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(54) Device to pick up animal excrement

(57) Device (10) to pick up animal excrement comprising gripper means (11) able to grip and pick up the excrement, consisting of at least a pincer element (11a), able to be selectively positioned between an open position to pick up the excrement, and a closed position. The device (10) also comprises support means (30) consisting of a bar element (33) at one end of which the gripper means (11) are solidly associated. The support means (30) are able to condition the activation of the gripper means (11) from a remote position.

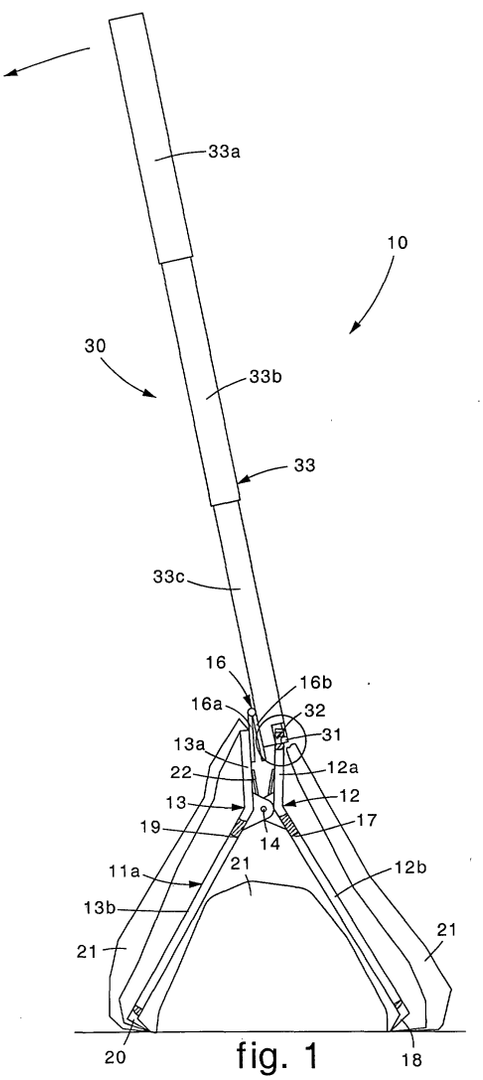

fig. 1

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Description

FIELD OF THE INVENTION

[0001] The present invention concerns a device to pick up and remove animal excrement, in a quick, convenient and hygienic manner.

[0002] The device according to the invention comprises gripper means which can be activated from a remote position, such as for example pincers or similar, to which support means are associated which facilitate the positioning of the gripper means and the picking up of the excrement by the user. The support means are suitable to allow the user to keep a certain distance when he picks up the excrement.

BACKGROUND OF THE INVENTION

[0003] It is known that the picking up and the removing of animal excrement from public places, such as for example pavements, flower-beds, parks or similar, is a problem for all those who own pets, such as for example dogs, and for those who frequent such places. According to recent laws, the owners of pets are required to have equipment to pick up the animals' excrement and eliminate it.

[0004] There are known various devices suitable for this function, all of limited size, in order to facilitate the transport thereof, but inconvenient with regard to their main function, that is, to pick up the excrement. Conventional devices comprise cardboard boxes, or scoopers combined with containing boxes, or again portable pincers.

[0005] Another conventional device provides two shaped shells hinged together so as to form small pincers.

[0006] Each shell comprises a lower scooper and an upper fin.

[0007] The lower scooper is equipped with a wide aperture to allow to contain the excrement to be picked up in a suitable bag, and with a lower segment which serves to separate the excrement from the ground.

[0008] The upper fin allows to selectively open and close a respective lower scooper with respect to the other, so as to define respectively an open position and a closed position of the pincers.

[0009] When said pincers are brought in an open position, a hygienic bag is associated therewith to contain the excrement. When the upper fins are released, which act as a handle and as opening and closing means, the lower scoopers reciprocally approach each other so as to close the bag and contain the excrement.

[0010] This conventional device, however, in any case obliges the user to bend over in order to position the pincers above the excrement.

[0011] This disadvantage makes it almost impossible for the device to be used by elderly people or people with reduced mobility, such as for example the disabled, who are not able to bend over enough to position the pincers.

[0012] Another disadvantage is that the hands are near the excrement during the pick-up process, which entails a considerable inconvenience and lack of hygiene for the user.

