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

(57) A covering system permits a rolling shutter to be covered in order to give the manufactured article characteristics of resistance without the necessity of an upkeep. There is a clear-cut improvement both in appearance and practice because it is possible to obtain a perfect darkening of the rolling shutter when the lamellae are in their closed position.

In general the covering system according to the present innovation comprises a series of sections (6-12) in a metallic or plastic material or other suitable materials, preferably aluminium or bronze or the like. The sections cover the outer surfaces of the boards that form the rolling shutter.

Some of the aforesaid sections are mounted in the outside of movable doors (2) while other sections are positioned on the external framing of the fixed frame.

Sections (12) are positioned in the outside of adjustable listels (4), the sections (12) being supporting and rotating elements for such listels.

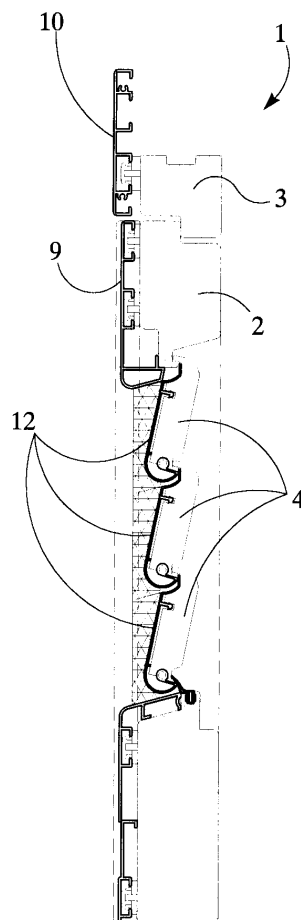


Fig. 1

Description

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

[0002] In general this covering system permits a rolling 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 rolling 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 rolling shutter with adjustable lamellae, such as those patented by the same applicant in utility model application No. VR98U000020.

[0004] As it is known, a rolling 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 rolling shutter is thus a structure for closing a window and it can be adjusted from a closed position to an opened position. When the rolling shutter is in its closed position, it prevents the light to enter from the outside while in its opened position, the rolling 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 rolling 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 rolling shutter. These aspects are directly connected with the aesthetic appearance and the endurance of the rolling shutter itself.

[0010] As it is known, the rolling 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 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 rolling shutter, which side is subjected to a great wear and tear.

[0012] 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.

[0013] The above-described aims and the relevant advantages are reached according to the present innovation through a darkening rolling 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 rolling shutter, such covering elements being inserted both in each lamella of the rolling shutter and in the supporting frame thereof.

[0014] 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 schematic view in vertical section of an example of rolling shutter for a window;
- Fig. 2 shows a schematic view in vertical section of an example of rolling 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 rolling shutter;
- Fig. 4 shows a schematic view in horizontal section of an example of a rolling shutter with two wings;
- Figs. 5-9 show schematic views in vertical section of forms of sections for covering the frame of the rolling shutter, which sections are mounted on the respective structure;
- Figs. 10-16 show schematic views in section of all the sections of the present innovation.

[0015] With reference to the accompanying figures, number 1 denotes a rolling shutter for a window. This rolling shutter is represented on the whole in Fig. 1 and consists essentially of movable doors 2 showing horizontal cross-pieces, a fixed frame 3 and a series of adjustable listels 4.

[0016] 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.

[0017] 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 rolling shutter.

[0018] In particular, there are sections 6, 7 and 8, which are represented in Figs. 10, 12 and 13, respectively and are shaped in such a way as to be applied to the lower horizontal cross-pieces of the movable doors 2 while there are sections 9 (Figure 16) that are applied to the upper horizontal cross-pieces of the same movable

ble doors.

[0019] 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 rolling shutter for a French window.

[0020] 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.

[0021] In fact, each section 12 is provided with a hole 13 through which a pivot 14 passes.

[0022] 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.

[0023] 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 rolling shutter being usually made in wood.

[0024] 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 rolling shutter.

