



US 20060242918A1

(19) **United States**

(12) **Patent Application Publication**
Richardson

(10) **Pub. No.: US 2006/0242918 A1**

(43) **Pub. Date: Nov. 2, 2006**

(54) **CONSERVATORY ROOF CONSTRUCTION**

(30) **Foreign Application Priority Data**

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Mar. 1, 2003 (GB)..... 0304753.7

Publication Classification

(51) **Int. Cl.**
E04B 7/18 (2006.01)

(52) **U.S. Cl.** **52/200; 52/648.1**

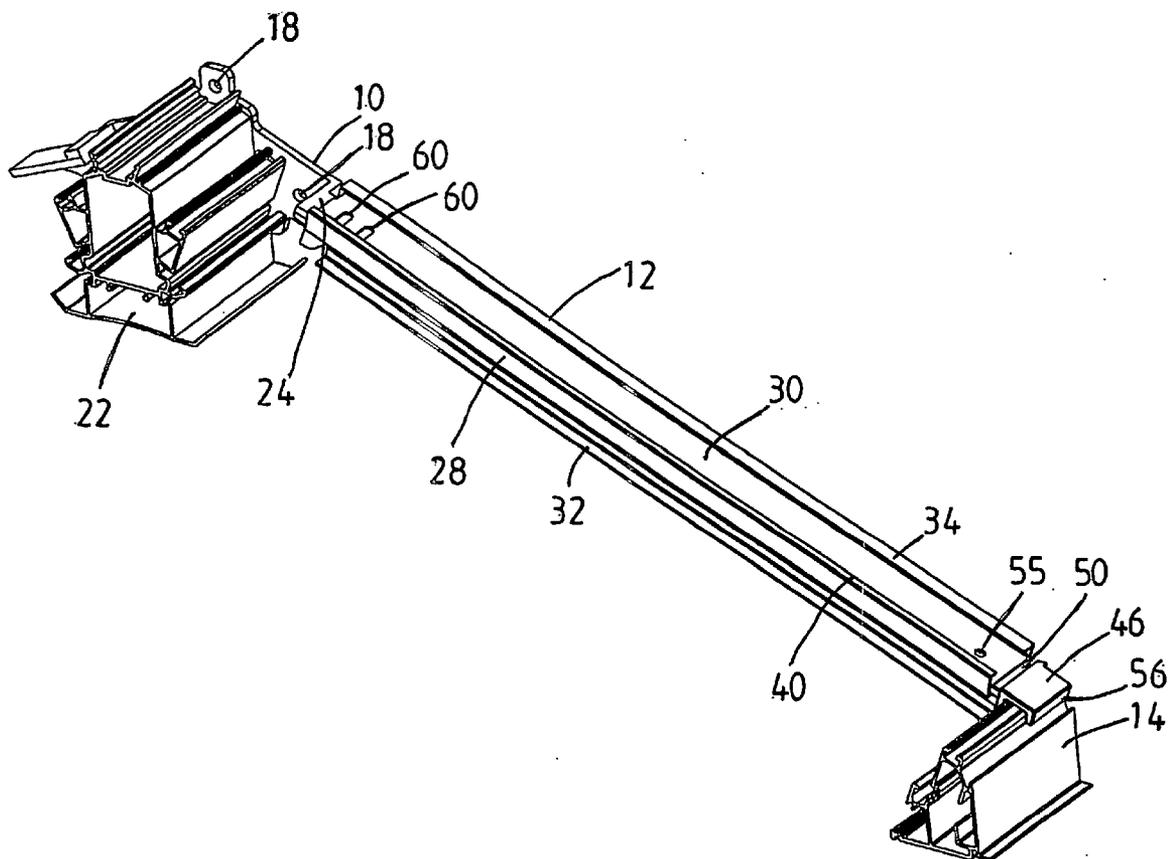
(57) **ABSTRACT**

Means for securing a conservatory roof to an existing wall comprises a wall plate (10) locatable at a ridge beam end (22) and starter glazing bars (12) mountable between the wall plate and eaves beams (14), wherein the positions of the wall plate and/or of the starter glazing bars are adjustable relative to the wall and to each other.

