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(54) IMPROVED ROLLING MOSQUITO NET PROVIDED WITH FOLDAWAY GUIDES

VERBESSERTES ROLLMOSKITONETZ MIT FALTFÜHRUNGEN

MODELE AMELIORE DE MOUSTIQUAIRE DEROULANTE A GUIDES ESCAMOTABLES

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Description

[0001] The present finding relates to frames for windows or French doors and particularly improvements to a self-rolling mosquito net provided with guides that are folded away as the net is rolled into the rolling-net box when not in use so as to avoid cumbersome elements that can hinder the way through the opening of the window frame.
More specifically the rolling-net box containing the rolling net is provided with a handle by which it can be displaced by the user in order to put in/out the mosquito net.
[0002] Patent Application No. EP 1333148 A2 in the name of the same Applicant discloses a self-rolling mosquito net contained inside an appropriate rolling-net box and provided with an upper fixed guide and a lower movable guide able to be put inside a driving handle-bar operated by the user during the rolling of the net and to come out from the same handle-bar upon pulling out the rolling net.
Such solutions have some drawbacks even if they achieve the predetermined objects.
A first drawback consists of that the rolling-net box is arranged vertically and fixed to the wall by snap fitting so that a fortuitous sudden impact can cause its detachment from the wall, with the result of a damage of the fitting connection and/or the inner rolling net, thus impairing the whole system.
A second drawback consists of that sometimes the upper and lower sides of the windows or French doors are not perfectly parallel so that the mosquito net could jam where the distance between the two sides is lower or have too much clearance where the distance is greater, thus hindering in both cases the smoothness of the mosquito net along its horizontal upper fixed guide and lower foldaway guide.
Similar jamming problems are caused by the thin thickness of the driving handle-bar including the ends of the mosquito net having end slideable members the contact area of which with the guide is very small.
[0003] The main object of the finding is then to overcome such problems by providing a mosquito net having upper fixed guide means and lower movable guide means that are able to be folded away into a section fixed to the wall during the re-wind step of the mosquito net as well as to be pulled out from such section during the pulling-out step of the mosquito net.
According to the present finding the rolling-net box containing the rolling net is able to slide along such upper and lower guide means.
[0004] A better understanding of the finding will result from the following detailed description with reference to the accompanying drawings that show a preferred embodiment thereof only by way of a not limiting example.
[0005] In the drawings:

Figure 1 is a three-dimensional view of the finding as a whole in closed arrangement and fitted on a frame;

Figure 2 is an exploded view of the finding of Fig. 1;

Figure 3 is a three-dimensional view of the finding of Fig. 1 without frame;

Figure 4, similar to Figure 1, shows the finding in open arrangement, i.e. with the mosquito net being rolled into its rolling-net box.

[0006] Reference will be made thereafter to an embodiment in which the self-rolling mosquito net is arranged vertically and its movement of opening/closing is directed horizontally although the finding can be applied without any substantial modification to mosquito nets that can be rolled/unrolled in the vertical direction.
With reference to the figures, the present finding includes a rolling mosquito net for window frames provided with foldaway guides of the type comprising: a self-rolling mosquito net 12 inside a suitable, lateral, movable rolling-net box 1 arranged vertically, an upper fixed guide 4 and lower movable guide means 11 able to be put in a foldaway manner into a first section 10 fastened to a vertical wall of the window during the re-wind step of mosquito net 12, and able to be pulled out from such section 10 during the pulling-out step of mosquito net 12.
The movable rolling-net box 1 is provided with a handle that allows the user to shift it laterally to pull out easily mosquito net 12 rolled inside such rolling-net box 1 and to cause the box to abut against a second lateral limit stop section 13 arranged vertically and fixed to the frame of the window opposed to the frame to which first section 10 is fixed.
Such foldaway guide means consists essentially of a chain 11 quite similar to that disclosed in the Patents mentioned above in the name of the same Applicant and having one end hinged at the lower end of movable rolling-net box 1 by a support member 7 integral therewith, which chain 11 slides on a guide section 6 fixed to the ground and having a particularly reduced thickness.
Advantageously, secured at the upper and lower ends of movable rolling-net box 1 are members acting as "sliding blocks" able to facilitate the sliding with respect to the upper fixed guide 4 and the thin guide section 6 secured to ground.
More particularly, provided at the upper end of movable rolling-net box 1 is a male sliding block 8 which is provided with two "prongs" directed upwards and parallel at a suitable distance from each other to be inserted between two pairs of longitudinal ribs projecting downwards and arranged in the upper fixed guide 4 to guarantee a smooth sliding of mosquito net 12.
Likewise, provided at the lower end of movable rolling-net box 1 is a female sliding block 9 which is provided at the lower side with a recess or housing having a shape which is conjugated to the shape of section 6 fixed to ground so as to slide easily on the latter.

