Nov. 22, 1960 D. R. COLLINS 2,960,734

COMPENSATING MEANS

Filed Aug. 29, 1958

2 Sheets-Sheet 1

Fig 1

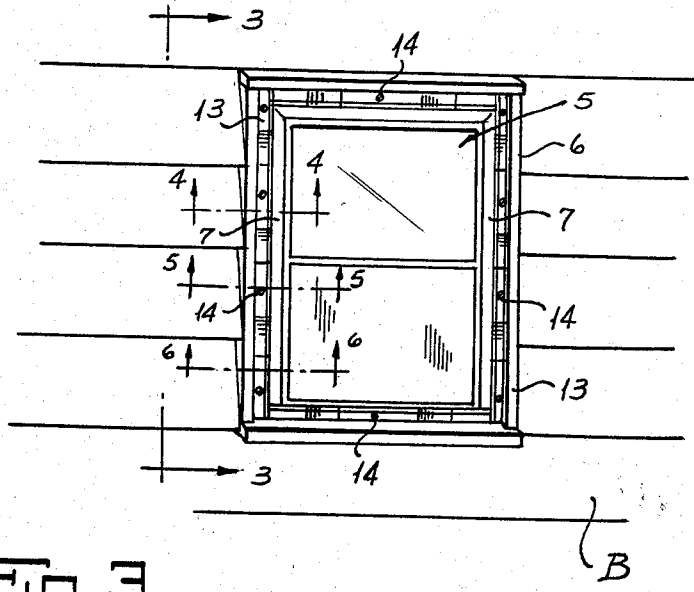


Fig 3

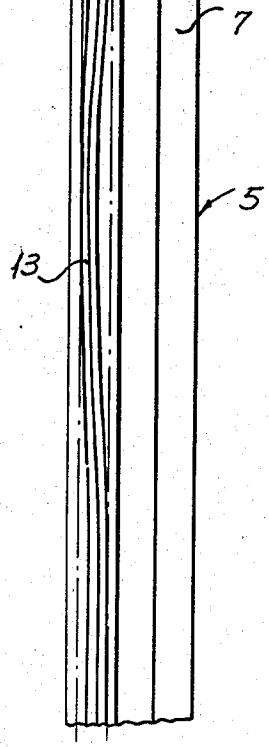
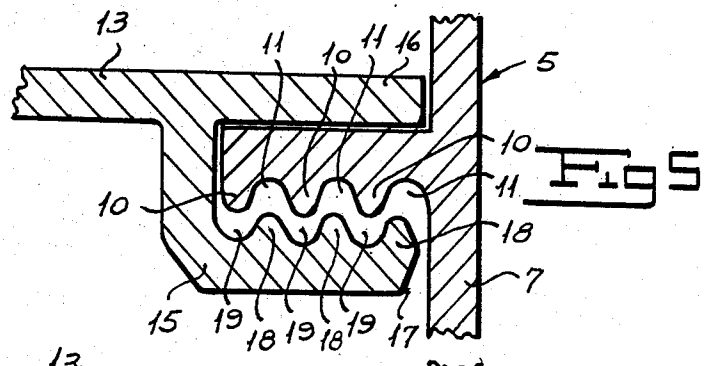


