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(54) Device for picking up animal excrements, in particular dog excrements

(57) Device (1) for picking up animal excrements, in particular dog excrements, the device being provided with a cup-shaped body (4) adapted to receive the excrements and presenting an opening (6), a basically rigid transport handle (2) in order to support the cup-shaped body (4) and with a lid (9) which can be selectively coupled with said opening (6); the lid (9) being automatically led into its open position (6) against the action of two elastic elements (29) (31) by a slide (38) slidingly engaged along the handle (2) itself.

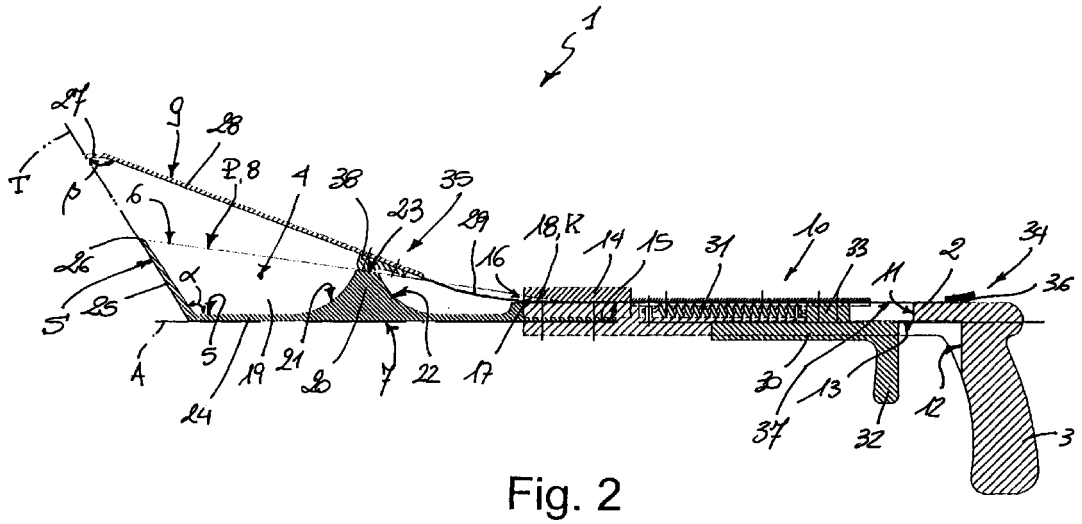

Fig. 2

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Description

DESCRIPTION OF THE INVENTION

[0001] The present invention relates to a device for picking up animal excrements, namely dog excrements.

[0002] Generally speaking, public health reasons and the last dispositions of law on public spirit, require people who love to take their pets out on the city streets to have with them specific devices to pick up the excrements that said pets may drop on the streets and pavements.

[0003] The devices for the recollection must satisfy, among others, the following requirements: they must prevent any physical contact between the person and the excrements, assure that the excrements are picked up completely and allow safe transport of the excrements to the recollection points.

[0004] It is an object of the present invention to provide a device for picking up animal excrements, in particular dog excrements, which may be simple and economical to make, easy to carry and which satisfies the above mentioned requirements.

[0005] A device for picking up animal excrements, namely dog excrements, is provided according to the present invention, said device comprising a cup-shaped body adapted to receive the excrements and presenting an opening, a basically rigid transport handle and a support for the cup-shaped body, and a lid which can be selectively coupled with said opening, the device being characterised in that it includes elastic means coupled with said lid, and guide means to guide said lid towards a respective open position against the action of said elastic means.

[0006] In the following the invention will be described with reference to the appended drawings illustrating a non-restrictive embodiment, in which figures 1 and 2 illustrate, by means of a section on a midplane, two different operative positions of a device for picking up the excrements, made according to the present invention.

[0007] With reference to figures 1 and 2, reference number 1 indicates on the whole a device for picking up animal excrements, namely dog excrements.

[0008] The device 1 comprises a basically rectilinear rigid handle 2 presenting a longitudinal axis A, and a handgrip 3, which is integral with the handle 2, and with a hammer prolongation from the handle 2 itself. In addition, the device 1 comprises a cup-shaped body 4 provided with an internal space 5 and an opening 6, which faces the opposite side of the handgrip 3, is basically trapezoidal in shape and lays on a lying plane P which is inclined with respect to the axis A itself. The body 4 defines the free end of an element 7 shaped as a small shovel, which is rigidly connected with the handle 2 at the side opposite to the handgrip 3 with respect to the handle 2 itself, and presents its own front plane surface B, which is inclined with respect to the axis A of an acute angle γ and defines plane p.

