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## EUROPEAN PATENT APPLICATION

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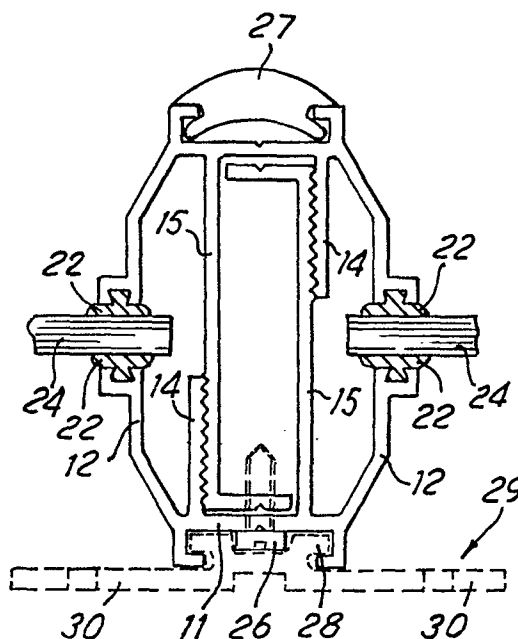
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### 54 Structural members for supporting panels.

57 A structural member forming a patent glazing bar comprises two identical elements extruded from aluminium. Each element comprises a channel formed by side walls 12 and a base 11, and the side walls of the two elements serve to grip the margins of single or double glazing panels 24. Between the side walls, two limbs 14, 15 each with a serrated face extend into overlapping contact with the respective limbs of the other element. The limbs can flex laterally to allow the serrated faces to ride over each other to enable the panels 24 to be gripped. Screws 26 extending through the base of one element into engagement with the lateral projection on a limb of the other element draw the elements tightly on to the panels 24.



STRUCTURAL MEMBERS FOR SUPPORTING PANELS

This invention relates to structural members for supporting panels, e.g. panes of glass, and has an important application in relation to what are known as patent glazing bars.

5       According to this invention there is provided a structural member comprising a pair of elongate elements which fit together so as to be capable of gripping between them an edge portion of each two  
10       panels between which the member is disposed, each of which elements comprises, viewed in section at right angles to its length a channel-section  
15       portion having a base and two side walls which side walls extend towards the side walls of the other element for abutment with the faces of the respective  
20       panels to grip the panels between them, each of said elements further comprising between said side walls, two parallel limbs projecting into overlapping  
25       contact with the respective limbs on the other element, one limb of each element being longer than the other limb and being formed at substantially its  
30       free end with a laterally projecting spacer flange, the limbs being capable of a degree of resilient flexing laterally of themselves and the mutually  
      contacting surfaces of the limbs being formed with serrations extending lengthwise of the elements, the  
      serrated surfaces of the two limbs of each element facing in the same direction and the serrations on  
      the longer limb of each element facing away from the shorter limb of the same element, said spacer  
      flange of one element extending to a position adjacent the unserrated face of the longer limb  
      of the other element, the serrations operating in

conjunction with lateral flexing of the limbs to enable the two elements to be pressed together to grip the edge portions of the panels, the serrations on each limb riding over those on the co-operating  
5 limb of the other element, but to hold the elements together when the pressure is removed.

The two elements are preferably identical in cross-section.

According to a preferred feature of the invention  
10 screw means is provided for pulling the elements into gripping engagement with the panels. The screw means may conveniently extend through an aperture in the base of one of the elements and into threaded engagement with the said spacer flange of the other of the  
15 elements.

One embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a sectional view of one of two  
20 identical elements which can be fitted together to form a structural member according to the invention, and

Figures 2 and 3 show a structural member made from two elements each as shown in Figure 1, and  
25 respectively incorporating single glazing and double glazing panels.

Referring now to Figure 1, the elongate element 10 shown in section is of extruded form and is made for example from aluminium alloy. The element comprises  
30 a channel-section portion with a base wall 11 and two side walls 12 and the tips of which are bifurcated to form dovetail grooves 13 for receiving sealing strips. Between the side walls two limbs 14, 15

project from the base wall, one of which is much longer than the other. The shorter limb 14 extends in this instance to about the same height as the side walls 11 of the channel, and the longer limb 15 has at its free end a lateral flange 16 overhanging the base 11 of the channel. The longer limb has on its face further from the shorter limb a band of serrations 17 which extend lengthwise of the element and the shorter limb has a similar band of serrations 18 on its face nearer the longer limb.

