

May 19, 1970

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3,512,318

WINDOW SASH REGLET SECTION

Filed July 23, 1968

2 Sheets-Sheet 1

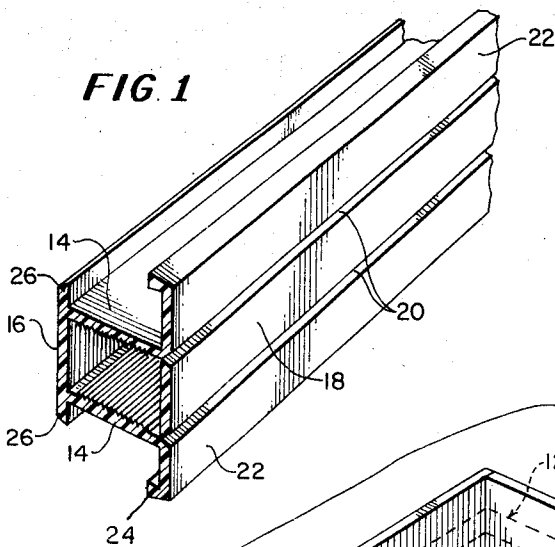


FIG 3

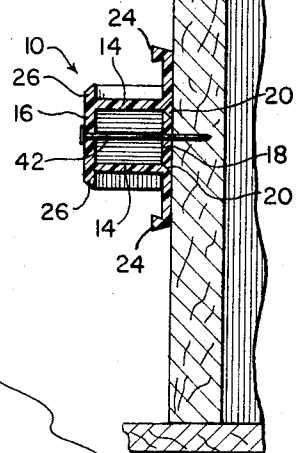


FIG 2

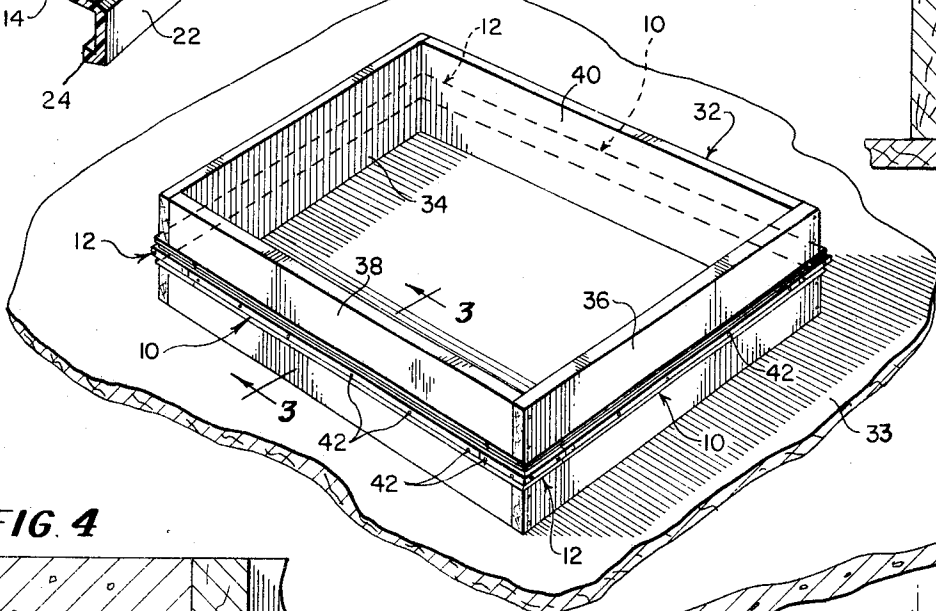


FIG 4

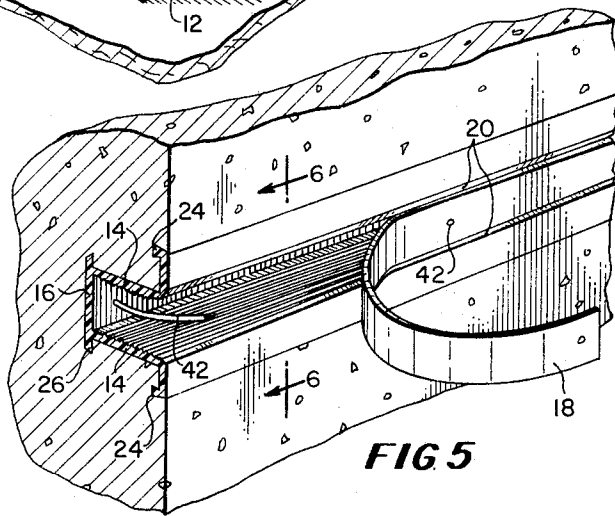
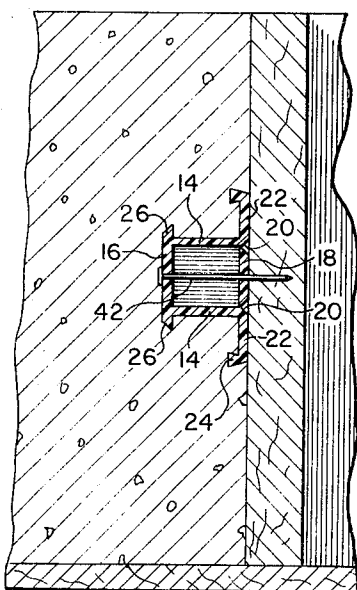


FIG 5

