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(54) **Vertical structure for column cabinets**

Vertikale Struktur für Hochschränke

Structure verticale pour mobilier

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EP 2 218 355 B1

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Description

[0001] The present patent application for industrial invention relates to a vertical structure for column cabinets used to store objects of miscellaneous kind.

[0002] As it is known, column cabinets with tall and narrow geometry are widely used in the sector of modular kitchens, being designed to house a bearing structure to contain food products, pans or similar articles.

[0003] Generally, these bearing structures are of pull-out type, being capable of sliding from inside to outside of the cabinet in order to provide more comfortable conditions of use for the user, especially with reference to the operations required to collect or store the aforementioned objects.

[0004] So far, the most common type of vertical pull-out structures makes use of a pair of uprights as bearing elements, connected by two cross-pieces on the bottom and on top.

[0005] In this way a frame-shaped structure is obtained in which (in intermediate position between the two uprights) shelves and/or baskets designed to hold objects are mounted in horizontal position.

[0006] Such a traditional pull-out bearing structure is positioned in the centre of the internal compartment of the column cabinet, in a position in which the uprights of the frame-shaped bearing structure are arranged respectively towards the back and the front opening of the cabinet.

[0007] In consideration of the fact that such a similar structure must be pulled-out of the cabinet, the cabinet is provided on the lower and upper horizontal wall with rectilinear support and slide guides designed to be coupled with the cross-pieces of the frame-shaped bearing structure.

[0008] A simple tensile force exerted manually by the user is sufficient to make the vertical structure slide outside of the cabinet, whereas a corresponding thrust in opposite direction allows for reintroducing the same structure inside the cabinet.

[0009] Moreover, it must be said that a column cabinet designed to be equipped with such a traditional bearing structure can be alternatively provided with two different types of doors.

[0010] In fact, it can be provided either with a traditional door hinged in one of the vertical borders of the front opening or alternatively with a translating door joined to the pull-out vertical structure.

[0011] More precisely, a door of this type is designed to be fixed against the front upright of the frame-shaped structure in such a way to be exactly arranged at the height of the opening of the column cabinet when the bearing structure is in idle position, that is to say when it has completed the sliding movement towards the inside of the cabinet.

[0012] A critical aspect has been identified in such a traditional technology, which consists in the difficulties encountered by the user of a traditional pull-out structure

when collecting (and storing) objects from/on the shelves mounted between the uprights of the frame-shaped structure.

[0013] This is due to the fact that the collection and storage operations can be carried out only from the sides of each shelf, as easier frontal collection (or storage) is prevented by the presence of the front upright of the frame-shaped structure.

[0014] The patent application EP 1 820 422 discloses a vertical structure for cabinets comprising a rectangular bearing frame provided with two uprights, in which baskets are supported between the two uprights of the frame. This arrangement does not provide good access to baskets to pull them out.

[0015] EP 1 661 491 discloses a vertical structure for cabinets according to the preamble of claim 1. Said structure comprises a rectangular sliding frame for tall cupboards mounted at right angles to its opening, through which it can be pulled out. Baskets are mounted between the uprights of the frame and are held in position by studs which fit into slots in the uprights.

[0016] The specific purpose of the present invention is to simplify the aforementioned technology in order to obtain a pull-out vertical structure that, in addition to being characterised by extremely simple construction, is capable of guaranteeing ideal access to the object-holding shelves.

[0017] In case of the new device of the invention, the collection and storage of objects is no longer carried out only from a lateral direction, but also from a more comfortable and advantageous frontal direction.

[0018] The inventive idea that has allowed achieving the aforementioned purposes has been to provide, for the first time, that the vertical frame designed to support shelves no longer has the traditional frame-shaped structure, being simply provided with a single upright connected on the bottom to the end of a cross-piece.

[0019] It can be said that the bearing structure has an L-shaped configuration, in which the lower cross-piece is designed to be coupled with a rectilinear support and slide guide mounted on the lower bottom wall of the column cabinet.

[0020] It must be said that the single upright is designed to support a series of horizontal panels in projecting position, which are in particular arranged in the space above the lower cross-piece and are consequently easy to access both from the sides and the front.

[0021] It is important to state that the new pull-out structure of the invention is suitable to be advantageously used both in association with column cabinets provided with hinged door and with those provided with translating door, as the latter can be in any case mounted "on board" the new pull-out structure.

[0022] Moreover, it must be noted that the tubular upright can be associated on top with a second cross-piece (in perfect vertical alignment with the base cross-piece), which is in turn coupled with a rectilinear guide mounted on the inside of the upper horizontal wall of the cabinet.

[0023] Evidently, the presence of the second cross-piece gives higher stability to the vertical structure during the alternated travels.

[0024] The great versatility of the present invention is also represented by the capability to be mounted in "fixed" position inside the cabinet, thus excluding the possibility of alternate sliding; this advantageously eliminates the need to provide holes or other support means on the sides of the cabinet.

[0025] In fact, also in this second assembly solution, the opening of the hinged door of the cabinet would provide easy access to the shelves mounted in projecting position on said upright.

[0026] For purposes of clarity, the description of the invention continues with reference to the enclosed drawings, which are intended for purposes of illustration only and not in a limiting sense, wherein:

- Fig. 1 is an axonometric view of the bearing frame of the pull-out vertical structure of the invention, already coupled with the column cabinet;
- Fig. 2 is the same as fig. 1, except for it shows the presence of projecting arms on the front of the bearing frame;
- Fig. 3 the same as fig. 2, except for it shows the presence of wire baskets mounted on said projecting arms;
- Fig. 4 is the same as fig. 3, except for it refers to an alternative coupling mode of the structure of the invention to the column cabinet;
- Fig. 5 is an enlarged axonometric view of one of said projecting arms associated with the pull-out structure of the invention;
- Fig. 6 is an axonometric exploded and enlarged view of a detail of fig. 5;
- Fig. 7 is an enlarged axonometric view of one of said baskets mounted on the pull-out structure of the invention;
- Figs. 8A and 8B are two cross-sectional views with the same transversal plane of the insert adopted in the support arms of the structure of the invention in order to stop the wire baskets;
- Fig. 9 is an axonometric view of an alternative assembly solution of the structure arranged in the position shown in figs. 1, 2 and 3;
- Fig. 10 is an axonometric view of an alternative assembly solution of the structure arranged in the position shown in fig. 4.

[0027] Referring to the above figures, the vertical structure of the invention (1) makes use, as bearing element, of a preferably L-shaped metal frame (T) formed of a single tubular upright (2) associated on the bottom with a cross-piece (3a); said frame (T) is designed to be mounted in the centre of a column cabinet (B) along its depth.

[0028] Referring to fig. 1, the base cross-piece (3a) is coupled with possibility of free sliding to a rectilinear guide

(G1) mounted on the bottom wall of the column cabinet (M).

[0029] So the entire "L" shaped frame (T) can make alternated travels from inside to outside of the cabinet (M) and vice versa; in particular, Figs. 1, 2 and 3 show the frame in maximum extraction condition.

[0030] According to a preferred embodiment of the present invention - which Figs. 1, 2 and 3 expressly refer to - the tubular upright (2) is associated on top with a second cross-piece (3b) that is in turn adapted to cooperate with a rectilinear guide (G2) mounted on the upper horizontal wall of the column cabinet (M).

[0031] The simultaneous coupling of the two cross-pieces (3a, 3b) with the rectilinear guides (G1, G2) guarantees higher stability of the entire vertical structure (1) during its alternated travels.

[0032] To increase the versatility of the invention and, more precisely, favour adjustability with respect to column cabinets of different heights, the upper cross-piece (3b) is welded to the end of a vertical bar (4) that is inserted and slides inside the tubular upright (2).

[0033] In view of the above it appears evident that the adequate selection of the position of the sliding bar (4) with respect to the upright (2) allows for adjusting, from time to time, the distance between the two cross-pieces (3a, 3b) and consequently adjusting - although by a few centimetres - the height of the frame (T) according to the height of the column cabinet (M) designed to receive it exactly.

[0034] Referring to fig. 5, the upright (2) is provided on the internal side, that is to say the side facing the same direction as the cross-piece (3a), with a series of side-by-side pairs of vertical slots (5) arranged at different heights.

[0035] Each pair of slots (5) is designed to exactly receive a pair of downward-facing hooks (6a) that protrude on the back of an arm (6) mounted in projecting position on the upright (2), as shown in fig. 2.

[0036] As shown in fig. 7 each of the projecting arms (6) is adapted to act as support for a rectangular wire basket (7) surrounded by a perimeter railing (70).

[0037] The same figure also shows that each basket (7) is provided, in the centre of its rear transversal border, with a vertical housing with basically square cross-section (S), adapted to be exactly matched with the corresponding section of the upright (2) to provide a sort of male-female coupling able to prevent undesired oscillations of the basket (7) with respect to the upright (2) and/or the support arm (6).

[0038] Figs. 5 and 6 show another important device provided to this end.

[0039] Each of the arms (6) is obtained with metal section with decreasing height from the back to the front end and provided with overturned-U cross-section.

[0040] Within each arm (6) two transversal notches (6b) are obtained along the entire width of the upper side of the same, being designed to exactly receive plastic moulded inserts (IS), which in turn are designed to pro-

vide stable fixing with the horizontal wall of the wire basket (7).

[0041] It must be noted that each of the inserts (IS) consists in a rectangular strip (8) defined by two longitudinal borders (81, 82) ending with rounded borders.

