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(54) **ROLLER BLIND**

ROLLLADEN

STORE

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Description

Field of application

[0001] The present invention regards a roller blind according to the preamble of the independent claim number 1.

[0002] The present roller blind is intended to be advantageously employed for adjustably closing provided openings made in walls of buildings, verandas, pergolas, roofs, etc. and in particular for adjustably closing windows, doors, French windows, skylights and similar window/door items.

[0003] The blind, object of the present invention, is therefore inserted in the industrial field of production of windows/doors/shutters, or also in the field of production of sun-protection blinds, in the field of mosquito screens or similar applications.

State of the art

[0004] Roller blinds are known on the market for closing window/door openings (such as windows, doors or French windows) provided with a rolling-shutter box which is fixed to a building wall or to a ceiling above the opening to be closed and at its interior houses a roller, on which a flexible fabric is susceptible of being wound and unwound. An example of a blind of this type is described in the patent GB 2479976. Another example is described in the patent KR 2009 0003262 U.

[0005] The fabric of the blind usually has rectangular shape and is provided with an upper edge fixed to the roller and with a lower edge fixed to a transverse bar aimed to stretch the fabric itself.

[0006] In addition, the blind comprises two lateral guides vertically arranged along the corresponding sides of the opening and to which the transverse bar is slidably constrained.

[0007] In particular, the transverse bar comprises two lateral ends slidably coupled to the respective lateral guides.

[0008] Each lateral guide is obtained with a corresponding aluminum profile of rectangular section, internally hollow and provided with an internal side (facing the internal side of the other lateral guide) on which a longitudinal slit is made, in which the corresponding lateral end of the transverse bar is slidably inserted.

[0009] In addition, each lateral guide is longitudinally extended between an upper end, fixed to the rolling-shutter box, and a lower end closed by a base terminal fixed to the floor at the lower edge of the opening.

[0010] In operation, the roller of the blind is drivable, typically by a motor, to rotate in order to move the fabric between a collected position, in which the fabric is wound around the roller with the transverse bar arranged in abutment against the rolling-shutter box, and an extended position, in which the fabric is unwound from the roller to close the opening and the transverse bar is arranged at

the base terminals placed at the lower ends of the lateral guides.

[0011] In particular, blinds are known on the market which are provided with locking devices adapted to lock the transverse bar to the base terminals when the fabric is brought into the extended position, and to unlock the transverse bar from the base terminals when it is necessary to wind the fabric again around the roller in order to bring the fabric into the collected position.

[0012] More in detail, in accordance with the solution of known type described in the patent application WO 2011/101879, each locking device comprises a coupling lever which is hinged to the corresponding base terminal and comprises a first arm fixed to a spring constrained to the base terminal itself.

[0013] In addition, the coupling lever comprises a second arm provided at its free end with a pin susceptible of being slidably inserted within a shaped channel made in the corresponding lateral end of the transverse bar.

[0014] More in detail, the shaped channel of the lateral end is provided on the lower part with an inlet opening, in order to allow the pin of the coupling lever to enter into the shaped channel, and is provided at the upper part with an outlet opening in order to allow the pin of the coupling lever to exit from the shaped channel itself.

[0015] In addition, the lateral end of the transverse bar is provided with a flexible tongue placed to close the outlet opening of the shaped channel and arranged to prevent the pin of the coupling lever from entering into the shaped channel through such outlet opening, and arranged in order to be bent towards the exterior of the shaped channel in order to allow the pin to exit from the shaped channel through the outlet opening itself.

[0016] In operation, when the transverse bar is at the base ends of the lateral guides in order to unwind the fabric, the pin of the coupling lever enters into the shaped channel of the corresponding end until it reaches a specific stop section, in which the pin is constrained following the action of the spring that acts on the coupling lever, in a manner such that the latter is engaged with the corresponding lateral end in order to lock the transverse bar to the base ends of the lateral guides.

[0017] In order to wind the fabric again, the transverse bar is controlled to descend until the pin of the coupling lever exits from the outlet opening of the shaped channel, by bending the aforesaid flexible tongue, in a manner so as to release the coupling lever from the corresponding lateral end of the transverse bar. Subsequently, the transverse bar is controlled to ascend in order to allow the winding of the fabric around the roller of the blind.

[0018] One drawback of the above-described blind of known type is due to the fact that it is structurally complex and costly to make, in particular requiring the arrangement of coupling levers and of specific lateral ends of the transverse bar with shaped channels and flexible tongues.

[0019] A further drawback of the above-described blind of known type is due to the fact that the locking device

tends to be jammed, in particular if impacted in an accidental manner, necessitating the execution of repair operations that require dismantling the locking device, the corresponding lateral guide and the transverse bar of the blind.

Presentation of the invention

[0020] In this situation, the problem underlying the present invention is to provide a roller blind which is structurally simple and inexpensive to make.

[0021] Another object of the present invention is to provide a roller blind which is easy to install.

[0022] Another object of the present invention is to provide a roller blind which is not subjected to jamming of the transverse bar movement.

[0023] These and still other objects are all attained by the roller blind according to the enclosed claims.

Brief description of the drawings

[0024] The technical characteristics of the invention, according to the aforesaid objects, can be clearly seen in the contents of the below-reported claims and the advantages thereof will be more evident in the following detailed description made with reference to the enclosed drawings, which represent several exemplifying and non-limiting embodiments of the invention, in which:

- figures 1a, 1b and 1c show the roller blind, object of the present invention, in accordance with a first embodiment, in a perspective view with the fabric respectively completely extended, completely wound and partially extended;
- figure 2 shows a perspective view of a detail of the blind illustrated in figure 1a, relative to a lateral guide and to a bottom bar of the blind at a lateral end of the bottom bar itself;
- figure 3 shows a side view of the lateral guide and of the bottom bar illustrated in figure 2;
- figure 4 shows a section view of the lateral guide and of the bottom bar illustrated in figure 3 according to the trace IV-IV of figure 3 itself;
- figure 5 shows the roller blind, object of the present invention, in accordance with a second embodiment.

Detailed description of a preferred embodiment

[0025] With reference to the enclosed drawings, reference number 1 overall indicates a roller blind, object of the present invention.

[0026] The present roller blind 1 is intended to carry out the adjustable closing of an opening A made on a load-bearing structure, such as a building wall, a veranda, a loggia, a terrace, a pergola, a roof or other similar structures.

[0027] In particular, in accordance with a first embodiment illustrated in figures 1a-c, the blind 1 is intended to

close an opening A with substantially vertical plane, for example made on a building wall. In accordance with a second embodiment illustrated in figure 5, the blind 1 is intended to close an opening A with substantially horizontal plane or tilted, made for example on the roof of a pergola.

[0028] In accordance with the embodiments illustrated in figures 1a-c and 5, the blind 1 comprises a support frame 2 intended to be fixed to a load-bearing element. In accordance with the first embodiment illustrated in figures 1a-c, the load-bearing element comprises a wall in which the opening A is made. In accordance with the second embodiment illustrated in figure 5, the load-bearing element for example comprises two or more columns of the pergola and/or a wall against which the pergola itself leans.

[0029] The support frame 2 of the blind 1 advantageously comprises a rolling-shutter box 3 intended to be positioned to delimit a head side at the opening A, and susceptible of being fixed to a wall of the load-bearing element preferably by means of anchorage brackets.

[0030] The blind 1 also comprises a take-up roller (not illustrated in the enclosed figures) rotatably constrained to the support frame 2, advantageously housed within the rolling-shutter box 3, and provided with a rotation axis X that is preferably substantially horizontal.

[0031] The blind 1 also comprises a flexible fabric 4, which is susceptible of being wound and unwound around the take-up roller and preferably passes through a passage slit of the rolling-shutter box 3 in order to enter into and exit from the latter.

[0032] The fabric 4 can be intended for making a shading screen for filtering the sunlight or for making a mosquito screen. Generally, the fabric 4 can be dedicated to closing the opening A in order to protect an internal or underlying area from the sun, from the wind, from the rain or, more generally, from weathering agents.

[0033] The fabric 4, as a function of its different applications, can be made of synthetic or natural material fabric and can have the form of a mesh or have a continuous surface of shading, filtering or transparent type.

[0034] The blind 1 also comprises two lateral guides 5 extended parallel to each other and side-by-side and advantageously placed to delimit corresponding sides of the opening A. Between the lateral guides 5, the fabric 4 is susceptible of sliding following its winding and unwinding around the take-up roller.

[0035] The fabric 4 preferably has rectangular shape and is provided, in a manner *per se* known to the man skilled in the art, with a first edge fixed to the take-up roller and with a second edge fixed to a transverse bar 6 arranged parallel to the take-up roller and aimed to stretch the fabric 4. In addition, the fabric 4 is provided with two lateral edges 7, each provided with a flexible engagement flap 8 that is guided to slide along the corresponding lateral guide 5 during the winding and unwinding of the fabric 4 itself.

[0036] Advantageously, the lateral guides 5 and the

transverse bar 6 of the blind 1 identify a lying plane of the blind 1 itself, in particular such lying plane identifying a first side and a second side of the blind 1 directed in opposite direction with respect to each other.

