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(54) **Cabinet doors**

Schranktüren

Portes d'armoire

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Description

[0001] The present invention relates to cabinet doors. In particular, it relates to cabinet doors for use in a retail display environment.

[0002] In recent times there has been a drive for government bodies to restrict the display of certain products in a retail environment whilst still allowing for their sale to a consumer. For example, certain governments are placing limitations on the ability for retailers to display tobacco products.

[0003] Introduction of such restrictions can cause difficulties for retailers.

[0004] Firstly, many have invested heavily in display cabinets for displaying such products and face the potential need to replace such display cabinets in order to meet the requirements of such restrictions.

[0005] In addition, restrictions on display can prevent a retailer from being able to make a consumer aware of new or improved products.

[0006] Furthermore, without appropriate cabinet structures in place for the holding of such products, it can be difficult for the retailer to ensure that display of the products is prevented at all times except for when a product is being obtained for sale to a customer, leaving the retailer at risk of contravening the restrictions.

[0007] The present invention seeks to address the above and other problems. US 2,584,874 discloses a door unit for a display cabinet with a frame holding two sliding doors and comprising disengageable linking means between two adjacent doors.

[0008] According to the present invention there is provided a door unit for a display cabinet, the door unit comprising:

> a frame holding at least two sliding doors such that the doors can be slid between open and closed positions and the doors close different openings in the frame, the doors being offset from one another in a direction perpendicular to the sliding direction of the doors; and linking means for selectively linking the two doors such that when a first one of the doors is opened the linking means engages with the second one of the doors to pull it open also and when the second one of the doors is opened the linking means disengages such that the first door remains closed, and wherein the doors comprise an upper and lower door.

[0009] The doors may be positioned adjacent to one another and arranged such that they slide in the same direction. The linking means may be a tooth and notch arrangement which enables the two doors to engage with one another where the first door is opened and disengage with one another when the second door is opened.

[0010] The frame may be arranged such that it can be fitted retroactively over a standard display cabinet.

[0011] The unit may further be provided with one or more door closing mechanisms to enable automatic closing of the one or more doors. The closing mechanism may comprise one or more of an hydraulic closing mechanism, biased weight closing mechanism, weighted pulley, spring and ratchet, or coiled spring-driven mechanism.

[0012] Preferably the doors are formed from an opaque material.

[0013] The unit and/or the frame and/or the doors may be arranged such that advertising or display orientated material can readily be fixed thereto.

[0014] With the unit of the present invention it is possible for a retailer to selectively display alternative products to a user on an automatic basis while obtaining the product requested by the consumer. In addition, it is possible for the retailer to meet display restriction requirements without having to install completely new cabinets through the retro-fitting of a unit of the present invention.

[0015] It is also possible for the retailer to ensure that, through the automatic closing of the doors, the product is only displayed when being accessed, such that no door can inadvertently be left open and products left on continuous display.

[0016] Examples of the present invention will now be described with reference to the accompanying drawings, in which:

> Figure 1 is a front view of a unit according to the present invention;
> Figures 2A and 2B show opening positions of the unit of figure 1;
> Figure 3 shows an alternative configuration of the present invention in which four sliding doors are provided;
> Figures 4A to 4F show various alternative optional automatic closing mechanisms that may be employed as part of the present invention;
> Figure 5 shows an alternative frame configuration with concealed linking means; and
> Figure 6 is a detailed cross-sectional view of a further configuration with concealed linking means.

[0017] Referring to figure 1, a unit according to the present invention is formed from a frame especially formed from top and bottom members 6 and side members 8. The members 6 and 8 may be attached, in use, to a cabinet frame which is shipped as a unit or may alternatively, be configured to be retro-fitted around an existing display cabinet which has already been installed. In this example the frame members 6 and 8 support fixed doors 1, 4, which are formed from an opaque material. They also support rails 7 and sliding doors 2, 3. The sliding doors 2, 3 slide on the rails 7 between closed positions, as shown in figure 1, and open positions shown in figures 2a and 2b. Again, the doors 2, 3 are formed from an opaque material. When in the closed position and when the unit has been fitted, contents of the cabinet to which the frame members 6, 8 are attached are not visible

to a consumer.

[0018] A linking arrangement 5 is formed on the edges of the doors 2, 3 that are adjacent to one another. In the example of figure 1, the tooth and notch arrangement is configured such that, in use, when the upper door 2 is slid towards an open position, the tooth and notch arrangement disengages and only the upper door 2 opens. However, it is also configured such that when the lower door 3 is opened the tooth and notch arrangement engages and the upper door 2 is drawn open as the lower door 3 is opened. This configuration ensures that a retailer can position products in the most appropriate and consistent manner for gantry and stock management by being able to see when content anywhere in the cabinet needs replacing.

[0019] Of course, it will be appreciated that alternative tooth and notch arrangements can be provided. For example, a simple step configuration is shown in figures 1, 2A and 2B, but the notch may have a triangular shape. It will also be appreciated that more complex engaging mechanism can be provided to give the same functionality.

