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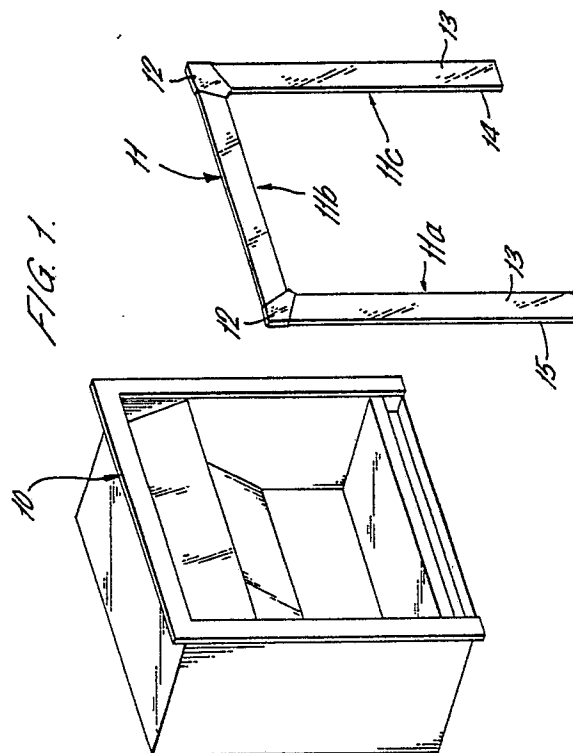
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(54) Trim.

(57) Trim for the front frame of a fireplace unit comprises an element (11) of generally channel-shaped cross-section having a web (13), a single return flange (14) extending from one edge of the web for engaging a first edge of a frame member (10), a double return flange (15) extending from the other edge of the web, which double return flange receives a second edge of the frame member opposite the first edge, and a spring biasing element (16) which is sandwiched between the double return flange and the second edge of the frame member to urge the same apart and hence to urge the single return flange of the element into engagement with the first edge of the frame member, thereby holding the trim satisfactorily in position.



**EP 0 315 412 A1**

## TRIM

This invention relates to a trim for the front frame of a fireplace unit.

Many customers choose to embellish the front frame of their fireplace unit with a decorative trim. Hitherto, this has usually involved unsightly fixing screws or tabs etc. or meant fixing the trim prior to installation of the unit, which meant not being able subsequently to remove the trim.

According to the present invention there is provided a trim for the front frame of a fireplace unit, comprising a plurality of elements to fit over respective members of said frame, each of which elements has a generally channel-shaped cross-section with a web portion presenting a forwardly facing trim surface, a single return flange portion extending rearwardly from a first edge of the web portion for engaging a first edge of a respective frame member, and a double return flange portion extending rearwardly from the second edge of the web portion, the double return flange portion being shaped to receive a second edge portion of the respective frame member opposite said first edge, spring biasing means being provided to act between the double return flange portion of each element and the second edge of the respective frame member to urge the double return flange portion away from said second edge and hence urge the single return flange portion of each element into engagement with said first edge of the respective frame member.

The double return flange portion does not necessarily have to extend over the full length of each element. Instead, for example, one or more tabs could be formed into the double return flange portion, leaving the remainder of that flange portion as a single return.

The spring biasing means could be provided as an integral part of each element. For example, if the trim was of suitable material, it may be possible to form sections of the double return flange portion itself into spring fingers to act against the edge of the respective frame member.

Alternatively, the spring biasing means may be provided separately from each element, eg in the form of a corrugated strip of spring steel, in which case means is preferably provided for locating each spring biasing means relative to its respective element.

The single return flange portion of each element preferably subtends an angle of less than 90° to the web portion to provide an "over-centre" locking fit on its respective frame member,

Preferably, there is provided a corner plate to cover each joint between two adjacent elements

and means to mount each corner plate in position. This allows sufficient clearance to be left between adjacent elements to allow for manufacturing tolerances and differential expansion under heating.

