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(54) DEVICE FOR MOVING FURNITURE WINGS WITH VARIABLE FORCE

(57) The present invention concerns an assembly (1) for moving door wings suitable to be associated to a piece of furniture (M) comprising at least one sidewall (S), said assembly (1) comprising at least a first wing (10), a second wing (20) and a moving mechanism (100), said first wing (10) being adapted to be articulated with its top edge to the piece of furniture around an articulation axis X-X, said second wing (20) being hinged with its upper edge to the lower edge of said first wing (10) and adapted to be slidingly coupled with at least a side end of its lower edge to the sidewall (S) of the piece of furniture. Said moving mechanism (100) is adapted to displace said wings (10, 20) between a closed position, wherein said wings (10, 20) lie superimposed on each other and on the same substantially vertical plane, and an open position wherein said wings (10, 20) are arranged facing each other and cantilevered with respect to said articulation axis (X-X), said mechanism further comprising a balancing device (G) connected to said second wing (20) through transmission means (120) cooperating with deviating means (4, 5, 9, 13) associable to the sidewall (S) of the piece of furniture. In particular, said transmission means (120) comprise a first traction element (101) and a second traction element (102) operatively connected with each other through force compensating means (7) so as to continuously counteract the variation of the torque generated by said wings (10, 20) on said articulation axis (X-X) while they are being displaced.

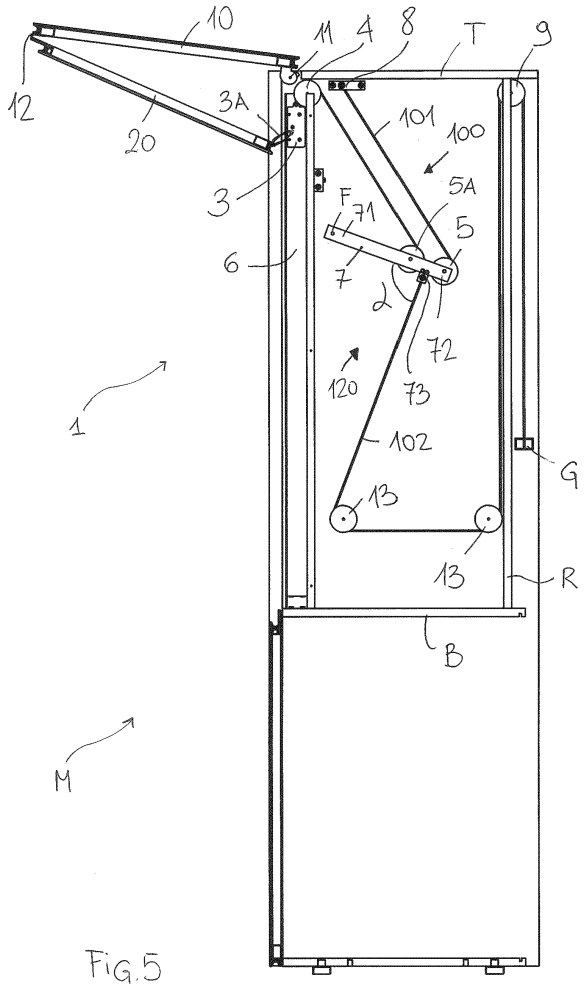

Fig.5

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Description

TECHNICAL FIELD OF INVENTION

[0001] The present invention is relative to an assembly for moving door wings of furniture pieces comprising a pair of wings and a moving mechanism equipped with a balancing member, such as for example a counterweight or a spring-loaded biasing element having a variable moment of force.

[0002] In particular, the moving assembly of the present invention is applicable to a furniture piece on which the front opening is suitable to be selectively closed again by means of a pair of folding wings with a hinged opening movement.

PRIOR ART

[0003] Generally, in the furniture field, the furniture pieces are made from parallelepiped-shaped bodies formed, as is well known, by two parallel vertical sidewalls, a cover, a base and if necessary a back wall, defining an inner cavity wherein it is possible to arrange objects, food, clothes, etc.

[0004] The front opening through which said inner cavity can be accessed is selectively closable with one or two door wings, movable between a closed position, in which access to the inner space is prevented, and an open position, in which it is possible to access the contents of the inner cavity.

[0005] The passage between said closed position and said open position can occur in different manners: the wings may for example be hinged to a side of the furniture piece so that the change from one position to the other comes about essentially by the rotation of the wing about a vertical axis, requiring therefore a considerable space and hindering the sideways movements of the user.

[0006] To avoid this hindrance, sliding wings have been proposed, in which the passage from one position to the other takes place by sideways or vertical sliding, which however makes it hard to access, or makes inaccessible, one part of the inner space of the furniture piece.

[0007] The document EP0210431 discloses a closing device for a wall-hung furniture unit closable from the front by a pair of door wings, a first wing being rotatably connected at the front edge of the furniture cover, and a second wing, substantially equal in height to the first wing, and hinged with its upper edge to the lower edge of the latter, having the ends of the lower edge slidably connected on guide rails installed on the front edges of the side walls of the furniture piece.

[0008] The door wings are operated with a folding movement between a closed position, in which they lie essentially overlapped on the same vertical plane, and an open position in which they face each other, or are folded one on the other, cantilevered with respect to the cover of the wall-hung unit.

[0009] In particular, the passage from the closed position to the open position is performed thanks to a balancing member comprising a suitably dimensioned counterweight consisting of a cylindrical bar sliding along the front edges of the sidewalls of the furniture unit.

[0010] Said counterweight is directly connected to the lower edge of the second wing through a cable suitably controlled by a fixed pulley installed idle on the inner sidewall of the piece of furniture; in particular, the counterweight can be operated from outside and is positioned respectively in correspondence of the backside of the unit when the wings are in the open position, and at the cover when the wings are in the closed position.

[0011] A drawback that is found with said closing device on wall-hung furniture pieces lies in the fact that in the passage from the closed position to the open position the centres of mass of the wings move progressively away from the point of articulation located on the cover of the unit, thus generating an increasing torque, which however is not exactly counteracted by the counterweight, whose force applied on the wings is constant during the displacement of the same.

[0012] Thus, since the counterweight is directly connected to the wings, if it is dimensioned in such a way as to guarantee their equilibrium in the closed position, the force required to be applied by the user to displace the wings to the open position increases progressively, thus making such operation rather difficult.

[0013] Similarly, if a counterweight is provided that is suitable to balance the torque generated by the weight of the wings when they are in the open position, the user will have to apply a rather high, and progressively increasing, force to achieve the displacement of the wings to the closed position, whereat a suitable locking means, such as a magnet, will have to be provided to prevent them from returning by themselves to the open position.