[0020] What should also be appreciated is that the link between the two doors may be configured in an alternative arrangement such that the lower door always opens, even when the upper door is opened.

[0021] Figure 3 shows an alternative arrangement in which, rather than fixed doors 1, 4, a second set of sliding doors is provided and an appropriate tooth and notch arrangement provided between those doors. In this case this second set of doors can slide behind the first set of opening doors to allow access to a further region of the cabinet and with the same functionality as in the first example.

[0022] As mentioned above, means may be provided on one or more of the sliding doors to ensure that the doors close automatically when not being accessed. Figures 4A to 4F show various example arrangements that could be used to achieve this.

[0023] For example, figure 4A shows provision of a hydraulic piston 10 arranged by a sliding door in a closed position. Figure 4B shows a pivoting weight configuration 11 which, again, biases the sliding door towards a closed position. Figure 4C shows a spring and ratchet configuration 12 and figure 4D a weight and pulley configuration 13. Figure 4E shows a sprung extending coil 14 which provides the same purposes. An alternative, slightly more complex, configuration is shown in figure 4F whereby an inclined rail 7 is provided for the door such that it is biased into its closed position by its own weight.

[0024] In the arrangement of figure 1, the linking arrangement 5 is clearly visible.

[0025] Figure 5 shows an alternative frame arrangement which enables the linking arrangement 5 to be concealed. Components that correspond to those in figure 1 are numbered identically. As can be seen from the expanded views of figure 5, the middle rail 7 has a space 20 defined by two opposing bars 21 and 22. The space 20 then enables the second pair of doors 1, 4 to have a linking means 5 that is positioned within the space 20 and as such is concealed by one bar 22 of the middle rail 7.

[0026] Figure 6 shows an alternative arrangement in which the middle rail 7 supports the second pair of doors 1, 4 and has a linking means 5 which extends to the rear of the middle rail 7 and as such is concealed.

[0027] It will be appreciated that either of the example constructions in figures 5 or 6 could be applied to any of the earlier examples to enable concealment of the linking means 5.

[0028] As will be appreciated from the above description, the present invention provides a set of cabinet doors that enables a retailer to simply and effectively meet changing legislation in respect of the display of certain products. It also enables a retailer to position products in the most appropriate and consistent manner for gantry and stock management and enables the retailer to monitor the content throughout the cabinet.

Claims

1. A door unit for a display cabinet, the door unit comprising:

   a frame holding at least two sliding doors such that the doors can be slid between open and closed positions and the doors close different openings in the frame, the doors being offset from one another in a direction perpendicular to the sliding direction of the doors; and linking means for selectively linking the two doors such that when a first one of the doors is opened the linking means engages with the second one of the doors to pull it open also and when the second one of the doors is opened the linking means disengages such that the first door remains closed, and wherein the said two sliding doors are respectively an upper and a lower door.

2. The unit of claim 1, wherein the doors are positioned adjacent to one another.

3. The unit of claim 1 or claim 2 wherein the doors are arranged such that they slide in the same direction.

4. The unit of any of claims 1 to 3, wherein the linking means comprise a tooth and notch arrangement which enables the two doors to engage with one another where the first door is opened and disengage with one another when the second door is opened.

5. The unit of any preceding claim, wherein the frame is arranged such that it can be fitted retroactively over a standard display cabinet.

6. The unit of any preceding claim, further comprising one or more door closing mechanisms to enable automatic closing of one or more of the doors.

7. The unit of any preceding claim wherein closing mechanism comprises one or more of an hydraulic closing mechanism, biased weight closing mechanism, weighted pulley, spring and ratchet, or coiled spring-driven mechanism.

8. The unit of any preceding claim, wherein the doors are formed from an opaque material.

9. The unit of any preceding claim arranged such that advertising or display material can be fixed thereto.

10. The unit of any preceding claim, wherein the linking means is concealed by a member positioned on the frame.

11. A display cabinet comprising a housing containing one or more shelves and further comprising a unit of any preceding claim retained on the housing.

Patentansprüche

1. Türeinheit für eine Vitrine, wobei die Türeinheit folgendes umfasst:

   Einen Rahmen, indem mindestens zwei Schiebetüren so angeordnet sind, dass die Türen zwischen einer offenen und einer geschlossenen Position verschoben werden können und die Türen verschiedene Öffnungen des Rahmens verdecken, wobei die Türen in der zur Schieberichtung der Türen senkrechten Richtung zueinander versetzt angeordnet sind; sowie einen Verriegelungsmechanismus, der die Türen selektiv derart miteinander verriegelt, dass beim Öffnen einer ersten Tür der Verriegelungsmechanismus mit der zweiten Tür in Eingriff tritt, und somit auch diese zweite Tür geöffnet wird und beim Öffnen der zweiten Tür die Verriegelung gelöst wird und die erste Tür geschlossen bleibt, wobei die oben beschriebenen zwei Türen jeweils als eine untere und eine obere Tür ausgeführt sind.

