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(54) **The external roller blind**

(57) The subject of the application is an external roller blind equipped with a blocking mechanism, preventing the opening of the blind by lifting the slats up.

The external roller blind is equipped with a set of perpendicularly jointed profile slats (**1**) sliding in guides (3,3'). A turning semi-circular hanger (**6**) of the lower profile slat (**7**) is placed in the socket (**4**) of the profile slat (**5**), equipped with opposite rectangular intrusions (**8**), **(8')** in the sliding guides (**3**), (**3** ') area for the rotary and adjustable mounted pawls **(9**) and (**9** '). The profile slat (7) has a lower (**11**) and upper **(10**) chamber divided by a crosswise reinforcement **(12)** inside of which there is a round passage (**13**) for a pin **(14)** of the pawl **(9**) and **(9'**) and a spring (**15**), while the lower chamber includes a trapezoid ending (**16**) of the lower slat (**17**) reinforced by a flat (**18**).

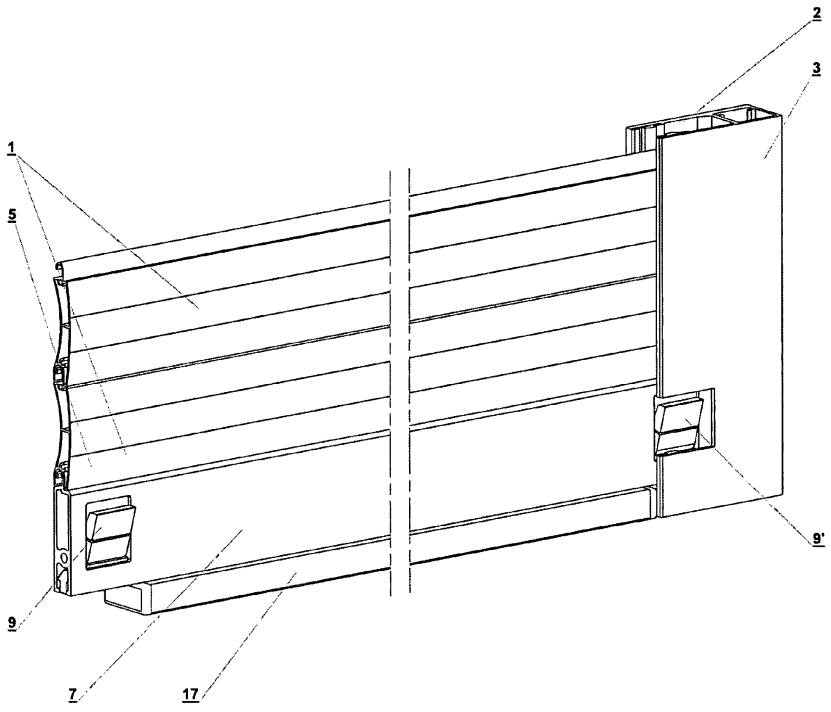

Fig. 1

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Description

[0001] The subject of the invention is the external roller blind equipped with a blocking mechanism, preventing the opening of the blind by lifting the slats up.

[0002] The Polish application No. P-386158 includes an external roller blind equipped with a blocking mechanism. The roller consists of a cuboid box, the bases of which are constituted by the sides of the box with a turning reel shaft coupled with a drive mechanism. The reel shaft is connected with the slats unit by at least two tape springs. The roller's box is equipped with at least two bearing elements located at the upper part of the box. Each of the bearing elements is of a shape near to an angle bracket part, the arm adjacent to the upper box wall of which, has an edge directed inwards the box, or the bearing element is of an angle bracket part shape with curvilinear guides.