[0014] An obvious solution of the above-mentioned problem is to provide a powered opening for the wings. However, in addition to being more expensive, this solution has the disadvantage of requiring the application of a suitable electric motor inside the furniture piece, perhaps housed in a protective shell, thus detracting useful space from the inner cavity and deteriorating the aesthetic appearance of the furniture piece.

[0015] Another disadvantage that is encountered is tied to the fact that the counterweight slides on the front of the furniture piece and is aesthetically unattractive, especially when the wings are in an intermediate position, in which the counterweight is substantially at an intermediate height of the front opening of the furniture piece, thus hindering the user in the operations of extracting objects or repositioning them inside the piece of furniture.

SUMMARY OF THE INVENTION

[0016] An objective of the present invention is to overcome the problems of the prior art mentioned above, proposing an assembly for moving folding door wings for pieces of furniture, said assembly being practical and

functional to use, guaranteeing a smooth opening and closing movement for the door wings.

[0017] In the scope of the above objective, one purpose of the present invention is to achieve an assembly for opening and closing doors of a furniture piece that is absolutely safe and reliable, making it possible to maintain the wings in stable balance in both the closing and opening position, as well as in any intermediate position desired by the user.

[0018] A further objective of the present invention is to provide an assembly for moving door wings of furniture pieces that is essentially not visible to the user, while maintaining unaltered the aesthetics of the furniture piece.

[0019] One not secondary purpose of the present invention is to provide an assembly for moving door wings of furniture pieces that achieves the above tasks and purposes with competitive costs of production, in such a way that its use is also advantageous from the economic point of view, and that can be obtained with the usual and well-known plants, machinery and equipment.

[0020] The above task and purposes, and others that will become more evident later, are achieved by an assembly for moving door wings of furniture pieces as defined in claim 1; further characteristics are defined in the subsequent dependent claims.

BRIEF DESCRIPTION OF THE FIGURES

[0021] Advantages and characteristics of the invention will be evident from the description which follows, given by way of example and without limitations, with reference to the enclosed figures, wherein:

- figure 1 illustrates in a front view a piece of furniture provided with an assembly for moving door wings according to the present invention, in which the wings are in the closed position;
- figure 2 is a view in cross section along plane A-A of the piece of furniture of figure 1;
- figure 3 is a view in cross section along plane B-B of the piece of furniture of figure 1;

- figures 3A and 3B show respective circled details suitably enlarged of component elements of a moving assembly for door wings according to the present invention;
- figure 4 illustrates in a front view a piece of furniture provided with an assembly for moving door wings according to the present invention, in which the doors are in the open position;
- figure 5 is a view in cross section along plane A-A of the furniture piece of figure 4, and
- figure 6 illustrates, in cross section, a piece of furniture provided with a moving assembly according to the present invention in which an advantageous detail is shown in an enlarged view.

DETAILED DESCRIPTION OF THE INVENTION

[0022] With reference to the above figures, an assembly is illustrated therein for moving door wings 1 according to the present invention, that is adapted to be associated to a piece of furniture M, for example a wall-hung furniture unit, a column unit or a stack cabinet.

[0023] Said piece of furniture M is preferably formed by a parallelepiped body comprising a pair of sidewalls S, made from panels essentially vertical and parallel, a cover T, and if necessary a base B and a rear wall or back R, defining an inner cavity provided with a front opening selectively closable by means of the door wings.

[0024] A moving assembly 1 according to the present invention comprises therefore a pair of door wings 10, 20, hereafter called respectively first wing, or upper wing 10, and second wing, or lower wing 20, due to their position when in use, formed advantageously from respective rigid panels, suitable to be associated with the front opening of said piece of furniture M.

[0025] In particular, said first wing 10 is adapted to be hinged to the front edge of the cover T of the piece of furniture M, or, as it may be, to the sidewalls S, around a first articulation axis X-X defined by appropriate and well-known first hinge means 11, said second wing 20, preferably equal in height to the first one, being rotatably connected with its upper edge to the lower edge of said first wing 10 through second hinge means 12.

[0026] Further, the lower edge of said second wing 20, opposite to the one through which the latter is articulated to said first wing 10, is slidingly connected, through sliding means 3, such as for example a pair of trolleys, to the sidewalls S of the piece of furniture M, preferably near their front edge, on which are mounted corresponding guiding means 6, such as a pair of guide lanes, preferably C-shaped, and preferably extending substantially over the entire height of the inner space of the piece of furniture.

[0027] Preferably, as can best be seen in figure 3B, said pair of trolleys 3 is associated to the side portions of the lower edge of said second wing 20 through apt and well-known arms 3A suitable to form a parallelogram with a variable fulcrum to prevent the collision of said lower wing 20 with the sidewalls S of the furniture piece during the operations of moving the same wing.

[0028] Said assembly 1 also comprises a moving mechanism 100 suitable for moving, with a "folding" movement, said first and second wing 10, 20 between a closing position, shown in figures 1, 2 and 3, in which they overlie each other with two sides of equal length on the same substantially vertical plane, advantageously in abutment against the front edges of at least said pair of sidewalls S, substantially closing the front opening of the piece of furniture M, and an open position, shown in figures 4 and 5, in which they are arranged substantially facing each other and cantilevered with respect to the sidewalls S of the furniture piece M at said cover T, leaving said front opening at least partially free.

[0029] Preferably, for the movement of said wings 10, 20, is used a pair of essentially identical mechanisms 100 in accordance with the present invention, connected in a specular manner to the respective internal surfaces of each of said pair of sidewalls S of the furniture piece M, in such a manner as to obtain an optimal distribution of the weight, and thus of the effort, and thus guarantee a movement as smooth as possible.

[0030] In the description which follows, and with reference to the enclosed figures, will be described the elements and the means that make up a mechanism 100 installed at one of the two sidewalls S of the piece of furniture M; naturally, the arrangement of the elements and the means making up the mechanism 100 that may be connected to the other sidewall S will be specular.

[0031] As will be explained below in greater detail, according to an advantageous characteristic of the present invention said moving mechanism 100 comprises means and devices arranged and configured to balance at every instant the torque generated by the weight of the wings 10, 20 at the articulation axis X-X during their movement between said closed position and said open position.

[0032] In particular, said moving mechanism 100 comprises a balancing member G, such as at least a solid body that serves as a counterweight, operatively connected to the lower wing 20 through transmission means 120 cooperating with suitable deviating means associated to said sidewall S. Preferably, said counterweight G is arranged so as to be movable along an essentially vertical direction and housed advantageously in an interspace separate from the inner cavity of the piece of furniture by said back wall R.