[0025] Finally, there are sealing elements 17 that are put in suitable seats, obtained along the inner edges of the rolling shutter, such elements being sealing elements for the sections of the adjustable lamellae when they are in their closed position.

[0026] 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.

[0027] 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 rolling shutter, which aspects are directly connected with the aesthetic appearance.

[0028] In fact, the aluminium sections, which are mounted on the outer side of the rolling shutter, give the rolling shutter itself characteristics of higher resistance to the inclemency of the weather and therefore 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 rolling shutter is improved because there are valuable finishes that make the rolling shutter more pleasant.

[0029] It can be seen that the whole outer part is made of aluminium while the whole inner part is made of wood and therefore, it is not possible to see wood components from the outside while it is not possible to see metal com-

ponents or parts of other materials from the inside.

[0030] 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.

10 Claims

1. A darkening rolling shutter with adjustable lamellae and removable 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 rolling shutter, such covering elements being inserted both in each lamella of the rolling shutter and in the supporting frame thereof.
2. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claim, characterized by the fact that the said covering inserts are formed by a series of sections (6, 7, 8, 9, 10, 11, 12) in a metallic material, preferably aluminium or other similar material, which sections cover the outer surfaces of the components of the rolling shutter.
3. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that said sections (6, 7, 8, 9, 10, 11, 12) are shaped in such a way as to show coupling and fixing means (15, 16) for permitting their mounting on the upper and lower horizontal cross-pieces of the movable doors as well as on the vertical uprights and intermediate cross-pieces of the movable doors.
4. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that further series of sections (10) are fit to be positioned on all the vertical uprights of the movable doors and on the outer framing of the fixed frame.
5. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that there are sections (12) which are positioned in the outside of the adjustable listels (4) and act as supporting and rotating elements for supporting and rotating the listels.
6. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that the said sections (12) for the adjustable listels (4) are shaped in such a way as to be mounted on horizontal pivots and rotate around these pivots together with the adjustable listels.

7. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that each of the said sections (12) for the adjustable listels (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 movable doors. 5
8. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that all the sections are provided with coupling and connecting means with their respective support for the rolling shutter, the support being usually made of wood. 10 15
9. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, 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 suitable point of their respective supports of the rolling shutter. 20
10. A darkening rolling 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 rolling shutter, such elements being sealing elements for the sections of the adjustable lamellae when they are in their closed position. 25 30
11. A darkening rolling shutter with adjustable lamellae as claimed in the foregoing claims, characterized by the fact that the whole outer part is made of aluminium or the like while the whole inner part is 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. 35 40

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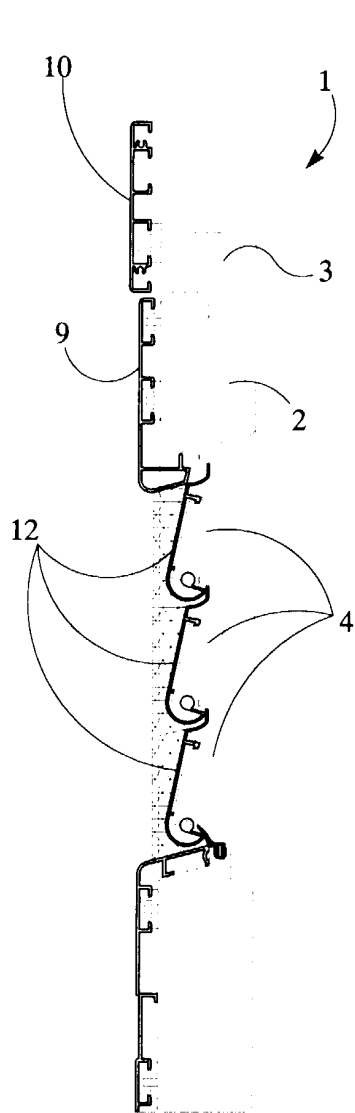