(21) Appl. No.: **10/546,542**

(22) PCT Filed: **Mar. 1, 2004**

(86) PCT No.: **PCT/GB04/00831**



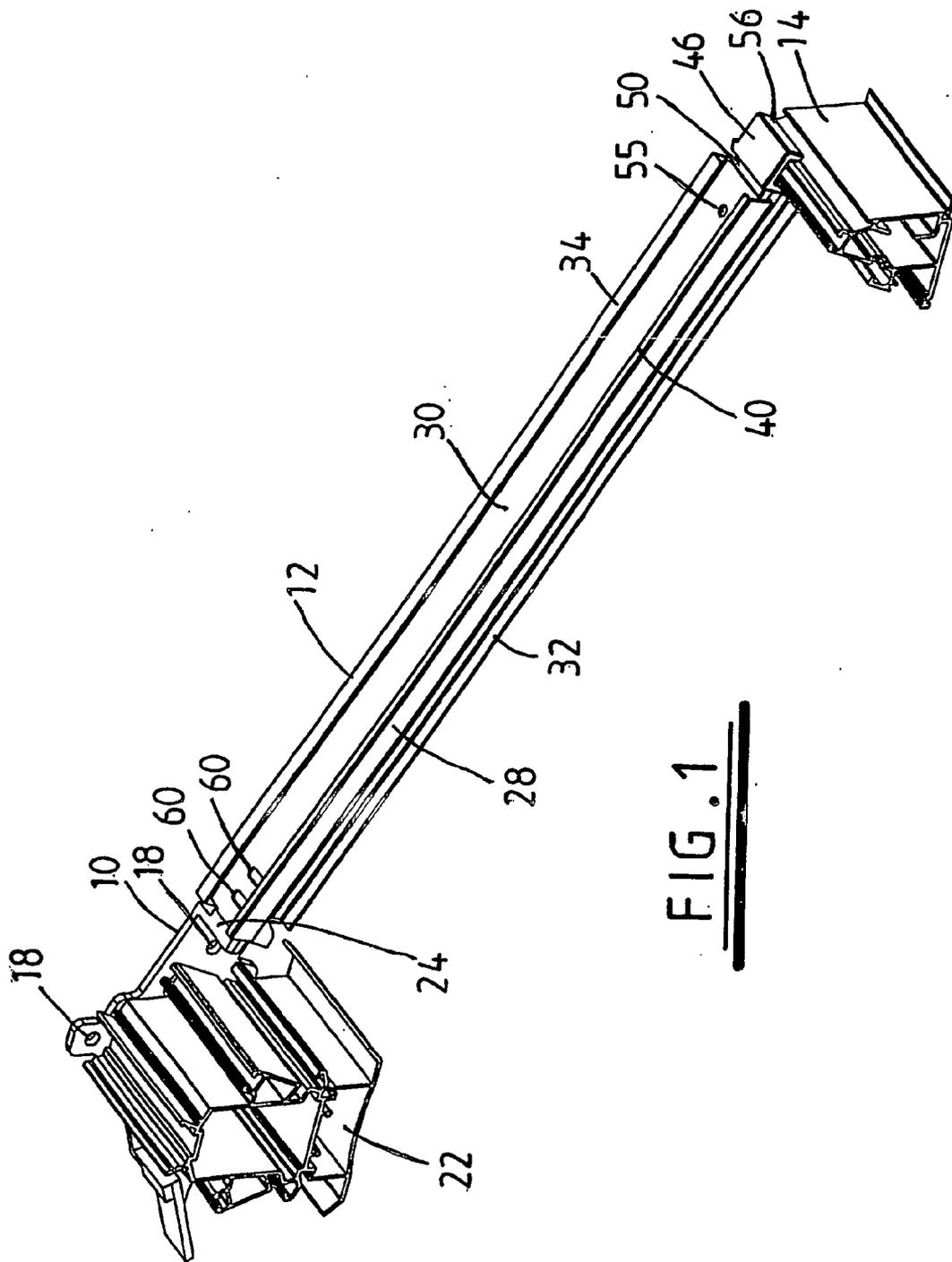


FIG. 1