Two L-section flanges 20 project from the underside of the base to form with the base a groove 21 having undercut side walls.

To form a structural member according to the invention two such elongate elements 10 are fitted together as shown in Figures 2 and 3 and form a patent glazing bar. Sealing strips 22 are located in the dovetail grooves 13 and one of the elements is inverted and its flange 16 is disposed in the gap between the limbs 14, 15 of the other element. The two elements are then pressed together to cause the serrations 17, 18 on the limbs to ride over each other until the sealing strips 22 grip the side margins of two panes of glass 24 (Figure 2) or double glazing panels 25 (Figure 3) which are separated by the member. The limbs flex to allow the serrations to ride over each other but when the pressure is released the serrations serve to prevent the elements from separating again. Self-tapping screws 26 may be provided extending with a clearance through a hole in the base 11 of the channel of the inner element into tapping engagement in a hole in the flange 16 of the outer element to apply the final pressure

and/or to locate the two elements against relative slipping movement lengthwise of each other.

5 It will be understood that the limbs 14, 15 may be of any required length to enable the panels to be gripped between the side walls of the channels.

10 The flanges 16 are of a length to ensure that the co-operating serrations of the shorter limb 14 of one element 10 and the longer limb 15 of the other element 10 can be engaged and disengaged by making the serrations ride over each other, causing resilient lateral flexing of the limbs, and cannot become disengaged by relative lateral movement of the elements.

15 The undercut groove 21 on the outer element may accommodate a capping strip 27, while that on the inner element may conveniently accommodate flanged portions of a series of brackets 29 having laterally extending arms 30 which are formed with screw holes enabling the structural member to be secured to a succession of spaced supporting cross-members 31. So  
20 arranged, the glazing bars cannot be separated from the outer side of the assembly and the glass therefore cannot be removed from the outside. This improves the security of the arrangement. The use  
25 of identical extrusions assists in reducing production costs.

CLAIMS

1. A structural member comprising a pair of elongate elements which fit together so as to be capable of gripping between them an edge portion of each two panels between which the member is disposed,  
5 each of which elements comprises, viewed in section at right angles to its length, a channel-section portion having a base and two side walls which side walls extend towards the side walls of the other element for abutment with the faces of the respective  
10 panels to grip the panels between them, each of said elements further comprising between said side walls, two parallel limbs projecting into overlapping contact with the respective limbs on the other element, one limb of each element being longer than  
15 the other limb and being formed at substantially its free end with a laterally projecting spacer flange, the limbs being capable of a degree of resilient flexing laterally of themselves and the mutually contacting surfaces of the limbs being formed with  
20 serrations extending lengthwise of the elements, the serrated surfaces of the two limbs of each element facing in the same direction and the serrations on the longer limb of each element facing away from the shorter limb of the same element, said spacer  
25 flange of one element extending to a position adjacent the unserrated face of the longer limb of the other element, the serrations operating in conjunction with lateral flexing of the limbs to enable the two elements to be pressed together to  
30 grip the edge portions of the panels, the serrations on each limb riding over those on the co-operating limb of the other element, but to hold the elements together when the pressure is removed.

2. A structural member as claimed in claim 1,  
wherein the two elements are identical in cross-  
section.

5 3. A structural member as claimed in claim 1 or  
claim 2, wherein screw means is provided for pulling  
the elements into gripping engagement with the  
panels.

10 4. A structural member as claimed in claim 3,  
wherein the screw means extends through an aperture  
in the base of one of the elements and into threaded  
engagement with the said spacer flange of the other  
of the elements.

