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(54) **Collector, especially an animal faeces collector**

(57) The collector characterized in that the handle being composed of two elongated cylindrical elements (1, 2) going one onto another, and the outside cylindrical element (1) has one end of the flexible coupler fixed to the bottom inside, going through the opening in the bottom of the inside cylindrical element (2), while the other end of the flexible coupler (3) is fixed to the upper part of the picker (4) comprising at least two identical symmetric to one another picking elements flexibly jointed together in the upper part, each with the side part with a bend and the lower sweeping part (6) and the side part (5) is in contact with the inside of the barrel ring (7), to which at least two hoops (8) are permanently fixed with their lower ends, whereas the upper ends of the hoops (8) are connected with the lower end of the inside cylindrical element (2).

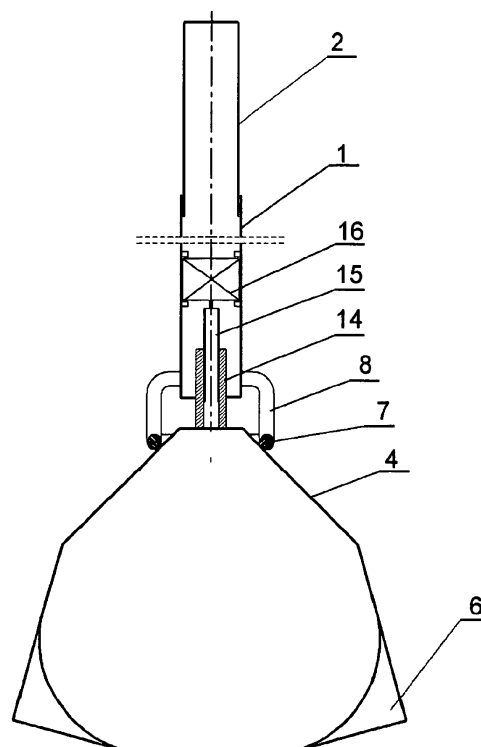


Fig. 6

Description

[0001] The subject of the invention is a device for collecting pretty small items of solid structure as well as substances of an unspecified, diverse and changeable shape, in particular, for dog and cat waste.

[0002] In recent years a media campaign has been intensified focusing on dog waste in the streets, squares and parks of Polish towns. As a consequence, numerous self-governments have introduced legal regulations making pet owners remove their dog and cat waste under threat of a fine whereas in the streets of towns there have appeared special bins meant for dog waste. Apart from being anaesthetic, faeces are a serious epidemiological problem as they contain many micro-organisms which can be a cause of dangerous infectious and parasitic diseases in humans. It has been claimed that dog waste might contain micro-organisms causing such diseases as toxocariasis or echinococcus (tapeworm) and pathogenic bacteria like Salmonella, among others. Children playing on the lawn and in the sandpit are most exposed to these diseases.

[0003] Well known typical simple tools for collecting waste by means of a dustpan and a brush or a scoop fixed onto a handle and sweeping the waste onto the dustpan have to be emptied every single time unfortunately. These tools have been improved by creating numerous devices provided with a bag to collect and keep waste.

[0004] An example of the above mentioned device is one known through its patent description USA no. 3 868 135, consisting of a handle and a scoop fixed onto it with a divided operating part, and with a front part rotating on pivots through the operation of a resilient coupler fixed from below to this front part and along the handle, closing an item moved onto it inside. The scoop of this device can be covered with a specially shaped disposable insert made of foil or paper which is disposed of along with the collected item.

[0005] A versatile device known for its description of the international application published in PCT Gazette under no. WO 93/13268 also designed for collecting animal faeces, contains a bar with a picker attached to the bar's lower end. The picker is a pipe segment closed with a swinging lid on one end operated with a coupler with a lever placed at the handle of the bar whereas on the other end there is an overlayable bag supported with swinging half rings operated with the same coupler and lever. Alternatively, the picker is a pipe segment divided longitudinally and symmetrically in the vertical plane comprising two half rings swung by the coupler and lever.

[0006] The device however does not ensure its tight closing and in the event of the lid being blocked there is a risk of falling out waste.

