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(71) Applicant: **Ippolito, Basilio**
84086 Rocca Piemonte (IT)

(72) Inventor: **Ippolito, Basilio**
84086 Rocca Piemonte (IT)

(74) Representative: **Sarpi, Maurizio**
Studio FERRARIO
Via Collina, 36
00187 Roma (IT)

(54) Improvement in frames, particularly window frames

(57) Frame for outside use comprising at least a wing (1) and a carrying frame (8), both of wood, which are inside and/or outside provided with a covering profile (2,10) still of wood which is secured in an easily removable manner by pivotable locking members (3) which are screwed to the surfaces to be covered of the window frame and the carrying frame and able to be inserted in suitable shaped grooves (4) formed in said covering profiles (2,10). All frame components are finished products ready to be assembled with the interposition of thermal and acoustic insulation gaskets (7,13); wing, carrying frame and inside coverings are formed by uprights and cross beams coupled to one another. Such characteristics ensure the fast assembling of said coverings that can be easily replaced, if necessary, with other coverings with the same or different shapes and colours.

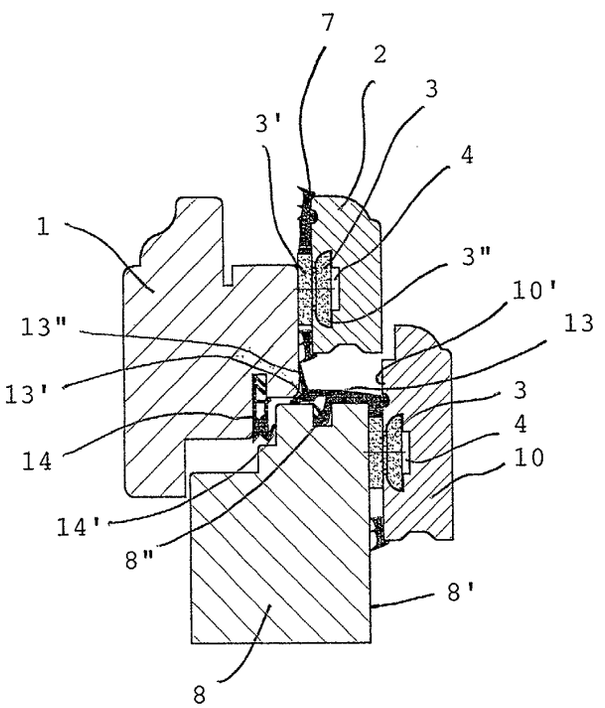

FIG. 3

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Description

[0001] The present invention relates to frames, particularly window frames capable of allowing an improved removable coupling between woods of window frame and inside or outside covering profile, such coupling being obtained by pivotable locking members not visible from the outside.

[0002] The present invention seeks to provide a binding between a frame and the respective inside or outside covering profile by means of pivotable securing members so as to make, if necessary, the removal of such profile and its replacement with another profile with the same or different shapes and/or colours very easy without needing the removal of the whole frame from the window, thus achieving a considerable time and material saving as well as a considerable economic advantage.

[0003] A further object of the invention is to provide pivotable locking members so that the inside or outside covering can firmly but elastically be adherent to the frame. This is obtained by a particular configuration of such members, the rotation by 90° of which allows the desired effect to be achieved.

[0004] Another advantage of the invention consists in that the frame and the covering profiles are provided ready to be assembled without the need of painting, gluing or the like in situ.

[0005] These and other advantages of the invention will be apparent from the following detailed description of a not limiting embodiment with reference to the accompanying drawings in which:

Fig. 1 shows a perspective cross section view of a window wing with its covering profile;

Fig. 2 shows a perspective cross section view of the window frame provided with pivotable locking members and the covering profiles thereof;

Fig. 3 shows a cross section view of the window frame to which said covering profiles are applied by said pivotable locking members with the same shape and size;

Fig. 4 is a front view of said locking member and a spanner to engage and disengage the same.

