

(19)



(11)

EP 1 395 151 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
14.11.2007 Bulletin 2007/46

(51) Int Cl.:
A47F 1/02 (2006.01) A47F 5/00 (2006.01)

(21) Application number: **02736355.5**

(86) International application number:
PCT/SE2002/001011

(22) Date of filing: **27.05.2002**

(87) International publication number:
WO 2002/096247 (05.12.2002 Gazette 2002/49)

(54) **SHOP MODULE**

LADENMODUL

MODULE DE MAGASIN

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
LT LV

(30) Priority: **28.05.2001 SE 0101858**

(43) Date of publication of application:
10.03.2004 Bulletin 2004/11

(73) Proprietor: **OY Karl Fazer AB
00941 Helsinki (FI)**

(72) Inventor: **LANDIN, Lorentzen, Lena
S-821 34 Bollnäs (SE)**

(74) Representative: **Karlsson, Leif Karl Gunnar et al
Groth & Co.KB
P.O. Box 6107
102 32 Stockholm (SE)**

(56) References cited:
WO-A1-00/06004 US-A- 5 871 108

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).

EP 1 395 151 B1

Description

Technical Field

[0001] The present invention relates to the area of exposure of commodities in shop sections consisting of vertically piled containers containing the commodities. Preferably, the invention relates to shop sections consisting of a row of vertically piled containers for self-service and especially for self-service of confectionery and other sweets.

Background of the Invention

[0002] Confectionery and other sweets for self-service are usually exposed in shops by being visibly well placed in transparent containers, each kind in this way being exposed in an own container. The containers are piled on each other in a rack, which enables that each container may be lifted out from the rack when refilling should be effected. With the number of sorts of sweets that exist, it may be found that entire walls in a shop are provided with such containers. Thus, the number may amount to 200 containers or more in a shop. For refilling, it is required that each container separately is lifted out from the rack and is refilled, and then the container is put back on the location thereof. It is easy to realize the problems that reside in the work and the time-consumption associated thereby, being required for the refilling of the containers. The personnel that performs the refilling fetches packs with the respective sort of sweets from a stockroom somewhere in connection with the shop, and then transports the packs to the self-service place and, according to the above, carries out the refilling there.

[0003] In, for instance, figure 5 in the patent specification GB 2322794 is seen how individual containers for sweets are piled in order to expose different types of sweets for customers.

Object of the Invention

[0004] The object of the present invention is to solve the above-mentioned problems by providing a shop module that may be handled considerably simpler at refilling of separate containers in a shop section.

[0005] An additional object is to shorten the time-consumption that is required in order to refill a container of the above-mentioned type.

[0006] Furthermore, the object is to eliminate the heavy lifts and difficult working positions that previously occurred when the personnel that should refill the containers which, after these having been filled again, would be put back on the location thereof in the section.

[0007] Furthermore, the object of the invention is to provide an intermediate storage for refilling packs for quick refilling of one or more containers.

Summary of the Invention

[0008] By the present invention, as this stands out in the independent claim, the above-mentioned objects are met, said disadvantages having been eliminated. Suitable embodiments of the invention are given in the dependent claims.

[0009] According to the invention, a shop section is built up by separate shop modules, which are made having a width of 30 cm and joined to a shop section of optional size. Each shop module is formed in order to, in the latitudinal direction, contain a container having an entire width or two containers having a half width. In the vertical direction in the module, three or four containers are piled. In order to enable a manoeuvre of an entire shop module, each shop module is provided with some form of motion devices enabling that the module with the three or four containers thereof may be drawn out, irrespective of all other shop modules. The motion devices are formed as slide bars, which are carried in bearings for a smooth and simple operation. Alternatively, the motion devices are formed with rolls or wheels that support against the floor surface or against a platform elevated from the floor surface. The motion devices are placed either under the module, at the sides thereof or at the upper end thereof. Also a combination of these locations is feasible within the scope of the invention. The possibility to pull out contributes to the fact that a refilling from behind of the separate containers can be made in a smooth way. Further, the module is provided with an inclined storage plane for each container, the storage plane enabling an intermediate storage space for refilling packs.

[0010] Intermediate storage of refilling packs is carried out by the possibility to pull out allowing that a space behind the containers can be utilized for a storage location, which means that running out to the conventional stockroom is eliminated.

[0011] Even if the subsequent disclosed embodiments of the invention have been concentrated on loose sweets, the invention is also applicable to other types of bulk commodities which are suitable to constitute self-service commodities in shop premises. In this connection, the bulk commodities may be placed either in transparent containers or covered containers with an exposure module connected to the container.