[0037] According to the invention, each lateral guide 5 is longitudinally extended according to a respective first extension direction Y substantially orthogonal to the rotation axis X of the take-up roller.

[0038] More in detail, each lateral guide 5 is extended along the corresponding first extension direction Y between a first end 9 and an opposite second end 10. The first end 9 of each lateral guide 5 is positioned at the take-up roller, and preferably leaned against the rolling-shutter box 3 of the blind 1, the second end 10 being arranged at a greater distance from the take-up roller with respect to the first end 9.

[0039] In accordance with the first embodiment illustrated in figures 1a-4, the two lateral guides 5 are intended to be fixed to the load-bearing element (in which the opening A itself is obtained) for example by means of anchorage screws 11.

[0040] In accordance with the second embodiment illustrated in figure 5, the two lateral guides 5 are intended to be fixed, at the first ends 9 thereof, to the rolling-shutter box 3, and are intended to be supported, at the second ends 10, by columns of the load-bearing element.

[0041] With reference to the example of figure 4, each lateral guide 5 has transverse section with preferably rectangular shape and is provided with an external surface 12 which comprises a first lateral side 13 directed towards the first lateral side 13 of the other lateral guide 5, and a second lateral side 14 directed in a direction substantially opposite with respect to the corresponding first lateral side 13 and preferably parallel to the latter. In addition, the external surface 12 of each lateral guide 5 is provided with a frontal face 15 extended to connect the first lateral side 13 with the second lateral side 14, and preferably orthogonal to such lateral sides 13, 14. Advantageously, the external surface 12 of each lateral guide 5 is provided with another frontal face 15' (it too extended to connect the first lateral side 13 with the second lateral side 14), directed in the direction opposite the aforesaid frontal face 15 and preferably parallel to the latter.

[0042] In particular, the frontal face 15 of each lateral guide 5 faces the first side of the blind 1 and is substantially parallel to the lying plane of the latter. Suitably, the other frontal face 15' of each lateral guide 5 faces the second side of the blind 1.

[0043] On the first lateral side 13 of the external surface 12 of each lateral guide 5, a longitudinal opening 17 is made that is parallel to the extension direction Y of the lateral guide 5 itself. The transverse bar 6 is slidably engaged in such longitudinal opening 17.

[0044] Advantageously, each lateral guide 5 comprises at least one elongated profile extended longitudinally according to the extension direction Y between the first end 9 and the second end 10, made for example of aluminum and in particular by means of extrusion. In partic-

ular, in accordance with the first embodiment illustrated in figure 4, each lateral guide 5 comprises a support profile 18 intended to be fixed to the load-bearing element, e.g. by means of the anchorage screws 11, and a guide profile 19 mechanically fixed to the aforesaid support profile and on which the corresponding longitudinal opening 17 is obtained.

[0045] Otherwise, in accordance for example with the second embodiment illustrated in figure 5, each lateral guide 5 comprises a single elongated profile made of a single body, e.g. by means of extrusion.

[0046] Suitably, in accordance with both the aforesaid embodiments, each lateral guide 5 can comprise an end cap, for example made of plastic material, placed to close the second end 10 of the lateral guide 5 itself.

[0047] Advantageously, with reference to the example of figure 4, the blind 1 comprises two rails 20, each of which mechanically associated with the corresponding lateral guide 5 and provided with a longitudinal groove adapted slidably receive the engagement flap 8 of the corresponding lateral edge 7 of the fabric 4.

[0048] In particular, each lateral guide 5 is provided with an internal seat 21 connected to the longitudinal opening 17 of the lateral guide 5 itself and in which the corresponding rail 20 is housed in retention relationship, positioned with its longitudinal groove towards the longitudinal opening 17.

[0049] The rail 20 can assume different shapes in order to be coupled in sliding relationship with different embodiment solutions of engagement flaps 8 available on the market and fixed to the lateral edges 7 of the fabric 4.

[0050] For example, each engagement flap 8 of the fabric 4 is obtained with a flexible toothing laterally projecting from the corresponding lateral edge 7, suitably reinforced with support strip. Correspondingly, the rail 20 has elongated box shape, advantageously obtained via extrusion in plastic material, e.g. with quadrangular form section, with one side partially open with the longitudinal groove through which the fabric 4 passes.

[0051] The transverse bar 6 of the blind 1, fixed to the second edge of the fabric 4, is longitudinally extended along a second extension direction Z parallel to the rotation axis X of the take-up roller, between two lateral ends 22 thereof slidably engaged in the longitudinal openings 17 of the corresponding lateral guides 5.

[0052] Advantageously, the transverse bar 6 is provided with a front face 23 parallel to the frontal faces 15 of the lateral guides 5 and preferably coplanar to such frontal faces 15.

[0053] In addition, the front face 23 of the transverse bar 6 is directed in the same direction as the frontal faces 15, in particular facing - together with the latter - the first side of the blind 1.

[0054] Suitably, the transverse bar 6 is provided with another front face 23' directed in the direction opposite the aforesaid front face 23 and preferably parallel to the latter. Such other front face 23' is directed in the same direction as the other frontal faces 15' of the lateral guides

5, in particular facing - together with these other frontal faces 15' - the second side of the blind 1.

[0055] Preferably, the transverse bar 6 comprises a metal section 6', e.g. of extruded aluminum. The lateral ends 22 of the transverse bar 6 are preferably made of plastic material, are placed to laterally close the metal section 6' of the transverse bar 6 itself and are fixed to the metal section 6' by means of connections screws (not illustrated), for example. Advantageously, each lateral end 22 of the transverse bar 6 is provided with a guide tab 24 laterally projecting as an extension of the transverse bar 6 itself according to the second extension direction Z and slidably inserted in the longitudinal opening 17 of the corresponding lateral guide 5. For such purpose, the thickness D1 of the guide tab 17 is smaller than the width D2 of the longitudinal opening 17 of the lateral guide 5 in order to define a sliding clearance.

[0056] Advantageously, the blind 1 comprises driving means (not illustrated in the enclosed figures) mechanically connected to the take-up roller and arranged so to drive the latter to rotate around its rotation axis X in order to unwind or wind the fabric 4 around the take-up roller itself.

[0057] In particular, the driving means are of motorized type (comprising in particular an electric motor), or of manual type (comprising in particular a crank obtained with a control rod engaged through an articulation to the shaft of the roller).

[0058] In operation, the fabric 4 of the blind 1 is movable from the take-up roller between a collected position, in which the fabric 4 is wound around the take-up roller (as illustrated in the example of figure 1b), and an extended position, in which the fabric 4 is unwound from the take-up roller to outside the rolling-shutter box 3 to close the opening A (as illustrated in the example of figure 1a).

[0059] Following the aforesaid movement of the fabric 4, the transverse bar 6 is movable between an open position, in which the fabric 4 is in the collected position and the transverse bar 6 is placed at the first ends 9 of the lateral guides 5, and a closed position, in which the fabric 4 is in the extended position and the transverse bar 6 is positioned at the second ends 10 of the lateral guides 5.

[0060] In accordance with the idea underlying the present invention, the blind 1 comprises at least one first magnetic coupling element 25 fixed to the corresponding lateral guide 5 and in particular only positioned at the second end 10 of the lateral guide 5 itself.

[0061] The blind 1 also comprises at least one second magnetic coupling element 26, which is fixed to the transverse bar 6 and is provided with a lateral appendage 27 projectingly extended in front of the frontal face 15 of the external surface 12 of the corresponding lateral guide 5, outside the latter. Such lateral appendage 27, when the transverse bar 6 is arranged in the closed position, is engaged via magnetic attraction to the first magnetic coupling element 25 in order to retain the transverse bar 6 in the closed position.

[0062] More in detail, when the transverse bar 6 is in the closed position, the second magnetic coupling element 26 is positioned in front of the first magnetic coupling element 25 and substantially faces the latter.

[0063] Advantageously, the blind 1 comprises a pair of the aforesaid first magnetic coupling elements 25, each fixed to the corresponding lateral guide 5, and a pair of aforesaid second magnetic coupling elements 26, each fixed to the lateral bar 6 and susceptible of interacting via magnetic attraction with the corresponding first magnetic coupling element 25 in order to retain the transverse bar 6 locked in the closed position.

[0064] In accordance with the embodiments illustrated in the enclosed figures, the two second magnetic coupling elements 26 are separate from each other and arranged at the respective lateral ends 22 of the transverse bar 6. In accordance with a different non-illustrated embodiment, the two second magnetic coupling elements 26 are made in only one element fixed to the transverse bar 6 with the two lateral appendages 27 extended in front of the corresponding lateral guides 5.

[0065] Advantageously, the first magnetic coupling element 25 is provided with one or more first magnetic bodies 28 and the lateral appendage 27 of the second magnetic coupling element 26 is provided with one or more second magnetic bodies 29.

[0066] In particular, with the term magnetic body it is intended a body which, due to its own magnetism or due to induced magnetism (induced by an external magnetic field), is capable of attracting objects of ferromagnetic material.

