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(54) Supporting base for road signs and the like

(57) A supporting base (1) for road signs and the like, suitable to be buried and comprising means (2) for the detachable fixing of at least one indicator element (3), for its rapid removal during road maintenance operations, and the like.

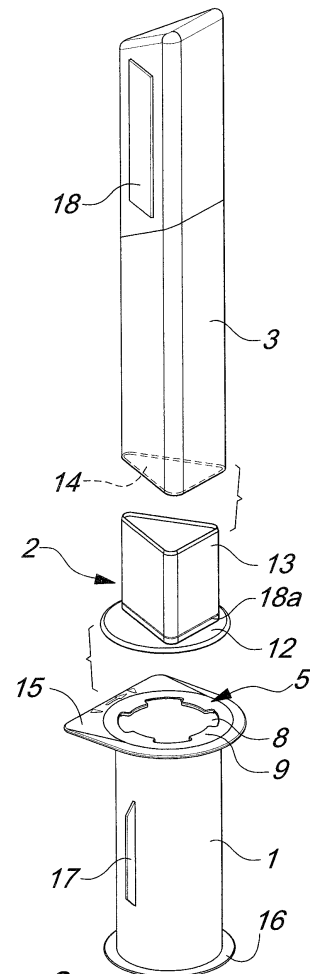


Fig. 2

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Description

[0001] The present invention relates to a supporting base for road signs and the like.

[0002] As it is known, road signs and the like, such as for example wayside posts distributed alongside roads in order to indicate their edge, are generally buried with a respective lower portion and protrude from the ground with an upper indication portion, as occurs for example in the case of wayside posts on roads, in which the portions that protrude from the ground are provided in an upper region with reflectors for spotting them at nighttime when they are lit by the headlights of passing vehicles.

[0003] However, these road signs and the like, by being fixed to the ground, can hinder road maintenance operations, for example when it is necessary to cut the grass that grows along roads: maintenance personnel is in fact forced to go around these signs with lawnmowers, power mowers and the like, and if trucks provided with mowing heads are used, said heads must be lifted when they reach the vicinity of the device and must then be lowered back onto the ground, further producing obvious losses in terms of time.

[0004] The aim of the present invention is to solve the problems described above, by providing a supporting base for road signs and the like which allows easy and quick maintenance of roads, particularly of roadsides.

[0005] Within this aim, an object of the invention is to provide a base which, by way of its particular constructive characteristics, is capable of giving the greatest assurances of reliability and safety in use.

[0006] Another object of the present invention is to provide a base which is simple, relatively easy to provide in practice, effective in operation and also competitive from an economic standpoint.

[0007] This aim and these and other objects that will become better apparent hereinafter are achieved by a supporting base for road signs and the like, characterized in that it is suitable to be buried and comprises removable fixing means for at least one indicator element, for its rapid removal during road maintenance operations and the like.

[0008] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment of a supporting base for road signs and the like according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a base associated with an indicator element, according to the invention; Figure 2 is an exploded perspective view of a base with an indicator element, according to the invention; Figure 3 is a top view of the base, according to the invention;

Figure 4 is a top view of the base coupled to a support, according to the invention;

Figure 5 is an exploded side view of the base and of

the support;

Figure 6 is another transverse sectional side view of the base and of the support, coupled to each other; Figure 7 is a side view of the detail VII of Figure 5; Figure 8 is a sectional side view of the detail VIII of the base shown in Figure 6;

Figure 9 is a perspective view of a second embodiment of the base according to the invention;

Figure 10 is a top view of the base and of the support of the wayside post of Figure 9 coupled to each other, according to the invention.

[0009] With reference to the figures, the reference numeral 1 generally designates a supporting base for road signs and the like according to the invention.

[0010] The base 1 is suitable to be buried and comprises detachable fixing means 2 for at least one indicator element 3, so as to allow advantageously its rapid removal during road maintenance operations.

[0011] The fixing means 2 comprise a support, which is interposed detachably between the base 1 and the indicator element 3; the support 2 comprises an interlocking portion 4, which can be inserted detachably in a respective receptacle 5 of the base 1.