According to a peculiar feature of the finding, movable rolling-net box 1 is provided inside at each upper and lower ends with a respective (not shown) thrust spring, each of them presses the respective sliding block against the corresponding guide such that the two sliding blocks of rolling-net box 1 are always in contact with the respective guide, thus avoiding that rolling-net box 1 jams if the horizontal upper and lower sides of the window or French door are not perfectly parallel.
Moreover, such thrust springs together with end sliding blocks 8 and 9 of rolling-net box 1 having a rather wide contact area with the respective guides, preferably at least equal to the cross section of rolling-net box 1, allows rolling-net box 1 and then mosquito net 12 to be moved by an absolutely regular sliding motion.
[0007] Advantageously, in order to guarantee a rigid fastening to the wall, first section 10 is provided with an upper cover 2 having a slot 3 that allows its fastening to the wall by a common fastening screw and with a lower mixtilinear member 5 to be secured to the lower side of the window or French door, and the limit stop section 13 of movable rolling-net box 1 is provided with holes (not shown) distributed along its length to allow its fastening to the wall by screws. The present finding has been described and illustrated according to a preferred embodiment thereof, however, it is self-evident that those skilled in the art can make technically and/or functionally equivalent modifications and/or replacements without departing from the scope of the present industrial invention as defined by the claims.

Claims

1. A mosquito net for windows and/or French doors including a self-rolling mosquito net (12) within a suitable rolling-net box (1), an upper fixed guide (4) and movable lower guide means (11), whereby said rolling-net box (1) is arranged vertically, **characterized in that** it is slidable laterally by the user, and that said movable guide means (11) is able to be folded away into a first lateral section (10) fixed to the wall during the re-wind step of the mosquito net (12) as well as to be pulled out from said first section (10) during the pulling-out step of the mosquito net (12).

2. The mosquito net according to the preceding claim, **characterized in that** said movable rolling-net box (1) is provided with a handle that allows the user to shift it laterally to pull it out easily and to cause the box to abut against a second lateral limit stop section (13) arranged vertically and fixed to the frame of the window opposed to the frame to which said first section (10) is fixed.

3. The mosquito net according to claim 1 or 2, **characterized in that** said foldaway guide means consists essentially of a chain (11) of the known type having one end hinged at the lower end of movable rolling-net box (1) by a support member (7) integral therewith, which chain (11) slides on a guide section (6) fixed to the ground and having a particularly reduced thickness.

4. The mosquito net according to the preceding claim, **characterized in that** secured at the upper and lower ends of movable rolling-net box (1) are members acting as "sliding blocks" able to facilitate the sliding with respect to the upper fixed guide (4) and the thin guide section (6) secured to ground.

5. The mosquito net according to the preceding claim, **characterized in that** said sliding blocks have a contact area with the respective guides at least equal to the cross section of movable rolling-net box (1).

6. The mosquito net according to claim 4 or 5, **characterized in that** provided at the upper end of movable rolling-net box (1) is a male sliding block (8) which is provided with two "prongs" directed upwards and parallel at a suitable distance from each other to be inserted between two pairs of longitudinal ribs projecting downwards and arranged in the upper fixed guide (4) to guarantee a smooth sliding of mosquito net (12).

7. The mosquito net according to claim 4 or 5 o 6, **characterized in that** provided at the lower end of movable rolling-net box (1) is a female sliding block (9) which is provided at the lower side with a recess or housing having a shape which is conjugated to the shape of thin guide section (6) fixed to ground so as to slide easily on the latter.

8. The mosquito net according to any claim from 4 on, **characterized in that** movable rolling-net box (1) is provided inside at each upper and lower ends with a respective thrust spring which presses the respective sliding block against the corresponding guide such that the two end sliding blocks of rolling-net box (1) are always in contact with the respective guide, thus avoiding that rolling-net box (1) jams if the horizontal upper and lower sides of the window or French door are not perfectly parallel.

