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(54) Section member assembly for making wing blinds.

(57) There is disclosed a section-member assembly for making wing blinds susceptible to include tilting door members and/or central uprights, which blinds are made of slats, optionally including a closure movable or fixed blade.

This assembly essentially comprises an open section member which can be snap engaged in a section member defining the uprights and cross-members of the wing and adapted to restrain the end portions of the slats as well as to house spacer plates.

The assembly further comprises section members which can be snap applied on the bottom cross-member and on a portion of the frame uprights for making tilting door members.

Blades are furthermore provided which can be coupled to the slats and can be suitably turned, as well as means for simplifying the making of the central uprights.

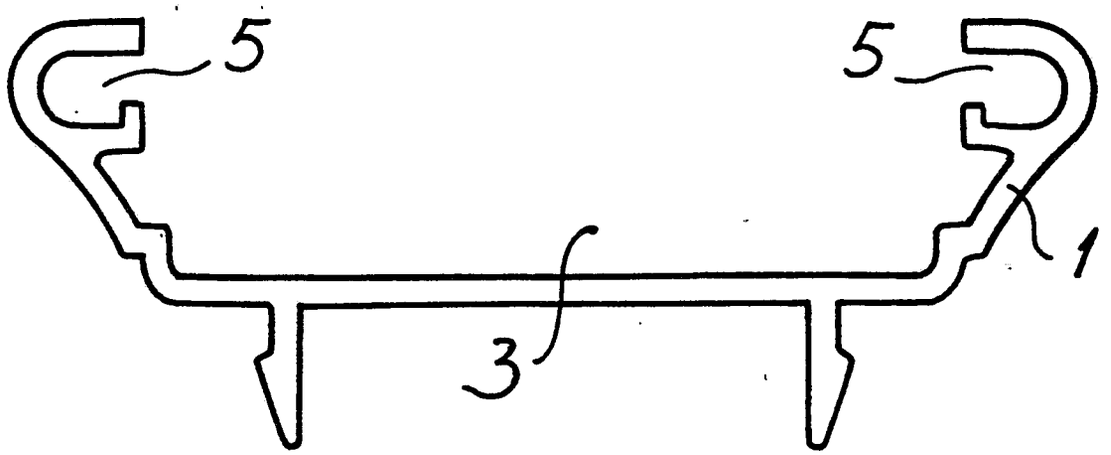

Fig.1

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BACKGROUND OF THE INVENTION

The present invention relates to a section member assembly including a plurality of cooperating section members for making wing blinds which can be provided with tilting door members and/or central uprights and are made by slats which can be provided with a closing movable blade.

As is known, wing blinds generally comprise wing panels including a bearing frame which bears a plurality of thin blades or slats which are suitably inward slanted.

Also known is the fact that different types of blinds are generally used, mainly depending on the geographical zone of the buildings to which these blinds are fitted.

More specifically, in addition to conventional blinds, there are also known blinds provided with tilting door members, as well as blinds which are provided with a central upright.

At present, the above mentioned blinds are advantageously usually made starting from aluminium section members, or light allow section members which are mutually assembled to form the blind.

The thus made blinds, however, can have an aspect which prevents these blinds from being used on buildings to be recovered or put in order mainly buildings of historical places.

Moreover, conventional blinds are exclusively provided for partially obstructing the light passage but they are not adapted to fully darken the rooms of a building.

To the foregoing the fact must be added that with available blind components, the blinds provided with a central upright, that is the so-called french blinds, require a very long assembling time.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by providing a section member assembly, for making wing blinds, in which the slats can be aesthetically assimilated to wood slats so as to provide wing blinds of general purpose use.

Within the scope of the above aim, a main object of the present invention is to provide such a section member assembly which affords the possibility of making wing blinds adapted to allow a continuous variation of the light passing through the blind.

Another object of the present invention is to provide such a section member assembly which facilitates the making of blinds including blind wings and a blind central upright.

Yet another object of the present invention is to provide such a section member assembly which affords the possibility of easily making blinds including door members and which, with the door members in their closed condition, are substantially aesthetically equivalent to a conventional type of blind.

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 coordinated assembly for making different types of wing blinds, characterized in that said assembly comprises an open section member, for snap engaging in a section member defining the uprights and cross-members of the blind wing and adapted to restrain end portions of blind slats as well as to house spacer plates, said section member assembly further comprising further section members which can be snap applied on the bottom cross-member of the blind and on a portion of the blind frame uprights, for making tilting door members, and turning blades, which can be coupled to said slats, as well as means for facilitating the making of the blind central uprights.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the coordinated section member assembly for making wing blinds according to the present invention, will become more apparent from the following detailed description of preferred embodiment of the section members of this assembly which are illustrated, by way of an indicative but not limitative example, in the figures of the accompanying drawings, where:

Figure 1 shows an open section member of the assembly which can be snap engaged in the blind wing uprights;

Figure 2 schematically shows the tubular section member defining the blind slats of a conventional type of wing blind;

Figure 3 shows a spacer plate adapted to operate as a spacer element for the blind slats;

Figure 4 is a partial horizontal cross-sectional view of the blind;

Figure 5 is a vertical cross-sectional view of the bottom cross-member of the wing and of the

section member associated therewith;

Figure 6 is a partial vertical cross-sectional view of the above blind;

Figure 7 shows the section member forming the slats of a blind including inner blades for interrupting the light passage;

Figures 8 and 9 show two closing blades which can be individually coupled to the above mentioned section member;

Figure 10 shows another type of blind slat bearing a closing blade;

Figure 11 shows, in an exploded form, the device for driving the above mentioned blades;

Figure 12 shows a casing of said device;

Figure 13 shows a schematic partial cross-sectional view of a blind, with a portion of the blind blades in an open condition and a portion of said blind blades in a closed condition;

Figure 14 shows a blind provided with tilting door members;

Figure 15 is a side view of the blind shown in figure 14, the door member being open;

Figures 16 and 17 are respective horizontal cross-sectional views of a wing of the mentioned blinds respectively taken along the section line A and B;

Figure 18 is a partial schematic view of the blind wing, the wing component elements being represented in an exploded form;

Figure 19 shows a blind including blind wings provided with a central upright;

Figure 20 schematically shows a possible method for assembling the component elements or parts of the blind.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to the figures of the accompanying drawings, the coordinated section member assembly for making wing blinds according to the invention comprises, for making a conventional type of wing blind, an open section member 1 which is so designed as to be adapted to be snap engaged with a further section member 2 defining the uprights and cross-members of the blind wings.

In the middle recess 3 of this open section member there is engaged one of the end portions of a plurality of blind slats 4 of elongated tubular shape, which slats define the blind "grill".

The open section member, moreover, is provided with inward facing perimetrical recesses or hollows 5 which are adapted to receive a rhomboidal plate 6 adapted to hold a given spacing between two adjoining slats.

In this connection it should be apparent that the slat spacing or pitch can be changed at will by changing the height or thickness of said plate.