[0013] A further disadvantage is the limited size of the pincers used at present and their limited ability to support weights which exceed a certain value.

[0014] The Applicant has devised and embodied this invention to overcome these shortcomings of the state of the art, and to obtain further advantages.

SUMMARY OF THE INVENTION

[0015] The invention is set forth and characterized essentially in the main claim, while the dependent claims describe other innovative characteristics of the invention.

[0016] The purpose of the invention is to achieve a device to pick up animal excrement which will allow a convenient, quick and hygienic collection thereof, and which will not oblige the user either to bend over or bring his hands too near the excrement.

[0017] Another purpose is to achieve an economical and functional device.

[0018] In accordance with such purposes the device to pick up excrement according to the invention comprises gripper means, consisting substantially of a pincer element which can be selectively positioned between an open position and a closed position, and able to grip and pick up the excrement.

[0019] According to a characteristic feature of the present invention, the gripper means are associated with support means, comprising at least a rod element, or bar element, at one end of which said gripper means are anchored. The length of said support means is at least such as to allow the user to position the pincers on the excrement while keeping a substantially erect position. In a preferential embodiment, the support means comprise a telescopic tubular element able to assume a position of maximum extension during the pick-up operations, in order to facilitate the positioning of the pincer element on the excrement, while the user can remain in a substantially erect position, and a position of minimum bulk, for example when the device is to be carried or temporarily put away.

[0020] According to another characteristic feature, at one end of the support means there is a remote retaining element able to be associated with the upper part of the pincer element to keep it in the open position. A hinge element, associated with elastic means, is instead mounted in proximity with the end of the support means and the upper part of the gripper means and, in cooperation with the retaining element, allows to take the pincer element from its open to its closed position.

[0021] Moreover, using the support means, it is possible to act on the retaining element from a remote po-

sition, opening and closing the pincers, while remaining in a substantially erect position. The operation to pick up and remove the excrement provides to position the pincer element, previously associated with a suitable container, or bag, above the excrement and, imparting a slight pressure on said support element, using the hinge element as a fulcrum, the retaining element is released from the pincer element, activating the elastic means or allowing them to close, thus allowing the excrement to be picked up and enclosed in the bag.

[0022] It comes within the field of the invention to provide other systems to activate the pincer element from a remote position, for example a cable with a lever, or other equivalent systems.

[0023] With the device according to the invention it is therefore possible to pick up the excrement of an animal without bending over or bringing the hands near said excrement.

[0024] Another advantage is that, when not in use, the device according to the invention can assume a fold-away condition, occupying minimum space, by taking the telescopic support element to a compact position and by rotating the pincers around the hinge element until it is adjacent to the support element.

[0025] According to another characteristic, the two elements of the pincers are made in a suitable manner so that the relative external ends overlap when the pincers are in the closed position. This allows to increase the value of the weight which the pincers can support without opening.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] These and other characteristics of the present invention will be apparent from the following description of a preferential form of embodiment, given as a non-restrictive example, with reference to the attached drawings wherein:

Fig. 1 shows a side view of the device according to the invention with the pincers in the open position;
Fig. 2 shows an enlargement of a detail in Fig. 1;
Fig. 3 shows a side view of the device in Fig. 1 with the pincers in the closed position;
Fig. 4 shows a side view of the device in Fig. 1 with the tubular element in the position of minimum bulk.

DETAILED DESCRIPTION OF A PREFERENTIAL FORM OF EMBODIMENT OF THE INVENTION

[0027] With reference to Fig. 1, a device 10 to pick up animal excrement according to the present invention substantially comprises gripper means 11 and support means 30.

[0028] The gripper means 11 substantially consist of a pincer element 11a, which comprises two shells 12 and 13, hinged by means of a pin 14 one with respect to the other. Each shell 12 or 13 has an upper part 12a or 13a, and a lower part 12b or 13b.

[0029] In proximity with its upper end, the upper part 12a of the shell 12 has a hollow 15, the functions of which will be explained hereafter.

[0030] In proximity with its upper end, the upper part 13a of the shell 13 has mounted, by means of screws or other suitable means, a first part 16a of a hinge 16 which, in turn, is also attached, by means of a second part 16b, to the support means 30.

[0031] The lower part 12b of the shell 12 substantially comprises an aperture 17 and a segment 18 inclined towards the shell 13, the functions of which will be explained hereafter.