[0012] In particular, the interlocking portion 4 comprises a lower collar 6, which is provided peripherally with a distributed set of fins 7, which can be inserted, substantially downward from above, into corresponding compartments 8, which are distributed along an internal edge 9 of the receptacle 5. The fins 7 can engage by interlocking below the edge 9 by rotation in a preset direction of the support 2, so as to allow its detachable locking to the base 1. Conveniently, such preset direction matches the direction of advancement of the vehicles that travel on the roadway, so that the air displacement caused by said vehicles, particularly by trucks or other large vehicles, cannot cause any disengagement of the support 2 from the base 1.

[0013] Positively, means for stopping the rotation of the support 2 with respect to the base 1 are provided and comprise at least one protrusion 10 on at least one fin 7 of the interlocking portion 4 and at least one recess 11 provided in a lower region on the internal edge 9 of the receptacle 5: the protrusion 10 can engage detachably in the recess 11 so as to lock the support 2 to the base 1.

[0014] The pairs constituted by fins 7 and compartments 8 are preferably four and cover approximately 90° each.

[0015] Conveniently, the protrusion 10 and the recess 11 are provided in two successive pairs of fins 7 and compartments 8, in order to force the reassembly of the indicator element 3 onto the base 1 always with the same relative orientation.

[0016] The support 2 forms, above the collar 6, a disk 12 for abutment against the edge 9 of the receptacle 5, and further comprises an upper mating portion 13, which can be inserted detachably by interlocking in an open lower end 14 of the indicator element 3.

[0017] The mating portion 13 has a substantially triangular transverse cross-section, which is complementary to the transverse cross-section of the indicator element 3; for example, the transverse cross-section of the indicator element 3 is similar to the transverse cross-section of the protruding part of conventional wayside posts.

[0018] The base 1 is conveniently hollow and comprises, in an upper region, substantially flush with the ground, a perimetric rim 15 for abutment, with its lower face, against the surface of the ground, and further comprises locking means which are suitable to prevent its extraction from said ground.

[0019] Such locking means are constituted by a lower perimetric lip 16 of the base 1.

[0020] In order to prevent the base 1 from being able to rotate once it has been buried, the base comprises at least one lateral ridge 17 for stopping rotation and preferably comprises two diametrically opposite lateral ridges 17.

[0021] The indicator element 3 can comprise effectively means 18 for visually indicating the edges of the road, constituted for example by reflectors.

[0022] Conveniently, there is at least one fracture region 18a, constituted for example by a notch or the like, for protecting the occupants of vehicles in case of an accidental impact against it. Advantageously, the fracture region 18a is formed above the interlocking portion 4 of the support 2, so that the base 1, and particularly the seat 5, remain closed upward and therefore are not obstructed by debris, dirt or other material when the indicator element 3 is knocked over. Positively, the knocked-over indicator element 3 and the support 2 broken as a consequence of an impact can be replaced easily and quickly, since the base 1 remains intact.

[0023] In practical operation, once the base 1 has been buried appropriately, the support 2 is fixed rapidly and detachably thereto and has the indicator element 3 inserted therein in an upper region. In case of maintenance operations, such as for example grass mowing operations, the indicator element 3, together with the support 2, can be removed rapidly, so as to facilitate said mowing, without requiring the operator to go around it or without requiring, if trucks provided with mowing heads are used, to lift said heads when they approach said element, and then lower them back onto the ground, thus allowing an obvious saving in terms of time.

[0024] Conveniently, reference notches are provided on the support 2 and on the base 1 in order to facilitate their assembly.

[0025] The indicator elements 3 can be constituted for example by upper portions of wayside posts and positively can be produced starting from traditional wayside posts, by cutting the protruding part thereof at a suitable height, since they have a similar transverse cross-section. Favorably, they can be replaced rapidly after an accidental impact of a vehicle.

[0026] It is noted in any case that the indicator element 3 can have any shape and size and can for example even

be considerably tall, so as to support for example road signs, such as temporary roadworks signs, and the like; the indicator element 3 can be constituted for example by poles or barriers, indicators and others.

[0027] In practice it has been found that the invention fully achieves the intended aim and objects, since the base 1, by allowing quick and rapid removal of the indicator element 3, allows quick and easy maintenance of roads, particularly of roadsides.

[0028] In a second embodiment of the invention, the base 1 can comprise a supporting element 19 for the insertion of a rod-like indicator element 20 which protrudes from the ground, such as for example a snow marker pole, a stake, and the like.

