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(54) **VEHICLE ANTI-INTRUSION DEVICE FOR A TRAFFIC LANE AND VEHICLE ANTI-INTRUSION BARRIER FORMED BY MEANS OF SEVERAL OF THESE DEVICES**

FAHRZEUGEINDRINGSCHUTZVORRICHTUNG FÜR EINE FAHRBAHN UND DURCH MEHRERE DIESER VORRICHTUNGEN GEBILDETE EINDRINGSCHUTZBARRIERE

DISPOSITIF ANTI-INTRUSION DE VÉHICULE POUR VOIE DE CIRCULATION ET BARRIÈRE ANTI-INTRUSION DE VÉHICULE FORMÉE GRÂCE À PLUSIEURS DE CES DISPOSITIFS

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Description

[0001] This invention relates to a vehicle anti-intrusion device for a traffic lane and a vehicle anti-intrusion barrier formed by means of several of these devices.

[0002] It has become necessary to protect public meeting places against the intrusion of ram-raiding vehicles.

[0003] To this end, the notion of placing one or more vehicles across a traffic lane has been proposed. This relatively empirical course of action is not necessarily effective and assumes that the number of vehicles required is available.

[0004] Furthermore, with the same aim, the notion has been proposed of a vehicle anti-intrusion barrier having, seen from the side, an L shape, i.e. comprising a base part intended to be placed on the ground and an extension part intended to be positioned upright in relation to the ground when the base part is placed on the ground; if a vehicle hits said extension part, this barrier is supposed to tilt so that said base part assumes an oblique position in which it enters into the vehicle's chassis. The effectiveness of such a barrier is questionable. Moreover, there is a possibility it might be moved by malicious persons, meaning that it cannot be left unattended. This need for attendance is a major drawback. Furthermore, such a barrier has the drawback of totally preventing any through traffic, including authorized vehicles, which is another major drawback in certain situations.

[0005] The aim of the present invention is therefore to provide a device enabling the creation of a vehicle anti-intrusion barrier which is totally effective, which cannot be moved by a malicious person, which can therefore be left unattended and which allows the passage of an authorized vehicle in certain situations, with a relatively simple and fast manipulation.

[0006] EP0683271 A1 discloses a vehicle anti-intrusion device for a traffic lane, comprising:

- a baseplate intended to be buried in the ground;
- at least one post connected to the baseplate, movable in relation to this baseplate between a prone position in which it is folded down into or against the baseplate and does not obstruct the passage of a vehicle, and an upright position in which it projects from the baseplate and obstructs the passage of a vehicle; and
- locking means for locking each post in the upright position.

[0007] The device which the invention concerns comprises a baseplate, at least one post and locking means as defined by the pre-characterizing part of the appended claim 1.

[0008] According to the invention:

- the baseplate is intended to be placed on the ground, has a height such that it is capable of being crossed by a vehicle, includes immobilization means prevent-

ing it from being moved by a person or several persons without lifting means, and comprises an opening in the bottom of the baseplate;

- the device further comprises at least one stop bar pivotally mounted in the baseplate, which is movable between an inactive position in which it is housed in the baseplate and an active position in which it is oblique in relation to the baseplate and in which a back portion of this stop bar penetrates into the ground through said opening in the bottom of the baseplate and a front portion of this stop bar projects above the baseplate, on the front side thereof; and
- a hinged connection connecting said post and said stop bar so that a forcing of the post beyond the upright position of this post, towards the back side of the device, causes the instantaneous passage of said stop bar from said inactive position to said active position.

[0009] It will be understood that the terms "back" and "front" are to be considered in relation to the direction of arrival of a vehicle onto the device, "front" meaning forwards on the device in this direction and "back" meaning backwards on this same device in this same direction.

[0010] The baseplate is intended to be placed on the ground in the appropriate location in a traffic lane by means of lifting means; this placement makes it immobile, in relation to the ground, as regards manipulations that could be performed by a restricted number of individuals without such lifting means. When the post is in said prone position, the device can be crossed by an authorized vehicle; when the post is locked in the upright position any impact against the post by a vehicle immediately results, by means of said hinged connection, in a tilting of said stop bar into the active position of this bar; in this position, the back portion of the bar penetrates into the ground, making an anchoring of the device in the ground, and the front portion of this bar penetrates into the tires or chassis of the vehicle, stopping the progression of this vehicle.

[0011] The device according to the invention thus perfectly enables the above-mentioned aim to be achieved.

[0012] On a wider traffic lane, two devices could be placed side by side to form an anti-intrusion barrier; in most cases, however, a vehicle anti-intrusion barrier will be formed by the juxtaposition of more than two devices side by side so that the posts of the different devices are aligned in a direction transverse to the direction of traffic flow. The devices could simply be placed next to one another but, preferably, each baseplate comprises assembly means enabling it to be joined to another baseplate; these assembly means can notably be in the form of shouldered studs projecting from one of the lateral flanks of a baseplate, capable of being engaged in corresponding recesses in the corresponding lateral flank of another baseplate.

