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(71) Applicant: **Frigerio Tende Da Sole S.r.l.**
70010 Capurso (Bari) (IT)

(72) Inventor: **The designation of the inventor has not yet been filed**

(74) Representative: **Cicogna, Franco**
Ufficio Internazionale Brevetti
Dott.Prof. Franco Cicogna
Via Visconti di Modrone, 14/A
20122 Milano (IT)

(54) **Modular awning**

(57) A modular awning of an articulated arm type, with longitudinal mechanical components and a rolling-shutter box, split into sectors for facilitating a packaging and shipment, also owing to the small weight of the plastics material box. The awning according to the invention is suitable to support continuous cloth material, having a desired width and projection, according to present standards in this field.

Differently from conventional awnings, the mechanical components of the inventive awning can be reduced so as to require a very reduced packaging or storing space, thereby rendering the awning easily handled and transported, with a consequent economic transport saving. The size of the packaged modular awning is so reduced that the awning can be transported either in a lifter or in cars.

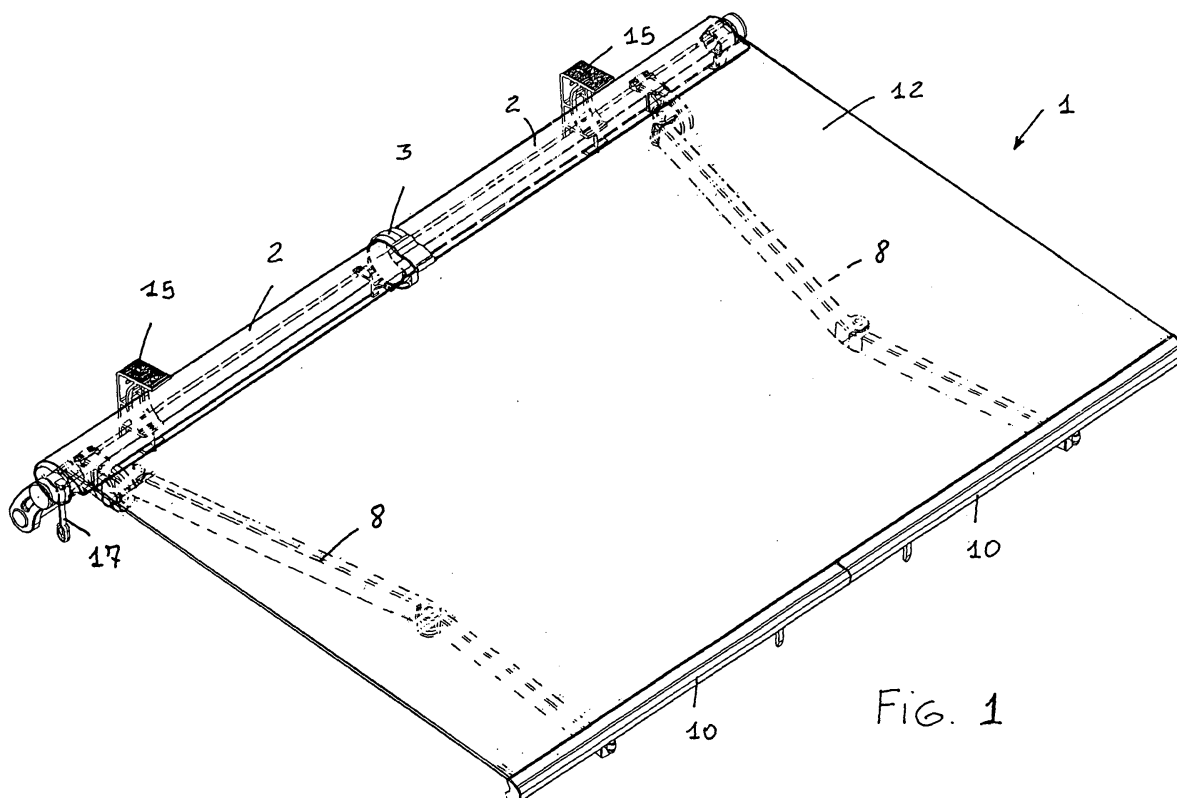


FIG. 1

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a modular awning.

[0002] As is known, conventional extensible arm awnings comprise a longitudinal bar for supporting the awning articulated arms, a winding roller for winding thereon the cloth material and, optionally, a rolling-shutter box for holding therein the roller and cloth material wound thereon.

[0003] The longitudinal bar and winding roller have a length corresponding to the longitudinal extension of the awning, which can correspond to several length meters.

[0004] The size of the mechanical operating assembly of prior awnings make the transport or shipment of such an awning very expensive, since it must be necessarily performed by using trucks; also the assembling of such an awning is very expensive, for example as such an assembly must be performed on a terrace at high floors of an urban building.

SUMMARY OF THE INVENTION

[0005] Accordingly, the aim of the present invention is to provide such a modular awning which is adapted to overcome all the above problems affecting prior art awnings.

[0006] Within the scope of the above mentioned aim, a main object of the invention is to provide such a modular awning which, in a stored or packaged condition thereof, has a very small size, thereby being easily transportable.

[0007] Another object of the present invention is to provide such an awning including assemblable modular elements, to provide desired size awning assemblies, according to requirements.

[0008] Yet another object of the present invention is to provide such a modular awning which, owing to its specifically designed constructional features, is very reliable and safe in operation.

[0009] Yet another object of the present invention is to provide such a modular awning construction which can be easily made, by using easily available elements and material, and which, moreover, is very competitive from a mere economic standpoint.

[0010] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a modular awning, **characterized in that** said modular awning comprises longitudinal mechanical components and a rolling box split into sectors to facilitate a packaging and transport of said modular awning.

[0011] According to a preferred embodiment of the invention, the modular awning according to the invention is of an articulated arm type, and comprises an arm supporting square bar, including a plurality of bar sections,

and associated with a rolling box, for holding therein the awning winding roller.