Fig. 1

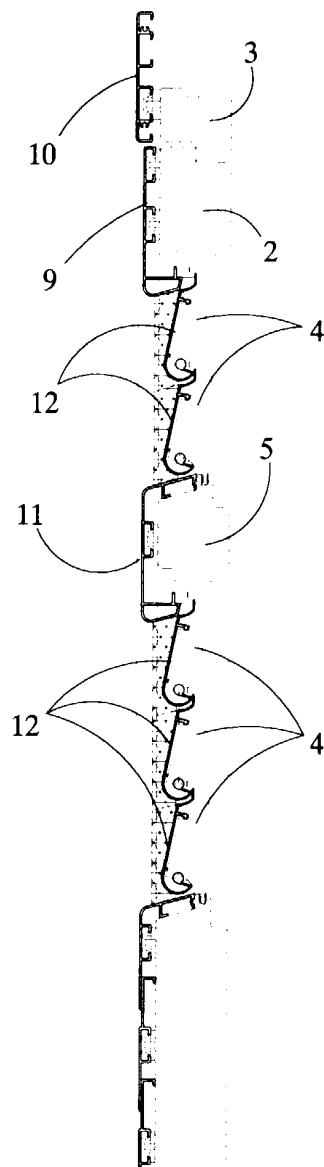


Fig. 2

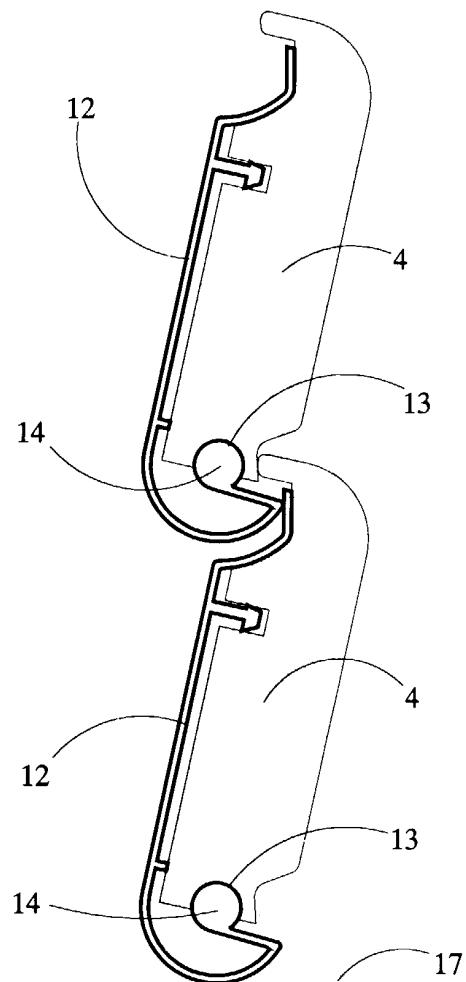


Fig. 3

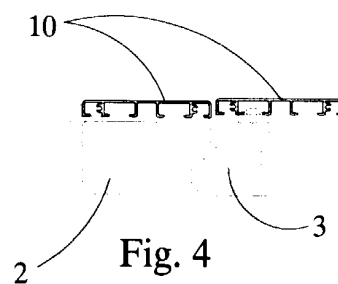
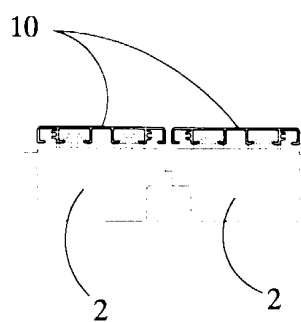
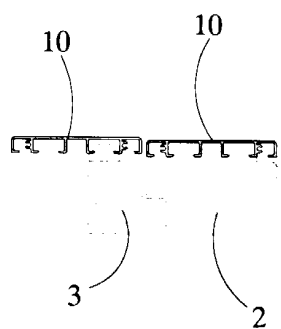


