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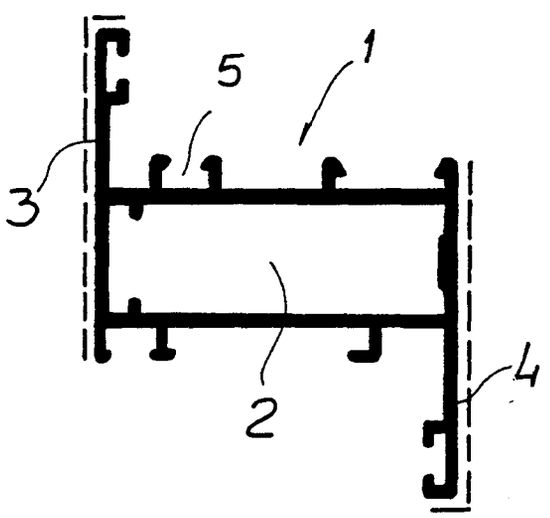
(54) Section member assembly for making window and door frames.

(57) The present invention relates to an assembly of section members for making window and door frames in general, which comprises fixed frame section members defining a box-like body, having at least an abutment leg for engaging with movable-frame section members which define seats for housing fittings for coupling to the fixed frame and seats for engaging with a plate-like element.

There are moreover provided air tightness means of the open joint type, for the windows and with abutment gaskets for the doors.

Fig.1



EP 0 378 977 A2

SECTION MEMBER ASSEMBLY FOR MAKING WINDOW AND DOOR FRAMES

BACKGROUND OF THE INVENTION

The present invention relates to a section member assembly for making window and door frames in general.

As is known, a problem to be solved in making extruded section members made of aluminium and alloys thereof is that of providing a section member assembly including mating section members of small weight and having a high mechanical resistance together with the possibility of easily making tight coupling operations between fixed frames and movable frames.

Another problem to be solved in making the above mentioned section members is that of providing a series of mating section members which are so designed and arranged as to be easily and quickly coupled to one another without requiring complex coupling operations.

SUMMARY OF THE INVENTION

The aim of the present invention is to solve the above mentioned problems by providing a section member assembly, for making window and door frames, which comprises a plurality of mating section members of high mechanical resistance and very reduced weight.

Within the scope of the above aim, a main object of the present invention is to provide such a section member assembly which comprises a plurality of easily mating section members which can be easily coupled to one another for making window and door frames by using simple bracket coupling members adapted to be received inside the section members of the assembly for making corner joints.

Another object of the present invention is to provide such a section member assembly which is very reliable and safe in operation.

Yet another object of the present invention is to provide such a section member assembly which is very competitive from a mere economic standpoint.

According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a section member assembly, for making window and door frames in general, characterized in that said assembly comprises fixed-frames section member, defining a box-like body having at least an abutment leg for engaging with movable-frame section members, which define seats for receiving fixed frame coupling fittings and seats for engaging with a plate-like element, there being moreover provided air tightness means of the open-joint type, for window use, and with abutment gaskets, for door use.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the invention will become more apparent from the following detailed description of a preferred, though not exclusive, embodiment of a section member assembly for making window and door frames in general, which is illustrated, by way of an indicative but not limitative example, in the accompanying drawings, where:

Figure 1 shows a fixed-frame section member for making windows;

Figure 2 shows a fixed-frame section member for making doors and windows, including an enlarged box-like body;

Figure 3 shows a fixed-frame section member for making windows, provided with a side channel element;

Figures 4 and 5 show fixed-frame section members for making windows;

Figure 6 shows a fixed-frame section member for making windows, with side sliding and channel elements;

Figure 7 shows a fixed-frame section member for making windows and doors;

Figure 8 shows a fixed-frame upright section member having a double = box like body;

Figure 9 show a fixed-frame cross-section member for making doors and windows;

Figure 10 show a cross socle for doors;

Figures 11 and 12 show movable-frame section members for making windows;

Figure 13 shows a movable-frame section member for making doors;

Figure 14 shows a movable-frame section member for making balcony doors;

Figure 15 is a cross-sectional view illustrating an open-joint gasket for windows;

Figure 16 shows an abutment gasket for doors;

Figure 17 shows a possible embodiment of a glass restraining element;

Figure 18 is a schematic view illustrating a two-wing window;

Figure 19 shows a cross-sectional view taken along the line XIX-XIX of Figure 18; and

Figure 20 shows another cross-sectional view taken along the like XX-XX of Figure 18.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to the figures of the accompanying drawings, the section member assembly for making window and door frames in general, according to the invention, comprises a plurality of fixed-frame section members, of different size depending on the provided application.

More specifically, figure 1 shows a fixed-frame section member, indicated at the reference number 1, which comprises a box-like body 2 defining, on opposite sides therefor, abutment legs 3 and 4, respectively, for abutting against a wall and engaging with a movable frame.

On the portion of said box-like body 2 facing the movable frame, there is formed a seat or recess 5 for engaging with a gasket.

Figure 2 shows a fixed frame section member 6, for doors and windows, including a central box-like body 7, of enlarged size, in order to provide a greater mechanical strength and with opposite latching elements.

Figure 3 shows a fixed-frame section member 8, having a central box-like body 9 with an abutment leg 10 for the movable frame and with bottom lugs 11.