[0012] Said elements are split into modular sections, thereby providing, as assembled, a construction having a desired or target longitudinal size.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative, example in the accompanying drawings, where:

Figure 1 is a perspective view of the modular awning according to the present invention, being shown in an extended or opened position thereof;

Figure 2 is an exploded perspective view of the main components of the awning construction;

Figure 3 is a further exploded perspective view, similar to that of figure 2, showing the awning construction in a partially assembled condition thereof;

Figure 4 is a perspective view of the disassembled awning construction, arranged in its packaging;

Figure 5 is a rear axonometric view, on a scale enlarged from that of the preceding figures, and showing a support region for clamping to a wall of the awning construction;

Figure 6 is a front axonometric view, showing a joining region of the rolling box;

Figure 7 is a side elevation view of the awning construction, as cross-sectioned through the joining region of the rolling box;

Figure 8 is a perspective view of a region of the rolling box, in which a winch is provided, said winch being shown without the winch covering elements;

Figure 9 is a view similar to figure 8, but showing the construction with an assembled winch covering arrangement;

and

Figure 10 is an exploded partial perspective view showing the winch and winch covering arrangement or assembly.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0014] With reference to the number references of the above mentioned figures, the modular awning according to the present invention, which has been generally indicated by the reference number 1, comprises a rolling-shutter box 2, including a plurality of box sections, which can be assembled to one another by a rolling box joint or coupling 3.

[0015] Said coupling 3 comprises side recesses adapted to receive therein end portions of the sections of the rolling box 2 and being joined, by an adjustable bracket

4, to a squared bar 5.

[0016] The adjustable bracket 4, in particular, allows to adjust the inclination of slanting of the rolling box 2, by an adjusting slot 6.

[0017] The square bar 5 comprises a plurality of bar sections, which can be joined to one another by a bar coupling or joint 7, including a square small bar having such a size as to be engaged, without any clearance, within the suctions or portions of said bar 5.

[0018] Said square bar 5, moreover, supports a pair of articulated arms 8, by articulated supporting elements 9.

[0019] As shown, the articulated arms 8 are coupled to an end rod 10, also comprising a plurality of section portions, joined or coupled to one another by a section joint or coupling 11.

[0020] The end rod 10 restrains a terminal edge portion of an awning 12, the opposite edge portion thereof is clamped to a winding roller 13, arranged inside the rolling box 2.

[0021] Said winding roller 13 also comprises a plurality of joined sections, which are coupled to one another by a roller joint or coupling 14, comprising a section member so designed as to be threaded into the end portions of the sections or portions of the roller 13.

[0022] More specifically, the sections of the rolling box 2 and square bar 5 are clamped to a wall by clamping elements 15.

[0023] As further shown, at an end portion of the rolling box 2 is provided a winch assembly 16, for winding the awning on the roller 13 inside the rolling box 2.

[0024] The winch assembly 16 comprises a driving stem 17 projecting from the rolling box 2 through an elongated slot 18, which must have a width sufficient to allow the driving stem 17 to assume a plurality of driving positions.

[0025] To prevent the winch from being anti-aesthetically seen, a winch covering element 19 to be assembled on said winch and being provided with a hole 20 for the driving arm 17 is provided.

[0026] Thus, as it is clearly illustrated in figure 9, the winch assembly 16 is concealed to the view owing to the provision of the winch covering element 19.

[0027] The extensible arm awning according to the present invention has use characteristics similar to those of conventional awnings, and, accordingly, it is adapted to support a continuous cloth material having target length and projection, according to present standard, for example a width of 6 m and a projection of 3 m.

[0028] However, the inventive articulated arm awning may be split, differently from conventional awnings, into any desired number of longitudinal awning sections, and, accordingly, it does not require a packaging arrangement having a size corresponding to the overall size of the awning in its use condition.

[0029] In particular, a conventional awning having a width of 6 meters will occupy, in its shipment, a longitudinal space of at least 6 meters, whereas a like size awn-

ing, according to the present invention, can be reduced, for shipment or transport purposes, to a shipment length of about 2 meters.

[0030] Thus, the packaging of the inventive awning will have very good handling and transport properties, due to its reduced size, thereby providing a very economic shipment capability.

[0031] Moreover, the packaging, reduced to a size of about 2 meters, can also be transported in a lifter or a car, thereby facilitating a buying user.

[0032] Figure 4 schematically shows a awning packaging, generally indicated by the reference number 22, including a box containing all the components of the awning construction according to the present invention.

[0033] The modular awning according to the present invention will also allow to extend at will the length of the cloth material to be included in the awning construction, thereby allowing to achieve a continuous awning having an extension longer than prior art awnings, and this with a single awning cloth.

[0034] It has been found that the invention fully achieves the intended aim and objects.

[0035] In practicing the invention, the used materials, as well as the contingent size and shapes, can be any, according to requirements.

Claims

1. A modular awning, **characterized in that** said modular awning comprises longitudinal mechanical component elements and a rolling box split into sections to facilitate a packaging and transport of said awning construction.
2. An awning construction, according to claim 1, **characterized in that** said awning construction is of an articulated arm type and comprises a square supporting bar for supporting the articulated arms, said supporting bars comprising a plurality of bar sections and being associated with a rolling box for holding therein an awning winding roller, and being split into modular sections, thereby providing a target longitudinal size awning construction.
3. An awning construction, according to claim 1 or 2, **characterized in that** said awning construction comprises a rolling box including a plurality of modular rolling box sections which can be coupled to one another by a rolling box coupling, said rolling box coupling including a plurality of side recesses for receiving therein end portions of the rolling box sections and being joined, by an adjustable bracket, to said square bar.
4. An awning construction, according to one or more of the preceding claims, **characterized in that** said adjustable bracket allows an inclination of said rolling

box to be adjusted through an adjusting elongated slot.

