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(54) **Clothes horse**

(57) The invention describes a clothes horse consisting of a foldable structure that comprises at least one support foot, configured to keep said structure firm and stable on the floor in an open or operative configuration of the clothes horse, and at least one shelf in rack form that, in the open configuration of such a clothes horse, is arranged in substantially horizontal position, at a pre-determined height with respect to the floor, and in turn comprises a plurality of bars on which the clothes to be dried are arranged. Each shelf is operatively connected to a corresponding support foot through one or more pins that allow the mutual rotation of such a shelf with respect to the corresponding support foot, so that the clothes horse can pass from the open configuration to a folded configuration and vice-versa. The clothes horse comprises, for each side of the relative foldable structure, an articulated opening and closing mechanism, operatively connected to each shelf and to each support foot. The articulated opening and closing mechanism comprises mutual engagement means between each shelf and the corresponding support foot. The mutual engagement means can be actuated manually to take the clothes horse from its open configuration to its folded configuration and vice-versa, as well as to keep such a clothes horse locked in its open configuration.

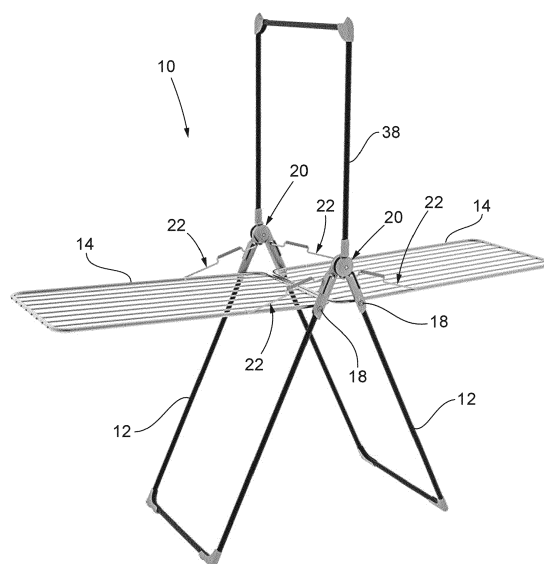


Fig. 1

Description

[0001] The present invention refers in general to a clothes horse and, more specifically, to a foldable clothes horse of the trestle-type.

[0002] Currently numerous types of fixed or folding clothes horses are known that are configured to be fixed to a wall or to be rested on a floor. In particular, clothes horses of the trestle-type are provided with a foldable structure that comprises at least one support foot, configured to keep the structure firm and stable on the floor in the open configuration of the clothes horse, and at least one shelf in the form of a rack that, in the open configuration of the clothes horse, is arranged in substantially horizontal position, at a predetermined height with respect to the floor, and in turn comprises a plurality of bars on which the clothes to be dried are arranged.

[0003] In the folded configuration, such a clothes horse is designed to have the smallest possible bulk and it is therefore possible to stow it even in narrow spaces such as closets, cupboards, etc. The passage from the folded configuration to the open configuration and vice-versa takes place through hinge devices and/or articulated arms with which the clothes horse is normally provided.

[0004] In most known clothes horses the devices that allow the passage from the folded configuration to the open configuration and vice-versa can sometimes be complicated to actuate, as well as potentially dangerous for the user's hands, since such devices can "catch" the fingers of a hand during their actuation. Additionally, many known clothes horses do not have any safety system that prevents the clothes horse itself from accidentally closing when it is in use and loaded with clothes to be dried.

[0005] The general purpose of the present invention is therefore to make a clothes horse, in particular a folding clothes horse of the trestle-type, which is able to solve the aforementioned drawbacks of the prior art in an extremely simple, cost-effective and particularly functional manner.

[0006] In detail, a purpose of the present invention is to make a clothes horse that is simple and stable in daily use, avoiding the accidental closing of the relative hanging racks.

[0007] Another purpose of the invention is to make a clothes horse that is able to offer a high degree of safety during the opening and closing steps, preventing the user's fingers from being crushed.

[0008] A further purpose of the invention is to make a clothes horse that is able to ensure better exploitation of the hanging racks with respect to similar products already on the market.

[0009] These purposes according to the present invention are accomplished by making a clothes horse, in particular a folding clothes horse of the trestle-type, as outlined in claim 1.