[0012] A suitable embodiment of the shop module consists of the same being formed to be pulled out across an elevated platform and that the foundation of the module is formed with a support member that can be folded out automatically. The support member is folded out when the module is pulled out and is folded in when the module is pushed in again.

Brief Description of the Drawings

[0013] The invention will now be closer described by means of embodiment examples, reference being made

to the accompanying drawing figures, where

- Figure 1 shows a pulled-out shop module in a shop section according to the invention.
- Figure 2 shows a separate frame to a shop module according to the invention.
- Figure 3 shows a section through a motion device according to the invention.
- Figure 4 shows a pulled-out frame of a shop module according to the invention.
- Figure 5a shows a lowered support of a shop module according to the invention.
- Figure 5b shows the principle of the support according to figures 2, 4 and 5a on the way of being raised.
- Figure 5c shows the principle of the support according to figures 2, 4 and 5a entirely raised

Description of the Invention

[0014] Figure 1 shows a shop section 1 built up by separate shop modules 2 mounted side by side along a wall in shop premises. Further, the figure shows a shop module 3 pulled-out from the shop section. At the pulled-out shop module 3, a person 4 is about to refill containers 5 positioned in the shop module. In doing so, the person 4 opens a refilling pack 6 in order to then pour down new commodities in an angled-out refilling container, not shown, and then the commodities fall down into the respective container, and then the refilling container again is angled back to the normal position thereof. After this refilling operation has been made, the pulled-out shop module is displaced again into the normal position thereof in the shop section. Further, as is seen in the figure, the shop section is provided with a bottom part 7. Further, the bottom part is provided with motion devices 8 in the form of slide bars, which on one hand are connected to the bottom part 7 and on the other hand to a member 9 fixed to the floor. Against this member 9 fixed to the floor, the adjacent shop module is also connected.

[0015] Moreover, as is seen in figure 1, an inclined plane 10 in the rear edge of the container 5 is connected to each container 5. This inclined plane 10 is intended to contain one or more refilling containers 6 in order to constitute an intermediate storage station in the module.

[0016] The containers 5 shown in the figure are made with an exposure front 11 as well as a pick part 12. The pick part 12 is provided with a lid 13 foldable upwards, which is opened by the customer for picking of the commodities. As also is indicated in the figure, each container is divided into two separate containers 16, 17. In this connection, the width of each shop module amounts to approx. 30 cm, which width either may be made up of one container of approx. 30 cm or be made up of two containers that consequently have a width of approx. 15 cm each. In this connection, embodiments with containers of other width combinations may also be feasible, such as 20/10 cm or 25/5 cm. Thus, this shop module

gives means for a consultant to refill the respective container sometimes from one of the sides in pulled-out position and sometimes from the other side in pulled-out position. As also is seen in the figure, each shop section is limited by a side member 15 that covers the entire side of the shop section 1 from exposure.

[0017] Figure 2 shows an embodiment of a frame 20, which has been emptied of all the containers thereof. The frame 20 is built up by one or more rear vertical frame members 21. The frame members extend from a foundation 22 up to horizontal frame members 23 in the upper end of the module. Further, the frame 20 is arranged with front frame sides 24 extending from the foundation 22 up to the horizontal frame members 23. Between the frame sides 24, a side spacer 25 extends in each container space, which spacer is formed with a snap function as a first locking device for the respective container. The foundation 22 is on both sides thereof connected to the slide bars 8. Further, the foundation 22 is arranged with a support 26. According to the present embodiment, the support is arranged to be folded down from the foundation when the shop module is displaced transversally outwards along the slide bars 8 thereof. As is also seen in the figure, each container space in the frame is arranged with an inclined storage plane 27. By the frame member 21 assuming a vertical position and the frame sides 24 assuming a leaning position, this means that the lower storage planes are longer than the upper storage planes. Thus, this gives a possibility to store intermediately refilling packs in larger quantities on the lower storage planes than on the upper storage planes. Thus, this gives a possibility to place commodities having a larger consumption further down in the module.

[0018] Figure 3 shows the foundation 22 previously shown in figure 2 in the form of an L-profile in combination with an adjacent foundation 32, also in the form of an L-profile arising from the adjacent shop module. Each foundation 22, 32 is fixedly connected to an outer slide bar 33, 34. Each outer slide bar rolls telescopically in relation to an inner slide bar 35, 36. As is shown in the figure, this relative motion between the outer slide bars and the inner slide bars is formed as a roller bearing 37. Furthermore, the inner slide bars 35, 36 are connected to a structural girder 38 fixed to the floor. Thus, by this construction, each shop module may be moved transversally outwards and inwards, respectively, in relation to each adjacent shop module. Furthermore, as is seen in the figure, each inner slide bar 35, 36 is connected to the structural girder via a second locking device 39, here shown in the form of a screw joint enabling that a shop module may be connected to an adjacent shop module on either side.