2. Einheit nach Anspruch 1, **dadurch gekennzeichnet, dass** die Türen nebeneinander angeordnet sind.

3. Einheit nach einem der Ansprüche 1 und 2, **dadurch gekennzeichnet, dass** die Türen derart angeordnet sind, dass sie in die gleiche Richtung verschoben werden.

4. Einheit nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** der Verriegelungsmechanismus eine aus Zähnen Aussparungen bestehende Anordnung umfasst, die ermöglicht, dass die Türen miteinander verriegelt werden, wenn die erste Tür geöffnet wird, und Verriegelung gelöst wird, wenn die zweite Tür geöffnet wird.

5. Einheit nach einem der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** der Rahmen derart beschaffen ist, dass er nachträglich auf Standardvitrinen montiert werden kann.

6. Einheit nach einem der vorherigen Ansprüche, ferner eine oder mehrere Türschließmechanismen zum Schließen einer oder mehrerer der Türen umfassend.

7. Einheit nach einem der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** der Schließmechanismus einen oder mehrere hydraulische Schließmechanismen, durch Gewicht vorgespannten Schließmechanismen, gewichtbelastete Rollen, Federn und Sperrklinken, oder durch Spiralfedern betriebene Mechanismen umfasst.

8. Einheit nach einem der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** die Türen aus undurchsichtigem Material bestehen.

9. Einheit nach einem der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** die Einheit derart beschaffen ist, dass Werbe- und Informationsmaterial an ihr befestigt werden kann.

10. Einheit nach einem der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** der Verriegelungsmechanismus durch ein am Rahmen befestigtes Element verdeckt wird.

11. Eine Vitrine umfassend ein eine oder mehrere Regalböden enthaltendes Gehäuse, sowie ferner eine Einheit nach einem der vorherigen Ansprüche, welches auf dem Gehäuse befestigt ist.

Revendications

1. Unité de porte pour une armoire d'exposition, l'unité de porte comprenant :

   un châssis qui supporte au moins deux portes coulissantes de telle sorte que les portes peuvent coulisser entre des positions ouverte et fermée et ferment différentes ouvertures dans le châssis, les portes étant décalées entre elles dans une direction perpendiculaire à la direction de coulissement des portes ; et un moyen d'articulation pour articuler sélectivement les deux

portes de telle sorte que lorsqu'une première desdites portes est ouverte, le moyen d'articulation s'engage avec la deuxième desdites portes pour l'ouvrir également, et lorsque la deuxième desdites portes est ouverte, le moyen d'articulation se désengage de telle sorte que la première porte reste fermée, et dans laquelle lesdites deux portes coulissantes sont respectivement une porte supérieure et une porte inférieure.

2. Unité selon la revendication 1, dans laquelle les portes sont positionnées de manière adjacente entre elles.

3. Unité selon la revendication 1 ou 2, dans laquelle les portes sont agencées de telle sorte qu'elles coulissent dans la même direction.

4. Unité selon l'une quelconque des revendications 1 à 3, dans laquelle le moyen d'articulation comprend un dispositif à dent et encoche qui permet aux deux portes de s'engager l'une avec l'autre lorsque la première porte est ouverte et de se désengager l'une de l'autre lorsque la deuxième porte est ouverte.

5. Unité selon l'une quelconque des revendications précédentes, dans laquelle le châssis est agencé de telle sorte qu'il peut être monté rétroactivement sur une armoire d'exposition standard.

6. Unité selon l'une quelconque des revendications précédentes, comprenant en outre un ou plusieurs mécanismes de fermeture de porte pour permettre la fermeture automatique d'une ou plusieurs desdites portes.

7. Unité selon l'une quelconque des revendications précédentes, dans laquelle le mécanisme de fermeture comprend un ou plusieurs dispositifs parmi un mécanisme de fermeture hydraulique, un mécanisme de fermeture à poids ou un mécanisme à poulie lestée, à ressort et rochet, ou à ressort en spirale.

8. Unité selon l'une quelconque des revendications précédentes, dans laquelle les portes sont formées à partir d'un matériau opaque.

9. Unité selon l'une quelconque des revendications précédentes, agencée de telle sorte que des produits de publicité ou d'exposition peuvent y être fixés.

10. Unité selon l'une quelconque des revendications précédentes, dans laquelle le moyen d'articulation est caché par un élément positionné sur le châssis.

11. Armoire d'exposition comprenant un boîtier qui contient une ou plusieurs étagères, et comprenant en outre une unité selon l'une quelconque des revendications précédentes retenue dans le boîtier.