[0042] Each of the borders (81, 82) is provided with a pair of flexible tongues (83) ending on top with retention teeth (84) that spontaneously tend to occupy, in idle position of the tongues (83), a position slightly projecting towards the outside of the border (81, 82), as shown in fig. 6.

[0043] When each of the inserts (IS) is inserted inside the notch (6b) from up down, the longitudinal borders of the latter interfere with the retention teeth (84) causing the inward flexion of the flexible tongues (83).

[0044] As soon as interference ceases - when the teeth (84) are brought to a lower height than the height of the longitudinal borders of the notch (6b) - the flexible tongues (83) instantaneously tend to recover their original position, in such a way that each pair of retention teeth (84) is immediately arranged under the longitudinal border of the notch (6b).

[0045] This condition guarantees that the entire insert (IS) cannot be removed freely from the notch (6b).

[0046] As shown in fig. 6, the two borders (81, 82) of each insert (IS) are provided with two vertical notches (85) in symmetrically opposite position.

[0047] Moreover, it must be said that the first (81) of the two longitudinal borders is provided on top, and for its entire length, with a horizontal element (86) oriented towards the opposite side (82) and having lower curved profile (86a) with downward concavity.

[0048] A channel (87) with upward concavity is obtained under the element (86), for the entire length of the upper side of the strip (8).

[0049] It can be said that the lower concave profile (86a) of the element (86) and the channel (87) define a C-shaped housing (90) in cooperation with the first border (81).

A catch (88) is obtained on the front of the opening of said housing (90), being the upper end of a lever with elastic return (89) that is hinged above the strip (8) by means of an oscillating arm (89a), practically acting as return spring; it being also provided that the lower end of the lever (89) protrudes under the strip (8) in such a way to be easily accessible for the user.

In particular, Fig. 8A shows the lever (89) in idle position, in which the catch (88) maintains a vertical position, raised with respect to the upper surface of the strip (8) and opposite to the opening of the C-shaped housing (90).

[0050] As shown in Fig. 8B, the same lever (89) occupies a rotated position when a force is exerted on it to impose a rotation on its lower end in the inside-outside direction indicated by the arrow (IE).

[0051] When the lever (89) is brought in "operational" position, the catch (88) is rotated downwards by approximately 90°, thus having a basically horizontal position

above the strip (8) and freeing the opening of the C-shaped housing (90).

[0052] As regards the cooperation modes between each of the inserts (IS) and the bottom wall of a wired basket (7), it must be noted as follows.

[0053] First of all, in each basket (7), the wired bottom wall is obtained by means of a regularly spaced longitudinal series of metal rods (7a) welded above two transversal rods (7b) with higher cross-section.

[0054] When the basket (7) is positioned on the bearing arm (6), the two transversal rods (7b) must be forced inside the inserts (IS) already inserted in the bearing arm (6).

[0055] In particular, a section of each transversal rod (7b) is adapted to be exactly engaged in the C-shaped housing (90) of the insert (IS), as shown in Figs. 8A and 8B.

[0056] The insertion is also favoured by the fact that the interference exerted by the rod (7b) on the catch (88) from up down favours the outward rotation of the lever (89) - in the condition shown in fig. 8B - that brings the catch (88) in horizontal position and frees the opening of the C-shaped housing (90).

[0057] Considering that the lever (89) is with elastic return, it appears evident that the same - once the interference of the rod (7b) against the catch (88) has ceased - returns spontaneously and instantaneously in idle position (shown in fig. 8A) in which the catch (88) is brought again opposite to the opening of the C-shaped housing (90).

[0058] It appears evident that the second extraction of the rod (7b) from the housing (90) can be made only after bringing the lever (89) in operational position (shown in fig. 8B), thus eliminating the obstacle caused by the position of the catch (88) in front of the opening of the C-shaped housing (90).

[0059] A similar assembly of the basket (7) also involves that a section of the longitudinal rods (7a) is exactly inserted into the two notches (85) obtained in symmetrically opposite position on the borders (81, 82) of the insert (IS).

[0060] Attention is now drawn on a comparative examination of Figs. 3 and 4.

[0061] Fig. 3 shows a column cabinet provided with hinged door (AB), whereas Fig. 4 shows a column cabinet provided with translating door (AT) adapted to be mounted on board the new structure of the invention (1).

[0062] The great versatility of the invention can be appreciated, being simply provided with an L-shaped bearing frame and able - just like a more complex structure provided with a traditional frame-shaped structure - to advantageously cooperate both with cabinets with hinged door and cabinets with translating door.

[0063] Referring to fig. 3, in a cabinet (M) with hinged door, the vertical structure of the invention (1) is mounted with cross-pieces (3a, 3b) and baskets (7) directed towards the front of the cabinet.

[0064] Referring to fig. 4, in a cabinet with translating

door, the position of the vertical structure of the invention (1) must be inverted in such a way that cross-pieces (and baskets) are directed towards the back of the cabinet.

[0065] In this way the upright (2) of the vertical structure (1) occupies the closest position to the opening of the column cabinet (M); so, its external side (that is to say the one opposite to the side designed to fix the baskets) can be used to fix a translating door (AT).

[0066] To do it, the only necessary operation is to provide this side of the upright (2) with horizontal fixing brackets (9).

[0067] Fig. 9 shows an alternative assembly solution of the L-shaped frame (T) in which the vertical bar (40) inserted into the upper end of the upright (2) is connected, with interposition of a horizontal arm (40a), to a lateral cross-piece (3c) coupled with a rectilinear guide (G3) mounted inside one of the sides of the column cabinet (M).

[0068] Evidently, also the lateral cross-piece (3c) is designed to additionally balance the alternated travels of the L-shaped frame (T) because of its cooperation with the rectilinear guide (G3).

[0069] Finally, Fig. 10 shows the adoption of the lateral cross-piece (3c) also when the vertical structure of the invention (1) is arranged in opposite direction, that is to say with the base cross-piece (3a) facing the back of the column cabinet (M) in case of assembly solution with translating door (AT).

[0070] It is reiterated that the vertical structure of the invention (1) can be inserted inside the cabinet (M) also in fixed position, without the possibility of making alternated travels.

[0071] In such a case the upright (2) must be positioned and fixed towards the back of the cabinet (M), whereas the lower cross-piece (3a), which is in any case fixed to the bottom wall of the cabinet, must be directed towards the opening of the cabinet (M).

[0072] In such a way, -also the baskets (7) are faced towards the opening of the cabinet (M), that is to say in a position in which they can be directly and easily reached by the user to collect or store objects.

[0073] Finally, it must be noted that the baskets (7) designed to be mounted in projecting position with respect to the upright (2) can be also made according to different modes compared to the enclosed figures.

[0074] Consequently, not also in a wired configuration obtained with metal wire (or rods), but also glass, plastic or wood, with the only condition to provide, in such a case, suitable stop and stabilization means on the front of the upright (2).

Claims

1. Vertical structure for cabinets comprising:

- a bearing frame (T), and
- one or more baskets (7) supported by said

bearing frame (T),

wherein

said bearing frame (T) has an L shape and is composed of an upright (2) connected on the bottom with the end of a cross-piece (3a), and said baskets (7) are supported in projecting position by the upright (2), above the said base cross-piece (3a),

characterised in that

the baskets (7) are arranged in projecting position with respect to the upright (2), being supported by lower horizontal arms (6) directly fixed to the upright (2).

2. Vertical structure according to claim 1, **characterised in that** each basket (7) has a structure made of metal wire (or rod), in which the bottom wall, surrounded by a perimeter railing (70), is composed of a regularly-spaced longitudinal series of thin metal rods (7a) that are welded above the two transversal metal rods (7b) with higher cross-section.

3. Vertical structure according to claim 1 or 2, **characterised in that** each horizontal arm (6), which is provided with decreasing height from the rear end to the front end and has a basically overturned U-shaped cross-section, is provided on the back with one or more downward-facing hooks (6a) designed to be securely engaged inside corresponding slots (5) provided on the said upright (2).

4. Vertical structure according to the above claims, **characterised in that** each arm (6) is provided on top with two transversal notches (6b) designed to exactly and securely receive plastic moulded inserts (IS) to obtain the stable connection with the iron rods (7a, 7b) of the bottom wall of the wire baskets (7).