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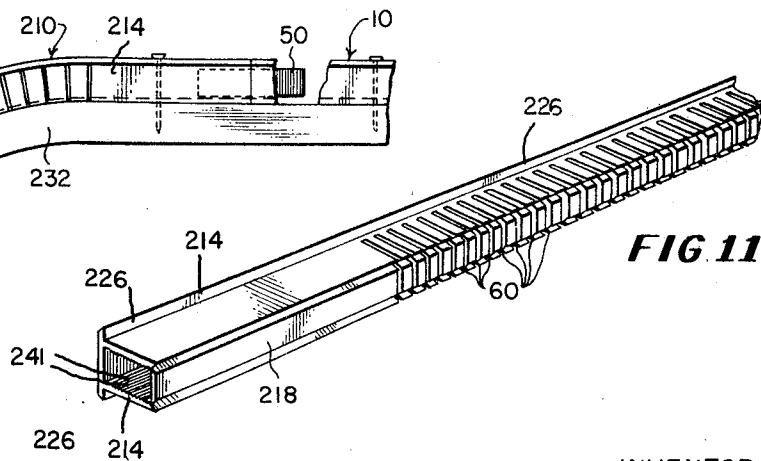
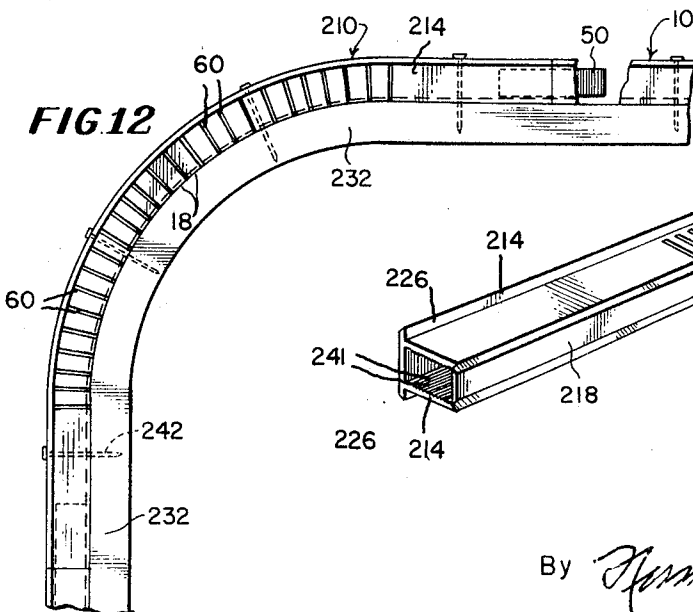
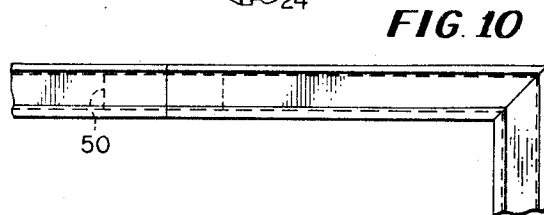
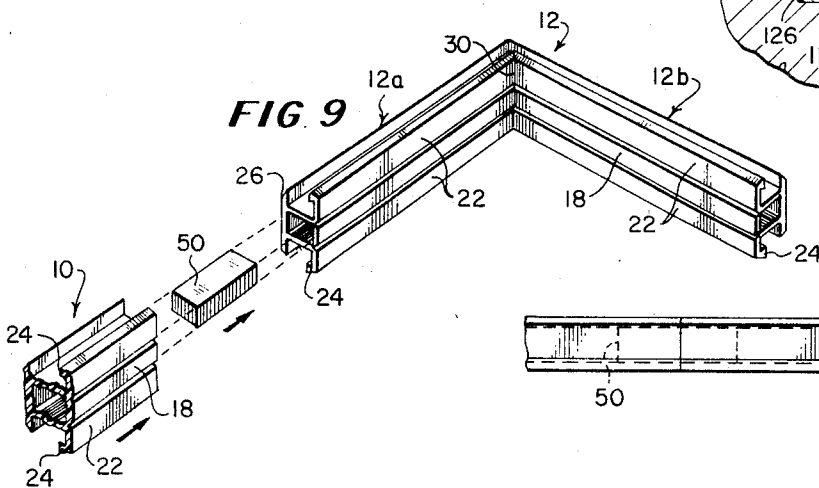
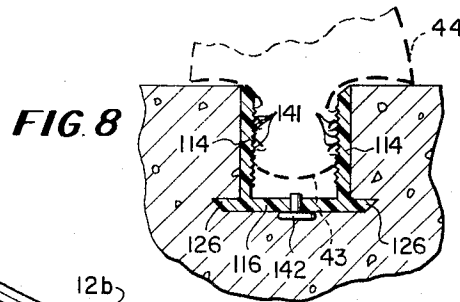
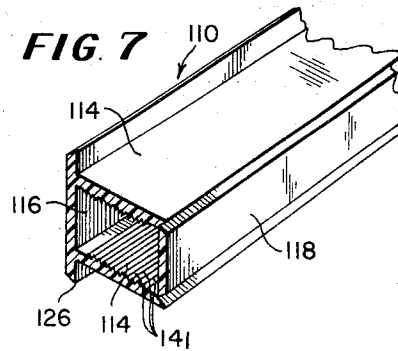
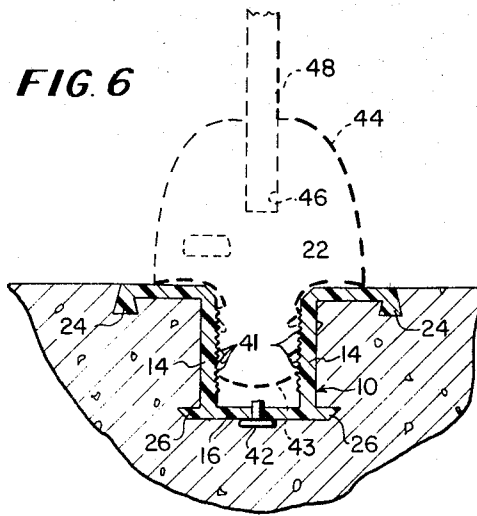
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2 Sheets-Sheet 2