From one of these lugs 11 a channel element 12 outward extends.

Figure 4 shows a fixed-frame section member 20 for making windows, which does not comprise any box-like body, but is provided with bottom lugs 21 for engaging with the fixed structure.

On the outer part of this section member there is provided an abutment leg 22 for engaging with the movable frame.

Likewise, the fixed-frame section member 25 shown in figure 5 comprises a bottom leg 26 provided for abutting against the fixed structure.

Figure 6 shows a fixed-frame section member for making windows and doors, indicated at the reference number 30, which comprises a box-like body 31 provided with an abutment leg 32 and having, at the bottom thereof, lugs 33 for coupling with a fixed type of structure.

Figure 7 shows a fixed-frame section member 35 for making windows, which comprises an open body 36 which, on a side, is coupled to a channel lug 37 and, on the other side, is coupled to a chute section member 38.

Figure 8 shows a fixed-frame upright section member 40, which comprises a first and second box-like bodies 41 and 42.

The second box-like body 42 is provided, on opposite sides thereof, with coupling recesses or seats, generally indicated at 43.

The section member 45 shown in figure 9 can be used as a cross-member for the fixed frame, both for doors and windows, and is provided with a middle box-like body 46 therefrom a top leg 47 and a bottom leg 48 extend.

Figure 10 shows a socle 50, including a rectangular box-like body 51, provided, at the bottom thereof, with coupling lugs 52 and, at the top thereof, with an abutment leg 53.

Figures 11 and 12 show window movable-frame section members 55 and 56 which are respectively provided with a top leg 57 and a bottom leg 58 arranged on the same side and with a top leg 59 and bottom leg 60 which are arranged on opposite sides.

Figure 13 shows a movable-frame section member 61 for doors which comprises a central box-like body 62, including a top leg 63 and a bottom leg 64 oppositedly arranged with respect to a lug 65.

Figure 14 shows a balcony movable-frame cross-section member 80 which has a central box-like body 71 including, on the same face, a top leg 72 and a bottom leg 73.

Figure 15 is a cross-sectional view illustrating a window open joint and is herein clearly shown that by mutually coupling the section members 55 and 56 a middle chamber is formed therebetween, indicated at 74 which, on its outside, is closed by a lip gasket 75 supported by the section member 55 and adapted to be abutment engaged on a slanted leg 76 defined by the section member 56.

Figure 16 show a door joint therein there is provided an abutment gasket 78 which is supported by the section member 61 and is coupled with the lug 65 defined by the opposite section member 61.

Figure 17 shows a glass restraining element 80 which can be made with different size and is provided with coupling opposite teeth 81 and an arm 82 defining a seat 83 for engaging with the gasket.

Figures 18 to 20 schematically show a two-wing window made by mutually coupling the above disclosed section member.

Another important feature of the inventionis that the window and door frames can be made by simply using corner brackets which can be introduced into the box-like bodies formed inside the subject section members.

From the above disclosure it should be apparent that the invention fully achieves the intended aim and objects.

While the invention has been disclosed and illustrated with reference to preferred embodiments thereof, it should be apparent that the preferred

embodiments are susceptible to many modifications and variations all of which will come within the spirit and scope of the appended claims.

Claims

1. A section member assembly for making window and door frames, characterized in that said assembly comprises fixed-frame section members, defining a box-like body, having at least an abutment leg for engaging with movable-frame section members, defining seats for housing coupling fittings for coupling to a fixed frame and seats for engaging with a plate-like element there being moreover provided air tightness means of the open-joint type for windows and with abutment gaskets for doors.

2. A section member assembly according to Claim 1, characterized in that said assembly comprises a section member having a central box-like body therefrom two opposite top leg and bottom leg extend.

3. A section member assembly according to the preceding Claims, characterized in that said assembly comprises a fixed-frame section member for making windows, including a box-like body therefrom extends an abutment leg for the movable frame and being provided with bottom lugs for coupling to a fixed structure.

4. A section member assembly according to one or more of the preceding Claims, character ized in that said assembly comprises a window fixed-frame section member having a box-like body from a side of which extends an abutment leg for the movable frame and from another side of which there extends channel element defining lugs.

5. A section member assembly according to one or more of the preceding Claims, characterized in that said assembly comprises a window fixed-frame section member having an open body defining on a side a channel element lug and, on another side, a chute element.

6. A section member assembly according to one or more of the preceding Claims, characterized in that said assembly comprises a fixed-frame upright section member having a first and second box-like bodies, adjoining one another said second box-like body including, on opposite faces thereof, coupling seats.

7. A section member assembly according to one or more of the preceding Claism, characterized in that said assembly comprises window movable-frame section members defining a box-like body therefrom abutment bottom and top leg extends, said legs being respectively arranged on the same side and on opposed sides.

8. A section member assembly according to one or more of the preceding Claims, characterized in that said air tightness means, of the open joint type, comprise a lip gasket associated with one of the movable frame section members and adapted to be abutment engaged with a slanted leg provided on the opposite section member.

9. A section member assembly according to one or more of the preceding Claims, characterized in that said abutment gasket tightness means comprise a gasket element engaged in a leg of the section members and adapted to the abutment engaged against a lug defined by the opposite section member.