5. Vertical structure according to claim 4, **characterised in that** each plastic moulded insert (IS) comprises:

- a basically rectangular strip (8) defined by two longitudinal borders (81, 82) provided with corresponding vertical pairs of elastically flexible tongues (83) ending on top with retention teeth (84) designed to spontaneously maintain, when the flexible tongues (83) are in idle position, a slightly protruding position towards the outside of the border (81, 82)

- an element (86) that protrudes inwards, and horizontally, from the top of the first (81) of the two longitudinal borders, and is provided with lower curved profile (86a) with downward concavity, arranged above a small channel (87) that extends along the entire length of the strip (8); it being provided that the curved profile (86a) of

- the element (86) and the small channel (87) define, with the cooperation of the first longitudinal border (81), a basically C-shaped housing (90) designed to exactly receive a section of one of the transversal rods (7b) of the bottom wall of a wired basket (7)
- a retention catch (88) situated in front of the opening of the C-shaped housing (90), which basically consists in the upper end of a lever with elastic return (89) that crosses the strip (8), in such a way that the opposite end protrudes under the strip (8), it being also provided that the lever (89) is hinged above the strip (8) by means of a suitable oscillating arm (89a) that allows it to rotate from idle position, in which the upper catch (88) is in basically vertical position in front of the C-shaped housing (90), to operational position, in which the upper catch (88) is in horizontal position, basically flush to the upper surface of the strip (8);
 - two vertical notches (85) obtained in symmetrically opposite positions on the two longitudinal borders (81, 82), designed to exactly receive corresponding sections of one of the longitudinal rods (7a) of the bottom wall of a wired basket (7).
6. Vertical structure according to one or more of the above claims, **characterised in that** the base cross-piece (3a) is designed to cooperate with a rectilinear guide (G1) mounted on the bottom wall of the cabinet (M), in such a way to allow the entire structure (1) to make alternated travels with respect to the cabinet (M) from inside to outside and vice versa.
7. Vertical structure according to one or more of claims 1 to 5, **characterised in that** the upright (2) is provided on top with a second cross-piece (3b) arranged in perfectly vertical aligned position with the base cross-piece (3a) and designed to be coupled with the upper horizontal wall of the cabinet (M).
8. Vertical structure according to claim 7, **characterised in that** the second cross-piece (3b) is arranged on top of the upright (2) with the interposition of a bar (4) inserted inside the upper end of the upright (2), with possibility of free sliding.
9. Vertical structure according to one or more of the above claims, **characterised in that** the cross-piece (3b) situated on top of the upright (2) is designed to cooperate with a corresponding rectilinear guide (G2) mounted on the upper horizontal wall of the cabinet (M).
10. Vertical structure according to one or more of claims 1 to 5, **characterised in that** a bar (40) is inserted in the upper end of the upright (2) and connected, by means of an intermediate horizontal arm (40a), to a lateral cross-piece (3c) mounted in internal position on one side of the cabinet (M).
11. Vertical structure according to one or more of the above claims, **characterised in that** the lateral cross-piece (3c) is designed to cooperate with a corresponding rectilinear guide (G3) mounted on the side of the cabinet (M).
12. Vertical structure according to one or more of the above claims, **characterised in that** the upright (2) is provided, on the side opposite the side from which the baskets (7) protrude, with one or more horizontal brackets (9), designed to fix a translating door (AT) when the entire vertical structure (1) is mounted with possibility of making alternated sliding travels inside the cabinet (M) with the base cross-piece (3a) facing the back of the cabinet (M).
13. Vertical structure according to one or more of the above claims, **characterised in that** each basket (7) is provided, in central position on the rear border, with a housing (S) designed to exactly receive a section of the upright (2).

Patentansprüche

1. Vertikale Möbelstruktur umfassend:
- tragendes Gestell (T) und
 - einen oder mehrere Körbe (7), die vom tragenden Gestell (T) getragen werden,
- wobei
- das tragende Gestell (T) L-förmig ist und aus einem Pfosten (2) besteht, der mit dem Ende eines Querträgers (3a) an der Basis verbunden ist, und die Körbe (7) vom Pfosten (2) auskragend in einer über dem Basisquerträger (3a) befindlichen Position gehalten werden,
- dadurch gekennzeichnet, dass** die Körbe (7) bezogen auf den Pfosten (2) auskragend angeordnet sind dank der Halterung von jeweiligen, darunter liegenden, horizontalen Armen (6), die direkt am Pfosten (2) befestigt sind.
2. Vertikale Struktur nach Anspruch 1, **dadurch gekennzeichnet, dass** jeder Korb (7) eine Gitterstruktur aus Metalldraht (oder -stäben) aufweist, bei der die von einer umlaufenden Schiene (70) eingefasste Bodenwand aus einer Reihe regelmäßig beabstandeter, längslaufender Metallstäbe (7a) besteht, die oberhalb zweier querlaufender Metallstäbe (7b) größeren Querschnitts angeschweißt sind.
3. Vertikale Struktur nach Anspruch 1, **dadurch gekennzeichnet, dass** jeder horizontale Arm (6), der

eine vom hinteren zum vorderen Ende hin abnehmende Höhe aufweist und einen im Wesentlichen einem umgekehrten "U" entsprechenden Querschnitt besitzt, rückwärtig mit einem oder mehreren Haken (6a) versehen ist, die nach unten gerichtet dazu geeignet sind, fest in entsprechende Schlitze (5) einzugreifen, die auf dem Pfosten (2) vorgesehen sind.

4. Vertikale Struktur nach den vorstehenden Ansprüchen, **dadurch gekennzeichnet, dass** jeder Arm (6) oben mit zwei querlaufenden Einschnitten (6b) versehen ist, die in der Lage sind, aus Kunststoff geformte, jeweilige Einsätze (IS) exakt und fest aufzunehmen, die dazu dienen, eine feste Verbindung mit den Metallstäben (7a, 7b), aus denen die Bodenwand der Gitterstrukturkörbe besteht, herzustellen.

5. Vertikale Struktur nach Anspruch 4, **dadurch gekennzeichnet, dass** jeder aus Kunststoff geformte Einsatz (IS) Folgendes umfasst:

- ein im Wesentlichen rechteckiges Band (8), das von zwei längslaufenden Seitenwänden (81, 82) begrenzt wird, an denen elastisch flexible Laschenpaare (83) vertikal herausgearbeitet sind, die an der Spitze mit jeweiligen Rückhalte­zäh­nchen (84) enden, die dazu geeignet sind, in der Ruhestellung der jeweiligen flexiblen Laschen (83) eine leicht aus der jeweiligen Seitenwand (81, 82) nach außen auskragende Position spontan beizubehalten

- ein Element (86), das aus der Spitze der ersten (81) der beiden längslaufenden Seitenwände horizontal nach innen auskragt und an der Unterseite mit einem gebogenen, mit der Ausbuchtung nach unten gerichteten Profil (86a) versehen ist, das oberhalb einer Rinne (87) anordnet ist und sich über die gesamte Länge des Bandes (8) erstreckt, wobei vorgesehen ist, dass das gebogene Profil (86a) des Elements (86) und die darunter befindliche, kleine Rinne (87) unter Zusammenwirkung mit der ersten längslaufenden Seitenwand (81) einen im Wesentlichen C-förmigen Sitz bilden, der dazu geeignet ist, einen Abschnitt eines der querlaufenden Stäbe (7b) exakt aufzunehmen, die in der Bodenwand eines Gitterstrukturkorbes (7) verwendet werden
- eine Rückhaltenase (88), die gegenüber der Öffnung des C-förmigen Sitzes (90) angeordnet ist und im Wesentlichen aus dem oberen Ende eines elastisch zurückkehrenden Hebels (89) besteht, der das Band (8) so quert, dass sein entgegengesetztes Ende unterhalb desselben auskragt; wobei ferner vorgesehen ist, dass der Hebel (89) oberhalb des Bandes (8) mittels eines entsprechenden Schwenkarmes (89a) angeschlagen ist, der es ihm ermöglicht, sich aus

einer Ruhestellung, in der seine obere Nase (88) in einer im Wesentlichen vertikalen Position gegenüber dem C-förmigen Sitz (90) bleibt, in eine Arbeitsstellung zu drehen, in der seine obere Nase (88) eine horizontale, im Wesentlichen bündig mit der oberen Fläche des Bandes (8) abschließende Position einnimmt;

- zwei vertikale Einschnitte (85), die an symmetrisch gegenüberliegenden Positionen auf den beiden längslaufenden Seitenwänden (81, 82) vorgesehen und dazu geeignet sind, jeweilige Abschnitte eines der längslaufenden Stäbe (7a), die die Bodenwand eines Gitterstrukturkorbes (7) bilden, exakt aufzunehmen.

6. Vertikale Struktur nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** der Basisquerträger (3a) in der Lage ist, mit einer geradlinigen Führung (G1) zusammenzuwirken, die an der Bodenwand des jeweiligen Möbels (M) so angebracht ist, dass es der gesamten Struktur (1) ermöglicht wird, alternierende Verfahrwege von innen nach außen bzw. umgekehrt auszuführen.

7. Vertikale Struktur nach einem oder mehreren der Ansprüche von 1 bis 5, **dadurch gekennzeichnet, dass** der Pfosten (2) an der Spitze einen zweiten Querträger (3b) aufweist, der in einer auf den Basisquerträger (3a) perfekt vertikal ausgerichteten Position angeordnet und dazu geeignet ist, mit der oberen horizontalen Wand des Möbels (M) verbunden zu werden.

8. Vertikale Struktur nach Anspruch 7, **dadurch gekennzeichnet, dass** der zweite Querträger (3b) an der Spitze des Pfostens (2) unter Zwischenlegung einer Stange (4) anordnet ist, die frei gleitend in das obere Ende des Pfostens (2) eingesteckt ist.

9. Vertikale Struktur nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** der an der Spitze des Pfostens (2) angeordnete Querträger (3b) in der Lage ist, mit einer jeweiligen geradlinigen Führung (G2) zusammenzuwirken, die an der oberen horizontalen Wand des jeweiligen Möbels (M) angebracht ist.

10. Vertikale Struktur nach einem oder mehreren der Ansprüche von 1 bis 5, **dadurch gekennzeichnet, dass** in das obere Ende des Pfostens (2) eine Stange (40) eingesteckt ist, die mittels eines horizontalen Zwischenarms (40a) mit einem seitlichen Querträger (3c) verbunden ist, der inwendig an einem der Seitenteile des Möbels (M) angebracht ist.

