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(54) **Shutter with adjustable lamellae and outer covering**

Fensterladen mit schwenkbaren Lamellen und äusserer Abdeckung

Volet à lamelles basculantes avec revêtement extérieur

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Description

[0001] The present innovation proposes a darkening shutter with adjustable lamellae the peculiarity of which is a particular outer covering.

[0002] In general this covering system permits a shutter to be covered in order to give the manufactured article characteristics of resistance without the necessity of an upkeep.

[0003] There is a clear-cut improvement both in appearance and practice because it is possible to obtain a perfect darkening of the shutter when the lamellae are in their closed position. The present innovation falls within the field of shutters and in particular in the field of darkening shutter with adjustable lamellae, such as those patented by the same applicant in utility model application No. VR98U000020.

[0004] As it is known, a shutter is formed by a frame, which is rectangular in general and within which a plurality of transversal boards or lamellae is mounted obliquely.

[0005] The shutter is thus a structure for closing a window and it can be adjusted from a closed position to an opened position. When the shutter is in its closed position, it prevents the light to enter from the outside while in its opened position, the shutter permits the air to enter in.

[0006] In the solution as patented in the aforesaid application by the same applicant, a suitable means is provided to guarantee a complete darkening of the adjustable lamellae when they are in their closed position.

[0007] In this way, it is possible to intervene in any situation in which it is necessary to prevent light to filter in.

[0008] The present innovation relates to another improvement of the shutter according to which improvement it is possible to solve many problems related to an upkeep of the manufactured article, especially in proximity to the outer part and to better the aesthetic appearance of the article in question.

[0009] In fact, the present solution permits to solve some aspects that in general were disregarded in this specific field till now, i.e. the aspects connected with an upkeep of the outer side of the shutter. These aspects are directly connected with the aesthetic appearance and the endurance of the shutter itself.

[0010] As it is known, the shutters must be treated on their external sides periodically because the inclemency of the weather and the atmospheric agents damage both the wooden surface of the frame and above all the wooden surfaces of the adjustable lamellae in a short time.

[0011] The French patent FR 1558865 reveals a roller shutter with covering elements that are adjacent to the wooden lamella. In this way the external wood surface is protected by the cover, but, in case of wood volume alteration due to humidity or other weather agents, the covering elements will change their shape as well.

[0012] Besides the adjacent position of the metal covering and the wood lamellae creates a thermal flux from the metal covering to the wood lamellae, not permitting the formation of an insulating space which can be very useful during summer and winter.

[0013] The aim of the present innovation is the removal of the above described inconveniences by using a simple device that improves the characteristics of the outer side of the shutter, which side is subjected to a great wear and tear.

[0014] Another aim of the present innovation is an improvement of the characteristics of the rolling shutter by mounting particular covering elements that are very simple to be installed.

[0015] The above described aims and the relevant advantages are reached according to the present innovation through a darkening shutter with adjustable lamellae and outer covering, characterized by the fact that covering inserts in metallic and/or plastic material or other suitable materials, preferably aluminium or bronze or the like, are applied to the external side of the shutter, such covering elements being inserted both in each lamella of the shutter and in the supporting frame thereof.

[0016] Further features and details of the present innovation will be better understood from the following description, which is given as an example not limiting the innovation itself, based on the accompanying drawings wherein:

- Fig. 1 shows a schematicalview in vertical section of an example of a shutter for a window;
- Fig. 2 shows a schematical view in vertical section of an example of a shutter for a French window with an intermediate cross-piece;
- Fig. 3 shows a detail in vertical section of the coupling between the covering elements and the adjustable lamellae of the shutter;
- Fig. **4** shows a schematical view in horizontal section of an example of a shutter with two wings;
- Figg. 5-9 show schematical views in vertical section of forms of sections for covering the frame of the shutter, which sections are mounted on the respective structure;
- Figg. 10-16 show schematical views in section of all the sections of the present innovation.

[0017] With reference to the accompanying figures, number 1 denotes a shutter for a window. This shutter is represented on the whole in Fig. 1 and consists essentially of movable doors 2 showing horizontal crosspieces, a fixed frame 3 and a series of adjustable listels 4.

[0018] In some cases, as in a French window, there is an intermediate cross-piece 5, as it can be seen in Fig. 2, which gives a greater solidity to a structure developing in the height.