Fig.1

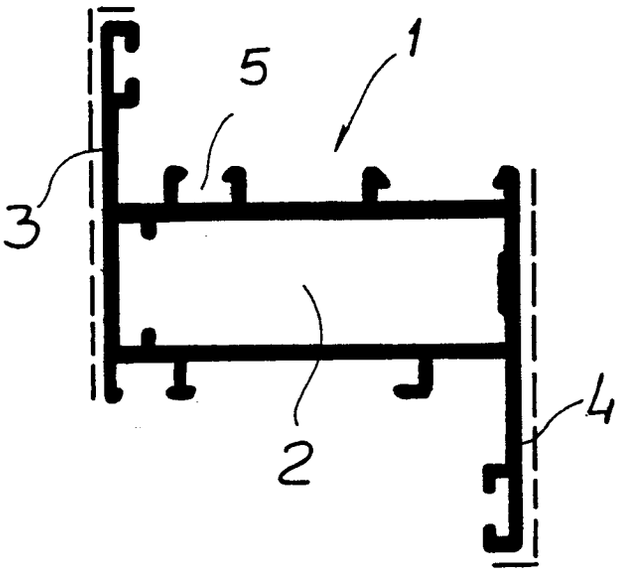
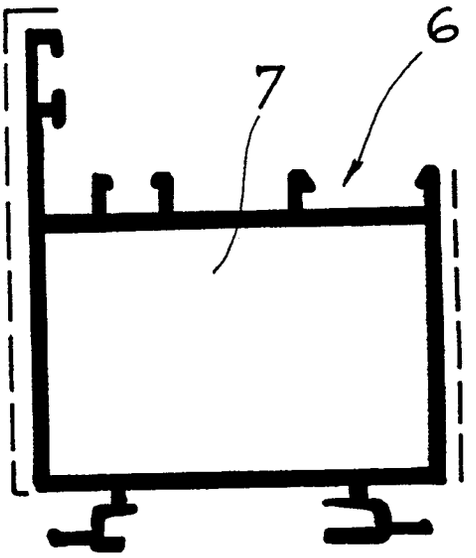