Fig 5



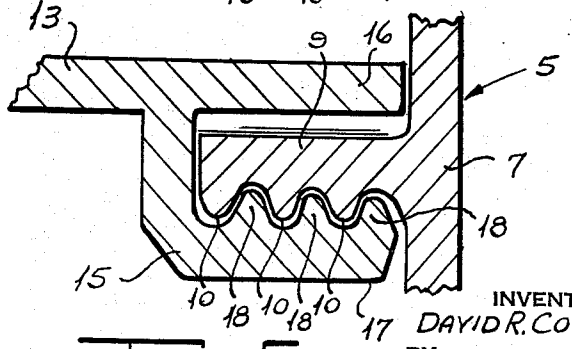


Fig 6

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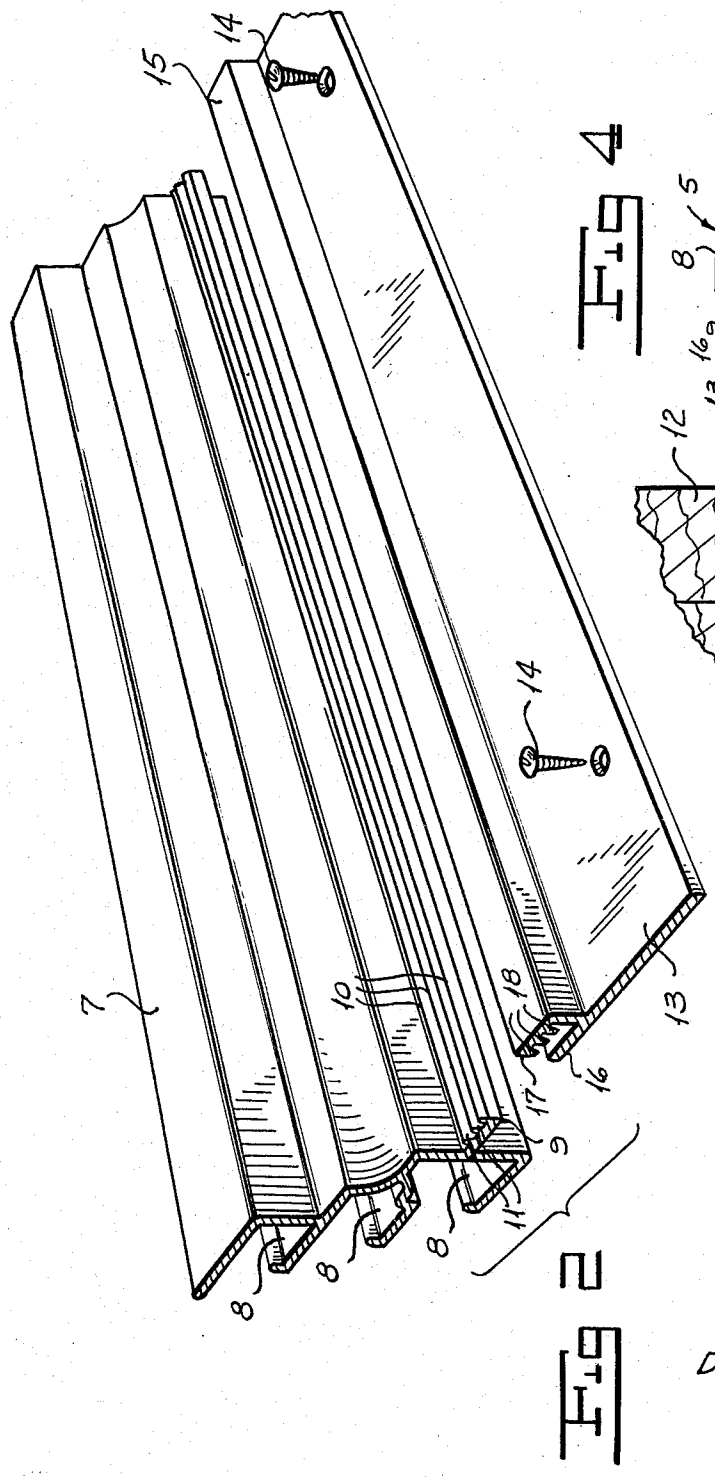