[0003] The external roller blind, equipped with a set of perpendicularly jointed profile slats sliding in the grooves of two vertical guides, according to the invention, is characterized by a turning semi-circular hanger for the profile slat placed in the socket of the lower profile slat, equipped with opposite rectangular intrusions in the sliding guides area for the rotary and adjustable mounted pawls, while the profile slat has a lower and upper chamber divided by a reinforcement inside of which there is a round passage for the pin of the pawl and the spring, while the lower chamber includes a trapezoid end of the lower slat reinforced by a flat. The guides include rectangular sockets opened on one side for the pawl. The heigth measured from the base of the profile slat to the axis center of the round passage shall be more than 25% and - at the same time - less than 40% of the total heigth of the profile slat. The width of the profile slat is more than 20% and - at the same time - less than 30% of the total heigth of the profile slat.

[0004] According to the invention, the external roller blind allows for a simple method of protection against opening which does not require strength and for the fast unlocking of the roller blind.

[0005] The example subject of the invention has been presented as an illustration, where the fig. 1 shows the side axonometric view of the external roller in the locked position, that is, the position in which the vertical sliding along the external guides is impossible, the fig. 2 shows the side axonometric view of the external roller in the unlocked position, that is, the position allowing for the vertical sliding along the external guides, the fig. 3 shows a side sectioonal view of the external roller in the locked position in which the vertical sliding along the external guides is impossible, the fig. 4 shows the side sectional view of the roller in the unlocked position, that is, the position allowing for the vertical sliding along the external guides, fig. 5 shows a side axonometric view of the roller ellements, fig. 6 shows a front view of the lower profile slat, fig. 7 shows a side axonometric view of the ratchet, pawl and the spring.

[0006] The illustration shows the external roller blind, equipped with a set of perpendicularly jointed profile slats **1**, the edges of which **1** slide in the grooves **2** of two vertical guides **3** and **3'.** A turning semi-circular hanger **6** of the lower profile slat **7** is placed in the socket **4** of the profile slat **5,** equipped with opposite rectangular intrusions **8** and **8'** in the sliding guides **3** and **3'** area for the rotary and adjustable mounted ratchets **9** and **9'.** The heigth **b** measured from the base of the profile slat **7** to the axis center of the round passage **13** shall be more than 25% and - at the same time - less than 40% of the total heigth **a** of the profile slat **7** while the width **c** of the profile slat **7** is more than 20% and - at the same time - less than 30% of the total heigth **a** of the profile slat **7.** The lower profile slat **7** has a lower **10** and upper **11** chamber divided by a crosswise reinforcement **12** inside of which there is a round passage **13** for the pin **14** of the pawl **9** and **9'** and the spring **15.** The lower chamber **11** includes a trapezoid end **16** of the lower slat **17** reinforced by a flat **18** while the guides **3** and **3'** include rectangular sockets **8, 8'** for the ratchets **9** and **9'** opened on one side. The profile stalts **1** are covered on the side by a cap **23** mounted with scews **24,** while the lower profile slat **7** is covered on the side by a cap **25.**

[0007] The external roller in the position preventing the opening is equipped with a swept angularly pawls **9** and **9',** the upper surface of which **20** contacts the upper surface **21** of the rectangular socket **19, 19',** while the angular movement of the pawl **9** and **9'** is supported by the spring **15,** equipped with two arms **22** and **22'.** To lift the external roller, the resistance of the spring **15** has to be overcome, which allows for the angular sweep movement of the pawls **9** and **9'** to the intrusions **8** and **8'** of the profile slat **7,** enabling the roller movement along the guides **3** and **3'.**

Claims

1. The external roller blind, equipped with a set of perpendicularly jointed profile slats sliding in the grooves of two vertical guides, according to the invention, **is characterized by** a turning semi-circular hanger (**6**) of the lower profile slat (**7**) placed in the socket (**4**) of the profile slat (**5**), equipped with opposite rectangular intrusions (**8**), (**8**') in the sliding guides (**3**), (**3**') area for the rotary and adjustable mounted pawls (**9**) and (**9**'), while the profile slat (**7**) has a lower (**11**) and upper (**10**) chamber divided by a crosswise reinforcement (**12**) inside of which there is a round passage (**13**) for the pin (**14**) of the pawl (**9**) and (**9**') and the spring (**15**), while the lower chamber includes a trapezoid ending (**16**) of the lower slat (**17**) reinforced by a flat (**18**).