A substantially C shaped section member 7 is moreover provided having outward facing arrow edges, which section member is provided for snap engaging in the two top and bottom horizontal portions of the frame of the blind.

This section member has the function of finishing the perimetrical frame of the blind and close the gap remaining in the section member of the blind wing.

More specifically, as it is desired to make a blind which affords the possibility of fully obstructing the passage of the light therethrough, there is used a C-shape slat 8 having a restraining top recess or seat 9.

On the inner side of this slat is engaged a blade 10, of a suitable shape, which is rotatively engaged in the above mentioned restraining seat.

More specifically, said blade is provided with a restraining longitudinal seat 11 therein there is engaged a lug 12 perpendicularly extending from a bracket 13 provided with opposite projecting pins 14.

The several brackets, as locked on corresponding blades, are interconnected by means of reversible rods 15 in turn provided with end throughgoing holes 15 therein engage the pin members of alternate brackets.

These rods, in particular, are provided with a right angle bent lug 17 which perimetrically extends from one of the longitudinal sides and is provided with a central throughgoing hole 18.

For assembling the blind, after having mutually coupled all of the blind blades, the bracket and rod assembly is covered by a casing 19 adapted to conceal the assembly and simultaneously restrain said rods on their corresponding brackets.

By driving the rods either upward or downward, the related blades 10 are caused to rotate so as to arrange said blades in a vertical position or cause said blades to return to a slant position inside the slat.

In this connection it should be pointed out that said blades are furthermore provided with a bottom seat 20, therein a linear gasket 21 can be engaged.

Accordingly, as the blades are vertically arranged, their related gaskets will bear on the underlaying slats thereby fully preventing light from passing through.

The displacement, either upward or downward, of the mutually interconnected rods 15 is performed by a spring biassed knob 22 which is firmly engaged in the front hole 18 of one of the rods.

Obviously, at the rod which has been selected depending on the desired height, there will be provided, through the mentioned casing, two holes 23 which communicate through a slot and are

formed at the two positions relating to closed blades and open blades respectively.

Alternatively, on the inner portions of the slats 8 can be snap engaged, with a bilateral type of restraining arrangement, a fixed blade 24 provided with a downward facing lug 25 and also bearing, at the bottom thereof, a tightness gasket 26 which presses on the underlaying slat.

To the two end portions of the mentioned casing, moreover, a closure plug member 27 can be applied.

The thus made blind, in actual practice, is so designed as not to alter the aesthetic aspect of conventional types of blinds, since it is aesthetically equivalent to the latter, while providing the possibility of fully darkening the room to which the subject blind is applied.

In this connection, it should be moreover pointed out that the disclosed movable blades, with their related driving devices, or the fixed blades can also be applied on blinds including slats of different size, such as the above mentioned blind slat 4, or the blind slat 28 of figure 10, or other blind slats the contour thereof is provided for meeting with given aesthetical requirements.

In each case, the blind slats must be provided with suitable seats for restraining, either unilaterally or bilaterally, the blades.

The subject section member assembly further comprises three other section members 29, 30 and 31 which, as mounted on a base section member 32, defining a blind wing will afford the possibility of making an openable door member which has been overally indicated at the reference number 33 in figures 14 and 15.

These section members, in particular, permit an openable door member to be obtained which is flush arranged with respect to the section mem bers forming the blind wing.

More specifically, the section member 31, or abutment section member, can be snap engaged in the side seat or recess of the blind wing portions provided for receiving the door member.

The section member 30, in turn, defines the blind uprights and bottom cross member (which is provided with an abutment gasket) of the door member.

These uprights and bottom cross member are assembled at 45° by means of self threading screws and define, substantially, a frame open at the top thereof, in which there are housed blind slats of the above mentioned types, to be specifically selected depending on requirements.

The section member 29, on the other hand, operates as a thickness compensating element for the fixed portion of the blind wings and is coupled to the wing frame above the door member so as to equalize the width of the related uprights.

As shown, the door member frame is formed, on three sides thereof (the lateral and bottom sides) by the section member 30, whereas on its fourth side it is restrained, by a suitable-thickness rod 34, engaged in one of the slats and held under tension, at its threaded end portions by means of two nuts 35.

In particular, the top portion of the ring door section member and the bottom portion of the top section member 29 are cut, at the connection zone thereof, at about 45° (depending on the slant of the slats) in order to facilitate the outward opening of the door member.

Moreover, for covering the cut portion of the above mentioned section members 30 and 29 there are provided suitable plug members 36 and 37.

In this connection, it should be pointed out that the door member is pivoted on two pins 38 which are affixed to the frame of said door member and engaged in a suitable slot 39 which is formed, by milling, on the section member 31, the stability of the door member in its open position being assured by an arm member 40.

The section member assembly according to the present invention further comprises a plug spacer element 41 for forming the central upright 42 included in the wing blind or blinds of the so called french type, and indicated at 43.

This spacer elements afford the possibility of easily making the central upright without the need of preliminarly cutting the slats into two portions with a consequent great reduction of the processing and assembling time.

The spacer element 41 assentially comprises a tubular body, the top and bottom contours of which reproduce the two longitudinal half portions of a generic slat 41 and also reproduce the slant of said slat conferred to said slat by the side spacer elements 45.

These tubular bodies, in particular, are provided on the front and rear surfaces thereof, with suitable lugs 46 and corresponding restraining seats 47 adapted to provide a firm coupling of the superimposed plug members, while assuring a perfect vertical alignment thereof.

On the superimposed plug members, moreover, which are usually made of a plastic material, as the above mentioned lateral spacer elements, there will be then snap applied, both on the outer and on the inner surface thereof, electrical wire covering aluminium members 48, so as to provide the construction with a metal and continuity aspect.

From the above disclosure it should be apparent that the subject coordinated section member assembly fully achieves the intended aim and objects.

While the invention has been disclosed and

illustrated with reference to some preferred embodiments thereof, it should be apparent that the disclosed embodiments are susceptible to several 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 wing blinds, characterized in that said section member assembly comprises an open section member adapted to be snap engaged in a section member provided for forming the blind wing uprights and cross-members and adapted to restrain end portions of slat members, and to house spacer blades, said section member assembly further comprising further section members which can be snap engaged on the bottom cross-member and a portion of the uprights of frames for making tilting door members, and rotary blades which can be coupled to said slats as well as means for simplifying the making of central uprights.

2. A section member assembly, according to claim 1, characterized in that said open section member is provided with a middle recess therein is engaged one of the end portions of said tubilar section member, having an elongated shape and cooperating for providing a plurality of slats adapted to form the grill of a blind.

3. A section member assembly, according to one or more of the preceding claims, characterized in that said open section member is provided with inward facing perimetrical recesses adapted to house said spacer plates, having a rhomboidal shape, the pitch or spacing between said slats being changed by varying the height of said spacer plates.