[0032] The lower part 13b of the shell 13 also comprises an aperture 19 and a segment 20 inclined towards the opposite shell 12.

[0033] In correspondence with the pin 14, the pincers 11a also comprise a V-shaped spring 22 able to take the two lower parts 12b and 13b into mutual contact, thus defining a closed position (Fig. 3) of the pincers 11a.

[0034] The support means 30 substantially consist, in this case, of a tubular element 33 (Figs. 1, 3) comprising three conical segments 33a, 33b and 33c mounted telescopically together. The tubular element 33 can thus be configured between an active position of maximum extension, wherein it facilitates positioning for the user to pick up the excrement and the activation of the pincers 11a, and an inactive position of minimum bulk (Fig. 4), wherein it can easily be put away in small spaces so that it can be carried and temporarily stored.

[0035] The segment 33c (Fig. 2) comprises, on its lower end, a retaining element, or hook 31, able to be associated with the hollow 15 of the upper part 12a in order to retain the pincers in the open position. On said segment 33c there is also a slit 32 able to allow the upper end of the part 12a to partly overlap the terminal end of the segment 33c, so that the hook 31 can cooperate with the hollow 15. Said hook 31 also has an at least partly bevelled corner in order to facilitate, in the conditions described hereafter, its exit from the hollow 15.

[0036] The coupling of the hook 31 and the hollow 15 defines an open position of the pincers 11a, since the two lower parts 12b and 13b of the respective shells 12 and 13 are divergent with respect to the relative upper parts 12a and 13a.

[0037] With the lower parts 12b and 13b in this position, it is possible to insert a bag 21 between them, folding it over the edges of said parts 12b and 13b and attaching it to the upper parts 12a and 13a, so as to form a sort of envelope inside the pincers 11a.

[0038] Taking the tubular element 33 to its position of maximum extension, and positioning the open pincers 11a above the excrement to be picked up, taking care that the latter is inside the bag 21, a slight pressure is exerted on the tubular element 33, using the hinge 16 as a fulcrum.

[0039] This pressure causes the hook 31 to be released from the hollow 15 and, due to the effect of the

spring 22, the two lower parts 12b and 13b reciprocally close, the two inclined segments 18 and 20 lift the excrement, inserting it in the bag 21, which can be widened as it partly emerges from the apertures 17 and 19 of the pincers 11a.

[0040] In this closed position the two segments 18 and 20 are partly superimposed so that the weight of the content of the bag does not overcome the force of the spring 22 and cause the pincers 11a to open.

[0041] The pick-up operations now described can be made by the user in a substantially erect position, and therefore with extreme ease and simplicity even by elderly people or people with particular problems in bending. Even when the user is confined to a wheelchair, these pick-up operations are facilitated since it is enough to adjust the length of the tubular element 33 and proceed to pick up the excrement.

[0042] It is clear, however, that modifications and/or additions of parts may be made to the device 10 as described heretofore, without departing from the field and scope of the present invention.

[0043] For example, according to a variant, release means such as buttons, levers or similar are provided on the tubular element 33 to selectively dis-associate the hook 31 from the hollow 15.

[0044] It is also clear that, although the present invention has been described with reference to specific examples, a person of skill in the art shall certainly be able to achieve many other equivalent forms of device to pick up animal excrement, all of which shall come within the field and scope of the present invention.

Claims

1. Device to pick up animal excrement comprising gripper means (11) able to grip and pick up said excrement, consisting of at least a pincer element (11a), able to be selectively positioned between an open position to pick up said excrement, and a closed position, **characterized in that** it comprises support means (30) consisting of a bar element (33) at one end of which said gripper means (11) are solidly associated, said support means (30) being able to condition the activation of said gripper means (11) from a remote position.

2. Device as in claim 1, **characterized in that** said bar element (33) is of the telescopic tubular type and is able to be configured between an active position of maximum extension during the pick-up step, and a position of minimum bulk during transport and storage.

3. Device as in claim 1, **characterized in that** a retaining element (31) is made at one end of said support means (30) and is able to be selectively associated with the upper part of said gripper means (11) to keep the latter in said open position.

4. Device as in claim 3, **characterized in that** a hinge element (16) is mounted in proximity with said end of said support means (30) and of said upper part of said gripper means (11) and is able to cooperate with said retaining element (31) to take said pincer element (11a) from said open position to said closed position.