[0007] A collector known through the Polish description for the Polish patent no. 201833 basically consists of a bar and a forklift clamp. Through the bar goes a longer movable rod of which one end is connected to the

pivot of the hinge connecting the forklifts and the forklifts are connected with the bar through the arms fixed to the outside surface of the forklifts and the bar. The arms are linked tippably with a thread screwed to the bar and on the movable bar there is a barrel thickening against which leans and/or is attached to with its one end a spring attached to with its one end stretched on the bar, whereas the other end of the spring rests against a throat made on one end of the bar. The throat on the end of the bar can be a thread faucet connected with the bar. The movable bar, however, is connected disjunctively to the pivot whereas the disjunctive connecting can be obtained by threading the end of the bar and the faucet connected athwart with the pivot.

[0008] The device is characteristic of its quite big weight. The movable parts such as the spring, bar or pivot need to be frequently maintained and greased.

[0009] Besides, these devices are inconvenient and burdensome for a dog owner going for a walk to a green area. The purpose is to develop an invention device, which would be characterized by easy operation, convenience and reliable working.

[0010] The essence of the solution, according to the invention, relies in the handle being composed of two elongated cylindrical elements going one onto another, and the outside cylindrical element has one end of the flexible coupler fixed to the bottom inside, going through the opening in the bottom of the inside cylindrical element while the other end of the flexible coupler is fixed to the upper part of the picker comprising at least two identical symmetric to one another picking elements flexibly jointed together in the upper part with the side part with a bend and the lower sweeping part. The side part is in contact with the inside of the barrel ring, to which at least two hoops are permanently fixed with their lower ends, whereas the upper ends of the hoops are connected with the lower end of the inside cylindrical element.

[0011] It is advantageous when the inside cylindrical element has a hinge that can put together the device while the outside cylindrical element is equipped with a handle to which is fixed the upper end of the flexible coupler.

[0012] Alternatively, the essence of the solution relies in the hoops being fixed to the lower end of the outside cylindrical element and connected with the barrel ring, whereas inside the outside cylindrical element, on its lower end, there is a piston connected to the upper part of the picker while the inside cylindrical element has a return valve in its lower end.

[0013] It is advantageous when the piston and the inside cylindrical element are provided with seal rings.

[0014] Still alternatively, the essence of the solution is that to the upper part of the picker is fixed an inside thread faucet with a screwing and unscrewing thread rod, of which the upper end is connected with an electric engine placed motionlessly inside the outside cylindrical element.

[0015] It is very advantageous when the picker con-

sists of three identical flexibly jointed together with their upper ends, each of which with the side part with a bend and the lower sweeping part.

[0016] According to the invention, the collector enables easy and hygienic picking, lifting and carrying of tiny items, particularly waste of pets.

[0017] The invention has been presented in the realization examples in the figure, with the invention being unlimited in any way, where fig. 1 shows the device in a schematic drawing from one side in a position prepared for collecting, fig. 2 shows the device in a schematic drawing from one side in a position after collecting, fig. 3 shows the device in a schematic drawing from one side with the divided handle option in a position after collecting, fig. 4 shows an alternative device according to the invention in a schematic drawing from one side with a pneumatic or hydraulic drive in a position before collecting, fig. 5 shows an alternative device according to the invention in a schematic drawing from one side with a pneumatic or hydraulic drive in a position during collecting, fig. 6 shows the second alternative device according to the invention in a schematic drawing with an electric drive and fig. 7 presents the picker consisting of three side parts and three sweeping elements.

[0018] The device consists of the handle composed of two cylindrical elements 1, 2 going one on another. The outside cylindrical element 1 has one end of the flexible coupler 3 fixed to the bottom inside and going through the opening in the bottom of the inside cylindrical element 2, whereas another end of the flexible coupler 3 is fixed to the upper part of the picker 4 comprising at least two identical symmetric to one another picking elements flexibly jointed together in the upper part and they consist of the side part 5 with a bend and the lower sweeping part 6. The side part 5 is in contact with the inside of the barrel ring 7, to which two hoops 8 are permanently fixed with their lower ends, whereas the upper ends of the hoops 8 are connected with the lower end of the inside cylindrical element 2. To reduce the size, the inside cylindrical element 2 is divided by the hinge 9 that can put the device together. The outside cylindrical element 1 is provided with the handle 10, to which the upper end of the flexible coupler 3 is attached.