[0029] The supporting element 19 can be inserted by interlocking in a lower region in the base 1 and is provided with a central receptacle 21 for the insertion of a respective end of the rod-like element 20, the transverse cross-section of which is complementary with respect to the cross-section of the receptacle 21.

[0030] The supporting element 19 comprises a plurality of peripheral tabs 22, which are suitable to abut in an upper region against a corresponding shoulder 23 of the base 1. In order to allow the passage of the rod-like element 20, the support 2 comprises a diaphragm 24, which can be removed in particular by pressing the rod-like element 20 thereon; in another alternative embodiment, not shown in the figures, the means 2 for fixing to the base 1 are constituted by a lower contoured portion of the indicator element 3, which can be engaged detachably by interlocking with the base 1. All the details may further be replaced with other technically equivalent ones.

[0031] In the previous exemplary embodiments, individual characteristics, given in relation to specific embodiments, may actually be interchanged with other different characteristics that exist in other exemplary embodiments.

[0032] Moreover, it is noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

[0033] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0034] In practice, the materials used, as well as the shapes and the dimensions, may be any according to requirements and to the state of the art without thereby abandoning the scope of the protection of the appended claims.

[0035] The disclosures in Italian Patent Application No. BO2004A000826 from which this application claims priority are incorporated herein by reference.

[0036] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the

interpretation of each element identified by way of example by such reference signs.

Claims

1. A supporting base for road signs and the like, **characterized in that** it is suitable to be buried and comprises means (2) for the detachable fixing of at least one indicator element (3), for its rapid removal during road maintenance operations, and the like. 10
2. The base according to claim 1, **characterized in that** said fixing means (2) comprise at least one support, which is interposed detachably between said base (1) and said indicator element (3). 15
3. The base according to claim 1, **characterized in that** said fixing means (2) are constituted by a lower contoured portion of said indicator element (3). 20
4. The base according to claims 1 and 2, **characterized in that** it comprises at least one receptacle (5) for at least one respective portion (4) for the detachable interlocking of said support (2). 25
5. The base according to claim 4, **characterized in that** said interlocking portion (4) comprises a lower collar (6), which is provided peripherally with a distributed arrangement of fins (7), which can be inserted, substantially downward from above, into corresponding compartments (8) which are distributed along an internal edge (9) of said receptacle (5), said fins (7) being engageable by interlocking below said edge (9) by rotation in a preset direction of said support (2), for the removable locking of said support (2) to said base (1). 30
6. The base according to claim 5, **characterized in that** said predefined direction matches the advancement direction of the vehicles that travel along the roadway. 35
7. The base according to one or more of the preceding claims, **characterized in that** it comprises means for stopping the rotation of said support (2). 40
8. The base according to claim 7, **characterized in that** said stop means comprise at least one protrusion (10) on at least one fin (7) of said interlocking portion (4), and at least one recess (11) provided in a lower region on said internal edge (9) of said receptacle (5), said protrusion (10) being detachably engageable in said recess (11) in order to lock said support (2) to said base (1). 45
9. The base according to claim 8, **characterized in that** the pairs constituted by fins (7) and compartments (8) are preferably four and cover approximately 90° each, and **in that** the protrusion (10) and the recess (11) are provided in two successive pairs of fins (7) and compartments (8). 50
10. The base according to one or more of the preceding claims, **characterized in that** said support (2) forms, above said collar (6), a disk (12) for abutment against said edge (9) of said receptacle (5). 55
11. The base according to one or more of the preceding claims, **characterized in that** said support (2) comprises an upper mating portion (13), which can be inserted detachably by interlocking in an open lower end (14) of said indicator element (3).
12. The base according to one or more of the preceding claims, **characterized in that** it comprises, in an upper region, substantially flush with the ground, a perimetric rim (15) for abutment, with the lower face, against the surface of the ground.
13. The base according to one or more of the preceding claims, **characterized in that** it comprises locking means which are suitable to prevent its extraction from the ground.
14. The base according to claim 13, **characterized in that** said locking means are constituted by a lower perimetric lip (16) of said base (1).
15. The base according to one or more of the preceding claims, **characterized in that** it comprises at least one lateral ridge (17) for stopping rotation when it is buried.
16. The base according to one or more of the preceding claims, **characterized in that** it is hollow.
17. The base according to one or more of the preceding claims, **characterized in that** said indicator element (3) comprises means (18) for visually indicating the road edges.
18. The base according to one or more of the preceding claims, **characterized in that** it comprises at least one fracture region (18a), which is formed above said interlocking portion (4) of said support (2), in order to protect the occupants of vehicles in case of accidental impact.
19. The base according to one or more of the preceding claims, **characterized in that** it comprises at least one supporting element (19) for the insertion of a rod-like indicator element (20) which protrudes from the ground.

