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DRAFT PREVENTING ATTACHMENT FOR DOORS

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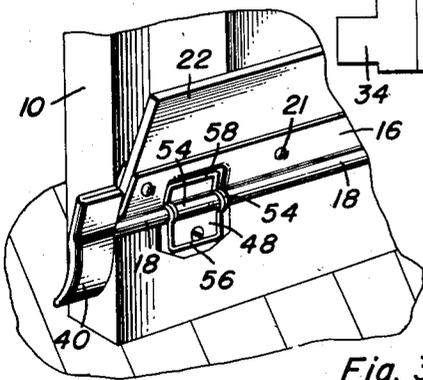
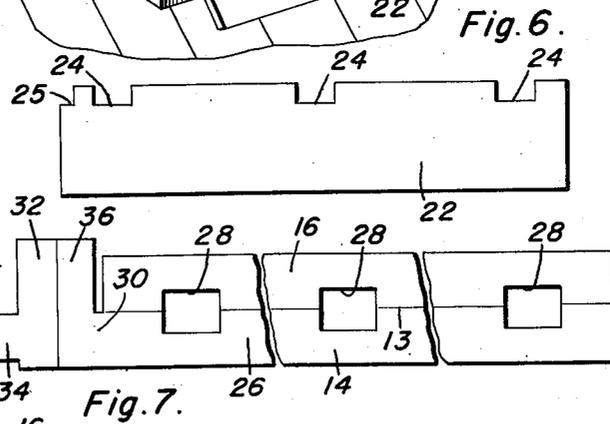
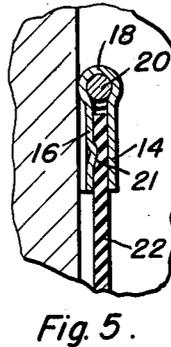
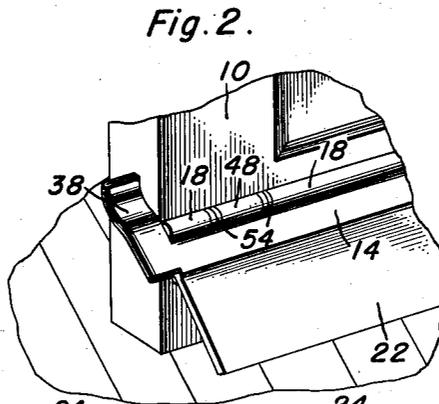
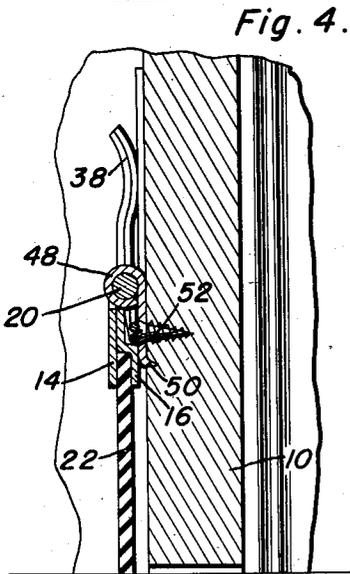
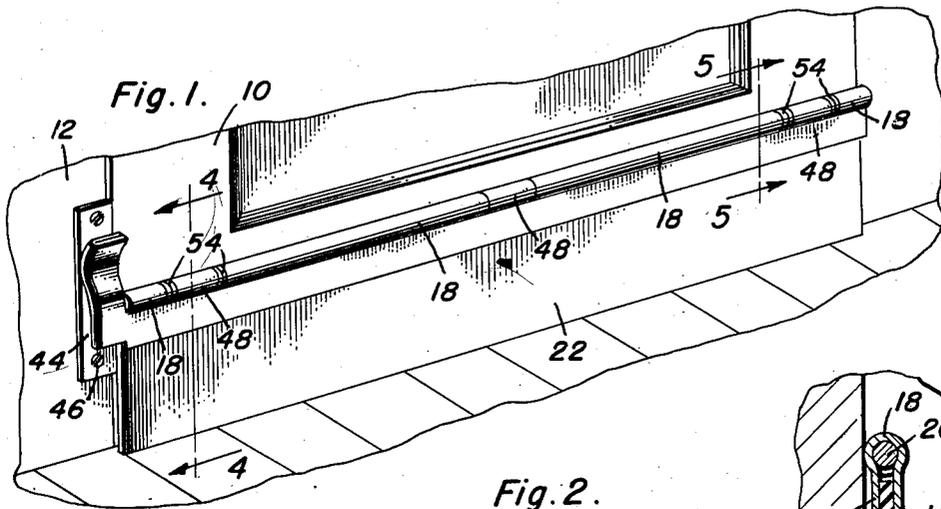


Fig. 3.

