



(11) **EP 2 128 341 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
02.12.2009 Bulletin 2009/49

(51) Int Cl.:
E01F 9/06 (2006.01)

(21) Application number: **09380113.2**

(22) Date of filing: **28.05.2009**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL
PT RO SE SI SK TR**

(30) Priority: **28.05.2008 AR M080102248 U**

(71) Applicant: **Prétola, Alejandro**
1063 Ciudad de Buenos Aires (AR)

(72) Inventor: **Prétola, Alejandro**
1063 Ciudad de Buenos Aires (AR)

(74) Representative: **Gil-Vega, Victor**
Corazón de Maria, 6
28002 Madrid (ES)

(54) **Signaling point module for use on the road surface**

(57) A module manufactured in colors which are not altered by use as they are inherent to the constitutive material thereof, in order to conform - with a succession thereof - traces delineating lanes, restricted areas, indicative arrows and other graphisms applicable to traffic signaling on roads, streets, gas stations, parking lots, etc., said module (1) having a troncoconical conformation and a very reduced height, the upper base (2) thereof having a diameter significantly lower than the one of the bottom base (3), in such a way that the enveloping face thereof is substantially a downward annulus slightly inclined towards the outer perimeter, the center thereof having a vertical orifice (5) with a beveled upper entrance (6),

wherein the milled head (7) of a screw (8) is hold, in such a way that the module is fixed on its bottom base supported onto the surface by passing the clamp screw through said orifice so as to insert the opposite end thereof into another orifice made on the road surface, provided with an expandable anchor screw (9), a bit or a similar anchor means, thus assuring on the basis of said conformation, constitutive material and anchor means, that ongoing traffic stepping thereonto will not cause any transversal forces resulting in alteration of positioning and coloration thereof.

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Description

Object and Background of the invention

[0001] The present invention refers to a signaling point module for use on the road surface, manufactured in colors which are not altered by use as they are inherent to the constitutive material thereof, in order to conform - with a succession thereof - traces delineating lanes, restricted areas, indicative arrows and other graphisms applicable to traffic signaling on roads, streets, gas stations, parking lots, etc., said module having a troncoconical conformation and a very reduced height, the upper base thereof having a diameter significantly lower than that of the bottom base, in such a way that the enveloping face thereof is substantially a downward annulus slightly inclined towards the outer perimeter, the center thereof having a vertical orifice with a beveled upper entrance, wherein the milled head of a screw is held, in such a way that the module is fixed on its bottom base supported on the surface by passing the clamp screw through said orifice so as to insert the opposite end thereof into another orifice made on the road surface, provided with an expandable anchor screw, a bit or a similar anchor means, thus assuring on the basis of said conformation, constitutive material and anchor means, that ongoing traffic stepping thereonto will not cause any transversal forces resulting in alteration of positioning and coloration thereof.

[0002] In fact, the present module provides, by means of the inclined perimeter of the above-mentioned annulus, a kind of ramp for smooth ascending and subsequent descending in either way overstepped by the wheel of a vehicle, preventing same from absorbing lateral strengths, receiving only the vertical force of its own weight which does not undermine the fixed state thereof.

[0003] Without altering the functional principle disclosed herein, it is possible for the modules destined to skidding and/or detention zones to have accessories such as at least a monolithic fitting, preferably cylindrical, perpendicularly stemming from the bottom face thereof in an eccentric way, to be embedded into orifices made on the road surface, enabling resistance to transversal forces caused by ongoing traffic conditions and for the bigger modules to have as attachment means onto the surface a plurality of screws distributed in a concentrically circular trace, passing through monolithic fittings, preferably cylindrical, perpendicularly stemming from the bottom face thereof, in such a way that, by clamping into orifices made on the road surface, they can reinforce anchoring and work cooperatively with the transversal resistance thereof.

[0004] Well-known road surface signaling means contemplate painting of traces or points with resistant paints, thermally adhered tapes or points and polygonal or pointed studs in a hill-like fashion with anchor spikes within the bottom face thereof.

[0005] Painted traces face the problem of being easily

discolored or even blurred in short time due to intermittent traffic or altered by the detachment of the upper layer of the road surface when the asphalt layer is exposed to temperatures resulted from solar incidence.

[0006] Frequently used, thermally adhered tapes or points face the problem of being a highly expensive material which is very rapidly deteriorated with use, deformed by transversal detachment upon insufficient anchoring, and their partial substitution without losing the delineating trace is really difficult.

[0007] Finally, the polygonal or pointed studs in a hill-like fashion with anchor spikes are easily detachable because their customary volumetric conformation provides transversal resistance to ongoing traffic, the incidence of which undermines the effective attachment thereof.