4. A section member assembly, according to one or more of the preceding claims, characterized in that said section member adapted to be snap engaged on the top and bottom cross-members of the blind wing is provided with a substantially C-shaped cross-section with outward facing arrow edges.

5. A section member assembly, according to one or more of the preceding claims, characterized in that said section member assembly comprises a C-shaped slat having a top restraining seat and on the inner side of which is engaged a blade, of suitable shape, which is rotatively coupled in said restraining seat, said blade having a restraining longitudinal seat therein there is engaged a lug perpendicularly extending from a bracket including opposite projecting pins.

6. A section member assembly, according to one or more of the preceding claims, characterized in that said brackets, as locked on corresponding blades, are interconnected by reversible rods having end throuhgoing holes therein there are engaged the pins of alternate brackets, said rods being provided with a respective right angle bent lug which perimetrically extends with respect to one of the longitudinal sides and including a central throughgoing hole.

7. A section member assembly, according to one or more of the preceding claims, characterized in that said brackets and rods are assembled and covered by a casing adapted to connect said rods to the corresponding brackets, said rods being adapted to be upward or downwrad displaced so as to cause said blades to rotate, said blades having each a bottom seat therein there is engaged a tightness gasket.

8. A section member assembly, according to one or more of the preceding claims, characterized in that said interconnected rods are upward and downward displaced by means of a spring biassed knob which is firmly engaged in a front hole of one of said rods, at said one rods there being formed, through said casing, two holes which communicate through a slot and are formed at positions which correspond to blades either in a closed or in an open condition.

9. A section member assembly, according to one or more of the preceding claims, characterized in that said section member assembly comprises a blade including a downward facing lug and bearing a tightness gasket which can be applied, by a bilateral type of connection, inside the slats of the blind.

10. A section member assembly, according to one or more of the preceding claims, characterized in that the movable blades, with the related driving device, or the fixed blades,can also be applied on blinds including slats of different size, said slats including seats for unilaterally or bilaterally restraining said blades.

11. A section member assembly, according to one or more of the preceding claims, characterized in that said section member assembly comprises three section members which, as applied on a base section member, defining a blind wing, are adapted to provide an openable door projecting member, said section members, in particular, providing an openable front member with a front side which does not project from but is included within the overall size of the section members forming said blind wing.

12. A section member assembly, according to one or more of the preceding claims, characterized in that one of said section members is adapted to be snap engaged in the side seat of a blind wing portion provided for receiving said door member, whereas a second section member provides the uprights and bottom cross-member, provided with

an abutment gasket, of said door member, said two section members being assembled at 45° by self-threading screws and substantially providing a frame open at the top thereof therein there are housed slats, said section member operating as a thickness compensating member for the fixed portion of the blind wing and being coupled to the wing frame above said door member so as to equalize the width of the related uprights.

13. A section member assembly, according to one or more of the preceding claims, characterized in that the frame of said door member is restrained at the top thereof by a rod engaged within one of said slats and held under tension, at its threaded end portions by two threaded nuts, the top portion of the section member of the door member and the bottom portion of the top section member being cut, at the joining zone thereof, at about 45° in order to facilitate the outward opening of said door member.

14. A section member assembly, according to one or more of the preceding claims, characterized in that said door member is pivoted on two pins affixed to the frame of said door member and engaged in a slot formed, by milling, in the abutment section member, an arm member being moreover provided for firmly restraining said door member in its open position.

15. A section member assembly, according to one or more of the preceding claims, characterized in that said section member assembly further comprises a plug spacer member for forming the central upright of a french type of blind, said spacer element essentially comprising a tubular body the top and bottom contours of which reproduce the two longitudinal half portions of a generic slat and also reproduce the slant conferred to said slat by the lateral spacer elements.

16. A section member assembly, according to one or more of the preceding claims, characterized in that said tubular bodies are provided, on the front and rear surfaces thereof, with suitable lugs and corresponding restraining seats, adapted to provide a firm connection of the superimposed plugs and to perfectly perfectly aling said plugs.

17. A section member assembly, according to one or more of the preceding claims, characterized in that on said superimposed plug members, which are usually made of a plastic material, as well as said lateral spacer elements, there are snap applied, both on the outer and on the inner side, electrical wire covering members, made of aluminium and adapted to provide the assembly with a metal and continuity aspect.