2. The roller blind based on claim 1, **characterised by** guides (**3**), (**3**') including rectangular sockets (**19**), (**19**') opened on one side for the pawl (**9**), (**9**')

3. The roller blind based on the claim 1, **characterised by** the heigth (**b**) measured from the base of the profile slat (**7**) to the axis center of the round passage (**13**) higher than 25% and - at the same time - lower than 40% of the total heigth (**a**) of the profile slat (**7**).

4. The roller blind based on the claim 1, **characterised by** the width (**c**) of the profile slat (**7**) higher than 20% and - at the same time - lower than 30% of the total heigth (**a**) of the profile slat (**7**).

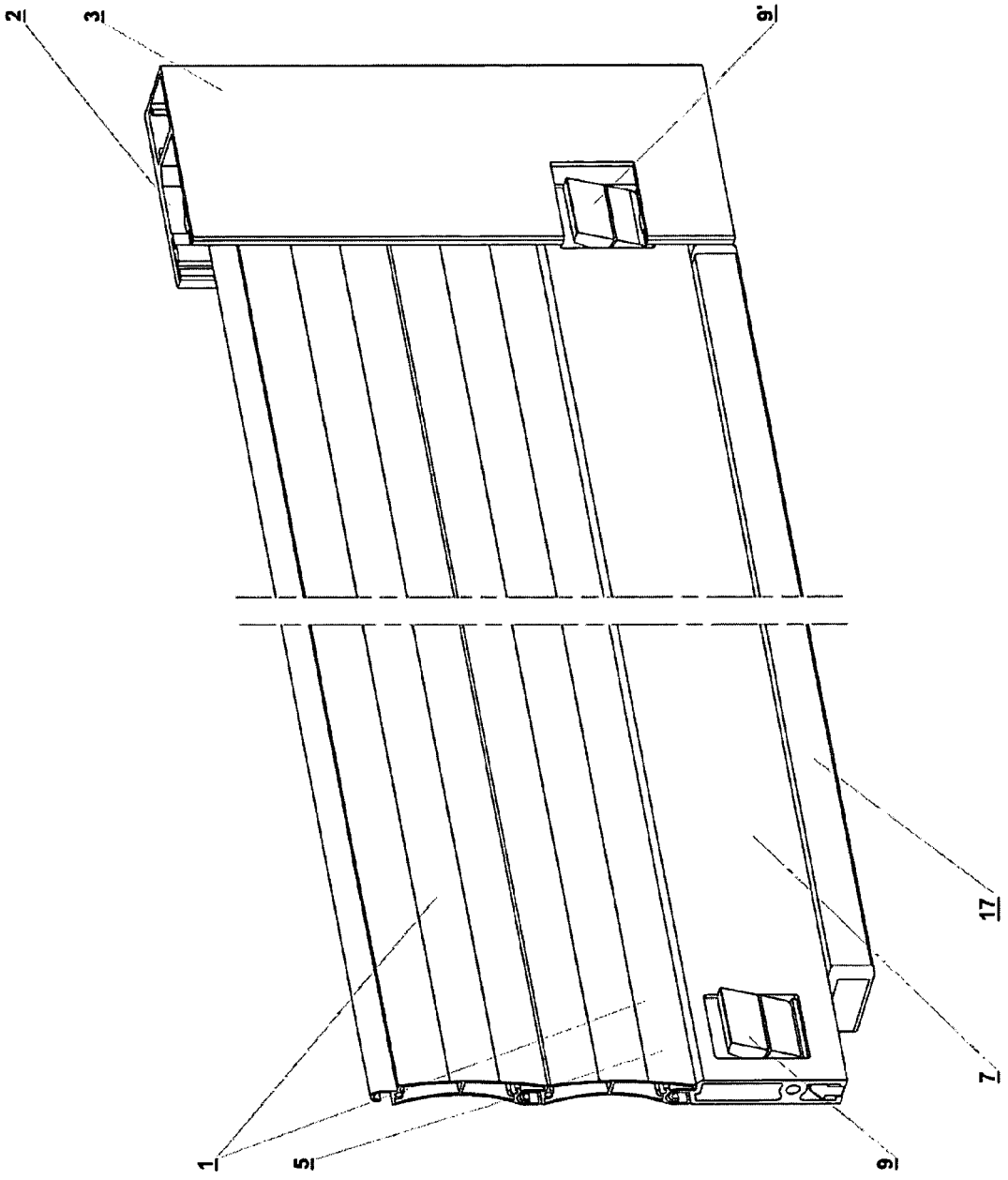

Fig. 1

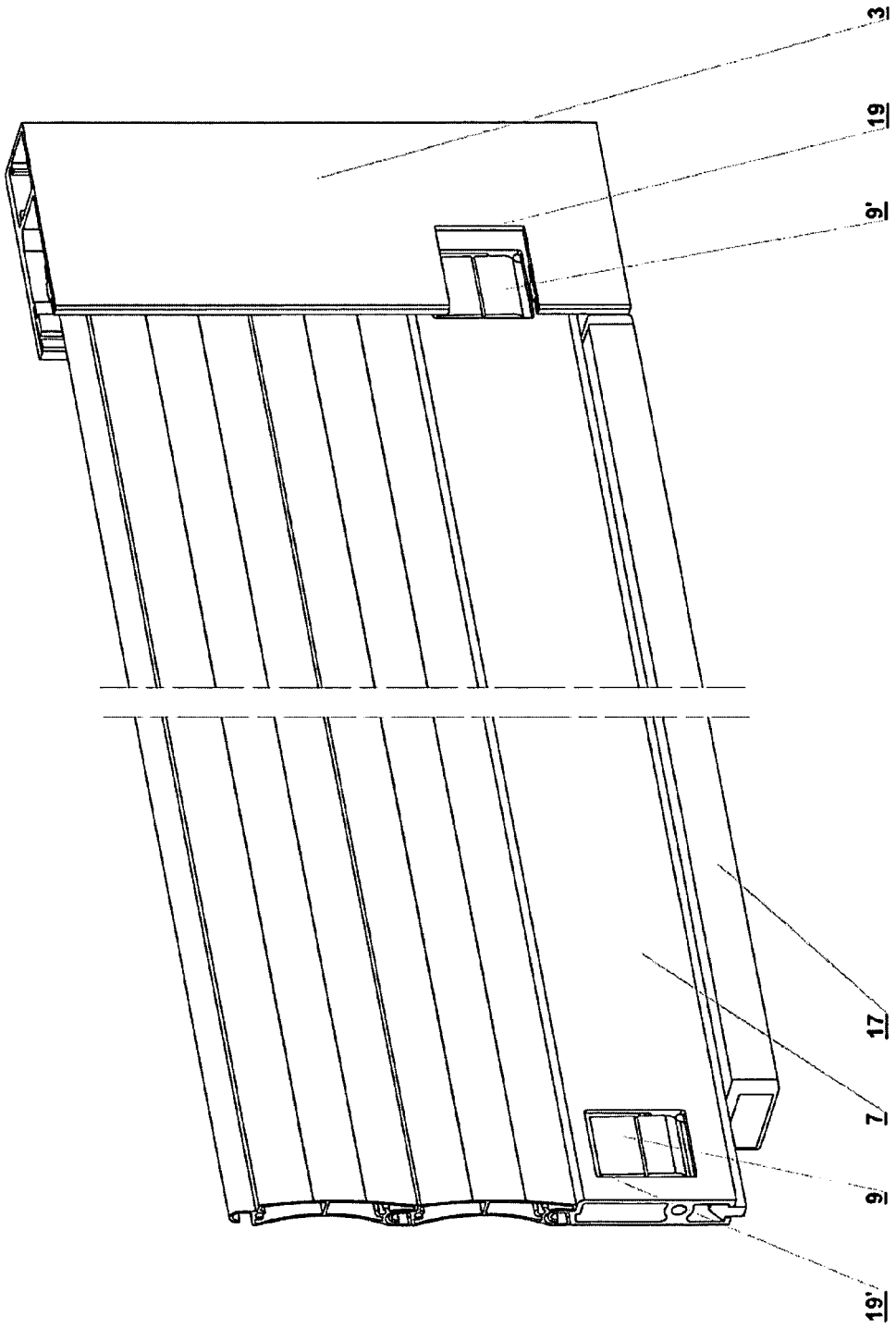