[0019] In the invention realization variety shown in fig. 4 and fig. 5 the hoops 8 are jointed with the barrel ring 7 fixed to the lower end of the outside cylindrical element 1, whereas inside the outside cylindrical element 1, on its lower end there is the piston 11 connected with the upper part of the picker 4, while the inside cylindrical element 2 has a return valve 12 in its lower end. The piston 11 and the inside cylindrical element 2 are provided with seal rings 13.

[0020] In another invention realization variety shown in fig. 6 to the upper part of the picker 4 is fixed an inside thread faucet 14 with a screwing and unscrewing thread rod 15, of which the upper end is connected with an electric engine 16 placed motionlessly inside the outside cylindrical element 1.

[0021] Due to application of the device you can pick waste without leaning. You can also cover the picker with disposable foil or paper bags with the bottom attached inside the picker whereas the open part is folded on the barrel ring and supported with the side parts of the picker. After closing the picker you can unfold the bag off the barrel ring, then tie it and dispose of it. Due to the simplicity of the construction and connections you can easily conduct periodical cleaning of the device while the current cleaning of the picker can be conducted by washing off with water. The applied drive systems of the picker reduce the amount of required manual operations in waste picking to minimum and ensure precise collecting.

[0022] This device can be also applied to pick tiny items by older people with spine or limb dysfunction, especially lower limb dysfunction, using wheelchairs permanently or temporarily. Such a construction provides precise picking of items, then carrying them to their destinations.

Claims

1. The collector, especially an animal faeces collector composed of a handle and a picker consisting of at least two parts joined with their edges, creating closed space and mechanically gaped **characterized in that** the handle being composed of two elongated cylindrical elements (1, 2) going one onto another, and the outside cylindrical element (1) has one end of the flexible coupler fixed to the bottom inside, going through the opening in the bottom of the inside cylindrical element (2), while the other end of the flexible coupler (3) is fixed to the upper part of the picker (4) comprising at least two identical symmetric to one another picking elements flexibly jointed together in the upper part, each with the side part with a bend and the lower sweeping part (6) and the side part (5) is in contact with the inside of the barrel ring (7), to which at least two hoops (8) are permanently fixed with their lower ends, whereas the upper ends of the hoops (8) are connected with the lower end of the inside cylindrical element (2).
2. The collector according to the claim 1 **characterized in that** the inside cylindrical element (2) has a hinge (9) that put together the device while the outside cylindrical element (1) is equipped with a handle (10) to which is fixed the upper end of the flexible coupler (3).
3. The collector according to the claim 1 **characterized in that** the picker (4) consists of three identical flexibly jointed together with their upper ends, each of which with the side part (5) with a bend and the lower sweeping part (6).
4. The collector, especially an animal faeces collector **characterized in that** the hoops (8) are fixed to low-

er end of the outside cylindrical element (1) and connected with the barrel ring (7), whereas inside the outside cylindrical element (1), on its lower end, there is a piston (11) connected to the upper part of the picker (4) while the inside cylindrical element (2) has a return valve in its lower end (12). 5

5. The collector according to the claim 4 **characterized in that** the piston (11) and the inside cylindrical element (2) are provided with seal rings (13). 10
6. The collector according to the claim 4 **characterized in that** the picker (4) consists of three identical elements flexibly jointed together with their upper ends, each with the side part (5) with a bend and a lower sweeping part (6). 15
7. The collector, especially an animal faeces collector **characterized in that** to the upper part of the picker (4) is fixed an inside thread faucet (14) with a screwing and unscrewing thread rod (15), of which the upper end is connected with an electric engine (16) placed motionlessly inside the outside cylindrical element (1). 20
8. The collector according to the claim 6 **characterized in that** the picker (4) consists of three identical elements flexibly jointed together with their upper ends, each with the side part (5) with a bend and a lower sweeping part (6). 25 30