5. An awning construction, according to one or more of the preceding claims, **characterized in that** said square bar comprises a plurality of square bar sections which can be coupled to one another by a bar coupling including a square small bar having such a size as to be threaded without clearance into said bar sections. 5
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6. An awning construction, according to one or more of the preceding claims, **characterized in that** said square supporting bar supports a pair of articular arms including corresponding articulated supporting elements, said articulated arms being coupled to an end rod also constituted by a plurality of section portions joined to one another by section coupling. 15
7. An awning construction, according to one or more of the preceding claims, **characterized in that** said end rod restrains an end edge of an awning cloth, the opposite edge of which is clamped to a winding roller inside said winding box, said winding roller comprising a plurality of winding roller sections joined by a roller coupling comprising a rolling coupling section so sized as to be threaded into respective end portions of said roller sections. 20
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8. An awning construction, according to one or more of the preceding claims, **characterized in that** said rolling box and square bar sections are adapted to be clamped to a supporting wall by clamping elements. 30
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9. An awning construction, according to one or more of the preceding claims, **characterized in that** said rolling box comprises, at an end portion thereof, a winch assembly adapted to winch the awning cloth on the roller arranged inside said rolling box. 40
10. An awning construction, according to one or more of the preceding claims, **characterized in that** said winch comprises a driving stem projecting from said rolling box through an elongated slot, a winch covering element for preventing said winch from being seen being adapted to be mounted on said winch and including a hole for the driving arm. 45
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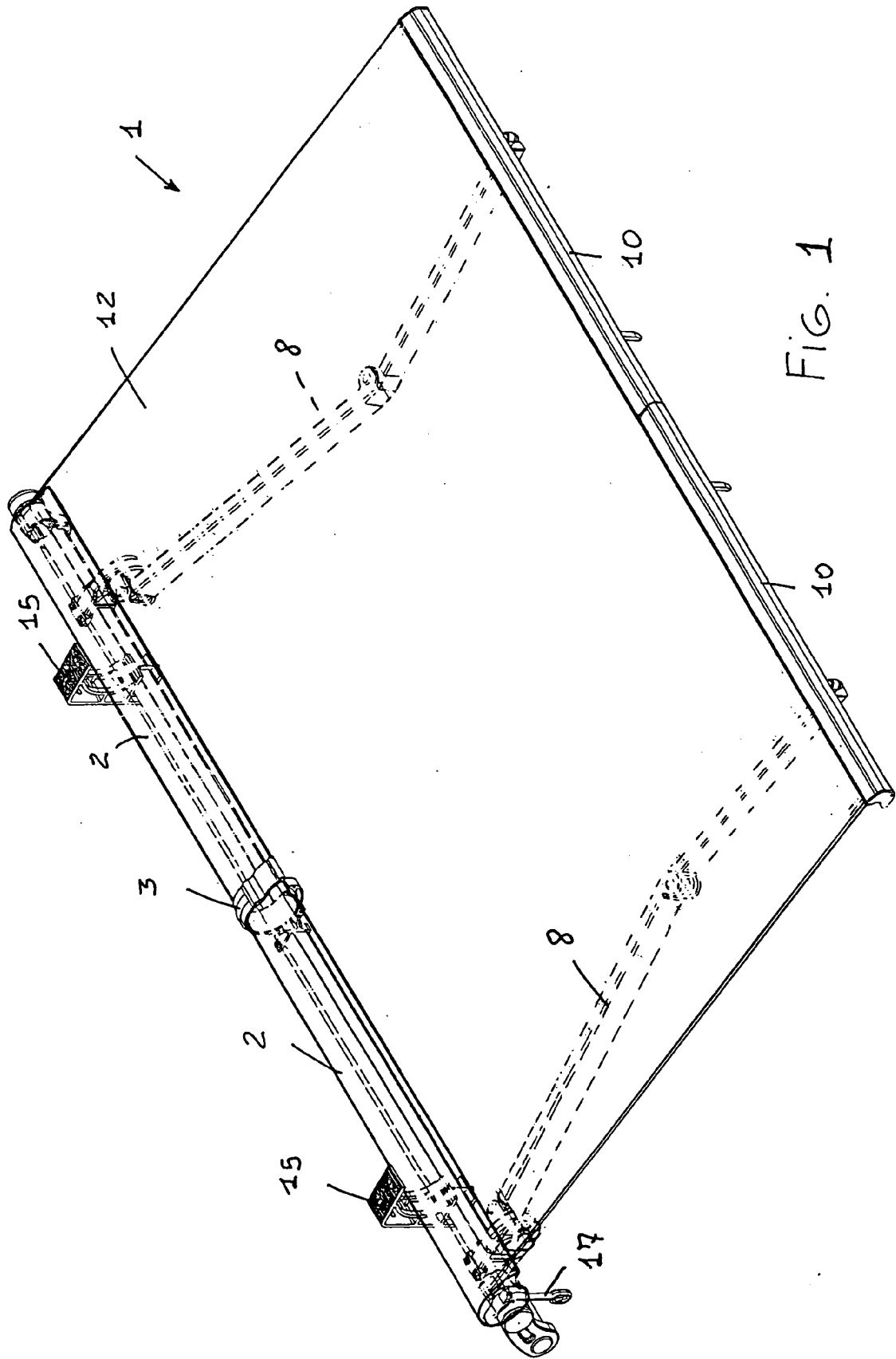