[0006] With reference to the drawings, Figure 1 shows a perspective cross section view of a window wing 1 and a replaceable covering profile 2 which are connected to each other by pivotable locking members 3 secured to one surface 1' of wing 1 by a securing screw passing through a central hole of member 3.

[0007] The coupling between wing 1 and covering profile 2 is made by inserting locking members 3 into a shaped groove 4 formed in surface 2' of covering profile 2 facing the wing. Such groove has a rectangular cross section with two edges 4' facing each other and spaced from each other by a length corresponding to the width of the locking member 3 so as to allow the latter to be inserted into groove 4.

[0008] As can be seen in Fig. 3, locking member 3 has a base portion 3' adjacent to surface 1' of frame 1 and a truncated cone portion 3" the shorter side of which are slightly rounded. The fastening is carried out by inserting locking member 3 which are evenly distributed on the front surface of frame 1 which have to be covered into said groove 4 so as to extend to the whole inside length of covering profile 2 and by rotating the same by 90° by means of a suitable spanner 5, thus engaging the curved side surfaces under the projecting edges 4' of groove 4 and pressing covering profile 2 against surface 1' of wing 1, as clearly seen in Figs. 3 and 4.

[0009] Above groove 4 there is provided a narrow groove 6 in which a bandlike gasket 7 is inserted, as can be seen in the cross section of Fig. 3.

[0010] In the same way, a covering 10 is also fastened to carrying or fixed frame 8 abuting against wing 1 with its covering profile 2 and an interposed double vacuum chamber windowpane. For this purpose, pivotable locking members 3 are screwed to the surface 8' of fixed frame 8 to be covered and are inserted into a groove 11 formed in the opposite surface 10' of covering 10 with the same shape as groove 4 of covering 2 and then are pivoted by 90° by spanner 5 in the same way as described above.

[0011] Also covering 10 of frame 8 has a narrower groove 12 above groove 11 receiving the inner edge of a gasket 13 having a longitudinal projection 13' engaged with a peripheral groove 8" of fixed frame 8 as well as a lip 13" inclined obliquely to window frame 1 and firmly adjacent to frame 1 when the window is closed.

[0012] The outside surface of gasket 13 also forms the peripheral gasket of covering profile 2. Gasket 13 has an inside peripheral projection 13a surrounding the inside edge of carrying frame 8.

[0013] Also the outside peripheral surface of window frame 1 has a groove in which a thermal insulation gasket 14 also having a lip 14' adjacent to outside surface 8a of carrying frame 8 is inserted.

[0014] It should be appreciated that the uprights and cross beams of window frame 1, carrying frame 8 and covering profiles 2 and 10 are connected to one another at their 45° end coupling surfaces by means of inside coupling pegs able to ensure the right, sturdy assembling of upright and cross beams.

[0015] To sum up, the window assembly according to the present invention consists substantially of the combination of the following features:

- working of finished profiles without the need of painting, gluing or the like;
- assembling covering profile by pivotable locking members allowing, if necessary, said profiles to be replaced with other profiles with the same or differ-

ent shapes and/or colours because of architectural needs without the whole frame has to be replaced;

- all window frames, carrying frames and covering profiles being formed of uprights and cross beams coupled to one another at their 45° end surfaces by inside pegs.

[0016] The present invention has been described according to a preferred embodiment thereof, however, it should be understood that a number of changes and modifications can be made without departing from the scope of protection of the claims.

Claims

1. Frame for outside use comprising at least a wing and a carrying frame, both of wood, **characterized in that**:

   - both said wing and said carrying frame are inside and/or outside provided with a covering profile still of wood, such covering profiles being secured in an easily removable manner by pivotable locking members which are screwed to the surfaces to be covered of the window frame and the carrying frame and able to be inserted in suitable shaped grooves formed in said covering profiles,
   - all frame components are finished products ready to be assembled with the interposition of thermal and acoustic insulation gaskets;
   - wing, carrying frame and inside coverings are formed by uprights and cross beams coupled to one another at their 45° end coupling surfaces by suitable locking pegs able to ensure the right, sturdy coupling between cross beams and uprights;
     such characteristics ensuring the fast assembling of said coverings that can be easily replaced, if necessary, with other coverings with the same or different shapes and colours.