5. Device as in claim 1, **characterized in that** said pincer element (11a) comprises two counter-positioned shells (12, 13) having respective through parts (17, 19) to house the excrement.

6. Device as in claim 5, **characterized in that** each of said two shells (12, 13) comprises at the lower part two inclined segments (18, 20) facing towards the respectively opposite shell (13, 12), said segments (18, 20) being able to lift said excrement from the ground, and to partly overlap when said pincer element (11a) is in said closed position.

7. Device as in claim 5, **characterized in that** between said two shells (12, 13) there is an elastic element (22) able to normally keep said pincer element (11a) in said closed position.

8. Device as in claim 1, **characterized in that** a release element mounted on said support means (30) is connected to said hook element (31) to allow to selectively take said pincer element (11a) from said open position to said closed position.

9. Device as in claim 1, **characterized in that** said pincer element (11a) is able to house a plastic container (21) to hygienically contain said excrement, once it has been picked up.

10. Device as in claim 1, **characterized in that** means to activate said gripper means (11) from a remote position, such as buttons, levers or similar, are associated with said support means (30).

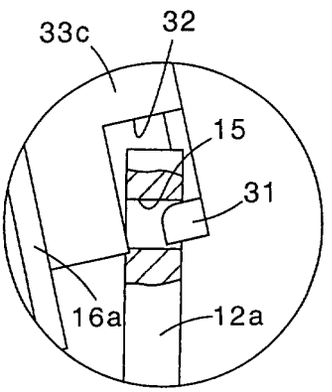
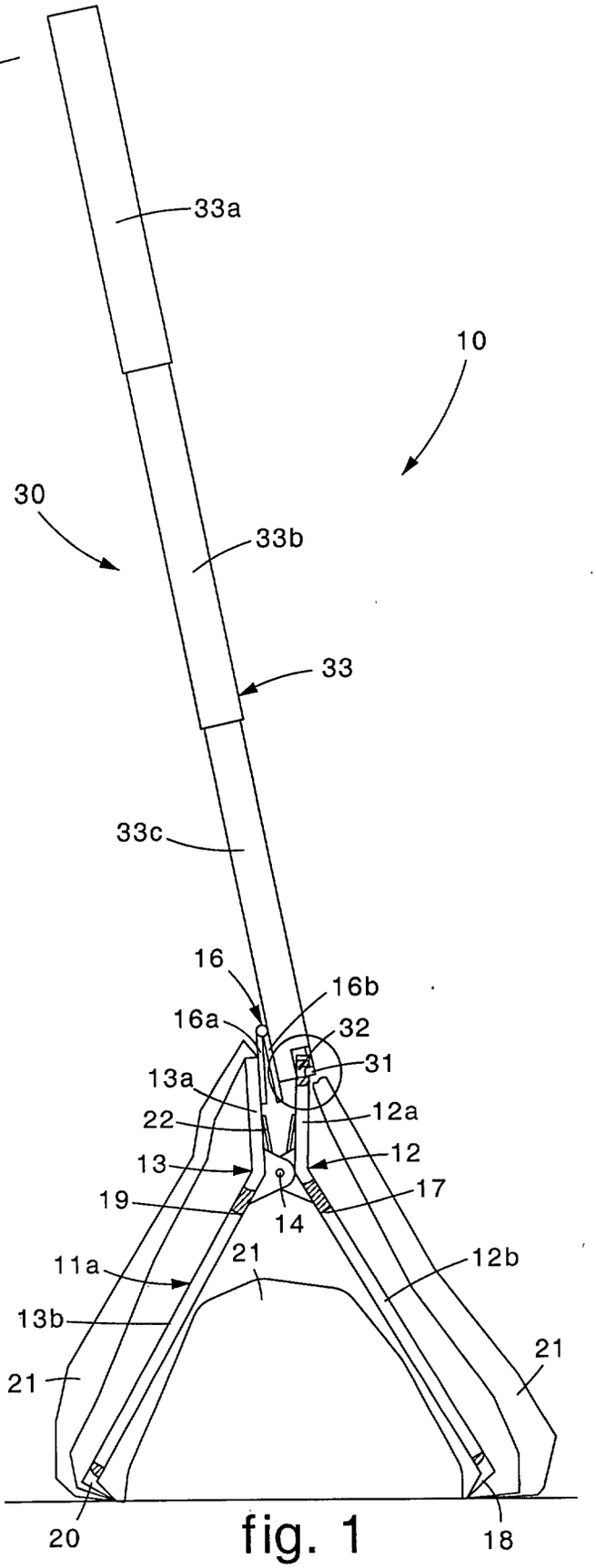

