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(54) **Device for hanging laundry provided with a vertical sliding system**

(57) Device for hanging laundry provided with a vertical sliding system actuated by an electric motor reducer (10) able to perform with ease, even for persons of reduced strength, translation in a vertical direction of an assembly (1) of members comprising rods (5) for hanging laundry.

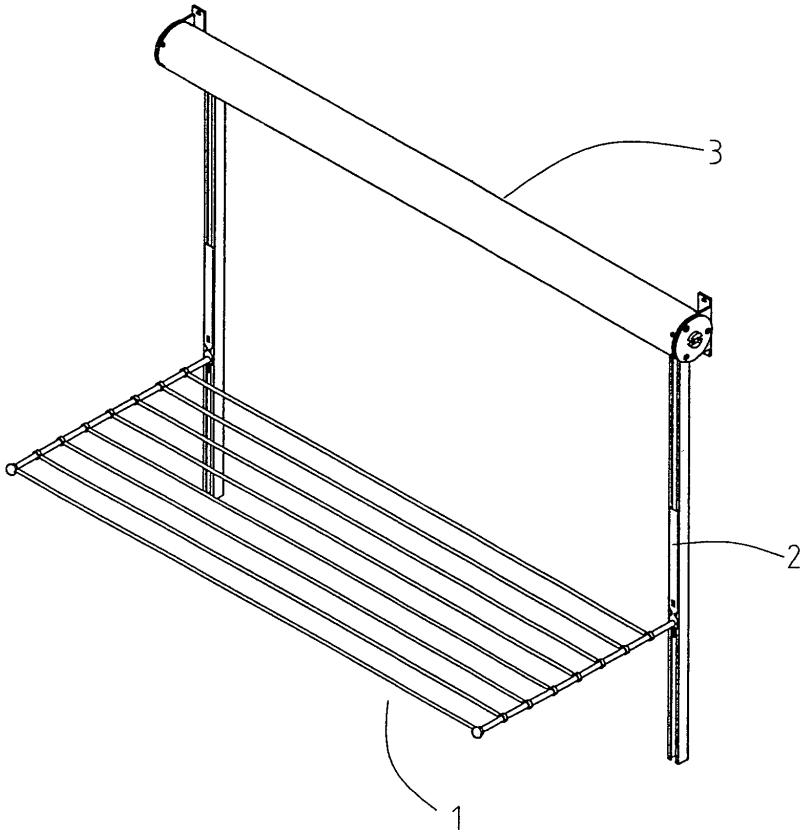

Fig. 1

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Description

[0001] There are currently various structural solutions for laundry racks available on the market. The most common example is represented by folding laundry racks to be placed directly on the floor and consisting of a first frame which extends in a vertical direction and which constitutes the support structure for a second horizontal frame with quadrangular shape hinged to the first frame. In the second frame a series of rods are mounted which can be used as means whereon the laundry can be placed. These rods are mounted in a parallel direction to the longitudinal side of the quadrilateral and the end portions of each of them are anchored to the transverse side of the second frame or horizontal frame. In order to increase the surface which can be used for hanging the laundry, two lateral folding members are normally also mounted on the second frame or horizontal frame.

[0002] Such a solution is characterised by a high longitudinal dimension and is not therefore suitable for hanging laundry in closed areas, necessary when unfavourable weather conditions occur. In order to avoid this disadvantage various alternative solutions have been proposed, able to limit spaces. They include proposed laundry racks with a vertical configuration composed of several quadrangular horizontal frames of reduced dimensions in relation to the horizontal frame of the structure described above. These frames are positioned at various levels on a base structure which extends in a vertical direction. The single horizontal frames are mobile and, thanks to the action of appropriate rotation means, can change from a closed configuration wherein they substantially extend one on the other to an open configuration wherein they form an angle of approximately 90 degrees in relation to the vertical base structure whereto they are constrained. Such a solution allows a reduction in the overall dimensions of the laundry rack only in a longitudinal direction and is not suitable for hanging laundry featuring a high length extension.