By way of example, an embodiment of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 shows a typical fireplace unit and a trim assembly according to the invention therefor,

Figure 2 is a detail showing a corner of the Figure 1 fireplace unit with the trim assembly fitted,

Figure 3 is a section through lines 3-3 in Figure 2,

Figure 4 is a side elevation of Figure 2,

Figure 5 is a detail showing one form of spring biasing member, and

Figure 6 shows a corner plate in more detail.

There is seen in Figure 1 a typical fireplace unit of an open inset convector fire. It is common for units such as this to have a mild steel front frame 10, which is usually of 50mm x 6mm flat bar. To embellish the unit and give it a decorative finish, a trim 11 is fitted around the frame 10.

The trim 11 may be of any suitable material such as brass, copper, stainless steel etc., and may be provided in a variety of finishes. The trim 11 here is provided in three elements 11a, 11b and 11c and corner plates 12 are provided to cover the corner joints.

The cross-section of each element of the trim 11 is generally channel-shaped, as seen in Figure 3, and comprises a web portion 13 having flange portions 14, 15 extending from either edge of the web portion. Flange portion 14 is a single return and subtends an angle  $\alpha$  of less than 90° with the web portion 13. Flange portion 15 is a double return. Also seen in Figure 3 is the frame section 10 of the fireplace unit and a spring biasing member 16. The spring member 16 here conveniently takes the form of a corrugated strip of spring steel, as is seen in more detail in Figure 5. The spring member 16 is designed to be sandwiched between the double return flange portion 15 of the trim element and the respective edge of the frame section 10.

In the fitted position, as seen in Figure 3, the spring member 16 acts to urge the double return flange portion 15 of the trim element away from the respective edge of the frame section 10, and thus to urge the single return flange portion 14 of the trim element into engagement with its respective edge of the frame section 10. In this way, the trim element is satisfactorily retained in position on the frame section 10.

It often happens in practice that the edges of the frame section 10 have a somewhat rounded profile. The fact that the single return flange portion 14 of the trim element is given an angle of less than  $90^\circ$  means that its point of contact with the edge of the frame section 10 is "over centre", i.e., it effectively provides a mechanical lock with the edge of the frame section 10.

Each trim element is fitted after first installing respective spring member 16 in the double return flange portion 15. Each spring member 16 has return tabs 17,18 at either end for locating it with respect to its respective trim element, as seen in Figures 4 and 5. (The spring members 16 for the vertical sections of the trim 11, elements 11a and 11c, have an additional tab 19. This additional tab 19 rests on the frame section 10 when the trim elements are fitted and locates the vertical sections of the trim). The double return flange portion 15 of the trim element is fitted over the respective edge of the frame section 10. Then, whilst pressing the double return flange portion 15 of the trim element towards the respective edge of the frame section 10 to compress the spring member 16, the single return flange portion 14 of the trim element is simply snapped into engagement over its respective edge of the frame section 10. The trim element can be removed by adopting the reverse procedure.

The corner plates 12, which are seen in more detail in Figure 6, have double return flange portions 20 at their outer edges and a single return flange portion 21 at their inner corner. The double return flange portions 20 are sized to fit over the frame section 10 while the trim 11 is in place. The angle  $\beta$  enclosed by the corner plates 12 is made less than  $90^\circ$  so as to leave room to accommodate the return tabs 18 of the spring members 16 when the corner plates are fitted, as can be seen in Figure 2. The corner plates 12 are fitted by simply compressing the side and top sections of adjacent trim elements inwardly against the biasing force of their respective spring members 16 and engaging the flange portions 20 of the corner plates 12 behind the frame section 10. The flange portions 21 of the corner plates engage the flange portions 14 of adjacent trim elements and the corner plates 12 are held in position by the action of the spring members 16. No non-resilient distortion of the corner plates 12 is needed in this fitting. Using these corner plates, sufficient clearance can be left between adjacent top and side elements of the trim to allow for manufacturing tolerances of the frame and for uneven expansion and contraction of the frame and trim while heating or cooling.