FIG. 2

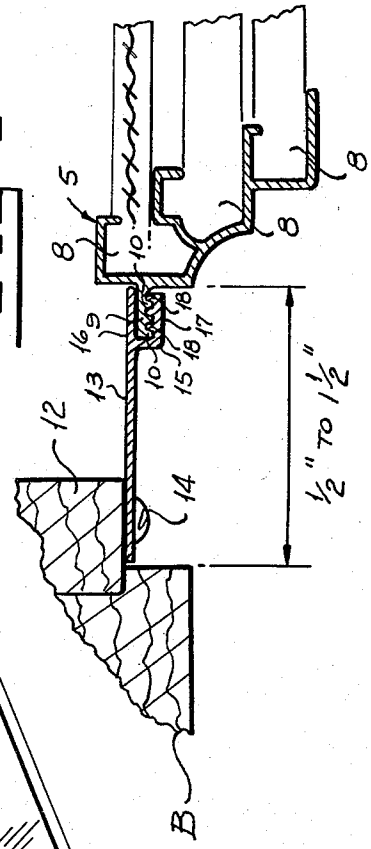


FIG. 4

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COMPENSATING MEANS

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5 Claims. (Cl. 20—55)

My invention relates to windows and more particularly to means for securing storm sash and screens within the window casings of buildings.

One of the objects of my invention is to provide compensating means whereby storm-window and screen combination frames may be fitted and secured within dissimilar sizes of window casings thereby eliminating the necessity of stocking the wide range of sizes of combination frames usually carried by distributors in order to quickly meet various size demands in the field.

Another object of my invention is to provide compensating means or adapters for securing the combination frames to the casings in a tight and precisional manner and which means are selectable from a wide variety of stock sizes to accord with the demands of the particular installations thereby materially reducing the large number of stock sizes ordinarily provided in the combination frames.

A further object of my invention is to provide a combination frame capable of having attached thereto preselected adapters for attaching the frame to a window casing and in a manner to compensate for the discrepancy in sizes between the frame and the casing.

A still further object of my invention is to provide a combination frame which is so constructed and arranged whereby selected compensating means or adapters may be easily attached thereto for securing a precisional and tight fit of the frame relative to the window casing.

An important object of my invention is to provide a combination frame equipped with compensating means of the foregoing described character which is simple in construction, durable in use, efficient in operation, economical in manufacture, and capable of installation without the services of highly skilled help.

With the above and other objects in view, as will hereinafter appear, the invention consists in the combination and arrangement of parts hereinafter set forth and illustrated in the accompanying drawings from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

Referring to the drawings wherein like reference characters designate like parts throughout the several views:

Figure 1 is a front view of a combination frame installed within a window casing and having my invention incorporated therein;

Figure 2 is a fragmentary disassembled perspective view of one of the side rails of a combination frame and illustrating the compensating means;

Figure 3 is an enlarged fragmentary end view of the compensating means and looking in the direction indicated by the arrows 3—3 of Figure 1; and

Figures 4, 5, and 6 are enlarged detail sectional views taken on the lines 4—4, 5—5, and 6—6 of Figure 1, respectively.

In practicing my invention, as illustrated in the drawings, I provide a storm-window and screen combination frame 5 which is secured within a window casing 6 of a building B. The frame 5 is constructed of metal, for instance, extruded aluminum and includes side rails 7. The side rails 7 are provided with a ternary of tracks 8 in which are slidably mounted screen and storm sash as is customary in combination frames of this type. Each of the side rails 7 is fashioned with a laterally disposed and lengthwise extending flange 9 formed on its outer face with a plurality of spaced longitudinally extending ribs 10 defining therebetween similarly extending grooves 11. Inasmuch as the side rails 7 are extruded, precisional dimensioning of the ribs and grooves is not feasible where mass production is desired, it being understood that, in mass production of the frames, variation of size with respect to the ribs and grooves is an accepted factor.

In order to secure the side rails 7 to the blind stop 12 of the window casing 6, I provide each with an adapter strip or member 13 having an outer margin secured to the adjacent blind stop 12 by means of screws 14 as clearly illustrated in Figure 4. The opposite margin of the strip 13 is provided with a yoke 15 having spaced inner and outer walls 16 and 17, respectively, for receiving therebetween the flange 9 and which outer wall 17, on its inner face, is formed with longitudinally extending ribs 18 defining grooves 19 therebetween for interfitting relation with the ribs 10 and grooves 11 of the flange 9, as disclosed in Figure 4. The thickness of each of the flanges 9, including the ribs 10, is slightly less than the opening between the inner wall 16 and the ribs 18 of the outer wall 17, as clearly discernible in Figure 5, thus enabling the flange 9 to be laterally received within the yoke 15 for securing the frame 5 to the casing 6.

