

(19)



(11)

**EP 1 365 099 B1**

(12)

**EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:  
**23.04.2008 Bulletin 2008/17**

(51) Int Cl.:  
**E06B 7/215<sup>(2006.01)</sup>**

(21) Application number: **03425168.6**

(22) Date of filing: **19.03.2003**

(54) **Draught excluding device for doors**

Vorrichtung für das Ausschliessen von Luftzügen

Dispositif pour exclure les courants d'air

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR**

(30) Priority: **24.05.2002 IT BS20020065 U**

(43) Date of publication of application:  
**26.11.2003 Bulletin 2003/48**

(73) Proprietor: **Comaglio S.r.l.**  
**25080 Muscoline (Brescia) (IT)**

(72) Inventors:  
 • **Comaglio, Aldo**  
**25085 Gavardo (Brescia) (IT)**  
 • **Vezzola, Caterina**  
**25085 Gavardo (Brescia) (IT)**

(74) Representative: **Crippa, Paolo Ernesto et al**  
**Jacobacci & Partners S.p.A.**  
**Piazza della Vittoria, 11**  
**25122 Brescia (IT)**

(56) References cited:  
**EP-A- 0 844 359**                      **DE-A- 2 458 619**

**EP 1 365 099 B1**

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

## Description

**[0001]** The present finding relates to draught excluding devices, that is, floor sealing devices for doors, and in particular it refers to devices that can be applied outside the ledges of such doors.

**[0002]** As known, draught excluding devices for doors comprise a channel-shaped section bar wherein there is mounted a mobile member capable of moving upwards and downwards, to and fro the floor under the door. The mobile member carries at least one seal intended to abut against the floor when the member is lowered, and at least at one end it is provided with a pushing member intended to engage with a respective door jamb to make the mobile member move downwards and consequently abut the seal against the floor when the door is closed. Moreover, at the end opposed to the pushing member, the mobile member exhibits an abutment means that abuts against a stop provided into the channel-shaped section bar so as to restrict the longitudinal movements of the mobile member and force it to lower when a force is applied to the pushing member. Such a device according to the preamble of claim is known from EP-A-0844359.

**[0003]** If the device is applied outside the ledge base, for aesthetic reasons the channel-shaped section bar supporting the mobile member exhibits a rounded or asymmetric shape relative to its longitudinal axis. However, this is a disadvantage since it is not possible to apply the device to right- and left-opening door without distinction.

**[0004]** The same disadvantage may occur also in some cases when the device is applied into a seat obtained into the base of a door where, for construction constraints (such as the priority position of the lock on the floor, or the position of holes for securing the draught excluding device) or for the need of optimising the thermal and sound insulation (which, for example, requires the alignment of the draught excluding device seal with the door and/or frame seal), the draught excluding device must be fixed on a side of said seat and for practical reasons requires an asymmetric section of the channel-shaped section bar. Another similar case relates to doors already provided with a base seat for housing the draught excluding device mobile member, where said seat is necessarily asymmetric relative to its longitudinal axis, or where for semi-finished door storage purposes it is important not to define the opening direction of such doors in advance.

**[0005]** Purpose of the present finding is to remedy such disadvantages by proposing a single draught excluding device for doors which should be applied outside the ledge base, irrespective of the door opening side.

**[0006]** Another purpose of the finding is to provide a symmetric draught excluding device which should allow being introduced in one direction or in the opposed direction in the same way into an asymmetric profile already existing at the base of some doors or fixed to a

side of a seat obtained in such doors, in any case in a side position relative to the ledge longitudinal axis.

**[0007]** Such purposes are achieved by a draught excluding device for doors according to the claims reported hereinafter.

**[0008]** Further details of the finding will appear more clearly from the following description, made with reference to the attached indicative and non-limiting drawings, wherein:

- Fig. 1 shows a longitudinal section view of a draught excluding device according to the finding;
- Fig. 2 shows a vertical section view of the device;
- Fig. 3 shows a transversal section view of the device at the level of the stop;
- Fig. 4 shows a transversal section view of the device at the level of a stop block;
- Fig. 5 shows the device applied outside a door; and
- Figs. 6 and 7 show a transversal section view of two examples of draught excluding device applied inside a door.