[0067] In accordance with the particular embodiment illustrated in figure 4, the first magnetic coupling element 25 comprises at least one first row of multiple first magnetic bodies 28 and the second magnetic coupling element 26 comprises at least one second row of multiple second magnetic bodies 29 which, when the transverse bar 6 is in the closed position, interact via magnetic attraction with the corresponding first magnetic bodies 28 of the aforesaid first row, in particular being arranged in front of such corresponding first magnetic bodies 28.

[0068] Advantageously, the first magnetic body 28 comprises a first permanent magnet (such as a first magnet), and the second magnetic body 29 comprises a second permanent magnet (such as a second magnet) with polarity opposite that of the first permanent magnet of the corresponding first magnetic body 28 to which it is magnetically attracted when the transverse bar 6 is in closed position.

[0069] Otherwise, the first magnetic body 28 comprises a permanent magnetic body and the second magnetic body 29 comprises a body made of ferromagnetic material, or vice versa.

[0070] Advantageously, the first magnetic coupling element 25 is fixed on the frontal face 15 of the external surface 12 of the corresponding lateral guide 5, for example by means of first fixing screws (not illustrated in the enclosed figures) and/or by means of gluing. Prefer-

ably, the first magnetic coupling element 25 is provided with an external face 25' which, when the transverse bar 6 is in the closed position, faces the lateral appendage 27 of the second magnetic coupling element 26.

[0071] In accordance with the embodiment in figure 4, the first magnetic coupling element 25 projectingly extends from the frontal face 15 of the corresponding lateral guide 5.

[0072] In accordance with a different non-illustrated embodiment, the first magnetic coupling element 25 is embedded in the frontal face 15 of the corresponding lateral guide 5, in particular being positioned with its external face 25' coplanar with the frontal face 15 itself.

[0073] Advantageously, the lateral appendage 27 of the second magnetic coupling element 26 is extended, according to the second extension direction Z, beyond the corresponding lateral end 22 of the transverse bar 6, in a manner so as to face the frontal face 15 of the corresponding lateral guide 5, and to face in front of the corresponding first magnetic coupling element 25 when the transverse bar 6 is in the closed position.

[0074] Preferably, the second magnetic coupling element 26 is fixed on the front face 23 of the transverse bar 6, for example by means of second fixing screws (not illustrated in the enclosed figures) and/or by means of gluing.

[0075] In accordance with the embodiments illustrated in the enclosed figures, the second magnetic coupling element 26 comprises an attachment portion 30 fixed to the front face 23 of the transverse bar 6 and projectingly extended from such front face 23. Fixed to the attachment portion 30 is the corresponding lateral appendage 28, which is projectingly extended from the attachment portion 30 parallel to the second extension direction Z, extended in front of the frontal face 15 of the corresponding lateral guide 5. In accordance with the embodiments illustrated in the enclosed figures, the lateral appendage 27 is integrally made with the attachment portion 30. Otherwise, the lateral appendage 27 and the attachment portion 30 are made in a separate manner and integrally fixed to each other.

[0076] Advantageously, the lateral appendage 27 of the second magnetic coupling element 26 is provided with an internal face 31 directed towards the frontal face 15 of the corresponding lateral guide 5 and arranged preferably spaced from the frontal face 15 itself.

[0077] In particular, on the internal face 31 of the lateral appendage 27, a passage cavity 32 is made in which the corresponding first magnetic coupling element 25 is inserted when the transverse bar 6 is in closed position, in a manner so as to allow the lateral appendage 27 to be arranged in front of the first magnetic coupling element 25 without impacting the latter and preventing the movement of the transverse bar 6 itself.

[0078] In accordance with the embodiment illustrated in the enclosed figures, the lateral appendage 27 of the second magnetic coupling element 26 is connected to the corresponding attachment portion 30 with a substan-

tially elbow-shaped connector that advantageously delimits the aforesaid passage cavity 32.

[0079] Preferably, the second magnetic body 29 of the second magnetic coupling element 26 is fixed to the lateral appendage 27 by means of for example third fixing screws (not illustrated) and/or gluing. Otherwise, the second magnetic body 29 is integrally made with the lateral appendage 27.

[0080] Advantageously, when the transverse bar 6 is in the closed position, the second magnetic coupling element 26 comes into contact with the first magnetic coupling element 25 following the magnetic attraction generated therebetween.

[0081] More in detail, when the transverse bar 6 is in the closed position, the internal face 31 of the lateral appendage 27 of the second magnetic coupling element 26 comes into contact with the external face 25' of the first magnetic coupling element 25, advantageously developing a friction force between the internal face 31 and the external face 25'.

[0082] In particular, the second magnetic coupling element 26 is coupled in contact with the first magnetic coupling element 25 following a movement of the transverse bar 6 (caused by the magnetic attraction between the coupling elements 25, 26) orthogonal to the lying plane of the blind 1 and which is advantageously allowed by the sliding clearance with which the guide tab 24 of each lateral end 22 of the frontal bar 6 is inserted in the longitudinal opening 17 of the corresponding lateral guide 5.

[0083] Advantageously, the first magnetic coupling element 25 comprises a first protection casing 33 placed to cover the first magnetic body 28, preferably defining the external face 25' of the first magnetic coupling element 25 itself.

[0084] Advantageously, the second magnetic coupling element 26 comprises a second protection casing 34 placed to cover the second magnetic body 29, preferably defining the internal face 31 of the lateral appendage 27 of the second magnetic coupling element 26 itself.

[0085] The aforesaid protection casings 33, 34 are advantageously adapted to protect the magnetic bodies 28, 29 from external agents (such as moisture, etc.) in order to prevent the possible degradation thereof (due for example to oxidation).

[0086] In accordance with the particular embodiments illustrated in the enclosed figures, the first magnetic coupling elements 25 and the second magnetic coupling elements 26 are respectively arranged on the frontal faces 15 of the lateral guides 5 and on the front face 23 of the transverse bar 6.

[0087] Of course, without departing from the protective scope of the present patent, the first magnetic coupling elements 25 and the second magnetic coupling elements 26 can be respectively arranged on the other frontal faces 15' of the lateral guides 5 and on the other front face 23' of the transverse bar 6.

[0088] In operation, in order to move the fabric 4 of the

blind 1 from the collected position to the extended position, the take-up roller is driven by the driving means for the blind 1 to rotate in a first rotation direction in order to unwind the fabric 4 from the take-up roller itself. Consequently, the transverse bar 6 slides along the lateral guides 5 from the open position thereof (in which it is arranged at the first ends 9 of the lateral guides 5) to the closed position thereof (in which it is arranged at the second ends 10 of the lateral guides 5).

[0089] In accordance with the first embodiment of the present invention illustrated in figures 1a-c (in which the blind 1 lies on a vertical lying plane), the transverse bar 6 falls via gravity towards the second ends 10 of the lateral guides 5.

[0090] In accordance with the second embodiment of the present invention illustrated in figure 5 (in which the blind 1 lies on a substantially horizontal or tilted lying plane), the transverse bar 6 is thrust towards the second ends 10 of the lateral guides 5 by suitable actuation means arranged within the lateral guides 5 and comprising for example springs connected to the transverse bar 6 by means of transmission pulleys, in a manner *per se* known to the man skilled in the art and therefore not described in detail in the present document.

[0091] When the transverse bar 6 reaches its closed position, it arranges the lateral appendages 27 of the second magnetic coupling elements 26 in front of the first magnetic coupling elements 25 fixed to the second ends 10 of the lateral guides 5. Consequently, each second magnetic coupling element 26 is attracted via magnetic attraction against the corresponding first magnetic coupling element 25 (preferably coming into contact with the latter) in a manner so as to retain the transverse bar 6 locked to the guides 5 at the second ends 10 thereof, in order to fix the fabric 4 in the extended position.

[0092] In particular, the magnetic interaction between the first magnetic body 28 and the corresponding second magnetic body 29 determines a magnetic field having direction, at the magnetic bodies 28, 29 themselves, substantially orthogonal to the lying plane of the blind 1 in a manner so as to attract the magnetic bodies 28, 29 towards each other. In order to move the fabric 4 from the extended position to the collected position, the take-up roller is driven to rotate in a second rotation direction in order to wind the fabric again on itself. In this manner, the fabric 4 exerts a separation force on the transverse bar 6 such to overcome the magnetic attraction between the corresponding first and second magnetic coupling elements 25, 26, in a manner so as to allow the transverse bar 6 to be moved away from the second ends 10 of the lateral guides 5, sliding along the latter so as to allow the fabric 4 to be wound again around the take-up roller.

[0093] Advantageously, the electric motor of the driving means for the blind 1 is arranged for generating a starting torque, exerted on the take-up roller, which generates a separation force on the transverse bar 6 greater than the magnetic attraction force between the corresponding first and second magnetic coupling elements

25, 26, allowing the second magnetic coupling elements 26 to move away from the corresponding first magnetic coupling elements 25 in order to allow the movement of the transverse bar 6 and of the fabric 4.