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# UNITED STATES PATENT OFFICE

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## DRAFT PREVENTING ATTACHMENT FOR DOORS

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1 Claim. (Cl. 20—67)

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This invention comprises novel and useful improvements in a draft preventing attachment for doors and more specifically pertains to a sealing strip pivotally mounted upon the lower portion of a door and automatically moved to a closed position upon closing of the door for sealing the space beneath the bottom edge of a door.

The principal object of this invention is to provide means for eliminating drafts through the spaces customarily provided beneath the lower edges of doors.

A further object of the invention is to provide a draft preventing attachment for the lower edges of doors which will automatically assume a raised, non-sealing position while the door is open and will be automatically urged to a door-sealing position when the door is closed.

A still further object of the invention is to provide an improved construction of draft-preventing attachment for doors in conformity with the foregoing objects which shall be of simple and inexpensive construction, easily and unobtrusively applied to conventional doors, and yet is highly efficient for the purposes intended.

These, together with various ancillary features and objects of the invention which will later become apparent as the following description proceeds, are attained by the present invention, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a fragmentary perspective view of the lower portion of a door and door frame showing the attachment forming the present invention applied thereto, the door being indicated in its closed position;

Figure 2 is a fragmentary detail perspective view of the actuating end of the door sealing means in accordance with this invention, the same being shown in its normal position when the door is open;

Figure 3 is a fragmentary perspective view similar to Figure 2 but showing the attachment in its fully raised position to illustrate the mounting and construction of the same;

Figure 4 is a vertical transverse sectional view taken upon an enlarged scale substantially upon the plane of the section line 4—4 of Figure 1;

Figure 5 is a fragmentary vertical transverse sectional detail view taken substantially upon the plane of the section line 5—5 of Figure 1 and upon an enlarged scale;

Figure 6 is a plan view of the flexible blade of the sealing attachment of the invention; and

Figure 7 is a plan view, parts being broken

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away, of a metal blank from which a portion of the present invention is formed.

Referring now more specifically to the accompanying drawings, wherein like numerals designate similar parts throughout the various views, it will be seen that the numeral 10 designates a portion of a door of any conventional form which is mounted in a suitable door frame which includes a vertical member 12.

As is well known, it is customary to leave a certain minimum clearance beneath the edges of the doors when the same are in their closed position, in order to eliminate any danger of the door scraping the floor or a rug when the door is moved to its open position. This clearance is, however, objectionable in that it permits and causes drafts to occur beneath the door, which thereby render the floor an unsafe place for children to play, as well as being objectionable for other reasons.

In accordance with the present invention, a door sealing means is pivotally mounted upon the door and so constructed as to automatically close or seal the space when the door is in its closed position, and to be automatically opened to thereby not prevent movement of the door when the same is in its open position, as will be hereinafter set forth.

This sealing strip conveniently comprises a metallic strip which extends substantially throughout the length of the door, and which is folded upon its medial longitudinal axis as at 13 in Figure 7 to provide front and back web portions 14 and 16, connected by a cylindrically curved intermediate portion 18 adapted to embrace a transversely extending pin 20 forming a hinge or pivot pin for the wing member. A pliable sheet of material such as rubber or the like, and indicated at 22 in Figure 6, is adapted to be positioned between the front and rear portions 14 and 16, and to be retained therein as by indentations 21 struck from the back plate 15 forwardly toward the front plate 14 for crimping and securely anchoring the rubber blade therebetween. This blade is provided at its upper edge with notched or cutout portions 24 which are adapted to accommodate the hinge plates of the attachment, and a cutout portion 25, referred to hereinafter.