[0033] According to an advantageous characteristic of the present invention, said mechanism 100 also comprises compensating means 7, adapted to to balance the torque generated by the weight of the wings 10, 20 on said articulation axis X-X during their displacement between the closed position and the open position, compensating or balancing it instantaneously and automatically.

[0034] Said transmission means 120 comprise a first traction element 101 and a second traction element 102, each formed by a corresponding elongate and essentially inextensible element, such as for example a cable or a cogged belt, mutually interacting and operatively connected through said compensating means 7, formed advantageously by a rigid, and preferably rectilinear, arm, having a first end 71 connected to said sidewall S of the piece of furniture around a fulcrum F so as to be freely rotatable on the plane defined by the latter.

[0035] Preferably, said first traction element 101 has a first end connected to the trolley 3, which is in turn connected to the lower edge of said second wing 20, and a second end connected to the sidewall S of the piece of furniture M preferably through a fastening plate 8 positioned adjacent to the cover T.

[0036] Examining the lengthwise extension of said first traction element 101, starting from its first end associated to the trolley 3, it extends inside the guide lane 6 located on the sidewall S, it winds around a first fixed pulley 4, installed idle on the sidewall S of the furniture piece in proximity of the articulation axis X-X, and is rerouted toward the inside of the inner cavity of the furniture piece, always adhering to said sidewall S.

[0037] Afterwards, said first traction element 101 engages the outer surface of a movable pulley 5, mounted integral with a second end 72 of said compensating arm 7, by which it is deviated toward said fastening plate 8 to which its second end is anchored.

[0038] An auxiliary pulley 5A may be mounted on said arm 7, in a position adjacent to said movable pulley 5, so as to guide the travel of said first traction element 101 during the movement of the wings 10, 20, maintaining it constantly in contact with the outside surface of said movable pulley 5.

[0039] Said second traction element 102 is instead connected with a first end to said counterweight G, and with a second end being advantageously joined to said compensating arm 7 in particular at a coupling point 73 preferably provided near the second end 72 of said arm 7.

[0040] Examining said second traction element 102 in its length, starting from its first end connected to said counterweight G, it goes through a series of deviations around a plurality of fixed pulleys connected to the sidewall S of the furniture piece; in particular, in the example of the embodiment shown in figures 3 and 5, said second traction element 102 is deviated by a second fixed pulley 9, preferably arranged near said cover T and in correspondence of the back R of the furniture piece, which routes it into the inner space of the furniture piece with a 180° deviation, where later it engages the outside surface of a pair of third fixed pulleys 13, arranged proximate to the base B of the furniture piece, essentially both arranged at the same height, which redirect it toward said compensating arm 7, to which it is connected at the coupling point 73.

[0041] The operation of a moving assembly 1 according to the present invention is now illustrated starting from the condition in which said wings 10, 20 are in the closed position, as shown in figure 3.

[0042] In this condition, the trolley 3 associated to the lower edge of said second wing 20 is arranged adjacent to the base B of the piece of furniture M; said first traction element 101 thus extends substantially over the whole extent of said guide lane 6 and, since it is essentially inextensible, it holds said movable pulley 5 in the nearest possible position to the point in which its second end is anchored to the sidewall S, that is, said fastening plate 8.

[0043] Consequently, said compensating arm 7 is arranged essentially vertical, as it extends above the fulcrum F to which it is rotatably fastened with its first end 71, and as it thus defines a substantially null angle α with said second traction element 102 connected to it at the coupling point 73; in this condition, said balancing member G is arranged in the position nearest to the cover T of the piece of furniture, since a second traction element

102 of suitable length has been chosen.

[0044] The first operation to perform in order to have the passage of said wings 10, 20 from the closed position to the open position is preferably carried out by the user, and consists of starting the movement preferably by grasping said lower wing 20, for example through appropriate holding means, such as for example a handle projecting from the surface of said wing 20 or formed by a recess made in the thickness of the wing itself.

[0045] When the movement of the wings 10, 20 is started, the moving mechanism 100 is activated in consequence: said balancing device G starts its vertical travel, driven by gravity inside the relative interspace; since the second traction element 102, to which said counterweight G is connected, is essentially inextensible, the movement of the latter will tend to cause a rotation of the compensating arm 7, by acting on the coupling arm 73.

[0046] This rotation has the effect of moving said movable pulley 5, integral with the second end 72 of the compensating arm 7, away from said fastening plate 8, pulling at the same time said first traction element 101 deviated by it, and causing as a consequence an upward traction on the trolley 3 connected at its first end and joined to the lower wing 20.

[0047] As the angle α defined between said arm 7 and said second traction element 102 increases, there is a consequent increase of the traction force exerted by the first traction element 101 on the trolley 3: in fact, the moment of force impressed by the counterweight G is variable and substantially proportional to the angle α, in particular through the trigonometrical function sen(α).

[0048] This increase in the force impressed by the counterweight G through the mechanism 100 produces a torque at the articulation axis X-X, the value of which is at least equal, instant by instant, to the progressively increasing torque generated by the opening movement of said wings 10, 20 as previously explained.

[0049] In practice, the torque applied by said counterweight G is variable as a function of the angle α formed between said arm 7 freely rotatable around said fulcrum F and said second traction element 102 to which said counterweight G is connected, and consequently the force impressed by the mechanism 100 on said wings 10, 20 is also variable.

[0050] The maximum force applicable by the mechanism 100 is obtained when the angle α reaches a value of 90°, as shown in figure 5; the assembly 1 is therefore advantageously dimensioned so that in such condition said wings 10, 20 will have reached the open position and said trolley 3 is in a travel-end position in the proximity of the cover T of the piece of furniture.

[0051] The opposite movement, that is, the passage of said door wings 10, 20 from the open position to the closed position, occurs in a substantially identical manner, carried out in reverse order. In this case, the user grabs said lower wing 20, if necessary using holding means, and starts the closing movement of said mechanism 100. By doing so, the user causes a traction on said first traction element 101, which in turn tends to attract said movable pulley 5 back toward the fastening plate 8, thus imposing a rotation of the compensating arm 7 in a direction opposite to the opening rotation. This involves a progressive reduction of the angle α, which results in a traction on said second traction element 102, which consequently will tend to pull back toward the cover T of the piece of furniture the counterweight G connected to it.

[0052] The force applied by the mechanism 100 thus progressively decreases, in a manner proportional to the trigonometrical function sen(α), and also the torque applied at the articulation axis X-X, constantly balancing the opposite torque generated by the weight of the wings 10, 20, until the closed position is reached, in which the wings 10, 20 remain closed essentially by gravity, since the angle α, and therefore the force proportional to it applied by the mechanism 100, is substantially null.