[0019] The peculiarity of the innovation consists in conceiving and carrying out a series of sections in a metallic and/or plastic material or other suitable materials,

preferably aluminium or bronze or the like. These sections cover the external surfaces of the aforesaid components of the shutter.

[0020] In particular, there are sections 6, 7 and 8, which are represented in Figg. 10, 12 and 13, respectively and are shaped in such a way as to be applied to the lower horizontal cross-pieces of a shutter in form of a movable door 2 while there are sections 9 (Figure 16) that are applied to the upper horizontal cross-pieces of the movable door.

[0021] In addition, there are sections 10 (Figure 11) that are positioned on all the vertical uprights of the movable doors and on the external framing of the fixed frame as well as sections 11 (Figure 15) that are applied to the intermediate cross-pieces 5 of a shutter for a French window.

[0022] Finally, there are sections 12 (Figure 14) that are positioned in the outside of the adjustable listels 4 and act as supporting and rotating elements for supporting and rotating the listels 4. More precisely, the sections 6-11 are fixed, i.e. they are mounted and fixed on the cross-pieces and the uprights of the doors and respective frames whereas the sections 12 are shaped in such a way as to be mounted on horizontal pivots and rotate around these pivots together with the adjustable listels.

[0023] In fact, each section 12 is provided with a hole 13 through which a pivot 14 passes.

[0024] The ends of the pivot 14 are fixed to the inner sides of the vertical uprights of the movable doors. In this way, the listels are adjustable because the aforesaid pivot is connected with the vertical uprights of the movable doors.

[0025] All the above-described elements are provided with coupling means which connect them with the respective support of the rolling shutter, the support of the shutter being usually made in wood.

[0026] The said means comprises inner seats 15 which are coupled with known connecting elements 16. The connecting elements 16 are applied to suitable points of the respective supports of the shutter.

[0027] Finally, there are sealing elements 17 that are put in suitable seats, obtained along the inner edges of the shutter, such elements being sealing elements for the sections of the adjustable lamellae when they are in their closed position.

[0028] All the so-described sections, i.e. the sections represented in Figures 10-16, are removable and if necessary, they are therefore replaceable for any necessity.

[0029] As it can be seen, the so-described covering system improves those aspects that are in general disregarded in the specific field, namely, the aspects relating to an upkeep of the outer part of the shutter, which aspects are directly connected with the aesthetic appearance.

[0030] In fact, the aluminium sections, which are mounted on the outer side of the shutter, give the shutter itself characteristics of higher resistance to the inclemency of the weather and thefore a longer duration than the known solutions because the outer aluminium surfaces are more resistant than the outer wood surfaces. In addition, the aesthetic aspect of the shutter is improved because there are valuable finishes that make the shutter more pleasant.

[0031] It can be seen that the whole outer part is made of aluminium while the whole inner part in made of wood and therefore, it is not possible to see wood components from the outside while it is not possible to see metal components or parts of other materials from the inside.

[0032] A skilled person of this field might find further possible variants and changes in the above described and represented innovation in order to obtain solutions that are to be considered as included in the scope of protection of the innovation according to the following claims.

Claims

1. A darkening shutter with adjustable lamellae (4) covered with elements (6, 7, 8, 9, 10, 11, 12) applied to the external side of the shutter, such covering elements being inserted both in each lamella (4) of the shutter and in the frame supports (2, 3) thereof, the covering elements (6, 7, 8, 9, 10, 11, 12) and their respective support of the shutter being provided with coupling and connecting means **(15, 16)**.

2. A darkening shutter with adjustable lamellae **(4)** as claimed in the foregoing claim, **characterized by** the fact that the said coupling and connecting means consists of inner seats (15) which are coupled with connecting elements (16), which are applied to a suitable point of their respective supports **(2, 3)** of the shutter.

3. A darkening shutter with adjustable lamellae **(4)** as claimed in the foregoing claims, **characterized by** the fact that each of the covering elements (12) for the adjustable lamellae (4) is provided with a hole (13) through which a pivot (14) passes, the ends of the pivot being fixed to the inner sides of the vertical uprights of the frame support (2, 3).

4. A darkening shutter with adjustable lamellae (4) as claimed in the foregoing claims, **characterized by** the fact that the covering elements (12) for the adjustable lamellae (4) are mounted on pivots (14), and can rotate around these pivots together with the adjustable lamellae (4).