9. The mosquito net according to claim 2, **characterized in that** in order to guarantee a rigid fastening to the wall, first section (10) is provided with an upper cover (2) having a slot (3) that allows its fastening to the wall by a common fastening screw and with a lower mixtilinear member (5) to be secured to the lower side of the window or French door, and the limit stop section (13) is provided with holes distributed along its length to allow its fastening to the wall by screws.

Patentansprüche

1. Ein Moskitonetz für Fenster und/oder Fenstertüren mit einem selbstaufrollenden Moskitonetz (12) in einem passenden Netzrollenkasten (1), einer oberen fixierten Führung (4) und beweglichen unteren Führungsmitteln (11), wobei der Netzrollenkasten (1) vertikal angeordnet ist, **dadurch gekennzeichnet, dass** dieser durch den Nutzer seitlich verschiebbar ist und dass die beweglichen Führungsmittel (11) in einen ersten seitlichen Bereich (10), der an der Wand befestigt ist, während des Aufrollschrittes des Moskitonetzes (12) zusammengefaltet werden können sowie aus dem ersten Bereich (10) während des Ausziehschrittes des Moskitonetzes (12) ausziehbar sind.

2. Das Moskitonetz nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** an dem beweglichen Netzrollenkasten (1) ein Griff vorgesehen ist, der es dem Nutzer ermöglicht, diesen seitlich zu verschieben, um diesen leicht auszuziehen, und um den Kasten an einen zweiten, vertikal angeordneten, seitlichen Begrenzungsanschlagsbereich (13), angrenzen zu lassen, und der an dem Fensterrahmen, der dem Rahmen, an dem der genannte erste Bereich befestigt ist, gegenüberliegt.

3. Das Moskitonetz nach einem der Ansprüche 1 oder 2, **dadurch gekennzeichnet, dass** die zusammenfaltbaren Führungsmittel im Wesentlichen aus einer Kette (11) bekannter Art bestehen, von der ein Ende an dem unteren Ende des beweglichen Netzrollenkastens (1) durch ein integral damit ausgebildetes Stützelement (7) angelenkt ist, wobei die Kette (11) auf einem Führungsbereich (6), der an dem Boden befestigt ist und in seiner Dicke in besonderer Weise reduziert ist, gleitet.

4. Das Moskitonetz nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** Elemente, die als "gleitende Blöcke" zum leichteren Gleiten bezüglich der oberen fixierten Führung (4) und dem dünnen Führungsbereich (6), der am Boden gesichert ist, an den oberen und unteren Enden des beweglichen Netzrollenkastens (1) gesichert sind.

5. Das Moskitonetz nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die genannten gleitenden Blöcke einen Kontaktbereich zu den jeweiligen Führungen, der zumindest dem Querschnitt des beweglichen Netzrollenkastens (1) entspricht, aufweisen.

6. Das Moskitonetz nach einem der Ansprüche 4 oder 5, **dadurch gekennzeichnet, dass** an dem oberen Ende des beweglichen Netzrollenkastens (1) ein männlicher gleitender Block (8) vorgesehen ist, an dem zwei "Zapfen", die nach oben und parallel in passendem Abstand zueinander zum Einsetzen zwischen zwei Paaren von Längsrippen, die nach unten ragen und in der oberen fixierten Führung (4) für ein reibungsloses Gleiten des Moskitonetzes (12) angeordnet sind, ausgerichtet sind.

7. Das Moskitonetz nach Anspruch 4, 5 oder 6, **dadurch gekennzeichnet, dass** an dem unteren Ende des beweglichen Netzrollenkastens (1) ein weiblicher gleitender Block (9) vorgesehen ist, der an der Unterseite mit einer Ausnahme oder einem Gehäuse mit einer zu der Form des dünnen Führungsbereichs (6), der am Boden befestigt ist zum leichten Gleiten auf letzterem, korrespondierenden Form.