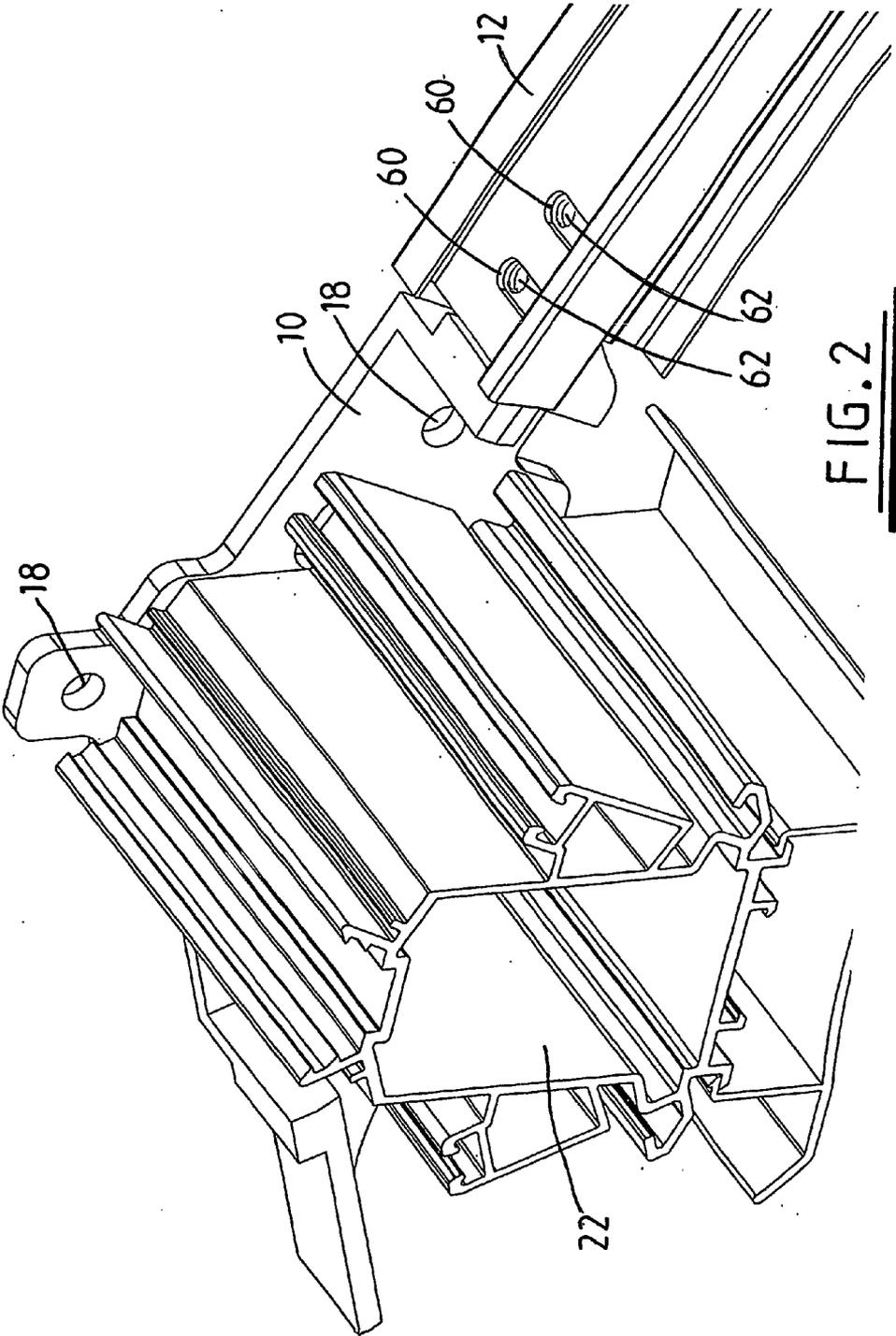


FIG. 2

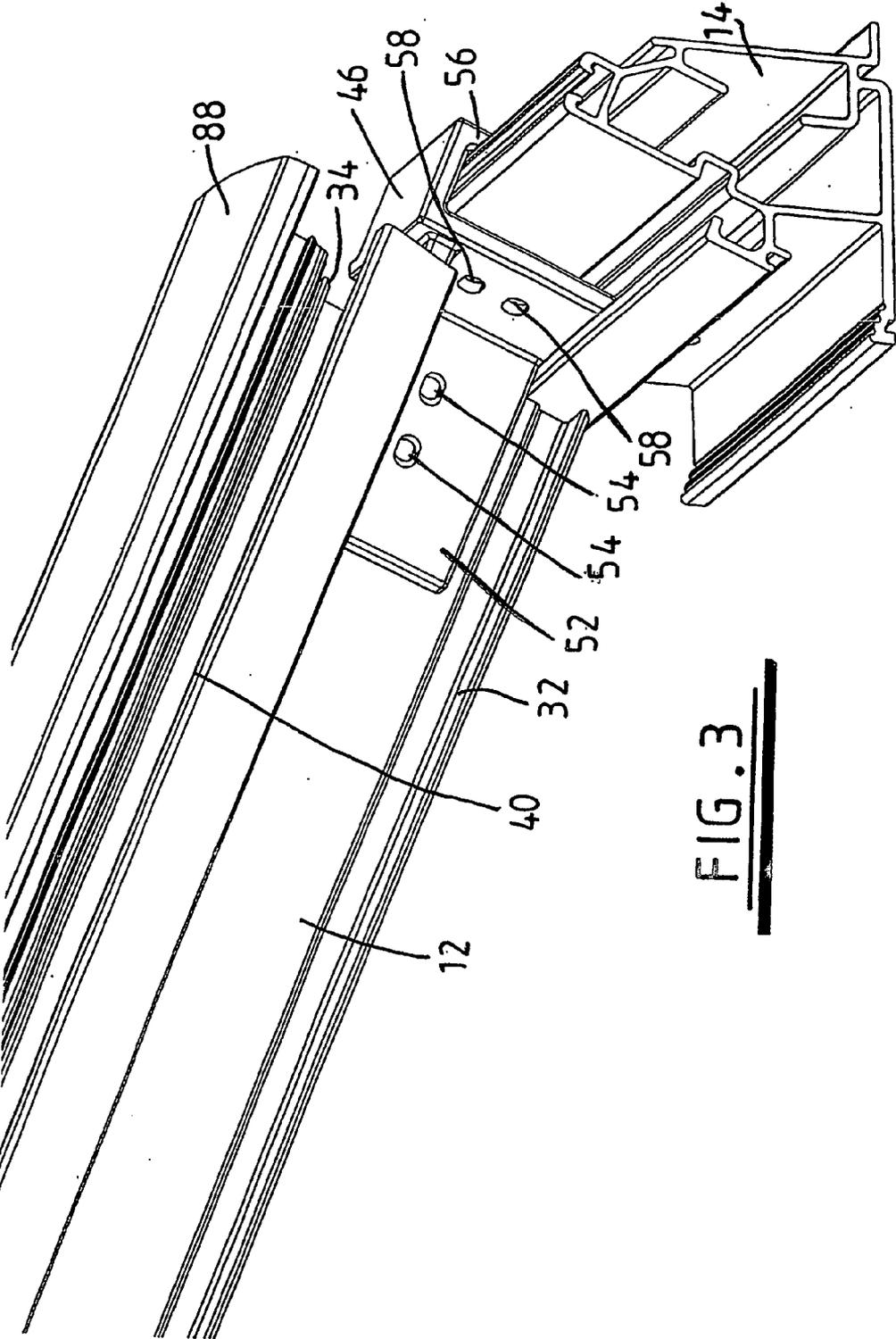


FIG. 3

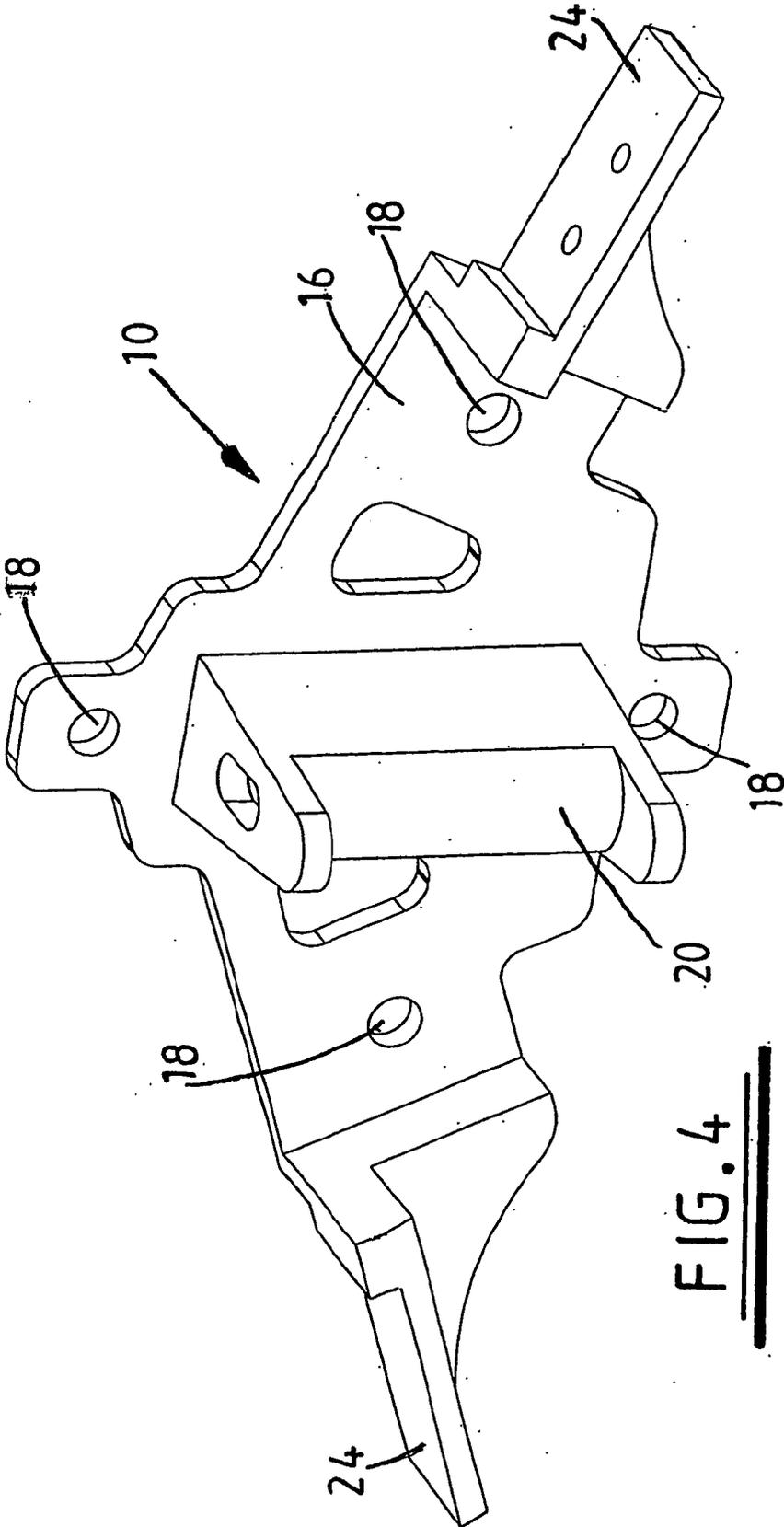
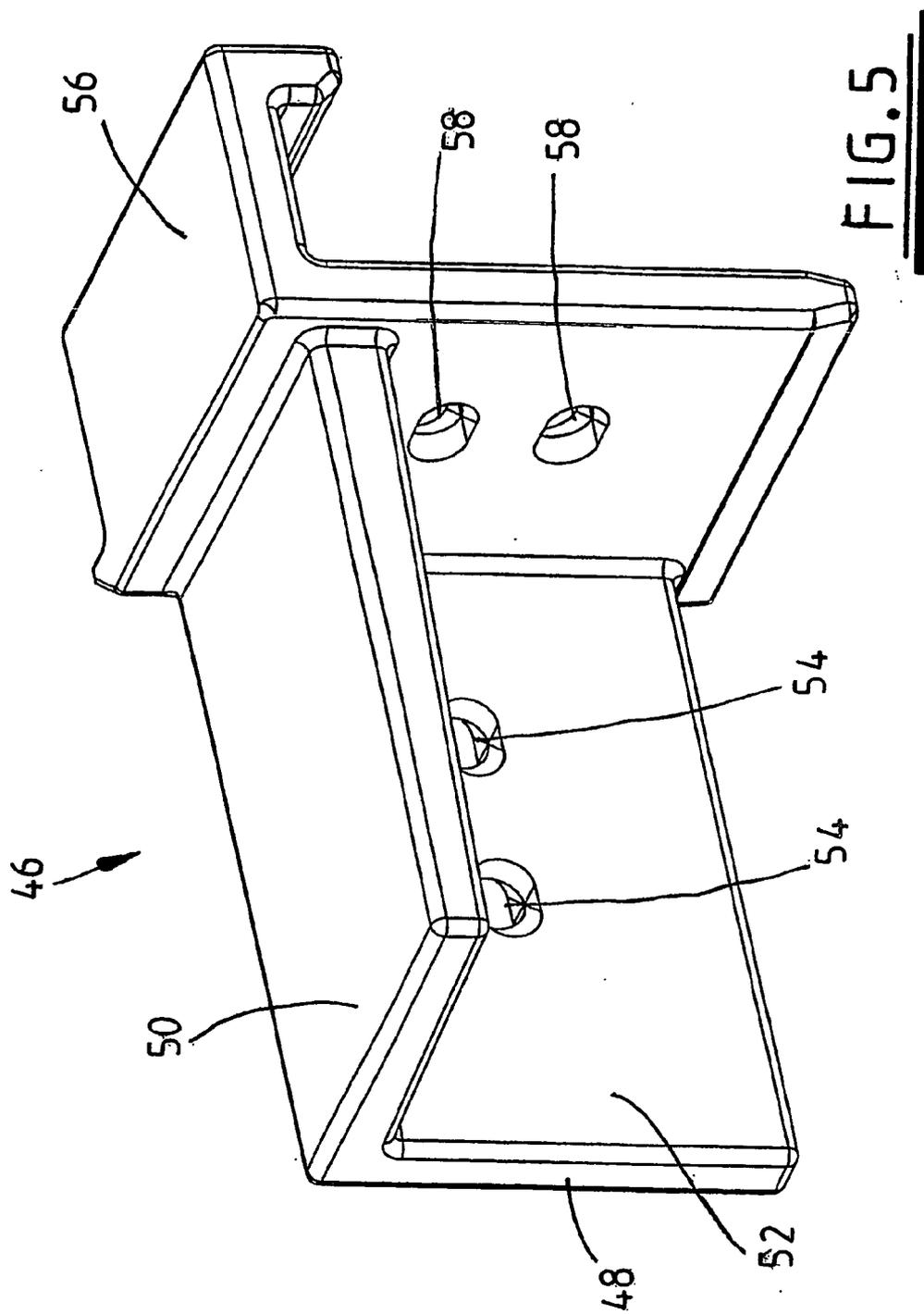