[0009] In addition, the device 1 includes a lid 9 which can be selectively coupled with the cup-shaped body 4 in order to close the opening 6 or not, and a device 10, to control the lid 9 itself, adapted to move the lid 9 between an operating open position (figure 2) and an operating close position (figure 1), in which the lid closes the opening 6 completely.

[0010] The handle 2 is provided with a front breaking 11 made on the handle 2 itself on the side of the opening 6 and with a back breaking 12, made on the handle 2 on the same side as the grip 3 which communicates with the breaking 11 by means of an internal window 13 extending for a part of the length of both breakings 11 and 12.

[0011] Besides, the handle 2 comprises a guide element 14 basically parallelepiped in shape, which is mounted on the handle 2 itself in correspondence with the joint between the handle 2 and the shovel element 7, and which presents along its whole length a through hole 15, with a basically rectangular section, which extends along the axis A. At the side towards the element 7, the hole 15 presents an outlet mouth 16, defined by an inclined surface 17 laying on the plane P and by a plane surface 17 laying on a sliding plane K, which is parallel to the axis A and which, together with the plane P itself, forms the angle γ.

[0012] The cup-shaped body 4 comprises two side walls 19 (only one of the two is shown here) parallel the one with the other and both with the axis A, which are limited in their upper part by the plane P, and a wall 20, which presents, in its longitudinal section, a basically trapezoidal shape, and is limited by the plane P and by two opposite curved surfaces 21 and 22, which converge the one towards the other and towards a flattened edge 23 coplanar with the plane P itself, and the surface of which 21 is an internal surface of the space 5.

[0013] Finally, the body 4 includes a back wall 24, which is located transversal to the walls 19 and parallel to the plane K, and which is jointed with the surface 21, and a flat wall 25, which is transversal to the walls 19, and is facing the surface 21 and presents an inlet edge 26 which defines a portion of the opening 6. The wall 25 is rigidly connected with the wall 24, forms an obtuse angle α together with the wall 24 itself, said angle varying preferably between 135° and 180°, and is adapted to serve as support base for the device 1 during the picking up of said excrements.

[0014] The lid 9 includes a flat edge 27, and a covering plate 28 integral with the edge 27 itself. The edge 27 serves as scraping element and comes into contact with the edge 26 of the wall 25 when the lid is in its close position during the use of the device. The plan view or the plate 28 presents a shape which is basically similar to that of the opening 6, forms an obtuse angle β together with the edge 27, said angle being of a determined amplitude, and when the lid 9 is in its closed position, during the use of the device, it is adapted to be placed coplanar with the plane P and serves as a sup-

port to the edge 23 in order to close the opening 6 almost hermetically.

[0015] The control device 10 for the lid 9 includes a steel lamina 29 connected to the lid 9 itself, a lever 30 for mobile closing which is integral with the lamina 29 itself, and an helical spring 31 placed between the handle 2 and the lever 30. The lamina is slidingly inserted inside the hole 15 being movable along the handle 2 and controlled by the lever 30, while the lever 30 and the spring 31 are arranged inside the breakings 11 and 10, respectively. In particular the lever 30 is movable along the respective breaking 11, and comprises a respective grip 32 which is placed basically parallel to the grip 3, and a support element 33 which is rigidly coupled with the lamina 29, being placed through the window 13. The spring 31 presents a first end connected to the support element 33, a second end connected to the handle 2 and is adapted to serve as a return element for the lever 30 in order to position the lid 9 in its opening position.

[0016] Besides, the device 10 includes a device 34 to block the lamina 29 located at an end of the lamina 29 itself, and a guide device 35 coupled with the lamina 29 in correspondence with the end of the lamina 29 itself and integral with the lid 9.

[0017] The blocking device 34 includes a pivot 36 extending from the handle 2 to the grip 3 in a basically front position, and a hole 37 made through the lamina 29, and adapted to be engaged by the pivot 36 in order to block the lamina 29 itself against the return action of the spring 31.

[0018] The guide device 35 includes a guide surface defined by the surface 22 and a slide 38 in which the plate 28 is mounted, and adapted to slidingly engage the surface 22 in order to move the lid 9 away from the plane P, against the action of the lamina 29, when the lid 9 itself is being positioned in its open position.

[0019] As already set forth before, the surface 22 is a curved surface and its profile is such that when the lid 9 is moved into its open position and, vice versa, when the lid 9 is moved into its close position, the edge 27 of the scraper can follow a direction T which is basically rectilinear and extends on a plane 8 defined on the wall 25 of the cup-shaped body. In this way, since during the picking up operation the wall 25 lays almost completely against the pavement, the edge 27 scrapes the pavement itself and removes said excrements completely.