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3,512,318

WINDOW SASH REGLET SECTION

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4 Claims

ABSTRACT OF THE DISCLOSURE

A reglet section for use with a concrete window sash form, the reglet channel being closed by a removable tear strip and the channel rim being formed with lateral rim flanges having anchor ribs thereon which prevent pulling of the reglet section into the window sash opening when the form is stripped from the concrete. In a special form of the reglet construction a series of saw cuts or slots which extend partially through the reglet section, enable the latter to be bent to curved shape to accommodate a window sash opening having a rounded corner. A roughened channel interior serves to lock a glazing gasket in position within the channel of the reglet section.

The present invention relates generally to concrete building construction and has particular reference to channel-forming devices which are commonly known as reglets. Still more specifically, the invention is concerned with reglets which are employed in connection with rectangular concrete forms whereby rectangular gasket-receiving channels are formed around window openings and are adapted to form window sashes for glass panes.

It is common practice, in connection with the use of reglets of the particular type under consideration to provide a rectangular wooden form-forming frame which is adapted to have concrete poured therearound, and temporarily defines the four sides of the window opening to be formed in the concrete structure, and to secure four of the reglets to the outer side surfaces of the frame in such a manner that their channel openings are closed off by the frame boards, that is, face inwards in the direction of the window opening. In order to exclude concrete from entering the interiors or channels of the reglets, the reglets usually are provided with laterally extending flat rim flanges through which nails are driven into the frame boards. It has been found, however, that regardless of the number of nails which are employed or of the tightness with which the nails are driven into the boards of the rectangular form-forming frame, concrete seepage into the channels is not usually completely prevented. Furthermore, where a large number of closely spaced nails are employed, difficulty is encountered in stripping the form-forming frame from the hardened concrete and also there is a tendency for the reglets to be pulled inwardly of the window opening and away from the portions of the concrete around such opening.