FIG. 4



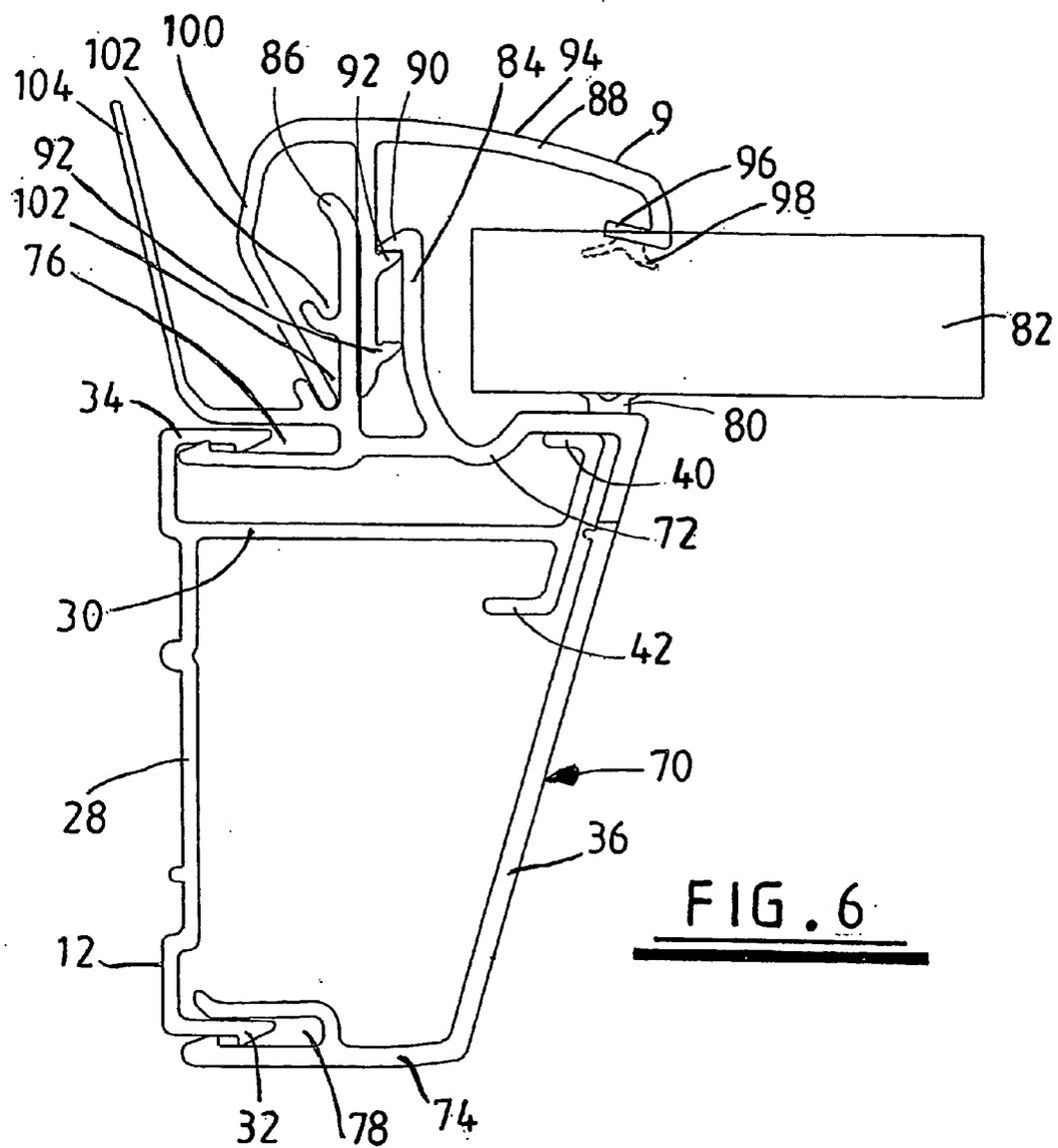


FIG. 6

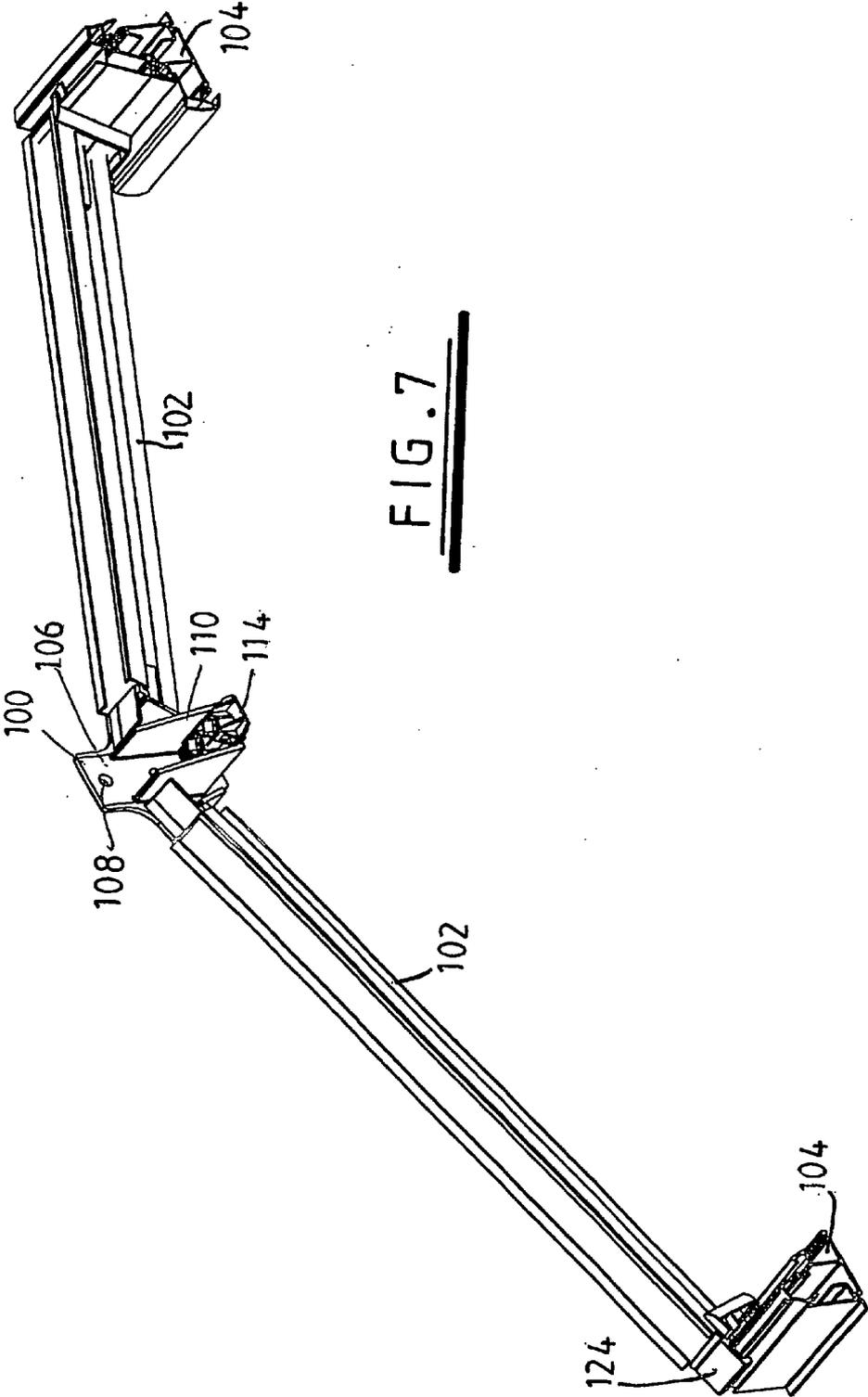


FIG. 7

