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CAULKING COMPOUND BACKSTOP FOR WINDOW STRUCTURES

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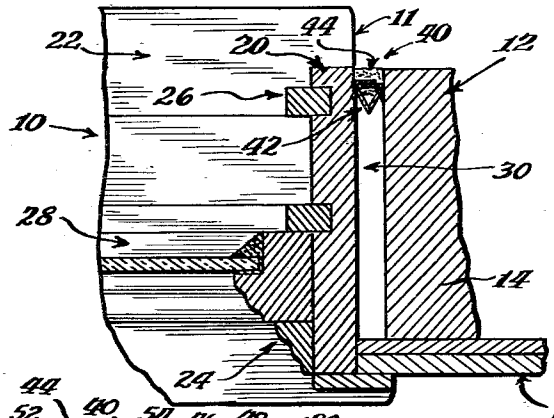


Fig. 1.

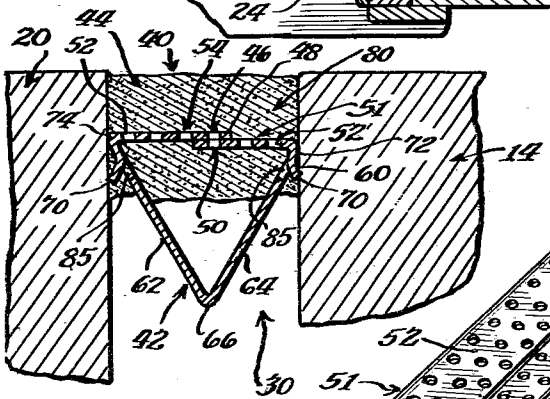


Fig. 2.

Fig. 3.

Fig. 5.

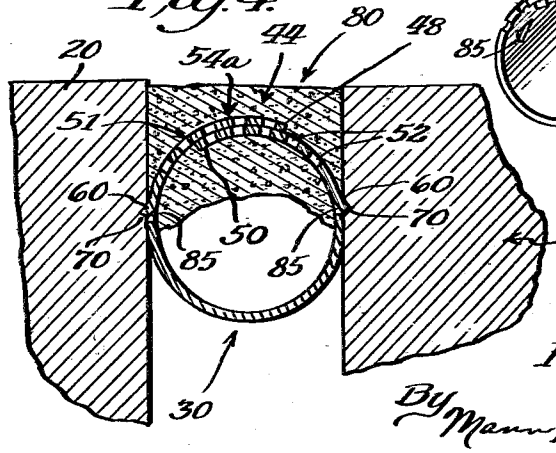


Fig. 4.

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CAULKING COMPOUND BACKSTOP FOR WINDOW STRUCTURES

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3 Claims. (Cl. 20—11)

My invention relates to a calking compound backstop for window structures, and more particularly, to a device for aiding in the sealing off of the openings that are frequently left between window jambs and the adjacent building wall structure after the window has been completed.

The rough tolerances now observed in the construction industry commonly result in the leaving of openings between the jambs of window structures and the adjacent wall structures after completion of the fabrication of the window frame. These openings are conventionally closed by filling them with caulking compound, but when the opening is relatively wide, the calking compound merely pushes through the opening.

A principal object of this invention is to provide a novel method and device for sealing off such openings with facility regardless of their relative sizes.

Another important object of the invention is to provide a novel caulking compound backstop element adapted for ready insertion into such openings.

Still further objects of the invention are to provide a resilient elongate element that is transversely compressible for binding engagement with the jamb and building wall structure when pressed therebetween, to provide such element with means for insuring a mechanical interlock between it and the caulking compound, and to provide a resilient back-stop device that is economical of manufacture, convenient in use, and ready adapted for application to a wide variety of window construction arrangements.

Other objects, uses and advantages will become obvious or be apparent from a consideration of the following detailed description and the application drawings.

In the drawings:

FIGURE 1 is a horizontal sectional view through one side of a conventional window structure arrangement, looking downwardly, and with the outside of the window being at the top of the drawing, showing the opening that is to be sealed off in accordance with this invention as well as the manner in which it is sealed off;

FIGURE 2 is a fragmental view showing on an enlarged scale the device illustrated in FIGURE 1;

FIGURE 3 is a diagrammatic perspective view of the device shown in FIGURES 1 and 2;

FIGURE 4 is a view similar to that of FIGURE 2 but illustrating a modified form of the invention; and

FIGURE 5 is a diagrammatic perspective view of the device shown in FIGURE 4.