FIG. 1

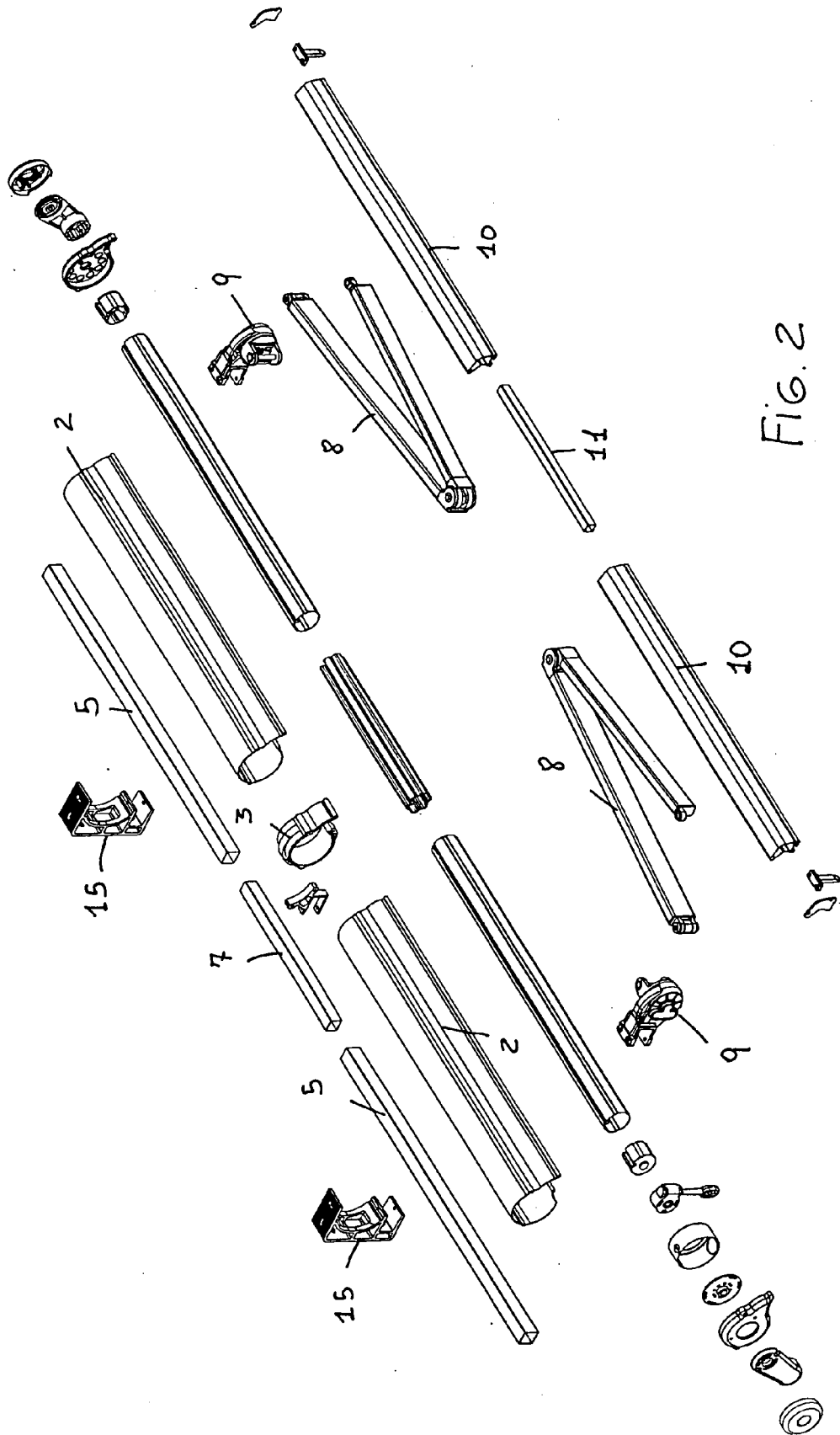


FIG. 2

