ABSTRACT

A mounting device for snap in registry in the bottom edge of a hollow metal door provides a channel in which a weather sealing insert is mounted in vertically adjustable relation thereto so as to be operable therein.

5 Claims, 2 Drawing Figures
MOUNTING DEVICE FOR WEATHER SEALING INSERTS IN DOORS

BACKGROUND OF THE INVENTION

1. Field of the Invention
   This invention relates to metal doors as used in dwelling houses and apartments and more particularly to weather sealing inserts in the bottom edges of such doors and the means for mounting the same therein.

2. Description of the Prior Art
   Prior structures of this type have generally attached the weather sealing insert directly to the door as seen in my U.S. Pat. No. 3,453,780 or positioned it in channels formed in the door as in U.S. Pat. No. 2,996,769. Other prior art structures mount the weather sealing inserts in channels formed in the door as in U.S. Pat. No. 1,561,195.

   This invention provides a mounting for a weather sealing insert which snaps into position in the hollow open portion of a metal door and defines a channel for receiving the metal sealing insert and guiding it in its subsequent operation and modifying the metal door for the reception of the weather sealing insert.

SUMMARY OF THE INVENTION

A mounting device in the nature of a snap in housing is arranged for positioning and retention in the hollow lower edge of a conventional metal door so as to form a longitudinally extending channel therein in which a weather sealing insert can be operably positioned and retained. The mounting device is self-retaining in the hollow bottom edge of the metal door and is easily and inexpensively installed therein. It becomes an essential part of the weather sealing insert by providing a mounting and guiding means thereof in the hollow metal door.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of the mounting device with parts broken away and parts in cross section and illustrating a weather sealing insert mounted therein.

FIG. 2 is a vertical section on line 2-2 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

By referring to the drawings it will be seen that a portion of the bottom edge of a hollow metal door 10 has been illustrated and that it includes the usual front and back panels and an edge 11 as illustrated. The interior of the hollow metal door 10 is provided with a longitudinally extending metal member 12 which includes oppositely disposed inturned flanges 13 flush with the bottom of the door 10 and a narrower upwardly extending channel like configuration 14 which configuration 14 with the member 12 define a chamber 15, the upper portion 15A of which is narrower than the lower portion.

The space between the inner edges of the inturned flanges 13 provides an opening into the chamber 15. An inverted channel shaped housing 16 is positioned within the chamber 15 by being placed through the opening defined between the flanges 13 and is retained in snap in position by reason of oppositely disposed longitudinally extending secondary channels 17 formed in the lower outer side edges of the channel shaped housing 16 and adapted to register with the longitudinal edges of the oppositely disposed inturned flanges 13.

The inverted channel shaped housing 16 is of a height sufficient so that its upper portion engages the narrower chamber 15A and it will thus be observed that the inverted channel shaped housing 16 is self-positioning and self-retaining in the bottom of the hollow door 10 by reason of its engagement with the member 12 and its upwardly extending configuration 14, all as hereinbefore described.

It will further be seen that the member 12 forms a reinforcing and strengthening member in the bottom edge of the hollow metal door 10 as the same is secured thereto as by spot welding as known in the art.

In commercial production the hollow metal door 10 is provided with the metal chamber 12 complete with its inturned oppositely disposed flanges 13 and its upwardly extending channel configuration 14 at the time of manufacture and the channel shaped housing 16 is snapped into position at the time of installation of the weather sealing insert.

A weather sealing insert may comprise any device which is capable of effecting a weather and sound seal between the bottom edge of the metal door 10 and the floor surface or threshold immediately therebelow. In the present disclosure a modified form of weather sealing insert disclosed in U.S. Pat. No. 3,453,780 is disclosed and by again referring to the drawings it will be seen that it consists of a pair of brackets 18 (only one is shown in the drawings) which are secured by metal screws 19 in position in the opposite ends of the channel shaped housing 16 so that the brackets 18 depend from the uppermost portion of the housing 16. Each of the brackets 18 has a threaded opening 20 in which an adjustment screw 21 is positioned, the inner ends of the adjustment screws 21 engage cams 22 inwardly of each end of a bar 23 which in turn carries a sleeve of resilient material 24, the lower portion of which is formed in a plurality of longitudinally extending transversely spaced resilient flanges 25.

The resilient flanges 25 extend outwardly from the bottom of the channel shaped housing 16 and thus extend below the bottom edge of the hollow metal door 10 and engage the floor or threshold therebeneath in a wiping sealing action.

The formation of the cam 22 and the bar 23 on each end of the bar 23, is such that motion imparted the adjustment screws 21 will move the bar 23 upwardly against the tension of a pair of leaf springs 26 (one is shown in the drawings) while opposite motion of the adjustment screw 21 so that it moves away from the cam 22 will permit leaf springs 26 to move the bar 23 downwardly which will move the resilient weather and sound sealing flanges 25 downwardly. As the adjustment means is provided on each end of the weather sealing insert which is carried by the channel shaped housing 16 the weather sealing insert may be adjusted to conform to any irregularities in the floor or threshold therebeneath.

The weather sealing insert just described is generally disclosed in my U.S. Pat. No. 3,453,780 and the novelty in the present disclosure therefore relates to the means for mounting the same in the hollow metal door, and the combination therewith.

It will thus be seen that a mounting device for a weather sealing insert for doors has been disclosed which is inexpensive in construction, easy to install and which permits metal doors to be adjusted to conform to floor and/or threshold irregularities.

Although but one embodiment of the present invention has been illustrated and described it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit of the invention and having thus described my invention, what I claim is:

1. In a hollow metal door having a normally open bottom, a device for mounting a weather sealing insert therein and closing said open bottom, said device including a longitudinally extending member having spaced oppositely disposed inturned horizontal flanges positioned in said open bottom of said door so as to close the same and an elongated inverted channel shaped housing engaged in said longitudinally extending member, continuous grooves in the edges of said housing engaged on the oppositely disposed inturned flanges of said longitudinally extended member, said weather sealing insert adapted to be positioned in said channel shaped housing and attached thereto so as to extend downwardly and outwardly of said mounting device and door.

2. The device set forth in claim 1 and wherein said longitudinally extending member defines an elongated chamber for receiving, guiding and holding said housing, the upper portion of said longitudinally extending member being narrower than the lower portion and wherein said oppositely disposed inturned horizontal flanges are on the lower portion thereof.
3. The device set forth in claim 1 and wherein said grooves are formed on the outer sides of the longitudinal edges of said inverted channel shaped housing for snap-in registry with said oppositely disposed inturned horizontal flanges of said longitudinally extending member.

4. The device set forth in claim 1 and wherein said longitudinally extending member consists of a section of split tubing, the edges thereof defining the split being spaced to form said oppositely disposed inturned horizontal flanges.

5. The device of claim 4 wherein the walls of the split tubing include right angular planes.