20. The base according to claim 19, **characterized in that** said supporting element (19) can be inserted by interlocking in a lower region into said base (1) and comprises at least one receptacle (21) for the insertion of a respective end of said rod-like element (20). 5
21. The base according to one or more of the preceding claims, **characterized in that** it comprises, in a lower region, an abutment shoulder (23) for said supporting element (20). 10
22. The base according to one or more of the preceding claims, **characterized in that** said support (2) comprises a removable diaphragm (24) for the passage of said rod-like element (20). 15

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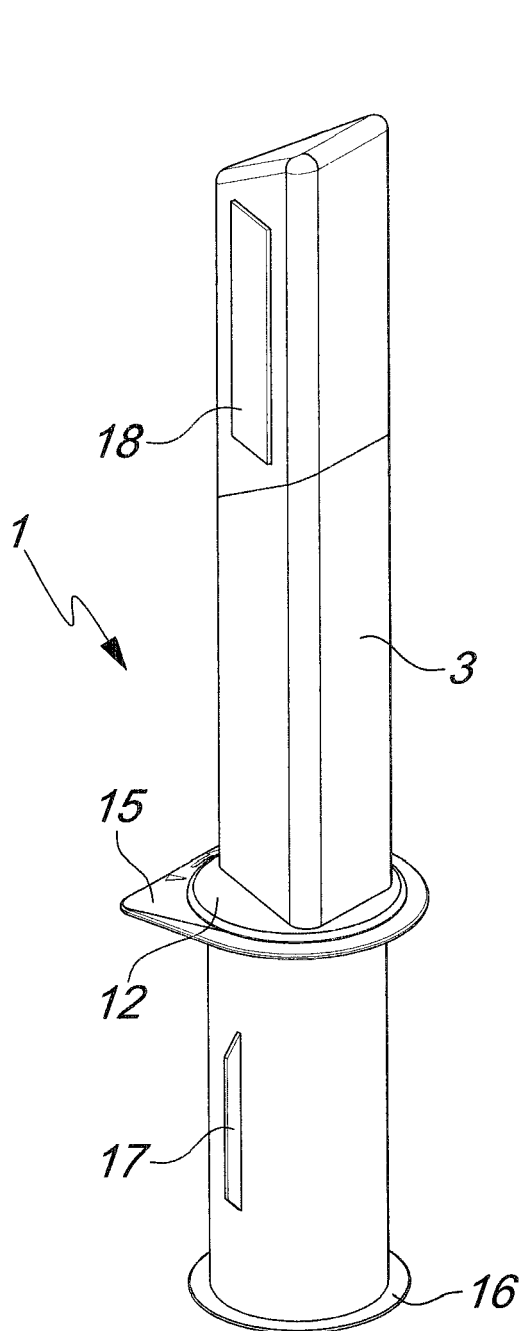