11. Vertikale Struktur nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** der seitliche Querträger (3c) in der Lage

ist, mit einer jeweiligen geradlinigen Führung (G3) zusammenzuwirken, die an der jeweiligen Seitenwand des Möbels (M) angebracht ist.

12. Vertikale Struktur nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** der Pfosten (2) auf der Seite, die den auskragenden Körben (7) gegenüberliegt, mit einem oder mehreren Bügeln (9) in horizontaler Stellung versehen ist, die dazu geeignet sind, die Befestigung einer Schiebetür (AT) zu ermöglichen, falls die gesamte vertikale Struktur (1) im Innern des jeweiligen Möbels alternierend gleitbar, mit dem Basisquerträger (3a) zum Rücken des Möbels gerichtet montiert ist.
13. Vertikale Struktur nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** jeder ihrer Körbe (7) in der Mitte seines hinteren Randes einen Sitz (S) aufweist, der dazu geeignet ist, einen Abschnitt des Pfostens (2) exakt aufzunehmen.

Revendications

1. Structure verticale pour meubles comprenant :

- un châssis portant (T), et
- un ou plusieurs paniers (7) soutenus par le dit châssis portant (T),

où

le dit châssis portant (T) a une forme en "L" et il est constitué d'un montant (2) relié à la base avec l'extrémité d'une traverse (3a), et

les dits paniers (7) sont soutenus en relief par le dit montant (2), en position sus-jacente à la dite traverse de base (3a),

caractérisée en ce que les paniers (7) sont disposés en relief par rapport au dit montant (2) grâce au support de respectives et sous-jacentes tiges horizontales (6) directement fixées sur le montant même (2).

2. Structure verticale selon la revendication 1, **caractérisée en ce que** chacun des dits paniers (7) présente une structure grillagée réalisée en fil (ou rond) métallique, où la paroi du fond, entourée par une petite barrière de périmètre (70), est composée d'une série longitudinale et régulièrement écartée de fins ronds métalliques (7a) qui résultent soudés au-dessus de deux ronds métalliques transversaux (7b) ayant une section majeure.
3. Structure verticale selon la revendication 1 ou 2, **caractérisée en ce que** chacune des dites tiges horizontales (6), qui résulte dotée d'une hauteur décrois-

sante à partir de l'extrémité postérieure vers celle antérieure et qui présente substantiellement une section en forme de "U" renversé, présente postérieurement un ou plusieurs crochets (6a), tournés vers le bas, aptes à se loger stablement dans des fentes correspondantes (5) prévues sur le dit montant (2).

4. Structure verticale selon les revendications précédentes, **caractérisée en ce que** chacune des dites tiges (6) présente supérieurement deux entailles transversales (6b) en mesure de se loger exactement et stablement dans des respectifs inserts moulés en matériel plastique (IS) de manière à obtenir un accrochage stable avec les dits ronds métalliques (7a, 7b) qui composent la paroi de fond des dits paniers à structure grillagée (7).

5. Structure verticale selon la revendication 4, **caractérisée en ce que** chacun des dits inserts moulés en matériel plastique (IS) comprend :

- une plaque plate substantiellement rectangulaire (8) délimitée par deux rebords longitudinaux (81, 82), en correspondance desquels sont réalisées verticalement des respectives paires de languettes flexibles de manière élastique (83) terminées à leur sommet par des respectives dents de retenue (84) aptes à maintenir spontanément, en position de repos des respectives languettes flexibles (83), une position légèrement débordante vers l'externe du respectif rebord (81, 82)

- un élément (86) qui déborde horizontalement, et vers l'interne, du sommet du premier (81) des dits deux rebords longitudinaux et qui résulte doté inférieurement d'un profil courbé (86a), ayant la concavité tournée vers le bas, qui se dispose au-dessus d'un canal (87) qui se déploie le long de toute la dite plaque plate (8) ; étant prévu que le profil courbé (86a) du dit élément (86) et le dit sous-jacent canal (87) délimitent, avec la coopération du premier rebord longitudinal (81), un siège ayant substantiellement une forme en "C" (90) apte à loger exactement un segment d'un des ronds transversaux (7b) adoptés dans la paroi de fond d'un panier à structure grillagée (7)

- un ergot de retenue (88) situé devant l'embouchure du dit siège en "C" (90), consistant substantiellement dans l'extrémité supérieure d'un levier à retour élastique (89) qui traverse la dite plaque plate (8), de manière que son extrémité opposée puisse déborder au-dessous de celle-ci ; étant également prévu que ce levier (89) soit pivoté au-dessus de la plaque plate (8) moyennant une opportune tige basculante (89a) qui lui permet de pivoter d'une position de repos, en

- correspondance de laquelle son dit ergot de sommet (88) se maintient dans une position substantiellement verticale devant le dit siège en "C" (90), à une position opérationnelle, en correspondance de laquelle son dit ergot de sommet (88) assume une position horizontale, substantiellement en aplomb avec la surface supérieure de la plaque plate (8) ;
- deux entailles verticales (85) réalisées dans des positions opposées de manière symétrique sur les dits deux rebords longitudinaux (81, 82), aptes à loger exactement des respectifs segments d'un des ronds longitudinaux (7a) qui forment la paroi de fond d'un panier à structure grillagée (7).
6. Structure verticale selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** sa dite traverse de base (3a) est en mesure de coopérer avec une coulisse rectiligne (G1) montée en correspondance de la paroi de fond du respectif meuble (M), de manière à consentir à toute la structure (1) d'accomplir, par rapport à ce dernier, des courses alternées de l'interne vers l'externe et vice versa.
7. Structure verticale selon l'une ou plusieurs des revendications de 1 à 5, **caractérisée en ce que** le dit montant (2) présente à son sommet une seconde traverse (3b) disposée en une position parfaitement alignée en verticale avec la dite traverse de base (3a) et apte à être couplée avec la paroi horizontale supérieure du meuble (M).
8. Structure verticale selon la revendication 7, **caractérisée en ce que** la dite seconde traverse (3b) se dispose au sommet du dit montant (2) avec l'interposition d'une barre (4) enfilée, avec possibilité de coulisser librement, dans l'extrémité supérieure du dit montant.
9. Structure verticale selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** la dite traverse (3b) positionnée au sommet du montant (2) est en mesure de coopérer avec une respective coulisse rectiligne (G2) montée en correspondance de la paroi horizontale supérieure du respectif meuble (M).
10. Structure verticale selon l'une ou plusieurs des revendications de 1 à 5, **caractérisée en ce qu'une** barre (40) est enfilée dans l'extrémité supérieure du dit montant (2) et reliée, moyennant une tige horizontale intermède (40a), à une traverse latérale (3c) montée à l'interne d'un des côtés du meuble (M).
11. Structure verticale selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** la dite traverse latérale (3c) est en mesure de coopérer avec une respective coulisse rectiligne (G3) montée en correspondance du respectif côté du meuble (M).
12. Structure verticale selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** le dit montant (2) présente, sur le côté opposé à celui duquel débordent les dits paniers (7), une ou plusieurs pattes de fixation (9) ayant une disposition horizontale, aptes à consentir la fixation d'une porte coulissante (AT) dans le cas où l'entière structure verticale (1) est montée avec possibilité de coulisser alterné à l'interne du respectif meuble (M) avec la traverse de base (3a) tournée vers le dos du meuble.
13. Structure verticale selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** chacun de ses dits paniers (7) présente, au centre de son bord postérieur, un siège (S) apte à loger exactement un segment du montant (2).