[0019] Figure 4 shows three frames 20, 40, 41, the middle frame 20 of which is pulled-out from the normal position thereof. At this pulling-out, the support 26 of the frame 20, which previously has been described under figure 2, has been folded down towards the shop floor. The other two frames 40, 41 on both sides are shown in the normal positions thereof with raised supports. Fur-

ther, as is seen in the figure, the supports are provided with mounted wheels that run against the elevation as well as against the shop floor.

[0020] Figure 5a shows a detailed view of the support in the lowered position. The support consists of a first linkage 51 that is mounted around a pivot 52 in the foundation 22. Moreover the linkage 51 is provided with a longitudinal through slot 53. A second linkage 54 is also mounted around a pivot 55 in the foundation 22. The second linkage 54 is at the outer end thereof provided with a sliding pivot 56 that is arranged to run in the elongate slot 53 in the first linkage 51.

[0021] As the figure shows, the foundation 22 has been brought in the direction of the arrow, the second linkage 54 sliding off a slide member 57 and undertakes by the dead load thereof a angular motion around the pivot 55, the sliding pivot 56 sliding in the slot in order to thereby force the first linkage 51 to be turned out from the foundation 22, the support being lowered.

[0022] As also the figure shows, the first linkage 51 is in the outer end thereof provided with a support member 58 in the form of a wheel, but may also be formed as a sliding surface with the corresponding support function, i.e. to constitute a support against a shop floor 59 so that the shop module with the foundation 22 thereof should tip when the module is pulled out over a module base 60. Furthermore, it is seen in the figure that the linkage 51 has passed the maximum position thereof and is in a locked position when the linkage is entirely lowered.

[0023] Figure 5b shows the support member according to figure 5a in a partly raised position. The shop module, and thereby the foundation 22 thereof, has in this connection been brought inwards in the direction of the arrow, the second linkage 54 striking against and sliding across the slide member 57, the linkage 54 being turned upwards and bringing about that the sliding pivot 56 thereof is displaced in the slot 53, the first linkage 51 being forced to be raised.

[0024] Figure 5c shows the support member according to figure 5a in an entirely raised and folded-in position. As the figure shows, from figure 5b the foundation 22 has been brought further in the direction of the arrow, the second linkage 54 having been forced to an entirely horizontal position by slide motion against the slide member 57. In this connection, also the first linkage 51 with the support member 58 thereof has been raised to a horizontal position.

tended to enable the frame (20) with the containers (5) thereof to be transversally displaced forwards from the normal position thereof in a shop section (1) comprising shop modules (3) mounted side by side and returned backwards, respectively, to the normal position thereof in order to enable, in the advanced position, refilling of the commodities from the back side of each of the separate containers (5).

2. Shop module (3) according to claim 1, **characterized in that** the motion devices (8) are formed as slide bars (8) and/or as wheels mounted under the frame (20) so that the frame (20) may slide/roll outwards and inwards, respectively, on the slide bars/the wheels.
3. Shop module (3) according to claim 2, **characterized in that** the frame (20) comprises an inclined storage plane (27) for each container (5) intended to constitute a storage location for refilling packs (6).
4. Shop module (3) according to claim 3, **characterized in that** the frame (20) is formed so that the storage plane (27) for the lowermost container (5) is longer than the storage plane (27) for the uppermost container at the same angle of inclination on the storage planes (27) in relation to a conceived horizontal plane.
5. Shop module (3) according to claim 4, **characterized in that** the frame (20) is provided with a first locking device (25) for the locking of a container (5) in the frame (20).
6. Shop module (3) according to claim 5, **characterized in that** the frame (20) is provided with a second locking device (39) for the locking of a shop module (3) at an adjacent alike shop module for the construction of the shop section (1).
7. Shop module (3) according to any one of claims 1-6, **characterized in that** the frame (20) in the front edge thereof is provided with a support member (26) that can be folded out automatically at the drawing-out of the shop module (3), arranged to counteract tipping of the shop module (3) in the drawn-out position.