[0094] The invention thus conceived therefore attains the pre-established objects.

[0095] In particular, the arrangement of the first magnetic coupling elements 25 on the lateral guides 5 and of the second magnetic coupling elements 26 on the transverse bar 6 according to the invention allows reliably locking the transverse bar 6 in the closed position by means of an arrangement of the blind 1 that is simple and inexpensive to make, in particular allowing the easy application of the magnetic coupling elements 25, 26 even on pre-existing blinds models without having to execute complex redesigning of the latter.

Claims

1. Roller blind (1), which comprises:

- a support frame (2) intended to be fixed to a load-bearing element;
- a take-up roller rotatably constrained to said support frame (2) and having a rotation axis (X);
- two lateral guides (5) extended parallel to each other and side-by-side along respective first extension directions (Y) substantially orthogonal to the rotation axis (X) of said take-up roller; each said lateral guide (5) extended along the corresponding said first extension direction (Y) between a first end (9), positioned at said take-up roller, and an opposite second end (10); each said lateral guide (5) being provided with an external surface (12) which comprises:

- a first lateral side (13) directed towards the first lateral side (13) of the other said lateral guide (5), and on such first lateral side (13) a longitudinal opening (17) is made that is parallel to said first extension direction (Y),
- a second lateral side (14) directed in a direction substantially opposite said first lateral side (13),
- a frontal face (15) extended to connect said first lateral side (13) with said second lateral side (14);

- a fabric (4) extended between a first edge thereof fixed to said take-up roller and a second edge thereof, and susceptible of sliding between said lateral guides (5);

- a transverse bar (6) fixed to the second edge of said fabric (4) and extended, along a second extension direction (Z) parallel to the rotation axis (X) of said take-up roller, between two lateral ends (22) thereof slidably engaged in the longi-

tudinal openings (17) of the corresponding said lateral guides (5);

said transverse bar (6) being movable between an open position, in which said transverse bar (6) is placed at the first ends (9) of said lateral guides (5), and a closed position, in which said transverse bar (6) is positioned at the second ends (10) of said lateral guides (5);

said blind (1) also comprising :

- at least one first magnetic coupling element (25) fixed to the corresponding said lateral guide (5);

- at least one second magnetic coupling element (26), which is fixed to said transverse bar (6) and is provided with a lateral appendage (27), which is projectingly extended in front of the frontal face (15) of the external surface (12) of the corresponding said lateral guide (5) and, with said transverse bar (6) arranged at least in said closed position, is engaged via magnetic attraction to said first magnetic coupling element (25) in order to retain said transverse bar (6) in said closed position.

2. Blind (1) according to claim 1, **characterized in that** said first magnetic coupling element (25) is only positioned at the second end (10) of the corresponding said lateral guide (5).

3. Blind (1) according to claim 1 or 2, **characterized in that** said first magnetic coupling element (25) is fixed on the frontal face (15) of the external surface (12) of the corresponding said lateral guide (5).

4. Blind (1) according to claim 3, **characterized in that** said first magnetic coupling element (25) is projectingly fixed on the frontal face (15) of the external surface (12) of the corresponding said lateral guide (5); the lateral appendage (27) of said second magnetic coupling element (26) being provided with an internal face (31) directed towards the frontal face (15) of the corresponding said lateral guide (5), and on such internal face (31) a passage cavity (32) is made, in which the corresponding said first magnetic coupling element (25) is inserted with said transverse bar (6) in said closed position.

5. Blind (1) according to any one of the preceding claims, **characterized in that** the lateral appendage (27) of said second magnetic coupling element (26) is extended, according to said second extension direction (Z), beyond the corresponding said lateral end (22) of said transverse bar (6).

6. Blind (1) according to any one of the preceding

claims, **characterized in that**, with said transverse bar (6) in said closed position, said second magnetic coupling element (26) is positioned in front of said first magnetic coupling element (25) outside said lateral guide (5).

7. Blind (1) according to any one of the preceding claims, **characterized in that** said transverse bar (6) is provided with a front face (23) parallel to the frontal faces (15) of said lateral guides (5) and directed in the same direction as said frontal faces (15), and on such front face (23) said second magnetic coupling element (26) is fixed.

8. Blind (1) according to any one of the preceding claims, **characterized in that** said first magnetic coupling element (25) comprises one or more first magnetic bodies (28) and the lateral appendage (27) of said second magnetic coupling element (26) comprises one or more second magnetic bodies (29); said second magnetic body (29), with said transverse bar (6) in said closed position, interacting via magnetic attraction with a corresponding said first magnetic body (28); said first magnetic body (28) comprising a first permanent magnet, and said second magnetic body (29) comprising a second permanent magnetic with polarity opposite that of the first permanent magnet of the corresponding said first magnetic body (28).

9. Blind (1) according to any one of the preceding claims, **characterized in that**, with said transverse bar (6) in said closed position, said second magnetic coupling element (26) is in contact with said first magnetic coupling element (25).

10. Blind (1) according to any one of the preceding claims, **characterized in that** it comprises at least one electric motor operatively connected to said take-up roller in order to drive said take-up roller to rotate around said rotation axis (X), and such electric motor, with said transverse bar (6) in said closed position, is arranged for generating a starting torque exerted on said take-up roller, and such starting torque generates a separation force on said transverse bar (6) greater than the magnetic attraction force between said magnetic coupling elements (25, 26).

11. Blind (1) according to any one of the preceding claims, **characterized in that** said fabric (4) is provided with two lateral edges (7), each provided with a flexible engagement flap (8) that is guided to slide along the corresponding said lateral guide (5); said blind (1) comprising two rails (20), each of which mechanically associated with the corresponding said lateral guide (5) and provided with a longitudinal groove adapted slidably receive the engagement

flap (8) of said corresponding lateral edge (7) of said fabric (4).

12. Blind (1) according to any one of the preceding claims, **characterized in that** each lateral end (22) of said transverse bar (6) is provided with at least one guide tab (24) laterally projecting as an extension of said transverse bar (6) according to said second extension direction (Z) and slidably inserted in the longitudinal opening (17) of the corresponding said lateral guide (5).
13. Blind (1) according to any one of the preceding claims, **characterized in that** said lateral guides (5) and said transverse bar (6) identify a lying plane of said blind (1), said lying plane identifying a first side and a second side of said blind (1) directed in a direction opposite each other; the frontal face (15) of each said lateral guide (5) facing the first side of said blind (1); said transverse bar (6) being provided with a front face (23) which faces the first side of said blind (1), and on such front face (23), said second magnetic coupling element (26) is fixed.

Patentansprüche

1. Rollladen (1), der Folgendes umfasst:

- einen zum Befestigen an einem tragenden Element bestimmten Trägerrahmen (2);
 - eine drehbar an dem genannten Trägerrahmen (2) befestigte Aufwickelrolle mit einer Drehachse (X);
 - zwei zueinander parallel verlaufende und entlang jeweiliger erster Verlaufsrichtungen (Y) im Wesentlichen rechtwinklig zur Drehachse (X) der genannten Aufwickelrolle nebeneinander liegende seitliche Führungen (5);
- wobei jede genannte seitliche Führung (5) entlang der entsprechenden genannten ersten Verlaufsrichtung (Y) zwischen einem auf der genannten Aufwickelrolle positionierten ersten Ende (9) und einem gegenüberliegenden zweiten Ende (10) verläuft;
- wobei jede der genannten seitlichen Führungen (5) mit einer Außenfläche (12) ausgestattet ist, die Folgendes umfasst:

- ein zu dem ersten Seitenteil (13) der anderen genannten seitlichen Führung (5) gerichtetes erstes Seitenteil (13), wobei sich auf dem genannten ersten Seitenteil (13) eine Längsöffnung (17) parallel zu der genannten ersten Verlaufsrichtung (Y) befindet,
- ein im Wesentlichen in entgegengesetzte Richtung zu dem genannten ersten Seiten-

teil (13) gerichtetes zweites Seitenteil (14),
- eine als Verbindung des genannten ersten Seitenteils (13) mit dem genannten zweiten Seitenteil (14) verlaufende Frontseite (15);

- ein zwischen seinem ersten, an der genannten Aufwickelrolle befestigten Rand und seinem zweiten Rand verlaufendes Tuch (4), das geeignet ist, zwischen den genannten seitlichen Führungen (5) zu gleiten;
 - eine am zweiten Rand des genannten Tuchs (4) befestigte und entlang einer zweiten Verlaufsrichtung (Z) parallel zur Drehachse (X) der genannten Aufwickelrolle zwischen zwei seitlichen Abschlüssen (22), die verschiebbar in den Längsöffnungen (17) der entsprechenden seitlichen Führungen (5) verbunden sind, verlaufende Querstrebe (6);
- wobei die genannte Querstrebe (6) zwischen einer Öffnungsposition, in der die genannte Querstrebe (6) auf den ersten Enden (9) der genannten seitlichen Führungen (5) positioniert ist, und einer Schließposition, in der die genannte Querstrebe (6) auf den zweiten Enden (10) der genannten seitlichen Führungen (5) positioniert ist, bewegt werden kann;
- wobei der genannte Rollladen (1) außerdem Folgendes umfasst:

- mindestens ein an der entsprechenden genannten seitlichen Führung (5) befestigtes erstes Magnetverbindungselement (25);
- mindestens ein an der genannten Querstrebe (6) befestigtes und mit einem seitlichen Zusatzstück (27) ausgestattetes zweites Magnetverbindungselement (26), das vorstehend vor dem Frontteil (15) der Außenfläche (12) der entsprechenden genannten seitlichen Führung (5) verläuft und mit der mindestens in der genannten Schließposition angeordneten genannten Querstrebe (6) durch magnetische Anziehungskraft mit dem genannten Magnetverbindungselement (25) verbunden ist, um die genannte Querstrebe (6) in der genannten Schließposition zu erhalten.