[0020] The operation of the device 1 will now be disclosed starting from a situation in which the device 1 is transported and in which: the lid 9 is placed to close completely the opening 6; the handgrip of the lever 30 is arranged basically against the handgrip 3 of the handle 2, so that the spring 31 is stretched and charged and the pivot 36 is arranged inside the hole 37 in order to block the lamina 29 against the return action of the spring 31.

[0021] The device 1 is normally used by holding the handgrip 3 with the palm of the hand and the lid 9 is automatically brought into its open position by the spring 31 after the pivot 36 is disengaged from the hole 37. In order to disengage the pivot 36 from the hole 37, it is enough to lift the lamina 29, in correspondence with its free end 39, preferably with the thumb of the same hand that holds the handgrip 3.

[0022] The sliding of the lamina 29, on the plane K, parallel to the axis A because of the elastic action of the spring 31, causes the lid 9 to move towards its open position because of a translation of the lid on the plane K and of a basically rotation movement of the lid 9 itself in relationship with both the mouth 16 and the plane P determined by the engagement of the slide 38 against the guide surface 22 due to the elastic action of the lamina 29, which bends from the mouth 16. The composition of the translation and rotation movements of the lid 9 determines a displacement of the edge 27 along the trajectory T which will be followed again by the edge 27 itself during the closing of the lid 9 itself.

[0023] When the control lever 30, slides inside the respective breaking 11 and goes against the handle 2, the lid 9 reaches its open position, and the device 1 is placed on the pavement so that the plane S basically corresponds with the pavement itself, and the said excrements lay between the edges 26 and 27.

[0024] At this moment, while keeping hold of the grip 32 with the fingers of the hand that is already holding the grip 3, it will be enough to bring the handgrip 32 near to the handgrip 3 itself to bring the lid back to its closed position. The displacement of the edge 27 along the trajectory T and the angle β allow the edge 27 itself to scrape the pavement perfectly removing the said excrements with no risk of spreading the excrements themselves on the pavement. The scraping action of the edge 27 is assured by the inclination of the edge 27 itself in relationship with the plate 28, and is also determined by the elastic action of the lamina 29, which bends after the mouth 16 thus tending to take the edge 27 back towards the edge 26.

[0025] While the handgrip 32 is approaching the handgrip 3, the spring 31 is again stretched and therefore charged, and the approaching stops when the pivot 36 enters into the hole 37. This last operation also takes place thanks to the deformation of the lamina 29, which is always kept into contact with the pivot 36 itself.

[0026] Once said excrements have been picked up and lay inside the space 5, and the lid 9 is in its close position, it is possible to carry the excrements themselves towards any collection point simply by holding the device 1 by the handgrip 3; the device needs not being kept in any special position and no particular precautions must be taken; the lid 9 is kept closing the opening 6 by the elastic action of the lamina 29, which is slightly bent from the mouth 16 towards the lid 9 itself.

[0027] From what it has been disclosed above it is clear that the device 1 represents an excellent and economical solution for those people who love to take their pets out but don't want the pets to leave excrements on the pavements. Besides, this device 1 is very easy to

use, since both the spring 31 and the lamina 29 make the whole operation of the device basically automatic.

Claims

1. Device (1) for picking up animal excrements, namely dog excrements, the device (1) including a cup-shaped body adapted to receive the excrements and presenting an opening (6), a basically rigid transport handle (2) to support the cup-shaped body (4) and a lid (9) which can be selectively coupled with said opening (6); the device being characterised in that it includes elastic means (29) coupled with said lid and guide means (35) to guide said lid (9) inside a respective opening position (6) against the action of said elastic means.

2. Device as claimed in claim 1, characterised in that said guide means (35) include a guide (22) supported by said handle and a slide (38) which can be slidingly engaged along the guide (22) itself; said lid (9) including a scraping edge (27) which can move along a determined trajectory (T) given by the sliding coupling of the slide (38) along said guide (22).

3. Device as claimed in claim 2, characterised in that said cup-shaped body (4) includes a first and a second wall (25, 20) facing each other, and presenting a scraping edge (27) and a guide curved surface (22) defining said guide (22).

4. Device as claimed in claim 2 or 3, characterised in that said elastic means (29) include a lamina (29) slidingly mounted along said handle (2), and supporting both said lid (9) and said slide (38); said scraping edge (27) being adapted to move along said trajectory (T) against the elastic action of said lamina (29).