As an alternative to using corner plates such as described above, it is possible simply to provide at the junction of adjacent top and side elements of

the trim 11 an overlap between their respective mitred edges.

One of the main advantages of the trim described is that variations in the size of the frame section 10 due to manufacturing tolerances can be accommodated, as can differential expansion of the various components in use of the fire without distortion of the trim.

## Claims

1. A trim for the front frame of a fireplace unit, comprising a plurality of elements (11) to fit over respective members (10) of said frame, each of which elements has a generally channel-shaped cross-section with a web portion (13) presenting a forwardly facing trim surface, a single return flange portion (14) extending rearwardly from a first edge of the web portion for engaging a first edge of a respective frame member, and a double return flange portion (15) extending rearwardly from the second edge of the web portion, the double return flange portion being shaped to receive a second edge portion of the respective frame member opposite said first edge, spring biasing means (16) being provided to act between the double return flange portion of each element and the second edge of the respective frame member to urge the double return flange portion away from said second edge and hence urge the single return flange portion of each element into engagement with said first edge of the respective frame member.

2. A trim as claimed in claim 1 wherein the double return flange portion does not extend over the full length of each element.

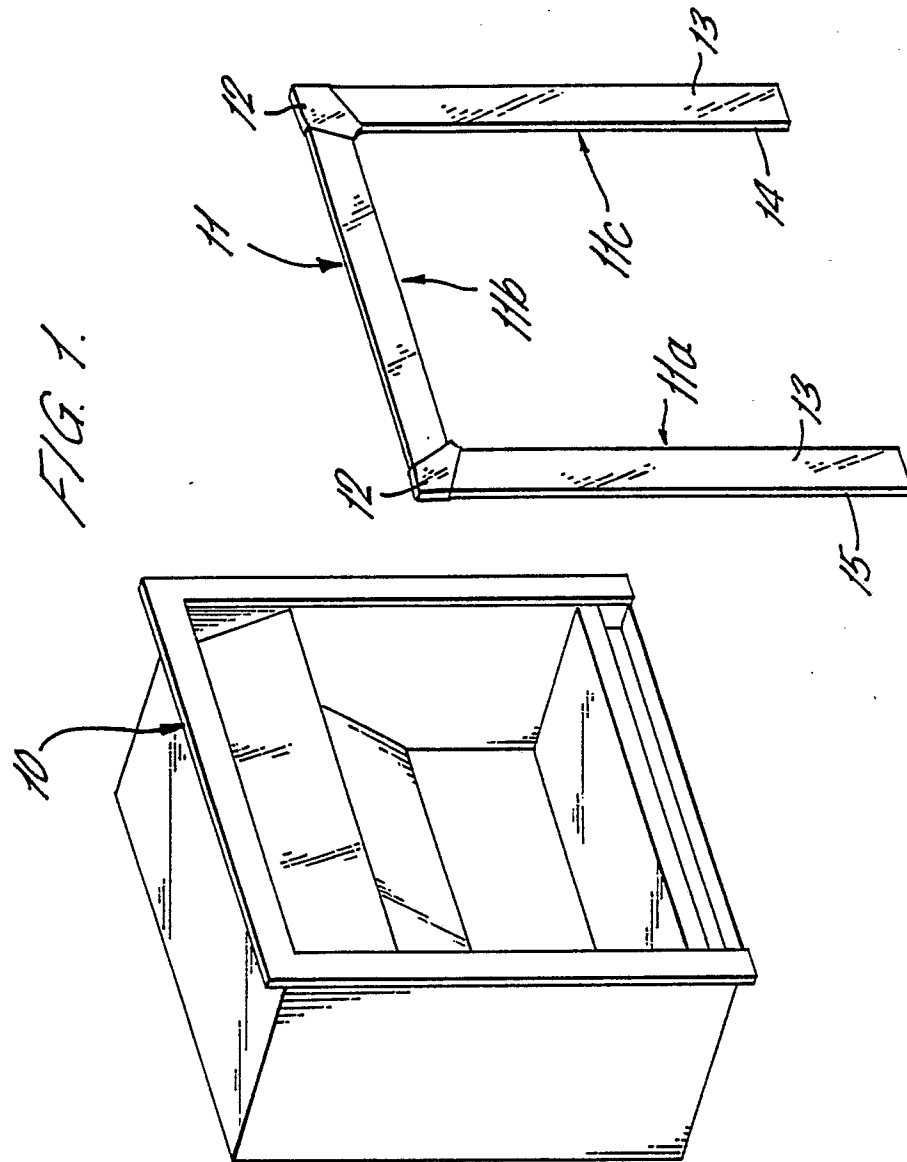
3. A trim as claimed in claim 1 or claim 2 wherein the spring biasing means is provided as an integral part of each element.