Fig.2



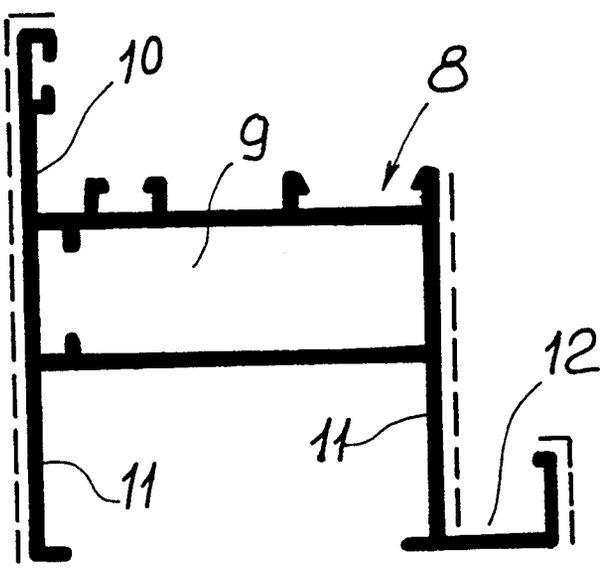


Fig.3

Fig.4

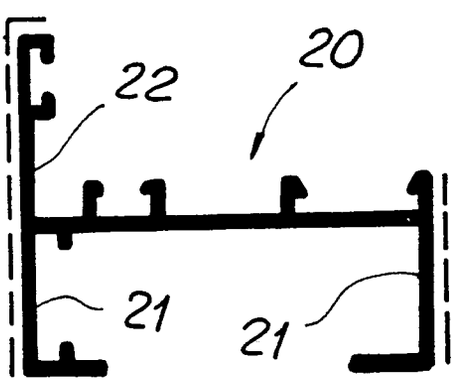


Fig. 5

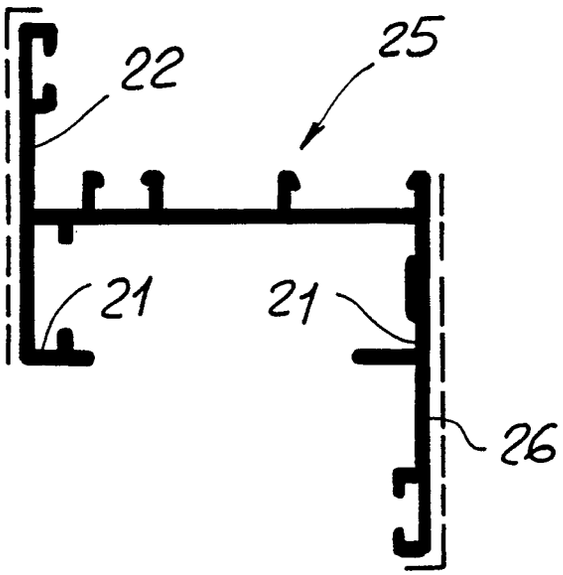
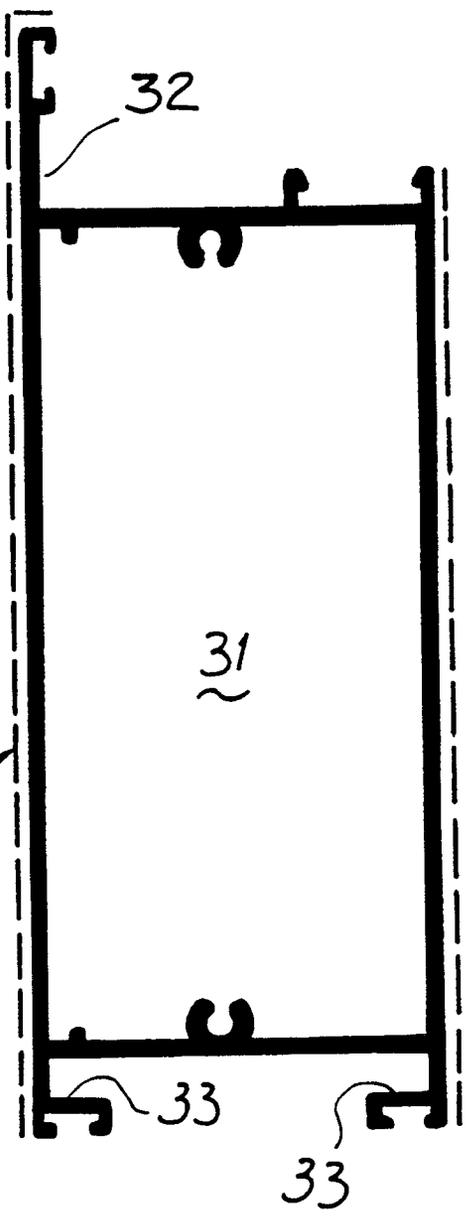