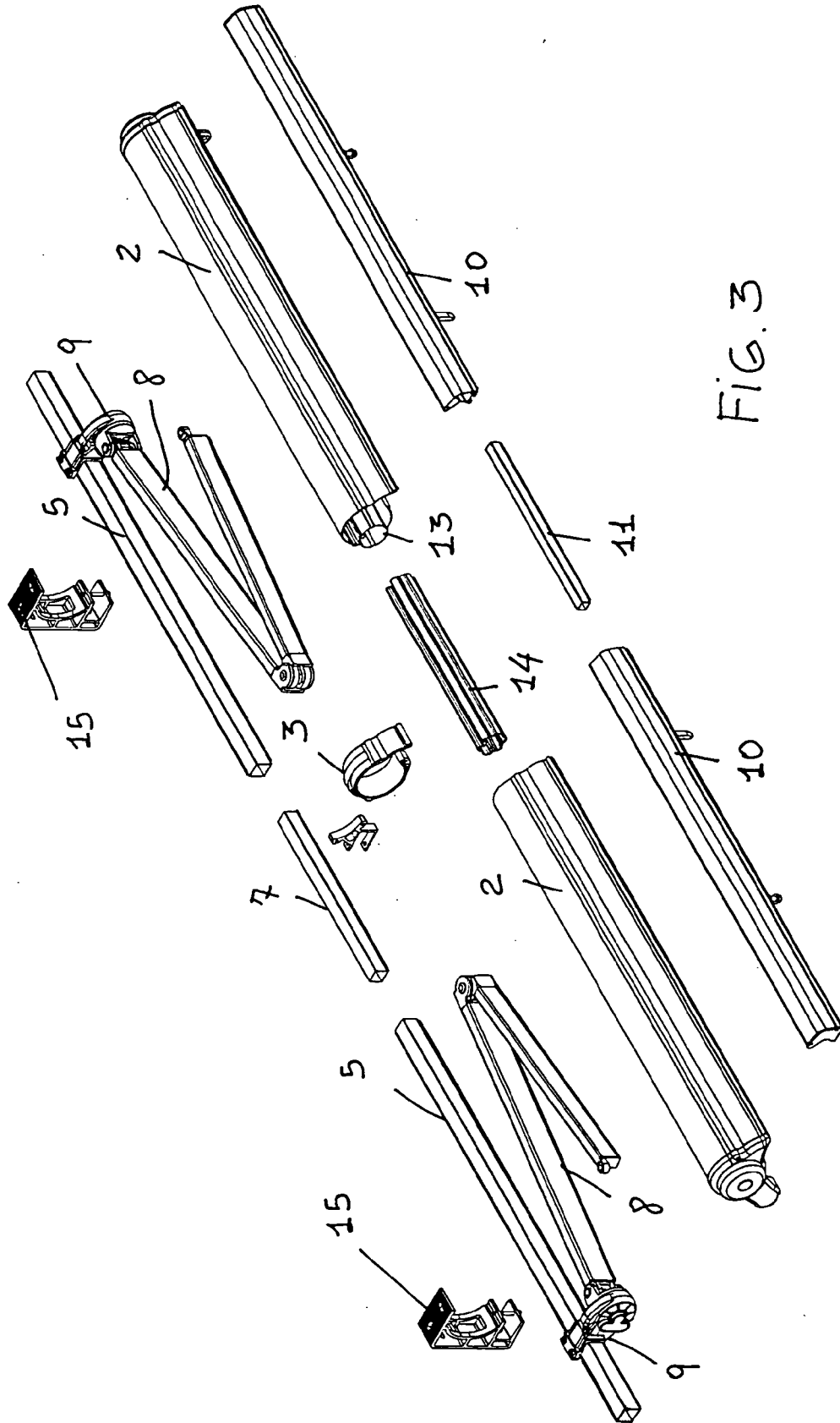
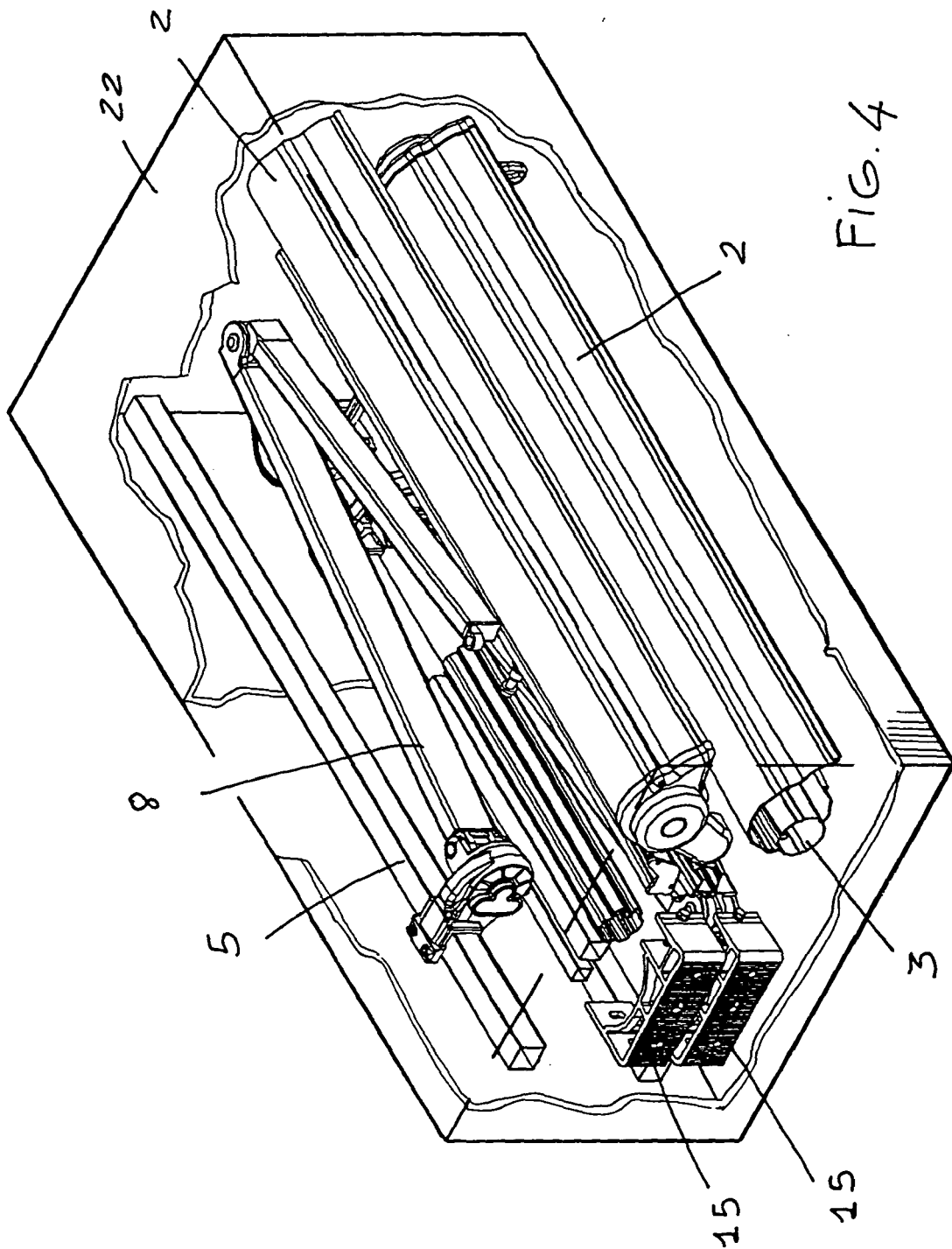