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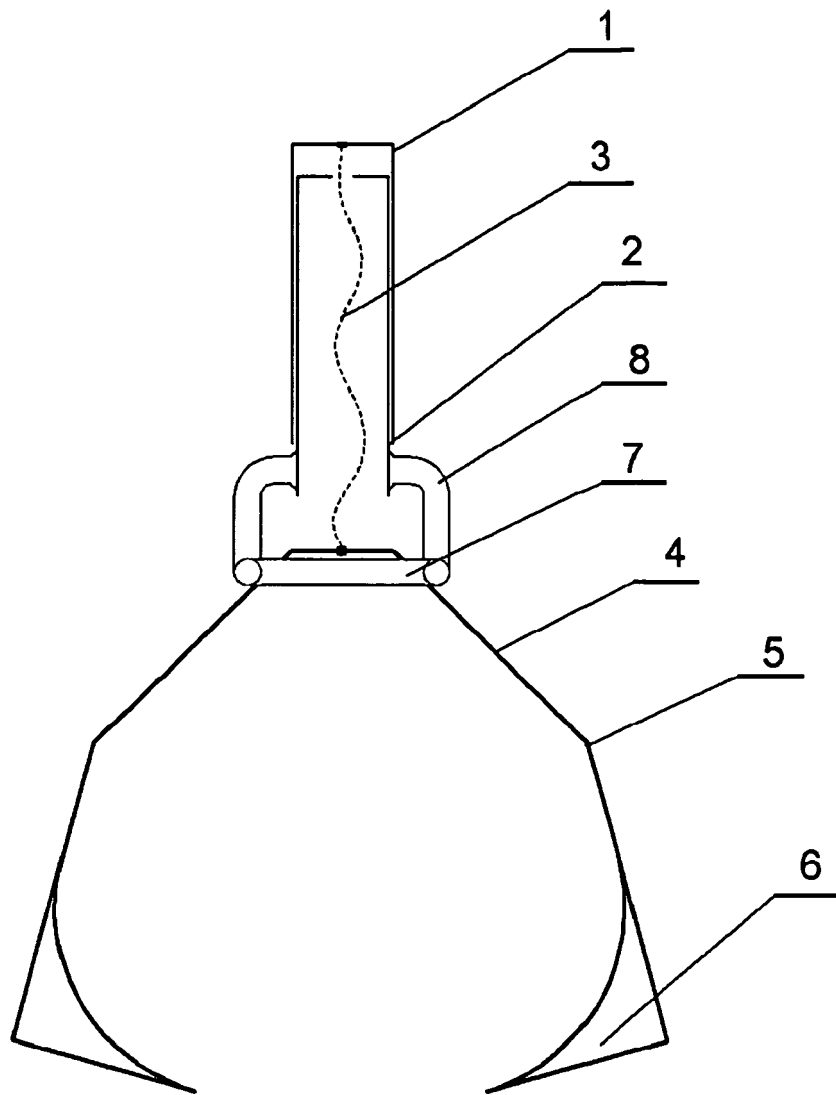