[0010] Further characteristics of the invention are highlighted by the dependent claims, which are an integral

part of the present description.

[0011] The characteristics and advantages of a clothes horse according to the present invention will become clearer from the following description, given as an example and not for limiting purposes, referring to the attached schematic drawings, in which:

figure 1 is a perspective view of a preferred embodiment of the clothes horse according to the present invention, shown in an open or operative configuration;

figure 2 is an enlarged view of the clothes horse of figure 1, in which the articulated opening and closing mechanism is highlighted;

figure 3 is a perspective view of the clothes horse of figure 1, shown in partially closed configuration;

figure 4 is a detailed view of the opening and articulated closing mechanism of the clothes horse of figure 1; and

figure 5 is a view from the inside of the opening and articulated closing mechanism of the clothes horse of figure 1.

[0012] With reference to the figures, a preferred embodiment of the clothes horse according to the present invention is shown, wholly indicated with reference numeral 10. The clothes horse 10 consists, in a *per se* known way, of a foldable structure that comprises at least one support foot 12, configured to keep such a structure firm and stable on the floor in an open or operative configuration of the clothes horse 10, and at least one shelf 14 in the form of a rack that, in the open configuration of such a clothes horse 10, is arranged in substantially horizontal position, at a predetermined height with respect to the floor, and in turn comprises a plurality of bars 16 on which the clothes to be dried are arranged.

[0013] In particular, in the preferred embodiment shown in the figures, the clothes horse 10 comprises two distinct support feet 12 and two distinct shelves 14 that, in the open configuration of the clothes horse 10, are arranged at the same predetermined height with respect to the floor and in a mirroring fashion with respect to a vertical mid-plane of such a clothes horse 10. Each shelf 14 is operatively connected to a corresponding support foot 12 through one or more pins 18 that allow the mutual rotation of such a shelf 14 with respect to the corresponding support foot 12, so that the clothes horse 10 can pass from the open configuration to a folded configuration and vice-versa.

[0014] The clothes horse 10 is provided, for each side of the relative foldable structure, with an articulated opening and closing mechanism 20, operatively connected to each shelf 14 and to each support foot 12. The articulated opening and closing mechanism 20 comprises mutual engagement means 22 between each shelf 14 and the corresponding support foot 12. Such mutual engagement means 22 can be actuated manually to take the clothes horse 10 from its open configuration to its folded config-

uration and vice-versa, as well as to keep such a clothes horse locked in its open configuration, as will be specified more clearly hereafter.

[0015] In the embodiment of the clothes horse 10 in which two distinct support feet 12 and two distinct shelves 14 are provided, the opening and closing mechanism 20 comprises a hinge 30 that connects such two distinct support feet 12 at the top and allows the mutual rotation thereof to pass from the open configuration to the folded configuration, and vice-versa, of the clothes horse 10. In this embodiment, inside the opening and closing mechanism 20 there is a locking mechanism 46 (figure 5) of the hinge 30 that allows the two support feet 12 to be locked in open position without needing to use other external locking systems, like for example the lower racks present on some known models of clothes horse that allow the respective support feet to stay in open position.

[0016] Preferably, each mutual engagement means 22 consists of a rigid support rod provided at each lateral edge of a single shelf 14. The support rod 22 is hinged to the respective shelf 14 at a first end thereof 24. The support rod 22 is also provided with a second end 26 that is mobile inside a grooved guide 28 formed in the upper portion of each support foot 12.

[0017] In detail, each grooved guide 28 is equipped with a first hook-shaped portion 32, in which the second end 26 of the support rod 22 fastens to keep each shelf 14 locked in open position, and with a second substantially rectilinear portion 34, which allows the second end 26 of the support rod 22 to slide inside it to pass from the locked position, in open position, of the respective shelf 14 to the closed position and vice-versa. In the embodiment of the clothes horse 10 in which two distinct support feet 12 and two distinct shelves 14 are provided, the automatic opening and locking system consisting of the grooved guide 28 and of the respective support rod 22 allows even just one of the two distinct shelves 14 to be moved open/closed independently from one another.