[0053] It can however be observed that, for the requirements of space, the angle α formed by said second traction element 102 and by the compensating arm 7 when said wings 10, 20 are in the closed position is not exactly null, but has a certain, though minimal, width. Therefore, in this condition, too, said mechanism 100 transfer a slight force to said wings 10, 20 which thus will tend to move toward the open position. To avoid this problem, it may be possible to provide a blocking means, such as for example a magnet, mounted at the base B of the furniture piece, suitable to hold the lower wing 20 in abutment against the sidewalls S in the closed position.

[0054] Alternatively, to avoid this problem it may be possible to configure said second hinge means 12, defining the axis of rotation between said first and said second wing 10, 20, so that when the wings are in a closed position, the axis of rotation is recessed with respect to the front edge of the sidewall S of the furniture piece, lying essentially beyond the vertical plane defined by the extension of said first traction element 101, as shown in figure 6.

[0055] In this manner, when said wings 10, 20 are in the closed position and, for the reason illustrated previously, they tend to move autonomously toward the open position, the particular arrangement of said hinge means 12 prevents their movement, maintaining advantageously said wings 10, 20 in abutment against the front edges of the sidewalls S of the piece of furniture.

[0056] If necessary, said balancing device G can be formed by an elastic biasing element, such as for example a helical spring, anchored with one end to the piece of furniture M and with the opposite end being connected to the first end of the second traction element 102. Alternatively, said balancing device G can consist of an electric motor.

[0057] As already mentioned, it is particularly advantageous to provide an assembly for moving door wings 1 comprising a pair of mechanisms 100, each one associated to a respective sidewall S of the piece of furniture and to the corresponding lower edge of said second wing

20, so as to enable a smooth movement of the wings 10, 20, in particular when they are of considerable size.

[0058] Thus, to guarantee the synchronization of said pair of mechanisms 100 and the perfect parallelism of said compensating arms 7, between at least one of the fixed pulleys 4, 9, 13 belonging to the moving mechanism 100 integral with a first sidewall S of the furniture piece and the corresponding fixed pulley of the moving mechanism 100 associated to the other sidewall S it is advantageously possible to provide a drive shaft.

[0059] In particular, preferably, said first and said second fixed pulley 4, 9 of a mechanism 100 associated to a sidewall S of the piece of furniture are advantageously coupled, through a corresponding drive shaft, to the corresponding first and said second fixed pulley 4, 9 of the mechanism 100 mounted on the opposite sidewall S, so as not to subtract useful space from the inside cavity of the furniture piece.

[0060] Moreover, advantageously, it is possible to provide a single counterweight G, formed substantially by a longitudinal bar made of a suitable material, whose opposite ends are associated to the first ends of respective second traction elements 102.

[0061] To avoid the slipping of the traction elements 101, 102 on the return means, in particular in the case in which the user starts the movement for opening or closing said wings 10, 20 by pulling them in an asymmetrical manner, it is appropriate to provide that both said fixed pulleys 4, 9, 13 and also said movable pulley 5, be formed by toothed wheels, said first and second traction element 101, 102 being therefore both formed advantageously by a respective cogged belt.

[0062] From the above description it is therefore evident how the present invention achieves the initially foreseen purposes and advantages. In fact, it has been possible to implement an assembly for moving door wings provided with a mechanism comprising a variable torque balancing device capable of compensating, instant by instant, the variation of the moment of force on the articulation axis X-X generated by the displacement of the wings between the closed position and the open position, generating automatically on the same articulation axis X-X a moment of force of equal intensity and in the opposite direction, thus making it possible to obtain an absolutely smooth movement of the wings 10, 20, and making it possible to also position them securely in any intermediate position.

[0063] Finally, it is pointed out that an assembly for moving door wings 1 according to the present invention, in addition to finding its application in the furniture field, in particular on kitchen cabinets, wardrobes, etc., can advantageously be used also for opening/closing garages, stalls or other applications in which there is the requirement of closing or separating with a pair of door wings a rear compartment or cavity.

[0064] Moreover, the directional terms used to describe the present invention, such as "on, under, vertical, horizontal, lower and upper", as well as any other similar directional term, should be interpreted with reference to an assembly for moving door wings when in use, as shown in the enclosed figures.

[0065] Naturally, the present invention is open to many applications, modifications or variants without thereby departing from the scope of patent protection, as defined by the accompanying claims.

[0066] Moreover, the materials and equipment used for achieving the present invention, as well as the shapes and dimensions of the individual components, may be the most suitable for the specific requirements.

Claims

1. Assembly (1) for moving door wings adapted to be associated with a piece of furniture (M) comprising at least one sidewall (S), said assembly (1) comprising at least a first door wing (10), a second door wing (20) and a moving mechanism (100), said first door wing (10) being adapted to be articulated with its top edge to said piece of furniture around an articulation axis (X-X), said second door wing (20) being hinged with its upper edge to a lower edge of said first door wing (10) and adapted to be slidingly coupled with at least a side end of its lower edge to said sidewall (S), said moving mechanism (100) being adapted to displace said door wings (10, 20) between a closed position, wherein said door wings (10, 20) lie superimposed and on a same substantially vertical plane, and an open position, wherein said door wings (10, 20) are arranged facing with each other and cantilevered with respect to said articulation axis (X-X), said mechanism (100) further comprising a balancing member (G) connected to said second door wing (20) through transmission means (120) cooperating with deviating means (4, 5, 9, 13) associable to said sidewall (S),
   characterized in that
   said transmission means (120) comprise a first traction element (101) and a second traction element (102) operatively associated with each other through a force compensating means (7) so as to continuously counteract the variation of the torque generated by said door wings (10, 20) on said articulation axis (X-X) while being displaced.

2. Assembly (1) for moving door wings according to claim 1, wherein said force compensating means (7) comprise a rigid arm, having a first end (71) connectable to said sidewall (S) around a fulcrum (F) so as to be freely rotatable on a plane defined by said sidewall (S).

3. Assembly (1) for moving door wings according to claim 2, wherein said first traction element (101) is associated with a first end to said second door wing (20) and with the opposite end being adapted to be

coupled to said sidewall (S), said first traction element (101) being arranged so as to cooperate with a movable deviating member (5) formed by a pulley integrally mounted to said arm (7) and disposed adjacent to a second end (72) of said arm (7).

4. Assembly (1) for moving door wings according to claim 2 or 3, wherein said second traction element (102) is associated with a first end to said balancing member (G) and with a second end being joined to said arm (7) in correspondence of a coupling portion (73) arranged adjacent to a second end (72) of said arm (7).