**[0009]** The draught excluding device 10 as described with reference to Figs. 1 - 5 is especially intended to be applied outside the base of a ledge 11 of a door. As known, it comprises a channel-shaped support section bar 12, substantially shaped as an upturned U, wherein there is inserted a mobile member 13 capable of moving upwards and downwards to and fro the floor, thanks to conventional means connecting said mobile member to the support section bar 12. Such connecting means are inserted and held into parallel sliding tracks 25 delimited by guiding edges 25' arranged longitudinally on the inside faces of the sides of the support section bar 12.

**[0010]** The mobile member carries at least one seal 14 intended to abut on the floor when the mobile member 13 is lowered, and at at least one end it is provided with a pusher 15 intended to engage with a respective jamb 11' of the door to make the mobile member 13 lower and consequently make seal 14 abut against the floor.

**[0011]** Moreover, at the end opposed to pusher 15, the mobile member 13 exhibits an abutment member 16 intended to abut against a stop 17 provided into the support section bar 12 so as to restrict the longitudinal movements of the mobile member and force the latter to lower when a force is applied to pusher 15.

**[0012]** According to the finding, two stop blocks 18 are inserted into the support section bar 12 and locked at a suitable distance from one another. Such blocks 18 rest on edges 25' and are therefore arranged in the top side 12' of the support. The blocks are constrained into position for example by tongues or projections 19 obtained in the section bar itself. Stop 17 is inserted in the portion of section bar 12 located between said stop blocks 18 and it is capable of longitudinal movements, since it is guided by edges 25'. Stop 17 exhibits a head in the top portion 12' of the support section bar, and which is therefore intended to alternately abut against the stop blocks,

and a bottom appendix 21 extending in the bottom portion 12" of the section bar and serving as stop for the abutment member 16 of the mobile member 13.

**[0013]** According to the door opening direction, stop 17 is placed against one of the two stop blocks, thereby allowing the device operation without having to turn the section bar by 180°.

**[0014]** It should be noted that the head of stop 17 exhibits a breakage 20' at the means for fixing the stop blocks 18, so as to not interfere with them and make stop 178 slide freely before fixing both blocks.

**[0015]** The stop blocks 18 may also be used for receiving screws 22 for securing the device to the door. A window 23 will therefore be obtained in the support section bar at each block, closable by a special insert 24.

**[0016]** With reference to Figs. 6 and 7, the device under discussion is especially advantageous also in some cases of insertion into a seat 25 or in an aluminium section bar 26 already provided at the base of a door ledge. For example, if the draught excluding device cannot be introduced/extracted through a side door opening, the channel-shaped section bar 12 may exhibit a tab or side top extension 27 to be tightened to the ledge from the bottom - Fig. 6. Also in this case the section bar is therefore asymmetric.

**[0017]** On the other hand, Figure 7 shows a door having one side with the aluminium section bar 26 configured for receiving the mobile member 13 of the draught excluding device, and the other side made of wooden. In this case, the proposed device allows obviating the asymmetric structure of the door itself.

**[0018]** Finally, it should be noted that in place of the stop blocks 18 it is possible to use the same heads of the screws used for securing the support section bar 12 to the ledge, or similar means as abutment means for stop 17.

## Claims

1. Draught excluding device for doors, comprising a channel-shaped support section bar (12) to be fixed to the base of a door ledge, a mobile member (13) mounted in the channel-shaped section bar (12) and capable of moving upwards and downwards to and from the floor, at least one seal (14) carried by the mobile member (13), means for connecting said mobile member (13) to the support section bar (12), where said connecting means are inserted and held into parallel sliding tracks (25) delimited by guiding edges (25') arranged longitudinally on the inside faces of the support section bar sides, where at at least one end, the mobile member (13) is provided with a pusher (15) intended to engage with a respective door jamb for making the mobile member (13) lower and consequently make the seal abut on the floor, and where at the opposed end relative to the pusher (15), also the mobile member (13) is provided with

an abutment member (16) intended to rest against a stop (17) provided in the support section bar (12), so as to restrict the longitudinal movements of the mobile member (13) and force the latter to lower when the pusher (15) engages with the door jamb, **characterised in that** two stop members (18) are fixed or obtained in a top portion of the support section bar (12), at a suitable distance from one another and in a non-interference position with the mobile member (13), and **in that** the stop (17) for the abutment member (16) of the mobile member (13) is inserted and sliding in the portion of the section bar (12) located between said stop members (18), so as to abut against one of them according to the door opening side.

