

Patents Act 1990

PATENT REQUEST: STANDARD PATENT

(Non-Convention Application)

We, being the person(s) identified below as the Applicant, request the grant of a patent to the person identified below as the Nominated Person, for an invention described in the accompanying standard complete specification.

Full application details follow.

[71] Applicants: DAVID LEONARD STEVENS and GARY MARTIN LAUT

Address: 52 MacDonald Avenue, Padbury, Western Australia, and
17 Lindholm Retreat, Mindarie, Western Australia, Australia, respectively.

[70] Nominated Persons: DAVID LEONARD STEVENS and GARY MARTIN LAUT

Address: 52 MacDonald Avenue, Padbury, Western Australia, and
17 Lindholm Retreat, Mindarie, Western Australia, Australia, respectively.

[54] Invention Title: "Security Device for a Sliding Member"

[72] Name(s) of actual inventor: DAVID LEONARD STEVENS and GARY MARTIN LAUT

[74] Address for service in Australia: WRAY & ASSOCIATES, Primary Industry House, 239 Adelaide Terrace, Perth, Western Australia, 6000.
Attorney code: WR

ASSOCIATED PROVISIONAL APPLICATION(S) DETAILS

[60] Application Number(s) and Date(s):

PM7863 2nd September, 1994

Drawing number recommended to accompany the abstract: Fig. 2

DAVID LEONARD STEVENS and
GARY MARTIN LAUT
By their Patent Attorney


24th July, 1995

678115

AUSTRALIA

Patents Act 1990

NOTICE OF ENTITLEMENT

(To be filed before acceptance)

We, DAVID LEONARD STEVENS and GARY MARTIN LAUT, of 52 MacDonald Avenue, Padbury, Western Australia, Australia, and 17 Lindholm Retreat, Indarie, Western Australia, respectively, being the applicants in respect of Application No. 27145/95, state the following:-

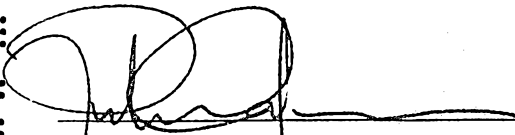
NOMINATED PERSON(S)

We are the Nominated Persons to whom we request that the patent be granted.

ENTITLEMENT TO INVENTION

We are the actual inventors.

DAVID LEONARD STEVENS and
GARY MARTIN LAUT
By their patent attorney



Peter M Caporn

Date: 19 November 1996



AU9527145

(12) PATENT ABRIDGMENT (11) Document No. AU-B-27145/95
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 678115

- (54) Title
SECURITY DEVICE FOR A SLIDING MEMBER
- International Patent Classification(s)
(51)⁶ **E05B 065/08 E05C 019/02**
- (21) Application No. : **27145/95** (22) Application Date : **24.07.95**
- (30) Priority Data
- | | | |
|---------------|-----------------|---------------------|
| (31) Number | (32) Date | (33) Country |
| PM7863 | 02.09.94 | AU AUSTRALIA |
- (43) Publication Date : **14.03.96**
- (44) Publication Date of Accepted Application : **15.05.97**
- (71) Applicant(s)
DAVID LEONARD STEVENS; GARY MARTIN LAUT
- (72) Inventor(s)
DAVID LEONARD STEVENS; GARY MARTIN LAUT
- (74) Attorney or Agent
WRAY & ASSOCIATES , PO Box 6292, Hay Street, EAST PERTH WA 6004
- (56) Prior Art Documents
GB 2272725
EP 341174
NL 7312768
- (57) Claim

1. A security device for a sliding member, the security device comprising a first member provided on a support located adjacent the sliding member, and a second member provided on the sliding member, the first and second members each having provided thereon an engaging portion, wherein the engaging portions are arranged in a manner such that a gap is defined therebetween and whereby the sliding member is able to slide with respect to the support along tracks upon which it is mounted but in which the engaging portion provided on the sliding member is caused to positively engage the other engaging portion only when the sliding member is forced in a direction away from the support, that direction being a direction other than that in which the sliding member will slide along its tracks with respect to the support, the engaging portions comprising male and female portions, the male portion defining one or more teeth and the female portion having provided thereon at least one recess for receiving and positively engaging the or each tooth of the male portion.