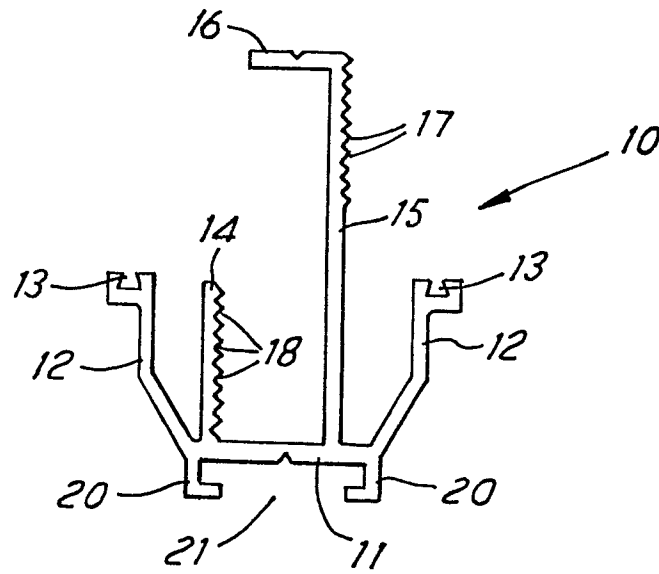


FIG. 1

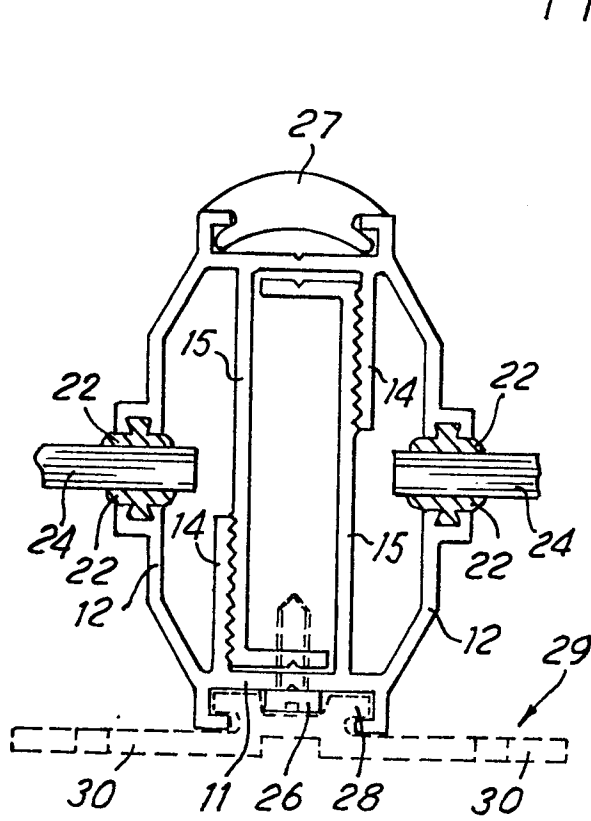


FIG. 2

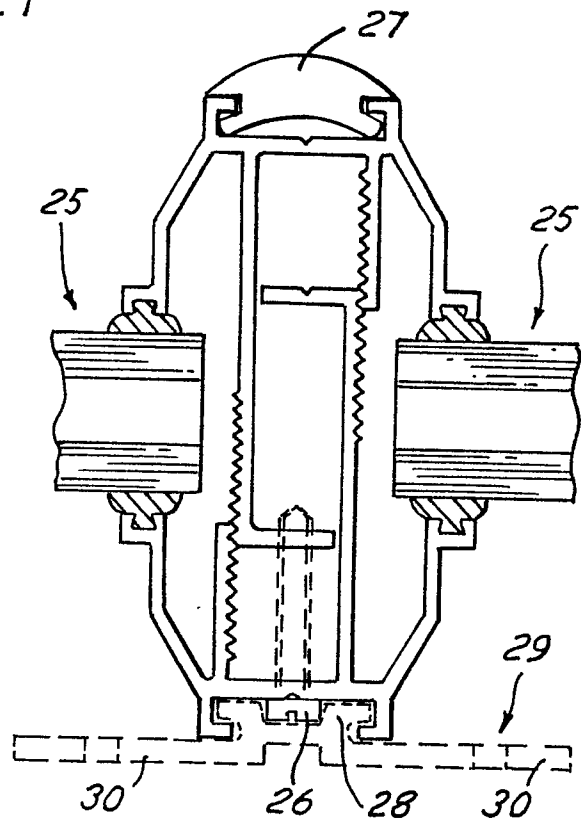


FIG. 3