Inasmuch as the distances between the rails and the casings may vary in different installations, the adapter strips or members 13 are supplied in a multiplicity of widths whereby an appropriate width may be selected to compensate for the size differential of a frame and casing thus enabling a distributor or dealer to stock a small range of sizes of combination frames. In order that the members 13 may be secured in fixed and anchored relation with the flanges 9, they are of a somewhat resilient construction and transversely undulated throughout their length with the crests of the undulations defined by parallel planes spaced a distance slightly greater than the inner surfaces of the inner and outer walls 16 and 17 of the yokes 15. By flattening the members 13 throughout their length the walls 16 and 17 will be disposed in parallel planes thus permitting the yokes to receive therein the flanges 9, as illustrated in Figure 5, and effect interfitting of the ribs within the yokes upon release and return of the members 13 to their normal undulated condition as shown in Figure 6. Obviously, by again flattening the members 13 in the foregoing disclosed manner, the members may be readily removed from the flanges, if desired.

From the foregoing it will be apparent that the adapter strips or members 13 provide an efficient and economical means for readily attaching combination frames to window casings and which permits the stocking of frames of fewer sizes merely by providing a materially greater number of adapter members in a wide range of widths. Furthermore, it will be apparent that my novel form of compensating means is so connected to the combination frames and the window casings of the buildings as to effect a tight and sealed fit therewith even though the outer faces of the blind stops or casings may be disposed in dissimilar planes. Moreover, it is to be distinctly understood that while I have used the term "blind stop" herein as defining mounting means, the term is to be interpreted as applying to any mounting surface to which it is essential or desirable for the compensating means to be attached.

Without further elaboration, the foregoing will so fully explain the invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service. Moreover, it is not indispensable that all the features of the invention be used conjointly since they may be employed advantageously in various combinations and subcombinations.

It is obvious that the invention is not confined solely to the use herein disclosed in connection therewith as it may be utilized for any purpose to which it is adaptable. It is therefore to be understood that the invention is not limited to the specific construction as illustrated and described, as the same is only illustrative of the principles involved which are capable of extended application in various forms, and the invention comprehends all construction within the scope of the appended claims.

It will also be understood that while the frames may be fabricated in various stock sizes, the adapter members are provided in a materially greater number of sizes for selective connection to the frames as the occasions may warrant, the widths of the members varying greatly, for example, ½" to 1½" as indicated in Figure 4 of the drawings.

What I claim is:

1. An adapter for compensating for a discrepancy in size between a portable window frame and a permanent window casing installed in a building, comprising an elongated thin strip member selectable with respect to size from a plurality of such members of varying sizes to accord with said discrepancy, said strip member having one longitudinal edge adapted to be anchored to the casing and the opposite longitudinal edge having a U-shaped yoke for laterally receiving therein a flange member carried by a longitudinal edge of the window frame, said yoke having confronting inner faces spaced apart a greater distance than the thickness of said flange member, said strip member being preformed in a longitudinal wave formation transversely undulated in the direction of the thickness of said strip member, said strip member being resilient and thus being capable of being flattened to straighten said undulations and permit said flange member to be received in said yoke to be clamped therein upon release of the flattening force and the springing back of said undulations.