5. A darkening shutter with adjustable lamellae as claimed in the foregoing claims, **characterized by** the fact that there are sealing elements (17) which are put in suitable seats which are obtained along the inner edges of the shutter, such elements (17) being sealing elements for the covering elements

(12) of the adjustable lamellae (4) when they are in their closed position.

Patentansprüche

1. Fensterladen mit verstellbaren Lamellen (4), beschichtet mit Elementen (6, 7, 8, 9, 10, 11,12), die auf der Außenseite des Fensterladens angebracht sind; diese Beschichtungselemente sind sowohl in jede Lamelle (4) des Fensterladens als auch in die entsprechenden Halterungen (2, 3) am Rahmen eingefügt; die Beschichtungselemente (6, 7, 8, 9, 10, 11,12) und ihre jeweilige Halterung am Fensterladen verfügen über Einrast- und Verbindungsteile (15, 16).

2. Fensterladen mit verstellbaren Lamellen (4) gemäß vorangehendem Anspruch, **dadurch gekennzeichnet, dass** diese Einrast- und Verbindungsteile über interne Sitze (15) verfügen, die sich mit den Verbindungselementen (16), die an einem geeigneten Punkt ihrer Halterungen (2, 3) am Fensterladen angebracht sind, verbinden lassen.

3. Fensterladen mit verstellbaren Lamellen (4) gemäß den vorangehenden Ansprüchen, **dadurch gekennzeichnet, dass** die Beschichtungselemente (12) der verstellbaren Lamellen (4) einen Schlitz (13) aufweisen, in dem ein Zapfen (14) steckt, dessen Enden an den Innenseiten der senkrechten Ständer der Rahmenhalterung (2, 3) befestigt sind.

4. Fensterladen mit verstellbaren Lamellen (4) gemäß den vorangehenden Ansprüchen, **dadurch gekennzeichnet, dass** die Beschichtungselemente (12) für die verstellbaren Lamellen (4) auf Zapfen (14) montiert sind und sich zusammen mit den verstellbaren Lamellen (4) um diese Zapfen drehen können.

5. Fensterladen mit verstellbaren Lamellen gemäß den vorangehenden Ansprüchen, **dadurch gekennzeichnet, dass** Dichtungselemente (17), die an geeigneten Sitzen an den Innenrändern des Fensterladens angebracht werden können, vorgesehen sind; die Dichtungselemente (17) stellen für die Beschichtungselemente (12) der verstellbaren Lamellen (4) in geschlossener Position Abdichtelemente dar.

Revendications

1. Volet d'obscurcissement comprenant de lamelles ajustables (4) revêtu d'éléments (6, 7, 8, 9, 10, 11, 12) appliqués sur le côté externe du volet, de tels éléments de revêtement étant insérés à la fois dans chaque lamelle (4) du volet et dans les supports d'huisserie (2, 3) de celui-ci, les éléments de revêtement (6, 7, 8, 9, 10, 11, 12) et leurs supports respectifs du volet étant pourvus de moyens de couplage et de liaison (15, 16).

2. Volet d'obscurcissement doté de lamelles ajustables (4) selon la revendication précédente, **caractérisé par le fait que** lesdits moyens de couplage et de liaison consistent en des sièges internes (15) qui sont couplés avec des éléments de liaison (16), lesquels sont appliqués sur un point approprié de leurs supports respectifs (2, 3) du volet.

3. Volet d'obscurcissement doté de lamelles ajustables (4) selon les revendications précédentes, **caractérisé par le fait que** chacun des éléments de revêtement (12) destinés aux lamelles ajustables (4) est pourvu d'un trou (13) à travers lequel passe un pivot (14), les extrémités du pivot étant fixées sur les côtés internes des montants verticaux des supports d'huisserie (2, 3).

4. Volet d'obscurcissement doté de lamelles ajustables (4) selon les revendications précédentes, **caractérisé par le fait que** lesdits éléments de revêtement (12) destinés aux lamelles ajustables (4) sont montés sur des pivots (14), et peuvent tourner autour de ces pivots en même temps que les lamelles ajustables (4).

5. Volet d'obscurcissement doté de lamelles ajustables (4) selon les revendications précédentes, **caractérisé par le fait que** l'on trouve des éléments de jointure (17) qui sont placés dans des sièges appropriés, lesquels sont obtenus le long des bords internes du volet, de tels éléments (17) étant des éléments de jointure destinés aux éléments de revêtement (12) des lamelles ajustables (4) lorsqu'elles se trouvent en position fermée.