FIG. 3



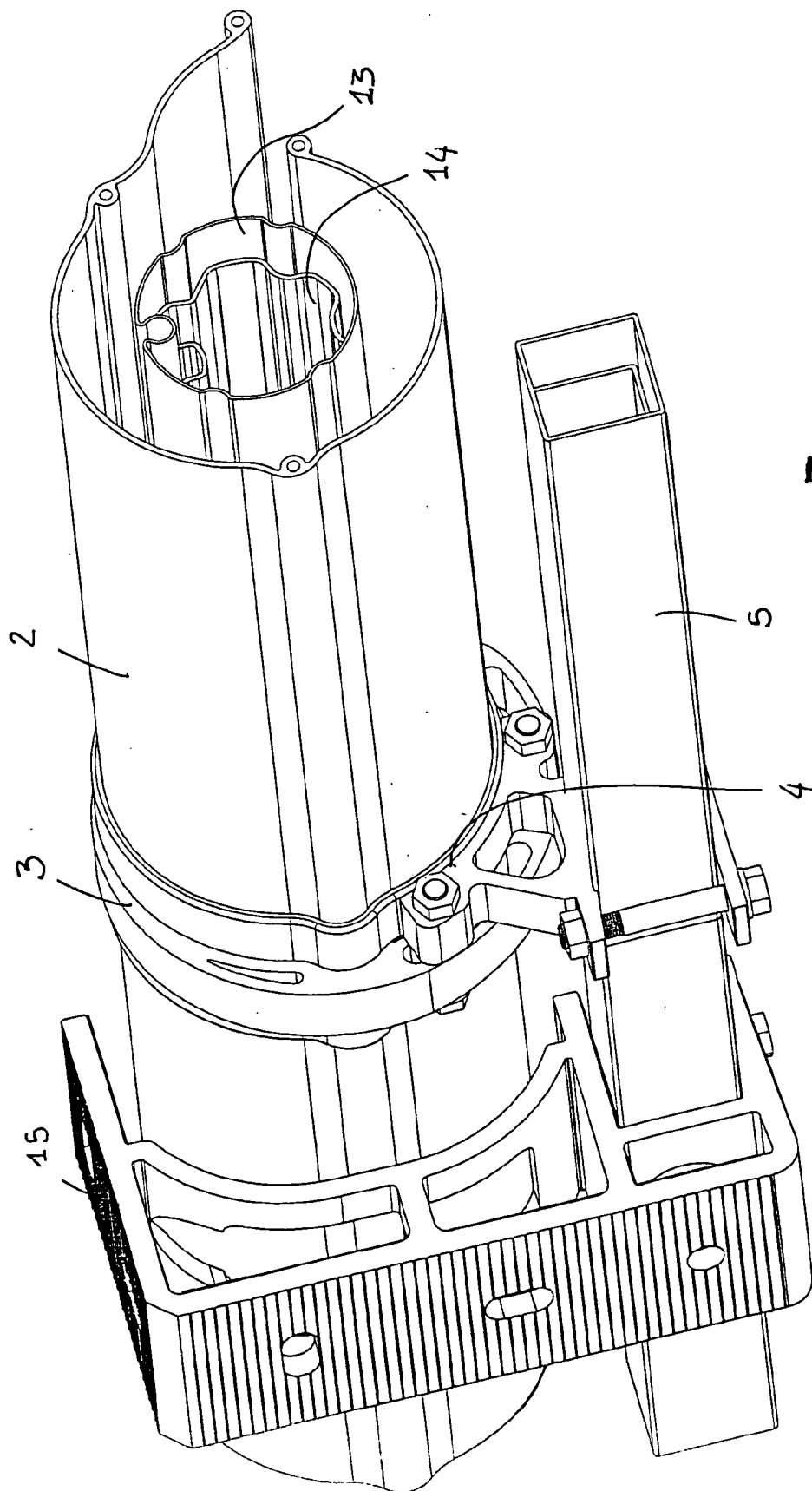


FIG. 5

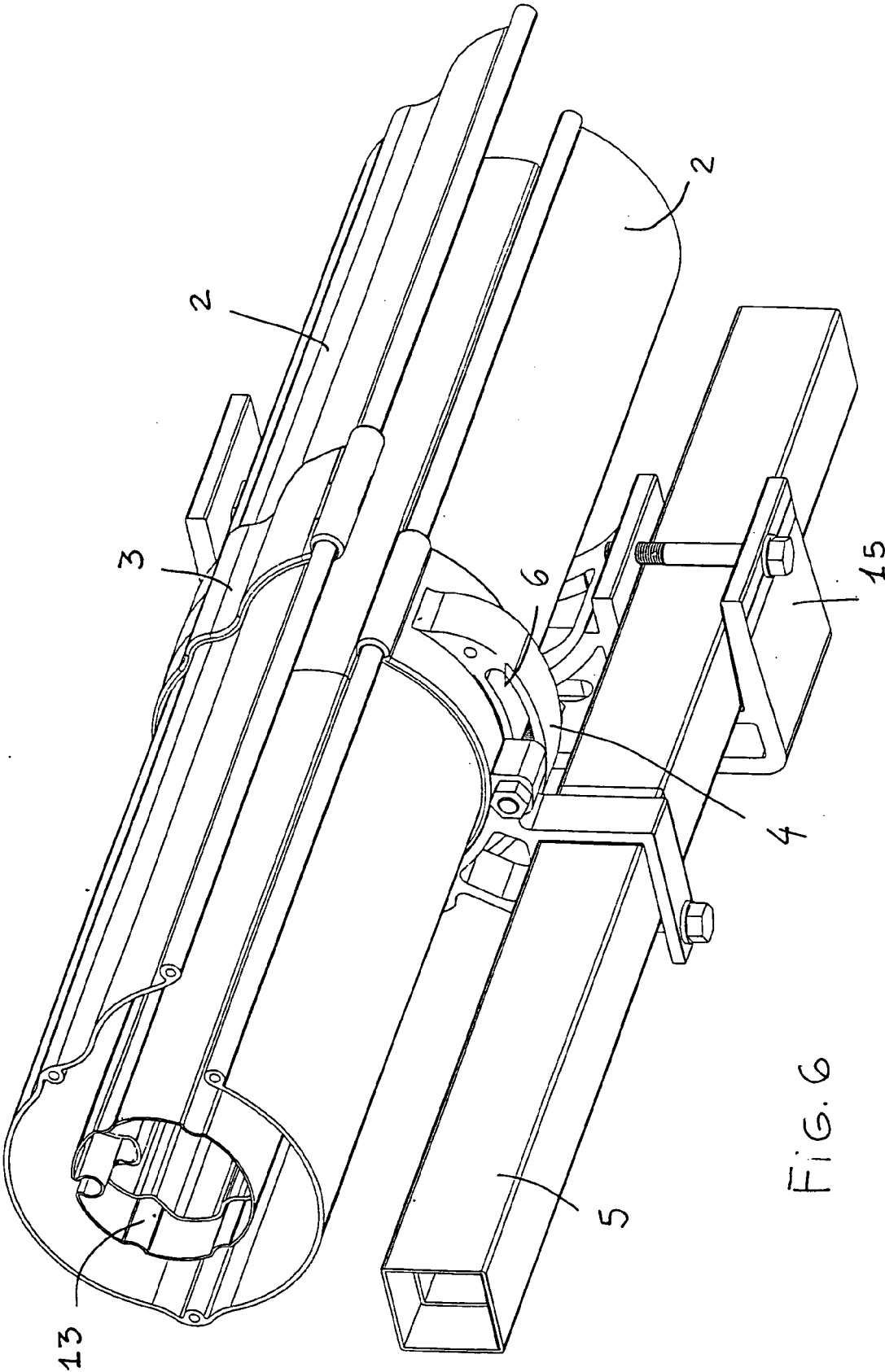