AUSTRALIA

Patents Act 1990

COMPLETE SPECIFICATION

For a Standard Patent

ORIGINAL

Name of Applicants: DAVID LEONARD STEVENS and
GARY MARTIN LAUT

Actual Inventor(s): DAVID LEONARD STEVENS and
GARY MARTIN LAUT

Address for Service:

WRAY & ASSOCIATES, Primary Industry House, 239 Adelaide Terrace, Perth,
Western Australia, 6000.

Attorney Code: WR

Invention Title: "Security Device for a Sliding Member"

Details of Associated Provisional Application No: PM7863

The following statement is a full description of this invention, including
the best method of performing it known to me:-

THIS INVENTION relates to a security device for a sliding member. More particularly, the security device of the present invention is intended for use in relation to sliding doors, sliding windows and other slidable members.

- 5 The present invention is suited for, but not limited to, use in relation to a flyscreen or grille sliding door used in conjunction with a sliding glass door.

Security devices have been provided previously for sliding doors and windows in order to prevent an intruder from forcing the grille door away from the glass door.

- 10 A deficiency with such a device is that whilst it does help prevent a door from being freed when a force is applied at right angles to the door itself, it does not address the situation when a force is applied at an angle to the lower corner of the non-locking side of the door in the direction of the door opening.

- 15 The present invention will seek to avoid or reduce this deficiency by providing a security device provided in two components, one component to be attached to or formed integrally with the grille door itself and the other component to be attached to or formed integrally with a non-movable support of the corresponding glass door or door opening framework.

- 20 In accordance with the present invention there is provided a security device for a sliding member, the security device comprising a first member provided on a support located adjacent the sliding member, and a second member provided on the sliding member, the first and second members each having provided thereon
- 25 an engaging portion, wherein the engaging portions are arranged in a manner such that a gap is defined therebetween and whereby the sliding member is able to slide with respect to the support along tracks upon which it is mounted but in which the engaging portion provided on the sliding member is caused to positively engage the other engaging portion only when the sliding member is forced in a
- 30 direction away from the support, that direction being a direction other than that in which the sliding member will slide along its tracks with respect to the support, the engaging portions comprising male and female portions, the male portion defining



one or more teeth and the female portion having provided thereon at least one recess for receiving and positively engaging the or each tooth of the male portion.

The sliding member preferably comprises a grille or flyscreen door. Such a door
5 will be referred to as a "grille door" hereinafter.

2
3
4
5
6
7

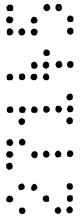


Preferably, the first member is mounted onto the fixed framework of a glass door or window located closely adjacent and parallel to the grille door. The glass door or window may be of the single or double door type.

5

Alternatively, the first member is mounted onto the edge of the door or window opening in cases where there is no additional glass door. Preferably, the first and second members are formed as extrusions.

10 The engaging portions may comprise male and female portions. Preferably, the engaging portion provided on the first member is a male portion, and the engaging portion provided on the second member is a female portion. Preferably, the female portion is provided with at least one recess for receiving the male portion. Preferably, the male portion extends at an angle towards the female portion. The recess in the female portion may be angled to receive the male portion.



Preferably, the second member is of generally L-shaped cross-section.



20 Preferably, during normal operation the door is able to be slid along its tracks without the engaging portions becoming engaged.



Specific embodiments of the invention will now be described by reference to the accompanying drawings in which:

25

Fig. 1 is a cross-sectional view of a security device in accordance with the present invention shown mounted on a sliding member in its non-operative position;

30

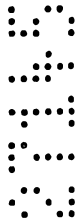
Fig. 2 is a cross-sectional view of the security device of Fig. 1 shown in its operative position;

Fig. 3 is a cross-sectional view of a security device in accordance with a second embodiment of the present invention shown mounted on a sliding member in its non-operative position;

5 Fig. 4 is a cross-sectional view of the security device of Fig. 3 shown in its operative position;

Fig. 5 is a cross-sectional view of a security device in accordance with a third embodiment of the present invention shown mounted on a sliding member in its non-operative position; and

10 Fig. 6 is a cross-sectional view of the security device of Fig. 5 shown in its operative position.



Referring to Figs. 1 and 2, the embodiment depicted is directed to a security device generally indicated at 10 comprising a first member 12 and a second member 14 formed as extrusions.

15



The embodiment will be described as used in relation to a sliding grille door provided opposite double glass doors where one of the glass doors is sliding and the other door fixed. In the drawings only the fixed glass door is shown at 15.