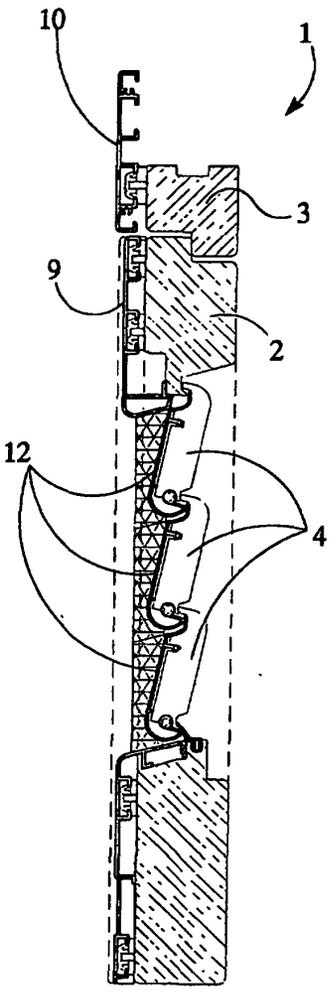


Fig. 1

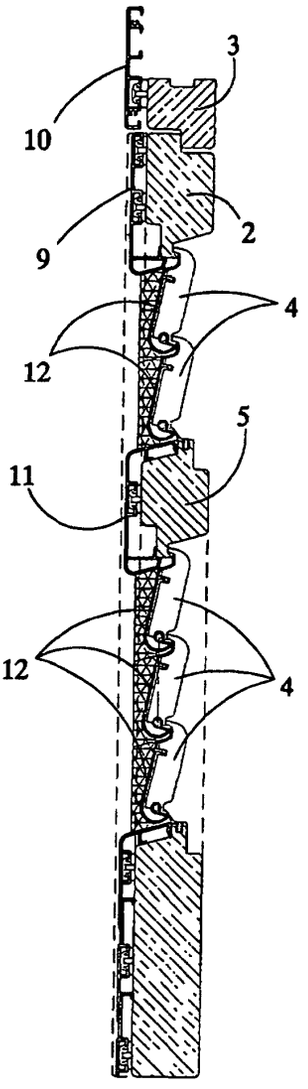


Fig. 2

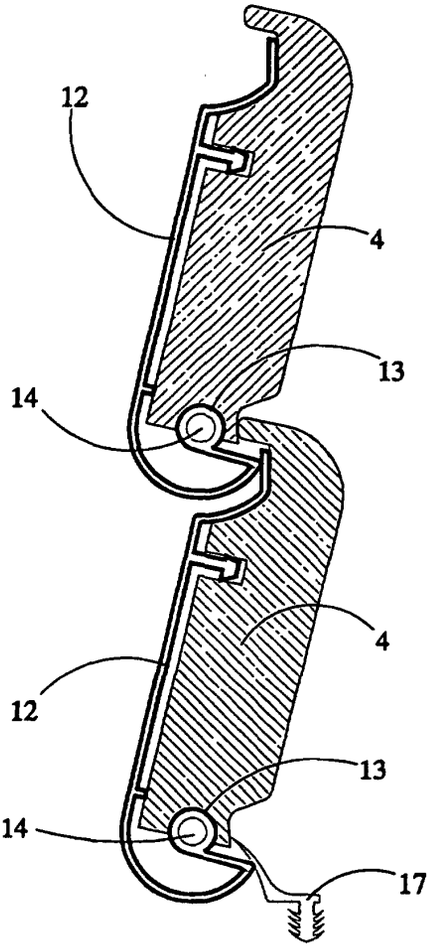