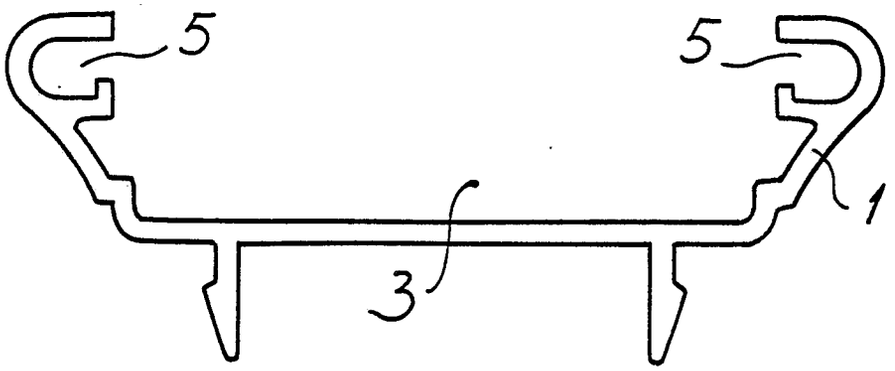


Fig.1

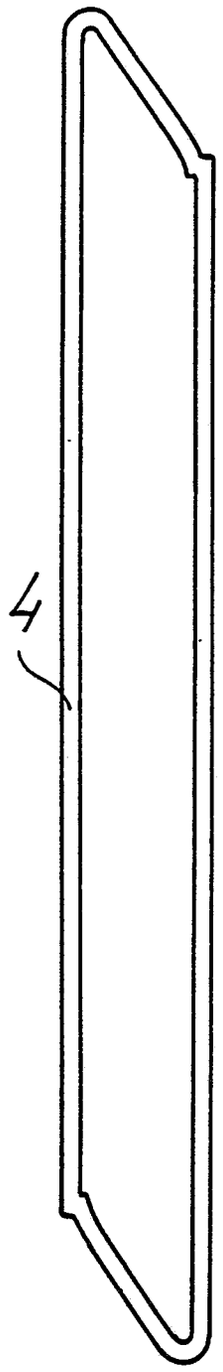


Fig.2

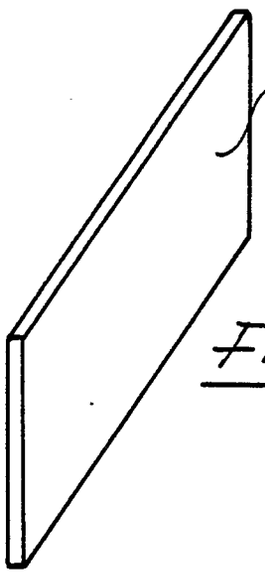


Fig.3

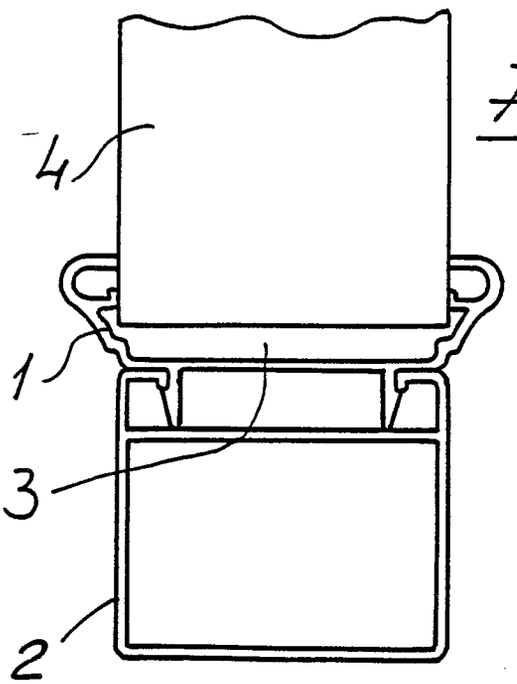


Fig.4

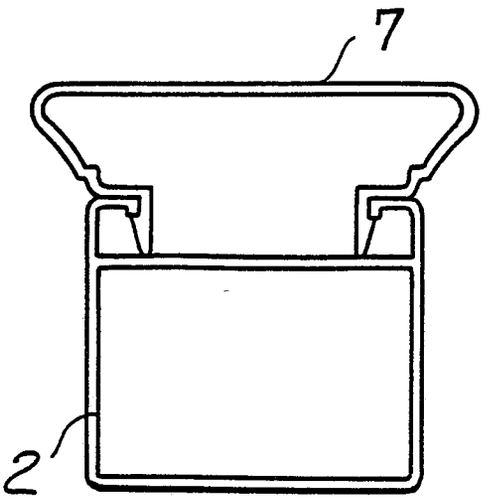