20 The first member 12 is substantially elongate in profile and has an attachment portion 16 and an engaging portion 18. The attachment portion 16 being defined by a lip 20. The engaging portion 18 having provided thereon a plurality of teeth 22.

25 The second member 14 comprises a first planar portion 24 and a second planar portion 26 provided at right angles to each other. The portion 26 has provided thereon a single tooth 28 projecting toward the first member 12. The tooth 28 extends at an angle of about 45° towards the first member 12 and is of a substantially V-shape.

30

In use, the attachment portion 16 of the first member 12 is affixed to a central support 35 located between a sliding glass door (not shown) and the fixed glass

door 15. The first member 12 is affixed so that the engaging portion 18 extends substantially parallel to the fixed glass door 15 as can be seen in Figs. 1 and 2.

5 The first planar portion 24 of the second member 14 is affixed to an outer side 37 of a frame 39 of a grille door 41. As such, the second planar portion 26 is closely adjacent and parallel to the glass door 15. In this position the tooth 28 projects towards the female member 18 such that there is a gap 43 created between them. The presence of this gap 43 allows free sliding movement of the grille door 41 during normal opening and closing movements.

10

If a force is applied at an angle away from the unlocked side or frame 39 of the grille door 41, either at the edge of the door or by forcing the bottom corner of the door upwardly and outwardly, this action causes the movement of the grille door 41 in the direction of the applied force causing the tooth 28 to engage with the teeth 22 as depicted in Fig. 2 thereby effectively locking the grille door 41 in place on both of its sides thus preventing displacement of the grille door 41.

In Figs. 3 and 4 there is shown a further embodiment of the security device of the present invention, being a security device 50. Like numerals denote like parts.

20

A first member 42 comprises a planar portion 46 one edge of which is provided with a female member 48 formed by twice folding one edge of first member 42 inwardly and upwardly to form a fold 60 of V-shaped configuration to define a recess 62. As can be seen in the drawings the recess 62 is formed having a side wall 64 which is angled towards the planar portion 46.

25

A second member 66 comprises a first planar portion 68 and a second planar portion 70 provided at right angles to each other. The edge of the second planar portion 70 is once folded inwardly of the second planar portion 70 to form a male member 72 consisting of a projection 74 which projects at an angle towards the first planar portion 68.

30



The angle of projection of the male member 72 corresponds to the angle of inclination of the side wall 64 of the female member 48 which is approximately 45°.

5 In use, the planar portion 46 of the first member 42 is affixed to the central support 35 located between the sliding glass door (not shown) and the fixed glass door 15. The first member 42 is affixed so that the female member 48 is located opposite glass door 15 such that the recess 62 faces the corner created by the support 35 and glass door 15 as seen in Fig. 3.

10

The first planar portion 68 of the second member 66 is affixed to the outer side 37 of the frame 39 of the grille door 41, such that the second planar portion 70 is closely adjacent and parallel to the glass door 15. In this position the male member 72 will project towards the female member 48 such that there is a gap 43 created between them. The presence of this gap 43 allows free sliding movement of the grille door during normal opening and closing movements.

15

If a force is applied at an angle away from the unlocked side 39 of the grille door 41, either at the edge of the door or by forcing the bottom corner of the door upwardly and outwardly, this action causes the movement of the grille door 41 in the direction of the applied force. This in turn causes the male member 72 to engage with the female member 48 as depicted in Fig. 4 thereby effectively locking the door 41 in place on both of its sides thus preventing displacement of the door 41.

20

Figs. 5 and 6 depict a still further embodiment of the security device 10 of the present invention, being a security device 100. This embodiment operates in a similar fashion to the above described embodiment with main differences directed to the first member.

25

A first member 102 comprises a main planar portion 104 and a minor planar portion 106 provided at right angles to each other. Provided to extend at right

30

angles from the end of the planar portion 106 in an opposite direction away from the planar portion 104 is a female member 108.

5 The female member 108 is of a saw tooth configuration to provide a pair of axially aligned V-shaped recesses 110 which extend into the female member 108 at an angle of about 45° towards the planar portion 104.

A second member 112 is of generally the same configuration as that disclosed in Figs. 1 and 2 and like numerals denote like parts.

10

In use the planar portions 104 and 106 of the first member 102 are attached to the corner of the central support 35 located between the sliding glass door (not shown) and the fixed glass door 15 such that it is opposite to the non-locking side of the grille door 41. In this position the recesses 110 will face the corner.