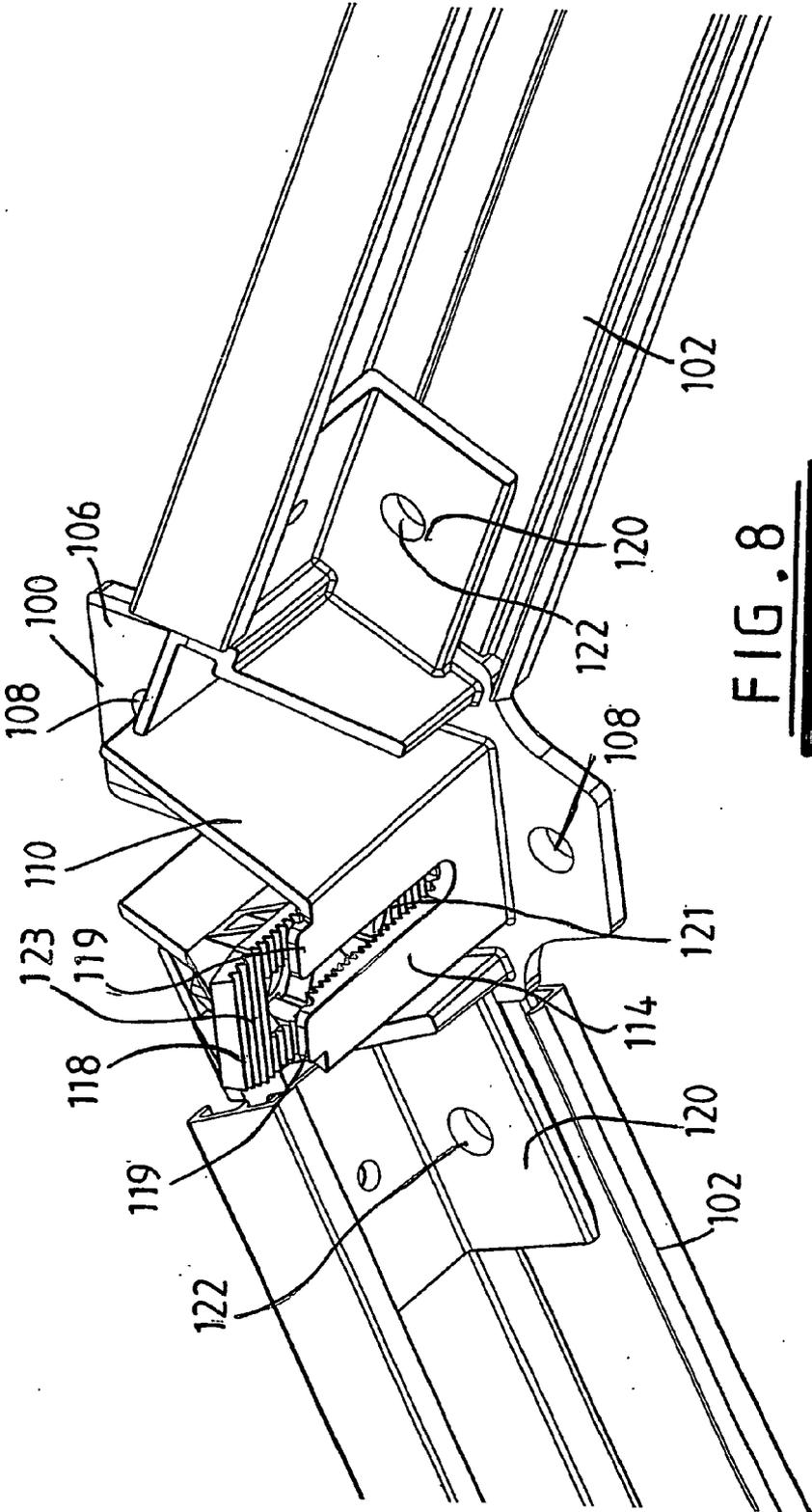


FIG. 8

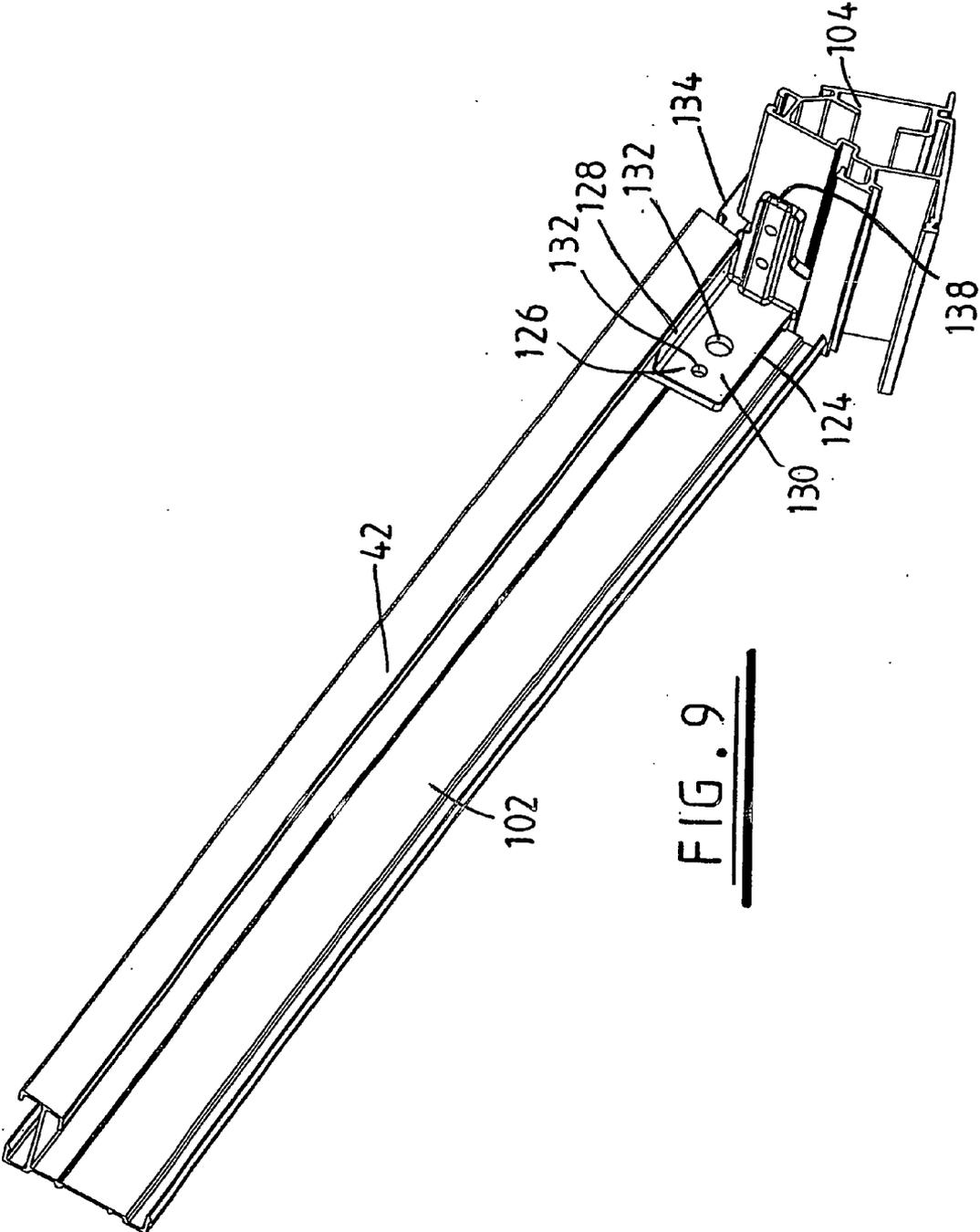


FIG. 9

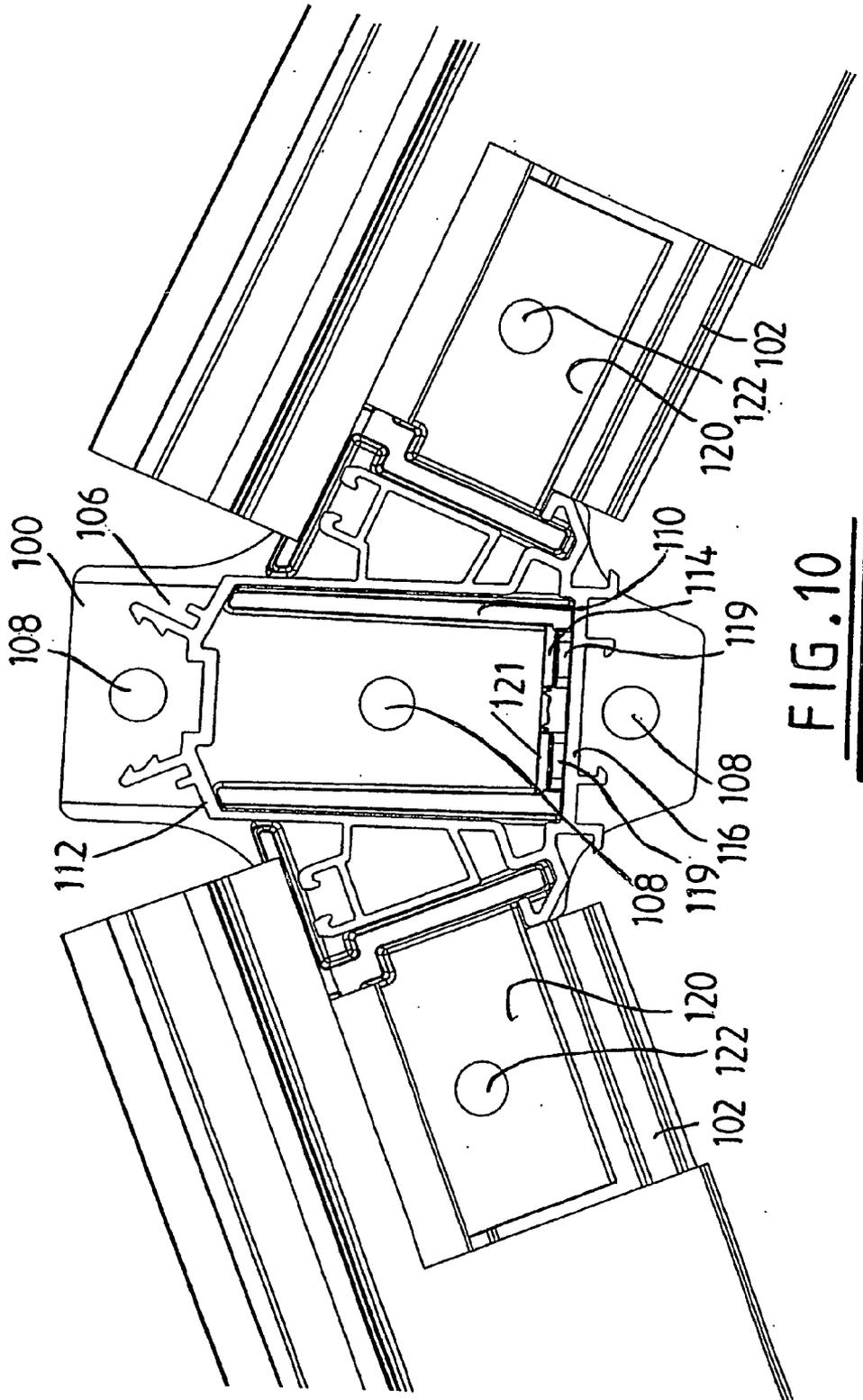


FIG. 10

CONSERVATORY ROOF CONSTRUCTION

[0001] This invention concerns improvements in and relating to conservatory roof construction.