[0018] A bayonet coupling 36 can be provided at the upper end of each articulated opening and closing mechanism 20, said bayonet coupling 36 being adapted for supporting a folding arm 38 applicable above the clothes horse 10. In the open configuration of the clothes horse 10 the folding arm 38 is arranged substantially along the vertical mid-plane of such a clothes horse 10. Each bayonet coupling 36 is configured to rotate along a respective groove 40 to take the folding arm 38 from a substantially vertical operative position to a rest position, folded onto the shelves 14 and/or onto the support feet 12 of the clothes horse 10 (figure 3). In the case in which the clothes horse 10 is provided with the folding arm 38, therefore, the automatic opening and locking system not only allows one of the two distinct shelves 14 to be moved open/closed independently from one another, but also allows such a folding arm 38 to be raised/lowered into the configuration in which just one shelf 14 is open, and into the configuration in which both shelves 14 are open.

[0019] From an operative point of view, the automatic

opening and locking system of the shelves 14 allows such opening and locking operations to be carried out with a single hand. In the closing step of the shelves 14, on the other hand, both hands are used, actuating respective handles 42 integrated in each support rod 22. Consequently, proceeding with this operation, the user avoids crushing his fingers operating directly on the hinges of the clothes horse 10. In the case in which just one of the support rods 22 is accidentally actuated, the respective shelf will not close, thus making the clothes horse 10 safe.

[0020] It has thus been seen that the clothes horse according to the present invention achieves the purposes outlined earlier, in particular obtaining the following advantages:

- Simplicity and safety in daily use;
- Greater exploitation of the hanging racks, since the most voluminous clothes do not rest on the lower racks provided and present on other clothes horses already on the market;
- Greater safety during opening and closing of the clothes horse, thanks to the finger-crushing prevention systems;
- Elimination of accidental closing of the hanging racks.

[0021] The clothes horse according to the present invention also has some advantages in terms of production, which can be summarised as follows:

- single locking mechanism for opening and closing the clothes horse, and the hanging racks and the folding arm;
- single fastening and locking mechanism for the support feet and for the hanging racks;
- elimination of the lower racks with relative support bars;
- optimisation of the components to be mounted, having a small number of component.

[0022] The clothes horse thus conceived can in any case undergo numerous modifications and variants, all of which are covered in the same innovative concept; moreover, all of the details can be replaced by technically equivalent elements. In practice, the materials used, as well as the shapes and sizes, can be whatever according to the technical requirements.

[0023] The scope of protection of the invention is therefore defined by the attached claims.

Claims

1. Clothes horse (10) consisting of a foldable structure that comprises at least one support foot (12), configured to keep said structure firm and stable on the floor in an open or operative configuration of the clothes horse (10), and at least one shelf (14) in the