15

The second member 112 is affixed to the grille door 41 in the same manner as described with the embodiment disclosed in Figs. 1 and 2.

20

If a force is applied at an angle away from the unlocked side 39 of the grille door 41, either at the edge of the door or by forcing the bottom corner of the door upwardly and outwardly, this causes movement of the door in the direction of the applied force causing the male member 28 to engage with the female member 108 as depicted in Fig. 6 thereby effectively locking the door 41 as described earlier.

25

It should be appreciated the various modifications and variations may be made to the embodiments described without departing from the scope of the present invention.

30

THE CLAIMS defining the invention are as follows:

1. A security device for a sliding member, the security device comprising a first member provided on a support located adjacent the sliding member, and a
5 second member provided on the sliding member, the first and second members each having provided thereon an engaging portion, wherein the engaging portions are arranged in a manner such that a gap is defined therebetween and whereby the sliding member is able to slide with respect to the support along tracks upon which it is mounted but in which the engaging portion provided on the
10 sliding member is caused to positively engage the other engaging portion only when the sliding member is forced in a direction away from the support, that direction being a direction other than that in which the sliding member will slide along its tracks with respect to the support, the engaging portions comprising male and female portions, the male portion defining one or more teeth and the female portion having provided thereon at least one recess for receiving and positively engaging the or each tooth of the male portion.
2. A security device according to claim 1, wherein the male portion extends from the second member at an angle towards the female portion.
3. A security device according to claim 2, wherein the female portion comprises one or more recesses angled to receive the male portion.
4. A security device according to any one of the preceding claims, wherein
25 the first member is substantially elongate having an attachment portion and the engaging portion.
5. A security device according to any one of the preceding claims, wherein the second member is of a generally L-shaped cross-section.

30



6. A security device according to any one of the preceding claims, wherein the support to which the first member is mounted comprises a portion of the fixed framework of a glass door or window.

5 7. A security device according to claim 6, wherein the sliding member comprises a sliding grille door or window.

8. A security device substantially as hereinbefore described with reference to Figs. 1 and 2, 3 and 4 or 5 and 6.

10

DATED this tenth day of March 1997

DAVID LEONARD STEVENS

and

GARY MARTIN LAUT

Applicants

15

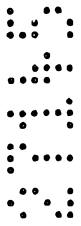
WRAY & ASSOCIATES
Perth, Western Australia
20 Patent Attorneys for Applicants

20



ABSTRACT

A security device (10) for a sliding member comprising a first member (12) provided on a support (35) located opposite a non-locking side of the sliding member, a second member (14) provided on the non-locking side of the sliding member, the first and second members each being provided with an engaging portion (18, 28), wherein one engaging portion projects towards the other engaging portion so that when the non-locking side of the door/window is forced at an angle away from the door this causes one engaging portion (18) to move into positive engagement with the other engaging portion (28) so as to prevent the sliding member from being displaced.



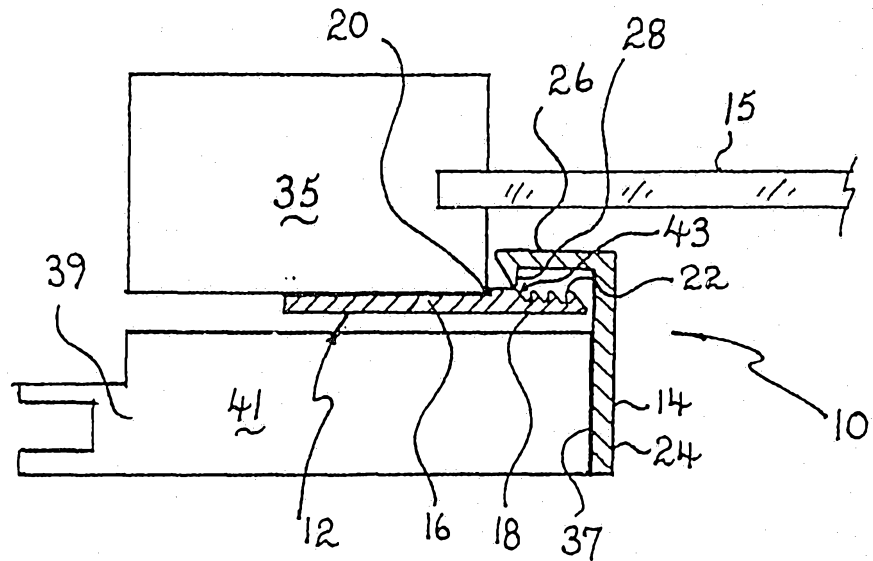


Fig. 1.