[0003] Alternative solutions to the two presented hitherto are currently available on the market and which consist of laundry racks mounted on the ceiling or wall, usually placed in the bathroom above the bath tub and provided with vertical sliding systems consisting of a bar which, hinged at one end and translating in a vertical direction, is inserted in a hook catch and lowers to human level the rods for hanging the laundry.

[0004] This solution, thanks to the wall or ceiling mount, partly solves the problem of the bulk of the laundry rack and of hanging of the laundry, in particular that with a considerable length extension, although the use of the vertical sliding system for the operations of lowering and raising of the rods for hanging the laundry may not always be easy, above all due to the load to be raised and more particularly by elderly people or those with motor difficulties.

[0005] The object of the present invention is therefore that of providing a device for hanging laundry in closed areas, mounted on the wall or independent, which maintains unchanged all the features of low cost, practicality and function of the known laundry racks with manual vertical sliding system, but which is provided with an automatic vertical sliding system and which is also able to simplify, without effort and in any case with greater comfort also for elderly people or those affected by particular motor disabilities, the operations of movement in a vertical direction of the rods for hanging laundry.

[0006] This object is achieved by the insertion of a vertical sliding system made up of a hoisting assembly whereto, via two pulleys, two hoisting bands are connected, attached in turn to two tubular structures whereon the rods are mounted for hanging the laundry. This hoisting assembly is actuated by an already known electric motor reducer with single-phase or direct current power supply, controlled via a battery remote control or via a pushbutton panel.

[0007] This and further features of the present invention will be made clearer by the reading of the following detailed description, relating to a preferred embodiment of the present invention to be seen as a non-limiting example of the more general concepts claimed.

[0008] The following description refers to the accompanying drawings, in which:

- Figure 1 is a perspective view of the device with motor reducer controlled via a battery remote control.
- Figure 2a is a perspective view of the detail of the assembly for hanging laundry of the device with motor reducer controlled via battery remote control.
- Figure 2b is an exploded diagram of the detail of a sliding rail and of a locking member whereby translation in a vertical direction of the assembly for hanging laundry takes place.
- Figure 2c is an exploded diagram of the detail of the hoisting assembly of the device with motor reducer controlled via a single-phase or battery remote control.

[0009] Referring to Figure 1 the device is made up of an assembly for hanging laundry (1) attached to two hoisting bands (2) in turn connected to a hoisting assembly (3), by means whereof said system for hanging laundry (1) is able to move in a vertical direction.

[0010] Referring to Figure 2a said assembly for hanging laundry is made up of two tubular structures (4), preferably but not exclusively in aluminium, whereon the rods (5) for hanging laundry are mounted. Said tubular structures (4) are attached to two carriages (6), preferably in plastic, connected in turn to two hoisting bands (2).

[0011] Referring to Figure 2b said hoisting bands (2) translate in a vertical direction on two sliding rails (7) provided with two locking members (8). The rails may if necessary be attached also in other points by means of bi-

adhesive tape, structural adhesives or rawl plugs.

[0012] Referring to Figure 2c said hoisting bands are connected via two pulleys (9) to a tubular motor reducer (10) which can be powered both with direct current (for example via a battery) and with single-phase current.

[0013] Said tubular motor reducer (10) and said pulleys (9) are contained inside a tubular structure (11), preferably but not exclusively in aluminium, at whose ends two closure members (12) are mounted which, each provided with a tongue (13), can act as a support for possible wall attachment.

[0014] Said device for hanging laundry comprises, moreover, a receiver (14) for remote control or a pushbutton panel not shown in the drawings.

[0015] Said device for hanging laundry may also comprise a system for the collapsing, in a direction parallel to said sliding rails, of the assembly for hanging laundry in conditions of non-use.

[0016] Thus a device is provided for hanging laundry in closed areas, more particularly in the bathroom over the bath tub, mounted on the wall and provided with an automatic vertical sliding system based on the actuation of an electric motor reducer, able to meet the needs for space of many apartments and to be used without effort by elderly people or those affected by particular motor disabilities.