2. Rollladen (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** das genannte erste Magnetverbindungselement (25) ausschließlich auf dem zweiten Ende (10) der entsprechenden genannten seitlichen Führung (5) positioniert ist.

3. Rollladen (1) nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** das genannte erste Magnetverbindungselement (25) an dem Frontteil (15) der Außenfläche (12) entsprechenden genannten seitli-

chen Führung (5) positioniert ist.

4. Rollladen (1) nach Anspruch 3, **dadurch gekennzeichnet, dass** das genannte erste Magnetverbindungselement (25) vorspringend an der Frontseite (15) der Außenfläche (12) der entsprechenden genannten seitlichen Führung (5) angebracht ist, wobei das seitliche Zusatzstück (27) des genannten zweiten Magnetverbindungselements (26) mit einer zu der Frontseite (15) der entsprechenden genannten seitlichen Führung (5) gerichteten Innenfläche (31) ausgestattet ist und sich auf dieser Innenfläche (15) ein Durchgangshohlraum (32) befindet, in den das entsprechende genannte erste Magnetverbindungselement (25) bei genannter Querstrebe (6) in genannter Schließposition eingesetzt ist. 5
5. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das seitliche Zusatzstück (27) des genannten zweiten Magnetverbindungselements (26) entlang der genannten zweiten Verlaufsrichtung (Z) über den entsprechenden genannten seitlichen Abschluss (22) der genannten Querstrebe (6) hinaus verläuft. 10
6. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** bei genannter Querstrebe (6) in genannter Schließposition das genannte zweite Magnetverbindungselement (26) vor dem genannten ersten Magnetverbindungselement (25) außerhalb der genannten seitlichen Führung (5) positioniert ist. 15
7. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die genannte Querstrebe (6) mit einer zu den Frontseiten (15) der genannten seitlichen Führungen (5) parallelen und in die gleiche Richtung der genannten Frontseiten (15) gerichteten Vorderseite (23) ausgestattet ist und auf dieser Vorderseite (23) das genannte zweite Magnetverbindungselement (26) befestigt ist. 20
8. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das genannte Magnetverbindungselement (25) einen oder mehrere erste Magnetkörper (28) umfasst und das seitliche Zusatzstück (27) des genannten zweiten Magnetverbindungselements (26) einen oder zwei zweite Magnetkörper (29) umfasst; wobei der genannte zweite Magnetkörper (29) bei genannter Querstrebe (6) in genannter Schließposition durch magnetische Anziehungskraft mit einem entsprechenden genannten ersten Magnetkörper (28) interagiert; wobei der genannte erste Magnetkörper (28) einen ersten Dauermagneten umfasst und der genannte 25

zweite Magnetkörper (29) einen zweiten Dauermagneten mit entgegengesetzter Polarität im Vergleich zum ersten Dauermagneten des entsprechenden ersten Magnetkörpers (28) umfasst.

9. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** bei genannter Querstrebe (6) in genannter Schließposition das genannte zweite Magnetverbindungselement (26) sich mit dem genannten ersten Magnetverbindungselement (25) in Kontakt befindet. 30
10. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** er mindestens einen operativ an die genannte Aufwickelrolle angeschlossenen Elektromotor umfasst, um die genannte Aufwickelrolle bei der Drehung um die genannte Drehachse (X) anzutreiben, und dieser Elektromotor bei genannter Querstrebe (6) in genannter Schließposition darauf ausgelegt ist, ein auf die genannte Aufwickelrolle wirkendes Anlaufdrehmoment zu erzeugen und dieses Anlaufdrehmoment auf der genannten Querstrebe (6) eine stärkere Ablösungskraft als die magnetische Anziehungskraft zwischen den genannten Magnetverbindungselementen (25, 26) erzeugt. 35
11. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das genannte Tuch (4) mit zwei Seitenrändern (7) ausgestattet ist, von denen jeder mit einer flexiblen Verbindungskante (8) versehen ist, die zum Verschieben entlang der genannten seitlichen Führung (5) begleitet wird; wobei der genannte Rollladen (1) zwei Schienen (20) umfasst, von denen jede mechanisch mit der entsprechenden genannten seitlichen Führung (5) verbunden und mit einer Längsnut ausgestattet ist, die geeignet ist, die Verbindungskante (8) des genannten entsprechenden Seitenrands (7) des genannten Tuchs (4) verschiebbar aufzunehmen; 40
12. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** jeder seitliche Abschluss (22) der genannten Querstrebe (6) mit mindestens einer seitlich entlang der genannten zweiten Verlaufsrichtung (Z) als Verlängerung der genannten Querstrebe (6) vorstehenden und verschiebbar in die Längsöffnung (17) der entsprechenden genannten seitlichen Führung (5) eingesetzten Führungslamelle (24) ausgestattet ist. 45
13. Rollladen (1) nach einem beliebigen der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die genannten seitlichen Führungen (5) und die genannte Querstrebe (6) eine Lageebene des genannten Rollladens (1) bestimmen, wobei die ge- 50

nannte Lageebene eine im Verhältnis zueinander in entgegengesetzte Richtung gewandte erste und zweite Seite des genannten Rollladens (1) bestimmen; wobei die Frontseite (15) jeder genannten seitlichen Führung (5) zu der ersten Seite des genannten Rollladens zeigt; wobei die genannte Querstrebe (6) mit einer Vorderseite (23) ausgestattet ist, die zur ersten Seite des genannten Rollladens (1) zeigt und auf dieser Vorderseite (23) das genannte zweite Magnetverbindungselement (26) befestigt ist.

Revendications

1. Store (1) enrouleur comprenant :

- un cadre de support (2) destiné à être fixé à un élément porteur ;
- un tube d'enroulement assujéti de façon tournante audit cadre de support (2), ayant un axe de rotation (X) ;
- deux coulisses latérales (5) se développant parallèles entre elles et côte à côte le long de premières directions de développement (Y) respectives, essentiellement orthogonales à l'axe de rotation (X) dudit tube d'enroulement ;
- chacune desdites coulisses latérales (5) se développant le long de ladite correspondante première direction de développement (Y) entre une première extrémité (9) positionnée au niveau dudit tube d'enroulement et une deuxième extrémité (10) opposée ;
- chacune desdites coulisses latérales (5) étant dotée d'une surface extérieure (12) comprenant :

- un premier côté latéral (13) tourné vers le premier côté latéral (13) de l'autre coulisser latérale (5) et sur ledit premier côté latéral (13) est réalisée une ouverture longitudinale (17) parallèle à ladite première direction de développement (Y) ;
- un deuxième côté latéral (14) tourné dans un sens essentiellement opposé audit premier côté latéral (13),
- une face avant (15) qui s'étend pour raccorder ledit premier côté latéral (13) avec ledit deuxième côté latéral (14) ;

- une toile (4) qui s'étend entre un premier bord fixé audit tube d'enroulement et son propre deuxième bord et susceptible de coulisser entre lesdites coulisses latérales (5) ;
- une barre transversale (6) fixée au deuxième bord de ladite toile (4), se développant le long d'une deuxième direction de développement (Z) parallèle à l'axe de rotation (X) dudit tube d'enroulement, entre deux terminaisons latérales

(22) chacune desquelles est engagée de façon coulissante dans les ouvertures longitudinales (17) desdites coulisses latérales (5) correspondantes ;

ladite barre transversale (6) pouvant être mise en mouvement entre une position d'ouverture où ladite barre transversale (6) est placée au niveau des premières extrémités (9) desdites coulisses latérales (5) et une position de fermeture, dans laquelle ladite barre transversale (6) est placée au niveau des deuxième extrémités (10) desdites coulisses latérales (5) ;

ledit store (1) comprenant en outre :

- au moins un premier élément d'accouplement magnétique (25) fixé à ladite coulisser latérale (5) correspondante ;
- au moins un deuxième élément d'accouplement magnétique (26), lequel est fixé à ladite barre transversale (6) et est muni d'une appendice latérale (27), qui s'étend en saillie devant la face avant (15) de la surface extérieure (12) de ladite coulisser latérale (5) correspondante et, avec ladite barre transversale (6) disposée au moins dans ladite position de fermeture, est engagée par attraction magnétique dans ledit premier élément d'accouplement magnétique (25) pour retenir ladite barre transversale (6) dans ladite position de fermeture.