5. Device as claimed in claim 4, characterised in that said cup-shaped body (4) includes and opening (6) arranged on a lying plane (P) inclined by a determined angle (γ) in relationship with said handle (2); said inlet edge (26) being defined by the intersection of said lying plane (P) with an additional lying plane (S) defined by said first wall (25).

6. Device as claimed in claim 4 or 5, characterised in that it comprises a control lever (30) of said lamina (29) slidingly mounted along said handle (2).

7. Device as claimed in claim 6, characterised in that it comprises additional drive elastic means (31) for said lamina (29) located between the lamina (29) itself and said handle (2), and including a spring (31) engaged on said handle (2) and on said lever (30); the lever (30) being slidingly mounted along said handle (2) in order to charge said spring (31).

8. Device as claimed in any claim from 4 to 7, characterised in that said lid (9) includes a covering plate (28) supporting said scraping edge (27) and connected to said lamina (29), the scraping edge (27) and the covering plate (28) forming an angle (β) between them of a determined amplitude.

9. Device as claimed in any of the previous claims, characterised in that it includes a handgrip (3) which is integral with said handle (2) and is placed as a hammer in relationship with the handle (2) itself.

10. Device as claimed in claim 9, characterised in that it comprises a shovel element (7) mounted along said handle (2) on the opposite side of the handle (2) itself in relationship with said handgrip (3).

11. Device to pick up animal excrements basically as described with reference to the appended drawings.

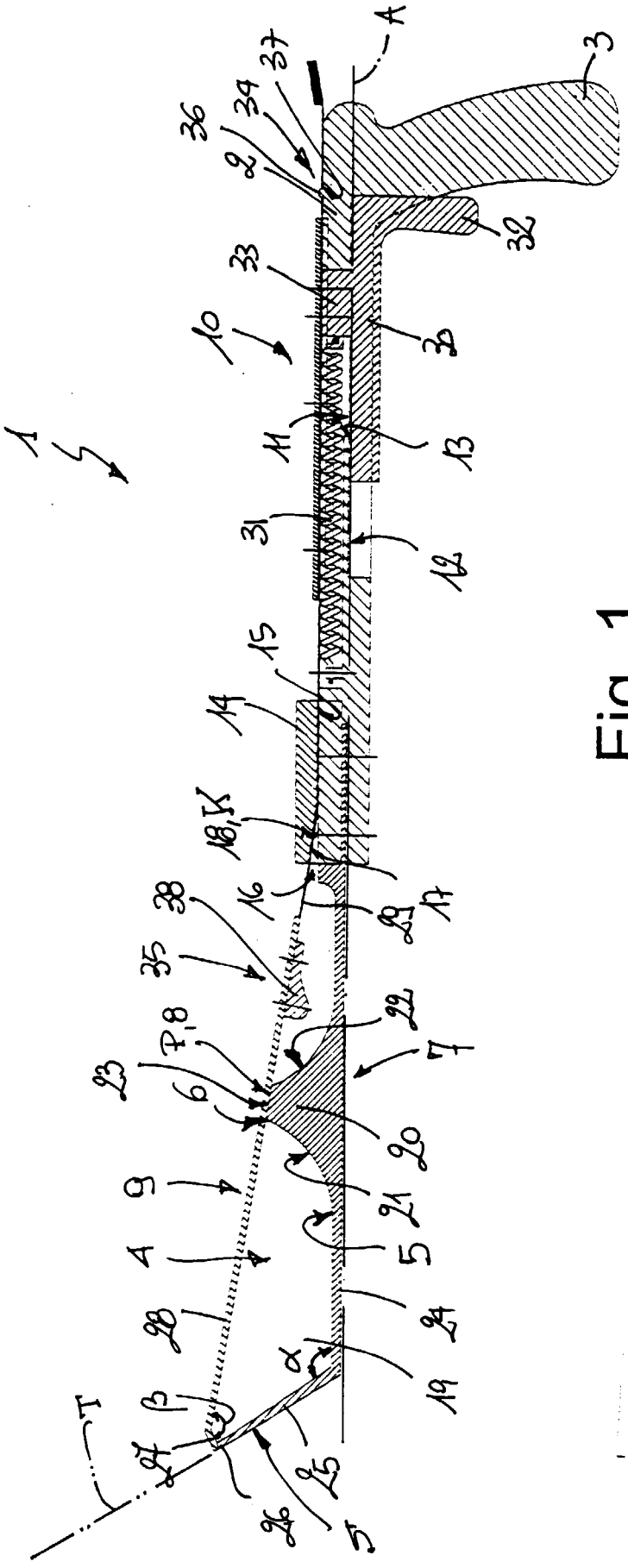
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Fig. 1