[0008] In view of this, the main object of the present utility model application is to provide a signaling point module for use on the road surface, the anchoring thereof being simple and safe, easily replaceable, the conformation of which is performed in a plastic material which is highly resistant to mechanical forces and to chemical and climatic agents; it may be stepped onto by oncoming traffic, acting as a ramp, which minimizes the requirement of transversal forces, the position thereof being secured by the attachment means thereof, the configured trace being unaltered.

[0009] Another object of the utility model application is to provide signaling point modules on the road surface of several colors and sizes, in order to conform traces differentiated in accordance with established codes, said colors being unaltered by wear and tear, as they are inherent to the constitutive material thereof, which may include reflective pigments.

[0010] As a result, the present application provides a new way in signaling elements on the road surface imparting a better use to the function to which they are destined.

Description of the drawings

[0011] In order to carry out the advantages disclosed herein and to enable the understanding of the constructive and functional features of the signaling point module for use on the road surface, a preferred embodiment is described below, by means of an illustrative scheme and without a determined scale on the figures enclosed. It should be pointed out that, being an example, it does not imply a limitation whatsoever of the module but it presents a mere illustration of the basic conception on which it is based.

Figure 1 is an exploited perspective view of the module having an anchor means.

[0012] Figure 2 is a cross-sectional view along a diametric plane thereof.

Figure 3 is an upper plan view thereof.

Figure 4 is a bottom plan view thereof, with two clamping fittings.

Figure 5 is a cross-sectional view along a diametric plane thereof, with two clamping fittings.

Figure 6 is a bottom plan view thereof, with six clamping fittings coinciding with six clamp screws.

Figure 7 is a cross-sectional view along a diametric plane thereof, with six clamping fittings coinciding with six clamp screws.

Description of the invention

[0012] As shown on Figure 1, the module -1-, manufactured with the resistant material of a chosen color, has a troncoconical conformation and a very reduced height, its upper base -2- having a diameter significantly lower than the bottom base -3-, projecting the enveloping face thereof as an annulus -4- slightly inclined between said bases in a radial sense in order to act as a ramp for ongoing traffic without exerting transversal forces, the center thereof having a vertical orifice -5- with a beveled upper entrance, defining the attachment -6- of the milled head -7- of the clamp screw -8-, passing through said orifice -5- to be connected to the expandable anchor screw -9-, inserted into an orifice made onto the surface prior to the installation thereof.

[0013] Figure 2 depicts the sectional view of a diametric plane of the module -1- showing its planar troncoconical configuration, the enveloping face of which defines the annular slope -4- between the upper base -2- and the bottom base -3-, said volume having concentrically arranged the cylindrical orifice -5- with its beveled upper entrance -6-

[0014] Figure 3 depicts the upper plan view of the module -1- with its annular slope -4-, its upper base -2- and its central orifice -5- with beveled entrance -6-.

[0015] Figure 4 depicts a bottom plan view of the arrangement of the two cooperative cylindrical fittings -10- monolithically stemming from the bottom face -3- of the module -1- in positions displaced by the axis of the clamp screw -8-, preferably diametrically opposite thereto, being possible for the number of said fittings to be higher or lower.

[0016] Figure 5 depicts a sectional view along the diametric plane of the embodiment shown on the previous figure, having the two fittings -10- arranged symmetrically on both sides of the axis of the clamp screw -8-.

[0017] Figure 6 depicts a bottom plan view of module -1- with six clamp screws -8- distributed concentrically with respect to the center thereof, which is blind, in an equispaced way and passing through the fittings -10-.

