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(11)

EP 0 667 437 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
29.04.1998 Bulletin 1998/18

(51) Int Cl.⁶: **E06B 3/667**

(21) Application number: **95300821.6**

(22) Date of filing: **09.02.1995**

(54) Centre key

Kreuzverbinder
Raccord cruciforme

(84) Designated Contracting States:
BE DE DK ES FR GR IE IT LU NL PT

(30) Priority: **11.02.1994 GB 9402649**

(43) Date of publication of application:
16.08.1995 Bulletin 1995/33

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Description

TECHNICAL FIELD OF THE INVENTION

This invention relates to a key for joining hollow profiles in the formation of a decorative grille which can be inserted in a glazing panel to simulate traditional Georgian windows. Such keys are widely known in the double glazing industry as "centre keys".

BACKGROUND

Known centre keys includes a body portion and a number of tongues which project from the body portion for insertion into the open ends of respective lengths of profile. The body portion usually remains visible in the finished glazing unit and is designed to provide a matching, aesthetically attractive square edged interface between the cut ends of the profiles. Injection mouldings are widely used to form a one piece component incorporating both the attachment tongues and the centre section. The polymer used is a light-fast, UV stable grade of pigmented engineering plastics, but the mass of the centre section can cause so-called weld lines to appear, and can produce shrinkage at the edges which causes the moulded centre to gape apart from the raw cut edges of the profiles.

Another known form of key has metal covers for the body portion, which are held in place by integral tongues which project into the ends of the profiles. This system enables the covers to be paint finished, matching exactly the finish of the profiles. However, this arrangement still has several disadvantages, which include the following:

- The cut ends of the profiles remain exposed detracting from the visual appearance of the finished grille.
- The range of cap configurations which can be produced is very limited due to metal forming techniques.
- The metal caps can chatter against the glass due to vibrations caused by traffic or aircraft for example.

An aim of the present invention may be viewed as being to overcome the limitations of both integrally moulded centre keys and composite keys with metal covers.

SUMMARY OF THE INVENTION

The present invention proposes a centre key of the kind set forth in the appended Claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The following description and the accompanying drawings referred to therein are included by way of non-limiting example in order to illustrate how the invention may be put into practice. In the drawings:

Figure 1 is a plan view of the main part of a centre key of the invention together with a cap which is shown separately,

Figure 2 is an end view of one of the tongues shown in Fig. 1 with two caps in place, and

Figure 3 is longitudinal section taken through the tongue of Fig. 2 in position III-III of Fig. 1.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring firstly to Fig. 1, the main part 1 of the centre key is an integral plastics moulding which includes a substantially square body part 10 having four tongues 12-15 of known form projecting from its four sides to receive four profile sections 16, shown in outline only. The tongues each have a pair of upstanding longitudinally extending ribs 17 which are continued across the body part 10 to be continuous with the ribs 17 of the opposite tongue. At the root of each tongue the ribs are bridged by a transverse bar 19.

The opposite rear face of the main part 1 is of substantially the same configuration, and a pair of substantially identical caps 3 are provided to completely cover and enclose the opposite faces of the body part 10 (only one being seen in Fig. 1). The front wall 32 of the caps is substantially square and may be of any desired style (e.g. "square cut" or "pyramid") to provide an aesthetically attractive interface between the profiles 16. As can be seen in Fig. 2, an abutment wall 33 depends from each of the four straight edges of the front wall 32, being slightly inset from the extreme marginal edge of the front wall which thus forms a projecting lip 38. The four abutment walls 33 are each provided with double notches 34 to receive the ribs 17 when the cap is superimposed on the body portion 10, in which position the abutment walls 33 are positively located between the four transverse bars 19.

The two caps 3 may be secured to the body portion 10 by means of a suitable adhesive, by a suitable plastics welding technique, or by means of co-operating snap-engageable formations on the cap and body portion.

When a length of profile 16 is pushed over one of the tongues 12 as shown in Fig. 3, the leading cut end eventually abuts the wall 33 which provides a positive stop for the profile. The position of the cut end is therefore determined relative to the cap rather than the body portion, ensuring that the end is covered irrespective of the relative positions of the cap and body portion. The

projecting lip 38 closely overlies the cut end of the profile, hiding the cut end from view. Although the lip is only short, its length is still sufficient to cover the end face of the profile in the event of normal shrinkage in the length of the profile.

The caps and body portion can be formed with an aperture for insertion of a resilient glass buffer, to prevent chattering against the glass sheets in a double glazing panel.