The present invention is designed to overcome the above-noted limitations that are attendant upon the use of flat lateral rim flanges on window sash reglets, and toward this end, the invention contemplates the provision of a novel reglet or reglet section which, although employing laterally extending rim flanges, makes provision whereby the outer edge regions of such flanges make interlocking engagement with the adjacent poured concrete so that when the contiguous form board is stripped from the hardened concrete, the rim flanges as well as the reglet as a whole will not tear or pull loose from the concrete. According to the present invention, the rim flanges of the improved reglet are not nailed to the adjacent form board, other securing means for the reglet

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being provided. Neither are the rim flanges employed for the prevention of concrete seepage into the reglet interior or channel since other seepage prevention means is employed. The sole function of these rim flanges is, therefore, to enhance the bond between the reglet and the surrounding concrete so that stripping of the adjacent form board from the concrete will not disturb the position of the reglet.

In order positively to prevent concrete seepage into the reglet channel, a tear flap extends across the mouth of the channel and lies in the common plane of the rim flanges. Any concrete which may flow past the rim flanges is prevented from entering the channel of the reglet by reason of this tear flap. After the adjacent wooden form board has been stripped from the hardened concrete, the tear flap may readily be pulled or ripped progressively from across the mouth of the reglet channel, thus exposing the channel for gasket-receiving purposes.

Initial securing of the reglet to the adjacent form board is effected by driving a series of nails through the channel web and also through the tear flap. After said adjacent form board has been stripped from the hardened concrete, the projecting ends of the nails may be cut flush with the tear strip to enhance removal of the latter from the channel mouth.

Heretofore, with reglets of the type under consideration, considerable difficulty has been encountered in attaining accurately fitting mating reglet ends which, when brought together, are intended to produce square corners. The present invention obviates this difficulty by providing a prefabricated corner reglet which is accurately assembled at the factory and supplied for use in the field so that fitting operations on any given board type rectangular concrete or frame are obviated.

Another feature of the present invention resides in the provision of a modified form of reglet which, although it preserves the aforementioned physical attributes of the heretofore described reglet from the standpoint of ready attachment to a wooden concrete form, prevention of pulling away from the hardened concrete, etc., is of a flexible nature so that it may be bent to arcuate form to accommodate a window opening having a rounded corner, regardless of whether the corner be on a large or a small radius. Furthermore, the modified form or reglet is capable of use in connection with a window opening having an irregular or special shape, as, for example, a circular or oval window opening or an opening with a Gothic or other type of curved component.

Finally, the present invention embodies the use of novel spline connector devices for adjacent reglet sections, such devices accommodating end-to-end fitting of reglet sections either in aligned or right angular relationship.

The provision of a reglet construction such as has briefly been outlined above constitutes the principal object of the present invention. Other objects and advantages of the invention not at this time enumerated will readily suggest themselves as the nature of the invention is better understood from a consideration of the following detailed description or specification.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the accompanying two sheets of drawings forming a part of this specification, several illustrative embodiments of the invention are shown, together with the manner in which these embodiments may be assembled on a form-forming frame in order to produce a concrete window sash.

In these drawings:

FIG. 1 is a fragmentary perspective view of a straight reglet section embodying the present invention;

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FIG. 2 is a perspective view showing a completely assembled rectangular reglet assembly installed on a concrete window sash form, such form being illustrated as attached to a fragment of one side of the main concrete form;

FIG. 3 is an enlarged transverse section taken on the line 3—3 of FIG. 2;

FIG. 4 is a transverse sectional view similar to FIG. 3 but after the concrete has been poured around the rectangular reglet assembly and against the outer sides of the concrete window sash form;

FIG. 5 is a fragmentary perspective view showing a concrete-embedded reglet section and illustrating the manner in which its associated tear strip may be pulled from it after removal of the adjacent form or frame board;

FIG. 6 is a transverse sectional view taken on the line 6—6 of FIG. 5 and illustrating in dotted lines the manner in which the reglet section receives a conventional glazing gasket as a preliminary to a glass pane being installed in the gasket;