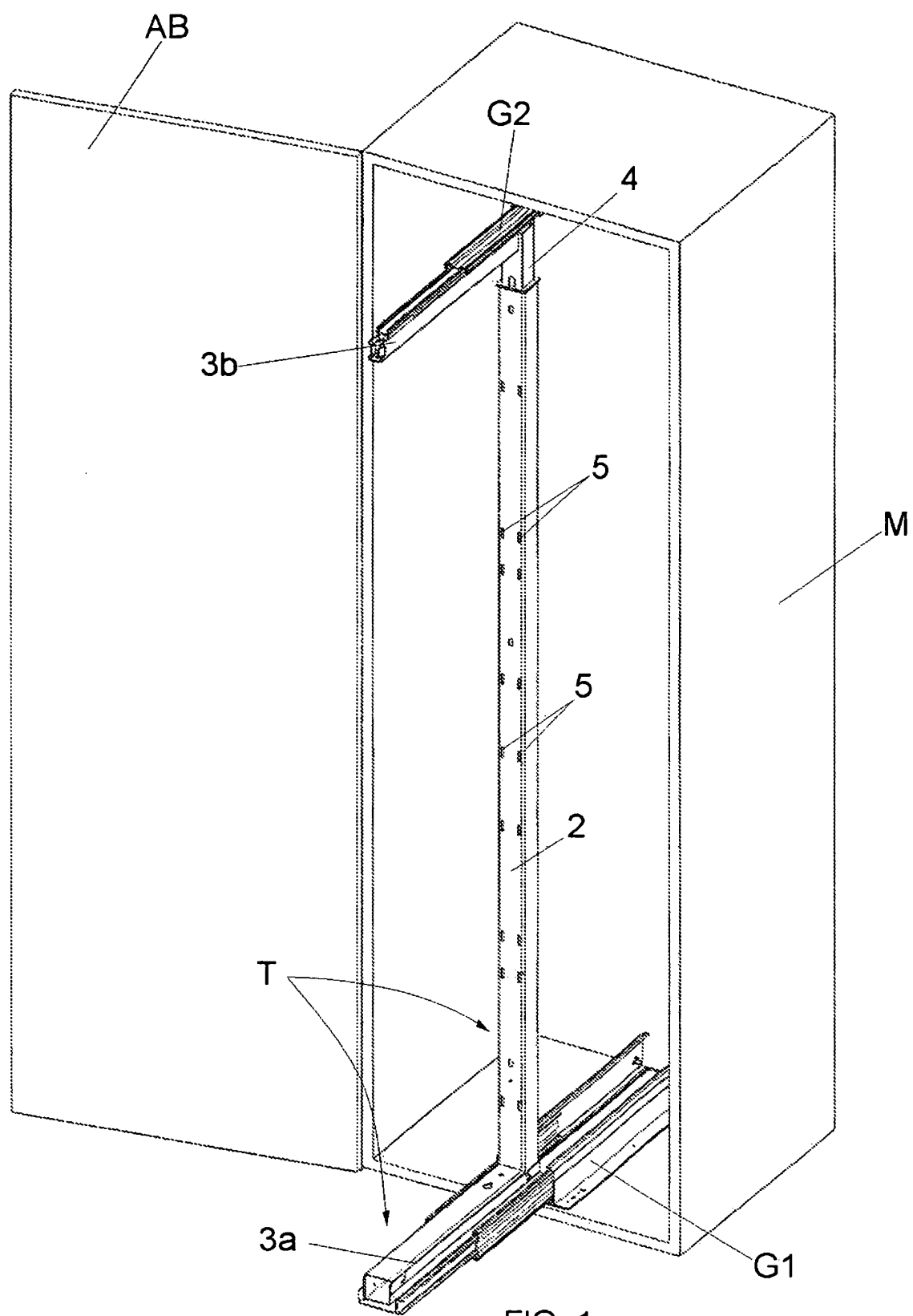
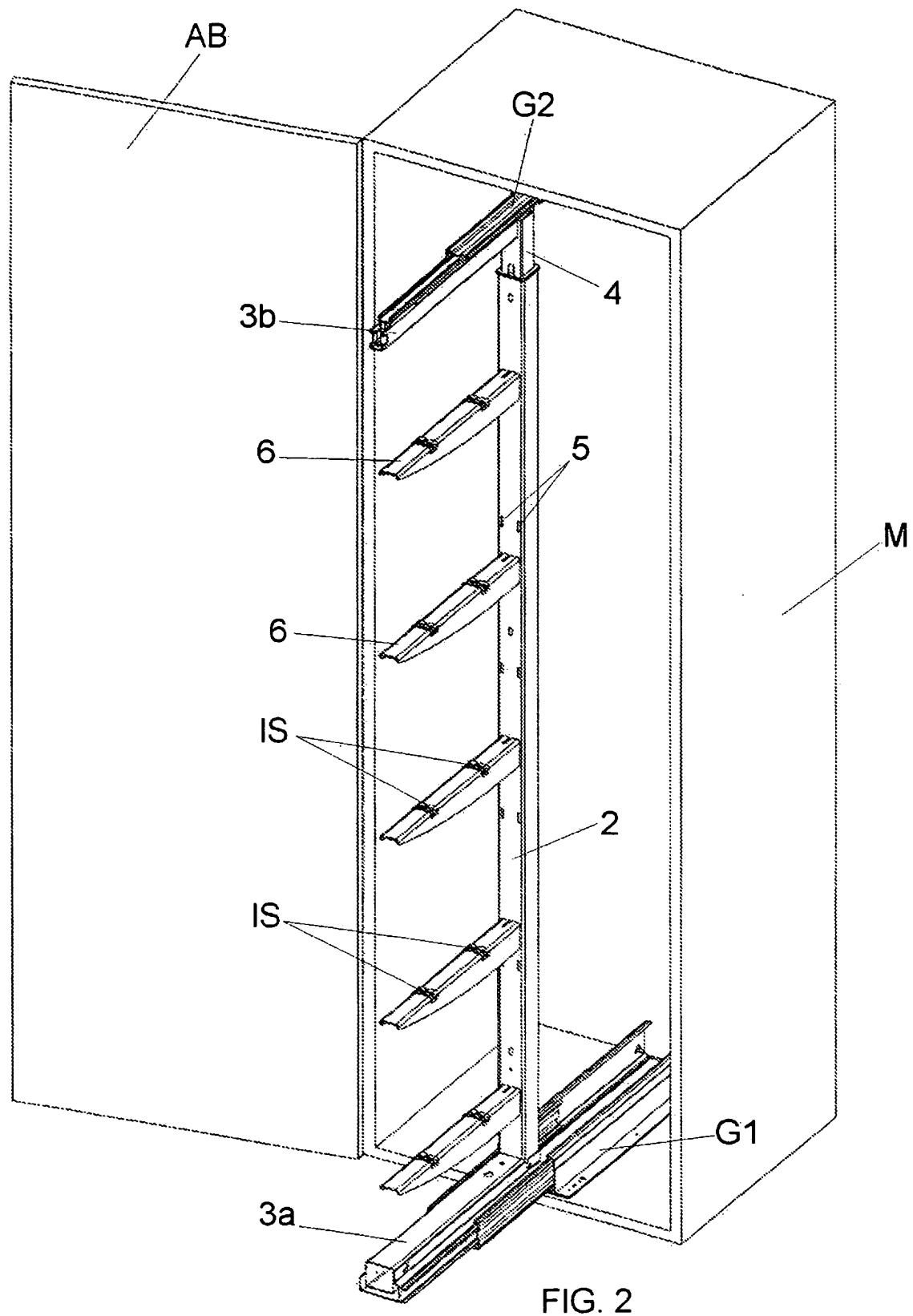