Fig. 6



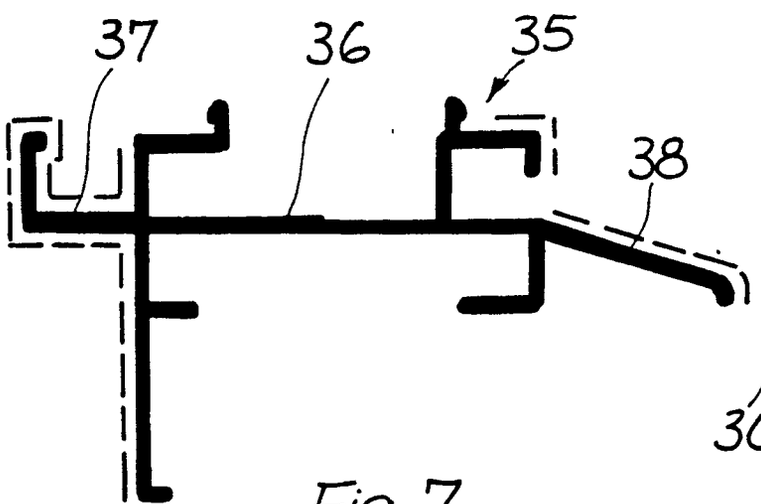


Fig. 7

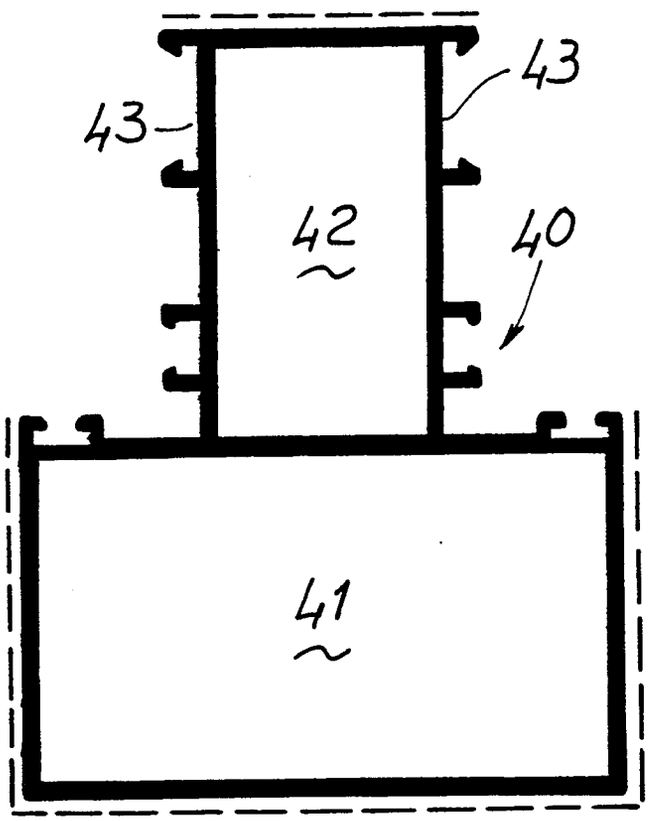


Fig. 8

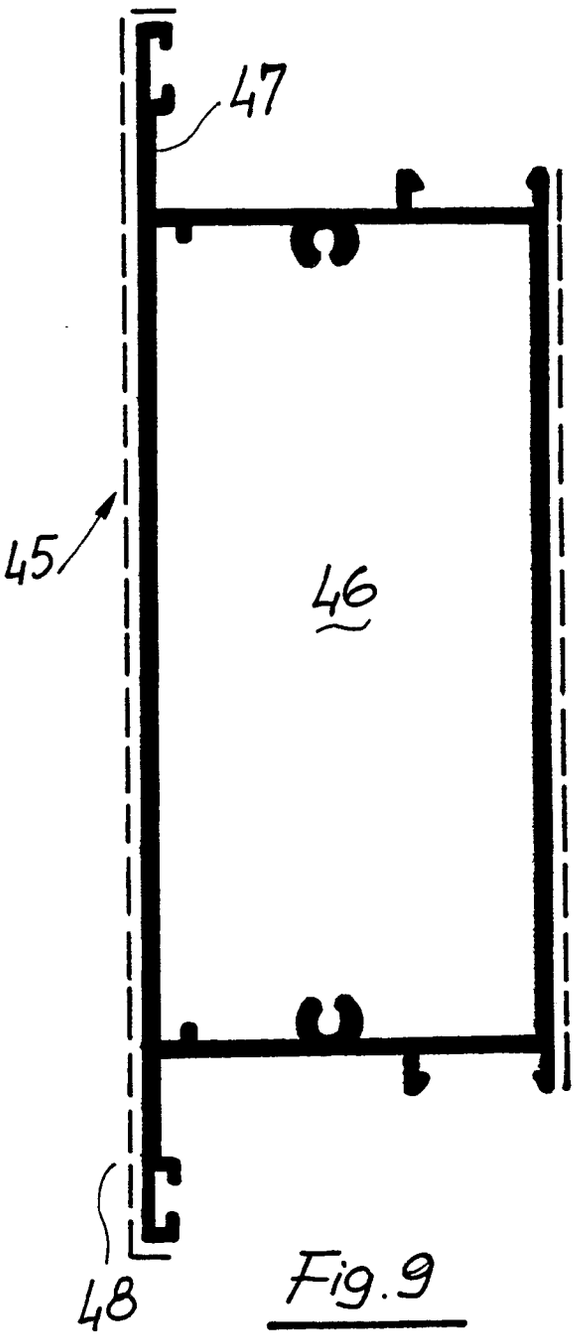
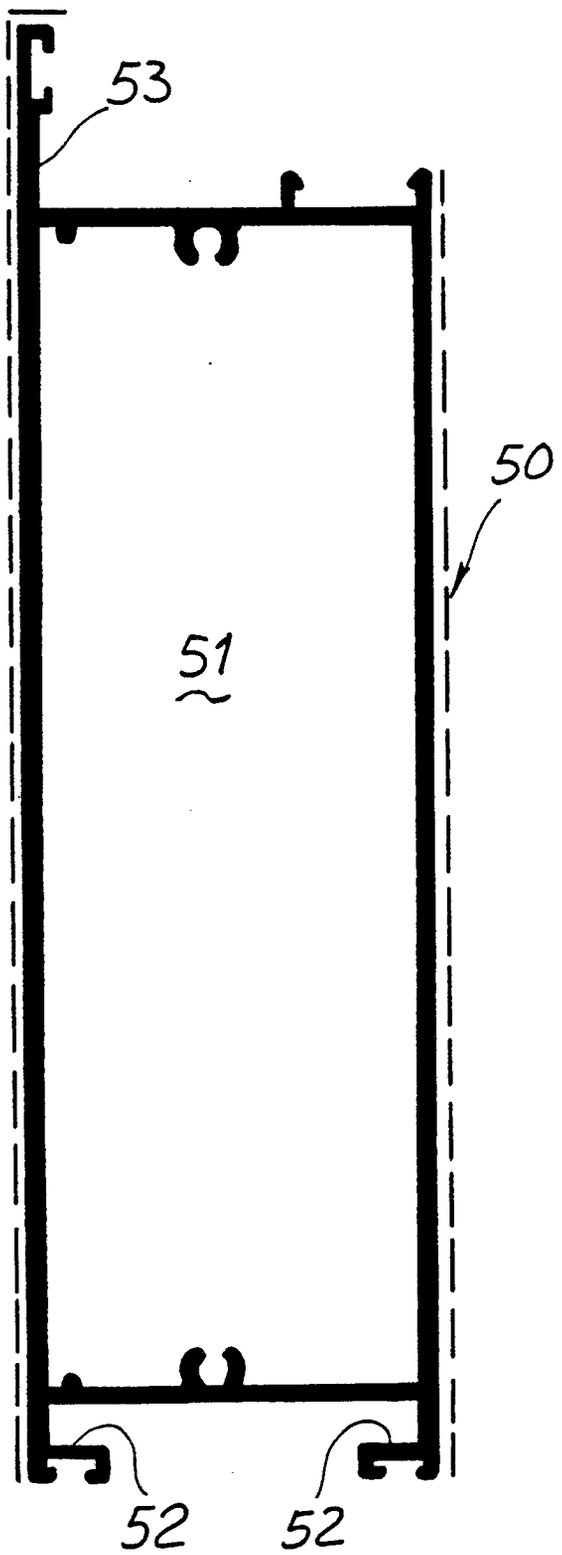