Referring now more specifically to Figure 7, it will be seen that the entire wing member of the attachment may be conveniently formed from a single stamping or sheet metal blank, indicated generally by the numeral 26 as being of elongated, rectangular shape, this blank being provided with

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three square or rectangular cutout portions 28. At one end, the blank 26 is connected by a neck portion 30 to a laterally enlarged portion 32 which, at its outer end, is provided with a longitudinal extension 34.

In forming the blade of the attachment, the enlargement 32 is folded along a transversely disposed medial line 36 upon itself to provide a double thickness of material, which thus forms a reinforced actuating lever or arm indicated in the drawings by the numeral 38. This latter may be suitably bent adjacent one end to provide a convex cam surface 40 by means of which the device is automatically pivotally moved, as set forth hereinafter.

The blank 26 is then folded upon its longitudinal medial axis 13 to provide the hinge portion 18 and the two front and rear plates 14 and 16, as set forth hereinbefore, this folding movement thus producing notches corresponding to the cutout portions 28. Between these notches, the connecting portions thus provide the above mentioned cylindrical hinge portions 18.

When the member 32 has been folded upon itself, the projection 34 is thus disposed inwardly of the seam, and is disposed between the folded plates 14 and 16 to reinforce and anchor the lever 38, the projection being received in the cutout portion 25 in the rubber blade 22.

A toe plate 44 is secured to the door frame 12 as by fastening screws 46, and constitutes an abutment or toe plate which is adapted to be engaged by the cam member 40 on the arm 38 when the door is closed. Preferably, this toe plate is provided with downwardly struck projections which may be engaged in the door frame 12 whereby the plate may be pressed into the door frame or driven therein as by a hammer and held in place until the screws 46 are inserted.

The hinge pin 20 extending through the hinge portions 42 and 18 is likewise embraced by conventional brackets 48, as shown in Figures 3 and 4, which brackets may have intumed sharpened projections 50 adapted to be embedded into the wood of the door 10 for mounting the brackets in place until fastening means, such as screws 52, may be inserted. The screws 52 are countersunk so as to leave a smooth or flush surface upon the bracket 48 which thus will permit the device to fold downwardly flat against the door, as shown in Figure 4.

About each of the hinges 48, there are provided suitable spring means consisting of helical coils 54 embracing the hinge pin in the notches formed by the cutout portions 28, these springs having arms 56 and 58 which respectively abut the door and the under surface or the rear surface of the plate 16. These springs are of such strength and proportions as to normally pivot the sealing attachment to a position of about sixty degrees, as shown in Figure 2, with respect to the door, so as to thereby prevent the attachment from dragging the floor when the door is in its open position. However, the arm 30 is so positioned that when the door is closed, the cam surface 40 will abut the abutment plate 44 and

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thereby rotate the attachment to door-closing position.

From the foregoing, it will be seen that there has been provided an attachment which will effectively completely close or seal the space beneath a door, thus preventing drafts therethrough when the door is in its closed position; and will be automatically elevated out of contact with the floor when the door is opened, the device being of a simple construction, quickly and easily installed, unobtrusively mounted, and highly effective for the purposes intended.

From the foregoing, the construction and operation will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not desired to limit the invention to the exact construction shown and described, but all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

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

A door seal comprising a blade of flexible material, a blade holder secured to said blade, a hinge pin pivotally securing said holder to the vertical surface of a door adjacent the lower end thereof, said blade being positioned for engagement with the floor and for closing the space between the door and floor, resilient means interposed between said holder and door and surrounding said hinge pin and urging said blade holder and blade into a raised position, an integral arm on said holder for engagement with the door frame to urge said holder and blade into their lowered position when said door is closed, said holder comprising an elongated sheet of metal folded on its medial longitudinal axis to form curved hinge portions, said sheet having longitudinally spaced openings on said medial longitudinal axis forming notches when said sheet is folded, the folded portions of said sheet embracing said blade, brackets supporting said pin from said door, said notches receiving said brackets, said sheet having a longitudinally extending laterally enlarged portion folded along a medial transverse line to form said arm.

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