8. Das Moskitonetz nach einem der auf Anspruch 3 folgenden Ansprüche, **dadurch gekennzeichnet, dass** der bewegliche Netzrollenkasten (1) an jeden oberen und unteren Enden innen mit jeweils einer Gegendruckfeder ausgebildet ist, die den jeweiligen gleitenden Block gegen die entsprechende Führung drückt, so dass die beiden äußersten der gleitenden Blöcke des Netzrollenkastens (1) immer in Kontakt mit der jeweiligen Führung sind, um somit zu vermeiden, dass der Netzrollenkasten (1) blockiert, wenn die horizontalen oberen und unteren Seiten des Fensters oder der Fenstertür nicht exakt parallel sind.

9. Das Moskitonetz nach Anspruch 2, **dadurch gekennzeichnet, dass** an dem ersten Bereich (10) eine obere Abdeckung (2) mit einer Ausnahme (3), die seine Befestigung an der Wand durch eine gewöhnliche Befestigungsschraube erlaubt und mit einem unteren mixtilinearen Element (5), das an der Unterseite des Fensters oder der Fenstertür gesichert wird, vorgesehen ist, um eine starre Befestigung an der Wand sicherzustellen, und dass der Begrenzungsanschlagsbereich (13) mit Löchern, die längs seiner Länge verteilt sind, um seine Befestigung an der Wand durch Schrauben zu erlauben, vorgesehen ist.

Revendications

1. Moustiquaire pour fenêtres et/ou portes-fenêtres comprenant une moustiquaire à auto-enroulement (12) à l'intérieur d'un boîtier d'enroulement de moustiquaire (1), un guide fixe supérieur (4) et des moyens de guidage inférieurs mobiles (11), moyennant quoi ledit boîtier d'enroulement de moustiquaire (1) est agencé verticalement, **caractérisée en ce qu'**il peut être glissé latéralement par l'utilisateur, et **en ce que** lesdits moyens de guidage mobiles (11) sont adaptés pour être rabattus dans une première section latérale (10) fixée à la paroi durant l'étape de ré-en-

roulement de la moustiquaire (12) ainsi que pour être extraits de ladite première section (10) durant l'étape d'extraction de la moustiquaire (12).

2. Moustiquaire selon la revendication précédente, **caractérisée en ce que** ledit boîtier d'enroulement de moustiquaire mobile (1) est muni d'une poignée qui permet à l'utilisateur de le décaler latéralement pour l'extraire facilement et forcer le boîtier à venir en butée contre une deuxième section de butée de fin de course latérale (13) disposée verticalement et fixée au dormant de la fenêtre opposé au dormant auquel ladite première section (10) est fixée.

3. Moustiquaire selon la revendication 1 ou 2, **caractérisée en ce que** lesdits moyens de guidage rabattables comprennent essentiellement une chaîne (11) du type connu ayant une extrémité articulée à l'extrémité inférieure du boîtier d'enroulement de moustiquaire mobile (1) par un élément de support (7) solidaire de celui-ci, laquelle chaîne (11) coulisse sur une section de guidage (6) fixée au sol et ayant une épaisseur particulièrement réduite.

4. Moustiquaire selon la revendication précédente, **caractérisée en ce que** des éléments agissant comme des « blocs coulissants », adaptés pour faciliter le coulissement par rapport au guide fixe supérieur (4) et la section de guidage mince (6) fixée au sol, sont fixés aux extrémités supérieure et inférieure du boîtier d'enroulement de moustiquaire mobile (1).

5. Moustiquaire selon la revendication précédente, **caractérisée en ce que** lesdits blocs coulissants ont une superficie de contact avec les guides respectifs au moins égale à la section transversale du boîtier d'enroulement de moustiquaire mobile (1).

6. Moustiquaire selon la revendication 4 ou 5, **caractérisée en ce qu'**un bloc coulissant mâle (8) est prévu à l'extrémité supérieure du boîtier d'enroulement de moustiquaire mobile (1), lequel est muni de deux « dents » dirigées vers le haut et parallèles à une distance appropriée l'une de l'autre pour être insérées entre deux paires de nervures longitudinales faisant saillie vers le bas et disposées dans le guide fixe supérieur (4) pour garantir un glissement uniforme de la moustiquaire (12).

7. Moustiquaire selon la revendication 4 ou 5 ou 6, **caractérisée en ce qu'**un bloc coulissant femelle (9) est prévu à l'extrémité inférieure du boîtier d'enroulement de moustiquaire mobile (1), lequel est muni sur le côté inférieur d'un évidement ou logement ayant une forme qui est correspondante au profil de la section de guidage mince (6) fixée au sol de manière à coulisser facilement sur celle-ci.