Fig. 9

Fig.10



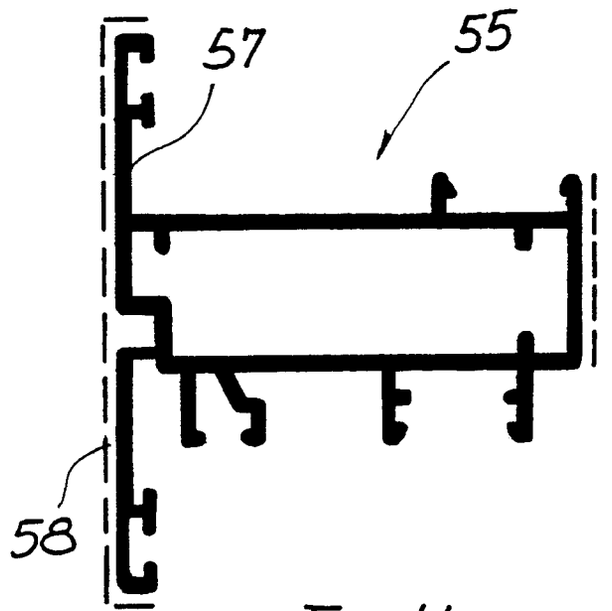


Fig.11

Fig.12

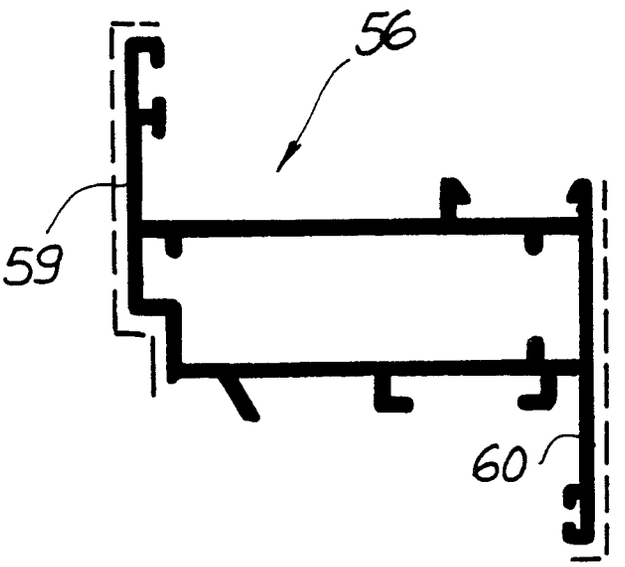


Fig.13

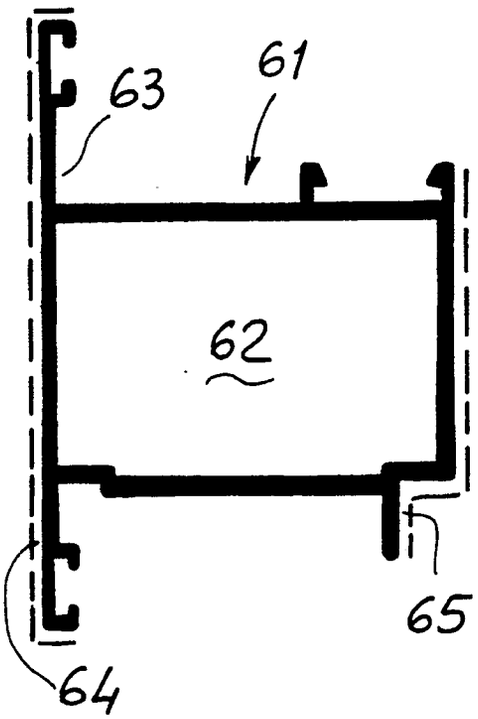


Fig.14

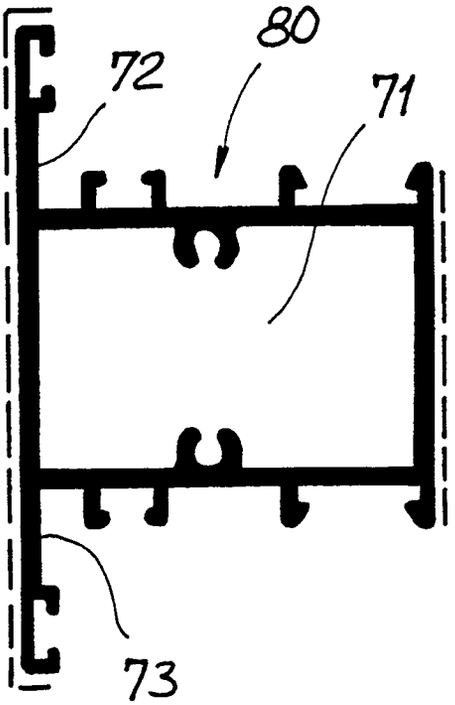
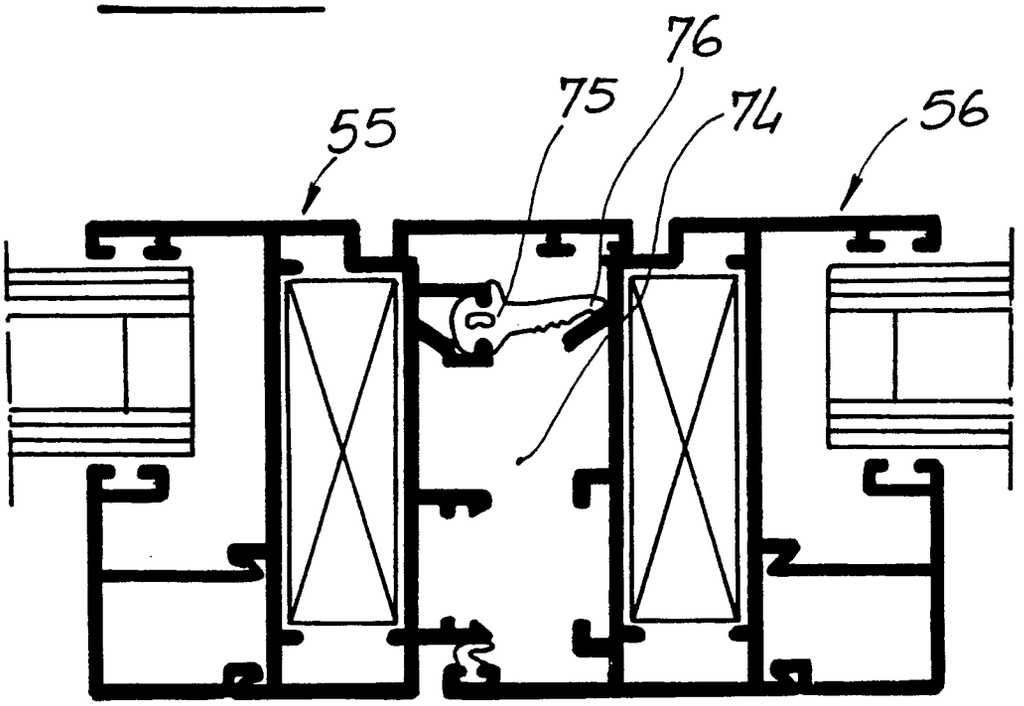