Reference numeral 10 generally indicates a conventional window structure applied to the usual window opening 11 of a building that is defined by wall structure 12. Wall structure 12 may be formed in any conventional manner, and if defined by wood framing, usually includes a vertical frame member 14 which customarily defines one side of the window opening, with the building wall structure further including suitable inner surfacing structures where indicated at 18 as well as outer surfacing structures that are omitted. In buildings of the masonry block type, the window opening may be defined by the masonry without the use of a frame member or its equivalent, but since the principles of the invention are equally applicable to masonry wall structures, the member 14 may be considered to represent a masonry wall structure as well as a wooden frame structure.

The window structure 10 ordinarily comprises a pair

of spaced jamb members 20, only one of which is shown, which are joined together at the top and bottom of the window by a header member (not shown) and sill member 22. In the window structure showing of FIGURE 1, the usual inner and outer sash stops 24 and 26 are diagrammatically illustrated as is also the lower or inner window sash 28.

It is the general practice of the construction industry to form the window opening in the building wall structure of more than adequate width to receive the desired window unit so that the window unit may be easily fabricated and installed without having to cut away some portion of the building wall structure to get the desired fit. The customary rough working tolerances now used in the construction industry frequently result in the leaving of an opening or gap 30 between the jamb 20 and the building wall structure as exemplified by number 14, after the window installation is completed.

It is conventional practice to close off gap 30 from the outside of the building, which in the showing of FIGURE 1 is at the top of the figure, and this is done by inserting a caulking compound in the form of a suitable plastic putty in such opening. Where the width of gap or opening 30 is relatively small, this can be readily accomplished because of the relatively thick consistency or viscosity of the putty, but when the opening 30 has a relatively large transverse dimension, the putty merely falls through the opening and piles up at its bottom.

It may be added that the caulking compound is applied to the opening 30 ordinarily before the surface structures 18 are applied, but in any event, where the openings 30 are so wide that the caulking compound tends to fall through, it is apparent that the openings 30 would require complete filling to effect a satisfactory seal, which would obviously be an uneconomical practice.

In accordance with this invention, I effect a perfect sealing off of the opening or gap 30 by applying to the outer side 40 of such opening a transversely compressible, resilient backstop element generally indicated at 42, which is inserted or pressed into opening 30 a short distance to provide a backstop for the caulking compound, after which, the caulking compound is applied as at 44 by employing the usual methods.

Referring to FIGURES 2 and 3, the element 42 generally comprises a tubular member 43 that is formed with a longitudinally extending split where indicated at 46 to define longitudinally extending edge portions 48 and 50 that are arranged in overlapping relation. The member 42 is formed from a suitable resilient metal or plastic substance, and is proportioned in length to extend substantially the full length of the opening or gap 30 that is to be sealed off. The element 42 as illustrated is formed with a series 51 of perforations 52 which extend longitudinally of the element along one side 54 thereof, which side 54 is positioned in opening 30 to face outwardly of the building wall structure.

The element 42 should have a maximum transverse dimension that exceeds the maximum width of openings 30 that can be expected to be encountered in practice so that the element 42 will be transversely compressed when inserted within the opening 30 in the manner indicated in FIGURES 1 and 2 to effect a binding engagement between the element 42 and the structures it is positioned between.

In addition, the element 42 may be provided with a plurality of laterally or transversely directed points or projections 60 that are proportioned for piercing engagement with the jamb and wall structure framing member 14 when the element 42 is pressed into its operative position indicated in FIGURES 1 and 2.

In the embodiment of FIGURES 1 and 2, the element 42 has a generally triangular transverse cross-sectional

configuration, with the side 54 being substantially planar in configuration and disposed to face directly outwardly of the opening 30 in its operative position. In accordance with this embodiment of the invention, the element 42 includes the additional planar sides 62 and 64 which define a longitudinally extending apex 66 that is inserted into opening 30 to apply the element 42 in the manner that is contemplated by this invention. Thus, in its operative position, the element 42 will be so disposed within opening 30 that apex 66 will be positioned approximately at the center of the opening 30 (see FIGURES 1 and 2).

When the element 42 is being pressed into position, the sides 62 and 64 flex towards each other about the apex 66, which causes an increased overlapping of the edge portions 48 and 50. The points or projections 60 should terminate in pointed ends 70 which project beyond the apexes 72 and 74 that are defined by the side 54 and the respective sides 62 and 64 (see FIGURE 2), and that bear against jamb 20 and member 14 in the operative position of the device.

In use, after the window structure 10 has been applied to the building wall structure, and the tolerances employed leave an opening or gap 30 between the jamb 20 and the wall structure, represented by member 14, which is too large for caulking in the conventional manner, an element 42 is selected and proportioned in length, as by cutting, to extend substantially the full length of the opening 30, and is pressed into the opening 30 with the apex 66 being inwardly directed and the side 54 facing outwardly. The element 42 should be pressed into the opening sufficiently far to provide an adequate recess 80 for receiving caulking compound 44, and the pressing operation on the element 62 will press the points or projections 60 into the adjacent jamb and building wall structure somewhat as indicated in FIGURE 2. Even where the teeth or projections 60 are not employed, the apexes 72 and 74 of element 42 will tend to dig into the adjacent jamb and building wall structures due to the inherent resilience of the element 42.