2. Draught excluding device according to claim 1, wherein the stop (17) exhibits a head (20) intended to alternately abut against the stop members (18) and a bottom appendix (21) acting as stop for the abutment member (16) of the mobile member.
3. Draught excluding device according to claim 2, wherein the stop (17) is held by and guided along, the edges (25').
4. Draught excluding device according to claim 1, 2 or 3, wherein the stop members consist of blocks (18) resting and sliding on the edges (25').
5. Draught excluding device according to claim 4, wherein the stop blocks (18) are secured to the support section bar (12) by tabs or projections (19) obtained in the section bar itself.
6. Draught excluding device according to claim 4, wherein the stop (17) exhibits a breakage (20') at the block fixing tabs or projections so as to not interfere with said tabs or projections.
7. Draught excluding device according to any one of the previous claims, wherein the stop blocks (18) are configured for receiving screws (22) for fixing the device to the door, a window (23) closable by an insert (24) being obtained at each block for introducing the screw.
8. Draught excluding device according to claim 1, 2 or 3, wherein the stop members (18) consist of the heads of screws used for securing the channel-shaped section bar to the door ledge.

## Patentansprüche

1. Zugluftausschließvorrichtung für Türen, umfassend eine kanalförmige Träger- bzw. Stützprofilstange (12), die an der Basis einer Türschwelle zu befesti-