Fig.15



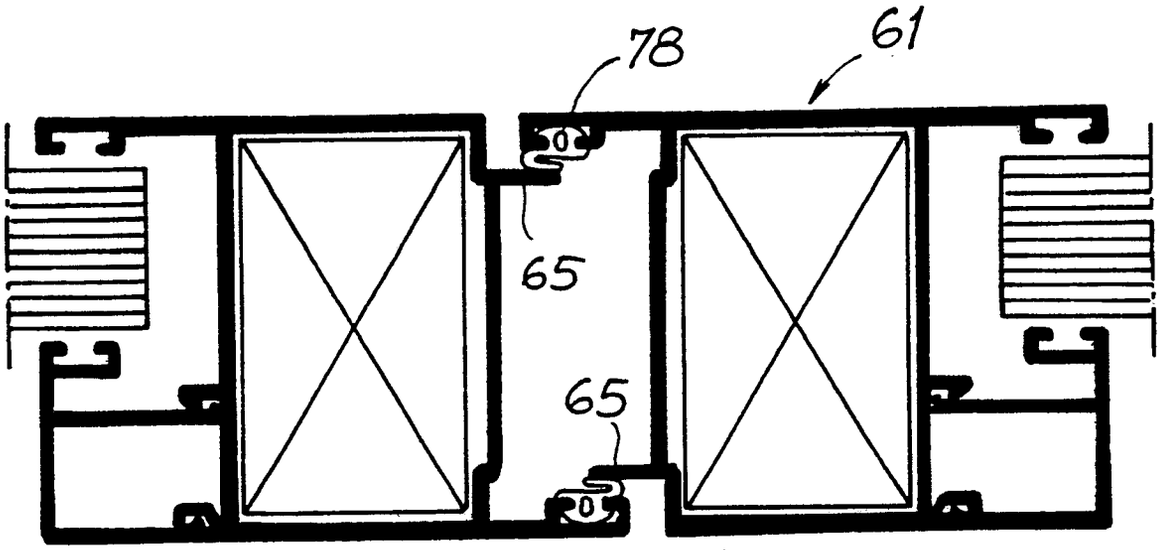


Fig.16

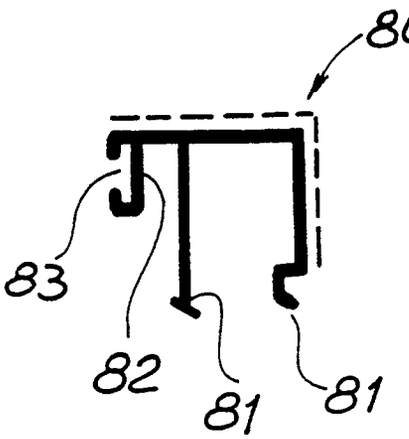


Fig.17