The advantages of the present centre key may be summarised as follows:

1. The cut ends of the profiles are not visible.
2. Only one main part need be moulded for a given size of profile.
3. The main part can be moulded in inexpensive materials without regard to colour, in order to reduce component costs.
4. The moulding tools for the caps can easily be provided with interchangeable inserts for manufacture of various cover shapes.
5. The caps can be moulded from different coloured materials for use with a range of profile colours at minimum cost.
6. The caps can be cycled quicker, reducing moulding costs.
7. Shrinkage problems related to moulding of heavy sections are eliminated.

Claims

1. A centre key comprising a unitary main part (1) which includes a body portion (10) and a plurality of tongues (12-15) which project from the body portion for insertion into the open ends of respective lengths of profile (16), and a cap (3) to cover the body portion in use, the key including abutment means (33) to, provide a stop for abutment with cut ends of the lengths of profile, characterised in that the cap is moulded of plastics and has a lip or flange portion (38) which, in use, overlies the cut end of a length of profile when in contact with the abutment means.
2. A centre key according to Claim 1, in which the abutment means (33) is formed on the cap.
3. A centre key according to Claim 1 or 2, in which the cap is secured to main part by snap engagement.
4. A centre key according to Claim 1 or 2, in which the

cap is secured to main part by an adhesive.

5. A centre key according to Claim 1 or 2, in which the cap is secured to main part by welding.
6. A centre key according to any preceding claim, in which two such caps are provided, for mounting on opposite sides of the body portion.

Patentansprüche

1. Kreuzverbinder, mit einem einteiligen Hauptbauteil (1), das einen Basisabschnitt (10) und eine Anzahl von Zungen (12-15) hat, die von dem Basisabschnitt vorstehen, um in die offenen Enden von jeweiligen Profilabschnitten (16) eingesetzt zu werden, und einer Kappe (3), um bei Verwendung den Basisabschnitt zu überdecken, wobei der Verbinder Anstoßeinrichtungen (33) hat, um einen Anschlag zum Anstoßen mit Schnittenden der Profilabschnitte zu bilden, dadurch gekennzeichnet, daß die Kappe aus Kunststoff gebildet ist und eine Lippe oder Flanschabschnitt (38) hat, der bei Verwendung das Schnittende eines Profilabschnitts überdeckt, wenn dieser mit der Anstoßeinrichtung Kontakt hat.
2. Kreuzverbinder nach Anspruch 1, bei dem die Anstoßeinrichtung (33) an der Kappe ausgebildet ist.
3. Kreuzverbinder nach Anspruch 1 oder 2, bei dem die Kappe durch Schnappeingriff an dem Hauptbauteil befestigt ist.
4. Kreuzverbinder nach Anspruch 1 oder 2, bei dem die Kappe mittels eines Klebstoffs an dem Hauptbauteil befestigt ist.
5. Kreuzverbinder nach Anspruch 1 oder 2, bei dem die Kappe durch Schweißen an dem Hauptbauteil befestigt ist.
6. Kreuzverbinder nach einem der vorhergehenden Ansprüche, bei dem zwei solcher Kappen vorgesehen sind, um an gegenüberliegenden Seiten des Basisabschnitts angebracht zu werden.

Revendications

1. Clavette centrale comprenant une partie principale unitaire (1) qui comprend une partie de corps (10) et une série de languettes (12-15) qui font saillie de la partie de corps pour s'insérer dans les extrémités ouvertes de tronçons respectifs de profilé (16) et un chapeau (3) pour recouvrir la partie de corps en cours d'usage, la clavette comprenant des moyens

de butée (33) pour former un arrêt de butée avec les extrémités coupées des tronçons de profilé, caractérisée en ce que le chapeau est moulé en matière plastique et a une partie de lèvre ou de bord (38) qui, en usage, recouvre l'extrémité coupée d'un tronçon de profilé lorsqu'elle est en contact avec les moyens de butée.

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2. Clavette centrale selon la revendication 1, dans laquelle les moyens de butée (33) sont formés sur le chapeau. 10
3. Clavette centrale selon la revendication 1 ou 2, dans laquelle le chapeau est fixé à la partie principale par engagement à déclic. 15
4. Clavette centrale selon la revendication 1 ou 2, dans laquelle le chapeau est fixé à la partie principale par un adhésif. 20
5. Clavette centrale selon la revendication 1 ou 2, dans laquelle le chapeau est fixé à la partie principale par soudage.
6. Clavette centrale selon l'une quelconque des revendications précédentes, dans laquelle deux chapeaux de ce genre sont prévus pour monter sur les côtés opposés de la partie de corps. 25

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