- gen ist, ein mobiles Glied (13), das in der kanalför-  
migen Profilstange (12) montiert ist und in der Lage  
ist, sich nach oben und unten zu dem Boden hin und  
von diesem weg zu bewegen, wenigstens eine Dicht-  
ung (14), die durch das mobile Glied (13) getragen  
ist, Mittel zum Verbinden des mobilen Glieds (13)  
mit der Trägerprofilstange (12), wo die Verbindungsmittel  
in parallele Gleitbahnen (25) eingesetzt und gehalten  
sind, die durch Führungskanten bzw. -ränder (25')  
begrenzt sind, die längs an den Innenflächen der  
Trägerprofilstangenseiten angeordnet sind, wo an  
wenigsten einem Ende das mobile Glied (13) mit  
einem Drücker (15) versehen ist, der dazu bestimmt  
ist, mit einer jeweiligen Türleibung bzw. -pfosten  
in Eingriff zu gelangen, um zu veranlassen, dass  
sich das mobile Glied (13) absenkt, und folglich  
zu veranlassen, dass die Dichtung auf den Boden  
stößt, und wo an dem entgegengesetzten Ende  
relativ zu dem Drücker (15) auch das mobile Glied  
(13) mit einem Anschlagglied (16) versehen ist, das  
dazu bestimmt ist, gegen eine Stoppeinrichtung (17)  
anzuliegen, die in der Trägerprofilstange (12) vor-  
gesehen ist, um die Längsbewegungen des mobilen  
Glieds (13) zu begrenzen und das letztere zu zwin-  
gen, sich abzusenken, wenn der Drücker (15) mit  
der Türleibung in Eingriff gelangt, **dadurch gekenn-  
zeichnet, dass** zwei Stoppglieder (18) in einem  
obersten Abschnitt der Trägerprofilstange (12) be-  
festigt oder ent- bzw. erhalten sind, und zwar mit  
einem geeigneten Abstand von einander und in einer  
Nichtbeeinträchtigungsposition bzw. nicht interferie-  
renden Position mit dem mobilen Glied (13), und **da-  
durch**, dass die Stoppeinrichtung (17) für das An-  
schlagglied (16) des mobilen Glieds (13) in den Ab-  
schnitt der Profilstange (12) eingesetzt und gleitbar  
bzw. verschiebbar ist, der zwischen den Stoppglie-  
dern (18) angeordnet ist, um gegen eines von ihnen  
anzuschlagen, je nach Türöffnungsseite.
2. Zugluftausschließvorrichtung nach Anspruch 1, wo-  
bei die Stoppeinrichtung (17) einen Kopf (20) auf-  
weist, der dazu bestimmt ist, abwechselnd gegen  
die Stoppglieder (18) und einen Bodenfortsatz (21)  
zu schlagen, der als eine Stoppeinrichtung für das  
Anschlagglied (16) des mobilen Glieds wirkt.
  3. Zugluftausschließvorrichtung nach Anspruch 2, wo-  
bei die Stoppeinrichtung (17) durch die Kanten bzw.  
Ränder (25') gehalten und entlang dieser geführt ist.
  4. Zugluftausschließvorrichtung nach Anspruch 1, 2  
oder 3, wobei die Stoppglieder aus Blöcken (18) be-  
stehen, die auf den Kanten bzw. Rändern (25') auf-  
liegen und gleiten.
  5. Zugluftausschließvorrichtung nach Anspruch 4, wo-  