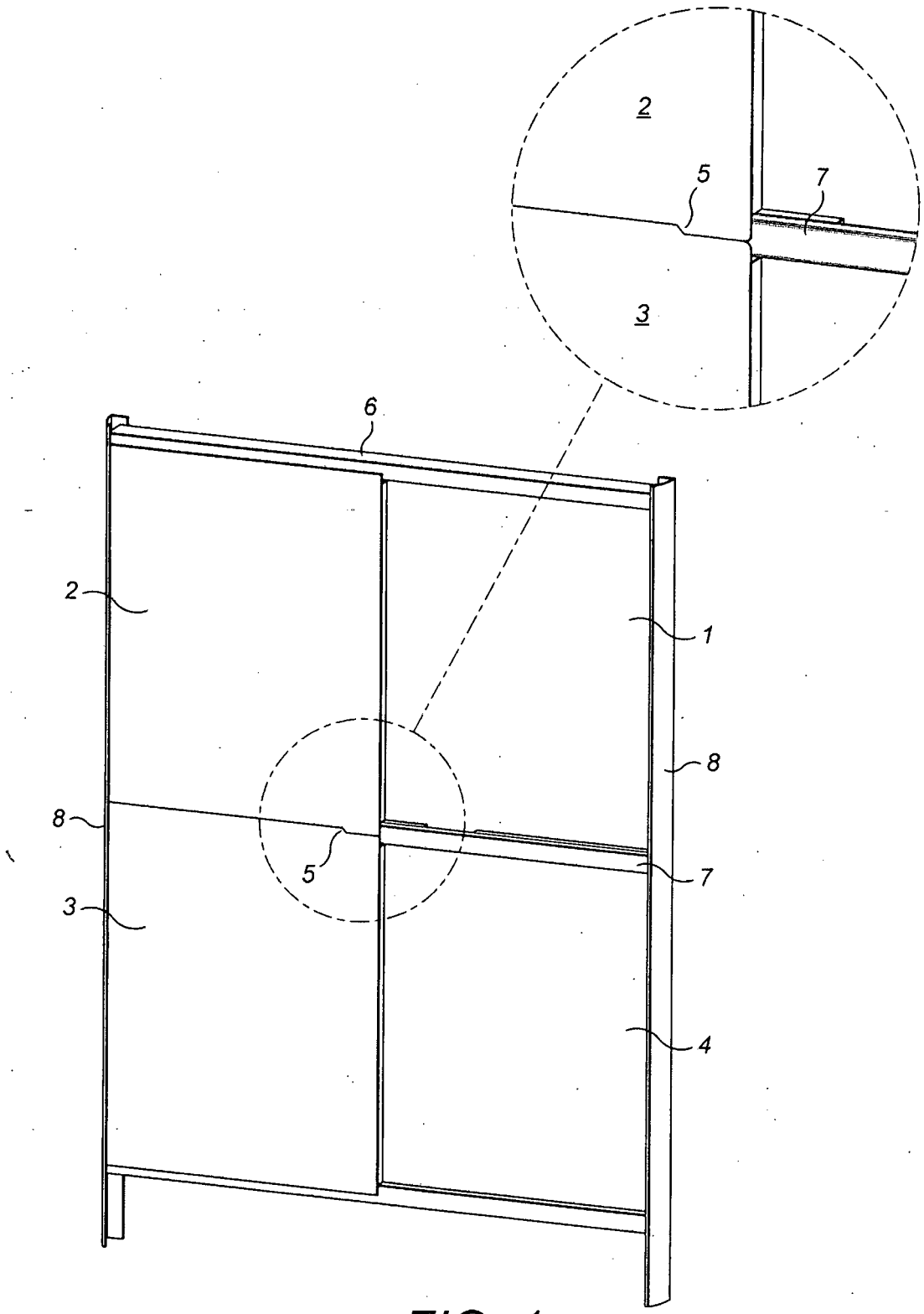


FIG. 1

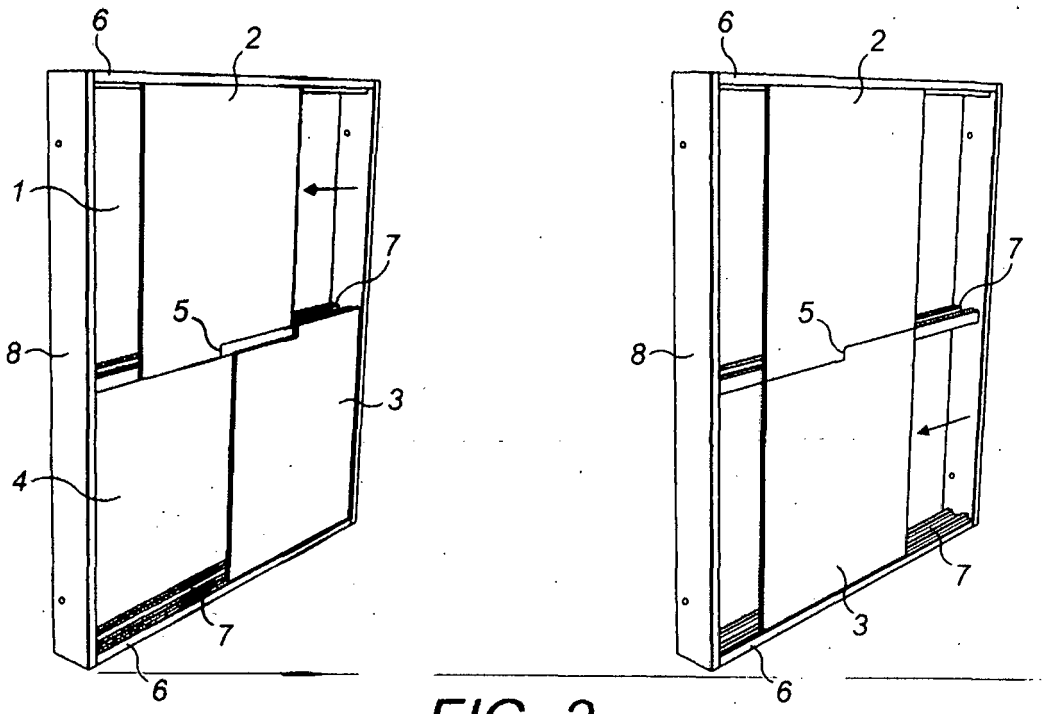


FIG. 2

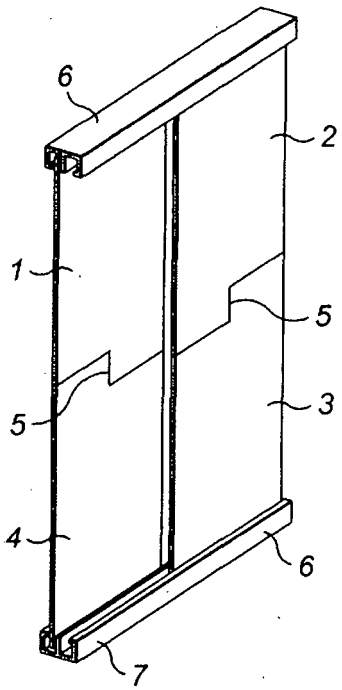