FIG. 1



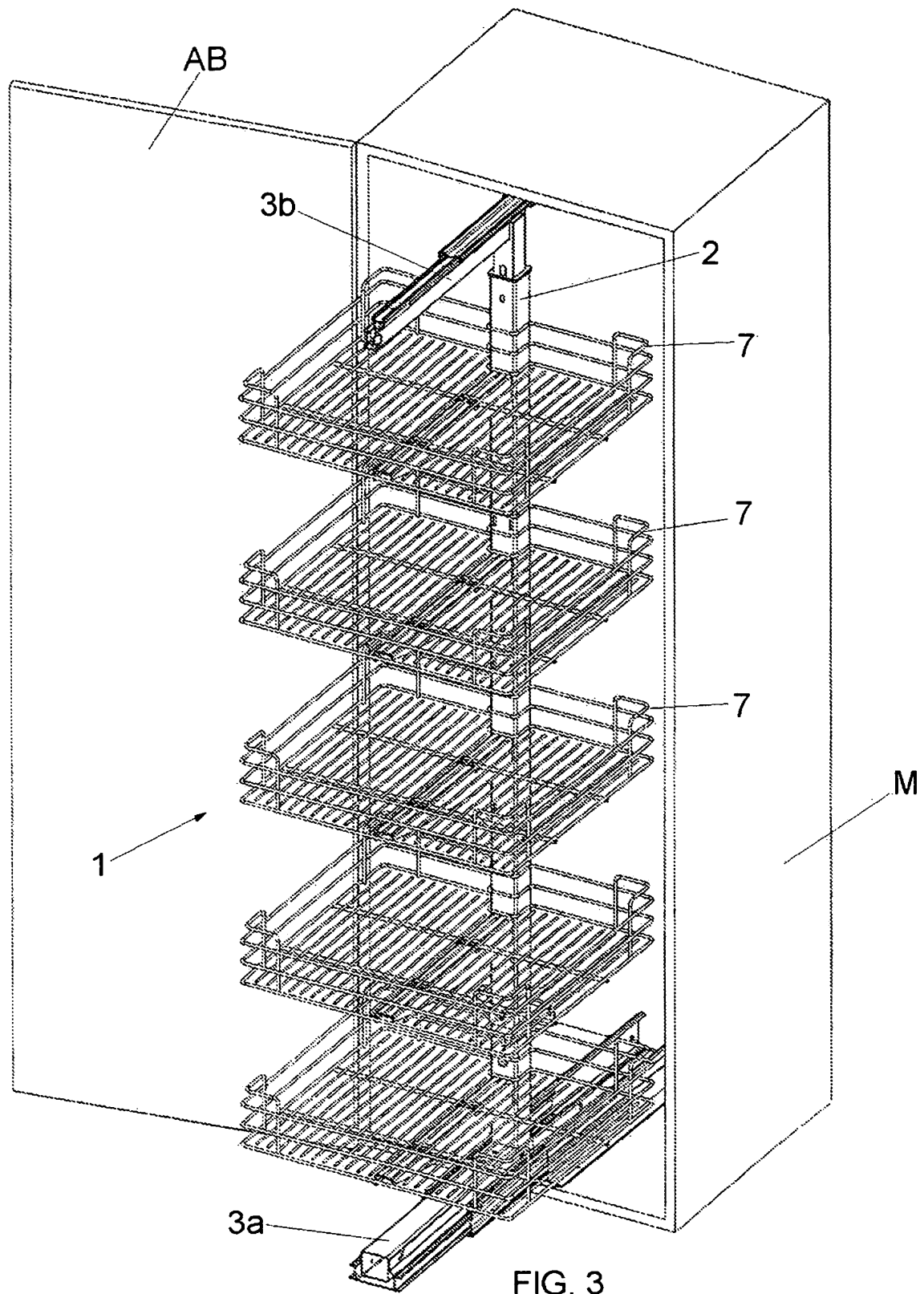
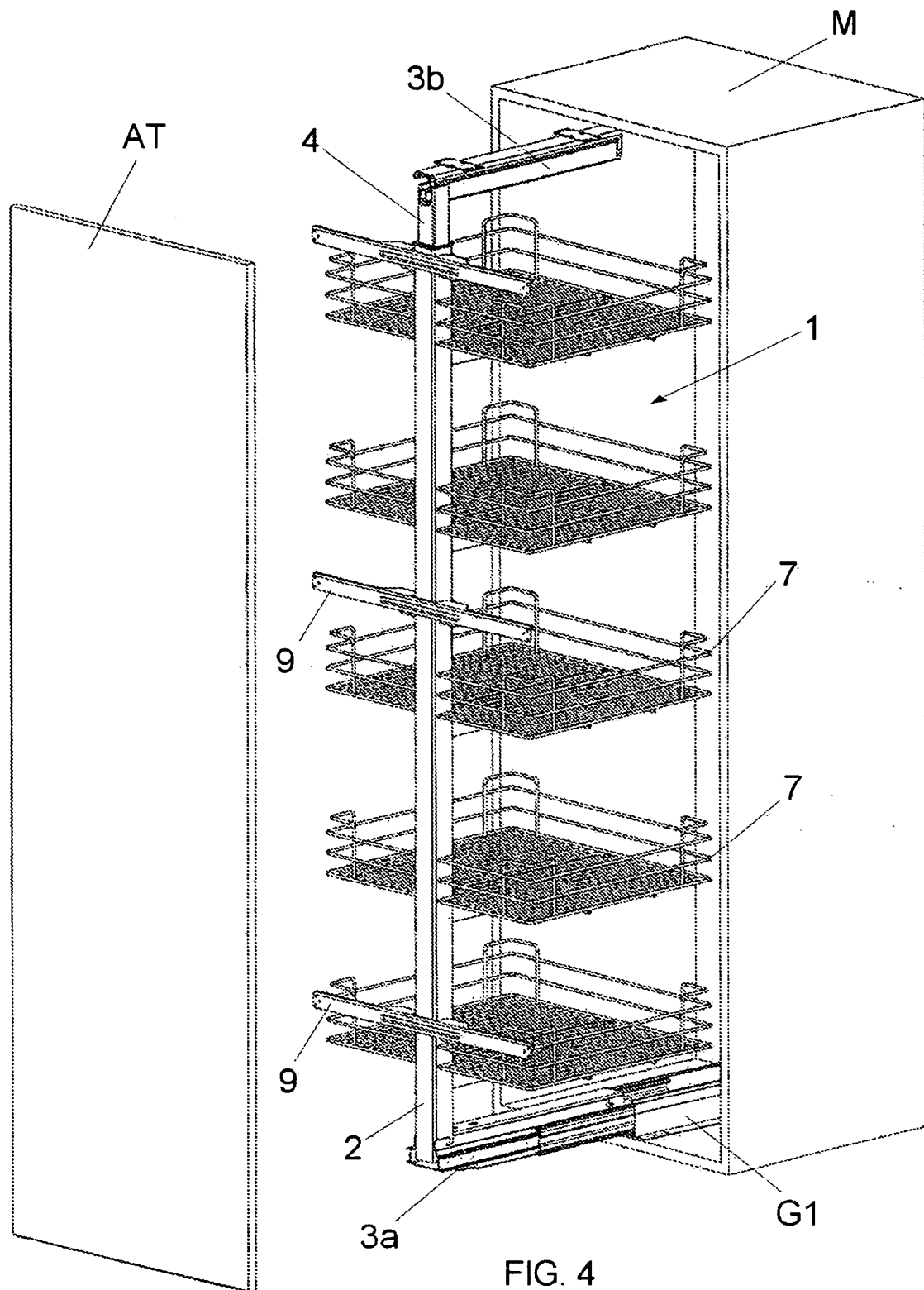