Fig. 5

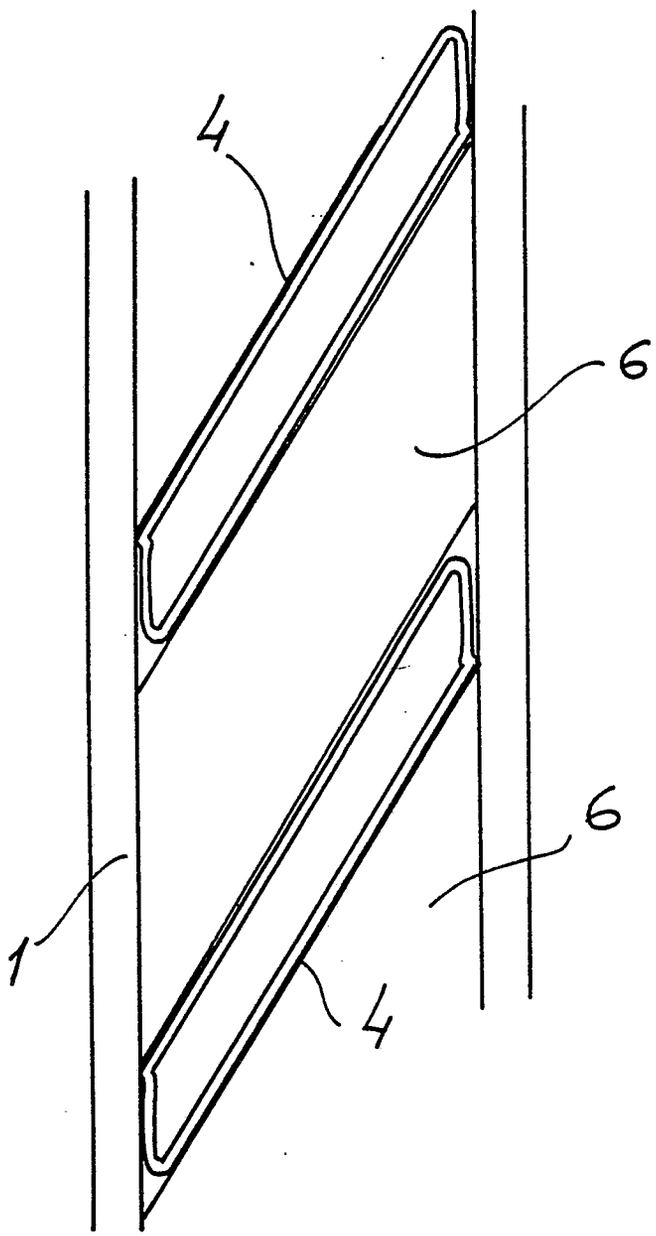


Fig. 6

Fig. 7

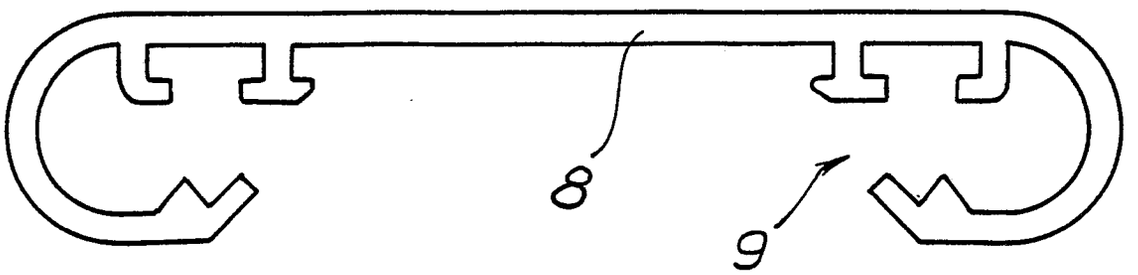


Fig. 8

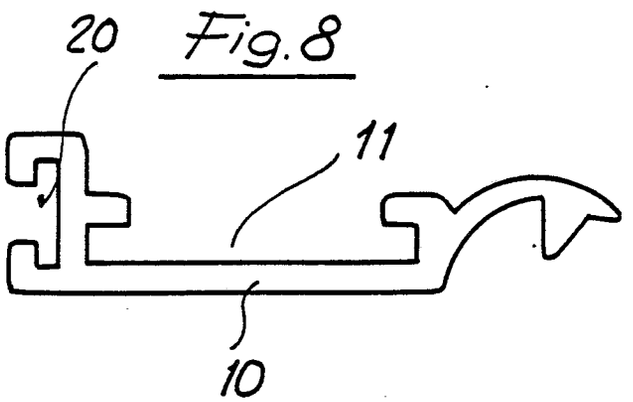


Fig. 9

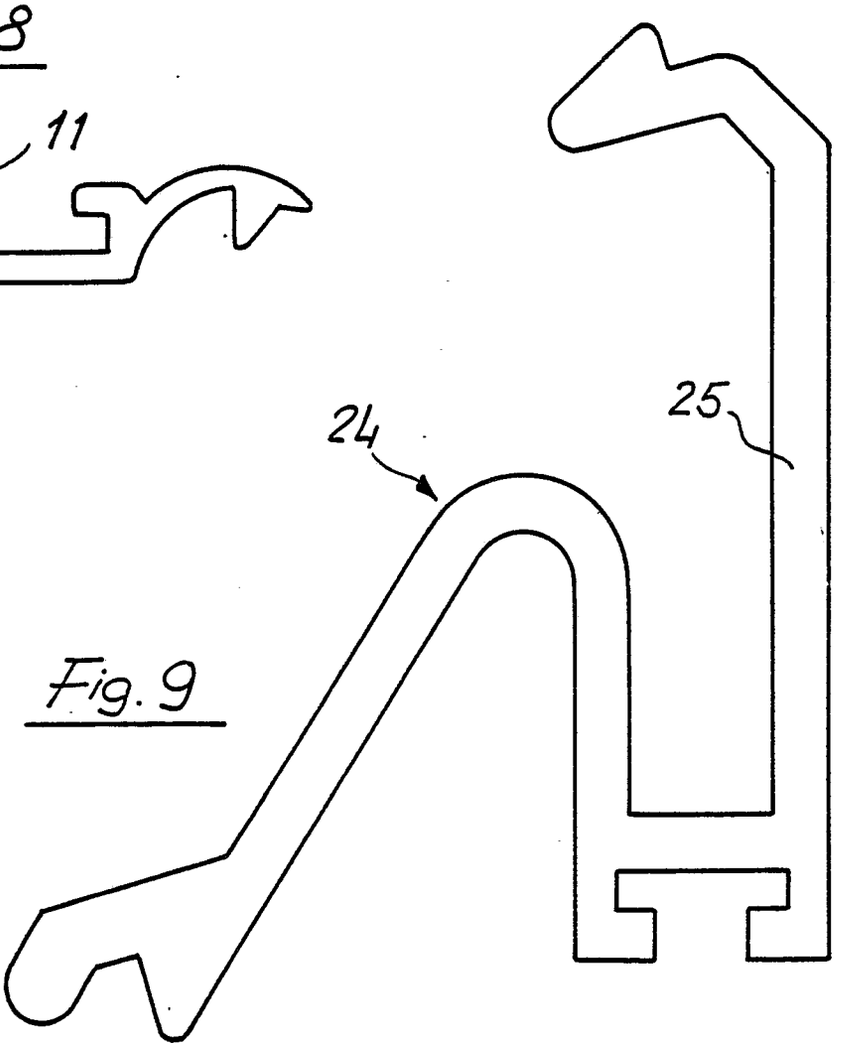


Fig.10