FIG. 3

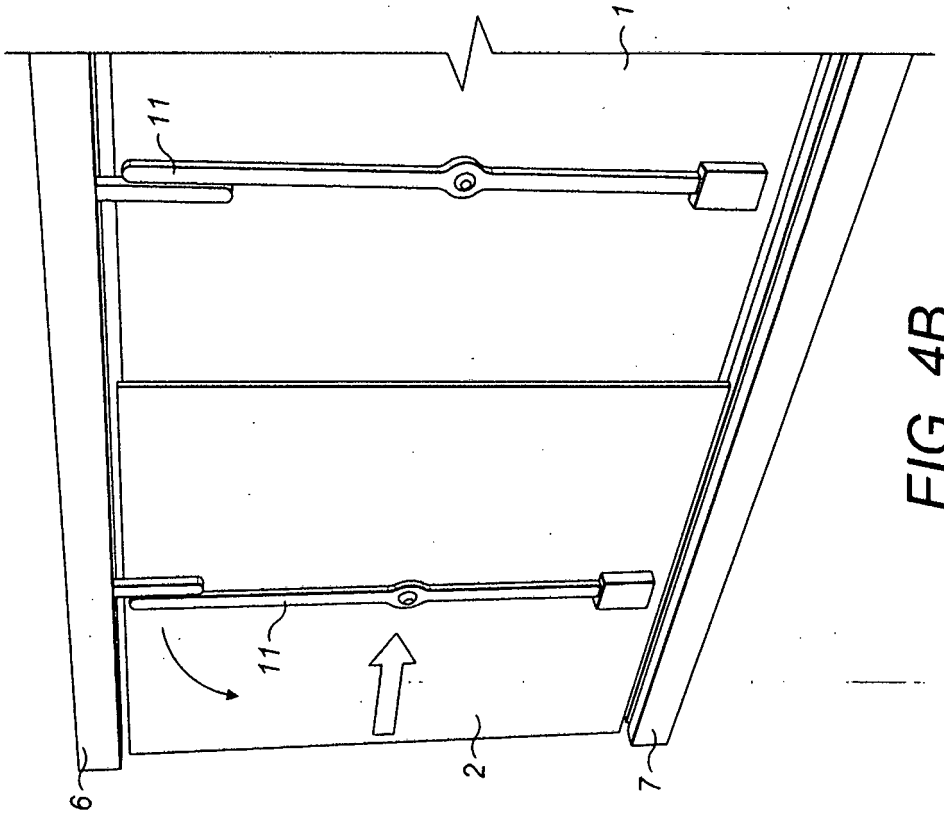


FIG. 4B

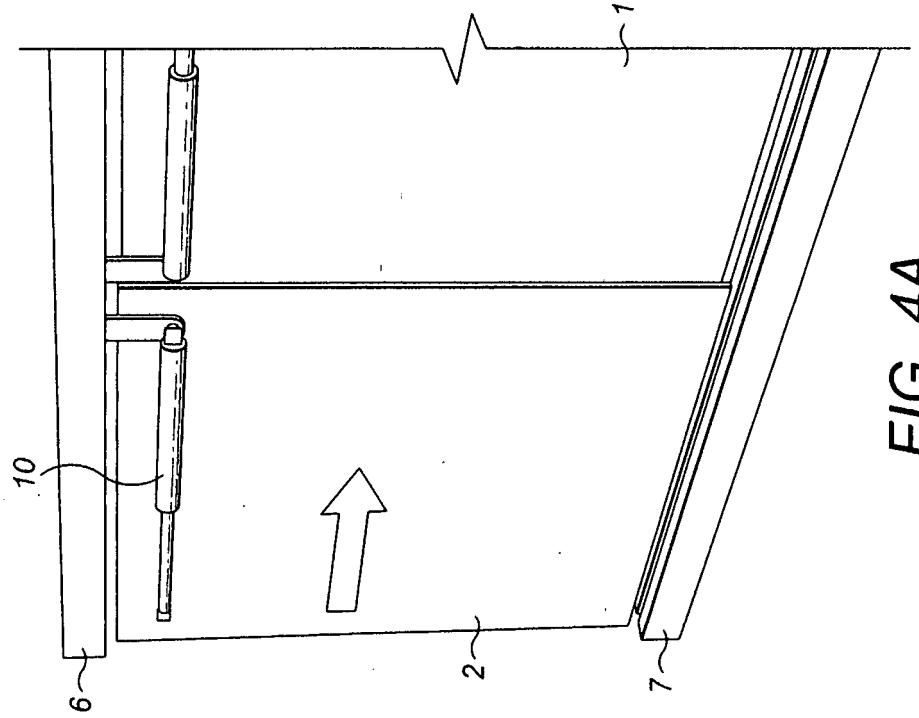


FIG. 4A

