

UNITED STATES PATENT OFFICE

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SHIFTABLE DOOR BOTTOM

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This invention relates to attachments for doors particularly inside doors.

The primary object of the present invention is to provide a device applicable to the lower edge of a door which, when the door is closed, will move downwardly into engagement with the floor beneath and thus completely close the opening existing between the lower edge of the door and the floor thereby preventing the passage of air from one room to another and the creation of drafts.

Another object of the invention is to provide a device of the above described character which operates automatically through the contact of an element forming a part thereof with the jamb of the door frame so that the operation of the device will be positive at all times.

Still another object of the invention is to provide a device of the above described character which, when the door is open, will be raised to a plane above the lower edge of the door so that the door may be swung over rugs or other articles upon the floor without the device coming into contact therewith and interfering with the proper operation of the door.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawings but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a view partially in elevation and partially in section of the device embodying the present invention showing the same applied and in raised position.

Figure 2 is a view similar to Figure 1 showing the device in lowered position.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Referring more particularly to the drawings wherein like numerals of reference in-

dicate corresponding parts throughout the several views, there is illustrated in Figure 3 a cross-section of the lower part of a door indicated by the numeral 1. As shown this lower part of the door is provided with a recess 2 which extends from one side of the door to the other or, in other words, from the front to the rear edge thereof. This recess 2 opens through the bottom edge of the door as shown so that the attachment embodying the present invention may be extended therefrom for contact with the floor 3 beneath the door, when the door is shut.

The attachment embodying the present invention and which is disposed transversely of the lower part of the door 1 in the recess 2, comprises an inverted substantially U-shaped metal frame 4 through the horizontal top portion of which one or more screws 5 may be passed into the adjacent portion of the door body to maintain this frame in position therein.

The frame 4 is preferably placed in the central part of the door and adjacent the forward end of the frame the door body has formed upwardly therein from the recess 2 a bore 6 into which may extend a coil spring 7 the lower end of which rests upon the top of the frame 4 and overlies an opening 8 formed therethrough. Extending upwardly through the opening 8 and longitudinally through the spring 7 is a pull rod 9, the upper end of which passes through a washer 10 upon the top of the spring 7 and receives a transverse key 11 which prevents it being pulled through the spring as will be readily understood upon reference to Figure 1 of the drawings. The lower end of this rod is flattened and provided with an aperture 12 for the purpose hereinafter described.

Extending longitudinally in the door recess 2 is a metal shell 13 which grips a felt strip 14, a substantial portion of one edge of which extends beneath the shell 13.

Upon each side of the shell 13 within the frame 4 there is arranged a plate 15 which extends longitudinally of the frame as shown and which carries adjacent the rear portion of the frame a pivot stud 16 which extends laterally into the adjacent side of the frame

4 with which it is in pivotal connection. At their forward ends the plates 15 are connected at their top edges by a cross bar 17 which overlies the shell 13 and bears thereagainst during the operation of the attachment.

The shell 13 carries upon its top a hook 18 which engages in the aperture 12 in the pull rod 9.

Adjacent their rear ends and at the top edges thereof the oscillatable plates 15 are connected by a cross bar 19. This bar is pivoted in the plates 15. Extending through and in threaded connection with the pivoted bar 19 is a push rod 20 which extends longitudinally and over the top of the felt carrying shell 13 to and beyond the rear edge of the door 1. The rear end of this rod 20 is provided with a kerf 21 in which a screw-driver may be engaged so that the rod may be rotated and adjusted longitudinally of the shell. A hooked spring member 22 is provided which has one end secured in the pivot bar 19, the hook being forced upward to engage over the bar 20 to form a permanent drag thereon so as to prevent this bar from turning accidentally and thus changing its adjustment.

In operation when the door to which the device is attached is in open position the lower edge of the felt 14 will be above the bottom of the door and the push rod 20 will project slightly beyond the rear of the door. As the door is moved to closed position the rear end of the rod 20 will be brought into engagement with the jamb of the door frame so that a forward thrust will be exerted upon the plates 15. This will tend to oscillate these plates upon their pivots 16 and will force the bar 17 down and at the same time force down the shell and felt 14 bringing the lower edge of the felt into contact with the floor surface.

As will be obvious when this occurs the rod 9 will be pulled down compressing the spring 7. As soon as the door is moved from the closed position the spring 7 will act to pull up on the felt and shell and thus replace the felt in the recess in the door maintaining it free from contact with the floor therebeneath. If found advantageous additional lifting springs may be attached to the felt thereto adjacent the forward end and one adjacent the rear end with their other ends suitably housed and attached in the body of the door so that they will be placed under tension with the spring 7 as the felt is forced downwardly from the recess in the bottom of the door.

From the foregoing it will be readily seen that by equipping inside doors, and outside doors also if conditions permit, with devices of the character herein described the formation of drafts will be effectively prevented.

Having thus described my invention, what I claim is:

1. The combination with a door having a recess formed longitudinally in the lower edge thereof, of an elongated floor engaging resilient body, an oscillatable element disposed in the door recess at one side of the body, resilient means disposed above said body substantially midway of its ends and normally maintaining the latter in the recess, a pivoted member carried by the oscillatable body, a push rod threadably adjustably connected with the pivotal member and projecting from said recess at the rear of the door for contact when the door is closed with the adjacent door frame, a member carried by the oscillatable body and extending across and forcing the floor engaging body downwardly when the oscillatable body is shifted by said rod, and a spring element connecting the said rod with the pivotal member to which it is attached and forming a permanent drag upon said rod to prevent accidental misadjustment.

2. The combination with a door having a recess longitudinally of and in the lower edge thereof, of a body of inverted substantially U-shaped cross section, adapted to be secured in the recess, a resilient weather strip disposed in the body, a pair of members disposed with the strip therebetween, said members being pivotally connected with the adjacent sides of the body, a pin pivotally mounted between and connecting the members in substantially the same vertical plane as the pivots thereof when the said door is opened, a connecting body between the members at a point removed from the pin and disposed in the same horizontal plane as the same when said door is opened, a coil spring disposed vertically above the U body and supported thereby, a rod extending through said spring and through the body and connected at its upper end to the spring, a detachable connection between the lower end of the rod and the strip, and a push rod having one end threadably engaged with said pivot member and arranged to abut the frame of the door when the door is closed.

In testimony whereof I hereunto affix my signature.

HARRY W. CUMMER.