8. Moustiquaire selon une quelconque revendication 4 et suivantes, **caractérisée en ce que** le boîtier d'enroulement de moustiquaire mobile (1) est muni à l'intérieur de chaque extrémité supérieure et inférieure d'un ressort de pression respectif qui presse le bloc coulissant respectif contre le guide correspondant de manière que les deux blocs coulissants d'extrémité du boîtier d'enroulement de moustiquaire (1) soient toujours en contact avec le guide respectif, en évitant ainsi que le boîtier d'enroulement de moustiquaire (1) se coince si les côtés horizontaux supérieur et inférieur de la fenêtre ou de la porte-fenêtre ne sont pas parfaitement parallèles.

9. Moustiquaire selon la revendication 2, **caractérisée en ce que**, de manière à garantir une fixation rigide à la paroi, la première section (10) est munie d'un couvercle supérieur (2) ayant une fente (3) qui permet sa fixation à la paroi au moyen d'une vis de fixation commune et d'un élément mixtiligne inférieur (5) destiné à être fixé sur le côté inférieur de la fenêtre ou de la porte-fenêtre, et la section de butée de fin de course (13) est pourvue de trous distribués suivant sa longueur pour permettre sa fixation à la paroi au moyen de vis.

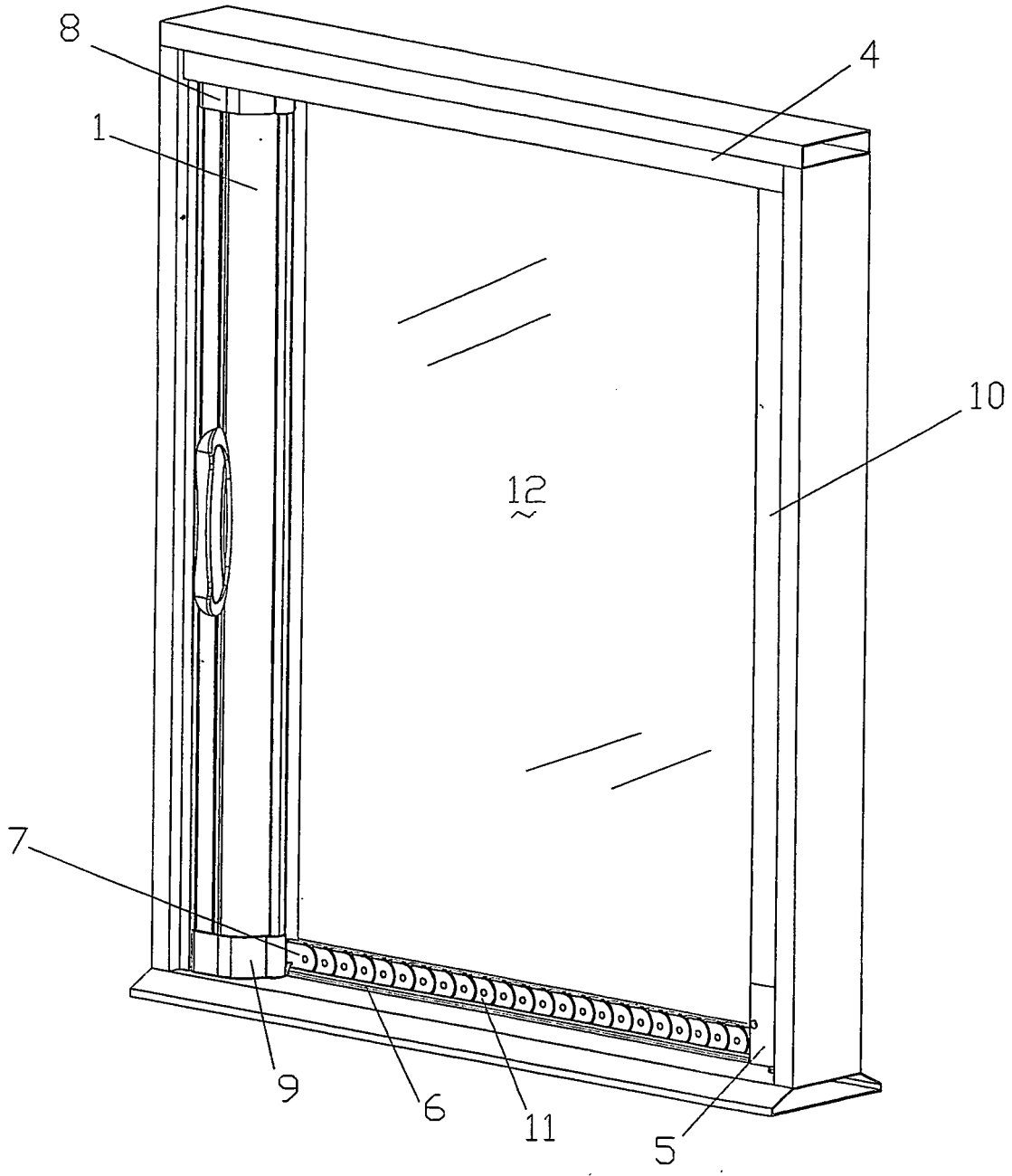


FIG. 1

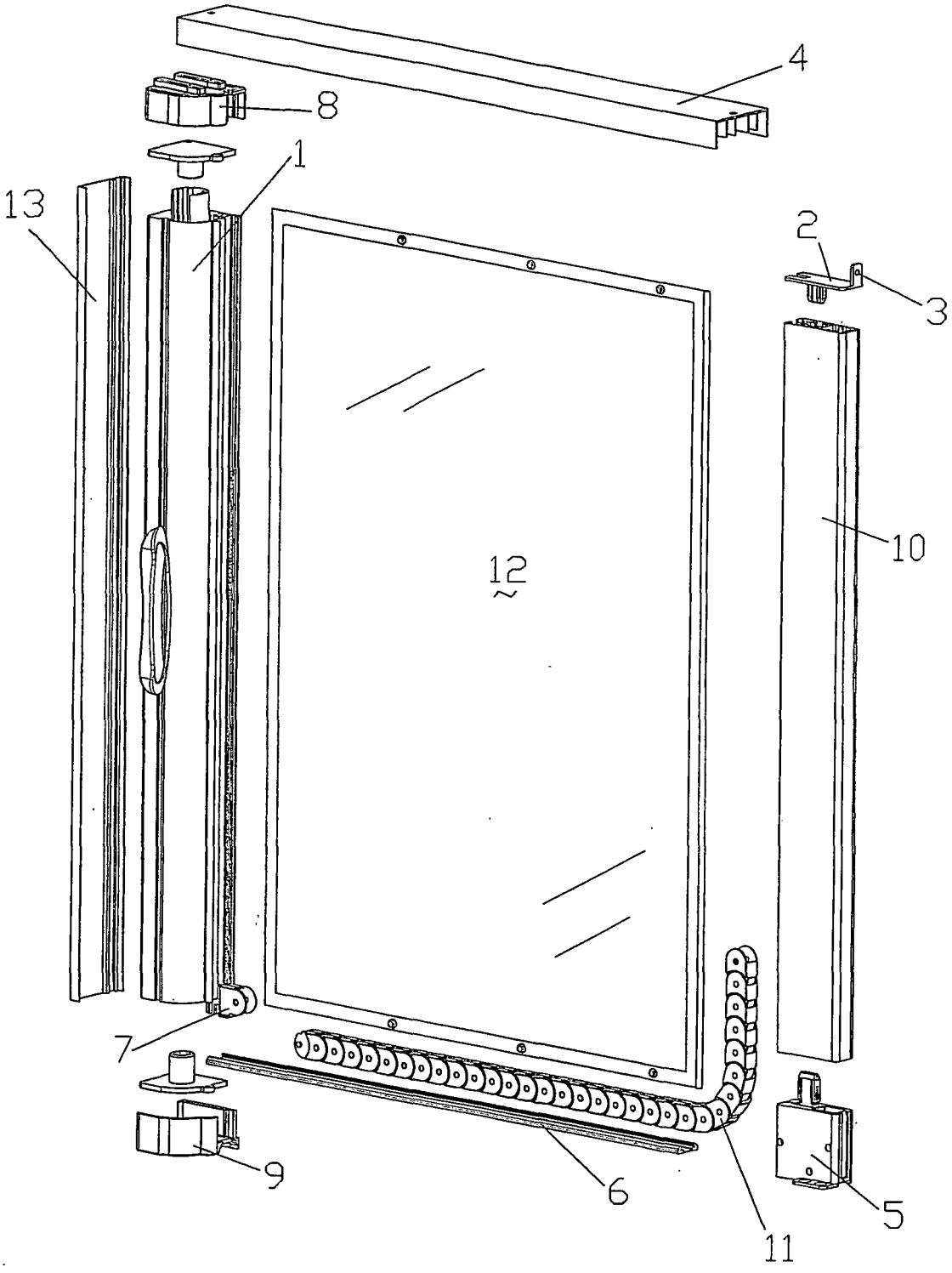


FIG. 2

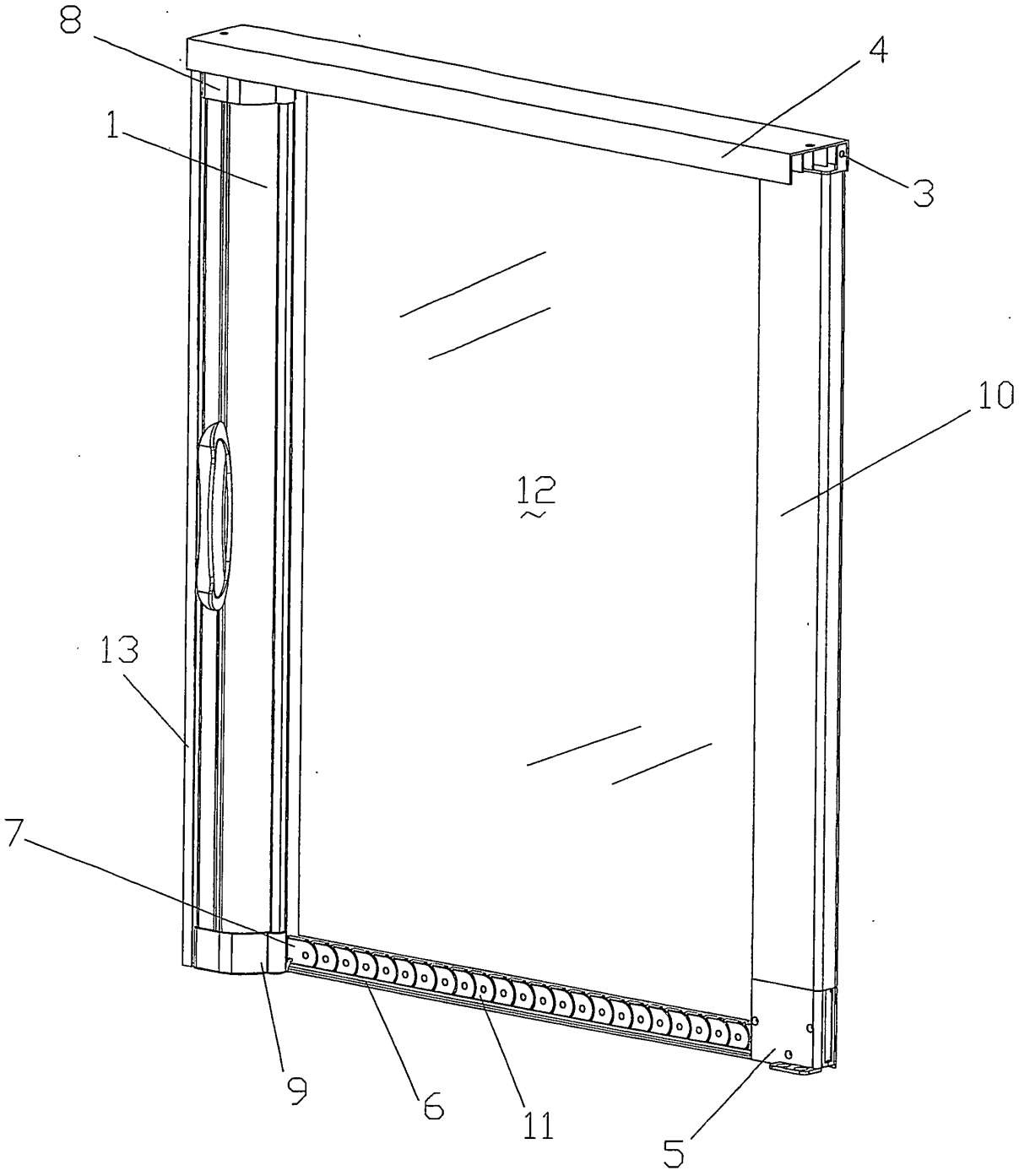


FIG. 3

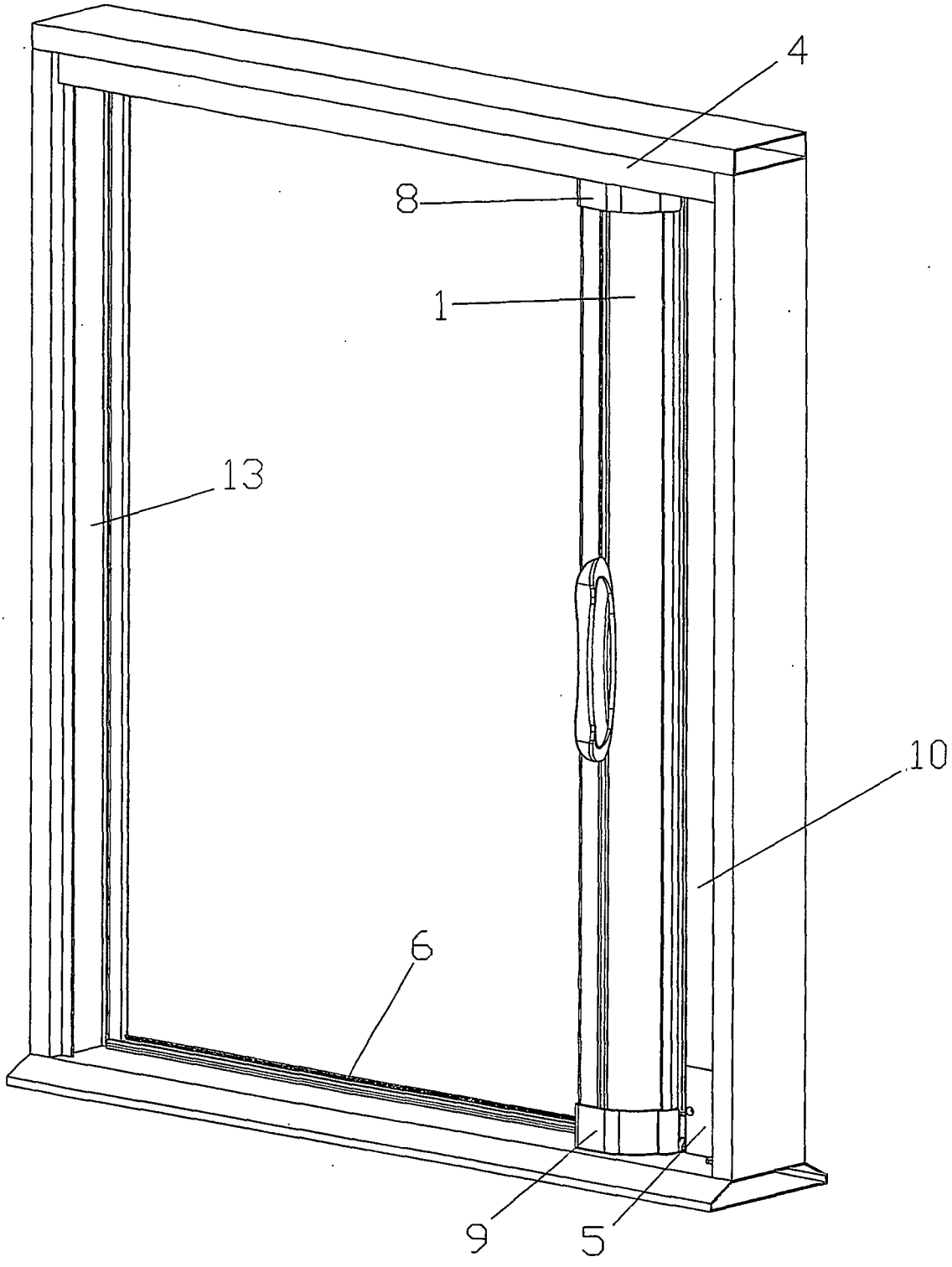


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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