33c
32
15
31
16a
12a

fig. 2


33a
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33b
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33c
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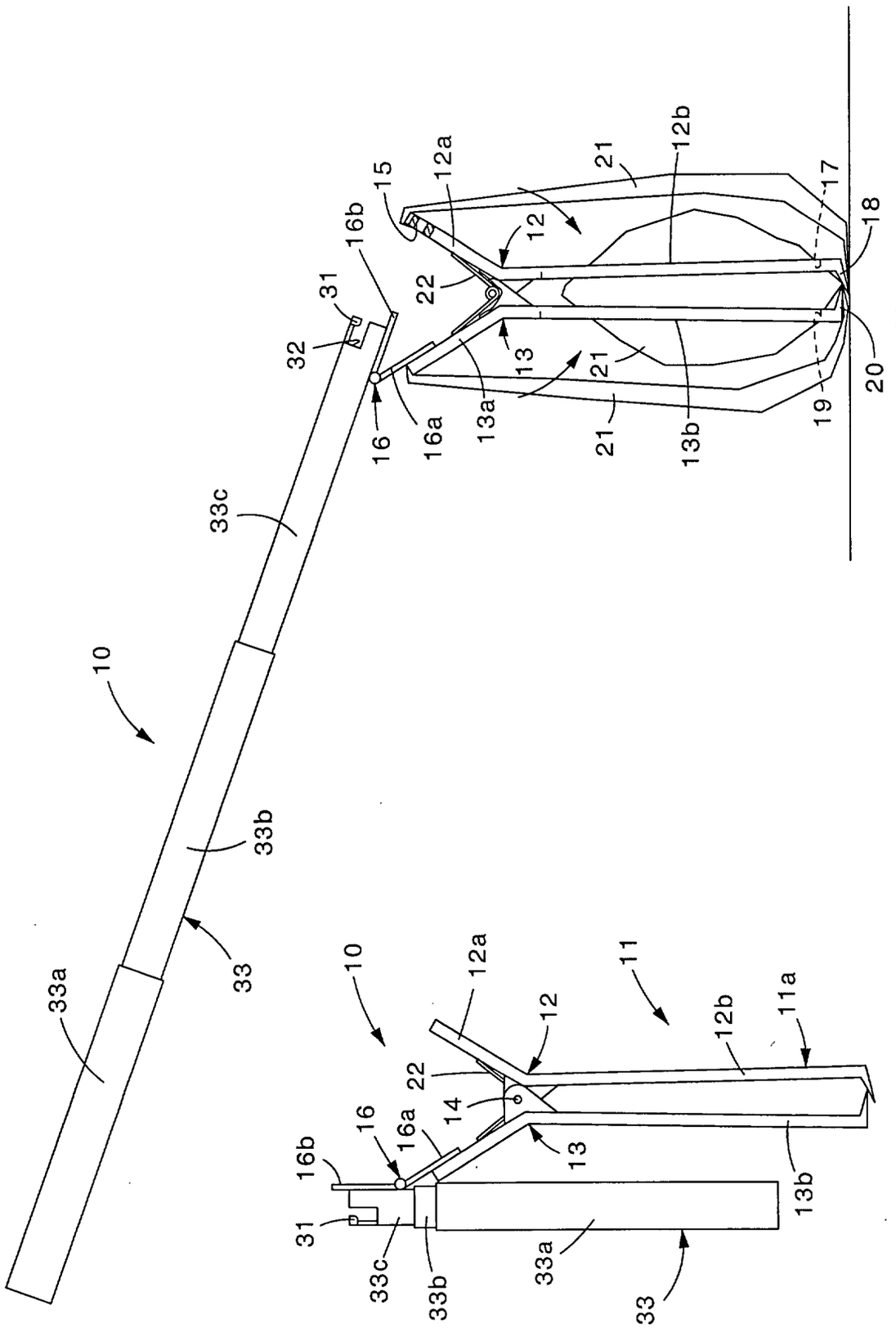
fig. 1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33a
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33b
33c
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31
16b
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16a
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12a
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12b
13b
17
18
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11
11a
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fig. 3

fig. 4