The caulking compound is then applied to the recess 80 in any usual and customary manner, and whether the compound is applied by a gun type applicator or with a tool such as a putty knife, the compound in being pressed into recess 80 is forced through the openings 52 of the backstop side 54 to form a mechanical interlock between the compound and the element 42 (such material in some instances also entering openings 85 that are made by the formation of projections 60 to further accentuate this interlock, see FIGURE 2). After the caulking compound dries, the adhesion of the compound to the jamb and adjacent building wall structures as well as to the backstop 42 effectively binds and reinforces the compound in sealing relation within opening 30.

In the embodiment of FIGURES 4 and 5, the modified backstop element 42*a* is generally circular in transverse cross-sectional configuration, but is otherwise the same as the element 42. The application of elements 42*a* through an opening 30 will be the same as that described above, as indicated by the showing of FIGURE 4.

While the series of openings 52 are shown applied to the contracting sides 54 and 54*a* of the backstops 42 and 42*a*, respectively, and this is the preferred arrangement, the series of openings could be applied to another side of the backstop, although obviously, the side having the series of openings formed thereon should face outwardly of the opening 30 when applied thereto.

In accordance with the preferred manner of using the backstops 42 and 42*a*, they are inserted approximately about one-half inch beyond the outer edge of the window jamb in forming the recess 80.

The use of perforations 52 has been found not to be necessary in practice as the caulking material conventionally used adheres sufficiently to a blank wall of an element 42 or 42*a* to serve the purposes of the invention. However, these perforations substantially improve the interlock between the caulking compound and elements 42 or 42*a*. Perforations 52 may be formed in any suitable manner, though I prefer to form them by piercing the element 42 or 42*a* from the inside surface thereof (before it is given its tubular configuration). This forms the individual perforations 52 to define projections thereabout that become embedded in the caulking compound and thereby materially increase the effectiveness of the interlock between the caulking compound and elements 42 or 42*a*.

It will therefore be seen that I have provided a novel method and device for sealing off the tolerance openings that are left between window structure jambs and the adjacent wall structure, and that such device and method are particularly adapted for use in connection with the sealing off of unusually large openings or gaps of this type. The elements 42 or 42*a* may be readily formed in continuous lengths of standard dimension that may be readily stored and cut to size when needed.

The foregoing description and the drawings are given merely to explain and illustrate my invention and the invention is not to be limited thereto, except insofar as the appended claims are so limited, since those skilled in the art who have my disclosure before them will be able to make modifications and variations therein without departing from the scope of the invention.

I claim:

1. A building structure comprising a wall structure formed to define a window opening, a window frame mounted in said opening and including spaced jamb members positioned in said opening to define a tolerance gap between the respective jamb members and the adjacent vertical sides of the window opening, a caulking compound backstop mounted in each of said gaps, said caulking compound backstop each comprising an elongated tubular member formed from resilient material and split lengthwise thereof, with its split edges overlapping to render said elongate member compressible transversely thereof, said members in their free and unstressed conditions having a transverse dimension which respectively require same to be compressed transversely thereof when inserted in the respective gaps, said backstops each being positioned inwardly of the outwardly facing side of the respective gaps, and a caulking compound mass filling said gaps between the respective backstops thereof and the outwardly facing sides of the respective gaps lengthwise of the respective jambs.

2. In a building structure comprising a wall structure formed to define a window opening, and a window frame mounted in said opening and including spaced jamb members positioned in said opening to define a tolerance gap between one of the jamb members and the vertical side of the window opening that is adjacent said one jamb member, the improvement comprising a caulking compound backstop mounted in said gap, said backstop comprising an elongated tubular member formed from resilient material and split lengthwise thereof, with its split edges overlapping to render said elongate member compressible transversely thereof, said member in its free and unstressed condition having a transverse dimension which exceeds the width of said gap, whereby said member is compressed transversely thereof when inserted in said gap, said backstop being positioned inwardly of the outwardly facing side of the gap to define with said one jamb and said adjacent side of said opening a recess to receive caulking compound, said backstop including projection means engaging said one jamb and said adjacent window opening side, respectively, when said backstop is mounted in said gap for bracing same for application of the caulking compound to said recess.

3. The improvement set forth in claim 2 wherein said member is formed to define a series of perforations ex-

tending longitudinally thereof along the side thereof facing outwardly of said gap.

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