2. Store (1) selon la revendication 1, **caractérisé en ce que** ledit premier élément d'accouplement magnétique (25) est positionné exclusivement au niveau de la deuxième extrémité (10) de ladite coulisser latérale (5) correspondante.

3. Store (1) selon la revendication 1 ou 2, **caractérisé en ce que** ledit premier élément d'accouplement magnétique (25) est fixé sur la face avant (15) de la surface extérieure (12) de ladite coulisser latérale (5) correspondante.

4. Store (1) selon la revendication 3, **caractérisé en ce que** ledit premier élément d'accouplement magnétique (25) est fixé en saillie sur la face avant (15) de la surface extérieure (12) de ladite coulisser latérale (5) correspondante ;

l'appendice latérale (27) dudit deuxième élément d'accouplement magnétique (26), étant muni d'une face interne (31) tournée vers la face avant (15) de ladite coulisser latérale (5) correspondante, sur ladite face interne (31) étant réalisée une cavité de passage (32) dans laquelle est inséré ledit premier élément d'accouplement magnétique (25) correspondant avec ladite barre transversale (6) dans ladite position de fermeture.

5. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'appendice latérale (27) dudit deuxième élément d'accouplement magnétique (26) se développe, selon ladite deuxième direction de développement (Z), au-delà de ladite correspondante terminaison latérale (22) de ladite barre transversale (6). 5
6. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que**, avec ladite barre transversale (6) dans ladite position de fermeture, ledit deuxième élément d'accouplement magnétique (26) est positionné devant ledit premier élément d'accouplement magnétique (25) à l'extérieur de ladite coulisse latérale (5). 10
7. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ladite barre transversale (6) est munie d'une face avant (23) parallèle aux faces avant (15) desdites coulisses latérales (5) et tournée dans le même sens desdites faces avant (15), sur ladite face avant (23) est fixé ledit deuxième élément d'accouplement magnétique (26). 15
8. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ledit premier élément d'accouplement magnétique (25) comprend un ou plusieurs premiers corps magnétiques (28) et l'appendice latérale (27) dudit deuxième élément d'accouplement magnétique (26) comprend un ou plusieurs deuxièmes corps magnétiques (29) ; ledit deuxième corps magnétique (29), avec ladite barre transversale (6) dans ladite position de fermeture, interagissant par attraction magnétique avec un desdits premiers corps magnétiques (28) correspondant ; ledit premier corps magnétique (28) comprenant un premier aimant permanent et ledit deuxième corps magnétique (29) comprenant un deuxième aimant permanent de polarité opposée par rapport au premier aimant permanent dudit correspondant premier corps magnétique (28). 20
9. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que**, avec ladite barre transversale (6) dans ladite position de fermeture, ledit deuxième élément d'accouplement magnétique (26) est en contact avec ledit premier élément d'accouplement magnétique (25). 25
10. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'il** comprend au moins un moteur électrique relié de façon opérationnelle audit tube d'enroulement pour mettre en rotation ledit tube d'enroulement autour dudit axe de rotation (X) ; ledit moteur électrique, avec ladite barre transversale (6) dans ladite position de fermeture, est prévu pour générer un couple de mise en mouvement appliqué sur ledit tube d'enroulement, ledit couple de mise en mouvement génère sur ladite barre transversale (6) une force de séparation plus forte que la force d'attraction magnétique entre lesdits éléments d'accouplement magnétique (25, 26). 30
11. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ladite toile (4) est munie de deux bords latéraux (7) chacun d'eux muni d'un bord d'engagement (8) flexible et guidé pour coulisser le long de la correspondante coulisse latérale (5) ; ledit store (1) comprenant deux rails (20) chacun desquels est mécaniquement associé à ladite coulisse latérale (5) correspondante et muni d'une rainure longitudinale propre à recevoir de façon coulissante le bord d'engagement (8) dudit bord latéral (7) correspondant de ladite toile (4). 35
12. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** chacune des terminaisons latérales (22) de ladite barre transversale (6) est munie d'au moins une ailette de guidage (24) saillant latéralement pour prolonger ladite barre transversale (6), selon ladite deuxième direction de développement (Z), et insérée de façon coulissante dans l'ouverture longitudinale (17) de ladite coulisse latérale (5) correspondante. 40
13. Store (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** lesdites coulisses latérales (5) et ladite barre transversale (6) identifient un plan de position dudit store (1), ledit plan de position identifiant un premier côté et un deuxième côté dudit store (1) tournés en sens opposé l'un par rapport à l'autre ; la face avant (15) de chacune desdites coulisses latérales (5) donnant sur le premier côté dudit store (1) ; ladite barre transversale (6) étant munie d'une face avant (23) laquelle donne sur le premier côté dudit store (1) et sur ladite face avant (23) est fixé ledit deuxième élément d'accouplement magnétique (26). 45