Fig. 1

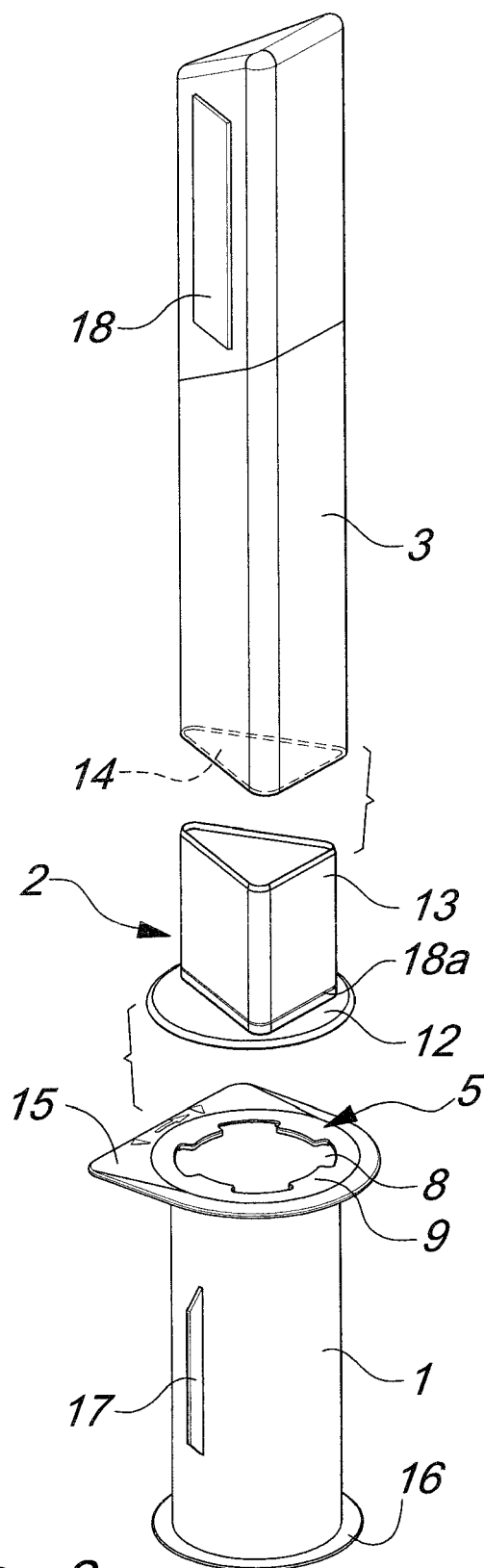


Fig. 2

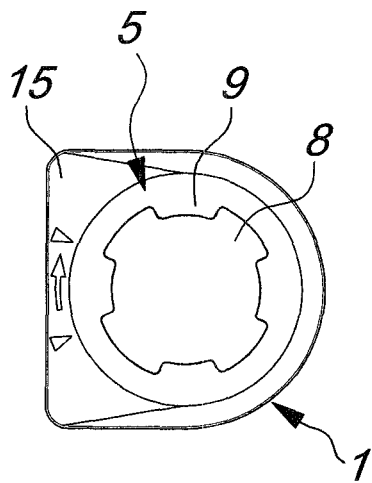


Fig. 3

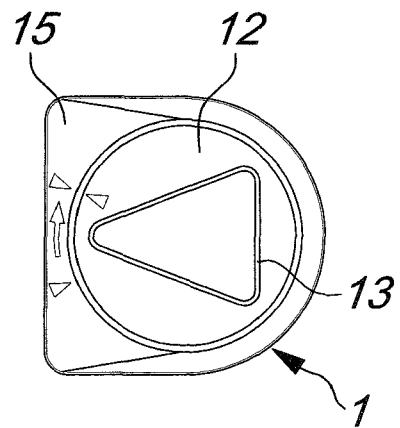


Fig. 4

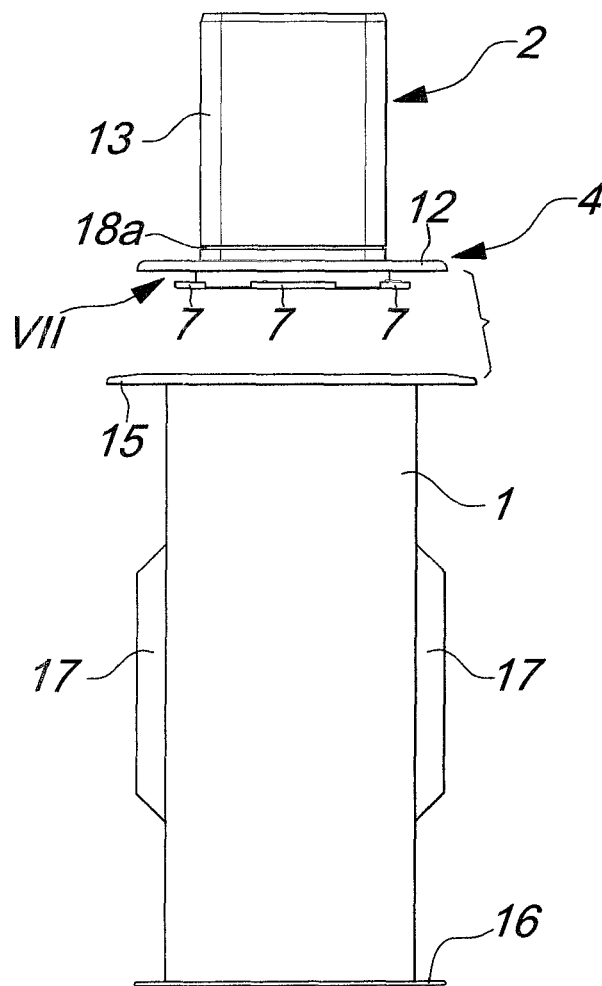


