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(54) **Roller blind**

Rollo

Rouleau

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(56) References cited:
**EP-A- 0 033 199 EP-A- 1 491 712
FR-A- 2 667 900 GB-A- 1 365 742**

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Description

[0001] The subject of the invention is a roller blind of the type including the characteristics mentioned in the preamble to the main claim.

[0002] Such blinds are known, e.g. from GB 1 365 742 A, EP 0 033 199 A or FR 2 667 900 A.

[0003] In the technical field of sun blinds of relatively large dimensions, a problem which arises particularly is that of keeping the fabric substantially centred and in the correct position when it is unrolled into the operating position. For this reason the two opposite longitudinal edges of the fabric are retained in guides which are part of the longitudinal members of the frame. However, it happens that in windy conditions, the surface of the fabric which is unfolded and therefore exposed to the effect of the air is subject to a "sail effect" which causes the edges of the fabric to flap and come out of the guides, so that subsequently the fabric may not roll up and/or unroll correctly.

[0004] The problem addressed by the present invention is to make available a roller blind structurally and functionally designed to overcome the troublesome problems noted with reference to the known technology cited.

[0005] This problem is solved by the invention with an blind produced according to the claims which follow.

[0006] The characteristics and advantages of the invention will become clear from the detailed description of a preferred but not exclusive form of embodiment illustrated purely by way of non-limiting example, with reference to the appended drawings in which:

- figure 1 is a schematic perspective view of a roller blind according to the invention;
- figure 2 is a perspective view at an enlarged scale of a detail in figure 1;
- figure 3 is a view in cross-section of a member of the blind in the preceding drawings;
- figure 4 is a plan view from above of a detail of the blind disclosed by this invention.

[0007] In the drawings, the number 1 indicates as a whole a sun blind of the roller type, including a frame 2 with two coextending longitudinal members 3 running in parallel at the opposite ends of a box 4. Housed in the box 4 and supported rotatably is a rolling-up roller 5, powered by means of a power unit 6 and designed to receive a fabric 20 rolled up on it. At the opposite axial ends of the roller 5 is fitted a respective pulley 7 onto which is wound a cable 8 which extends in a known manner along a path which provides return pulleys 9 and tensioning devices 10 in order to keep the fabric 20 in a state of moderate elastic tension throughout the step of unrolling and/or rolling up again.

[0008] The longitudinal members 3 each comprise a first flange 11 extending at right angles from a wall 12 and having in a substantially intermediate position a tooth formation 13. A lip 14 extends from a middle position on the wall 12 running substantially parallel to the first flange

11, at a distance from it. Between the flange 11, the lip 14 and the portion of wall 12 comprised between them is formed a pocket 15 in which is housed and retained a section element 16 forming a channel section 17 inserted into the pocket.

[0009] The first flange 11 is used to support the corresponding longitudinal edge 21 of the fabric 20, and also to fill in continuously the space between the edge of the fabric and the channel section 17; it is also used to conceal elements securing the fabric at the sides as explained more clearly below. To retain the longitudinal edge 21 of the fabric 20 attached to the corresponding longitudinal member even in windy conditions, while allowing the operations of rolling up and extending the fabric 20 to proceed normally, securing elements are provided including a plurality of lengths of reinforcing rope 18, discontinuous, that is having between them areas of the edge of the fabric without these lengths and capable of being run into the channel 17 when the fabric is unrolled into the operating condition to retain its corresponding secured edge, though with the possibility of sliding in a longitudinal direction, to the corresponding member.

[0010] The lengths of reinforcing rope are attached at intervals along the edge of the fabric, projecting from it, and each comprise a flexible anchorage element 23, of generally trapezoidal shape, the longer base of which is firmly attached by means for example of stitching or welding 24 to the edge 21 of the fabric and the shorter base of which has a cylindrical pocket in which is firmly attached a cylindrical element 25, also flexible, of plastics material which acts as a runner to slide in the channel 17. Using a reinforcing rope in lengths offers the important advantage that when the fabric is rolled up, it does not interfere with the tightening of the fabric on the roller 5, thus avoiding the formation of creases in the fabric and/or discontinuity in rolling up. This is because the lengths of reinforcing rope remain at the side of the fabric without interfering with each other when superimposed.