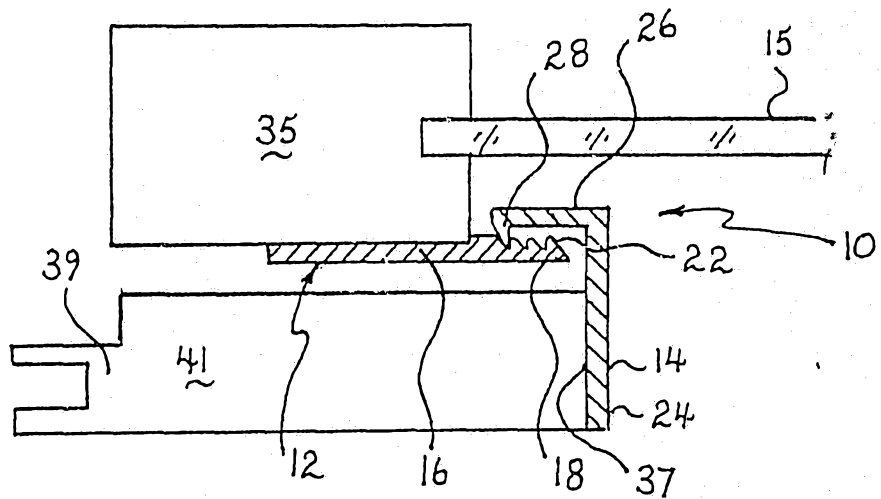
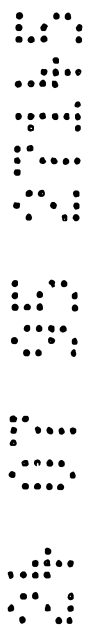
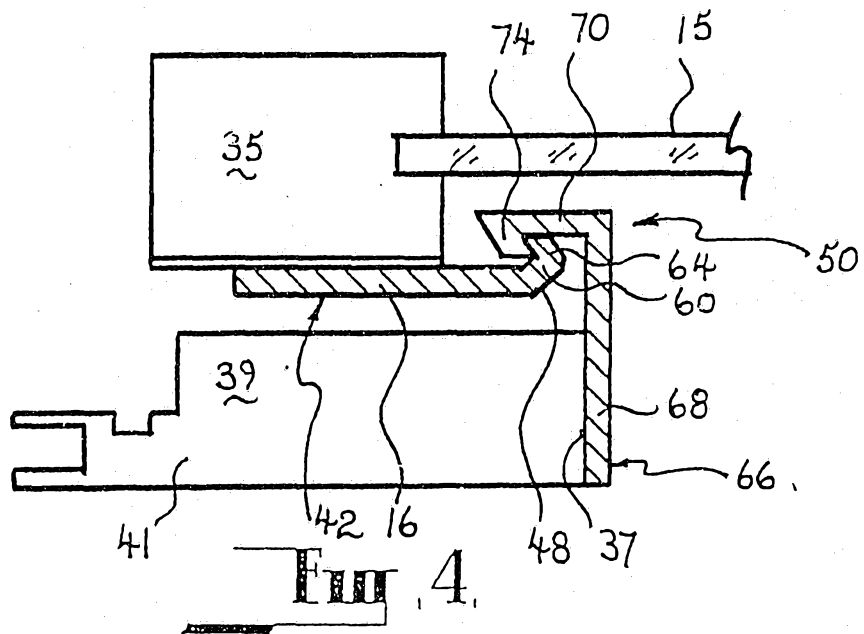
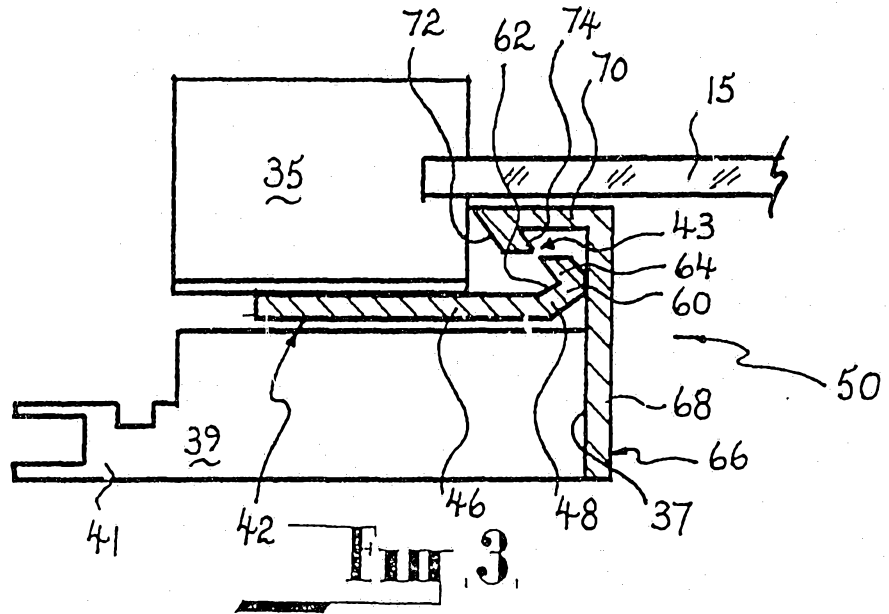