5. Assembly (1) for moving door wings according to claim 4, wherein the force exerted by said balancing member (G) on said door wings (10, 20) through said mechanism (100) is proportional to an angle (α) defined between said arm (7) and said second traction element (102).

6. Assembly (1) for moving door wings according to any one of the preceding claims, wherein said balancing member (G) is a solid body acting as a counterweight for said door wings (10, 20).

7. Assembly (1) for moving door wings according to any one of claims 1 to 5, wherein said balancing member (G) is an elastic biasing element.

8. Assembly (1) for moving door wings according to any one of the preceding claims, wherein the lower edge of said second door wing (20) is slidingly coupled to said sidewall (S) by means of sliding means (3) adapted to cooperate with corresponding guiding means (6) associable with said sidewall (S), said sliding means (3) comprising at least one trolley.

9. Assembly (1) for moving door wings according to any one of the preceding claims, wherein said first and said second door wings (10, 20) are articulated to each other around a rotation axis defined by second hinge means (12) configured such that when said door wings (10, 20) are arranged in said closed position, said rotation axis is recessed with respect to a front edge of said sidewall (S).

10. Piece of furniture (M) comprising at least one sidewall (S) and defining an inner cavity which is closable with an assembly (1) for moving door wings according to any one of claims 1 to 9.