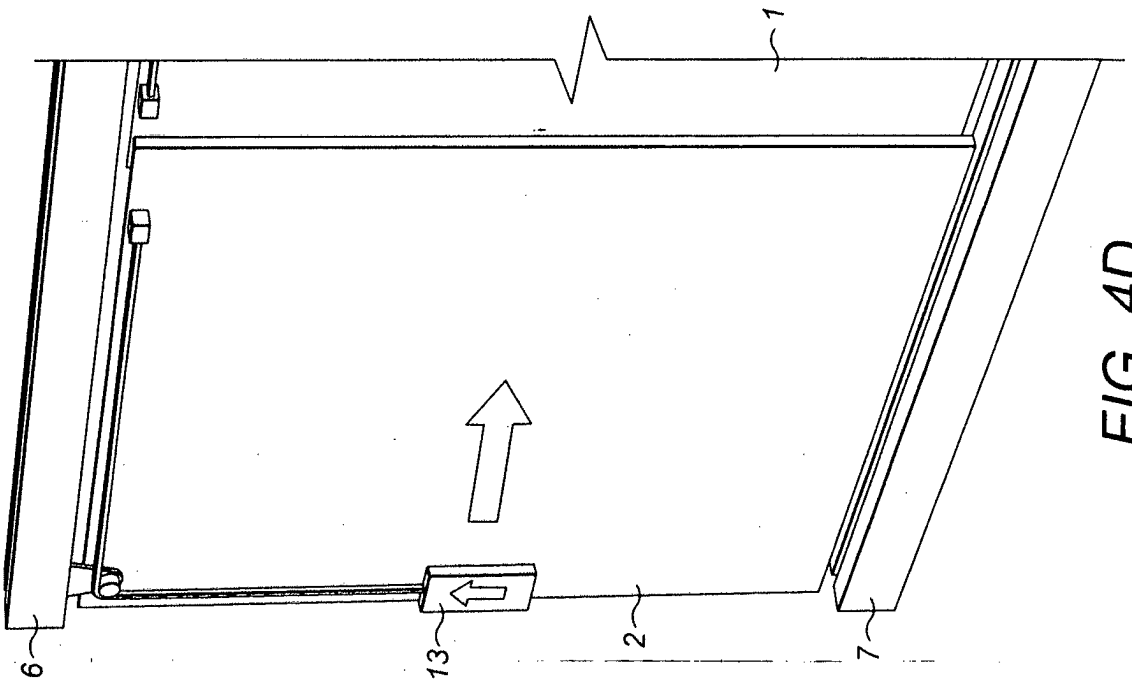


FIG. 4D

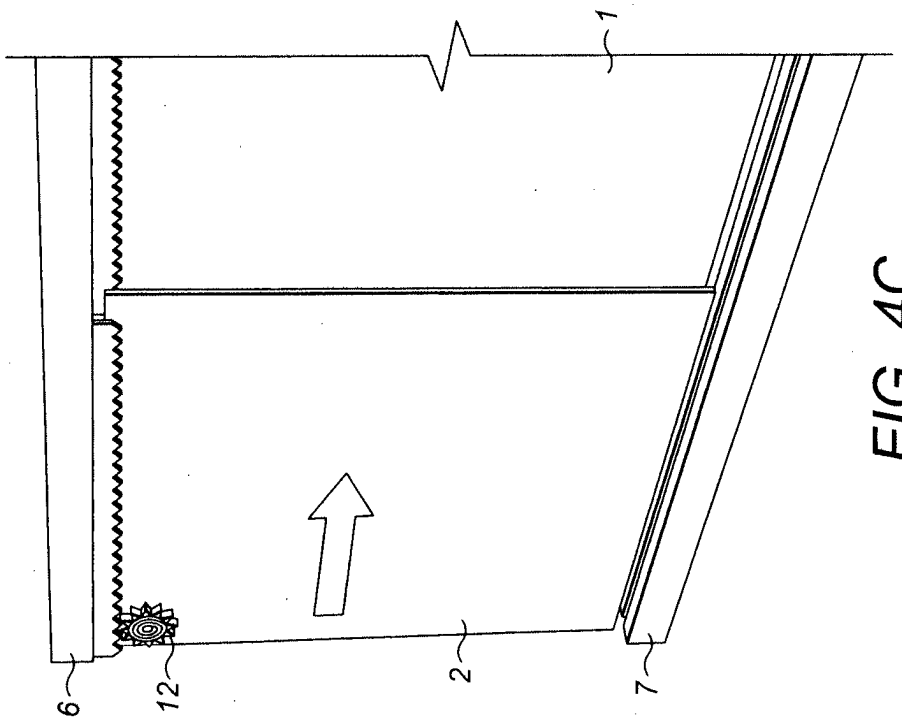


FIG. 4C

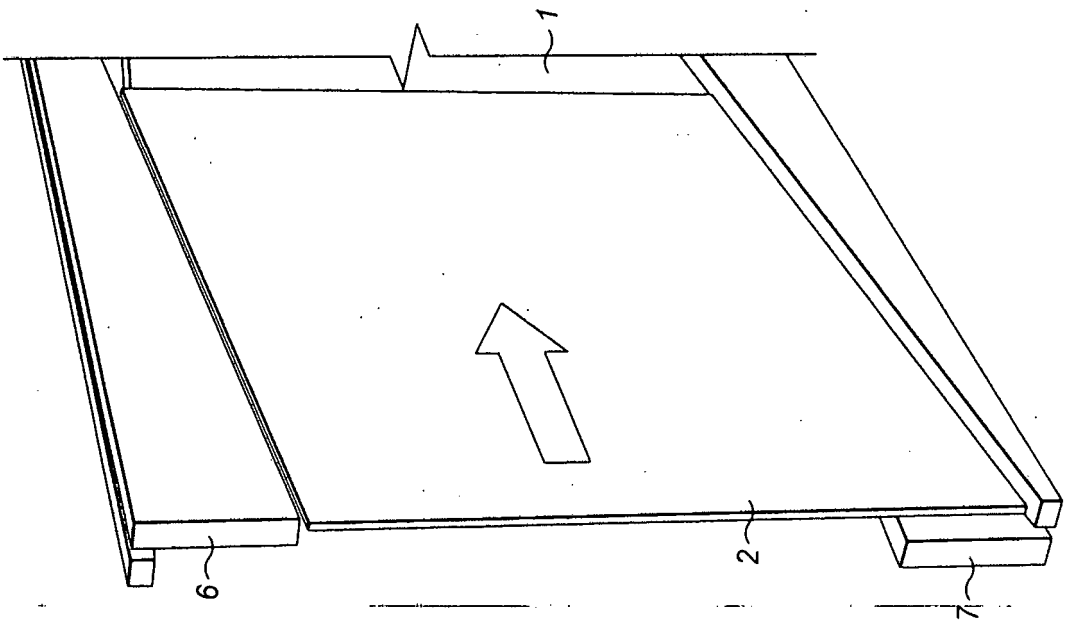