bei die Stopfböcke (18) durch Ansätze oder Vor-  
sprünge (19), die in der Profilstange selbst ent- bzw.  
erhalten sind, an der Trägerprofilstange (12) gesi-  
chert sind.
  6. Zugluftausschließvorrichtung nach Anspruch 4, wo-  
bei die Stoppeinrichtung (17) eine Bruchstelle bzw.  
Ausparung (20') an den Blockbefestigungsansät-  
zen oder - vorsprüngen aufweist, um die Ansätze  
oder Vorsprünge nicht zu beeinträchtigen.
  7. Zugluftausschließvorrichtung nach einem der vor-  
hergehenden Ansprüche, wobei die Stopfböcke  
(18) konfiguriert sind, um Schrauben (22) aufzuneh-  
men, um die Vorrichtung an der Tür zu befestigen,  
wobei ein Fenster (23), das durch einen Einsatz (24)  
verschiebbar ist, an jedem Block zum Einführen der  
Schraube enthalten ist.
  8. Zugluftausschließvorrichtung nach Anspruch 1, 2  
oder 3, wobei die Stoppglieder (18) aus den Köpfen  
von Schrauben bestehen, die zum Sichern der kan-  
alförmigen Profilstange an der Türschwelle ver-  
wendet werden.
- 25 Revendications**
1. Dispositif excluant les courants d'air pour portes,  
comprenant une barre (12) de section de support en  
forme de canal à fixer à la base d'un appui de porte,  
un organe mobile (13) monté dans la barre (12) de  
section en forme de canal et capable de se déplacer  
en haut et en bas vers et depuis le plancher, au moins  
un joint (14) porté par l'organe mobile (13), des  
moyens pour raccorder ledit organe mobile (13) à la  
barre (12) de section de support, où lesdits moyens  
de raccordement sont insérés et maintenus dans des  
glissières de glissement parallèles (25) délimitées  
par des bordures de guidage (25') agencées longi-  
tudinalement sur les faces internes des côtés de la  
barre de section de support, où à au moins une ex-  
trémité, l'organe mobile (13) est pourvu d'un élé-  
ment de poussée (15) destiné à s'engager avec un mon-  
tant de porte respectif pour abaisser l'organe mobile  
(13) et par conséquent faire buter le joint sur le plan-  
cher, et où à l'extrémité opposée par rapport à l'élé-  
ment de poussée (15), l'organe mobile (13) est éga-  
lement pourvu d'un organe d'aboutement (16) des-  
tiné à se poser contre une butée (17) pourvue dans  
la barre (12) de section de support, de façon à limiter  
les mouvements longitudinaux de l'organe mobile  
(13) et à forcer ce dernier à s'abaisser lorsque l'élé-  
ment de poussée (15) s'engage avec le montant de  
porte, **caractérisé en ce que** deux organes de butée  
(18) sont fixés ou obtenus dans une position haute  
de la barre (12) de section de support, à une distance  
convenable l'un par rapport à l'autre et dans une  
position n'interférant pas avec l'organe mobile (13),  
et **en ce que** la butée (17) pour l'organe