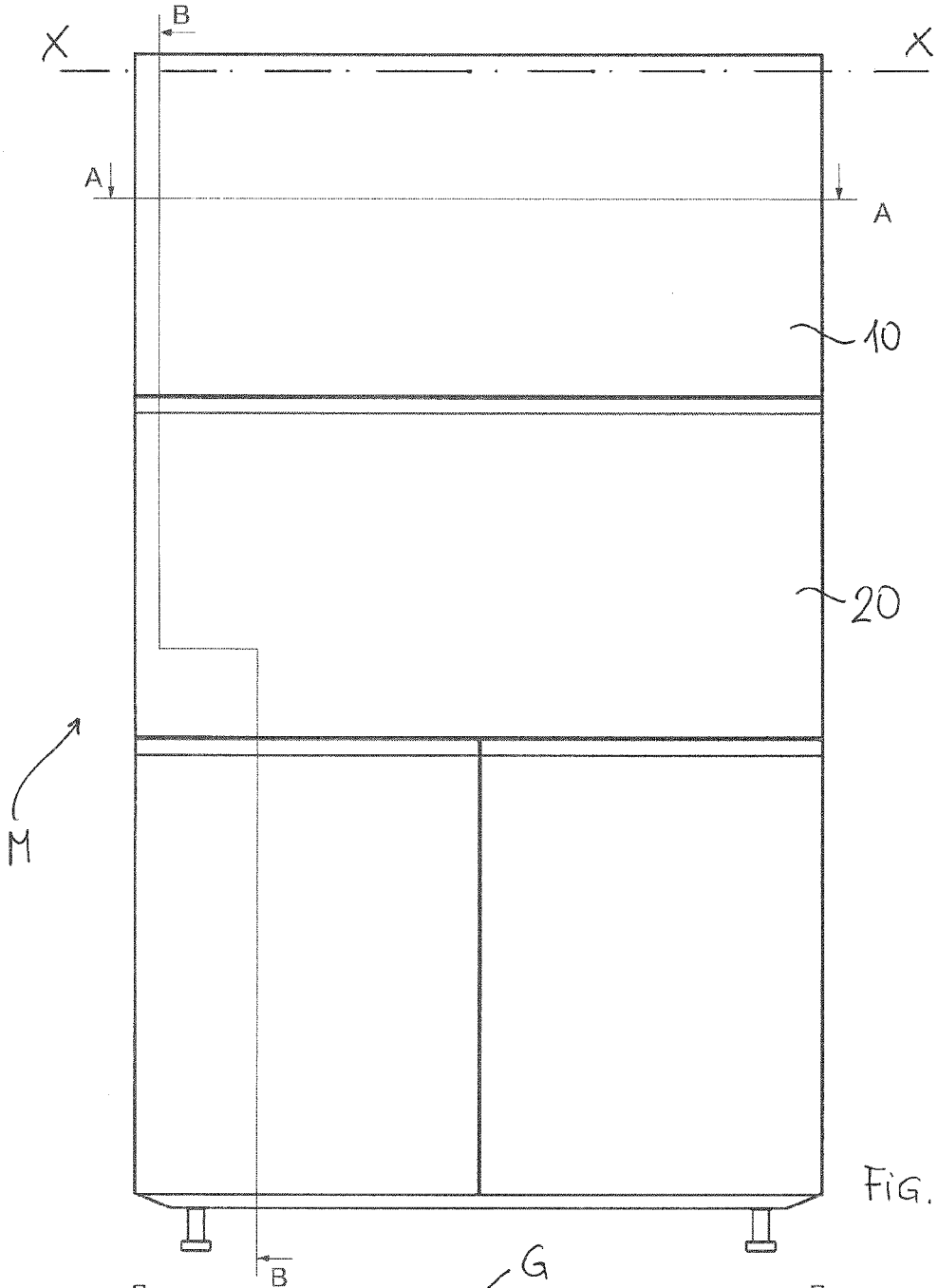

FIG. 1

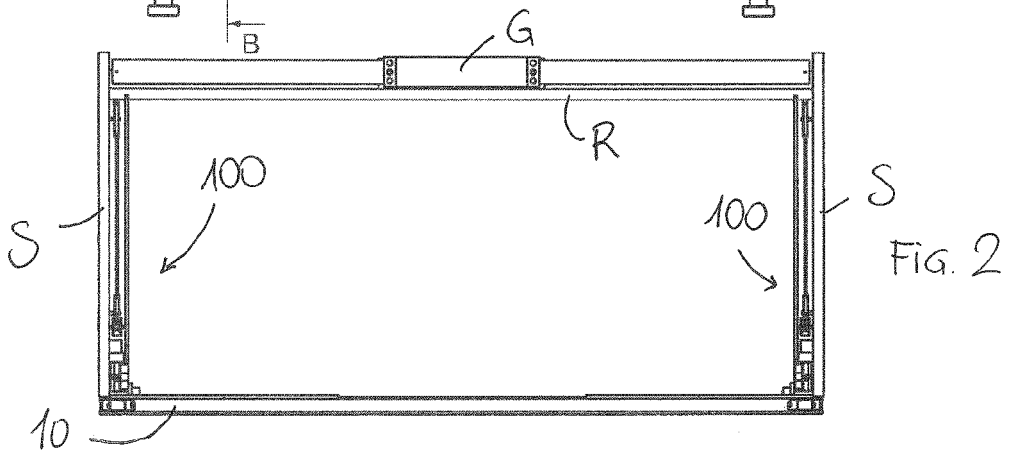

FIG. 2

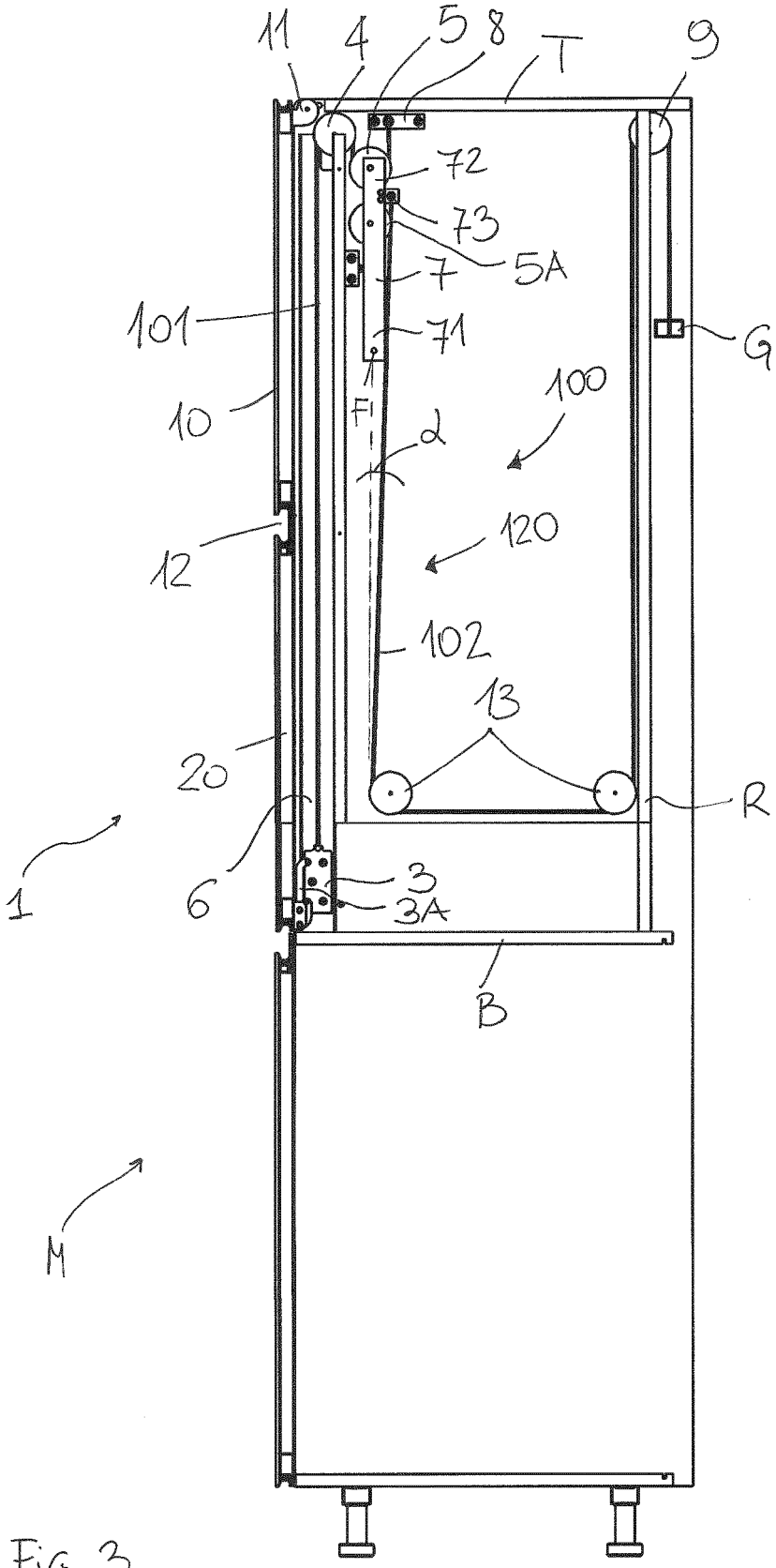

FIG. 3

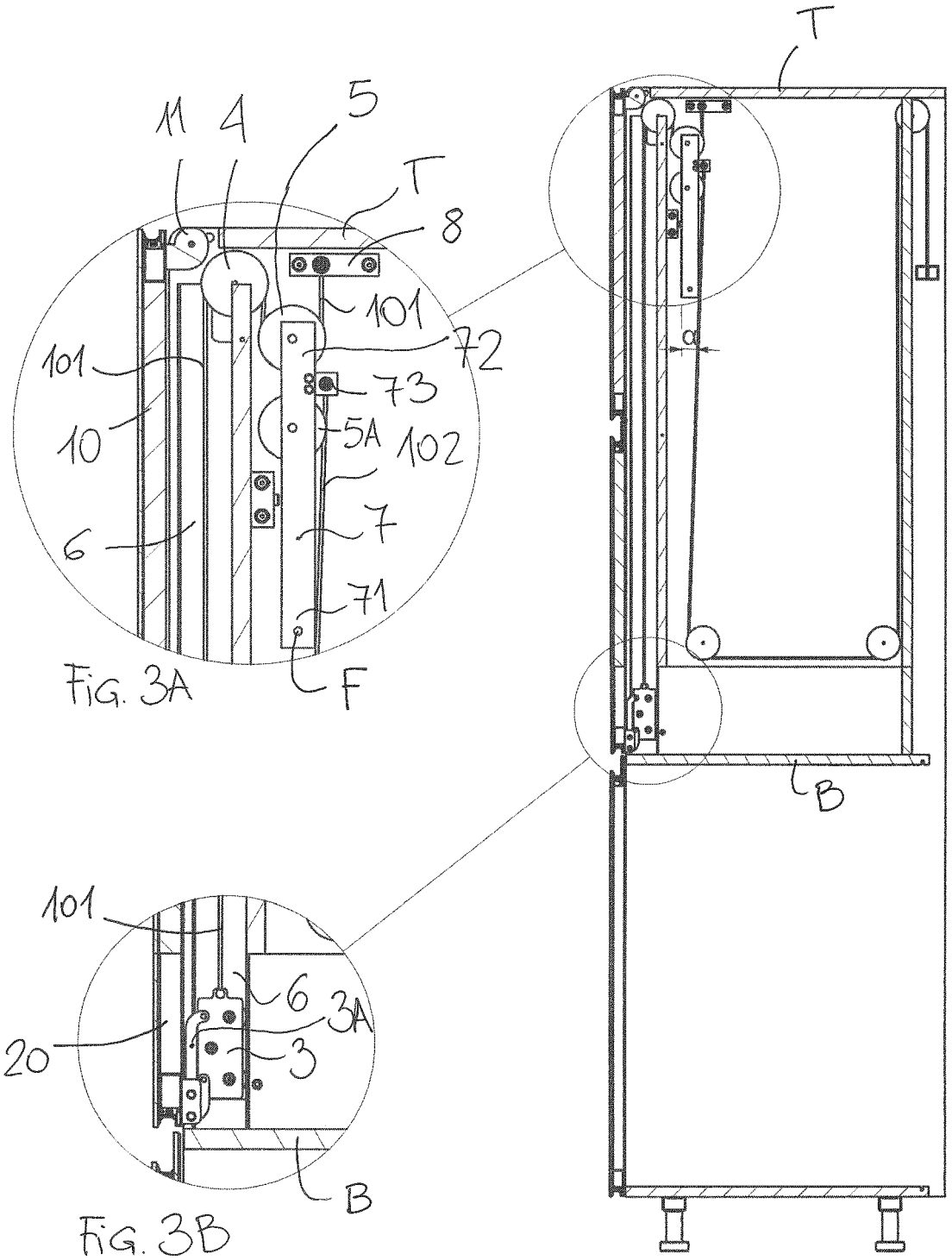

Fig. 3A

Fig. 3B

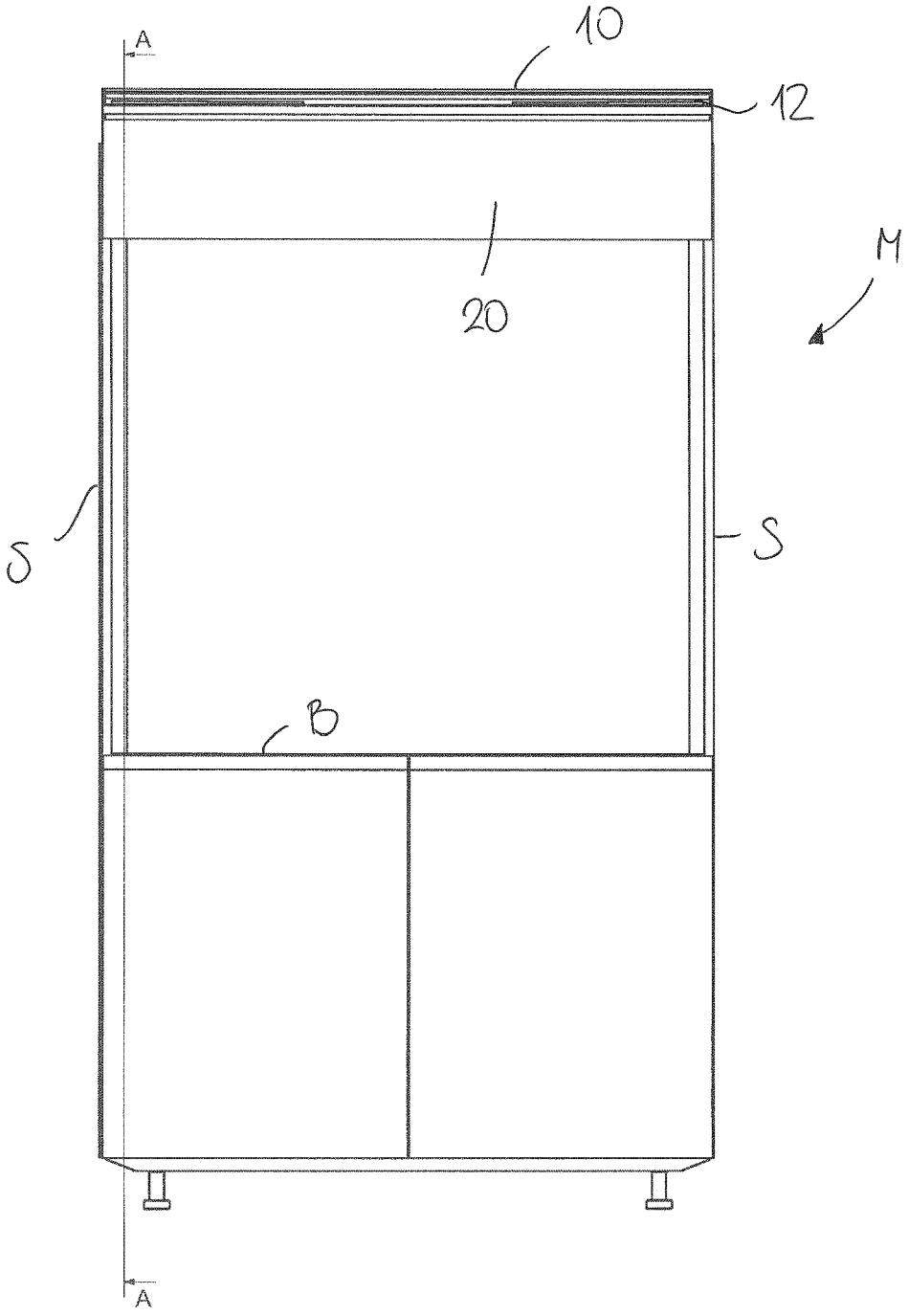