FIG. 4F

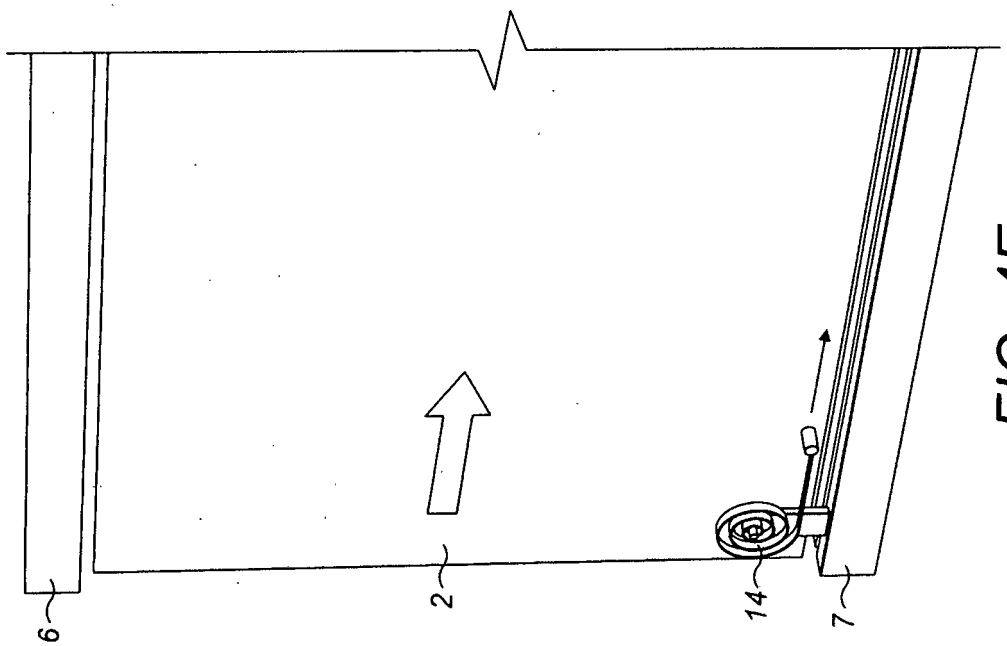


FIG. 4E

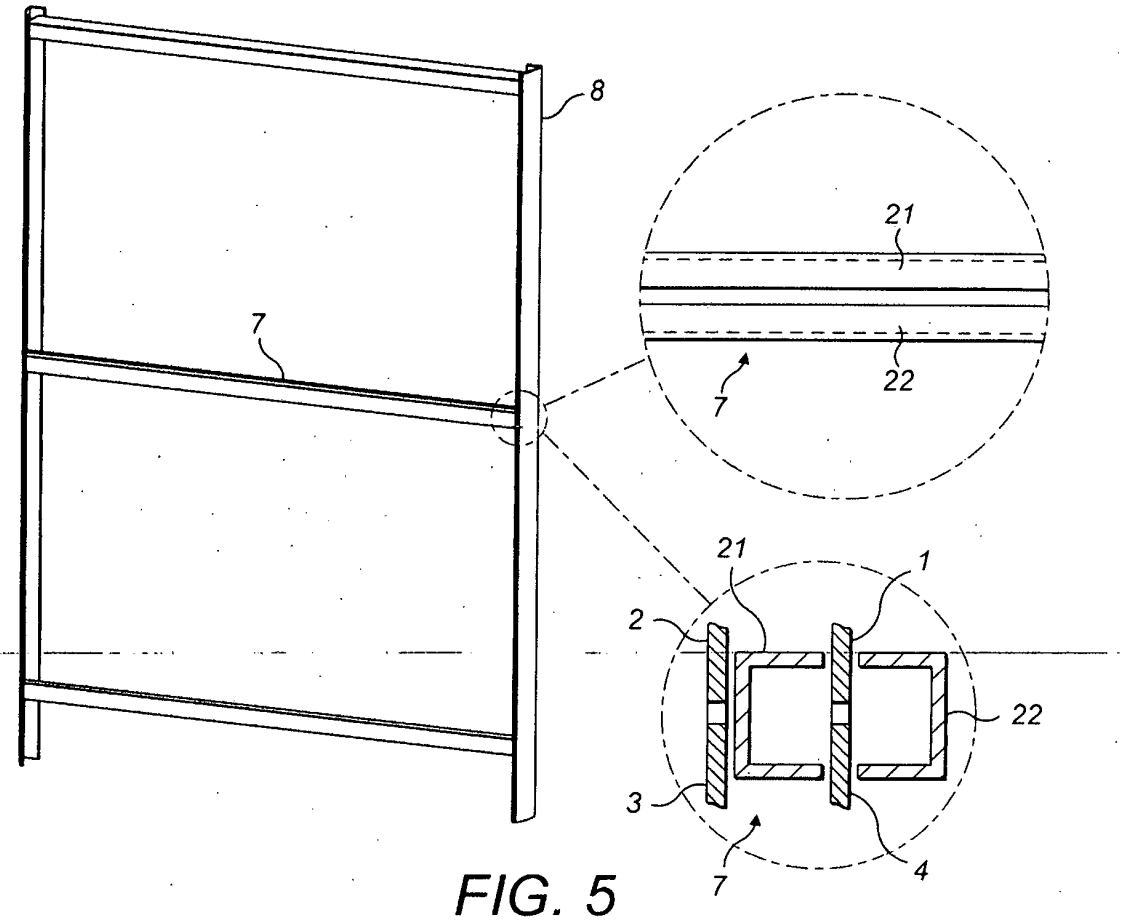


FIG. 5

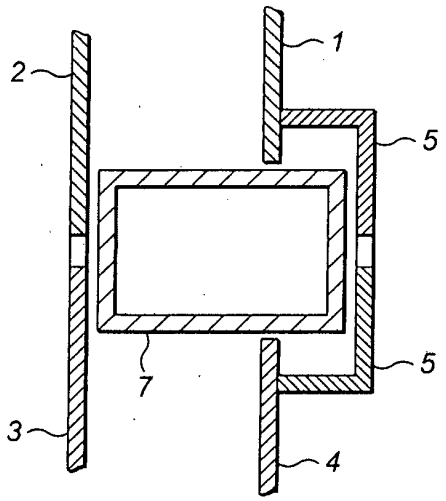


FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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