FIG. 7 is a fragmentary perspective view similar to FIG. 1 but illustrating a modified form of straight reglet section;

FIG. 8 is a sectional view similar to FIG. 6 and illustrating the concrete embedment of the modified straight reglet section of FIG. 7;

FIG. 9 is a fragmentary exploded perspective view of a pair of adjacent reglet sections together with an interconnecting spline therefor, the view embodying a straight reglet section and a prefabricated corner reglet section;

FIG. 10 is a fragmentary plan view showing the reglet sections and spline of FIG. 9 in assembled relationship;

FIG. 11 is a fragmentary perspective view of a flexible reglet section which is capable of being bent to curved configuration to accommodate a window opening having a curved corner, the section being shown in its normal free or straight state; and

FIG. 12 is a fragmentary side elevational view showing the reglet section of FIG. 11 bent to curved configuration and operatively applied to a concrete window sash form.

Referring now to the drawings wherein several forms of reglet sections embodying the present invention are illustrated, all of the illustrated reglet sections are preferably formed of a high-impact plastic material such, for example, as polyvinyl chloride, the sections being preferably made by an extrusion process. In FIG. 2, a complete reglet assembly for use as part of a concrete window sash is shown as being nailed in position on a rectangular form-forming frame in a manner that will be described presently, the assembly representing a preferred form of the invention and including eight reglet sections, namely, four straight medial sections 10 and four corner sections 12.

Both the straight medial sections 10 and the corner sections 12 embody a preferred form of the invention, one of the medial sections being shown in detail in FIG. 1 and one of the corner sections being shown in detail in FIGS. 9 and 10. The straight reglet section 10 of FIG. 1 involves in its general organization a main channel portion in the form of a pair of opposed and spaced apart side walls 14 and a connecting web 16. The mouth of the channel portion is provided with an integral closure in the form of a tear strip 18 which is produced by the same extrusion type manufacturing process as that of the reglet section itself and which prevents seepage of the concrete into the interior of said channel portion during formation of the window-equipped concrete slab with which the reglet is to be associated. In order to facilitate removal of the tear strip after the concrete slab has been formed, V-shaped grooves 20 are provided along the longitudinal edges of the strip and at its juncture lines with the adjacent fill edge portions of the side walls 14. The tear strip 18 may thus readily be pulled from the concrete-embedded channel portion of the reglet sec-

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tion 10, and when it is so pulled, any concrete which may have adhered to the strip is removed at the same time and a clean channel interior is presented for subsequent insertion of a suitable glazing gasket in the ordinary or conventional manner of window erection.

The outer or free longitudinal edge portions of the side walls 14 are turned laterally outwardly in opposite directions to provide a pair of coplanar rim flanges 22 and the outer longitudinal marginal or edge portions of these rim flanges are turned rearwardly in reentrant fashion with respect to the side walls 14 and are shaped to provide a pair of angularly disposed anchoring ribs 24 of wedge-shaped configuration in cross section. Additionally, narrow coplanar anchoring flanges 26 project laterally in opposite directions from the side edge portions of the web 16 of the straight medial reglet section 10 and lie in the plane of the web. The anchoring ribs 24 and the anchoring flanges 26 are adapted for embedment in the poured concrete of the aforementioned window-equipped slab in a manner and for a purpose that will become clear presently.

As best illustrated in FIGS. 9 and 10 of the drawings, each corner reglet section 12 is comprised of two substantially identical lengths 12a and 12b of straight reglet sections having abutting end edges which are cut on a 45° bias (mitered) and joined together in any suitable manner, as for example, by heat-sealing or by the use of a suitable adhesive. The joint between the two sections is indicated by the reference numeral 30 in FIGS. 9 and 10. The cross-sectional configuration of the lengths 12a and 12b is identical with that of the straight medial reglet section 10 of FIG. 1 and, therefore, to avoid repetition of description, identical reference numerals have been applied to the corresponding parts.

Referring now to FIG. 2 of the drawings, a concrete window sash form 32 is shown as being positioned on a portion of a main concrete slab form 33. The form 32 is of rectangular open frame-like construction and comprises four wooden frame boards 34, 36, 38 and 40 which are appropriately secured together by nails or other suitable fastening devices. The boards 38 and 40 define the opposite jambs of the form while the boards 34 and 36 define the upper header and the lower sill, respectively. The aforementioned reglet assembly including the four straight medial reglet sections 10 and the four corner reglet sections 12 is mounted on and around the outer sides of the form 32 so as completely to encompass the latter in the manner shown in FIG. 2. To effect the attachment of the reglet sections to the form 32, the various sections are positioned with their channel mouths facing towards the form and with the rim flanges 22 lying against and flush with the outer side surfaces of the form boards 34, 36, 38 and 40. Nails 42 are then driven through the webs 16 of the various reglet sections so that they traverse the channels of the section and also pass completely through the tear strip and into the rectangularly arranged boards of the form 32 as clearly shown in FIG. 3.