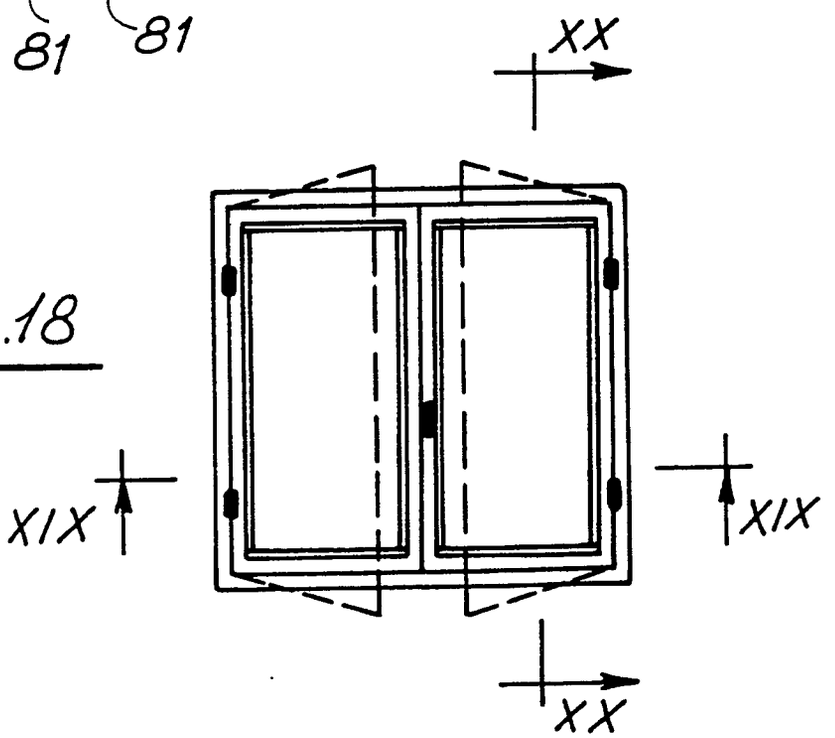


Fig.18

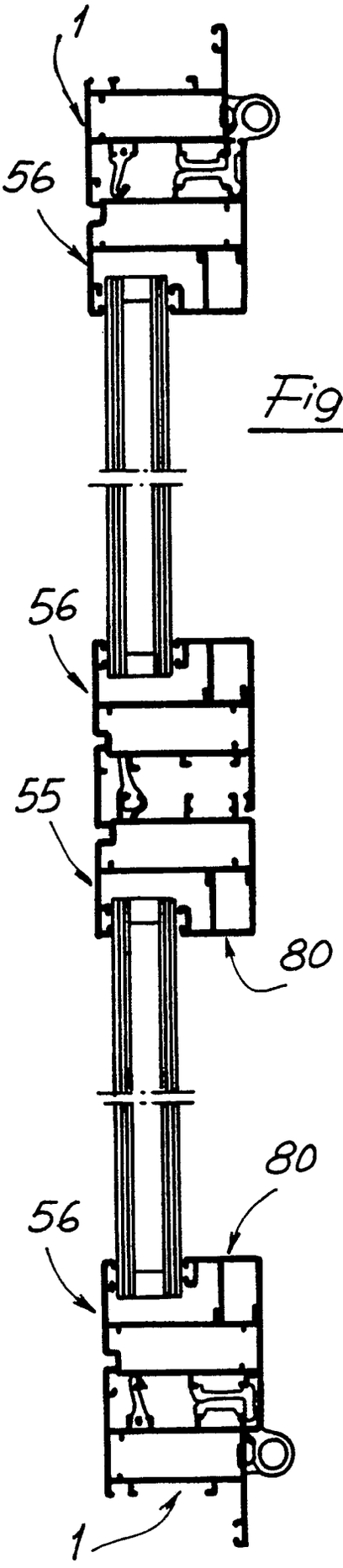


Fig.19

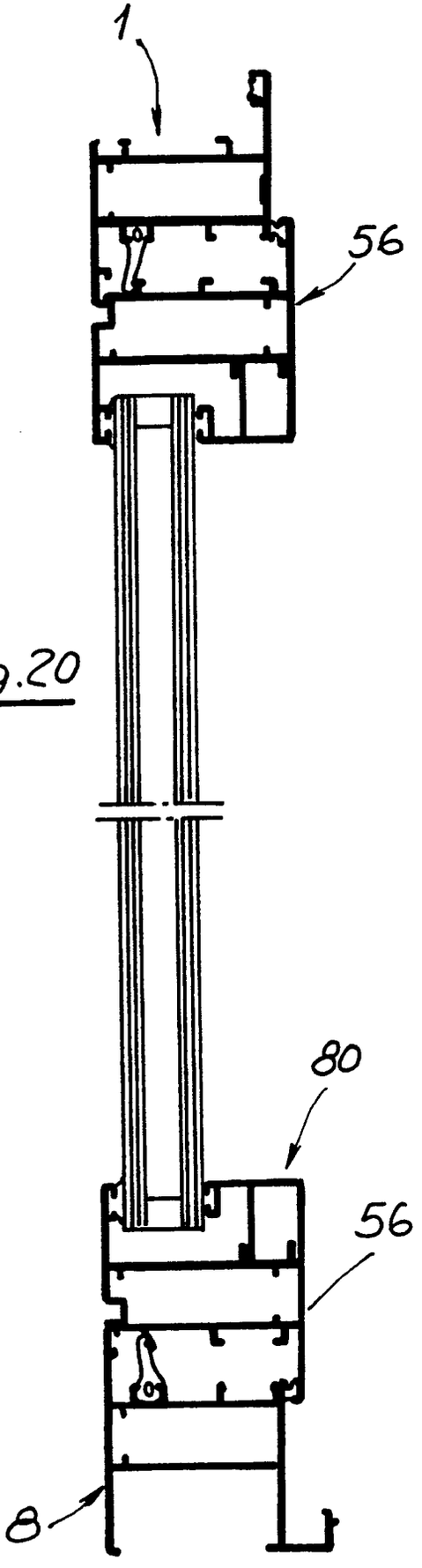


Fig.20