Claims

1. Shop module (3) for commodities, which module (3) is provided with a plurality of containers (5) piled in the vertical direction on top of each other, each container (5) being provided with a flap (13) for access of the commodities and that all containers (5) are mounted in a frame (20), **characterized in that** the frame (20) is provided with motion devices (8) in-

Patentansprüche

1. Ladenmodul (3) für Waren, wobei das Modul (3) mit einer Vielzahl von Behältern (5) ausgestattet ist, die in der vertikalen Richtung übereinandergestapelt sind, wobei jeder Behälter (5) mit einer Klappe (13) zum Zugriff auf die Waren ausgestattet ist und alle Behälter (5) in einem Ständer (20) befestigt sind, **dadurch gekennzeichnet, dass** der Ständer (20) mit

Bewegungsvorrichtungen (8) ausgestattet ist, die dazu gedacht sind, dass der Ständer (20) mit dessen Behältern (5) schräg nach vorne von dessen üblicher Position in einem Ladenbereich (1), der nebeneinander befestigte Ladenmodule (3) aufweist, verschoben werden bzw. danach in dessen übliche Position zurückbewegt werden kann, um in der vorgeschobenen Position ein Nachfüllen der Waren von der Rückseite jedes separaten Behälters (5) zu ermöglichen.

2. Ladenmodul (3) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Bewegungsvorrichtungen (8) als Gleitschienen (8) und/oder als unter dem Ständer (20) befestigte Räder ausgebildet sind, so dass der Ständer (20) auf den Gleitschienen/den Rädern nach außen bzw. innen gleiten/rollen kann.
3. Ladenmodul (3) nach Anspruch 2, **dadurch gekennzeichnet, dass** der Ständer (20) eine geneigte Lagerfläche (27) für jeden Behälter (5) aufweist, der dazu gedacht ist, einen Lagerstandort für Nachfüllpackungen (6) darzustellen.
4. Ladenmodul (3) nach Anspruch 3, **dadurch gekennzeichnet, dass** der Ständer (20) so ausgebildet ist, dass die Lagerfläche (27) für den untersten Behälter (5) länger als die Lagerfläche (27) für den obersten Behälter bei demselben Neigungswinkel auf den Lagerflächen (27) im Verhältnis zu einer gedachten horizontalen Fläche ist.
5. Ladenmodul (3) nach Anspruch 4, **dadurch gekennzeichnet, dass** der Ständer (20) mit einer ersten Verriegelungsvorrichtung (25) zum Einrasten eines Behälters (5) in dem Ständer (20) ausgestattet ist.
6. Ladenmodul (3) nach Anspruch 5, **dadurch gekennzeichnet, dass** der Ständer (20) mit einer zweiten Verriegelungsvorrichtung (39) für das Einrasten eines Ladenmoduls (3) an einem benachbarten ähnlichen Ladenmodul für den Aufbau des Ladenbereichs (1) ausgestattet ist.
7. Ladenmodul (3) nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet, dass** der Ständer (20) in dessen Vorderkante mit einem Unterstützungsteil (26) ausgestattet ist, das bei Herausziehen des Ladenmoduls (3) automatisch ausgeklappt werden kann und so angeordnet ist, dass es einem Kippen des Ladenmoduls (3) in der herausgezogenen Position entgegentwirkt.

Revendications

1. Module de magasin (3) pour marchandises, lequel

module (3) est pourvu d'une pluralité de conteneurs (5) empilés dans le sens vertical les uns sur les autres, chaque conteneur (5) étant pourvu d'un volet (13) pour accéder aux marchandises et tous les conteneurs (5) étant montés sur un bâti (20), **caractérisé en ce que** le bâti (20) est pourvu de dispositifs de déplacement (8) destinés à permettre au bâti (20) avec ses conteneurs (5) d'être respectivement déplacé transversalement vers l'avant à partir de sa position normale dans une section de magasin (1) comprenant des modules de magasin (3) montés côte à côte et ramené en arrière dans sa position normale afin de permettre, dans la position avancée, un remplissage de marchandises par le côté arrière de chacun des conteneurs (5) séparés.