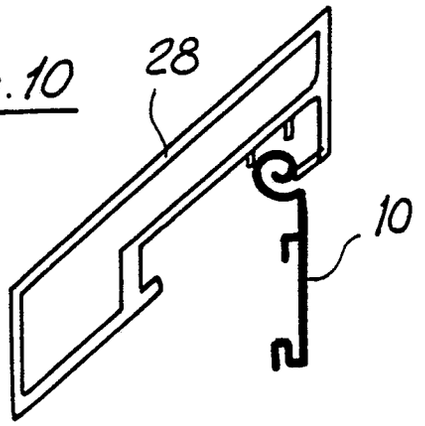


Fig.11

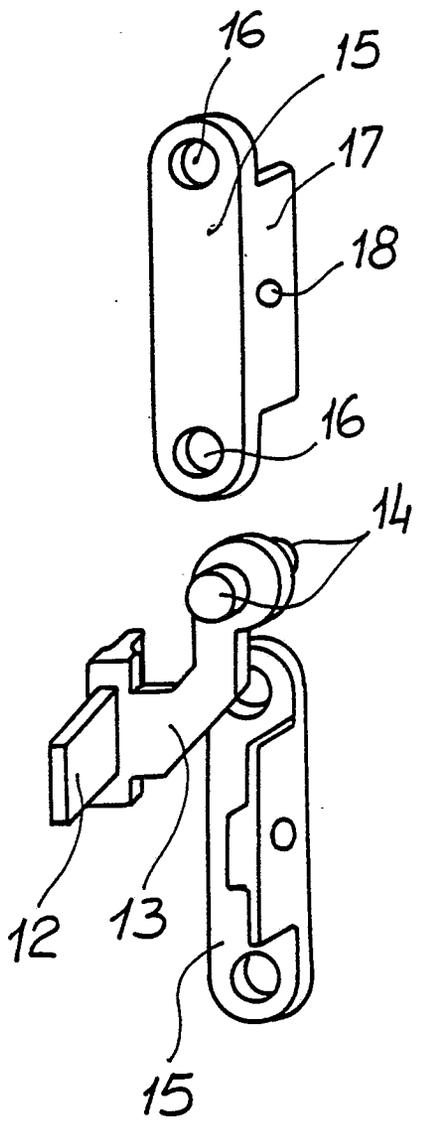


Fig.12

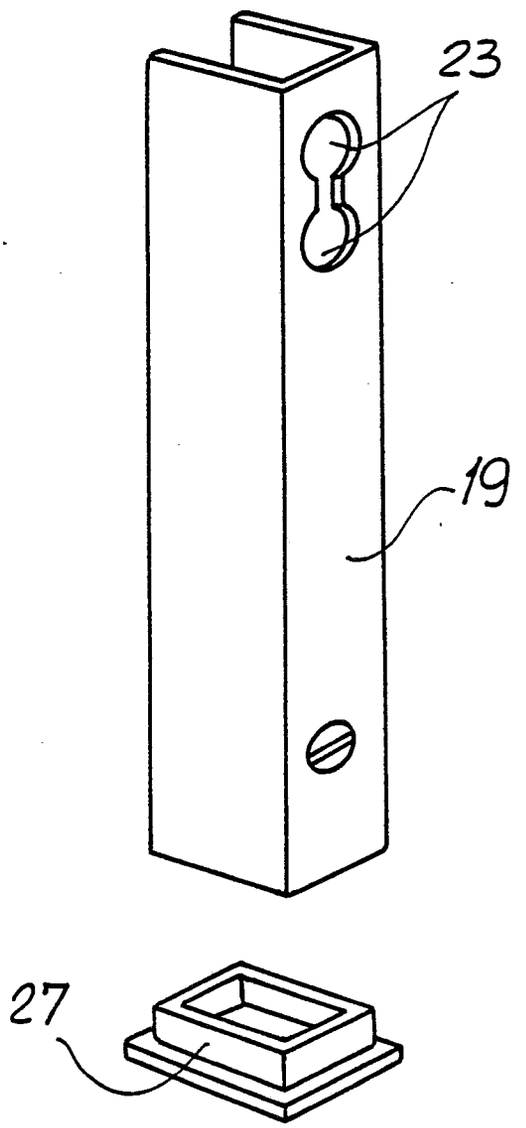


Fig.13

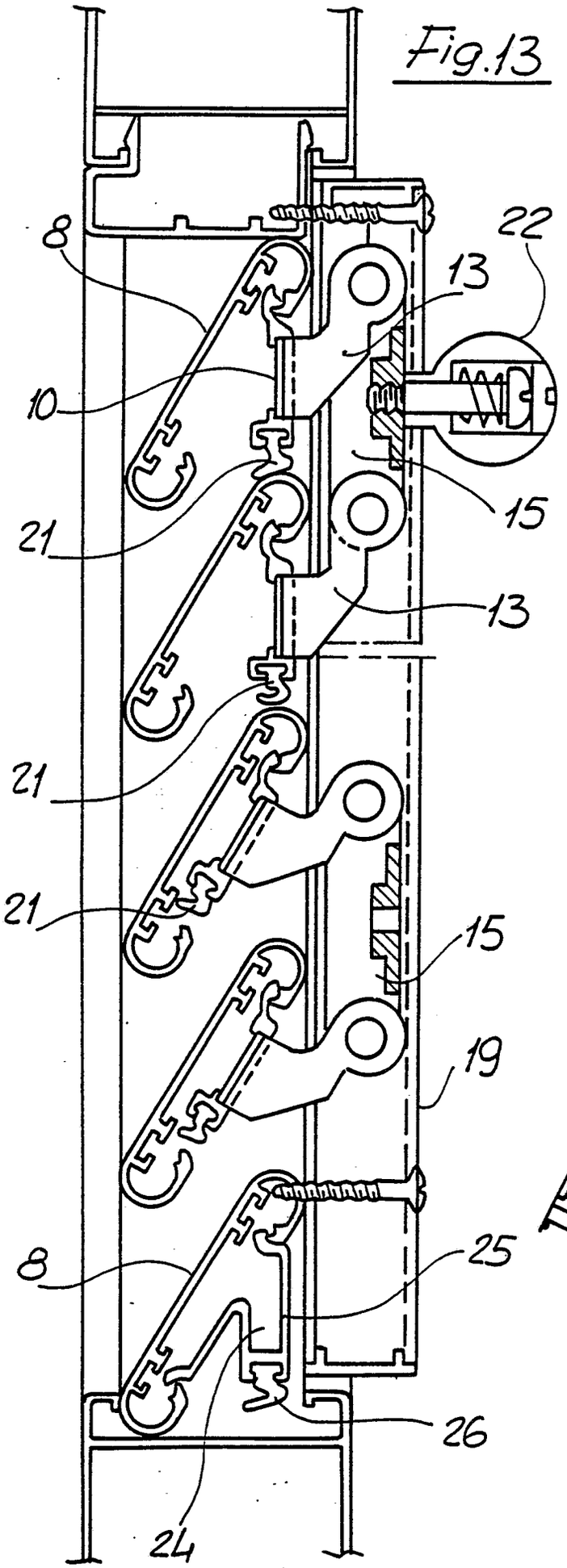
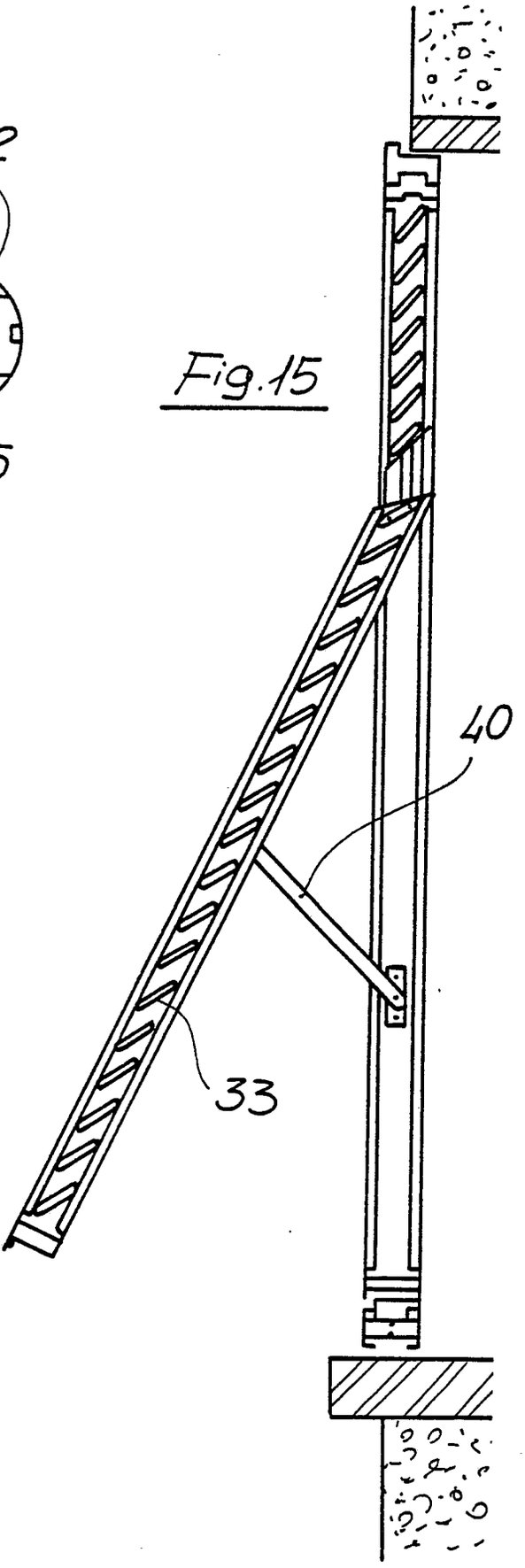