- form of a rack that, in the open configuration of said clothes horse (10), is arranged in substantially horizontal position, at a predetermined height with respect to the floor, and in turn comprises a plurality of bars (16) on which the clothes to be dried are arranged, each shelf (14) being operatively connected to a corresponding support foot (12) through one or more pins (18) that allow the mutual rotation of said shelf (14) with respect to the corresponding support foot (12), so that the clothes horse (10) can go from the open configuration to a folded configuration and vice-versa, the clothes horse (10) being **characterised in that** it comprises, for each side of the relative foldable structure, an opening and closing mechanism (20) of the articulated type, operatively connected to each shelf (14) and to each support foot (12), wherein said articulated opening and closing mechanism (20) comprises means (22) for the mutual engagement between each shelf (14) and the corresponding support foot (12) and wherein said mutual engagement means (22) can be actuated manually to take the clothes horse (10) from its open configuration to its folded configuration and vice-versa, as well as to keep said clothes horse (10) locked in its open configuration.
2. Clothes horse (10) according to claim 1, **characterised in that** it comprises two distinct support feet (12) and two distinct shelves (14) that, in the open configuration of the clothes horse (10), are arranged at the same predetermined height with respect to the floor and in a mirroring fashion with respect to a vertical mid-plane of said clothes horse (10).
 3. Clothes horse (10) according to claim 2, **characterised in that** the opening and closing mechanism (20) comprises a hinge (30) that connects the two support feet (12) at the top and allows the mutual rotation thereof to pass from the open configuration to the folded configuration, and vice-versa, of the clothes horse (10).
 4. Clothes horse (10) according to claim 3, **characterised in that** inside the opening and closing mechanism (20) there is a locking mechanism (46) of the hinge (30) that allows the two support feet (12) to be locked in open position without needing to use other external locking systems.
 5. Clothes horse (10) according to any one of claims 1 to 4, **characterised in that** each mutual engagement means (22) consists of a rigid support rod provided at each lateral edge of a single shelf (14), said support rod (22) being hinged to the respective shelf (14) at a first end thereof (24) and also being provided with a second end (26) mobile inside a grooved guide (28) formed in the upper portion of each support foot (12).
 6. Clothes horse (10) according to claim 5, **characterised in that** each grooved guide (28) is equipped with a first hook-shaped portion (32), in which the second end (26) of the support rod (22) fastens to keep each shelf (14) locked in open position, and with a second substantially rectilinear portion (34), which allows the second end (26) of the support rod (22) to slide inside it to pass from the locked position, in open position, of the respective shelf (14) to the closed position and vice-versa.
 7. Clothes horse (10) according to claim 6, **characterised in that** each support rod (22) is provided with a respective handle (42) able to be actuated manually to take each shelf (14) into closed position.
 8. Clothes horse (10) according to any one of claims 1 to 7, **characterised in that** a bayonet coupling (36) is provided at the upper end of each articulated opening and closing mechanism (20), said bayonet coupling (36) being adapted for supporting a folding arm (38) applicable above the clothes horse (10).
 9. Clothes horse (10) according to claim 8, **characterised in that** in the open configuration of the clothes horse (10) the folding arm (38) is arranged substantially along a vertical mid-plane of said clothes horse (10).
 10. Clothes horse (10) according to claim 8 or 9, **characterised in that** each bayonet coupling (36) is configured to rotate along a respective groove (40) to take the folding arm (38) from a substantially vertical operative position to a rest position, folded on the shelves (14) and/or on the support feet (12) of the clothes horse (10).