FIG. 6

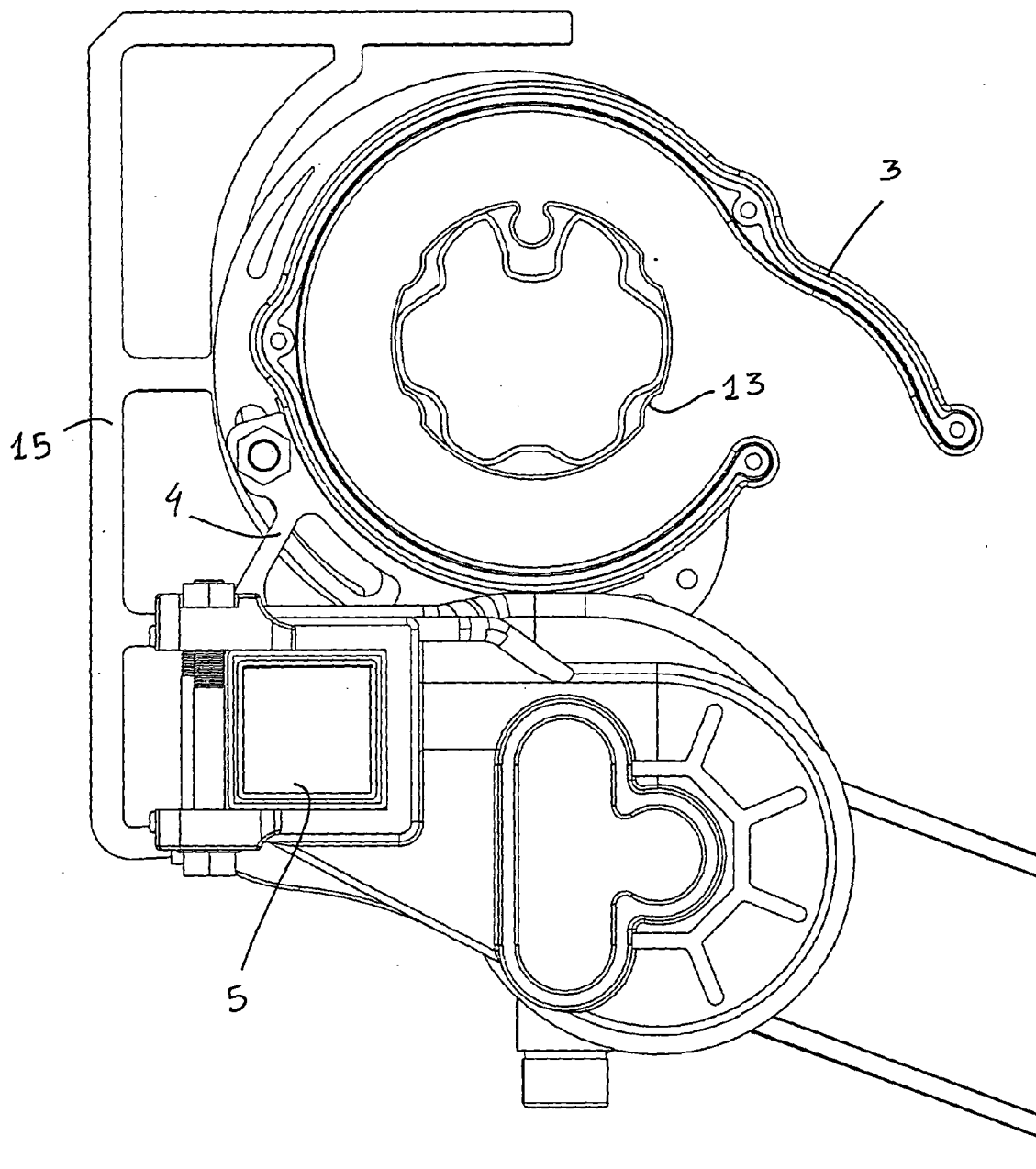


Fig. 7

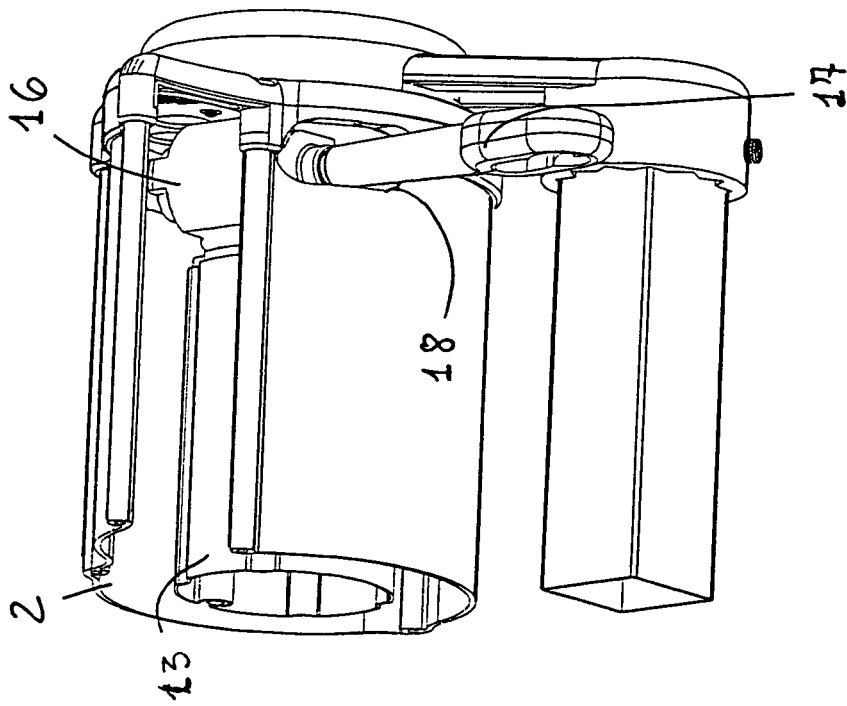