FIG. 4

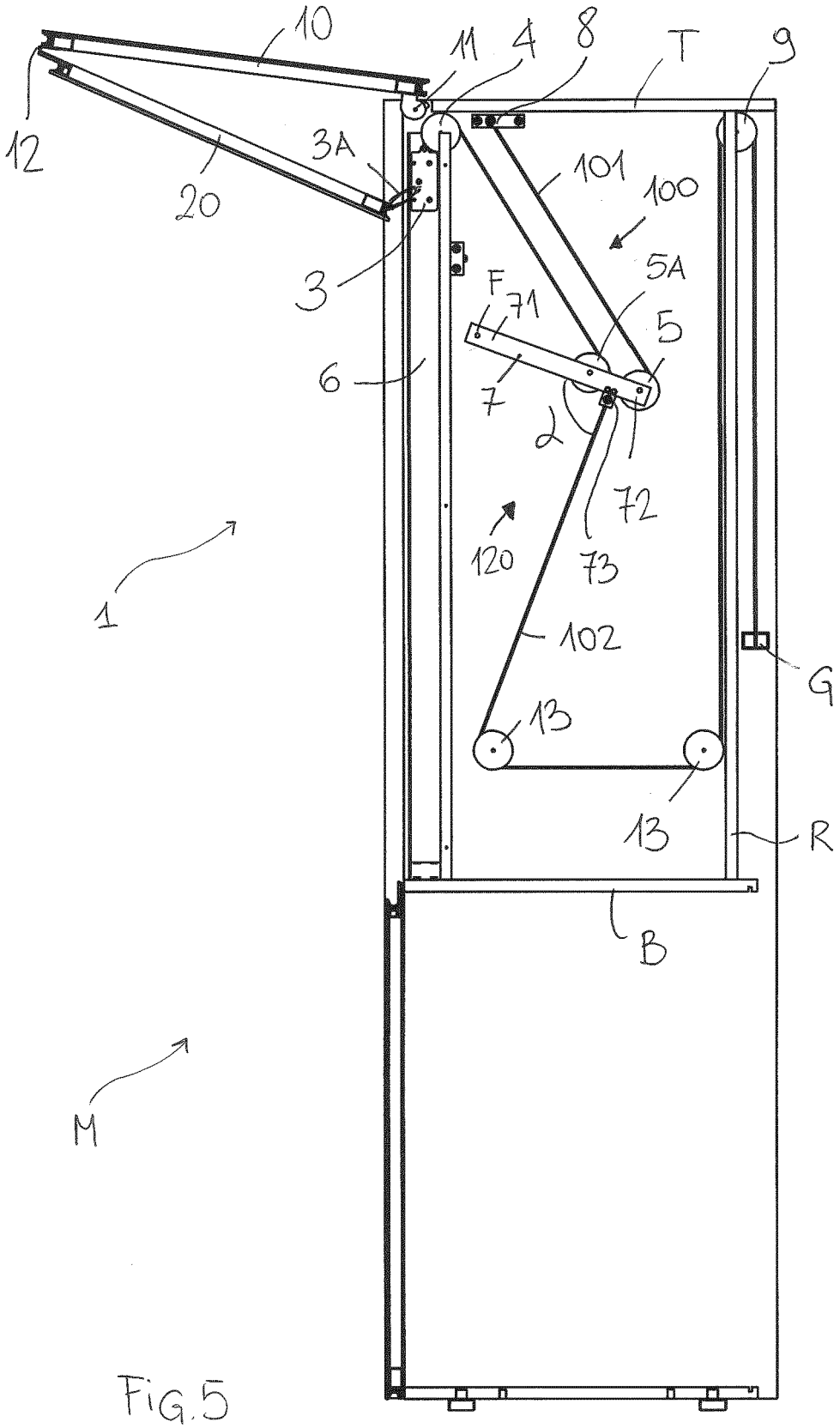

Fig.5

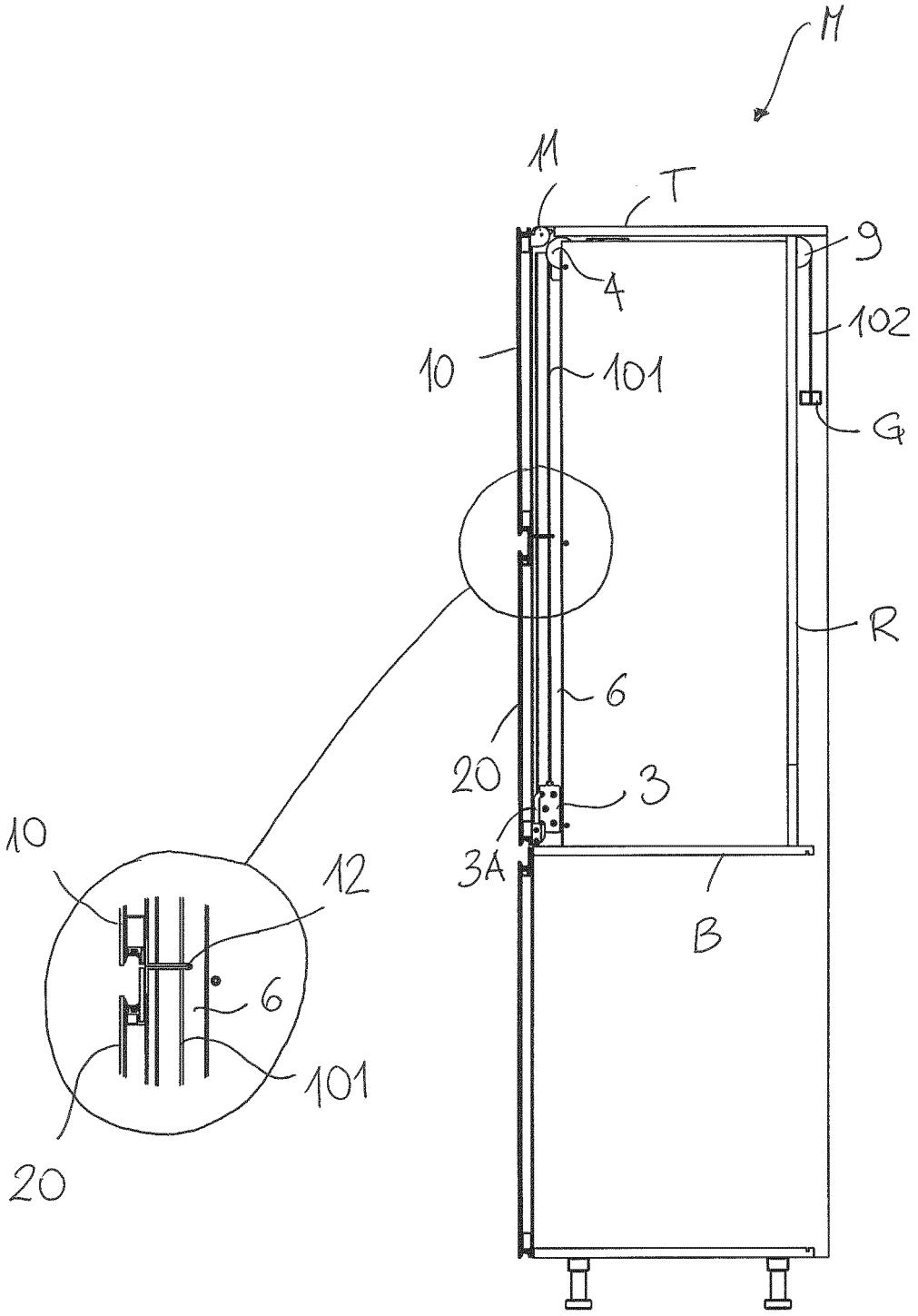

FIG.6

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EUROPEAN SEARCH REPORT

Application Number
EP 17 18 1683

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TECHNICAL FIELDS SEARCHED (IPC)

E05D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	14 November 2017	Klemke, Beate

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