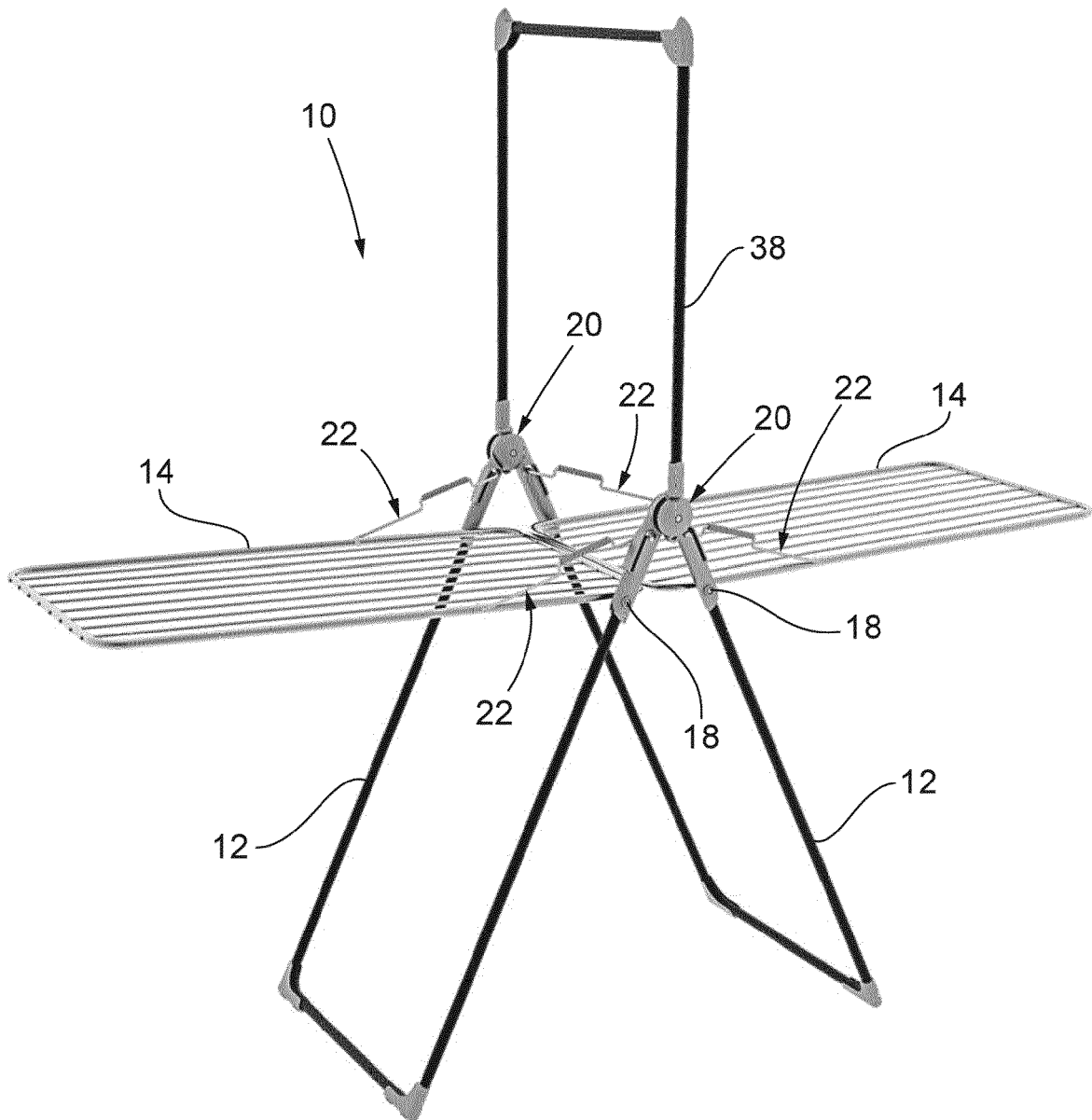