2. Module de magasin (3) selon la revendication 1, **caractérisé en ce que** les dispositifs de déplacement (8) sont formés comme des glissières (8) et / ou comme des roues montées en dessous du bâti (20) afin que le bâti (20) puisse glisser / rouler respectivement vers l'extérieur et vers l'intérieur, sur les glissières / les roues.
3. Module de magasin (3) selon la revendication 2, **caractérisé en ce que** le bâti (20) comprend un plan de stockage incliné (27) pour chaque conteneur (5) destiné à constituer un endroit de stockage pour paquets de remplissage (6).
4. Module de magasin (3) selon la revendication 3, **caractérisé en ce que** le bâti (20) est formé de telle manière que le plan de stockage (27) pour le conteneur le plus bas (5) soit plus long que le plan de stockage (27) pour le conteneur le plus élevé au même angle d'inclinaison sur les plans de stockage (27) par rapport à un plan horizontal imaginaire.
5. Module de magasin (3) selon la revendication 4, **caractérisé en ce que** le bâti (20) est pourvu d'un premier dispositif de verrouillage (25) pour verrouiller un conteneur (5) dans le bâti (20).
6. Module de magasin (3) selon la revendication 5, **caractérisé en ce que** le bâti (20) est pourvu d'un deuxième dispositif de verrouillage (39) pour verrouiller un module de magasin (3) à un module de magasin similaire adjacent pour la construction de la section de magasin (1).
7. Module de magasin (3) selon l'une quelconque des revendications 1 - 6, **caractérisé en ce que** le bâti (20) est pourvu à son bord avant d'un membre de support (26) qui peut être automatiquement déplié lorsqu'on sort le module de magasin (3) et est agencé pour contrecarrer un basculement du module de magasin (3) dans la position de sortie.