[0002] Conservatory roofs are generally constructed by mounting glazing panels between glazing bars or roof beams supported at one end from a ridge beam and at the other end from an eaves beam. A difficulty with conservatory roof construction is the erection of the roof relative to an existing wall. It is often the case that an existing wall is not exactly vertical and can be uneven. Therefore, there can be difficulties in setting out the roof relative to such a wall.

[0003] An object of the invention is to provide a system for erecting a conservatory roof relative to an existing wall.

[0004] According to the invention it is proposed that for securing a conservatory roof to an existing wall that a wall plate be provided that is locatable at a ridge beam end and that starter glazing bars be mountable between the wall plate and eaves beams, wherein the positions of the wall plate and/or of the starter glazing bars are adjustable relative to the wall and to each other.

[0005] The wall plate preferably has a tongue or the like for locating the wall plate at the end of a hollow ridge beam. Securing screws or bolts through the ridge beam and the tongue may be used to fix the plate to the beam. The wall plate is preferably provided with screw or bolt holes to facilitate fixing thereof to the wall. To allow for a wall that is leaning from the vertical, it is proposed that the ridge beam be cut slightly short of the wall plate to allow for some relative movement between the ridge beam and the wall plate and packers may be provided, if the wall plate is to be fixed to a wall leaning away from the conservatory. If on the other hand, the wall is leaning forwards, it may be necessary to move supporting window frames forwards to allow for correct alignment of the roof.

[0006] The starter glazing bars are preferably provided at opposite ends with means for adjusting their position relative to the wall. The wall plate preferably has stepped limbs extending from opposite ends thereof on which the starter bars locate. The stepping of the limbs may allow for the positions of the starter bars to be adjusted relative to the wall plate and to the wall.

[0007] At their other ends the starter bars preferably are provided with brackets for fixing to the eaves beams. The brackets are preferably movable on the eaves beams to desired positions relative to the wall, against which the conservatory is being constructed. A preferred bracket has a hook formation that can sit over an eaves beam.

[0008] The wall plate and the brackets may be provided with attachment positions for strings or the like to be used for aligning the wall plate.

[0009] The starter bars will usually be extruded from aluminium. Preferably covers will be provided for the starter bars, ideally of plastics material, such as uPVC. The covers preferably provide a shelf on which glazing panels can sit, preferably with sealing means, such as gasket material, therebetween. The covers also preferably provide a location for attachment of a cap for sealing on top of the glazing panel again preferably by means of gasket material on the cap. The gasket material for sealing against the glazing panel may be of rubber or other suitable elastomeric material and

may be co-extruded or bonded onto the cap. The cap is preferably provided with spring means for urging its sealing material into good contact with the top surface of the glazing panel.

[0010] This invention will now be further described, by way of example only, with reference to the accompanying drawings, in which:

[0011] FIG. 1 shows a first embodiment of a starter bar arrangement for a conservatory roof;

[0012] FIG. 2 shows detail of the starter bar arrangement of FIG. 1 at the ridge end;

[0013] FIG. 3 shows detail of the starter bar arrangement of FIG. 1 at the eaves end;

[0014] FIG. 4 shows a ridge end plate for the arrangement of FIG. 1;

[0015] FIG. 5 shows a glazing bar to eaves connector for the starter bar of FIG. 1;

[0016] FIG. 6 is a section through a starter bar used in the arrangement of FIG. 1;

[0017] FIG. 7 shows a second embodiment of a starter bar arrangement for a conservatory roof;

[0018] FIG. 8 shows detail of the arrangement of FIG. 7 at a ridge of the roof;

[0019] FIG. 9 shows detail of the arrangement of FIG. 7 at the roof eaves; and

[0020] FIG. 10 shows the arrangement of FIG. 7 with a ridge beam in place.

[0021] Referring to FIGS. 1 to 6 of the accompanying drawings, a starter bar arrangement for a conservatory roof to be erected against an existing wall comprises a ridge end wall plate 10 (shown in more detail in FIG. 4) and a pair of starter glazing bars 12 (only one of which is shown) mounted between opposite ends of the plate and respective eaves beams 14. The ridge end wall plate 10 has a main part 16 with holes 18 therethrough for securement thereof to a wall by means of screws or bolts. Extending from the opposite face of the plate 10 is a tongue 20 that is locatable and securable within the end of a ridge beam 22, as shown in FIG. 2 of the drawings. At opposite ends of the plate 10 are limbs 24 that are stepped relative to the main part of the plate, so that there is space between the limbs and the wall to which the plate is secured. The limbs 24 have a pair of holes for receiving bolts for securing the starter bars thereto.

[0022] The starter glazing bars 12 are aluminium extrusions being, in use, generally in the form of an inverted L-section. The starter bars 12 have a first side 28 and a second side 30 extending normally therefrom. The first side 28 has a bottom lip 32 and a top lip 34 that extends firstly above the junction between the first and second sides. These lips 32 and 34 are provided to receive a PVC cover 36 to be described later. The second side 30 ends in a T-section providing upper and lower returned flanges 40 and 42. The upper flange 40 extends to the same height as the top lip 34 and provides a shelf for the cover 36.

[0023] The lower flange 42 provides a location for a bracket 46 (shown in detail in FIG. 5) for fixing the starter bar to the eaves beam. The bracket 46 has a first inverted

L-section part **48**, whose top side **50** locates under the return of flange **42**. Depending side **52** of the part **48** has screw holes **54** therethrough, whereby the bracket can be fixed to the starter bar and to the wall. A screw hole **55** in the top side of the starter bar can also be used to receive a screw for fixing the bracket in the starter bar. The bracket has a second hook-shaped part **56** that is shaped to fit over the eaves beam and has screw holes **58** therethrough for receiving screws to fix the bracket to the eaves beam.

[0024] At its end to be fixed to the wall plate **10**, the starter bar has in its second side **30** a pair of elongate slots **60** positioned to match up with bolt holes **62** in the limb **24** of the wall plate. The purpose of the elongate slots is to allow the position of the top end of the starter bar to be adjusted relative to the wall against which the wall plate is secured. Thus the starter bar can be positioned to allow for unevenness in the wall. At its lower end the starter bar can be positioned relative to the wall, because the hook shaped part **56** of the bracket **46** can be moved along the top of the eaves beam to a suitable position.

[0025] The starter bars **12** are provided with PVC covers **36** that fulfil a number of purposes. The covers **36** have a first side **70**, which will be visible within the conservatory, and top and bottom sides **72** and **74** extending from the side **70**. The top and bottom sides **72** and **74**, each have slotted ends **76** and **78** respectively, in which the lips **34** and **32** respectively of the starter bar locate to hold the cover **36** on the starter bar. The top side **72** of the cover **36** has near its junction with side **70** a strip **80** of gasket material thereon for forming a seal on the underside of a glazing panel **82** mounted thereon. The gasket material may be co-extruded or bonded onto the cover **36** and is made of rubber or other suitable elastomeric material. Intermediate its edges the top side **72** of the cover **36** has upwards projections **84** and **86** forming together a slot for receiving a top cap **88** for forming a seal on the top surface of the glazing panel **82**. The projection **84** has a lip **90** that faces the other projection **86** and the cap **88** has a depending limb with a pair of spaced bars **92** thereon for locating under the lip **90** depending on the thickness of the glazing panel.