Fig. 4

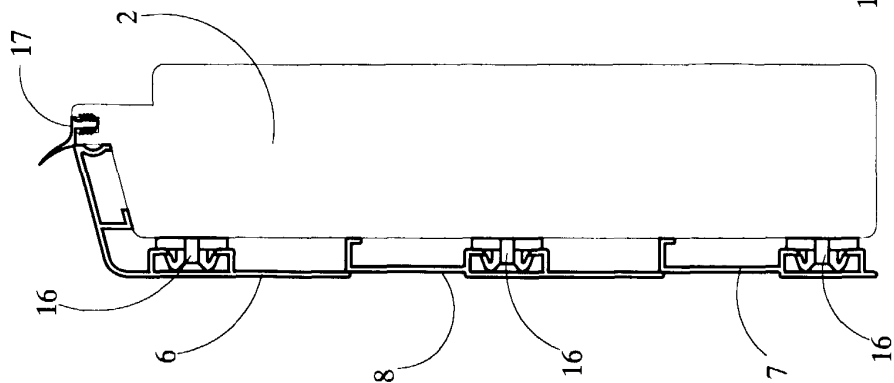


Fig. 5

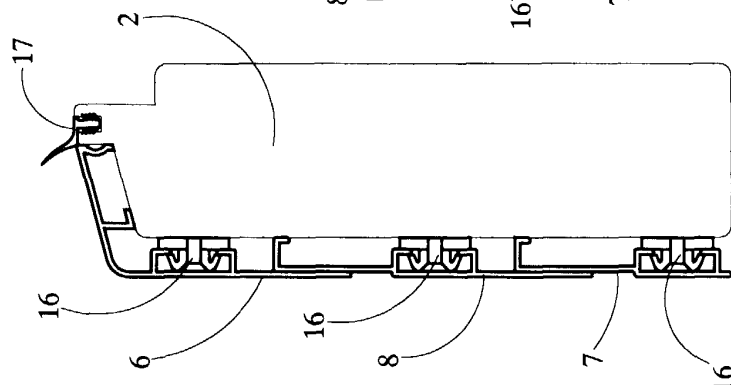


Fig. 6

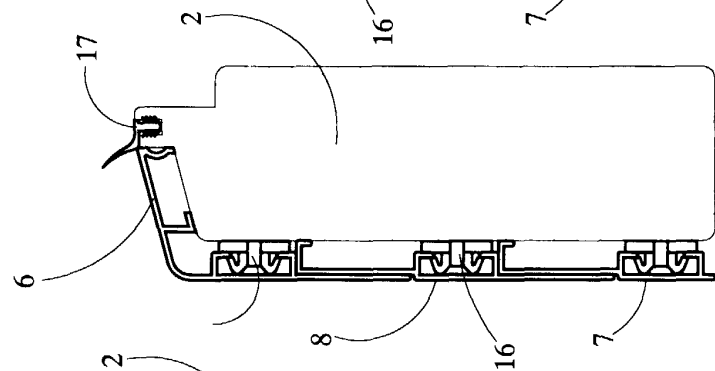


Fig. 7

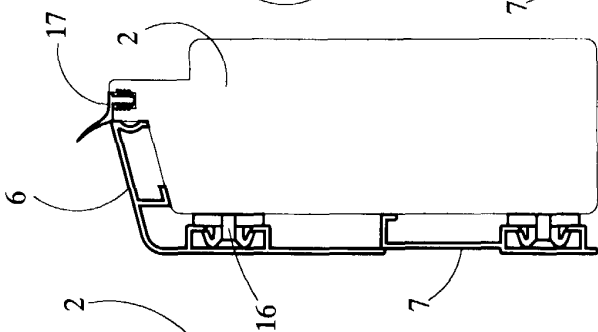


Fig. 8

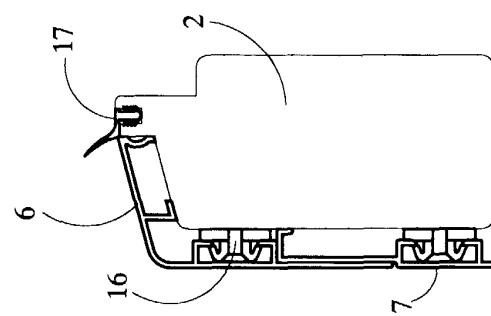


Fig. 9