Fig. 1

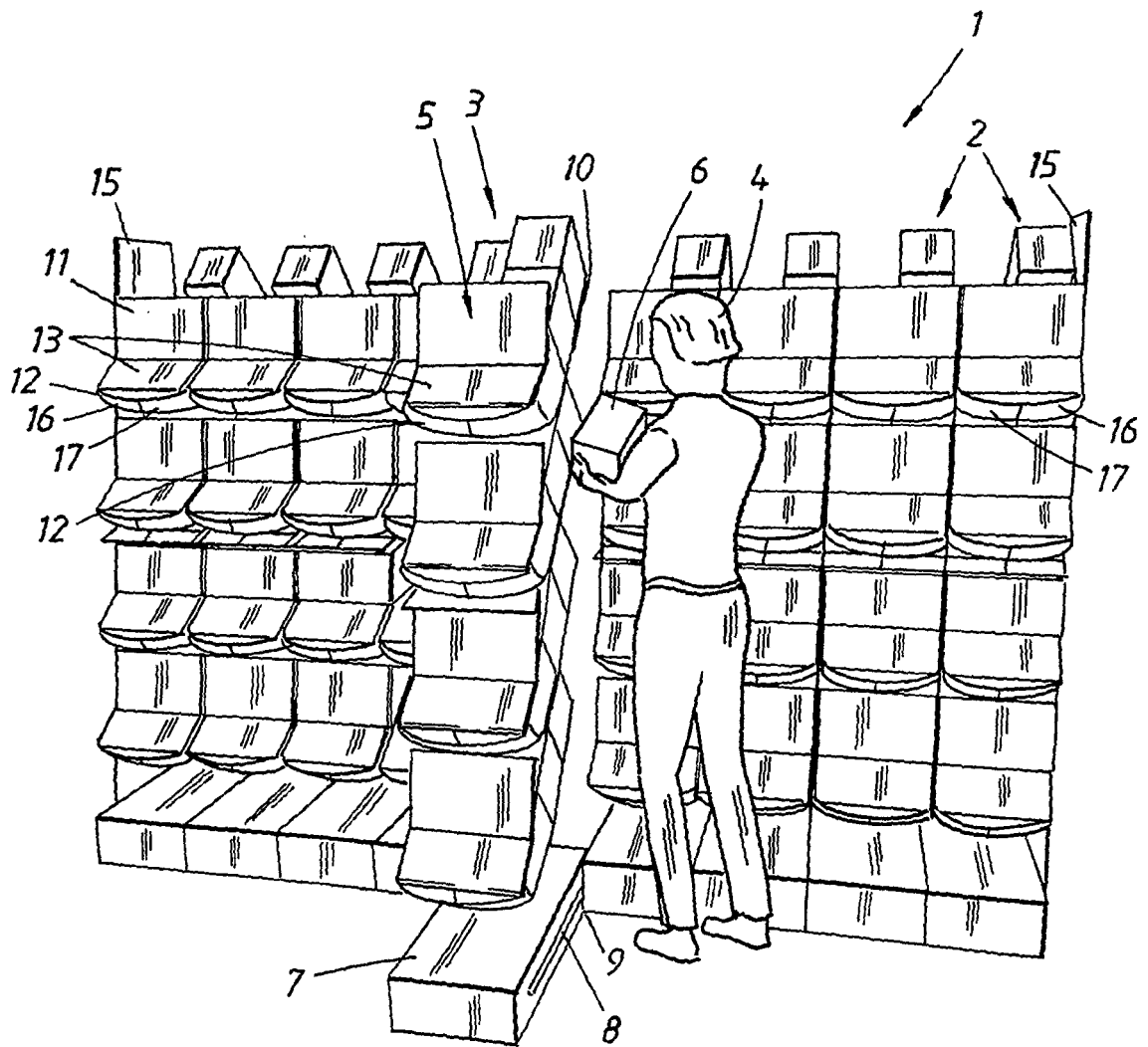


Fig. 2

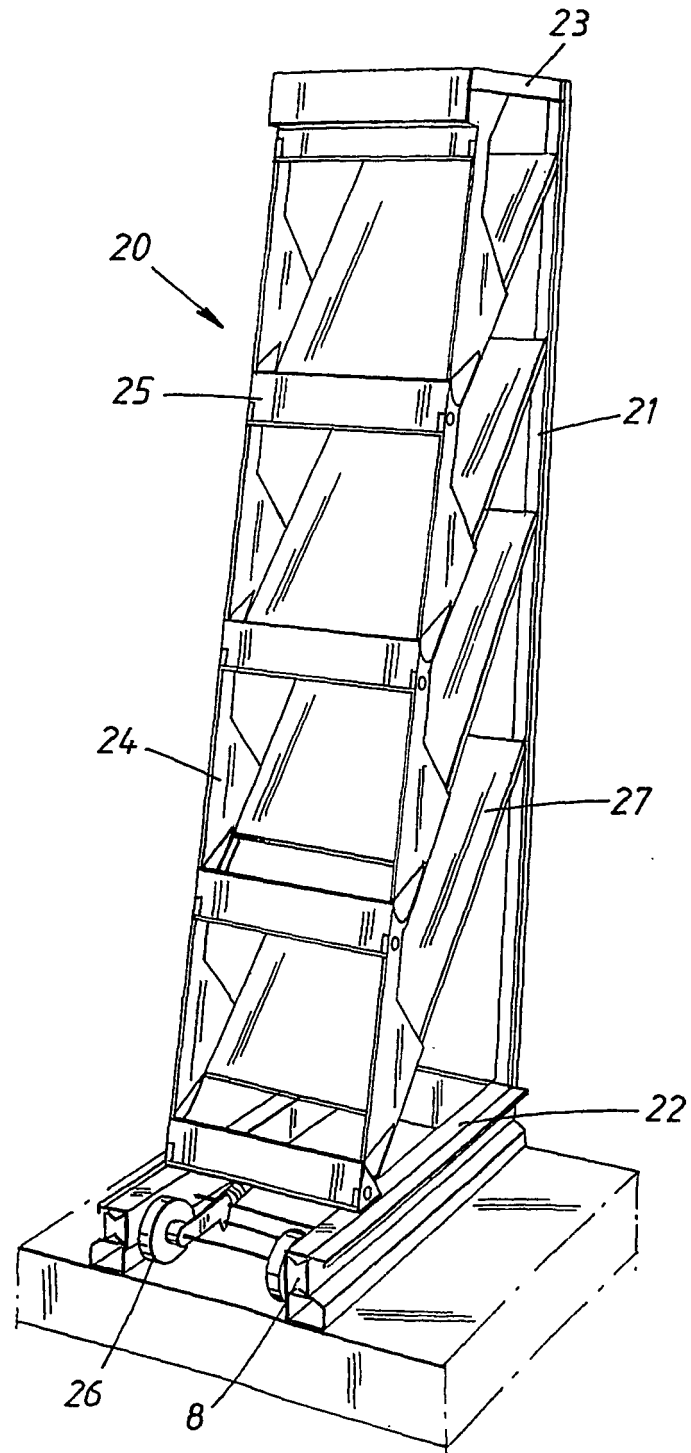


Fig. 3

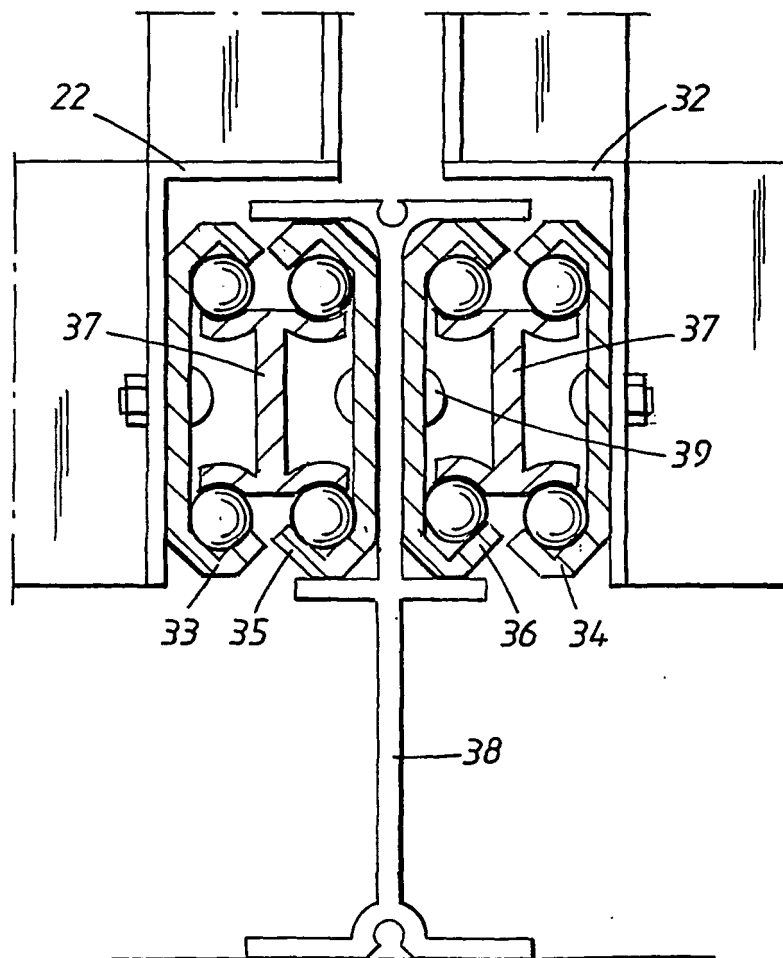


