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R. M. HAENDIGES

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PRE-ASSEMBLED DOOR AND CASING THEREFOR

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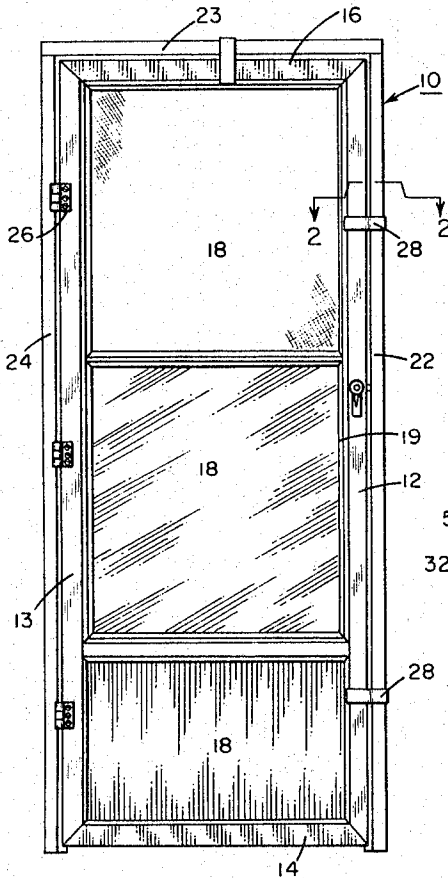


FIG. 1

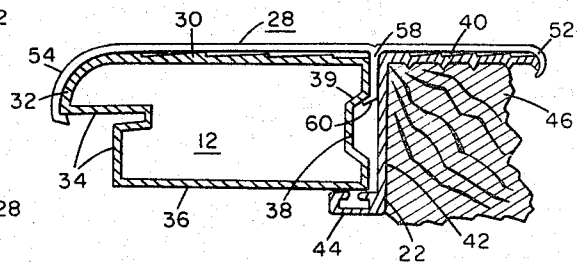


FIG. 2

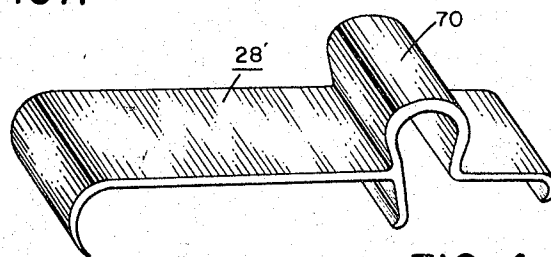


FIG. 4

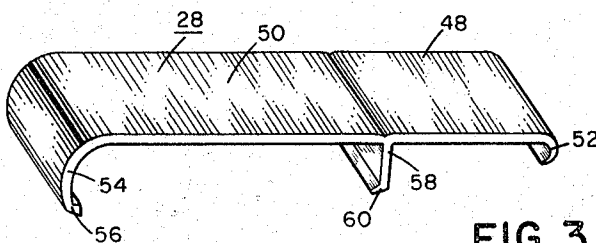


FIG. 3

INVENTOR.
ROGER M. HAENDIGES

BY

Edward B. Sachs

ATTORNEY

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PRE-ASSEMBLED DOOR AND CASING THEREFOR

Roger M. Haendiges, 12700 Lake Road,
Lakewood, Ohio 44107

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This invention relates generally to a pre-assembled door and casing and, more particularly, to an improved clip for securing the door and the casing together in spaced relationship.

As a labor-saving device, and to facilitate shipping, it has become customary in the field of aluminum storm doors, to pre-assemble the doors and the casings therefor. In such pre-assembled units, one side of the door is secured to the casing by means of conventional, spacedly arranged, hinges. At the opposite side of the door, between the side frame thereof and the adjacent casing, as well as between the top frame and the corresponding casing member, there are disposed at spaced intervals a number of clips which extend between and are rigidly secured to the two structures to hold the same together in a fixed, spaced, relationship. A representative illustration of prior art devices may be found in Patent No. 2,917,790.

In these prior art devices, the spacer and connecting clip is of generally L-shaped configuration and for the purpose of pre-assembling the door and the casing, one leg of the clip is tightly screwed to the casing and the other leg extending at right angle to the first is screwed, or otherwise mechanically connected, to the inside wall of the door frame. To secure this type of clip it is necessary to drill into the inside wall of the door frame suitable holes to receive the fastening screw. The clip devices of the prior art have outwardly protruding extensions, particularly the screw heads thereof, and frequently are covered with soft padding material to prevent scratching of other units during shipping.

It is the primary object of this invention to provide an improved pre-assembled door and casing and in which the spacer clip and securing device avoids the shortcomings of the prior art.

It is a more specific object of this invention to provide a preassembled unit of the type above described in which the spacer and securing clip is fastened to the door frame and casing without the need for screws or similar attaching means.