After proper mounting of the reglet assembly on the form 32 in the manner described above, concrete is poured between the four sides (not shown) of the main slab-forming form 33 so that it surrounds the window sash form 32 and causes the reglet assembly to be embedded in the concrete. After the concrete has become hardened, the form 32 is stripped from the main form 33 and the walls of the window opening are thus exposed.

As clearly shown in FIG. 6, the opposed or inner surfaces of the side walls 14 of the various reglet sections 10 and 12 are provided with a large multiplicity of parallel, closely spaced, sharply defined retention ribs 41 which offer a high degree of frictional resistance to the stem portion 43 of a conventional glazing gasket 44 such as is shown in broken lines in FIG. 6. Various forms of glazing gaskets are supplied by different manufacturers, but essentially they are similar. Usually such gaskets are

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formed of neoprene and they afford a channel or groove 46 for reception of a glass pane 48.

Prior to insertion of the neoprene glazing gasket 44 into the channels of the reglet sections 10 or 12, and immediately after the form 32 has been stripped from the concrete, the tear strips 18 are progressively pulled 5 from the channel mouths of their respective reglet sections in the manner shown in FIG. 5 so as to expose the channel interiors. The portions of the nail shanks which project through the channel interiors are either cut off 10 at their base regions, utilizing a suitable nipping tool, or they may be bent flat against the webs 16 of the channel portions of the reglet section by utilizing a suitable impact tool such, for example, as a hammer.

It will be appreciated that after the concrete has been poured around the form 32 as previously described, the rim flanges 22 which lie flush with the outer surfaces of the form boards 34, 36, 38 and 40 serve to prevent passage of the wet concrete behind the reglet sections. However, in the event of any slight seepage of concrete between the reglet sections and the form boards, such concrete will be automatically removed at the time the tear strips 18 are pulled from their associated reglet sections 10 or 12. During stripping of the form boards from the hardened concrete slab, the wedge-shaped anchoring ribs 24 will prevent pulling of the rim flanges 22 away from the surfaces that define the window sash or opening position of the concrete. The anchoring ribs 26 similarly will hold the channel portions of the reglet sections within the concrete against dislodgment.

In FIGS. 7 and 8, a modified form of straight reglet section 110 embodying the present invention is shown. In this form of the invention, the cross-sectional shape of the reglet section remains identical with the cross-sectional shape of the straight reglet section 10 of FIG. 1 except 35 for the fact that the laterally extending rim flanges 22 have been omitted. Therefore, in order to avoid needless repetition of description, similar reference numerals but of a higher order have been applied to the corresponding parts as between the disclosures of FIGS. 7 and 1, and of FIGS. 8 and 6. It will be understood that the form of reglet section of FIGS. 7 and 8 is readily adaptable to prefabrication of reglet corner sections similar in outline and function to the previously described corner sections 12.

Whether a given reglet assembly be concerned with reglet sections of the type shown in FIG. 1 or in FIG. 6, accurate alignment of adjacent reglet sections on the various form boards of the window sash form 32 is effected by means of rectangular hexahedral connector spline blocks 50 (see FIGS. 9 and 10). Such blocks may be made of the same polyvinyl chloride material as that of the reglet sections themselves. The spline blocks are inserted in telescopic fashion into the adjacent ends of the reglet sections to be joined together and then the sections are pushed toward each other in end-to-end contiguity.

In FIGS. 11 and 12, a further form of reglet section 210 is illustrated, this particular reglet section serving to accommodate the construction of window sash opening that has a rounded corner region. Due to the similarity between the reglet section 210 and the reglet section 110 of FIG. 7, and again in order to avoid repetition of description, similar reference numerals but of a still higher order have been applied to the corresponding parts as between the disclosures of FIGS. 11 and 7.