Fig. 4

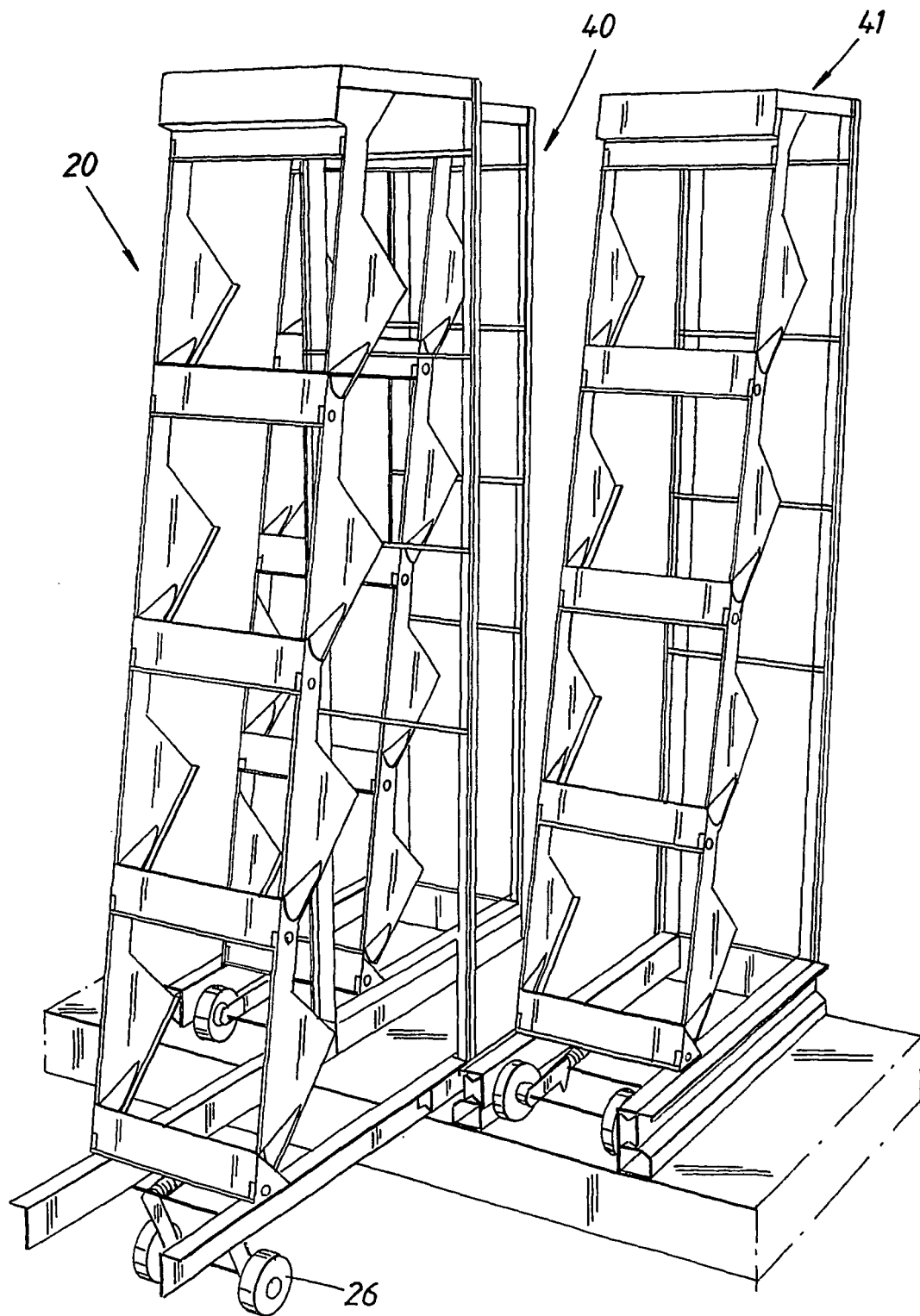


Fig. 5a

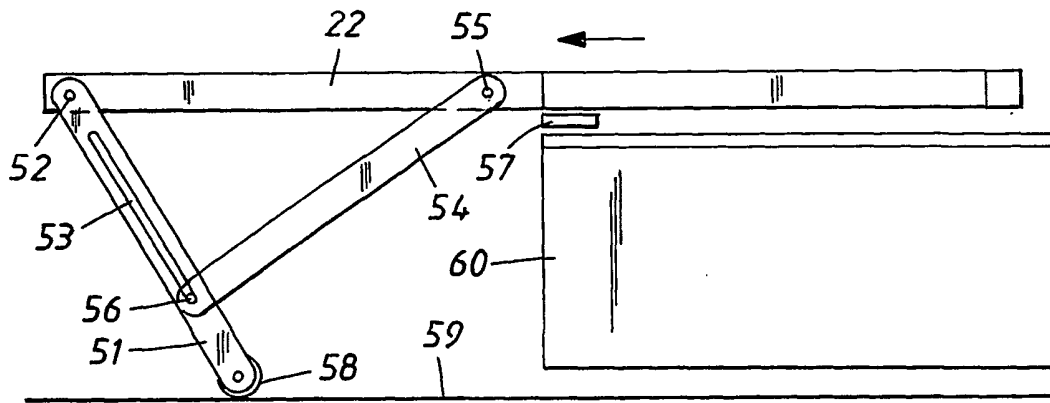


Fig. 5b

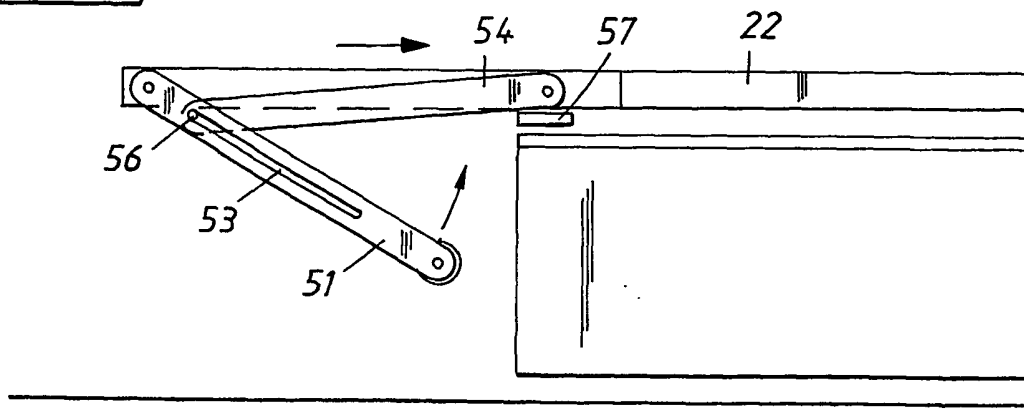
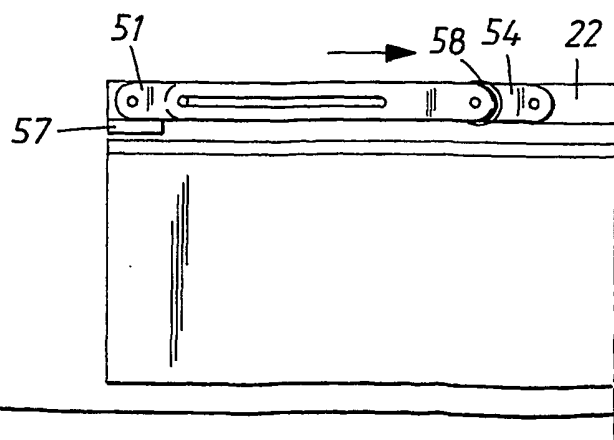


Fig. 5c



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

- GB 2322794 A [0003]