Fig. 1

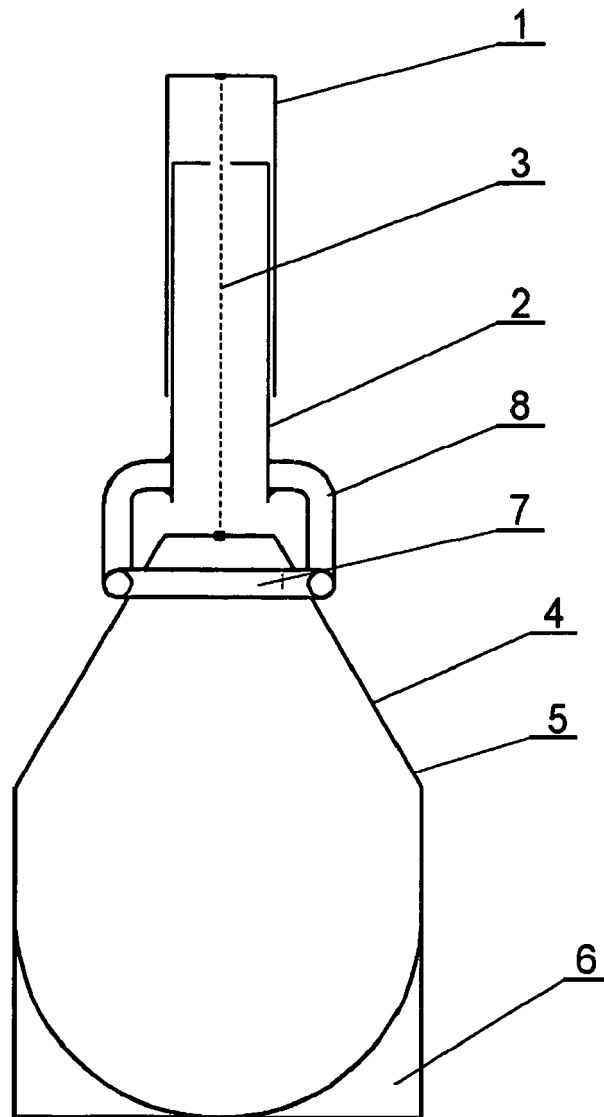


Fig. 2

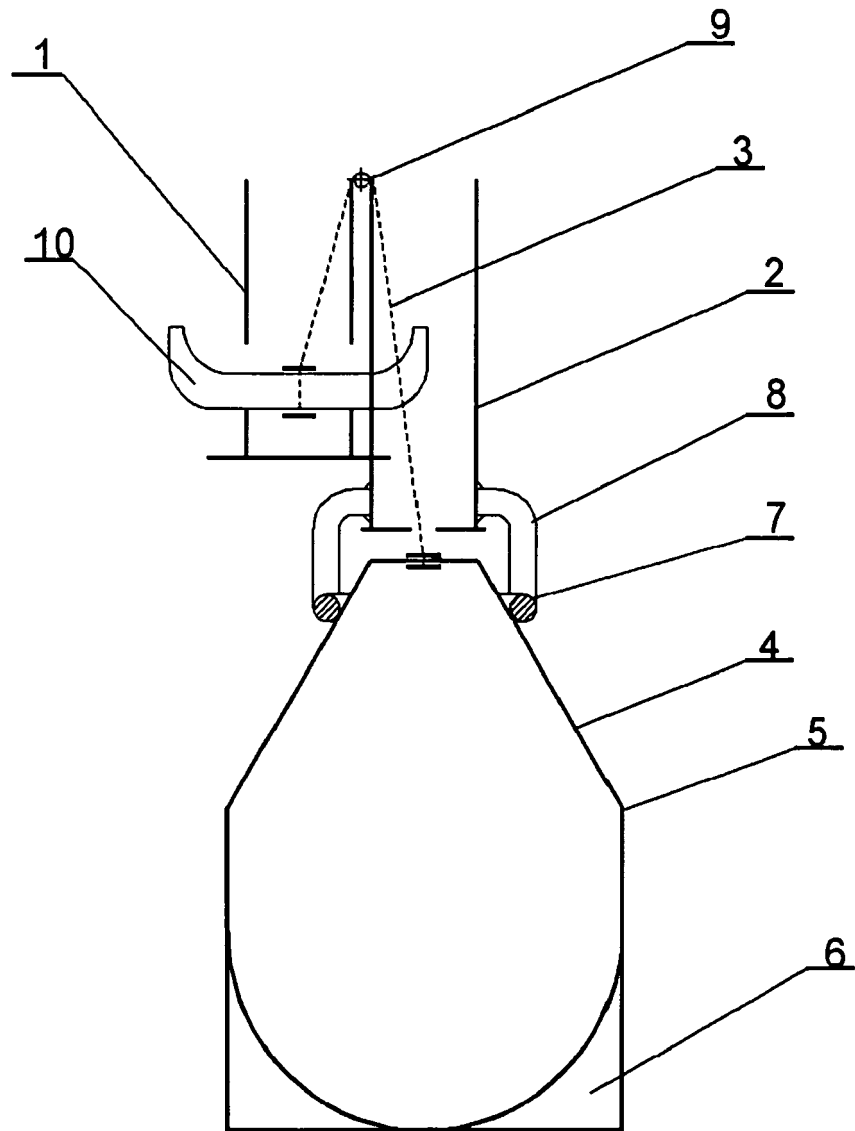


Fig. 3