2. The frame according to claim 1, **characterized in that** the pivotable locking members have a rectangular base to be fastened to the frame or the carrying frame, a projecting portion also with rectangular shape forming one piece with the base having two narrower inclined, arched side surfaces which engage under the projecting edges of the grooves formed in the inside coverings so as to press the latter to the window frame or the carrying frame, the distance between the corners of said projecting edges of the grooves corresponding to the width of said projecting portion of the locking member, a central through hole being formed in said locking member to allow a screw to pass and to secure it in a pivotable manner to the window frame or the carrying frame.

3. The frame according to claims 1 and 2, **characterized in that** peripheral insulation gaskets located in suitable grooves formed in said frame components are provided between the window frame and the carrying frame.

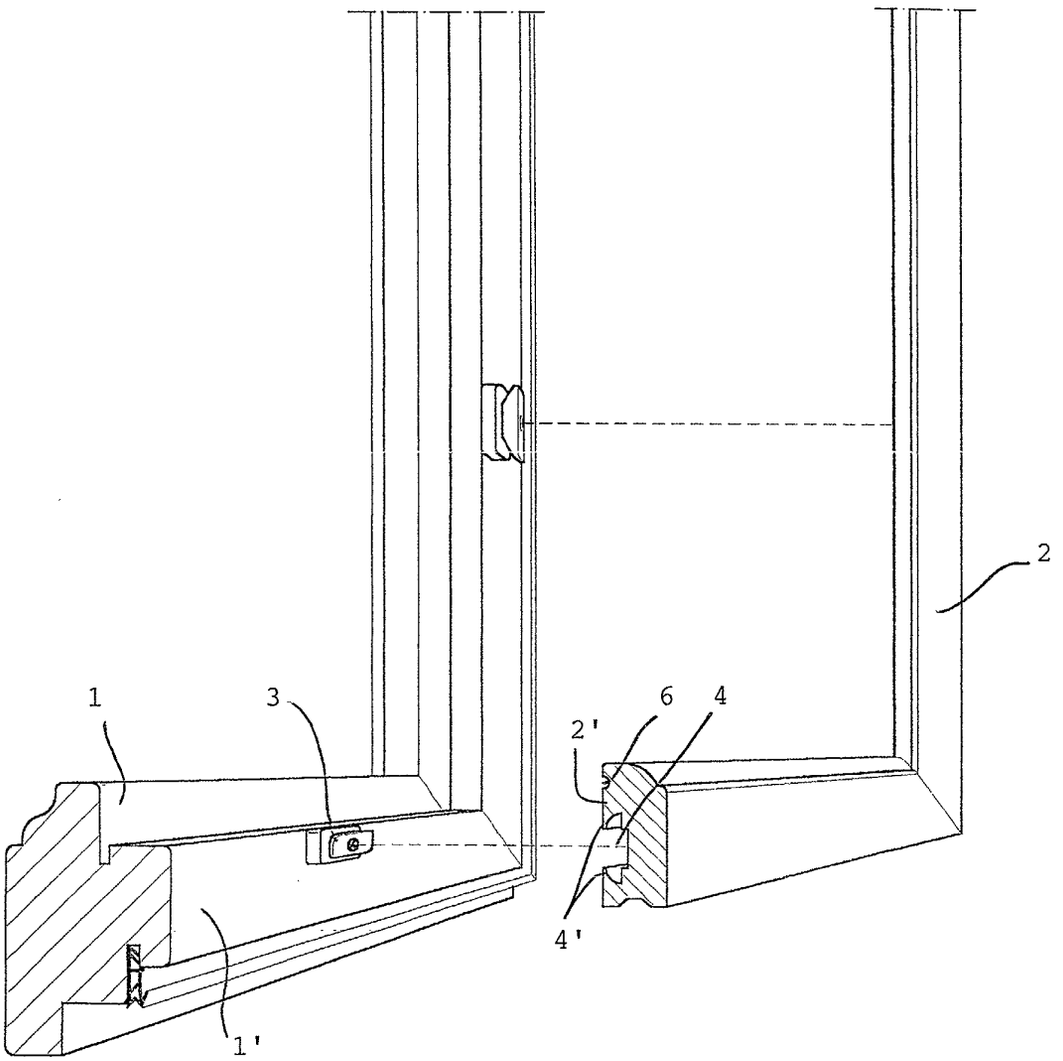

FIG. 1

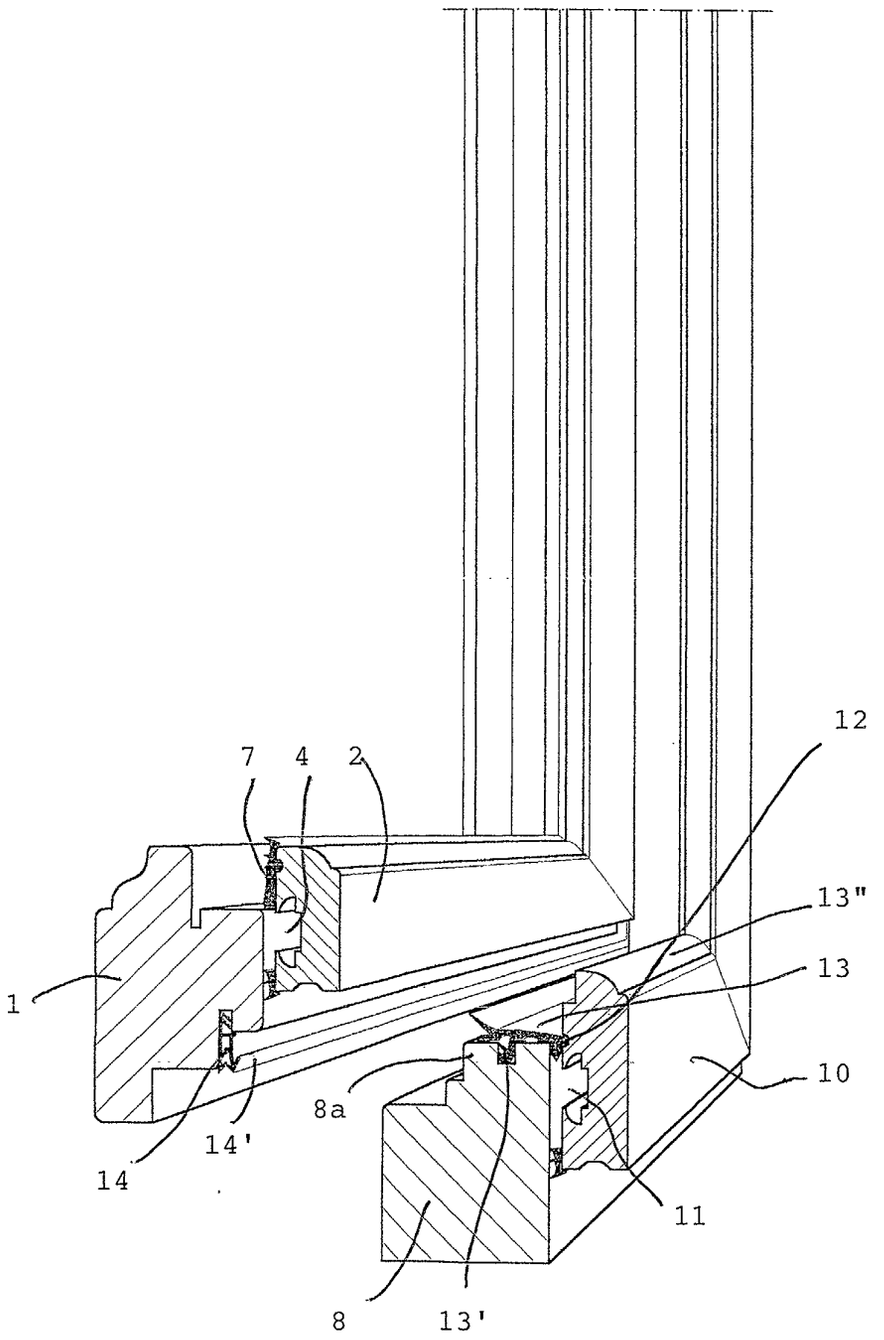

FIG. 2

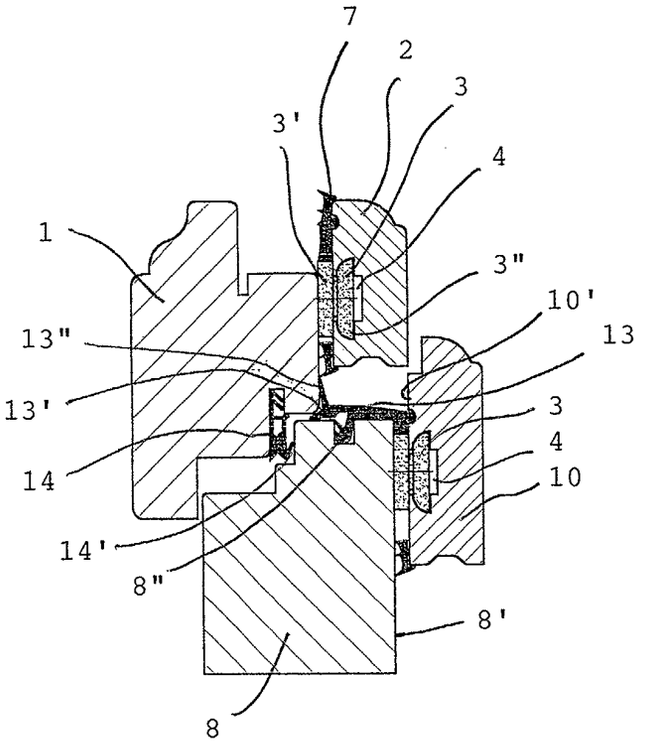

FIG. 3

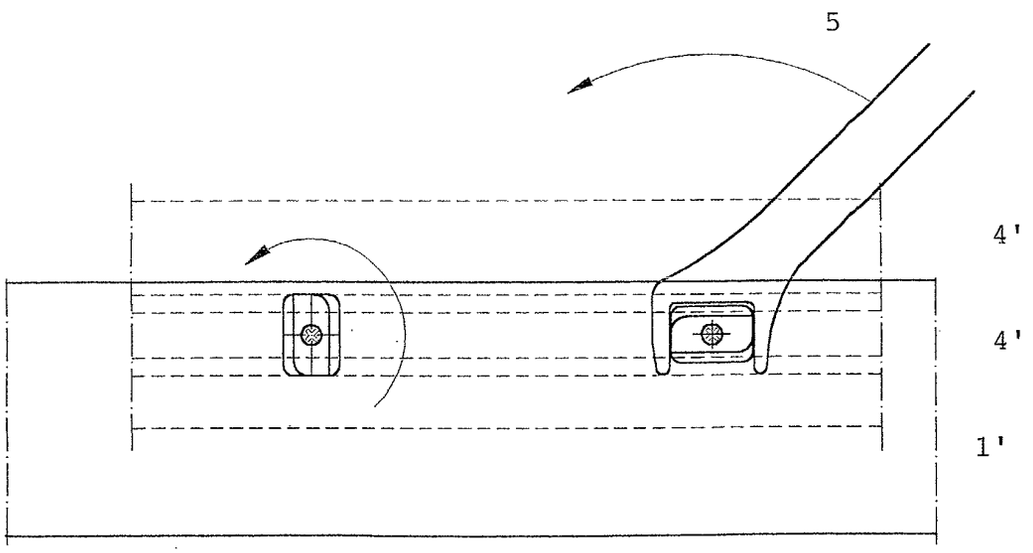

FIG. 4