Fig.15



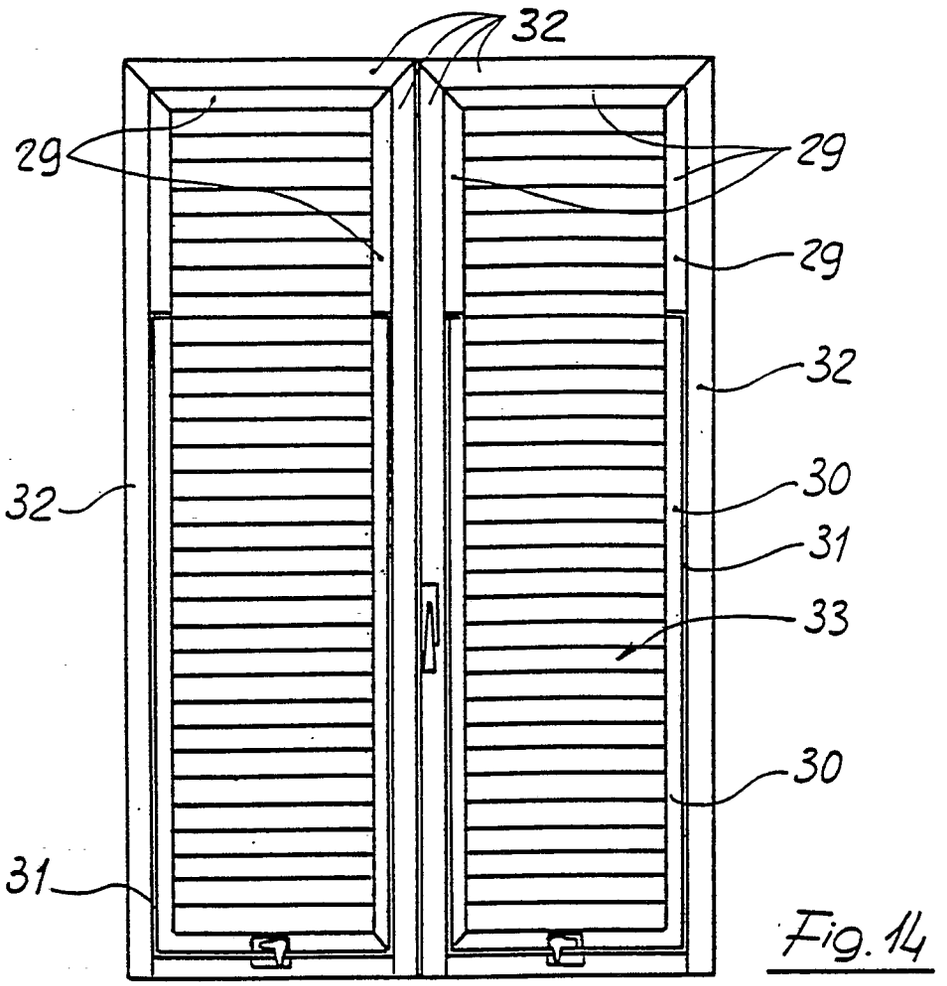


Fig.14

Fig.16

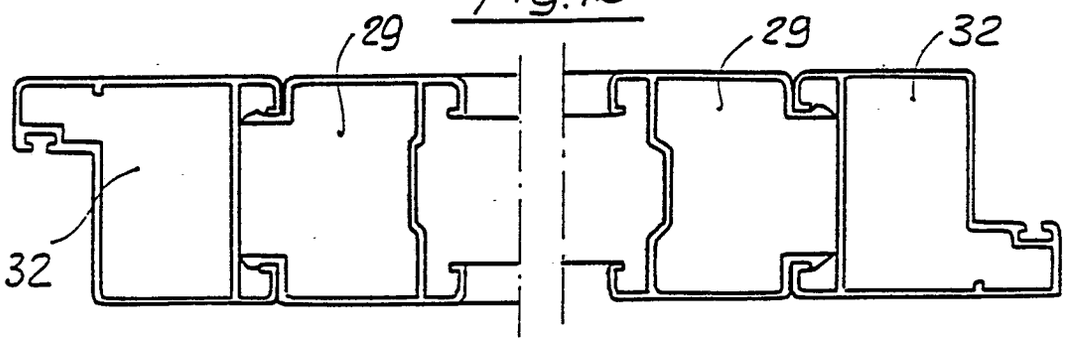
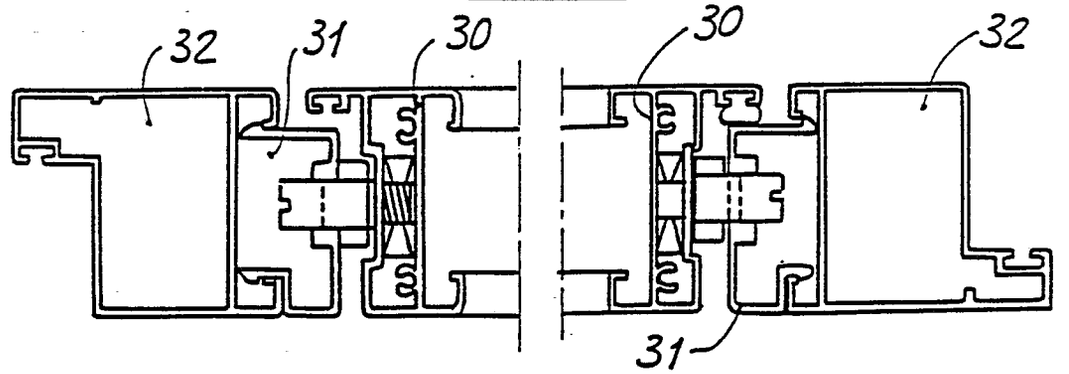