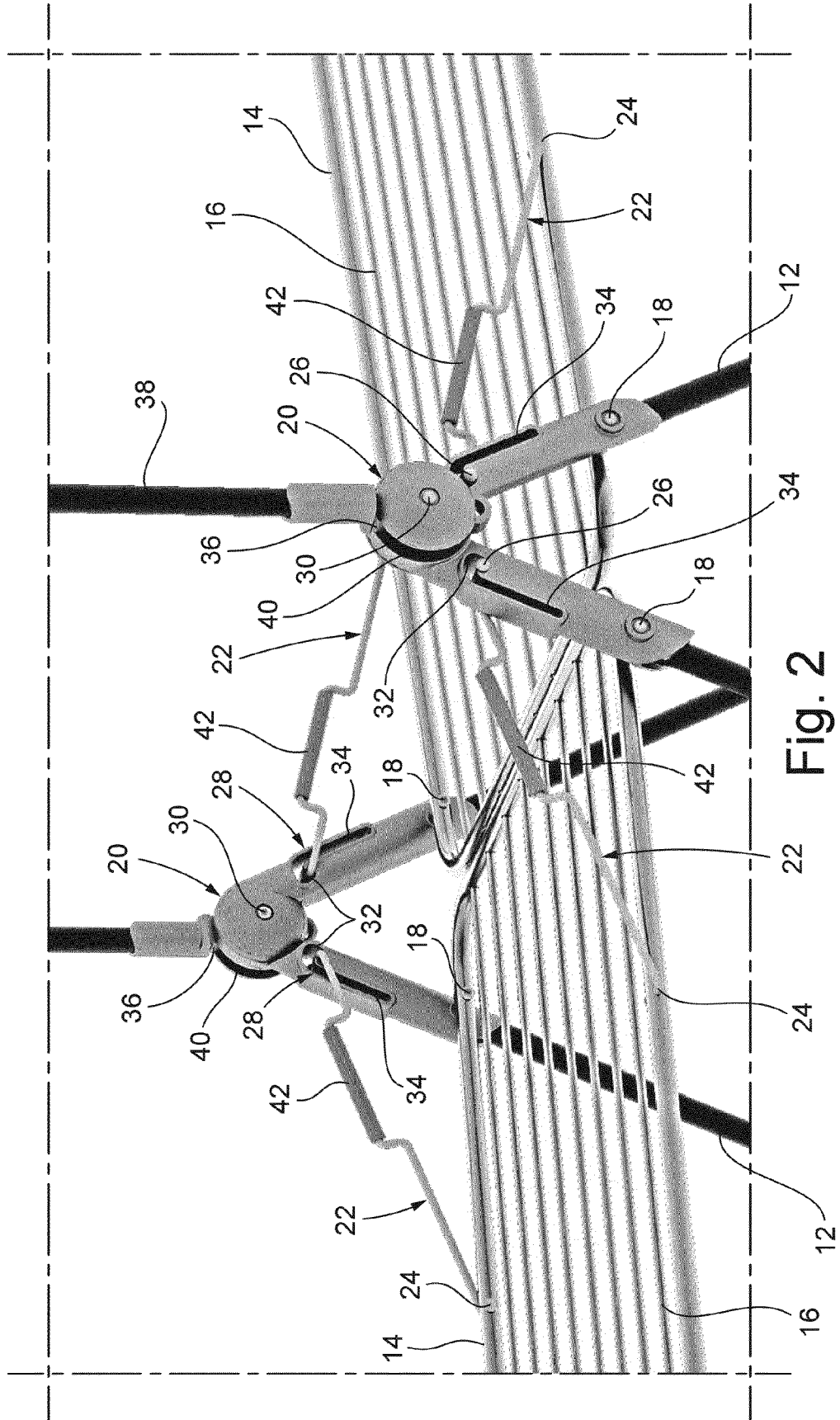