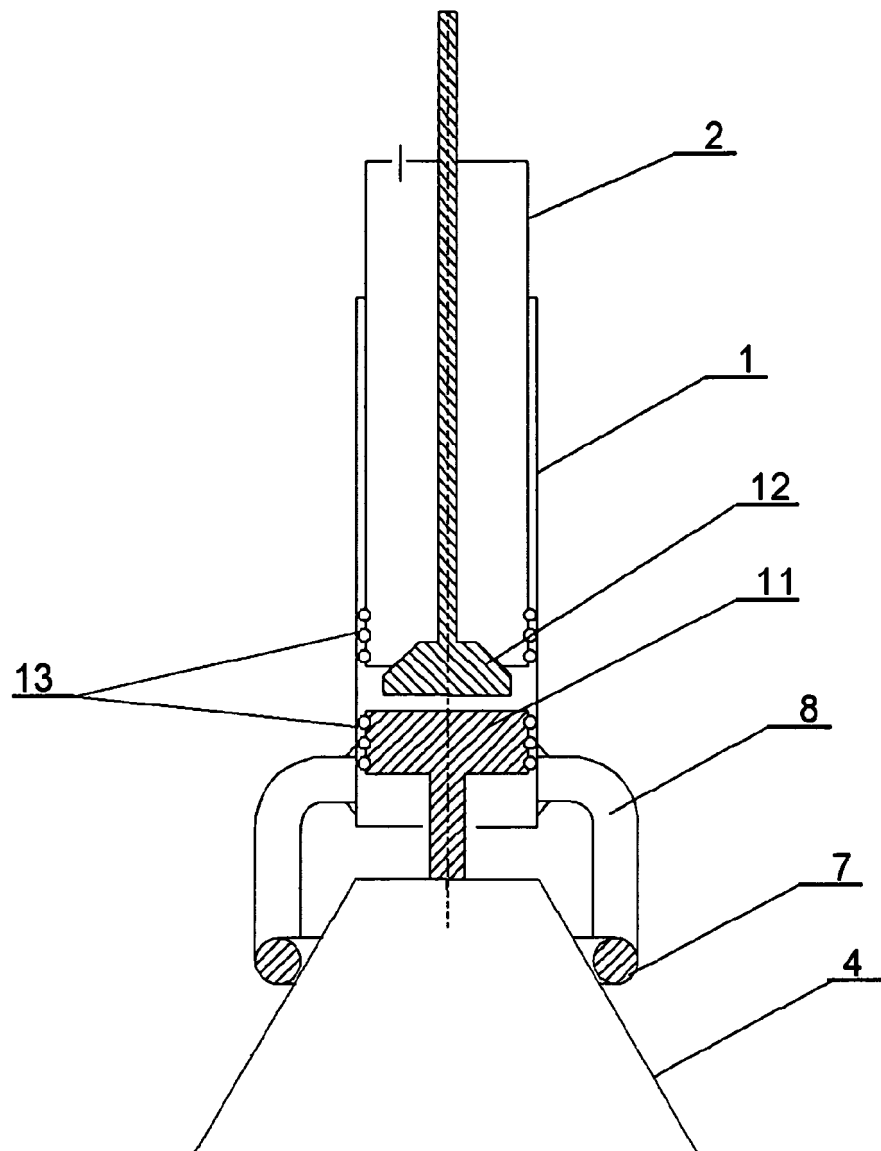


Fig. 4

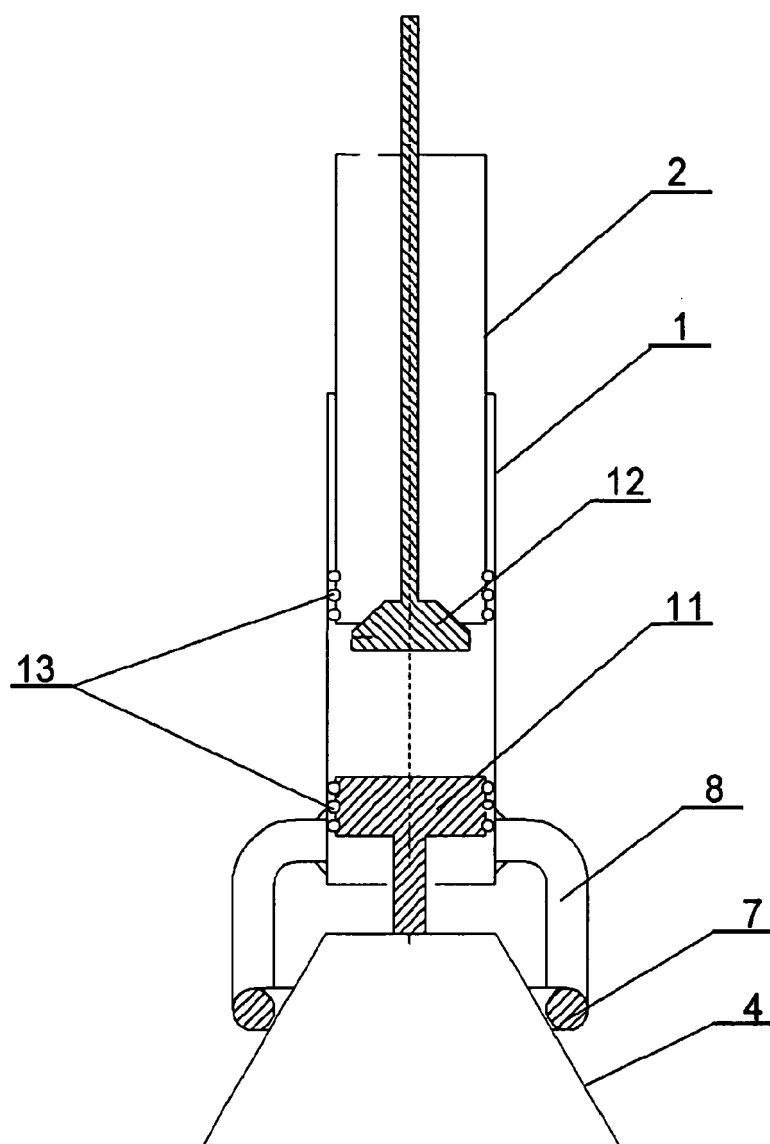


Fig. 5