Fig. 5

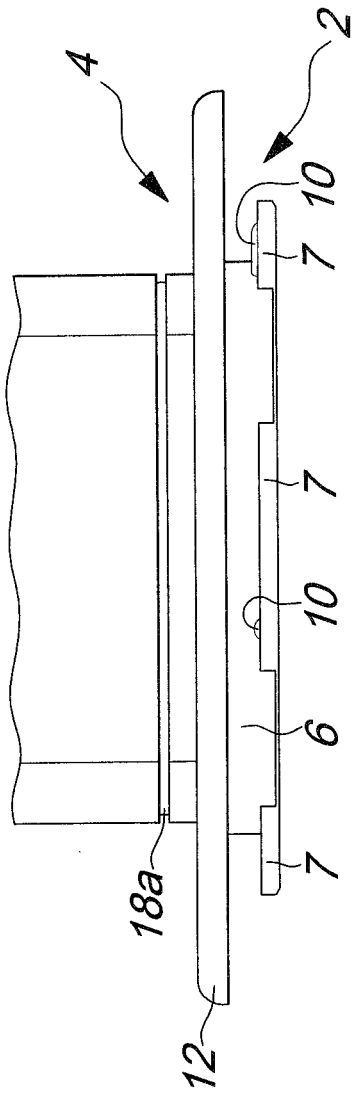


Fig. 1

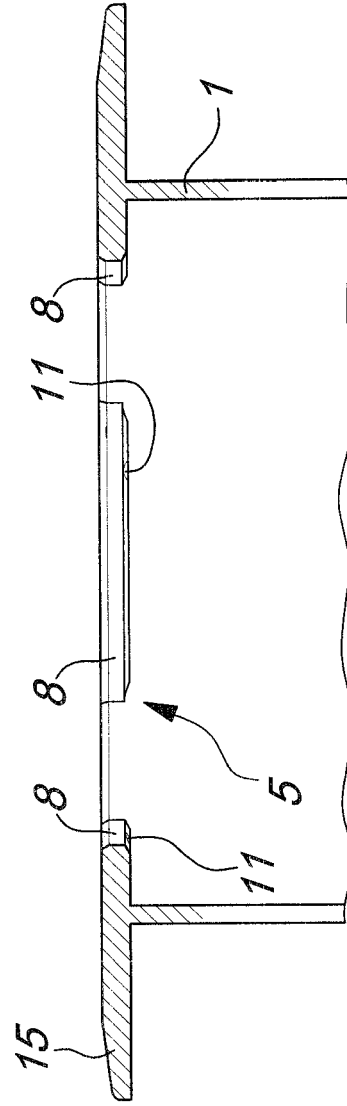


Fig. 8

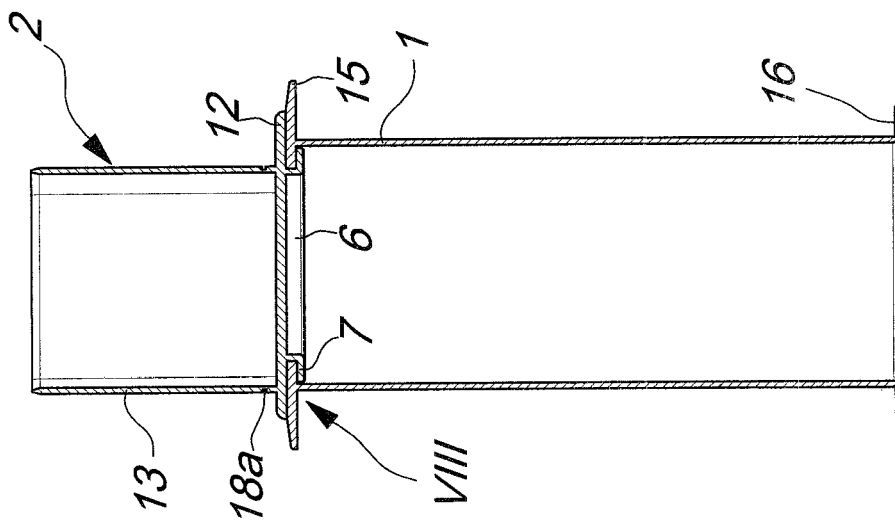


Fig. 9.