Considering now the disclosures of FIGS. 11 and 7 in comparison, the reglet section 210 remains substantially the same as the reglet section 110 except for the fact that a longitudinal series of closely spaced parallel cuts or slots 60 is provided in the section 210, these cuts or slots extending completely through the tear strip 218 and partially through the side walls 214. The cuts 60 are made in such a manner as to entail a definite removal of the material from which the reglet section 210 is formed so as to define slots of definite width, as, for

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example, by the use of a wide cutting blade. The various cuts 60 thus establish clearance regions so that the reglet section 210 as a whole may be bent to curved form as shown in FIG. 12. The cuts 60 may be made in any desired longitudinal region along the section, but it is preferable that the end regions of the section 210 remain uncut and straight so that the medial region only of the reglet section may be deformed. In FIG. 12, a fragment of a suitable window sash form 232 is disclosed and to which the reglet section 210 may be nailed in a manner similar to that employed in nailing the reglet sections 10 and 12 to the form boards 34, 36, 38 and 40 as shown in FIG. 2.

The invention is not to be limited to the exact arrangement of parts shown in the accompanying drawings or described in this specification as various changes in the details of construction may be resorted to without departing from the spirit of the invention. For example, although the various reglet sections 10, 12, 110 and 210 have been described as being formed by an extrusion process from plastic material such as polyvinyl chloride, it is within the purview of the present invention to form the reglet sections from a suitable soft metal capable of extrusion to produce the desired shapes of reglet sections. Furthermore, although no specific illustration has been made herein of a reglet section having the cross-sectional shape of the straight reglet section 10 of FIGS. 1 and 2 and capable of being bent to curved form to accommodate a round window opening corner, it is obvious that by providing a series of cuts in the reglet section 10 such as the cuts 60 shown in FIG. 11 in connection with the reglet section 210, the advantageous features of this latter reglet section may be obtained in connection with the reglet section 10.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. An elongated, extruded, unitary, one-piece reglet section designed for attachment to a form board in order to receive concrete thereagainst and comprising a channel portion for the ultimate reception of a glazing gasket, said channel portion having substantially parallel side walls and a connecting bight portion between the outer longitudinal edge portions of the side walls, a tear strip extending between and connected to the inner longitudinal edge portions of the side walls and serving to close the mouth of the channel portion, said tear strip being adapted for placement flush against the form board preparatory to pouring of wet concrete against said board and consequent embedment of the reglet section in the concrete, the juncture regions between the tear strip and the outer longitudinal edge portions of the side walls being provided with V-shaped grooves which facilitate progressive pulling of the tear strip from the mouth of the channel portion after the form board has been stripped from the poured and hardened concrete, a multiplicity of parallel, longitudinally extending, retention ribs formed on the inner surface of the side walls and designed for frictional cooperation with said glazing gasket when the latter is installed within the channel portion of the reglet section, a pair of laterally extending coplanar rim flanges connected to and projecting laterally in opposite directions away from the inner longitudinal edge portions of the side walls and adapted for placement flush against the form board prior to pouring of wet concrete against said board, and a pair of reentrant anchoring ribs formed on and coextensive with the outer longitudinal edge portions of the rim flanges and serving to prevent pulling of the rim flanges away from the hardened poured concrete when the form board is stripped from the concrete, and a pair of laterally extending coplanar anchoring flanges connected to and extending outwards from the juncture regions between said side walls and bight portion and adapted to become embedded in the poured concrete and prevent inward shifting of the reglet section when the form board is stripped from the hardened poured concrete.

2. A reglet section as set forth in claim 1 and wherein the anchoring ribs are wedge-shaped in cross section.

3. An elongated, extruded, unitary, one-piece reglet section designed for attachment to a form board in order to receive concrete thereagainst and comprising a channel portion for the ultimate reception of a glazing gasket, said channel portion having substantially parallel side walls and a connecting bight portion between the outer longitudinal edge portions of the side walls, a pair of laterally extending coplanar rim flanges connected to and projecting laterally in opposite directions away from the inner longitudinal edge portions of the side walls and adapted for placement flush against the form board prior to pouring of wet concrete against said board, and a pair of reentrant anchoring ribs formed on and coextensive with the outer longitudinal edge portions of the rim flanges and serving to prevent pulling of the rim flanges away from the hardened poured concrete when the form board is stripped from the concrete.

4. A reglet section as set forth in claim 3 and wherein the anchoring ribs are wedge shape in cross section with the large bases of the wedges projecting inwardly.

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U.S. Cl. X.R.

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