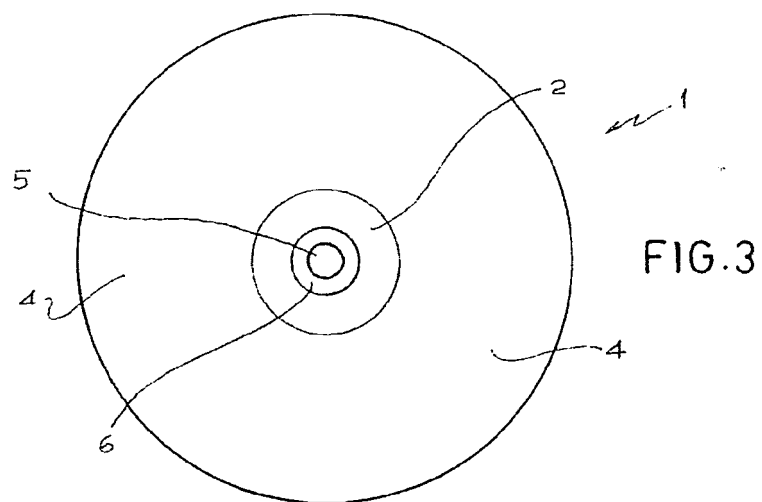
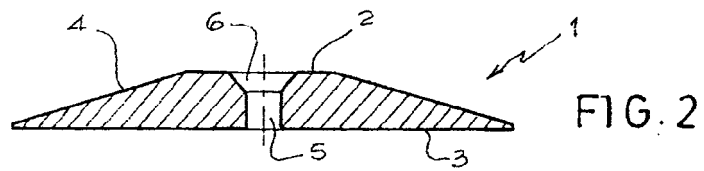
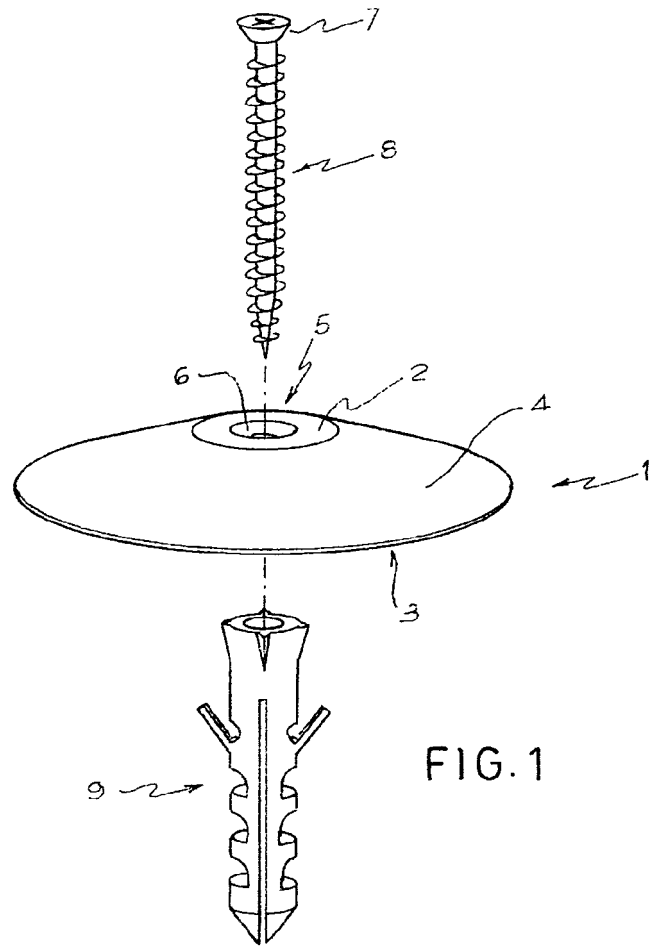
[0018] Finally, Figure 7 depicts the axis of the clamp screws -8- in the arrangement depicted by the previous Figure, projecting in such a way to pass through orifices -5'- prolonging within the fittings -10- monolithically stem-

ming from the bottom face thereof -3-.

[0019] The signaling point module for use on the road surface, as described and exemplified, is comprised within the scope of the present application which is fundamentally defined by the appended claims.

Claims

1. Signaling point module for use on the road surface such as the one used for conforming traffic signaling traces or other signaling graphisms by attaching same onto the surface, **characterized in that** it is manufactured with a resistant material, said module having a troncoconical conformation and a very reduced height, the upper base -2- thereof having a diameter which is significantly lower than the one of the bottom base -3-, projecting the enveloping face thereof as an annulus -4- slightly inclined in a radial sense between the edges of both bases and having within the center a vertical orifice -5- with a beveled upper entrance defining the attachment -6- for the milled head -7- of a clamp screw -8-, passing through said orifice -5- so as to connect by the opposite end thereof in a holding means -9- inserted into an orifice made onto the surface prior to the installation thereof.
2. Signaling point module for use on the road surface in accordance with claim 1, **characterized in that** the module -1- has at least a monolithic fitting -10-, preferably cylindrical, stemming perpendicularly from the bottom face thereof -3- in an eccentric way with respect to the orifice -5- through which the screw -8- passes.
3. Signaling point module for use on the road surface in accordance with claim 1, **characterized in that** the attachment means onto the surface is a plurality of screws -8- distributed within a concentrically circular trace, passing through orifices -5'- of monolithic fittings -10-, preferably cylindrical, stemming perpendicularly from the bottom face thereof -3-.
4. Signaling point module for use on the road surface in accordance with claim 1, 2 and 3, **characterized in that** the means for holding the clamp screws -8-, are expandable anchor screws -9-.
5. Signaling point module for use on the road surface in accordance with claims 1, 2 and 3, **characterized in that** it has a constitutive material of a color chosen for the visualization thereof.