[0011] The runner of each length of reinforcing rope is housed and retained in the channel 17 while the textile anchorage element 23 slides between juxtaposed lips 26 of the channel, thickened and rounded off if necessary.

[0012] The front edge 28 of the fabric 20 is finally secured to a trolley 29 which by means of wheels 30 is guided in a channel in the longitudinal members formed between the lip 14 and a second flange 31.

[0013] At the opening in the channel section, that is on the side of it which faces the roller 5, is provided a lead-in portion 32 capable of guiding the runner of each length of reinforcing rope into the channel section as the fabric is unrolled from the roller 5.

[0014] The invention just described thus solves the problem stated and achieves numerous advantages compared with conventional roller blinds. In particular, it prevents lateral wobble of the fabric as a result of forced rolling up under tension, prevents flapping of the fabric at the guides due to the wind, prevents sunlight from passing between the fabric and the lateral guides, im-

proving the protection effect also in cases where several blinds are fitted side by side and, for example, in case of waterproof fabric assists in conveying rainwater towards the areas where this is discharged. A further point is that it prevents the formation of creases in the fabric, ensuring constant unrolling of the latter in optimum conditions.

Claims

1. A roller blind (1) comprising a fabric (20) and a frame (2) including at least one guide (3) extending longitudinally in the direction of movement of the fabric from and to an unrolled operating condition, said guide being provided with a channel (17) into which is fitted slidably an element securing the fabric, attached to a corresponding lateral edge (21) of the fabric to secure said edge to the guide when the fabric is in the unrolled condition, **characterised in that** said element securing the fabric comprises a plurality of lengths of reinforcing rope (18), discontinuous and spaced apart by clear lengths, said lengths of reinforcing rope being capable of being run into said channel (17) when the fabric is unrolled into the operating condition to retain the corresponding edge.
2. A roller blind according to claim 1 in which said lengths of reinforcing rope (18) comprise a flexible support (23) attached to the edge (21) of the fabric (20) and a runner (25) attached to said support in a position at a distance from the edge of the fabric and capable of being run into the corresponding channel (17).
3. A roller blind according to claim 2 in which said flexible support (23) has a trapezoidal form with the longer base attached to the fabric (20) and the shorter base carrying the corresponding runner (25).
4. A roller blind according to claim 2 or 3 in which said lengths of reinforcing rope (18) are attached at intervals along each longitudinal edge (21) of said fabric.
5. A roller blind according to one or more of the preceding claims in which said channel (17) is inserted into said guide (3).
6. A roller blind according to one or more of the preceding claims in which said channel (17) has a lead-in portion (32) for said lengths of reinforcing rope (18).

Patentansprüche

1. Rollo (1), umfassend einen Stoff (20) und einen Rahmen (2), der zumindest eine Führung (3) enthält, die sich längs in Richtung der Bewegung des Stoffs von und zu einem abgerollten Betriebszustand erstreckt,

wobei die Führung mit einem Kanal (17) versehen ist, in den ein Element gleitbar eingesetzt ist, das den Stoff fixiert und an einer zugehörigen seitlichen Kante (21) des Stoffs angebracht ist, um die Kante an der Führung zu fixieren, wenn sich der Stoff im abgerollten Zustand befindet, **dadurch gekennzeichnet, dass** das Element, das den Stoff fixiert, eine Mehrzahl von Verstärkungsseillängen umfasst, die unterbrochen und durch Freistrecken voneinander beabstandet sind, wobei die Verstärkungsseillängen geeignet sind, in den Kanal (17) einzulaufen, um die zugehörige Kante festzuhalten, wenn der Stoff in den Betriebszustand abgerollt ist.