It is a further object of this invention to provide a pre-assembled unit of the type above described in which the clip is under tension to hold the parts together.

It is a still further object of this invention to provide a preassembled unit of the type above described wherein the need for openings in the inside wall of the door frame or in the casing is eliminated, thereby avoiding to make the door or casing unsightly in parts and, moreover, eliminating the labor required to make the openings.

It is a further object of this invention to provide a preassembled door and casing therefor in which the two structures are spacedly connected by means of a resilient snap-on spacer and securing clip thereby eliminating the need for fastening screws and the labor involved therewith.

It is a still further object of this invention to provide a preassembled unit of the type described in the preceding paragraph in which the snap-on clip is composed of a material which is relatively soft and therefore will not scratch or otherwise harm articles that may bear against the preassembled door.

It is a still further object of this invention to provide a preassembled unit of the type above described in which the clip has a smooth surface and works without screws

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or other fastening devices that normally protrude outwardly, thereby preventing the deleterious effects frequently experienced with the devices of the prior art.

One aspect of the present invention resides in the provision of a preassembled door and casing in which the casing has a mounting frame adjacently positioned on the sides and across the top of the door. The frame of the casing includes a jamb portion and an angularly related outer flange. The door includes a frame member which has an outer wall portion extending in the same plane as the outer flange and an angularly related inner wall portion which faces the jamb portion in a substantially uniformly spaced relationship. A snap-on clip is provided for spacedly securing the mounting casing to the door; the clip comprises a body of resilient material telescoped under tension over an entire transverse section of the mounting frame and the door frame, one end of the clip being secured to the outer wall and the opposite end secured to the outer flange. A spacer flange on the clip extends at substantially right angle to the major plane of the clip and intermediate to the ends and between said jamb portion and the inner wall.

For a better understanding of the present invention, together with other and further objects thereof, reference is had to the following description taken in connection with the accompanying drawings, and its scope will be pointed out in the appended claims.

In the drawings:

FIGURE 1 is a front elevational view of the pre-assembled door and casing;

FIGURE 2 is an enlarged sectional plan view taken along lines 2—2 of FIGURE 1;

FIGURE 3 is a perspective view of the snap-on spacer and securing clip in accordance with this invention; and

FIGURE 4 is a view similar to FIGURE 3 showing a clip of the type herein under consideration used in conjunction with the top portion of the door and casing.

Referring now to the drawings there is shown a door 10 of generally rectangular configuration having suitably connected side, top and bottom frame sections 12, 13, 14, 16, which serve to enclose a number of center panels 18 of the transparent and translucent type. In pre-assembled condition, a mounting casing comprising sections 22, 23, 24 is placed in spaced juxtaposition to the door frame near the sides and the top sections thereof as hereinafter further described.

The door frame 13 is spacedly secured to the casing frame 24 by means of hinges 26, one leg thereof being screwed to the door frame 13 and the other to the casing 24 in the conventional manner.

The door and casing as broadly described above are well known in the art and do not, per se, form part of the present invention.

In preassembling the door structure it is desirable to secure the door frame and the mounting frame together in such a manner so as to enable a workman to install the structure without having to align the various parts relative to each other. For this reason there are provided a plurality of securing and spacer clips which in addition to mounting the two parts together also place them in a predetermined, spaced, relationship. The improved spacer and securing clip is shown in assembled condition in FIGURE 2.

Referring now specifically to FIGURE 2, the door frame 12 is composed of a hollow, longitudinally elongated, structure including a partly serrated outer wall 30 terminating at the extreme transverse end, remote from the mounting frame 22, with a curved end wall 32 and an angularly related abutment 34 extending therefrom adapted to receive the sash 19 for panels 18. An inner wall 36 connects to abutment 34 and extends parallel to

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the outer wall 30 and an inside wall 38 forms the final part of the enclosure connecting walls 30 and 36. An intermediate portion of the inside wall 38 projects inwardly at an angle of about 45°.

The casing 22 includes an outer flange 40 serrated on the front face and extending a plurality of longitudinally extending ridges at the opposite back face thereof and at right angle to the flange a jamb portion 42 spaced from the inside wall 38 of the door frame 12. The front face of the flange 40 is arranged in the same plane as and substantially flush with the front face of the outer wall 30. Contiguous to the jamb portion 42 and turned at right angle thereto in a direction opposite to the flange 40 is a hollow, longitudinally extending, retaining edge adapted also for receiving a weather seal (not shown). Upon closing the door, the same is engaged by and abuts the edge 44. In assembled condition, the mounting frame 22 is attached to a stud 46, or like member, which forms part of the building structure.

