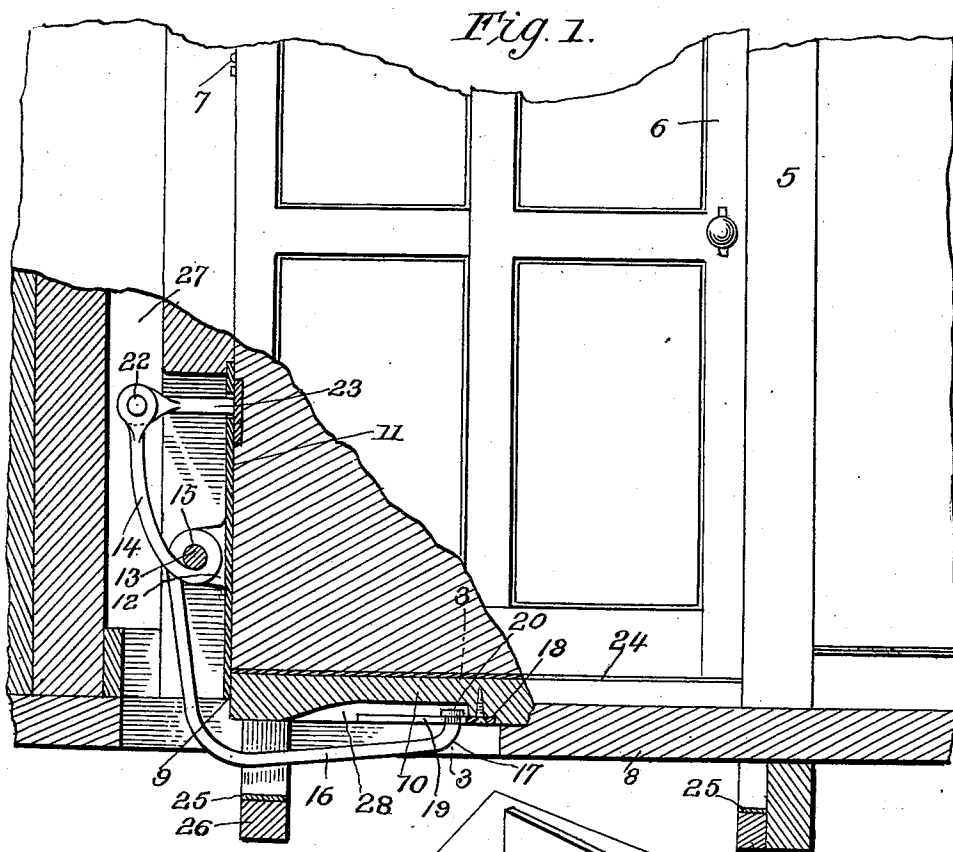


Fig. 4.
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Witnesses
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UNITED STATES PATENT OFFICE.

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ADJUSTABLE DOOR SILL OR SADDLE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHNSON N. BARBER, citizen of the United States, residing at North Plainfield, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Adjustable Door Sills or Saddles, of which the following is a specification.

This invention relates to doors and more particularly to a movable sill or saddle plate especially designed for use in connection with swinging doors.

The object of the invention is to provide a door, the sill of which is movable into engagement with the bottom of the door when the latter is closed, thus to prevent the entrance of dust and dirt to the interior of a room.

A further object is to provide a sill or saddle plate having an arm operatively connected therewith and provided with a projecting portion or plunger disposed in the path of movement of the door so that when the latter is closed, the arm will move the sill to elevated position in contact with the bottom of the door, and when said door is opened, the sill will drop by gravity to lowered position flush with the surface of the floor.

A still further object of the invention is generally to improve this class of devices, so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a front elevation of a door provided with a movable sill constructed in accordance with my invention, the door being shown in closed position; Fig. 2 is a detail perspective view of the actuating arm and its associated parts detached; Fig. 3 is a detail vertical sectional view taken on the line 3—3 of Fig. 1; Fig. 4 is a detail vertical sectional view, showing the sill in lowered position.

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 improved door sill or saddle plate forming the subject matter of the present invention is principally designed for attachment to swinging doors and similar closures and by way of illustration is shown in connection with a door of the ordinary construction in which 5 designates the supporting frame, and 6 the door pivotally mounted at 7 on said frame.

The floor 8 is provided with a seating recess 9 in which is slidably mounted for vertical movement a saddle plate 10, the latter being movable into engagement with the bottom of the door when said door is closed, thus to prevent the entrance of dust and dirt to the interior of a room.