2. Rollo nach Anspruch 1, bei dem die Verstärkungsseillängen (18) eine flexible Stütze (23), die an der Kante (21) des Stoffs (20) angebracht ist, umfassen, und einen Läufer (25), der an der Stütze an einer Position in einem Abstand von der Kante des Stoffs angebracht und geeignet ist, in den zugehörigen Kanal (17) einzulaufen.
3. Rollo nach Anspruch 2, bei dem die flexible Stütze (23) eine trapezförmige Form aufweist, wobei die längere Basis an dem Stoff angebracht ist und die kürzere Basis den zugehörigen Läufer (25) trägt.
4. Rollo nach Anspruch 2 oder 3, bei dem die Verstärkungsseillängen (18) in Abständen entlang jeder Längskante (21) des Stoffs angebracht sind.
5. Rollo nach einem oder mehreren der vorhergehenden Ansprüche, bei dem der Kanal (17) in die Führung (3) eingefügt ist.
6. Rollo nach einem oder mehreren der vorhergehenden Ansprüche, bei dem der Kanal (17) einen Einführungsabschnitt (32) für die Verstärkungsseillängen (18) aufweist.

Revendications

1. Rouleau (1) comprenant un tissu (20) et un support (2) comprenant au moins un guide (3) s'étendant longitudinalement dans la direction de mouvement du tissu depuis et vers un état opérationnel déroulé, ledit guide étant doté d'un canal (17) dans lequel est monté de façon coulissante un élément immobilisant le tissu, fixé à un bord latéral correspondant (21) du tissu pour immobiliser ledit bord sur le guide lorsque le tissu est dans l'état déroulé, **caractérisé en ce que** ledit élément immobilisant le tissu comprend une pluralité de longueurs de corde de renfort (18), discontinues et espacées de longueurs utiles, lesdites longueurs de corde de renfort pouvant être introduites dans ledit canal (17) lorsque le tissu est déroulé dans l'état opérationnel pour maintenir le bord

correspondant.

2. Rouleau selon la revendication 1, dans lequel lesdites longueurs de corde de renfort (18) comprennent un support flexible (23) fixé au bord (21) du tissu (20) et un conduit (25) fixé audit support dans une position à une distance du bord du tissu et pouvant être introduit dans le canal correspondant (17). 5
3. Rouleau selon la revendication 2, dans lequel ledit support flexible (23) a une forme trapézoïdale avec la base la plus longue fixée au tissu (20) et la base la plus courte supportant le conduit correspondant (25). 10 15
4. Rouleau selon la revendication 2 ou 3, dans lequel lesdites longueurs de corde de renfort (18) sont fixées à des intervalles le long de chaque bord longitudinal (21) dudit tissu. 20
5. Rouleau selon une ou plusieurs des revendications précédentes, dans lequel ledit canal (17) est inséré dans ledit guide (3). 25
6. Rouleau selon une ou plusieurs des revendications précédentes, dans lequel ledit canal (17) a une partie d'entrée (32) pour lesdites longueurs de corde de renfort (18). 30 35 40 45 50 55