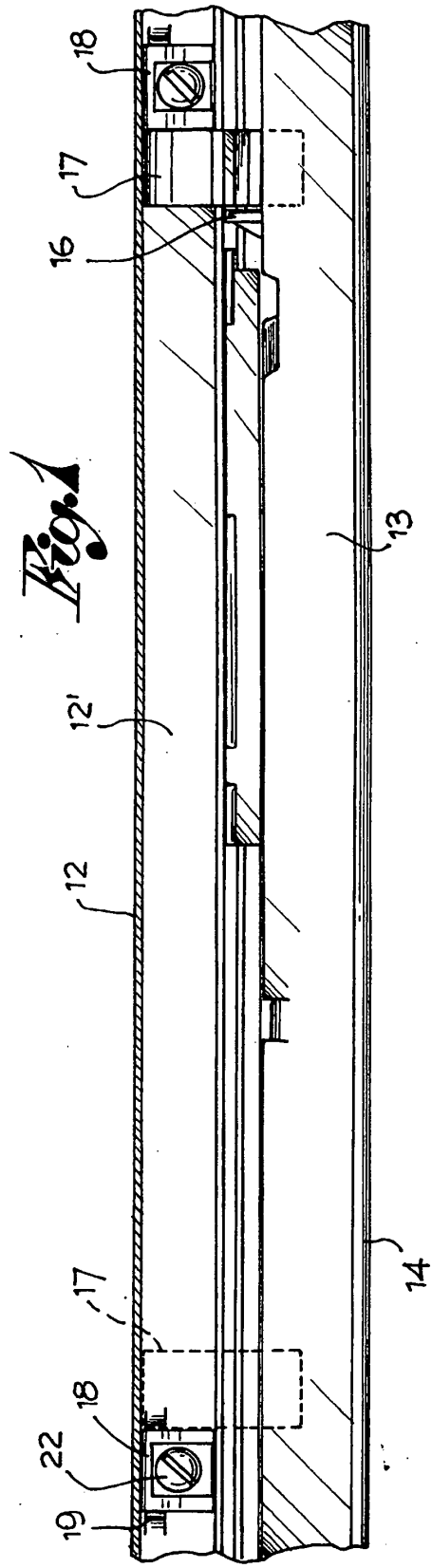
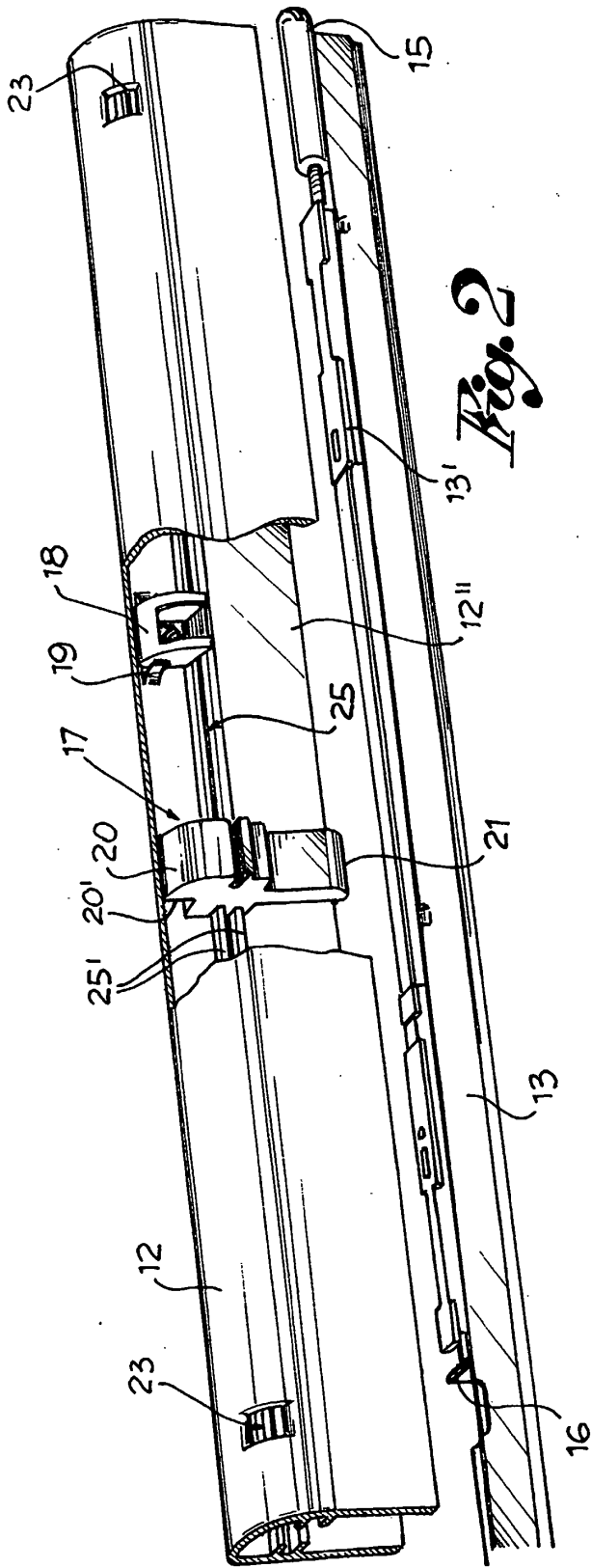
d'aboutement (16) de l'organe mobile (13) est insérée et glisse dans la partie de la barre (12) de section située entre lesdits organes de butée (18), de façon à buter contre l'un d'eux selon le côté d'ouverture de la porte.