Fig.17



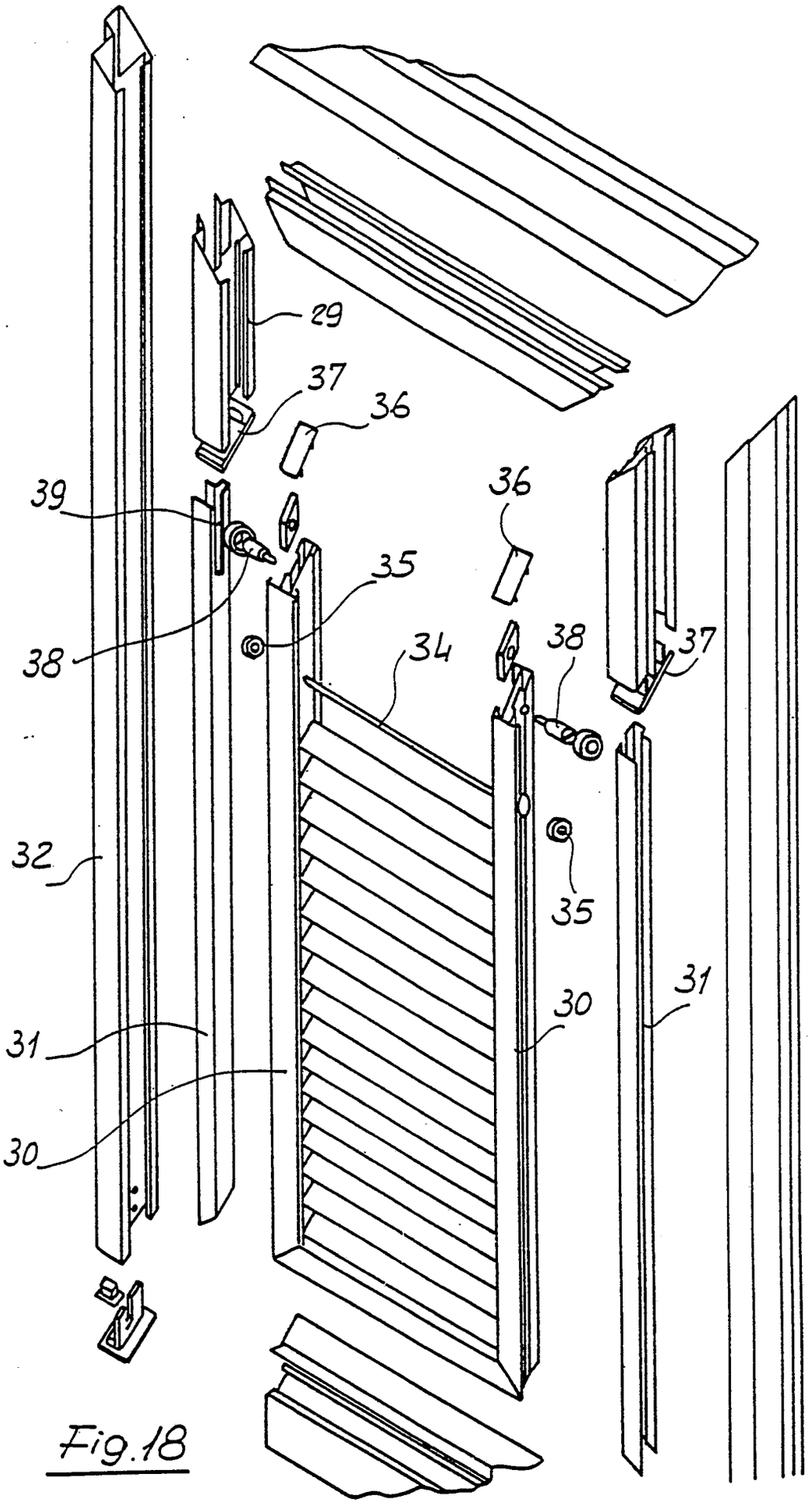


Fig.18

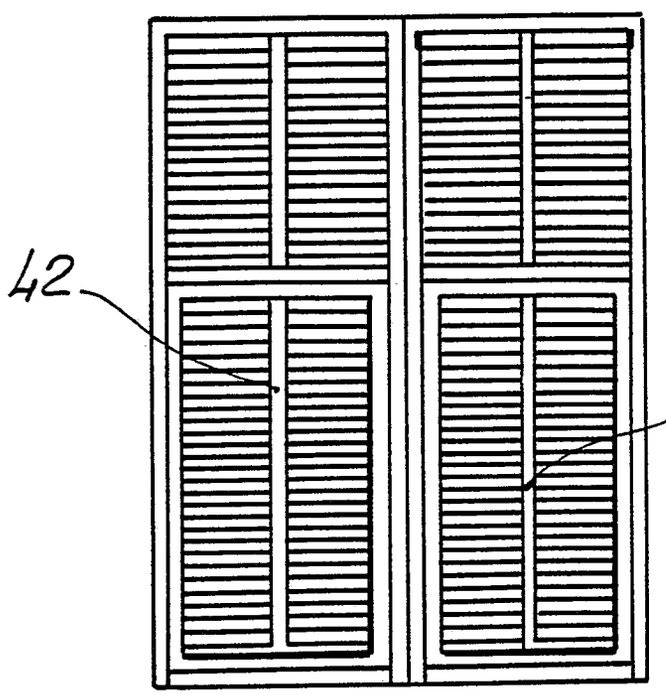


Fig.19

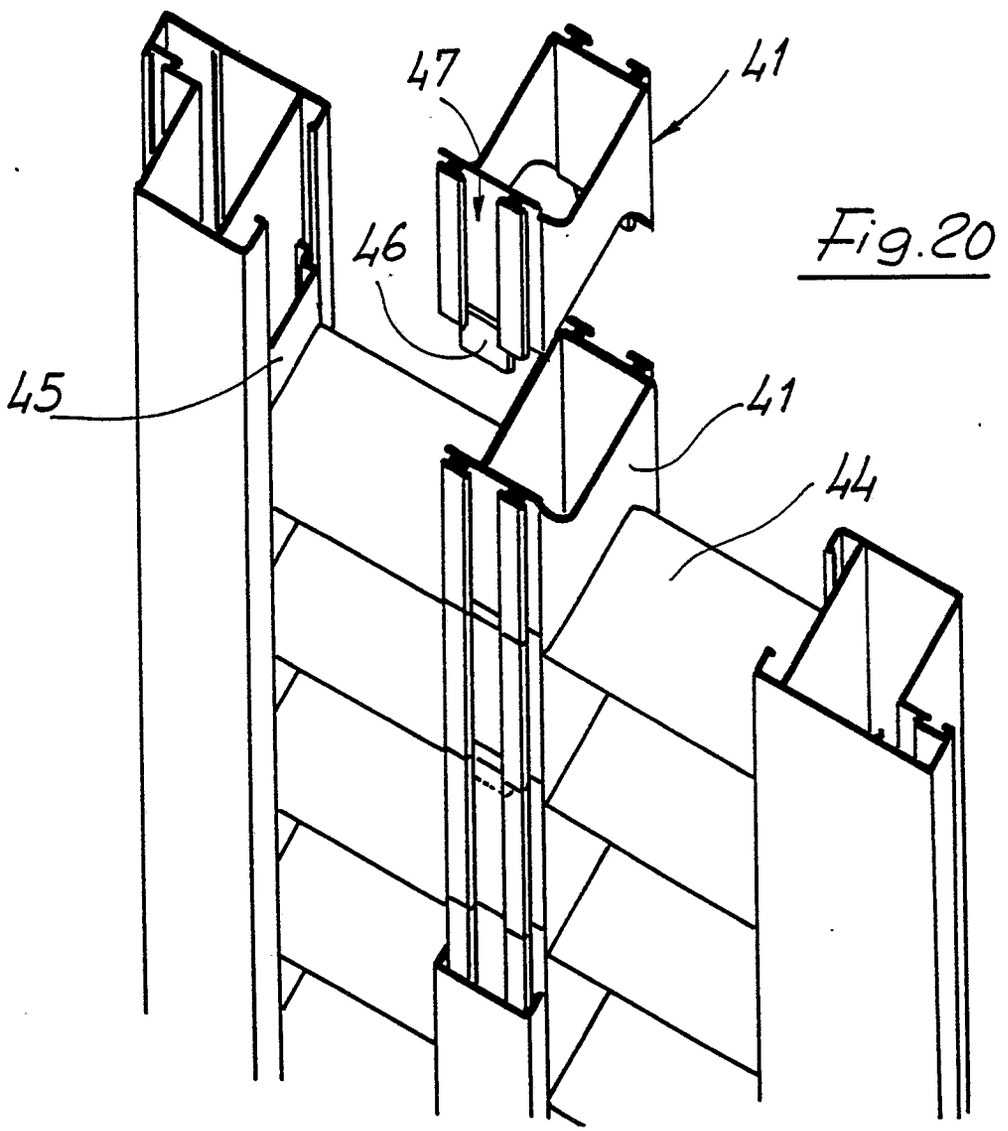


Fig.20