2. An adapter for compensating for a discrepancy in size between a portable window frame and a permanent window casing installed in a building, comprising an elongated thin strip member selectable with respect to size from a plurality of such members of varying sizes to accord with said discrepancy, said strip having one longitudinal edge adapted to be anchored to a casing and the opposite longitudinal edge having a U-shaped yoke for laterally receiving therein a flange member carried by a longitudinal edge of a window frame, said yoke having confronting inner faces spaced apart a greater distance than the thickness of said flange member, one of said inner faces of said yoke being formed with a plurality of spaced longitudinally extending ribs for interfitting relation with ribs spaced longitudinally on said flange, said strip member being preformed in a longitudinal wave formation transversely undulated in the direction of the thickness of said strip member, said strip member being resilient and thus being capable of being flattened to straighten said undulations and permit said flange member to be received in said yoke to be clamped and retained therein by said ribs upon release of the flattening force and the springing back of said undulations.

3. In combination, a window frame installed within a window casing of a greater width than said frame, there being a discrepancy in width between said frame and casing, said frame being provided on each side edge with a laterally disposed lengthwise extending flange formed with a plurality of spaced longitudinally extending ribs, a pair of adapter members installed within said casing between the latter and said frame and with said members being selectable with respect to size from a plurality of such members of varying sizes to accord with the discrepancy in width between said frame and casing, said members having lengthwise extending outer side margins secured to said casing distally relative to said frame and formed at their opposite side margins with coextending U-shaped yokes having inner faces disposed in confronting relation with said flanges and being spaced a greater distance apart than the thickness of said flanges, one of said inner faces of each yoke being formed with a plurality of spaced longitudinally extending ribs for interfitting relation with said first-mentioned ribs, said yokes and ribs carried thereby being preformed in a longitudinal wave formation transversely undulated in the direction of the thickness of the yoke, said yokes and said last-named ribs being resilient and capable of being disposed in a flattened condition between their ends, whereby the first-mentioned ribs are moved into said yokes in superposed relation with said second-mentioned ribs and the latter sprung back into their normal undulating formation into said interfitting relation with said first-mentioned ribs upon release of the flattening force.

4. In combination, a window frame for installation within a window casing and being of a size defining a discrepancy in width between said frame and casing, said frame being provided on at least one side with a latally disposed lengthwise extending member, an elongated relatively thin adapter member installed within at least one side of said casing between the latter and said frame and with said adapter member being selectable with respect to size from a plurality of such adapter members of varying sizes to accord with the discrepancy in width between said frame and casing, said adapter member having a lengthwise extending outer side margin secured to said casing distally relative to said frame, one of said members constituting a flange formed with a plurality of spaced longitudinally extending ribs and the other of said members including a lengthwise extending U-shaped yoke having inner faces disposed in confronting relation with said flange and being spaced a greater distance apart than the thickness of said flange, one of said inner faces of said yoke being formed with a plurality of spaced longitudinally extending ribs disposed in interfitting relation with said first-mentioned ribs to anchor said members together, one of said members and the ribs thereof being preformed in a longitudinal wave formation transversely undulated in the direction of the thickness of said last-mentioned member, one of said members being resilient and thus capable of being shaped in a manner to permit said flange to be disposed in said yoke to effect said interfitting relation of said ribs within said yoke when said last-mentioned member is sprung back into its normal shape upon release of the shaping force.

5. In combination, a window frame for installation within a window casing and being of a size defining a discrepancy in width between said frame and casing, said frame being provided on at least one side with a latally disposed lengthwise extending member, an elongated relatively thin adapter member installed within at least one side of said casing between the latter and said frame and with said adapter member being selectable with respect to size from a plurality of such adapter members of varying sizes to accord with the discrepancy in width between said frame and casing, said adapter member having a lengthwise extending outer side margin secured to said casing distally relative to said frame, one of said members constituting a flange and the other of said members including a lengthwise extending U-shaped yoke having inner faces disposed in confronting relation with said flange and being spaced a greater distance apart than the thickness of said flange, one of said members

being preformed in a longitudinal wave formation transversely undulated in the direction of the thickness of said last mentioned member to effect clamping of said flange with said faces, one of said members being resilient and thus capable of being shaped in a manner to permit said flange to be disposed between said faces to be clamped therebetween when said last mentioned member is sprung back into its normal shape upon release of the shaping force.

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