FIG. 3



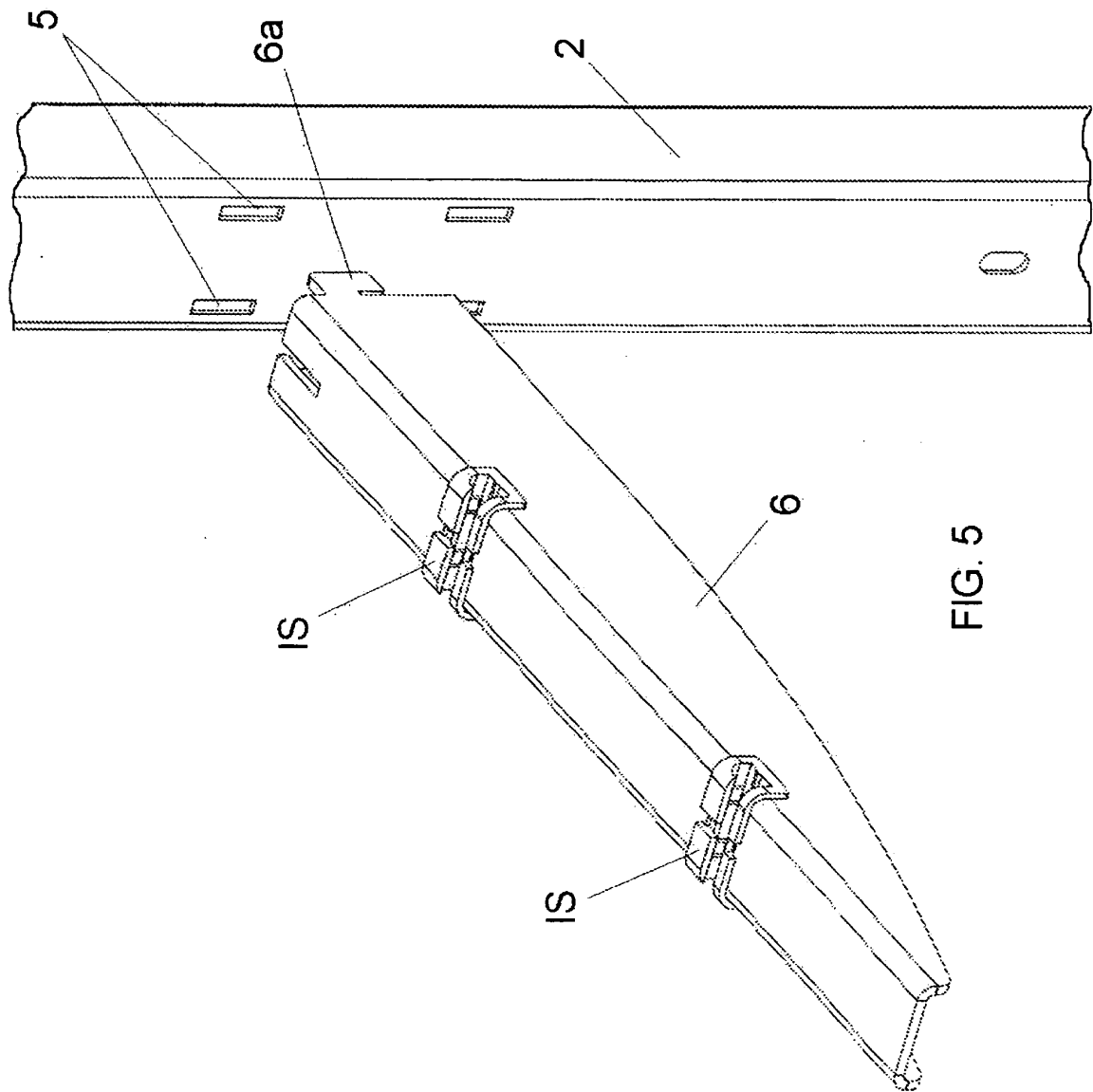


FIG. 5

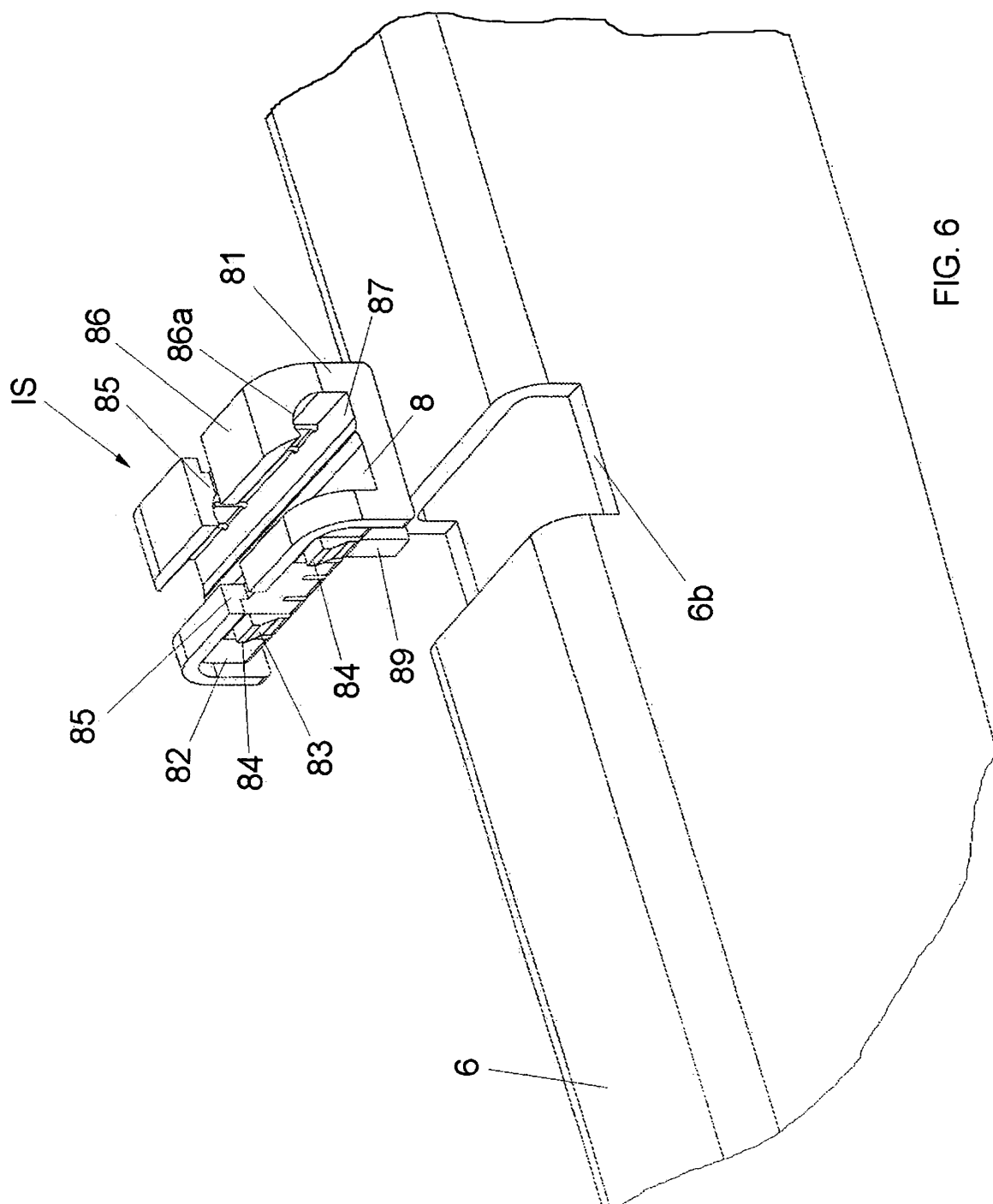
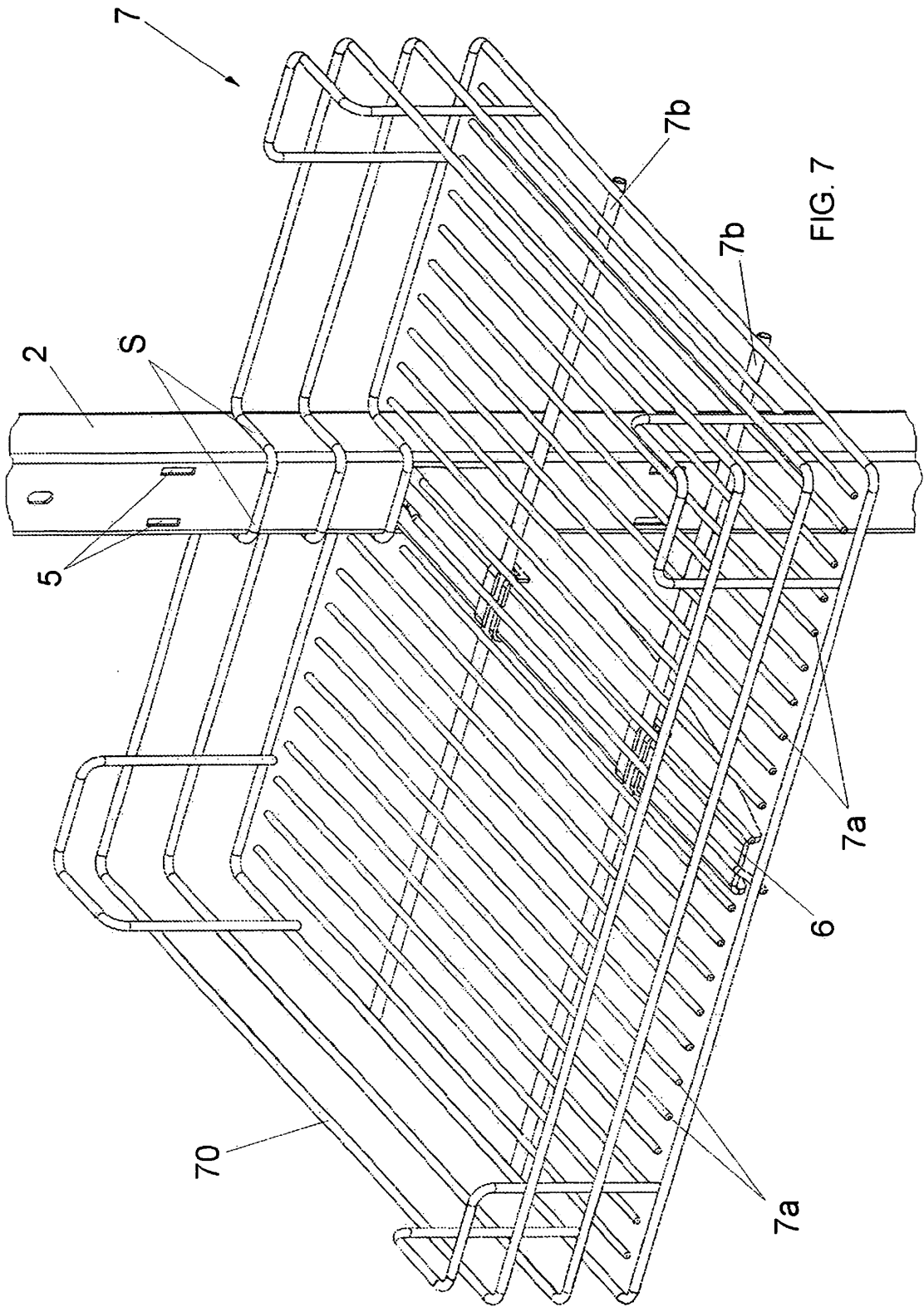