Fig. 2.



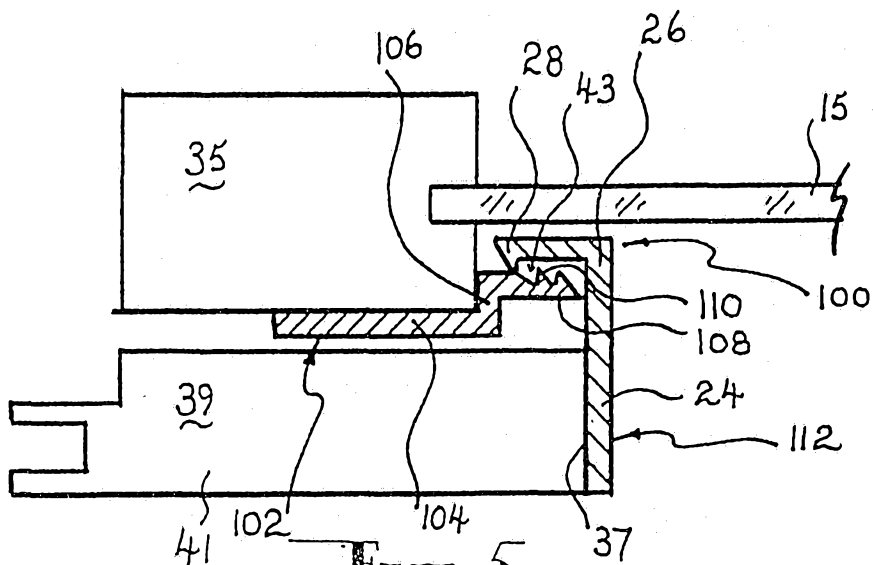


Fig. 5

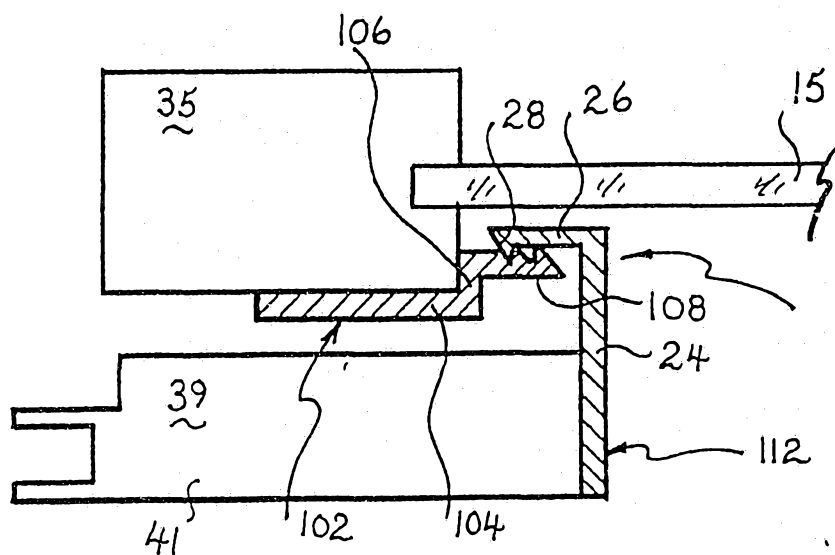


Fig. 6