Claims

1. Device for hanging laundry provided with a vertical sliding system, **characterised in that** it is made up of an assembly for hanging laundry (1) comprising two horizontal tubular structures (4) whereon horizontal rods (5) are mounted whereon the laundry is placed, said assembly (1) being attached to at least two hoisting bands (2) connected via at least two pulleys (9) to a hoisting assembly (3).

2. Device for hanging laundry provided with a vertical sliding system according to claim 1, **characterised in that** said hoisting assembly (3) is actuated by a tubular electric motor reducer (10).

3. Device for hanging laundry provided with a vertical sliding system according to claims 1 and 2, **characterised in that** on said hoisting assembly (3) two closure members (12) can be mounted which, each provided with a tongue (13), can act as a support for possible attachment on a wall.

4. Device for hanging laundry provided with a vertical sliding system according to claims 1, 2 and 3, **characterised in that** said electric motor reducer (10) can be controlled via a battery remote control.

5. Device for hanging laundry provided with a vertical sliding system according to claims 1, 2, and 3, **characterised in that** said electric motor reducer (10) can be controlled via a pushbutton panel.

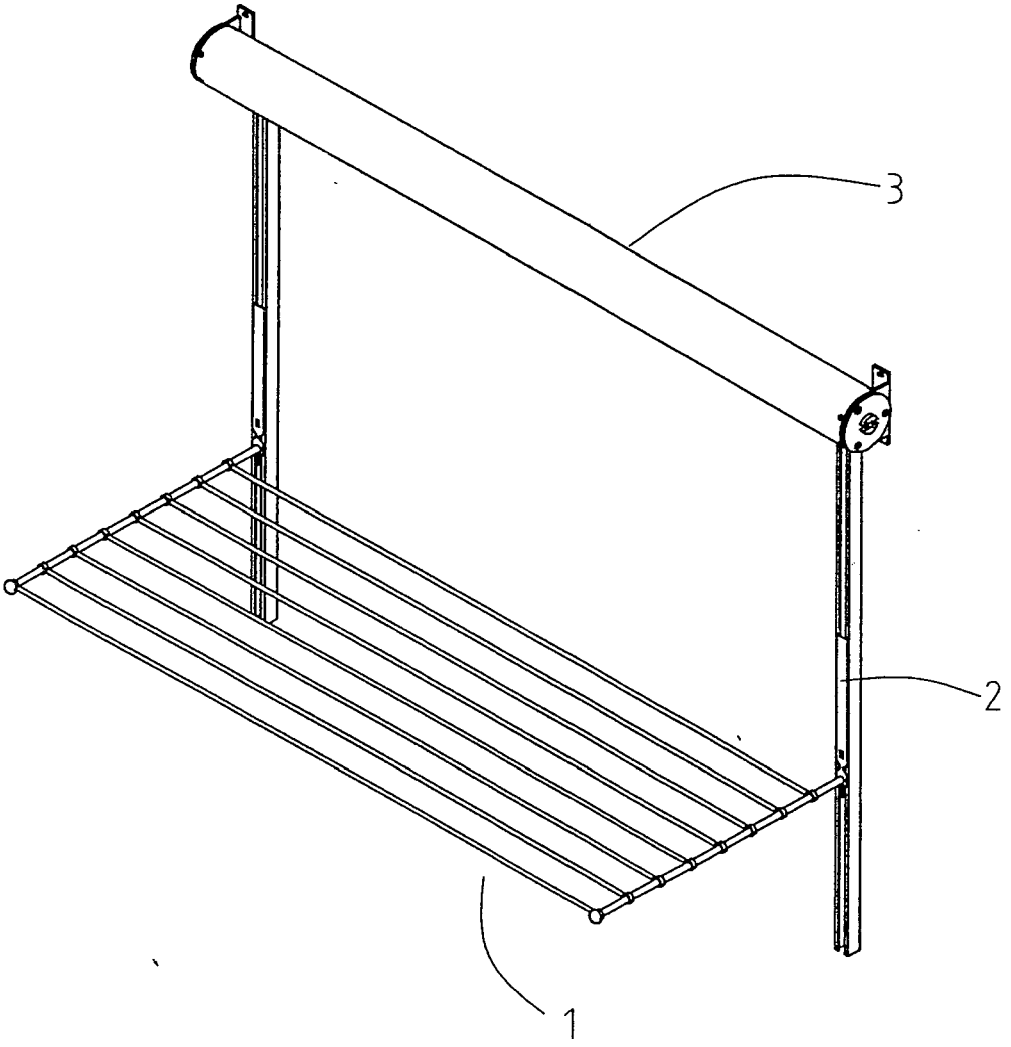

Fig. 1

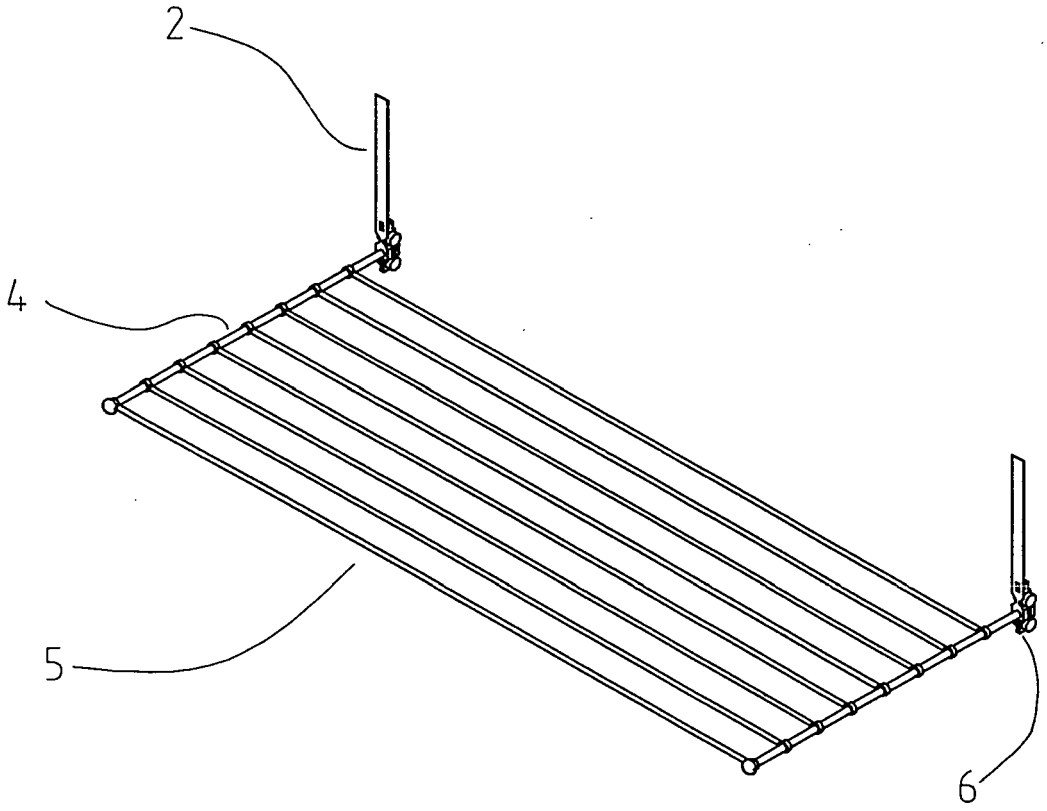

Fig. 2a

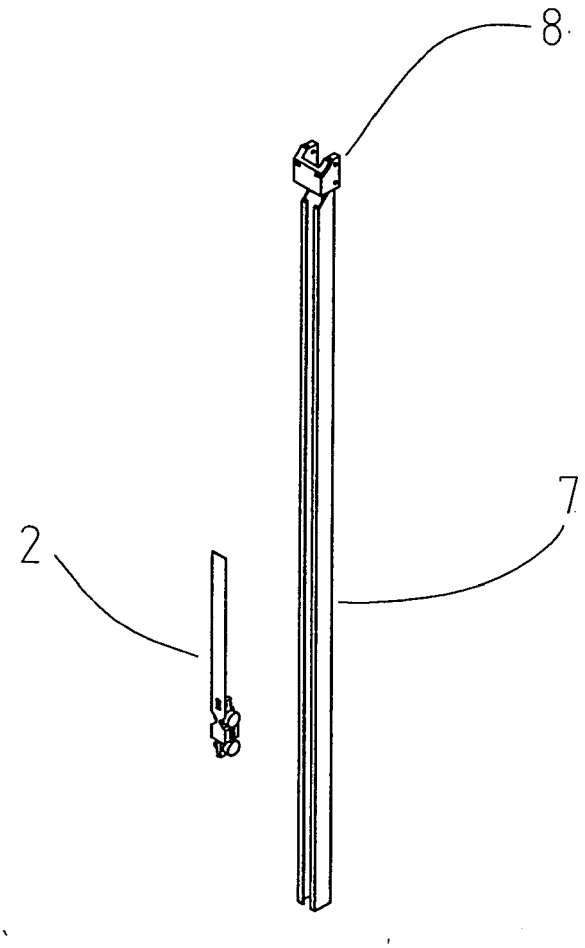

Fig. 2b

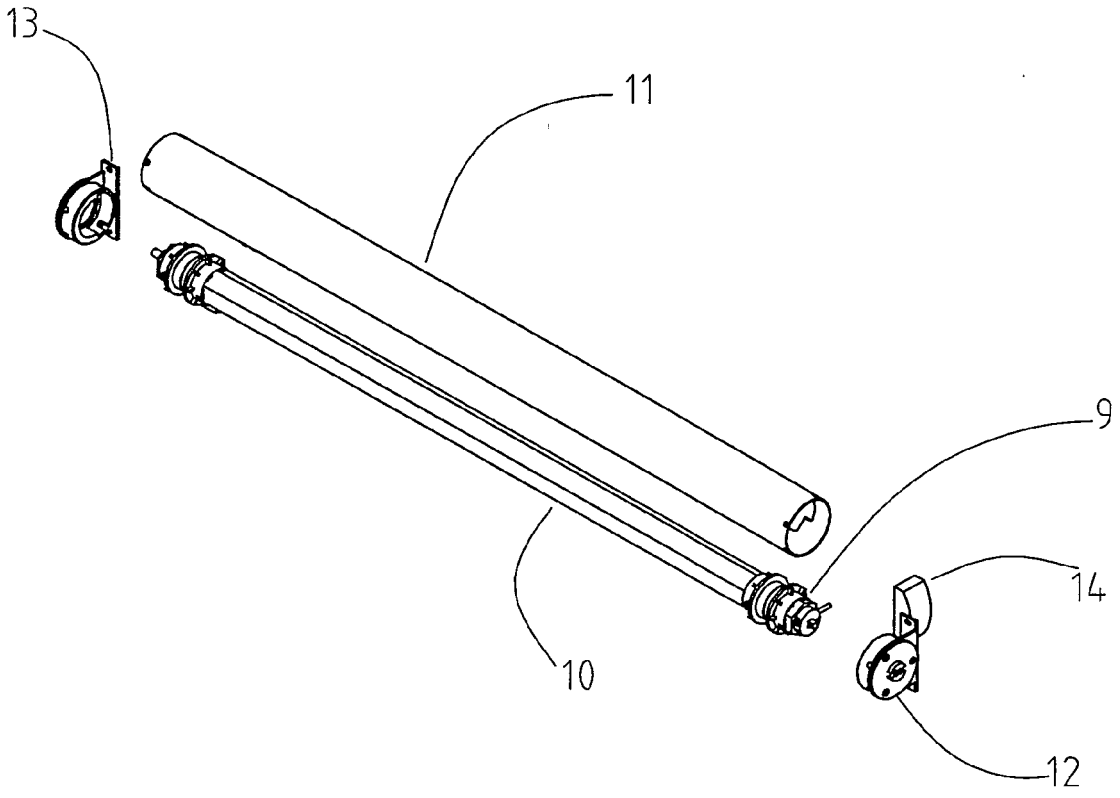

Fig. 2c