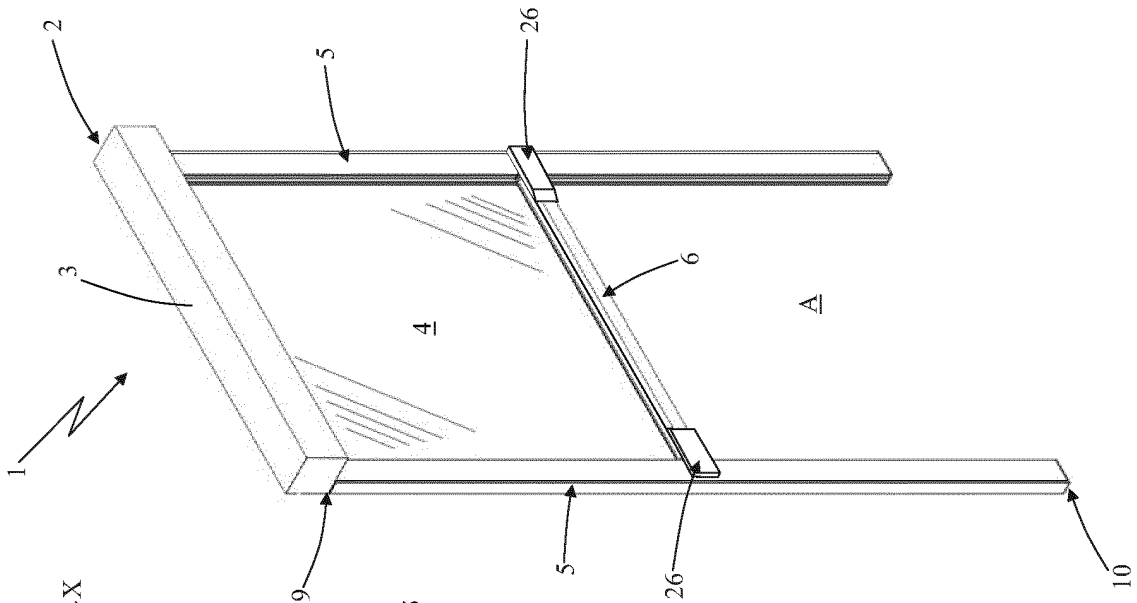


Fig. 1c

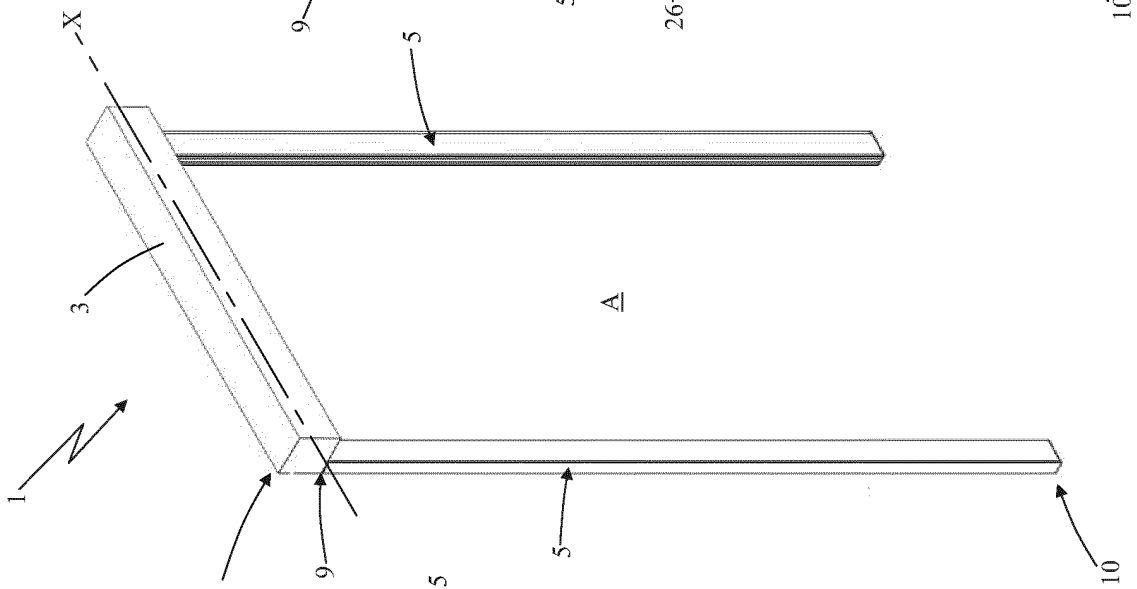


Fig. 1b

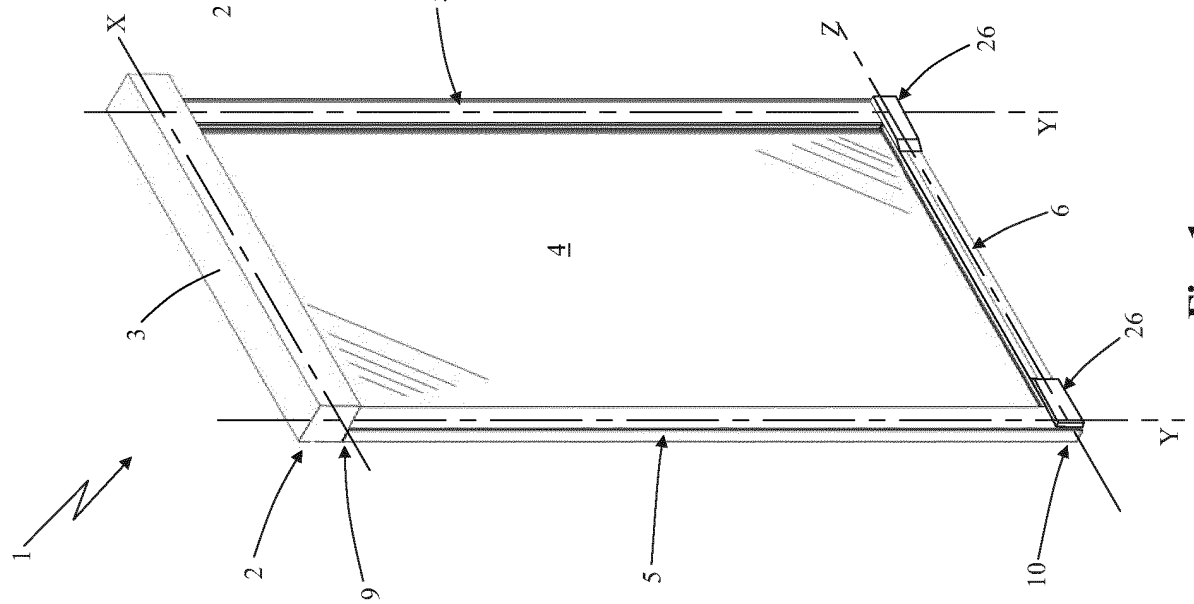


Fig. 1a

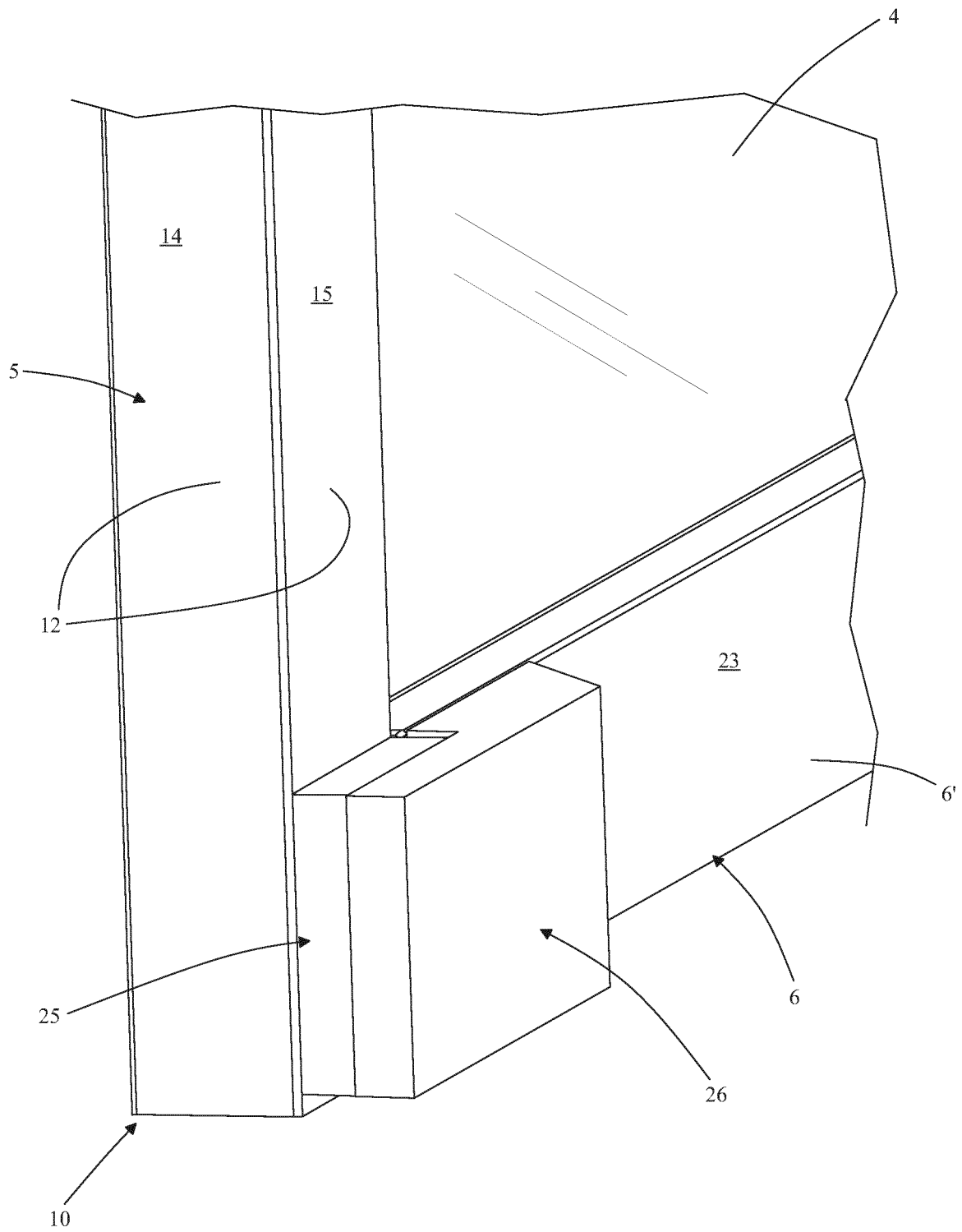


Fig. 2

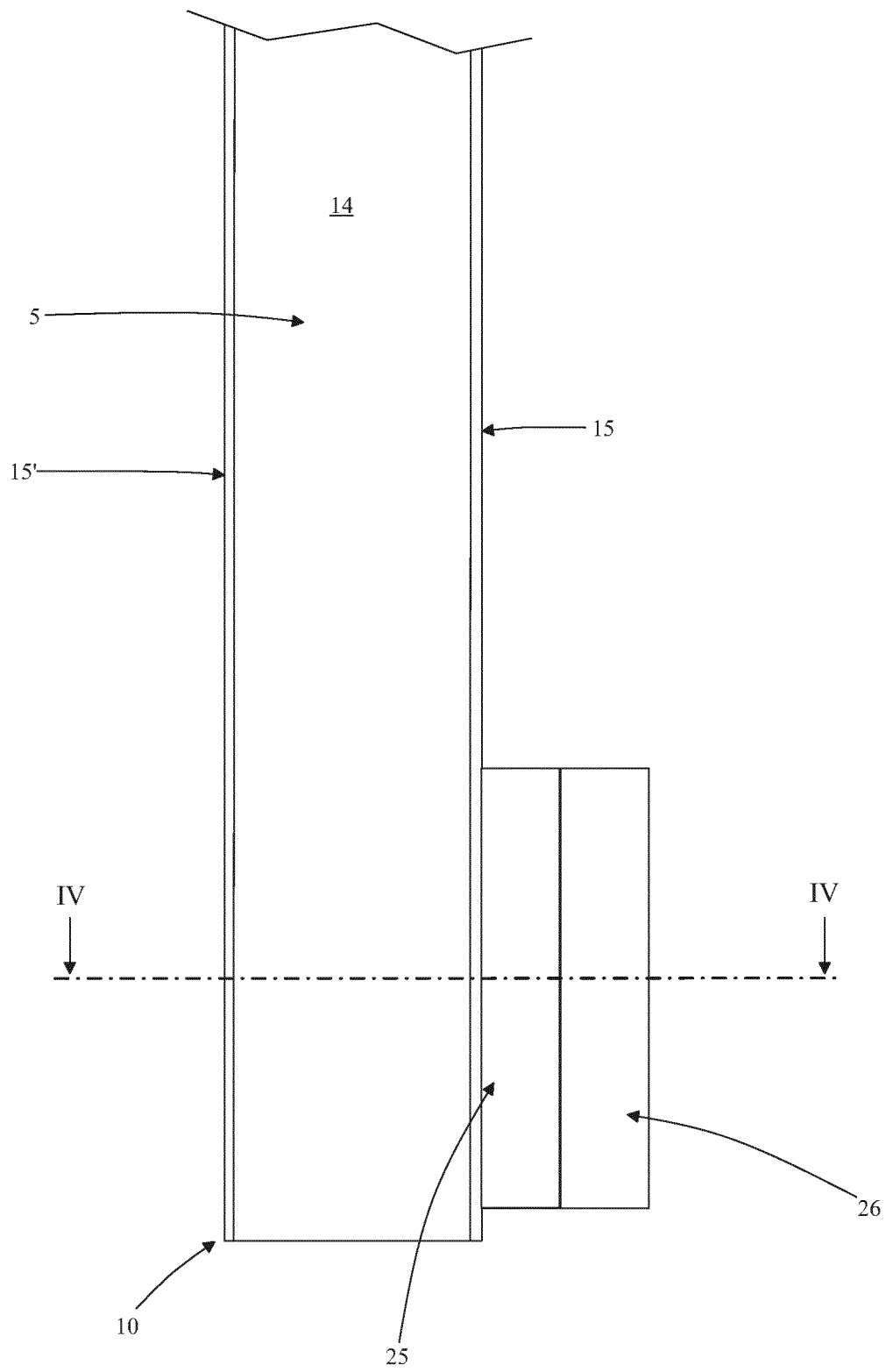