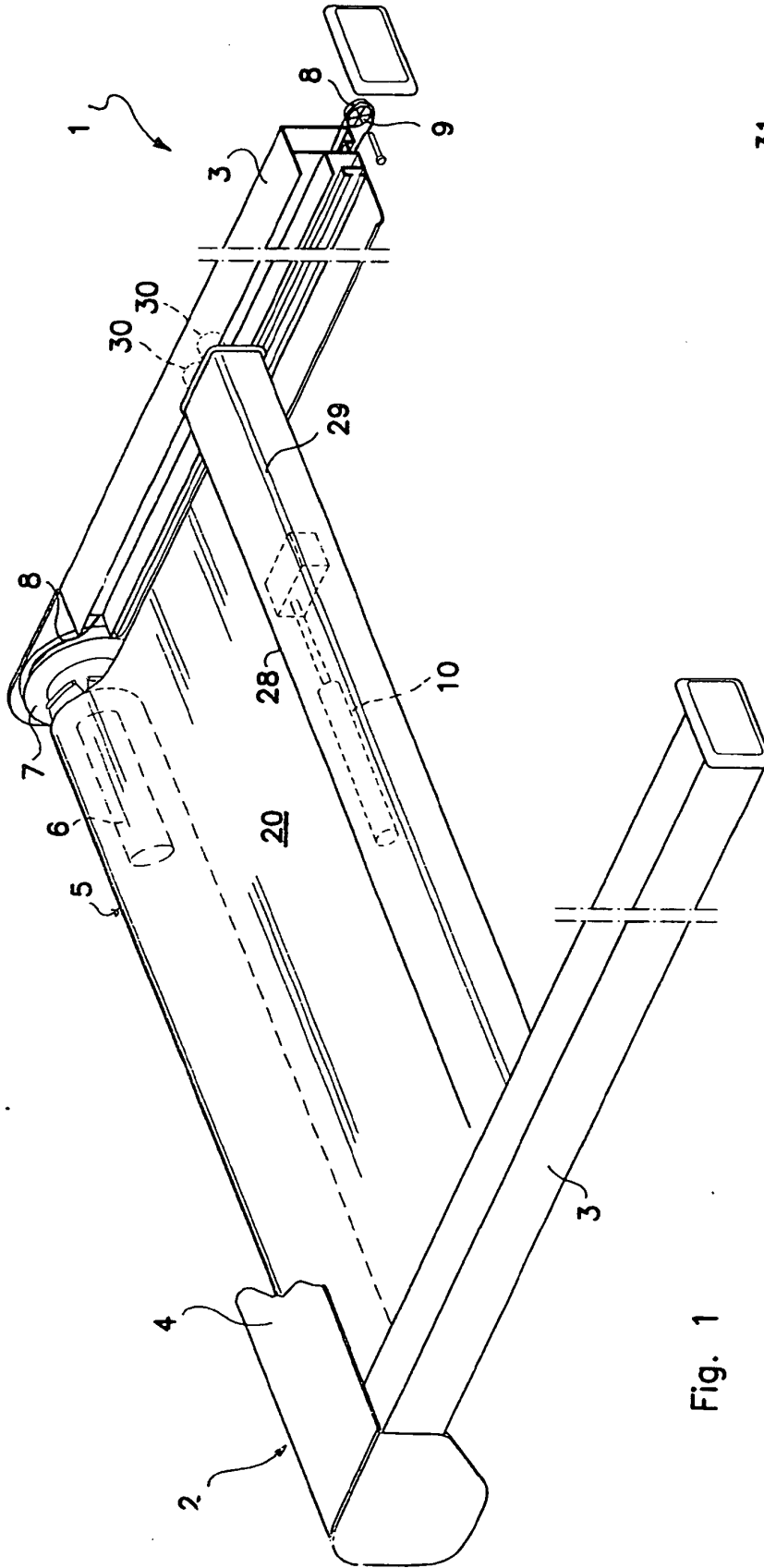


Fig. 1

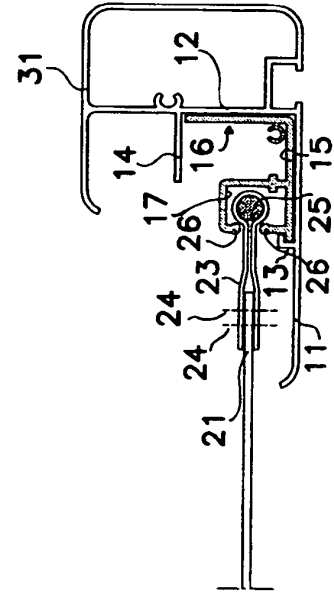


Fig. 3

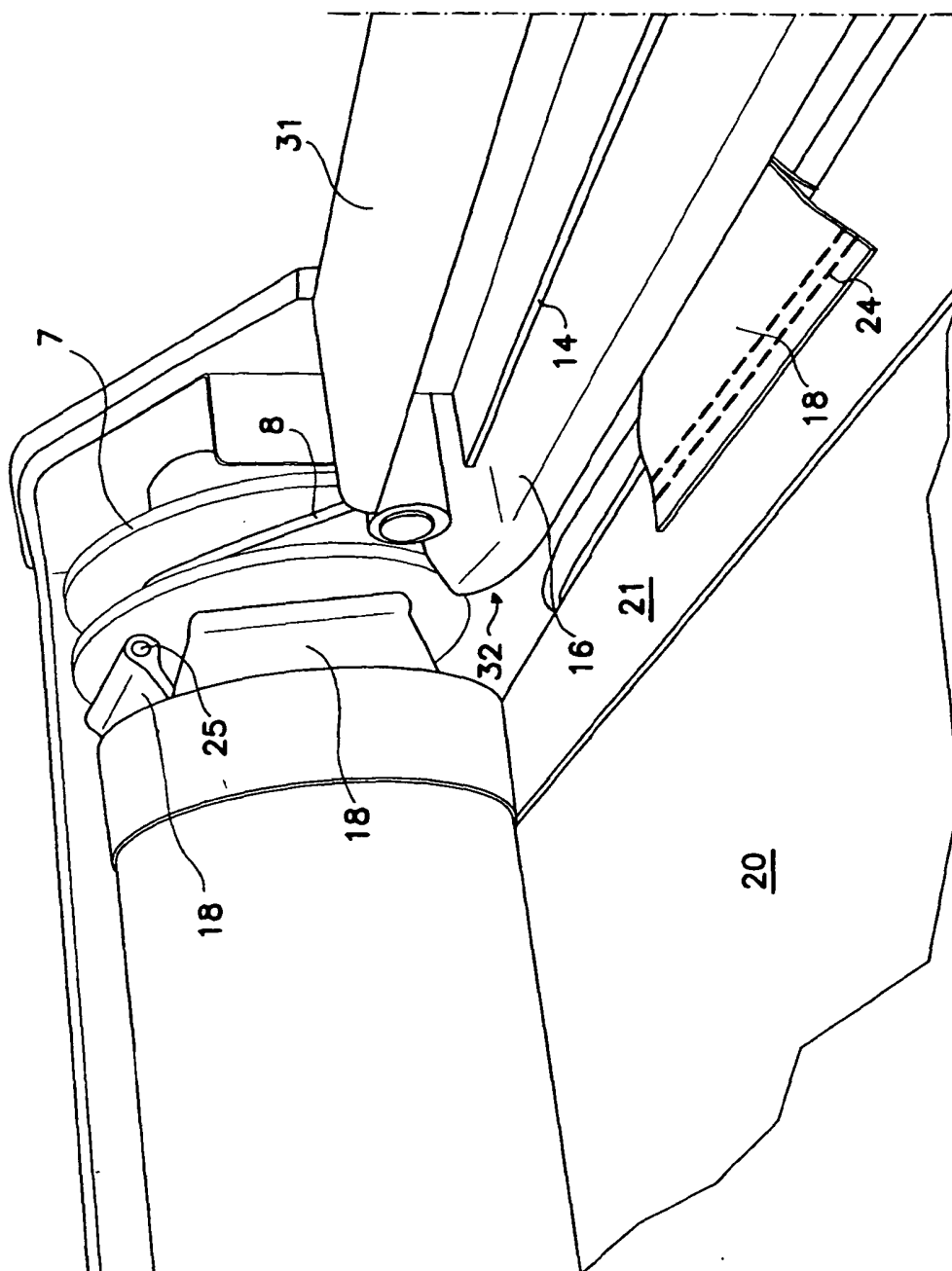


Fig. 2

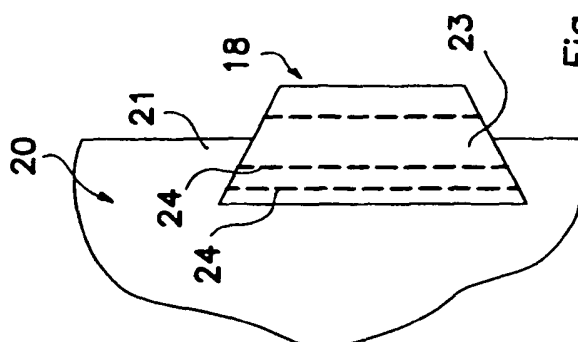


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- GB 1365742 A [0002]
- EP 0033199 A [0002]
- FR 2667900 A [0002]