4. A trim as claimed in claim 1 or claim 2 wherein the spring biasing means is provided separately from each element.

5. A trim as claimed in Claim 4 wherein means is provided for locating the spring biasing means relative to each element.

6. A trim as claimed in any preceding claim wherein the single return flange portion subtends an angle of less than  $90^\circ$  to the web portion of each element.

7. A trim as claimed in any preceding claim and including a corner plate to cover each joint between two adjacent elements and means to mount each corner plate in position.



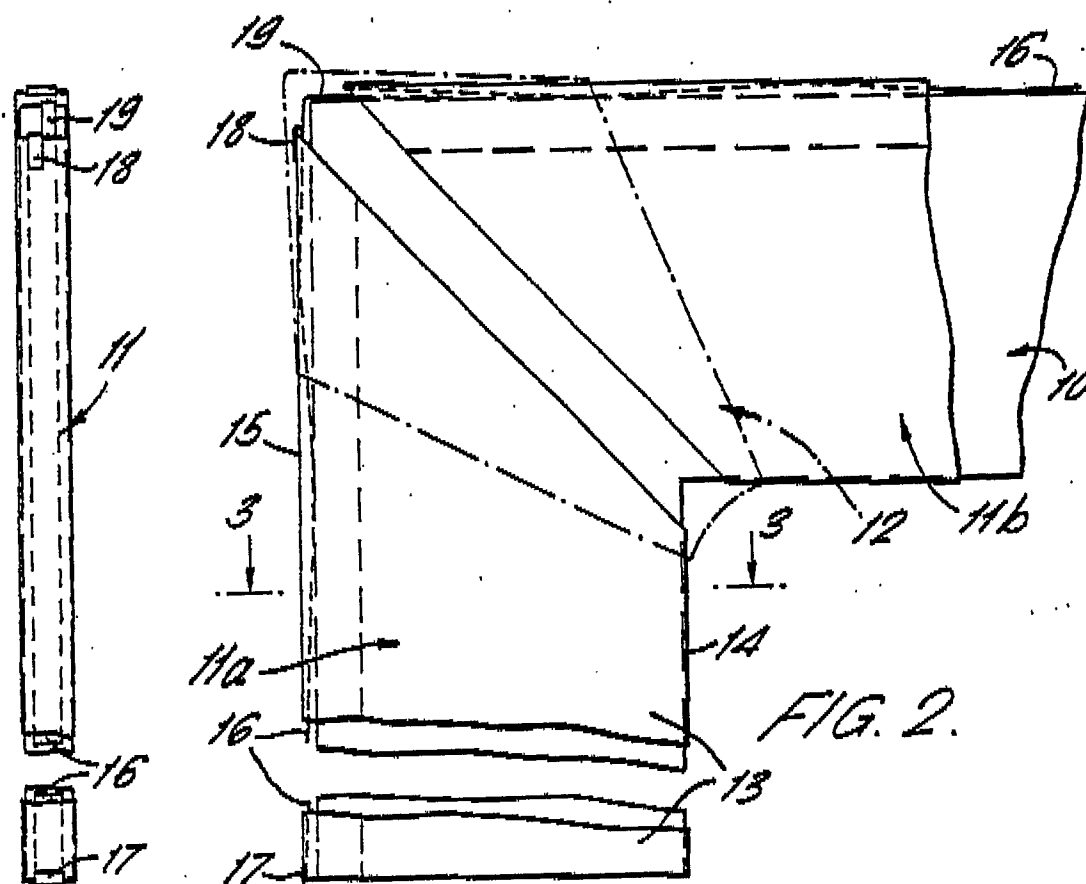


FIG. 2.