The clip, in accordance with this invention, see FIGURE 3, is composed of a flat body of resilient material, such as plastic, and more particularly includes leg portions 48 and 50. The leg portion 48 is telescoped over the outer flange 40 of the mounting frame and leg 50 is telescoped over the outer flange 30 of the frame 12. The terminal, transverse, end of the leg 48 is provided with an inwardly curved snap-on retaining edge 52 adapted to partly enclose the outer edge of the outer wall 40. The opposite end of the clip 28 is also inwardly curved to provide a snap-on retaining edge 54 partly enclosing the irregularly shaped terminal end portion 32 of the outer wall 30. The retaining edge 54 has a short extension 56 extending parallel to the major plane of the clip 28 and portions of wall section 34. The angular relation of the extension 56 to the edge 54 facilitates the anchoring of the retaining edge to the corner defined by wall section 32 and 34.

Intermediate to the snap-on retaining edges 52 and 54 and between the leg portions 48 and 50 there is located, contiguous and at right angle to said leg portions, a spacer flange 58 which is inserted between the inside wall 38 and the jamb portion 42. The end of the spacer flange 58 is provided with a flange 60 turned inwardly and parallel to portion 39 of wall 38 and bears thereagainst. The flange 60 is not required to make the clip operative, and more specifically the clip can be used without it as the function of holding the door frame and casing together is carried out by the retaining edges 54, 56 and 52 and any benefit derived from the action of the flange 60 is purely incidental. The prime purpose of the flange 60 is to prevent slack in the tension between the ends of the clip 28.

In order to assemble and space the door frame 12 and the mounting casing 22 relative to each other and secure the same together, the edge 54, 56 is telescoped over wall portion 32 and the leg 50 is brought to bear against the outer wall 30. Due to the resiliency of the material, the spacer flange 58 will snap into position and the flange 60 will come to bear against the wall 38. The door is then closed and the leg 48 is telescoped over the outer flange of the casing 22. Slight pressure is then brought to bear upon the curved end of leg 48 bending the leg 48 slightly thereby telescoping the edge 54 over the outer flange 40. Such action will snap the clip into place and establish tension between the ends. It is also possible to insert the spacer flange 58 between the frame 12 and the mounting frame 22 and thereafter telescope the legs 50 and 48 over the respective structures and by means of snap action telescope the respective ends of the clip over the transverse ends of the door and casing bar.

After installation of the door, the clip 28 can be readily removed without any special tools by lifting one end of the retaining edges to relieve the tension between the opposite ends of the clip.

Experience has shown that it suffices to place two clips

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along the side frame of the door and casing and one clip along the upper portion of the door.

A modification of the clip above described is shown in FIGURE 4. The contour and the design of the various structural members comprising the door varies at times. The invention however can be adapted for numerous configurations. The essential elements of clip 28 are above discussed. The embodiment in FIGURE 4 merely serves to illustrate that the clip can be provided with a bulge 70 which is telescoped over a protruding portion of the mounting frame (or the door frame not shown) without affecting the effectiveness of the invention.

While there have been described what are at present considered to be the preferred embodiments of this invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention, and it is aimed, therefore, in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

I claim:

1. In a pre-assembled door and casing, the casing having a mounting frame adjacently positioned on the sides and across the top of said door, said frame including a jamb portion and an angularly related outer flange, and the door including a frame member having an outer wall portion extending in the same plane as said outer flange and an angularly related inner wall portion facing said jamb portion in a substantially uniformly spaced relationship, and clip means for spacedly securing the mounting frame to the door frame, said clip means comprising a body of resilient material telescoped under tension over an entire transverse section of the mounting frame and the door frame, one end of said clip being secured to said outer wall and the opposite end being secured to said outer flange; and a spacer flange extending at substantially right angle to the major plane of the clip and intermediate to the said ends and between said jamb portion and said inner wall.

2. A pre-assembled door and casing according to claim 1, wherein the end of the clip means telescoped over the outer wall of the door frame terminates substantially adjacent to the extreme transverse end of said outer wall remote from said inner wall portion.

3. A pre-assembled door and casing according to claim 1, wherein the end of the clip means telescoped over the outer flange of the mounting frame terminates substantially adjacent to the extreme transverse end of said outer flange remote from said jamb portion.

4. A pre-assembled door and casing according to claim 1, wherein each of said ends of said clip means is provided with an inwardly curved snap-on retaining edge adapted to bear against the said respective transverse ends of the mounting frame and the door frame.

5. A pre-assembled door and casing according to claim 1, wherein the inside wall of the door frame includes an inwardly extending portion, and wherein the end of said spacer flange is turned in the direction of said inwardly extending portion and bears against it.

6. A pre-assembled door and casing according to claim 3, wherein said outer flange is provided with a bulge located adjacent to but extending in opposite direction from said spacer flange.

7. A pre-assembled door and casing according to claim 4, wherein said clip is composed of plastic-like material.

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LOUIS G. MANCENE, *Primary Examiner.*

WILLIAM T. DIXSON, JR., *Examiner.*