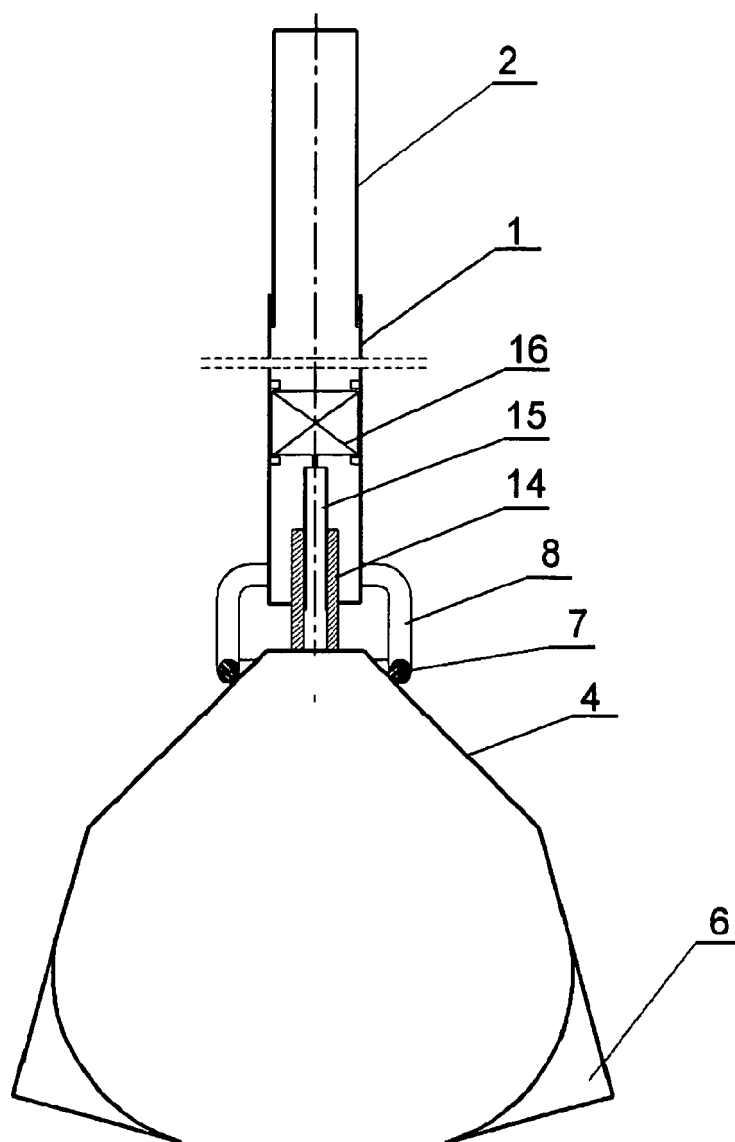


Fig. 6

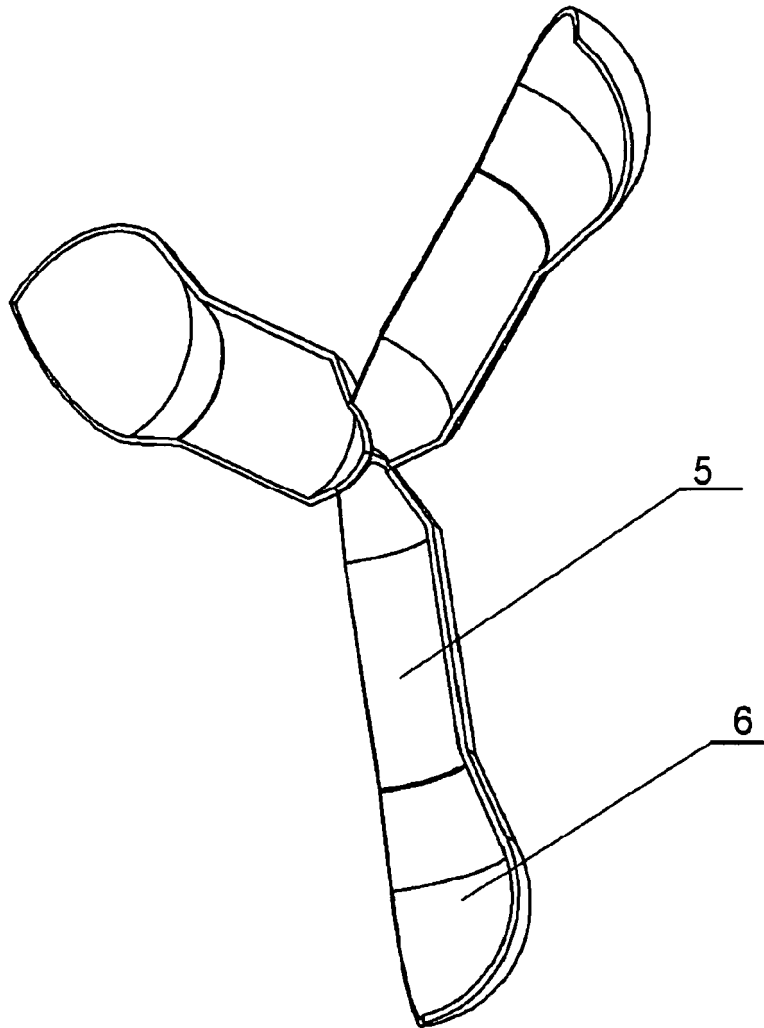


Fig. 7

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- WO 9313268 PCT [0005]
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