FIG. 6



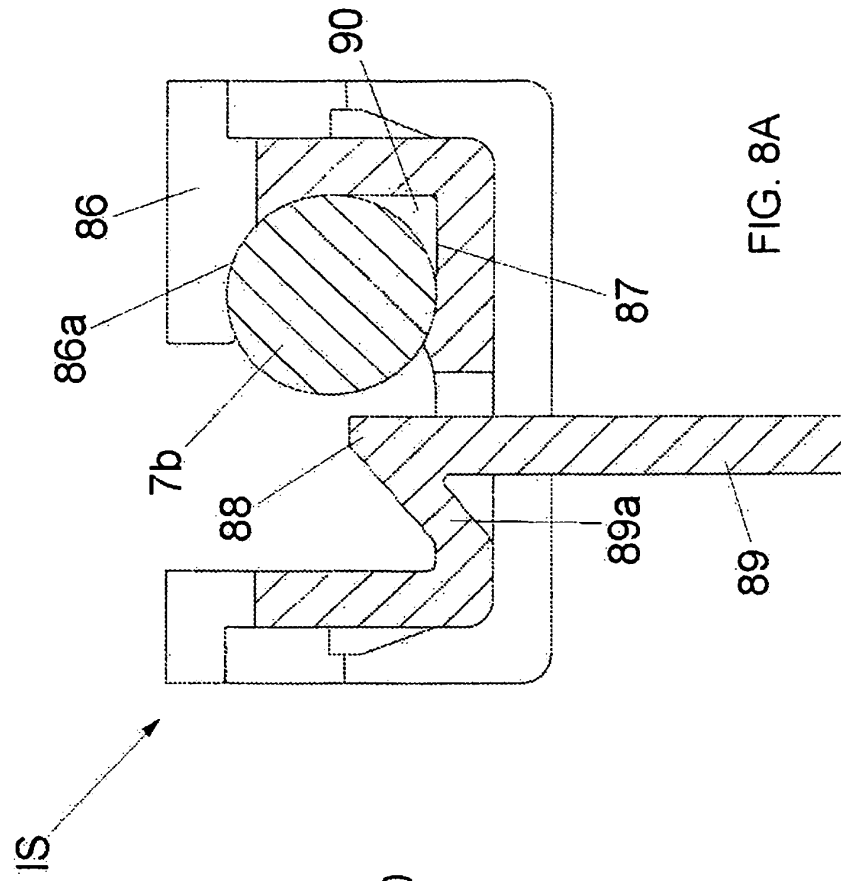


FIG. 8A

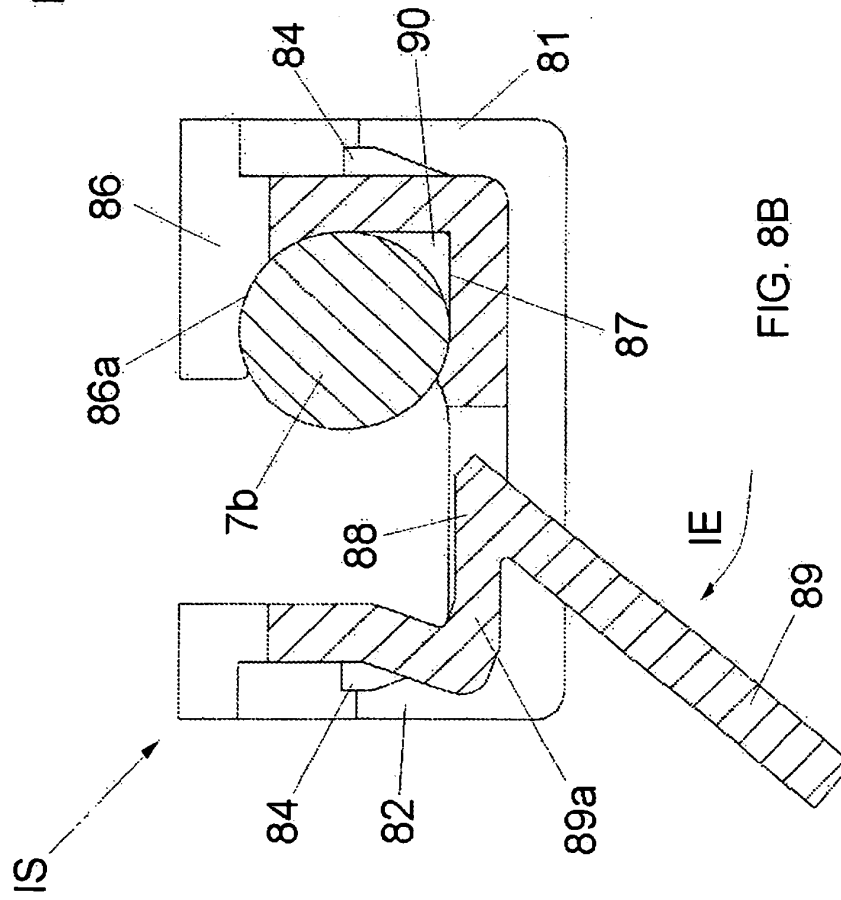
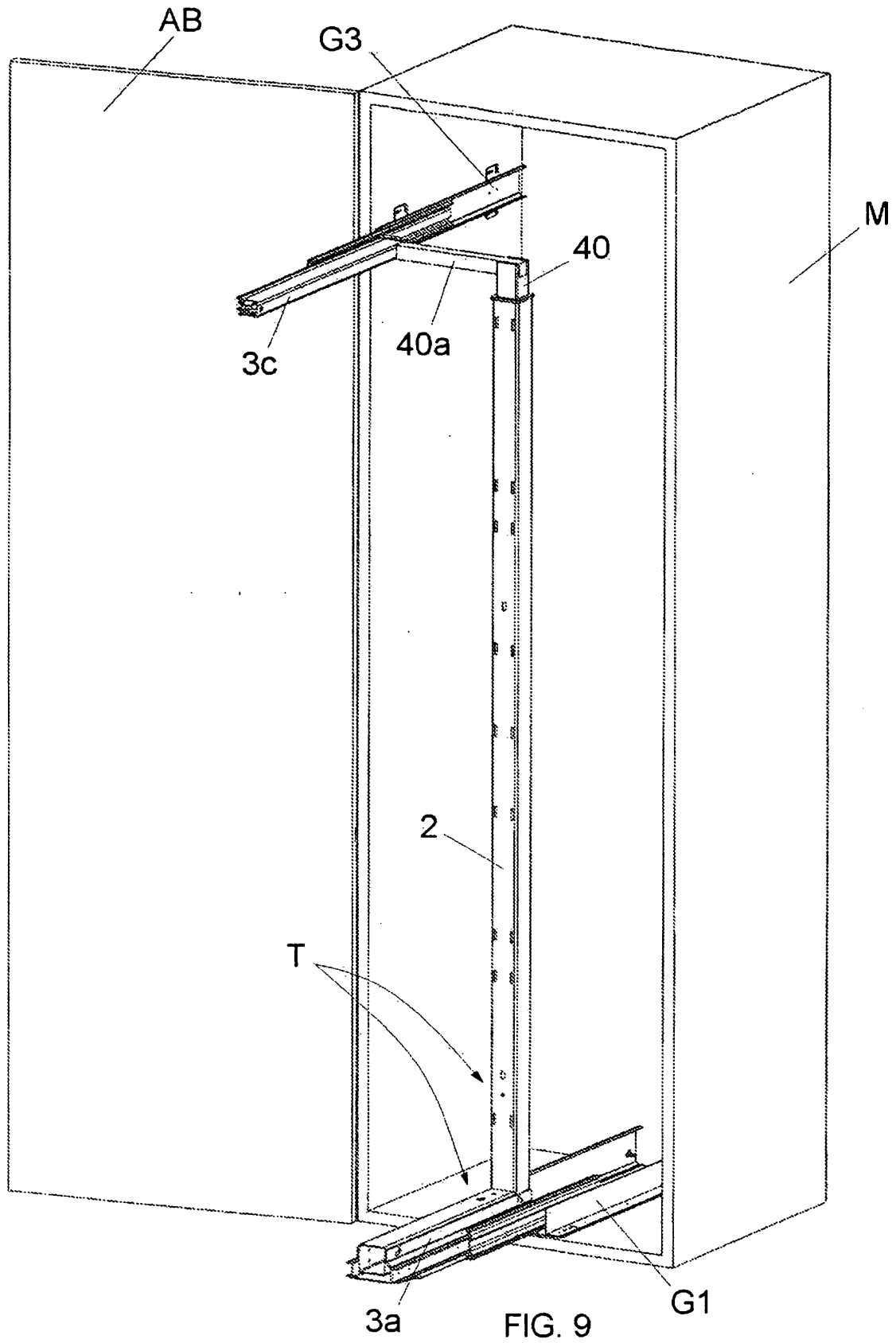
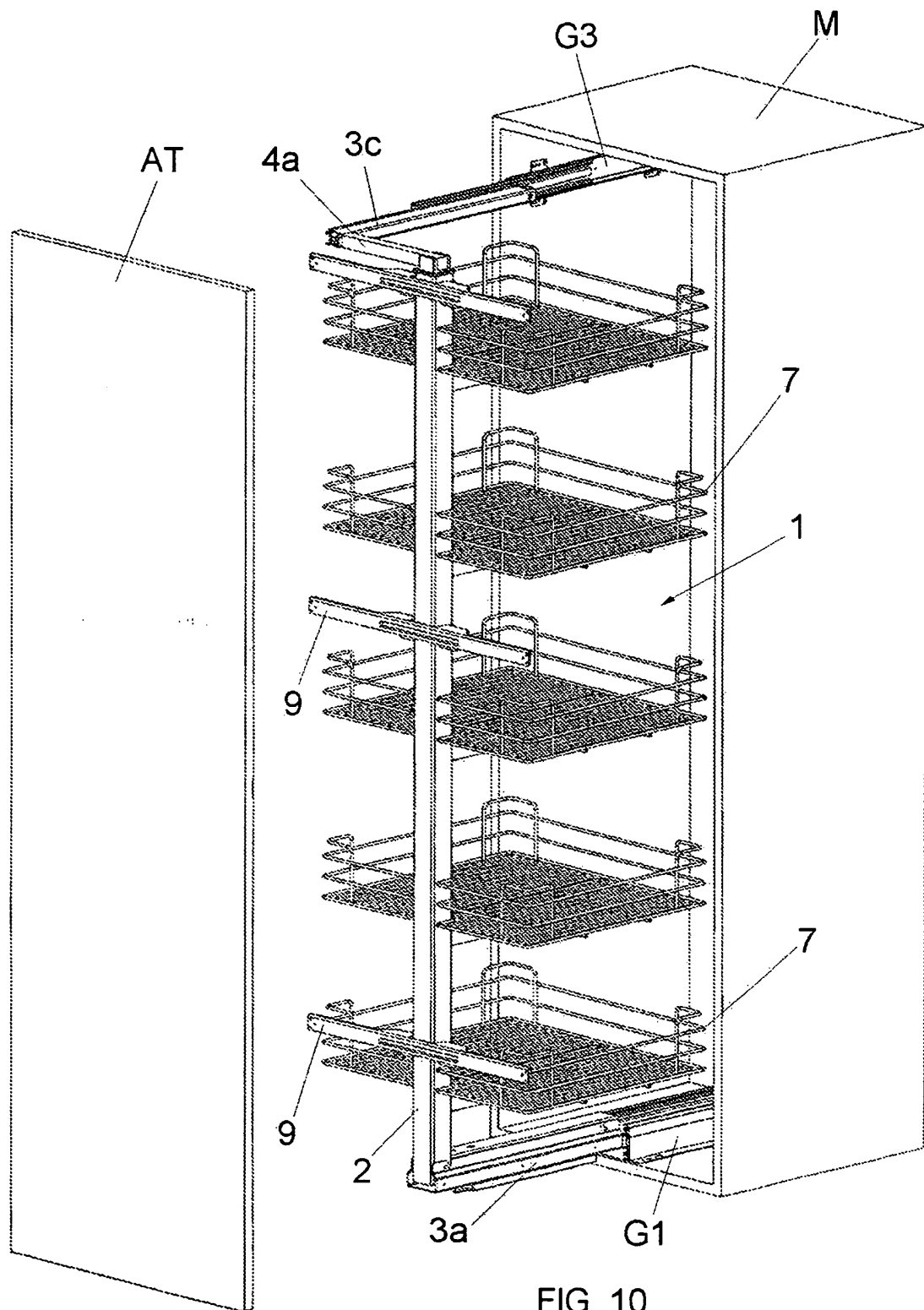


FIG. 8B





REFERENCES CITED IN THE DESCRIPTION

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