Secured to one side of the door frame 5, is a plate 11 having spaced laterally extending ears 12 preferably formed integral therewith and between which is pivotally mounted at 13, an actuating arm 14. The intermediate portion of the arm 14 is bent to produce an eye 15 adapted to receive the pivot pin 13, while the lower end thereof is formed with an angular extension 16, the free end of which is bent upwardly to produce a terminal finger 17.

Secured to the bottom of the sill or saddle plate 10, is a retaining plate 18 having a slot 19 formed therein and opening through one end of the plate, said slot being adapted to receive the angular finger 17. The angular finger 17 is provided with a terminal head 20 which bears against the upper surface of the plate 18, while the side walls of said finger are cut-away to produce flat bearing surfaces 21 which engage the side walls of the slot 19, thus to permit free sliding movement of the finger within the slot 19.

Pivotally connected at 22 with the upper or vertical portion of the actuating arm 14, is a plunger 23, the free end of which projects through an opening in the plate 11 and is disposed in the path of movement of the door 6 so that when said door is closed, the plunger will be forced inwardly, thus to tilt the actuating arm 14 and cause the extension 16 thereof to elevate the sill and press the latter against the bottom of the door.

A strip of felt or other yieldable material 24 is preferably secured to the bottom of the

door for contact with the upper surface of the sill 10 so as to form an air and dust tight joint between the sill and door when the latter is in closed position. Suitable pads 25 are also preferably secured to transverse supporting sills 26 disposed beneath the floor 8 so as to render the device noiseless when in operation.

The vertical portion of the actuating arm 14 is seated in a recess 27 formed in one side of the door frame, while the angular extension 16 of said actuating arm passes through an opening in one of the transverse sills 26 for engagement with the retaining plate 18, as before stated.

The lower face of the sill 10 is preferably cut-away at 28 so that when the plate 11 is detached from the door frame, the sill may be disengaged from the finger 17 of the actuating arm for the purpose of removing any dust or other foreign matter that may happen to collect in the seating recess 9.

Thus it will be seen that when the door is moved to closed position, the inner or pivoted longitudinal edge of the door will bear against the plunger 23 and force said plunger inwardly, thus to move the sill upwardly into engagement with the bottom of the door. When the door is moved to open position, the sill will drop by gravity within the recess 9 with its upper end flush with the surface of the floor so as not to offer any obstruction at the threshold of said door.

The device is extremely simple in construction and may be manufactured and placed on the market at a comparatively small cost.

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

1. The combination with a door frame, of a swinging door mounted upon the frame, a vertically movable sill, a plate applied to the bottom of the sill and formed with a longitudinally disposed slot which opens through one end of the plate, a pivotally mounted actuating arm one end of which extends under the sill and terminates in an upwardly projecting finger having a reduced portion adapted to be received within the slotted portion of the plate for producing an interlocking connection between the plate and the arm, the said reduced portion of the finger being removable through the open end of the slot, and a plunger connected to the opposite end of the actuating arm and projecting into the path of the door so as to tilt the

actuating arm and elevate the sill when the door is closed.

2. The combination with a door frame having a seating recess formed in the base thereof, of a door pivotally mounted on the frame, a vertically movable sill seated in said recess, a plate secured to the bottom of the sill and provided with a slot opening through one end thereof, a second plate secured to one side of the door frame and provided with spaced lugs, an angularly disposed actuating arm having its intermediate portion formed with an eye seated between said lugs, a pivot pin extending through the lugs and eye, one end of the arm being extended beneath the sill and provided with a vertically disposed finger having a reduced portion slidably mounted in the slot of the plate upon the sill whereby an interlocking connection is produced therewith, and a plunger pivotally connected with the other end of the arm and having its free end projecting through an opening in the second plate for contact with the adjacent longitudinal edge of the door when the latter is moved to closed position.

3. The combination with a door frame having a seating recess formed in the base thereof, of a door pivotally mounted on the frame, a sill seated in said recess, a plate secured to the bottom of the sill and having a slot formed therein and opening through one end of the plate, a second plate secured to one side of the door frame and provided with spaced lugs, an angularly disposed actuating arm pivotally mounted between said lugs, one end of said arm being provided with a finger having oppositely disposed flat faces for engagement with the adjacent walls of the slot and provided with a terminal head for contact with the upper face of said plate, whereby an interlocking connection is produced, the finger being removable through the end of the slot, and a plunger pivotally connected with the other end of the arm and disposed in the path of movement of the door for operating the arm to elevate the sill when the door is moved to closed position.

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

JOHNSON N. BARBER. [L. S.]

Witnesses:

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