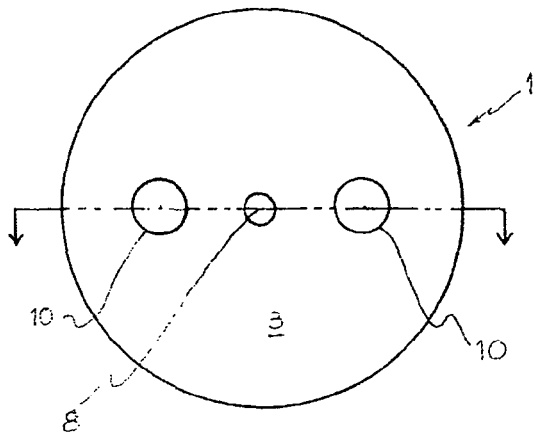


FIG. 4

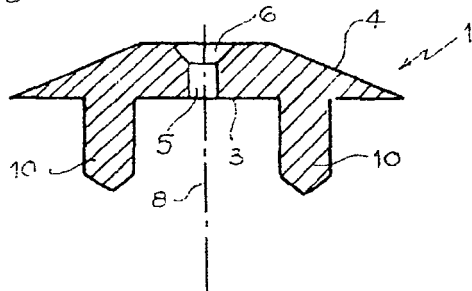


FIG. 5

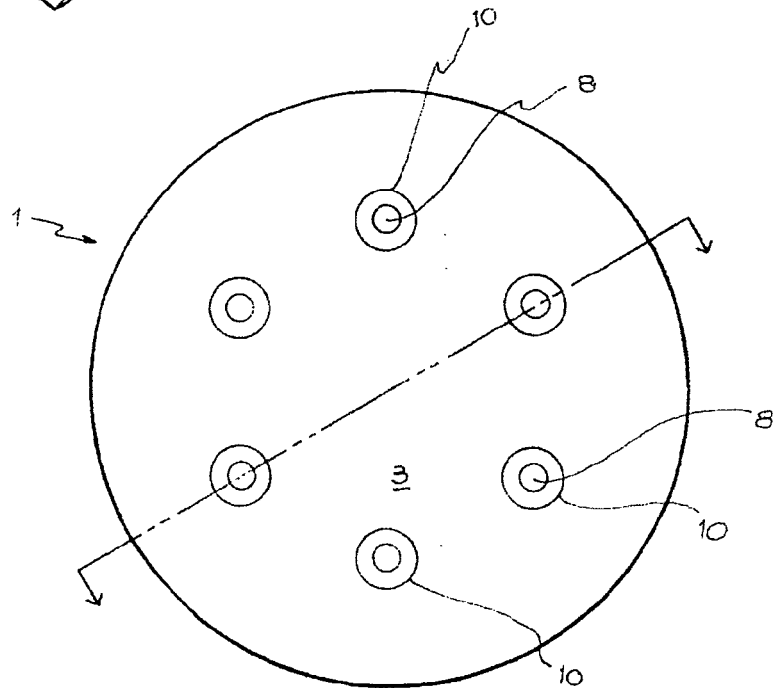


FIG. 6

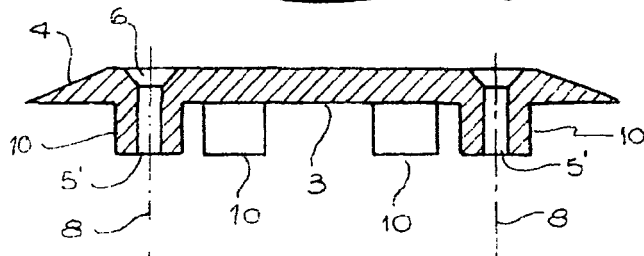


FIG. 7



EUROPEAN SEARCH REPORT

 Application Number
 EP 09 38 0113

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	GB 265 682 A (RUDOLPH NATER; WILLIAM BRICE) 10 February 1927 (1927-02-10) * the whole document *	1,2,5	INV. E01F9/06
Y	CH 192 942 A (SIM SA ETS [CH]) 15 September 1937 (1937-09-15) * page 2, right-hand column, lines 17-25; figures 1-5 *	1,2,5	
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 3 September 2009	Examiner Flores Hokkanen, P
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
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EP 09 38 0113

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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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82