Fig. 3

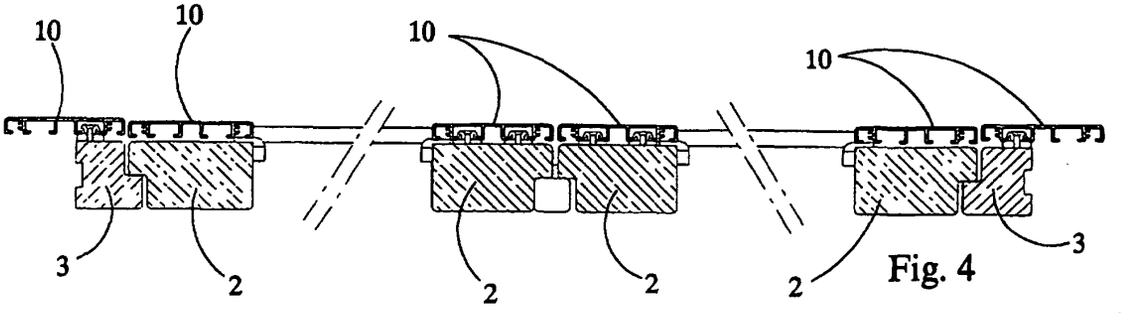


Fig. 4

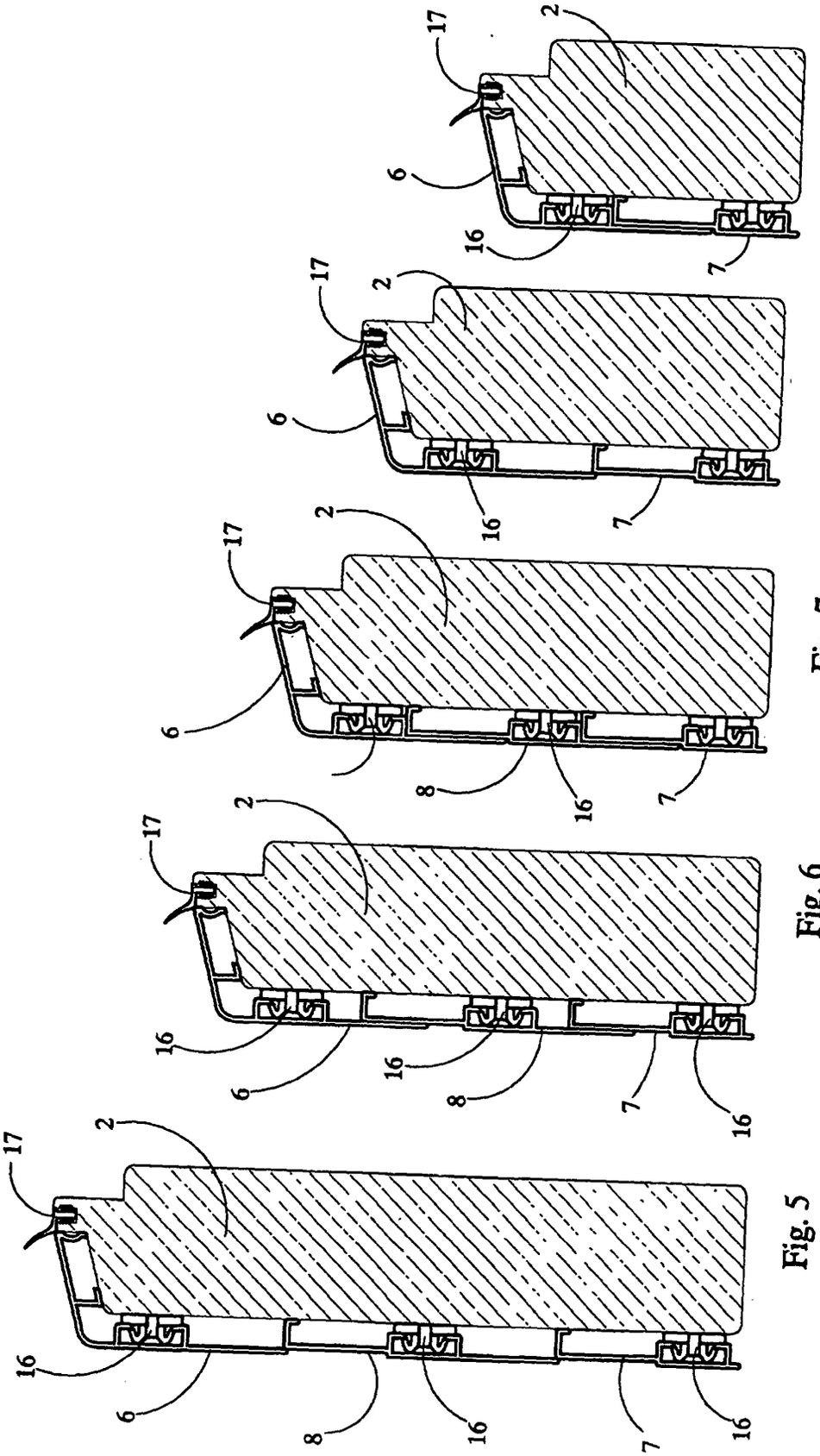


Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

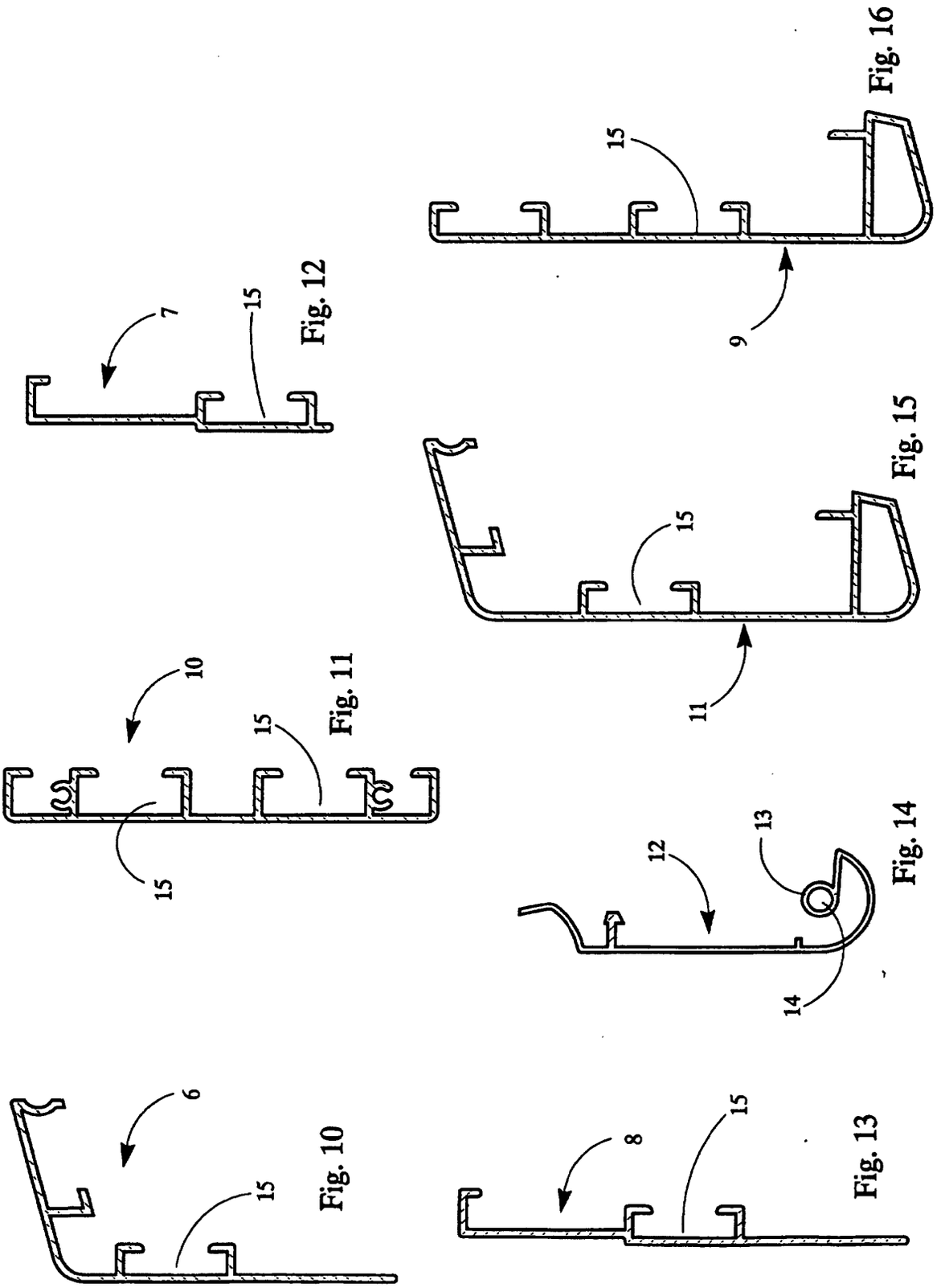


Fig. 10

Fig. 13

Fig. 14

Fig. 11

Fig. 15

Fig. 12

Fig. 16