FIG. 8

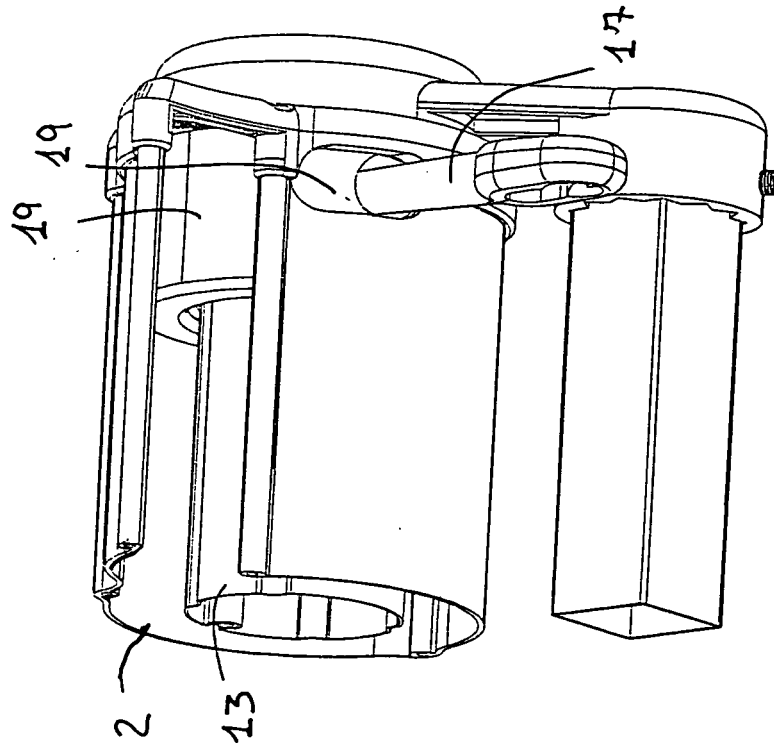


FIG. 9

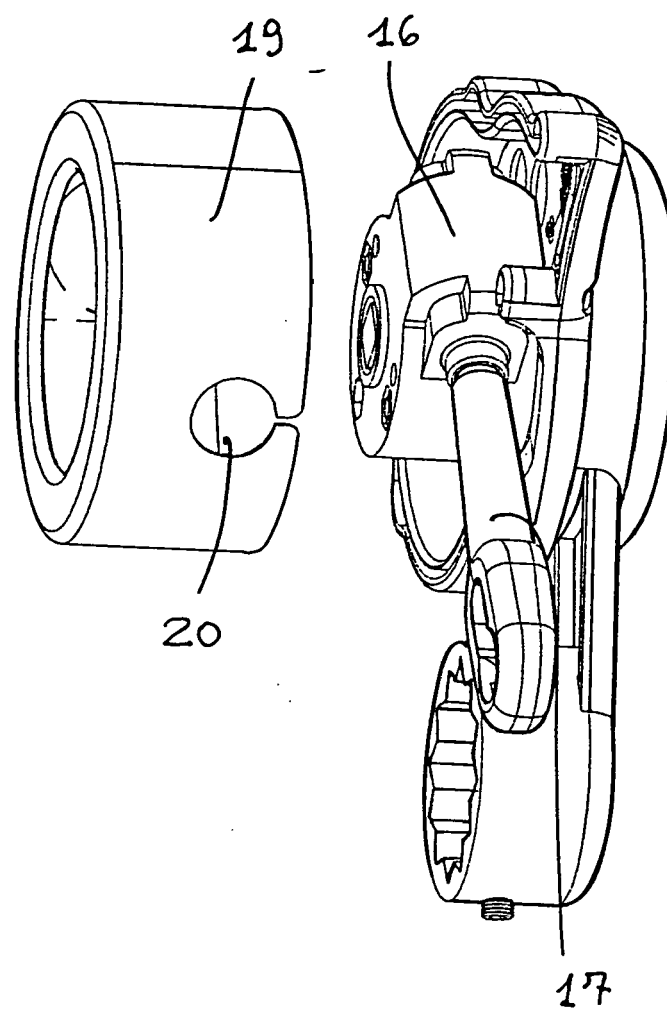


FIG. 10