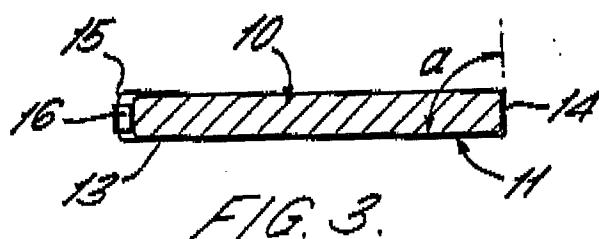


FIG. 3.

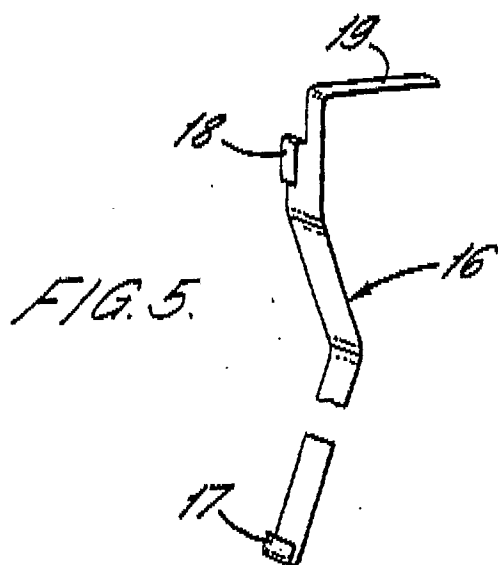


FIG. 5.

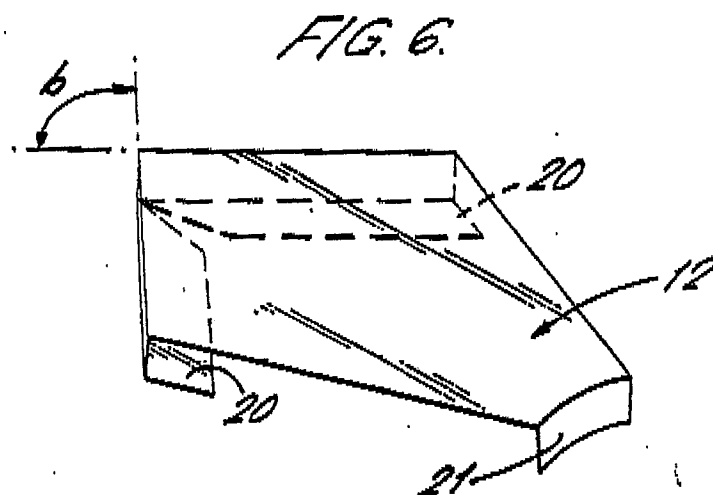


FIG. 6.



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	GB-A- 771 078 (W. HANKE et al.) * Page 2, lines 60-85; figures * ---	1	F 24 B 1/198
A	GB-A- 917 836 (MARSDEN & BATESON LTD) * Page 2, lines 84-107; figures * ---	1	
A	GB-A- 589 470 (BROS) * Page 2, lines 99-125; figures * -----	7	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			F 24 B F 24 C E 06 B F 25 D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25-01-1989	Examiner VANHEUSDEN J.
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document			