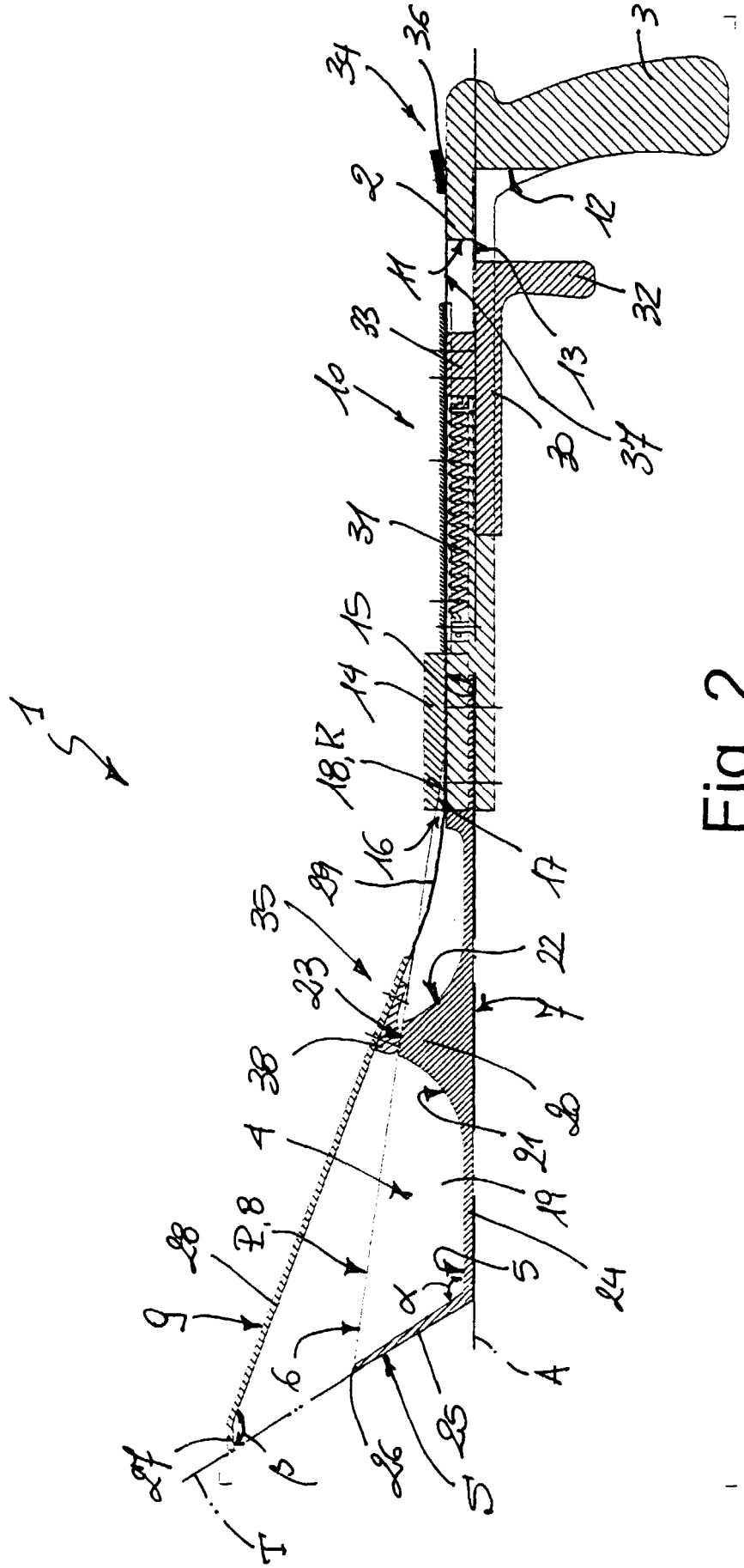
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Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 99 11 5217

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	* abstract; figures *	2-8	
Y	US 4 032 182 A (D ATH PHILIP O) 28 June 1977 (1977-06-28)	2-8	
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A	DE 90 04 420 U (STRUWE) 20 September 1990 (1990-09-20) * claims; figures *	1-11	
A	DE 83 26 234 U (LORENZ) 1 March 1984 (1984-03-01) * abstract *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

E01H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	5 October 1999	Blommaert, S

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