Fig. 2

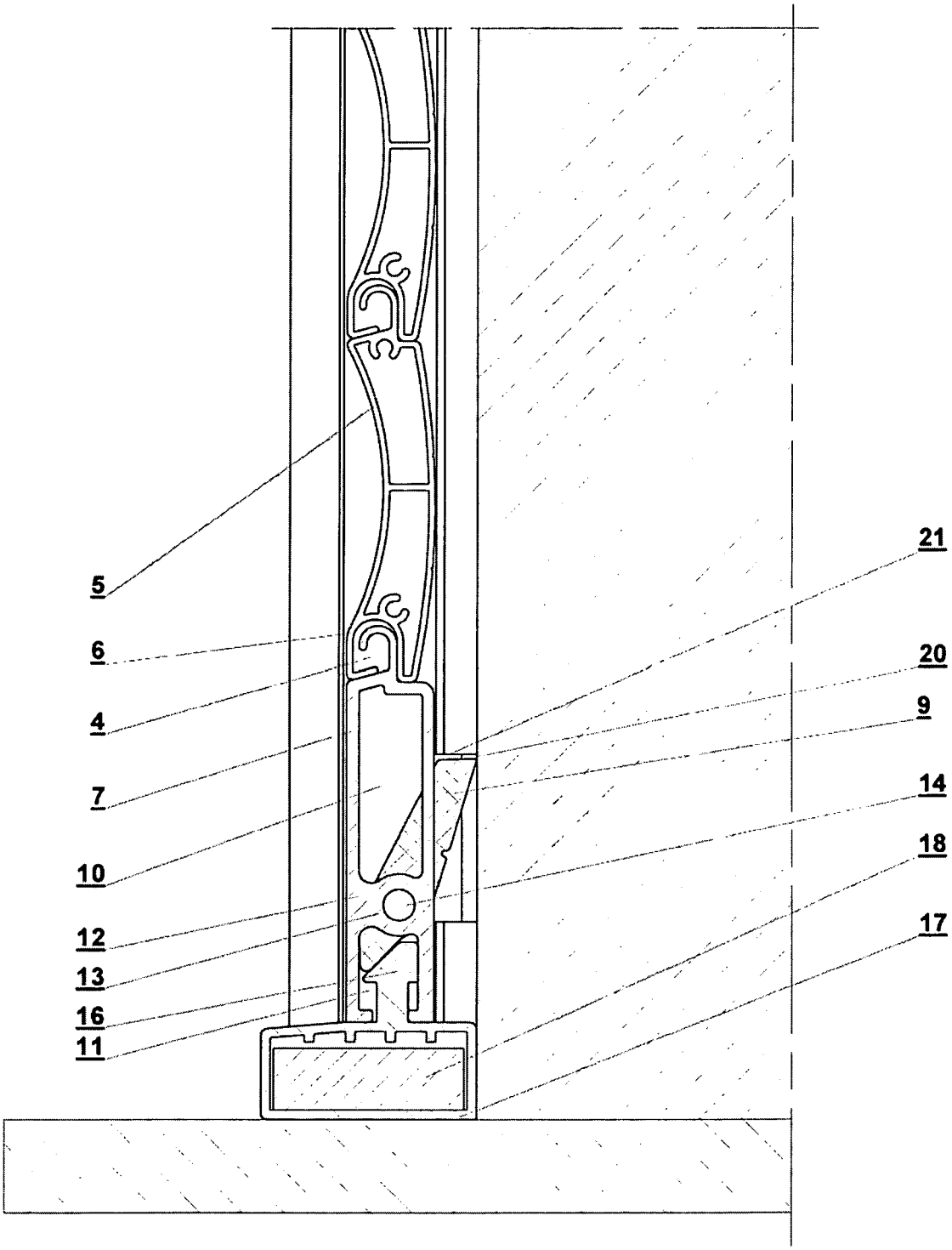

Fig. 3

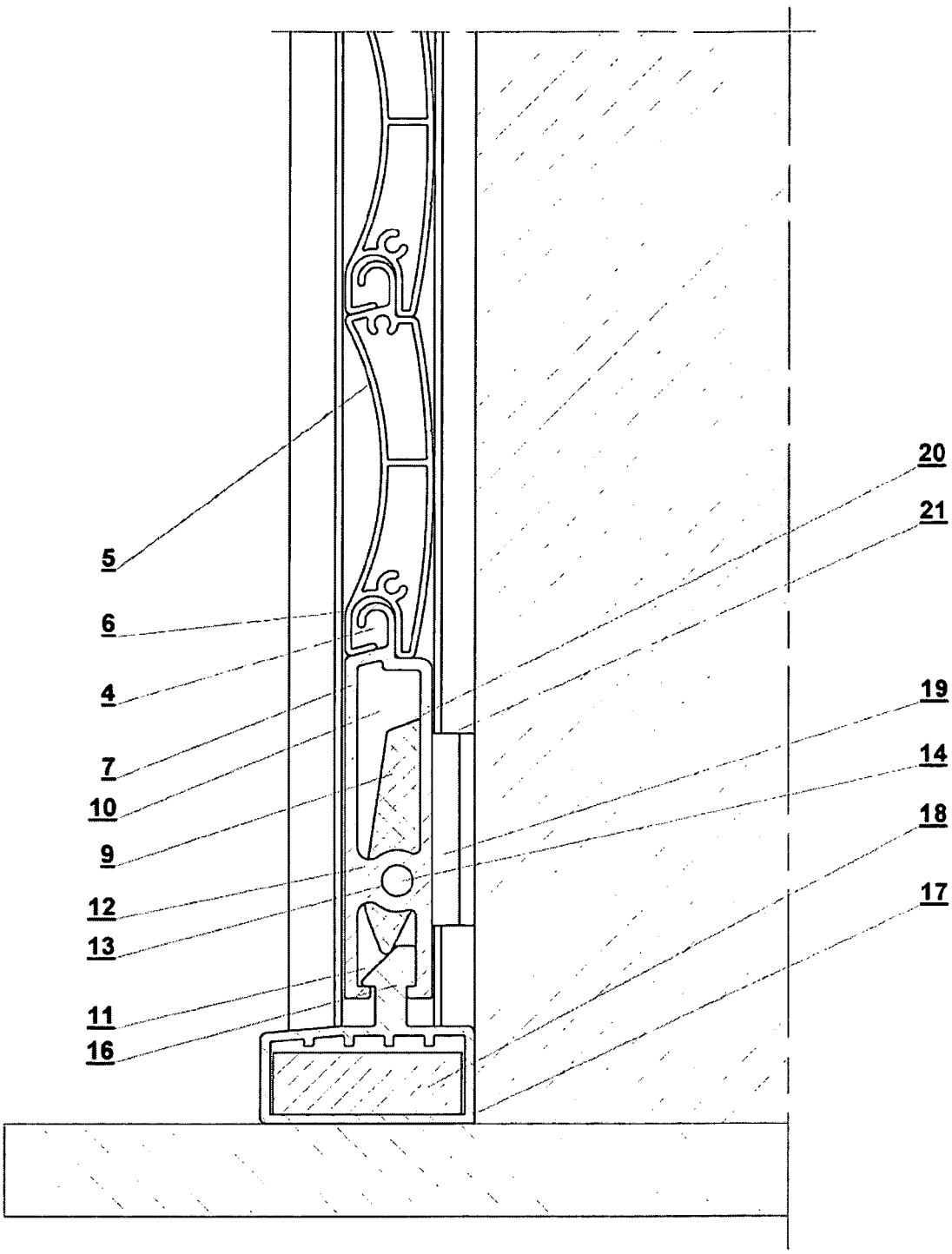

Fig. 4

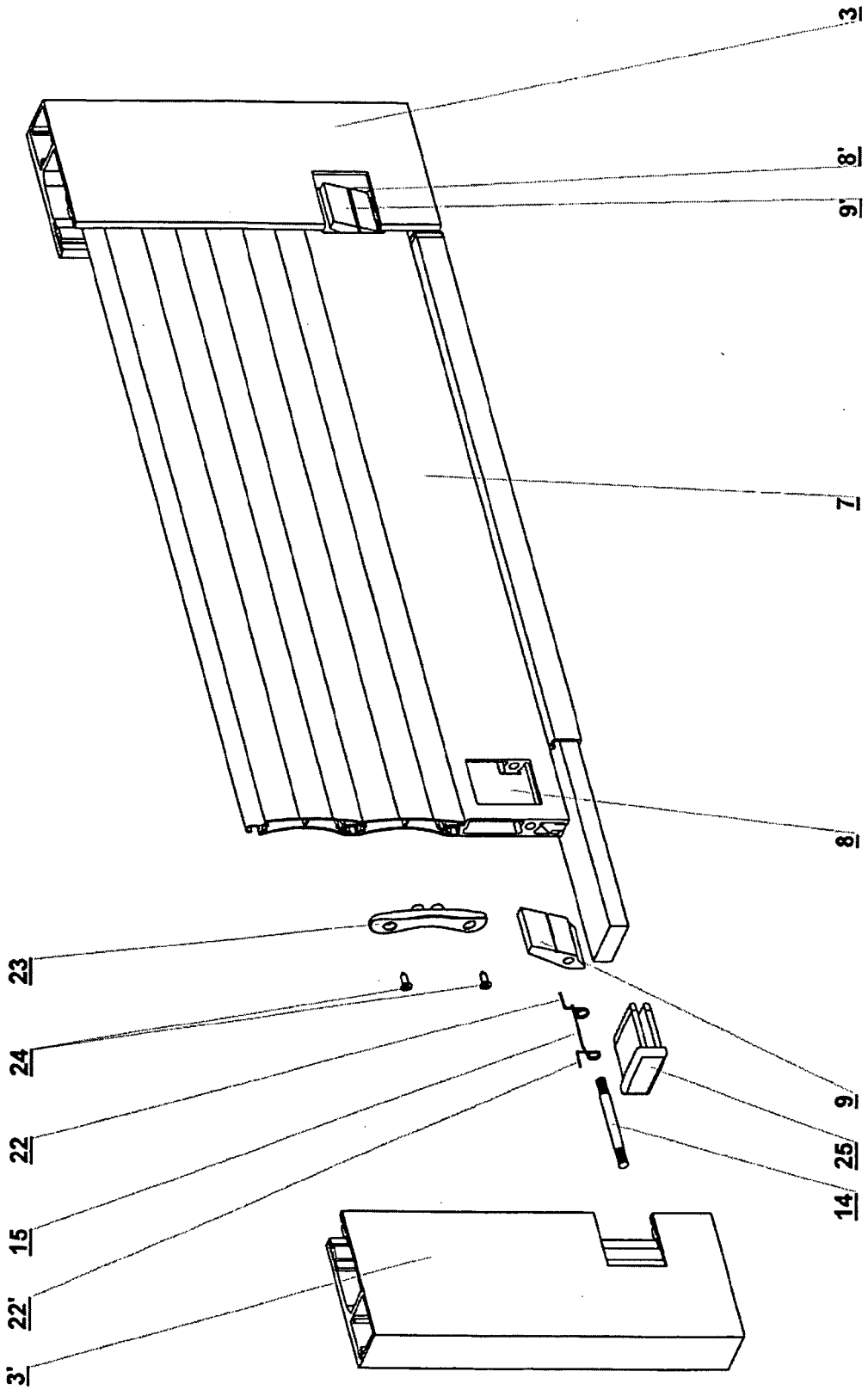

Fig. 5

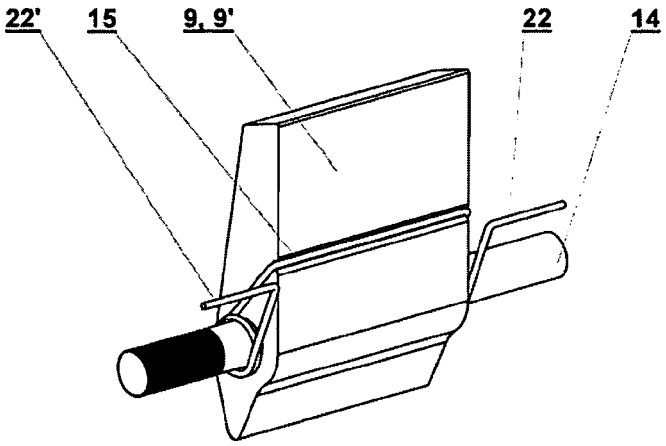