Fig. 1



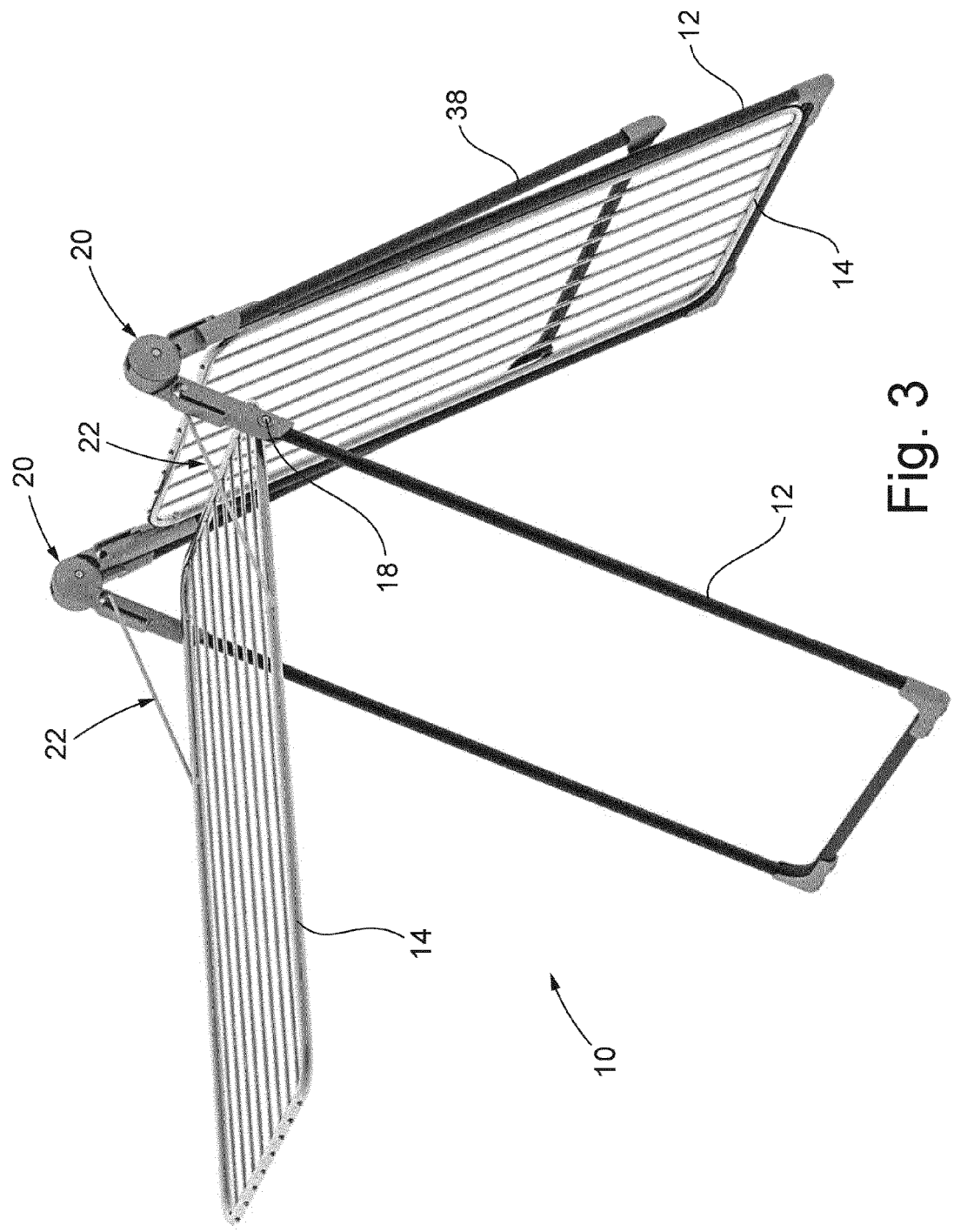


Fig. 3

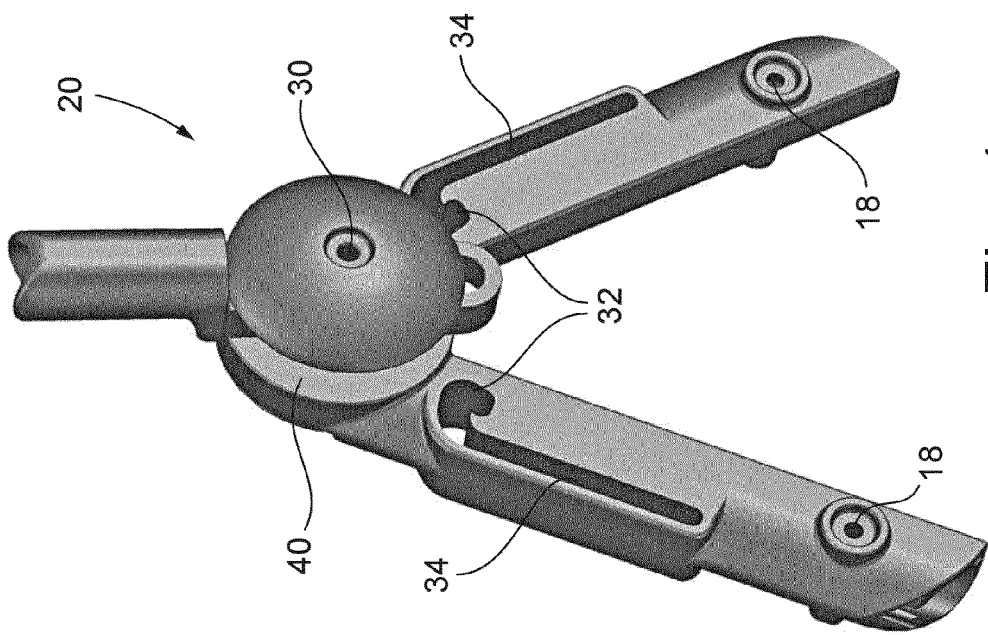


Fig. 4

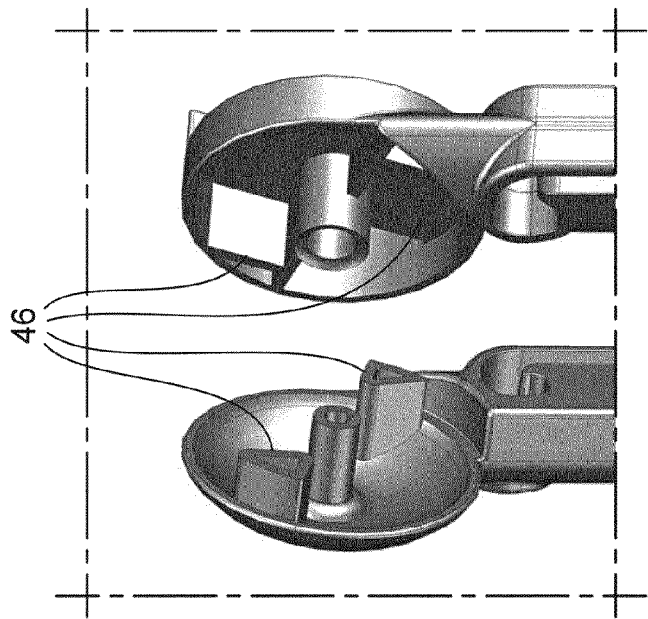


Fig. 5