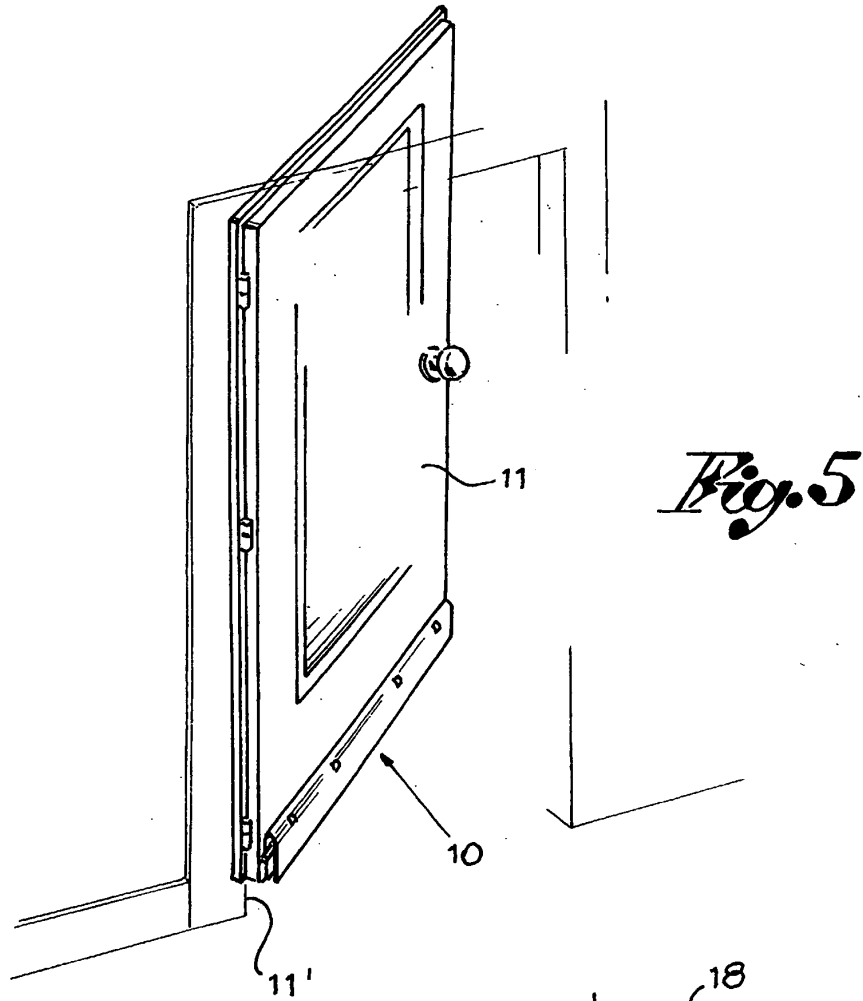
5

2. Dispositif excluant les courants d'air selon la revendication 1, dans lequel la butée (17) présente une tête (20) destinée à buter en alternance contre les organes de butée (18) et un appendice inférieur (21) faisant office de butée pour l'organe d'aboutement (16) de l'organe mobile. 10
3. Dispositif excluant les courants d'air selon la revendication 2, dans lequel la butée (17) est maintenue et guidée le long des bordures (25'). 15
4. Dispositif excluant les courants d'air selon la revendication 1, 2 ou 3, dans lequel les organes de butée se composent de blocs (18) posés et glissant sur les bordures (25'). 20
5. Dispositif excluant les courants d'air selon la revendication 4, dans lequel les blocs de butée (18) sont fixés à la barre (12) de section de support par le biais de languettes ou projections (19) obtenues dans la barre de section elle-même. 25
6. Dispositif excluant les courants d'air selon la revendication 4, dans lequel la butée (17) présente une cassure (20') au niveau des languettes ou projections de fixation des blocs de manière à ne pas interférer avec lesdites languettes ou projections. 30
7. Dispositif excluant les courants d'air selon l'une quelconque des revendications précédentes, dans lequel les blocs de butée (18) sont configurés de façon à recevoir des vis (22) pour fixer le dispositif à la porte, une fenêtre (23) pouvant être fermée par le biais d'une pièce rapportée (24) obtenue à chaque bloc pour introduire la vis. 35  
40
8. Dispositif excluant les courants d'air selon la revendication 1, 2 ou 3, dans lequel les organes de butée (18) se composent des têtes de vis utilisées pour fixer la barre de section en forme de canal à l'appui de porte. 45