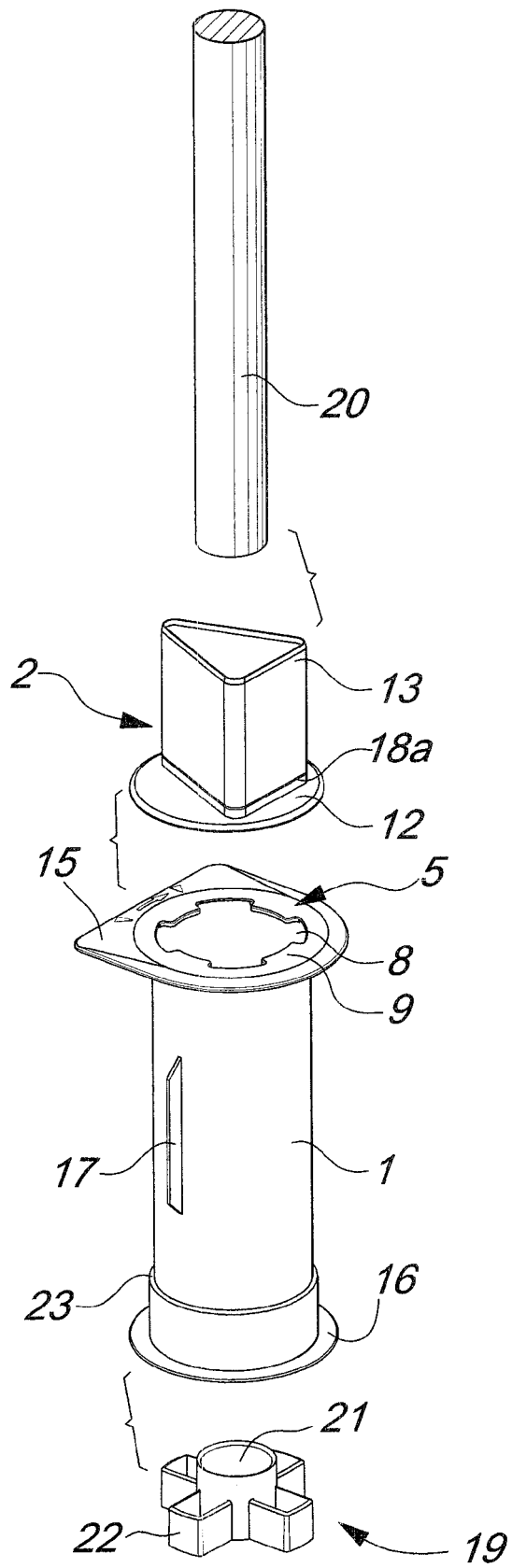


Fig. 9

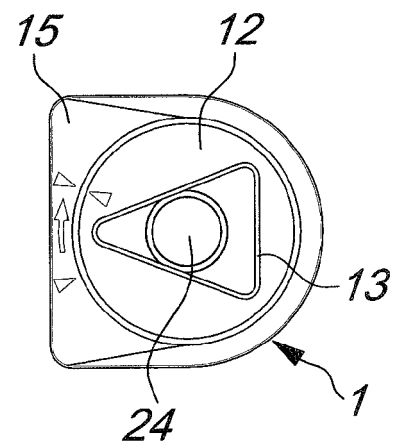


Fig. 10



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 5 492 429 A (HODGES ET AL) 20 February 1996 (1996-02-20) * column 5, line 34 - line 52 * * figure 7 * -----	1,2,4,5, 10-16, 19,20	INV. E01F9/011
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A	US 4 327 514 A (BOURQUE ET AL) 4 May 1982 (1982-05-04) * the whole document * -----	11	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 24 March 2006	Examiner Geivaerts, D
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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24-03-2006

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