Fig. 3

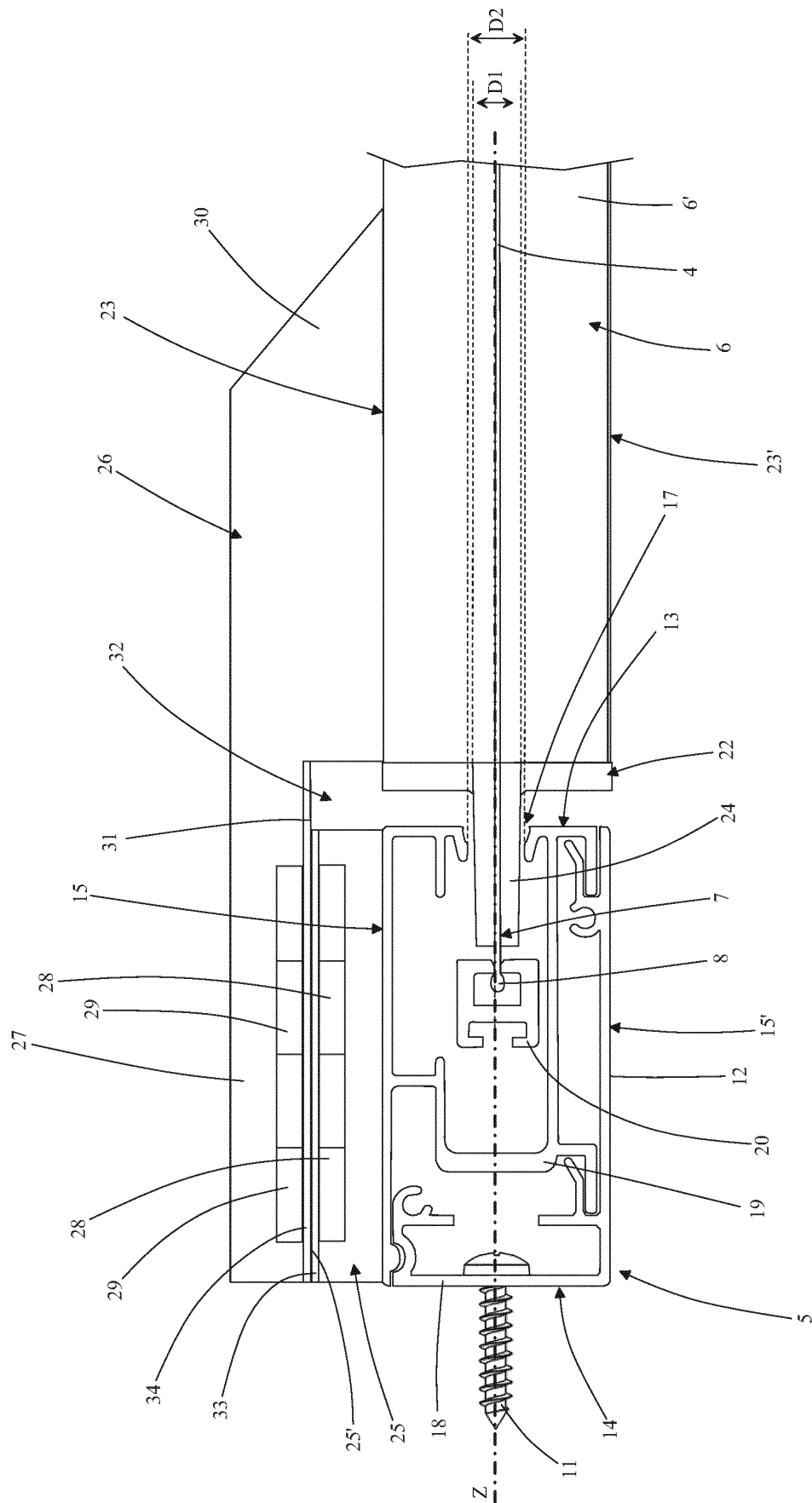


Fig. 4

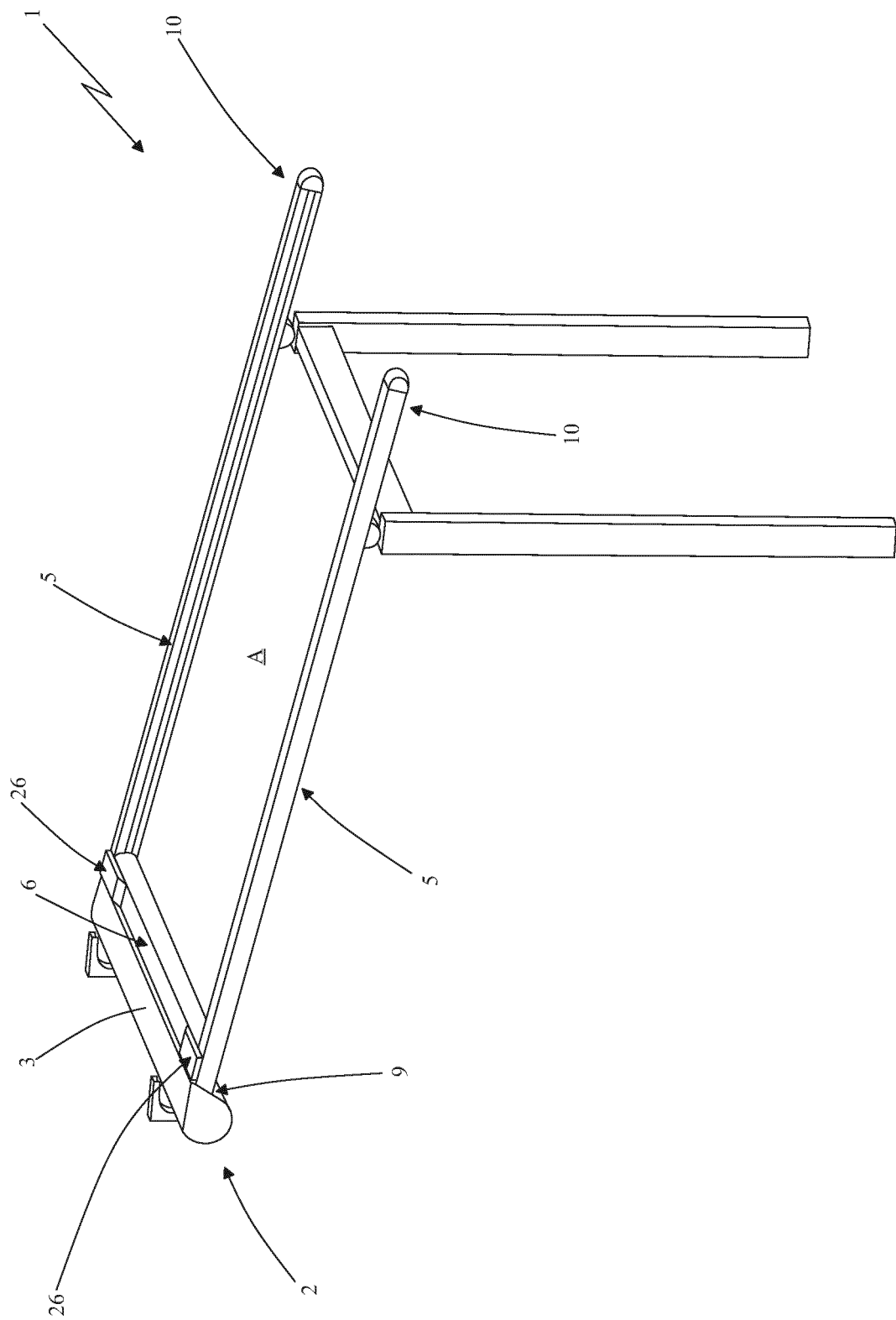


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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