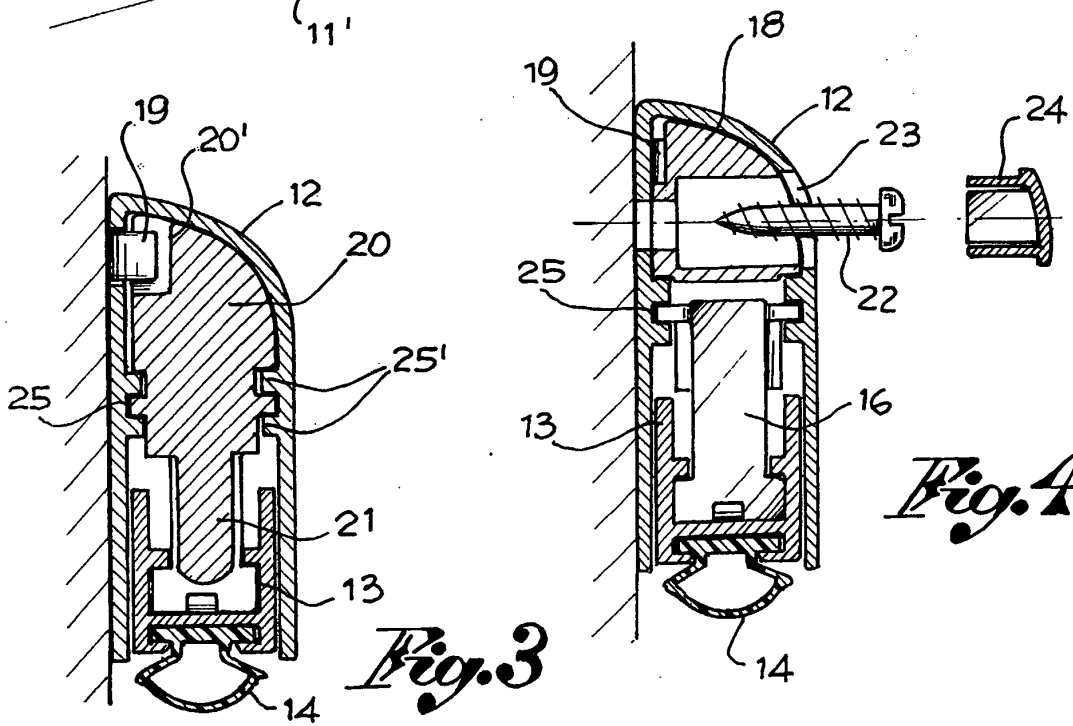
50

55



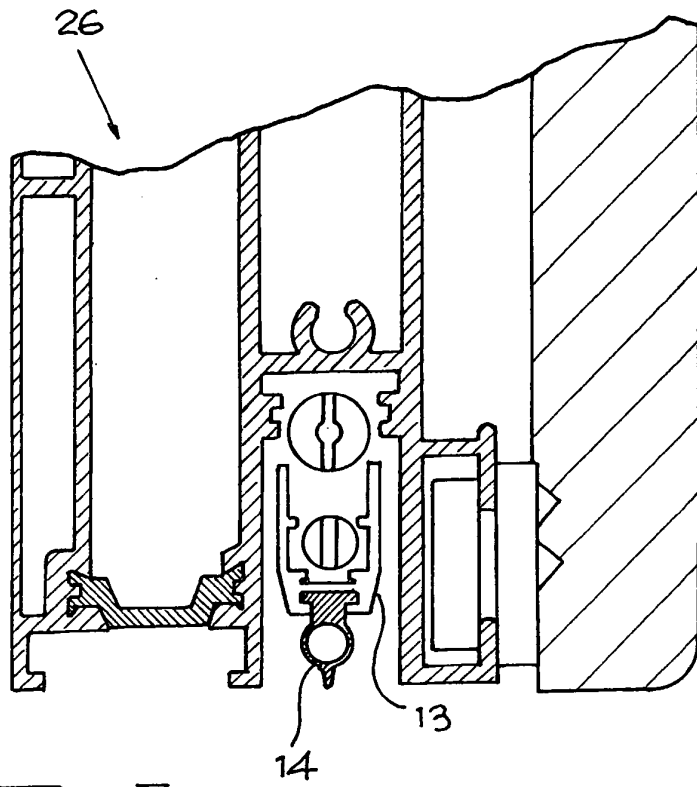


*Fig. 5*

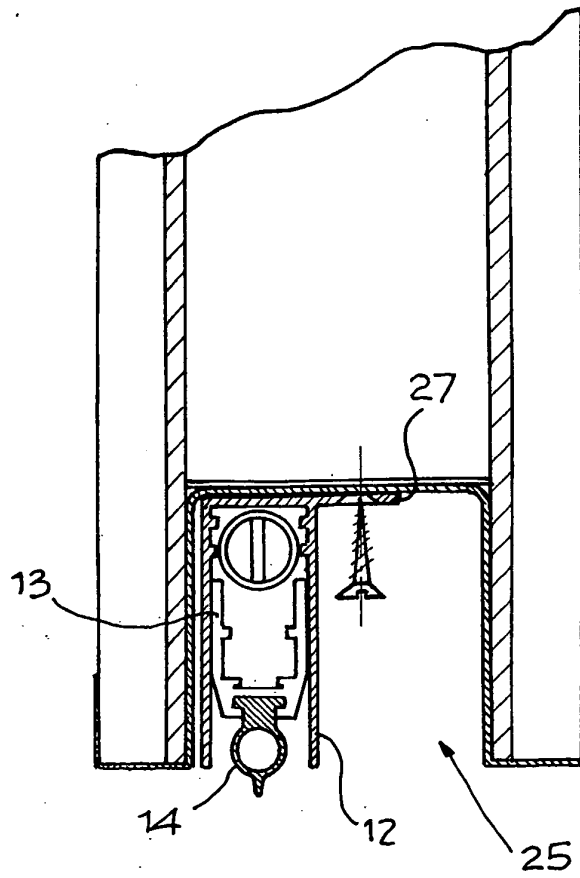


*Fig. 3*

*Fig. 4*



*Fig. 7*



*Fig. 6*

**REFERENCES CITED IN THE DESCRIPTION**

*This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.*

**Patent documents cited in the description**

- EP 0844359 A [0002]