[0026] The cap **88** has a top **94** that at one edge **96** is turned under and has a strip **98** of gasket material thereon. The gasket material may be co-extruded or bonded onto the cap **88** and is made of rubber or other suitable elastomeric material. The strip of gasket material **98** forms a seal on the top surface of the glazing panel **82**. At its other edge, the top of the cap **88** turns downwards to form a spring member **100**. The free end of the spring member **100** locates in either of grooves **102** on the outer face of projection **86** depending on the thickness of the glazing panel, where the spring member is put under tension. The tension on the spring member acts to force the opposite edge of the top of the cap into a better sealing condition with the top surface of the glazing panel.

[0027] Finally, the top side **72** of the cover **36** has an upward flap **104** that will in use contact the wall against which the roof is mounted and over which flashing material can be provided.

[0028] To erect a conservatory roof using the starter bar arrangement illustrated, the wall plate **10** is fitted to the ridge beam but not yet secured thereto and the starter bars located on the wall plate and the eaves beams. The ridge beam is provided to be approximately 10 mm short of the wall plate

10 and up to 10 mm worth of packers are provided to allow the wall plate position to be adjusted relative to a leaning wall. Then the wall plate **10** is fixed to the wall and the starter bars adjusted at the top and bottom using packers behind the starter bars as appropriate and secured in position and to the wall as previously described. Finally, the ridge beam is secured to the wall plate.

[0029] Turning to FIGS. 7 to 10 of the accompanying drawings, a starter bar arrangement for a conservatory roof to be erected against an existing wall comprises a ridge end wall plate **100** and a pair of starter glazing bars **102** mounted between opposite ends of the plate **100** and respective eaves beams **104**. The eaves beams **104** are the same as eaves beams **14** in FIGS. 1 to 6 of the drawings.

[0030] The ridge end wall plate **100** has a main part **106** with holes **108** therethrough for securement thereof to the wall by means of screws or bolts. Extending from the opposite face of the wall plate **100** is a tongue **110** that is locatable and securable within the end of a ridge beam **112**. The tongue **110** has a base **114** that overlies base **116** of the ridge beam **112** and is clamped in place by a clamping plate **118** by means of bolts (not shown) through the ridge beam base into the clamping plate **118**. The base of the tongue and the clamping plate have mating serrated surfaces **121**, **123** respectively for grip. At its leading end, the tongue has nibs **119** that can be used for attachment of a plumb line for checking alignment of the wall plate and the starter bars as will be described later.

[0031] At opposite ends of the plate **100** are limbs **120** that are stepped relative to the main part of the plate, so that there is a space between the limbs and the wall to which the plate is secured. The limbs **120** have holes **122** for receiving bolts for securing the starter bars thereto.

[0032] The starter glazing bars **102** are aluminium extrusions being, in use, generally in the form of an inverted L-section. The starter bars **102** are of the same type as the starter bars **12** shown in FIG. 6 of the drawings and parts thereof have been given the same reference numbers in FIGS. 7 to 10.

[0033] The lower flange **42** of the starter bar **102** provides a location for a bracket **124** for fixing the starter bar to the eaves beam **104**. The bracket **124** has a first inverted L-section part **126**, whose top side **128** locates under the return of flange **42**. Depending side **130** of the part **126** has screw holes **132** therethrough, whereby the bracket can be fixed to the starter bar and to the wall. The bracket has a second hook-shaped part **134** that is shaped to fit over the eaves beam and has screw holes **136** therethrough for receiving screws to fix the bracket to the eaves beam. The part **134** has a projection **138** therefrom, which can be used for attachment of a string to the opposite starter bar for checking alignment of the wall plate as will be described later.

[0034] To erect a conservatory roof using the starter bar arrangement illustrated in FIGS. 7 to 10 of the drawings, the starter bars **102** are hooked into place on their respective eaves beams to lie against the wall. The wall plate **100** is then rolled into place to link the starter bars and a plumb line attached to the tongue of the wall plate. A string is fastened between the brackets **124** as described above and the string and the plumb line used to check the alignment of the wall

plate. If the wall is leaning forwards, it may be necessary to move the window frames supporting the roof away from the wall. On the other hand, if the wall is leaning backwards, the wall plate may need to be spaced from the wall by means of packing pieces. In providing the ridge beam for the roof, it will be cut approximately 10 mm short to allow for that much movement of the wall plate from the wall. Once the positioning of the window frames and the wall plate is finalised the various components of the system can be fixed in place.

[0035] The ridge beam and other glazing bars used for constructing the conservatory roof may be of any type, although it is preferred that they be of the type described in our co-pending applications.

1. A securement for securing a conservatory roof to an existing wall comprising a wall plate locatable at a ridge beam end and starter glazing bars mountable between the wall plate and eaves beams, wherein the positions of the wall plate and/or of the starter glazing bars are adjustable relative to the wall and to each other.

2. A securement as claimed in claim 1, wherein the wall plate has a tongue or the like for locating the wall plate at the end of a hollow ridge beam.

3. A securement as claimed in claim 2, wherein securing screws or bolts through the ridge beam and the tongue are used to fix the plate to the beam.

4. A securement as claimed in claim 1, wherein the wall plate is provided with screw or bolt holes to facilitate fixing thereof to the wall.

5. A securement as claimed in any one of claims 1 to 4, wherein the starter glazing bars are provided at opposite ends with means for adjusting their position relative to the wall.

6. A securement as claimed in claim 5, wherein the wall plate has stepped limbs extending from opposite ends thereof on which the starter bars locate.

7. A securement as claimed in claim 6, wherein at their other ends the starter bars have brackets for fixing to the eaves beams.

8. A securement as claimed in claim 7, wherein the brackets are movable on the eaves beams to desired positions relative to the wall, against which the conservatory is being constructed.

9. A securement as claimed claim 7, wherein the brackets have a hook formation that can sit over an eaves beam.

10. A securement as claimed in claim 7, wherein the wall plate and the brackets have attachment positions for strings or the like to be used for aligning the wall plate.

11. A securement as claimed in claim 1, wherein the starter bars are extruded from aluminium.

12. A securement as claimed in claim 11, wherein covers are provided for the starter bars.

13. A securement as claimed in claim 12, wherein the covers are made of plastics material.

14. A securement as claimed in claim 13, wherein the covers are made of uPVC.

15. A securement as claimed in claim 12, 13 or 14, wherein the covers provide a shelf on which glazing panels can sit.

16. A securement as claimed in claim 15, wherein sealing means is provided between the covers and the glazing panels.

17. A securement as claimed in claim 12, 13 or 14, wherein the covers also provide a location for attachment of a cap for sealing on top of the glazing panel.

18. A securement as claimed in claim 17, wherein said sealing is by means of gasket material on the cap.

19. A securement as claimed in claim 18, wherein the gasket material for sealing against the glazing panel is of rubber or other suitable elastomeric material.

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