Fig. 7

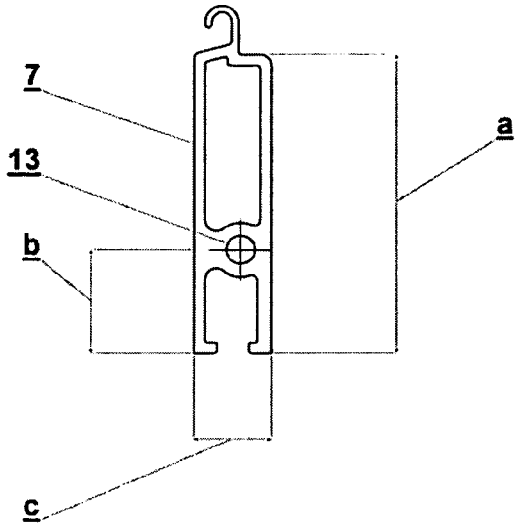

Fig. 6

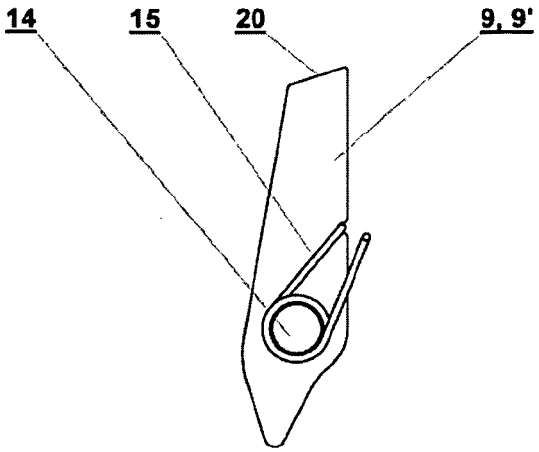

Fig. 8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- PL P386158 **[0002]**