[0013] Said immobilization means are preferably formed by the mass of the device itself, the latter being

specifically made of steel and being selected so that this mass is several hundred kilograms. It would also be feasible for the device to be made of a more lightweight material than steel and the baseplate to receive, within it, ballast weights. If necessary, these immobilization means can include surface roughened areas on the faces of the baseplate intended to come into contact with the ground, capable of creating friction with the ground when the baseplate is placed on this ground.

[0014] The baseplate could be parallelepiped shaped, i.e. have its front and back faces perpendicular to the ground when the baseplate is placed on the ground; preferably, however, this baseplate has one front inclined surface and one back inclined surface, making it easier to cross.

[0015] Thus, when the post is prone, the device is substantially in the form of a speed bump.

[0016] Preferably, said stop bar has at least one longitudinal end portion having a cross section decreasing towards its free end, so as to facilitate, in the case of the back end portion, the insertion of this end portion into the ground in the event of the device being hit by a vehicle or, in the case of the front end portion, the insertion of this end portion into the vehicle. Preferably, the two end portions of the stop bar have a said decreasing cross section and can specifically be pointed.

[0017] Preferably, said locking means can specifically comprise a padlock placed between two moving parts from among the baseplate, the post, the stop bar and the hinged connection so as to prevent movement between these two parts; these locking means can specifically act between the post and the hinged connection.

[0018] This hinged connection is preferably formed by a pair of connecting rods side by side, connected to two opposite faces of the stop bar and the post, these connecting rods moving within slots formed in the post to enable the movement of this post.

[0019] A baseplate can comprise several posts and these posts can be moved independently of one another between said prone and upright positions; preferably, however, in the case of a plurality of posts on one baseplate, the posts of the same baseplate are connected to one another by a transverse connecting element; this element can specifically be in the form of a plate fixed to the back of the posts, enabling, in the prone position of the posts, a smooth upper surface to be formed on the top of the baseplate.

[0020] A better understanding of the invention and further features and advantages thereof will emerge with reference to the accompanying schematic drawing, representing, by way of non-limiting example, a preferred embodiment of the device concerned.

Figure 1 is an exploded perspective view of the device;

Figure 2 is a perspective view thereof identical to Figure 1, in the assembled state and with the two posts in an upright position;

Figure 3 is a perspective view of the device identical to Figure 2, with the two posts in a prone position; Figure 4 is a partial side view of a post, on an enlarged scale, the post being in an upright position; Figure 5 is a front view of an anti-intrusion barrier formed by means of several devices placed side by side, a vehicle being shown in the background; Figure 6 is a top view of the barrier and vehicle; Figures 7 to 10 are side views of the barrier and a vehicle attempting to force through this barrier, showing respectively (i) when the vehicle enters upon a baseplate that the device comprises, (ii) at the moment when the front of the vehicle hits the posts that the barrier comprises, (iii) at the moment when the vehicle forces the pivoting of the posts that it hits and (iv) at the moment when the vehicle is immobilized by the device;

Figure 11 is a view similar to Figure 7, showing an authorized vehicle in the process of crossing the device; and

Figure 12 shows two perspective partial half-views, on an enlarged scale, of portions of the baseplates of two devices comprising means of joining these baseplates together, the views being taken in perpendicular directions of one half-view to the other.

[0021] Figures 1 to 3 represent a vehicle anti-intrusion device for a traffic lane, making it possible, with other identical devices 1, to form a vehicle anti-intrusion barrier 2 shown in Figures 5 and 6, the operation of which is shown in Figures 7 to 11.

[0022] As illustrated in Figures 1 to 3, each device 1 basically comprises a baseplate 5, and, in the example shown, two subassemblies 6, 7, 8 movable in relation to this baseplate 5, each subassembly comprising a post 6, a stop bar 7 and a pair of connecting rods 8. The assembly is formed of steel elements.

[0023] The baseplate comprises a front box 10 forming an ascending ramp, a back box 11 forming a descending ramp and a central parallelepiped-shaped part formed by a plurality of elongated members 12 welded to the boxes 10 and 11.

[0024] Boxes 10, 11 each comprise, on one of their flanks 14 a shouldered stud 15, more particularly visible in Figure 12. As will be understood with reference to said Figure 12, the other flanks 16 of the boxes 10, 11 having recesses 17 opening into the lower edge of these flanks 16; these flanks 16 of a baseplate 5 are capable of being fittingly engaged, thanks to these recesses 17, on the pins 15 of an adjacent baseplate 5, thus enabling two baseplates 5 to be joined together, both in the longitudinal and transverse directions to these baseplates.

[0025] The side members 12 have drilled orifices enabling the connection of a sling for hoisting the device 1; each of them delimits, with a central member 12, a longitudinal housing 18 opening into the upper face and into the lower face of the baseplate 5, this housing 18 being capable of receiving the corresponding subassembly 6,

7, 8 in a prone position of the post 6, as shown in Figure 3.

[0026] The post 6 of each subassembly is formed by a U-shaped profile the hollow part of which is turned towards the front side of the device 1 and is fitted hinged to the baseplate 5 by means of a pin 20 fitted into corresponding holes in the baseplate of the post 6 and in the corresponding side and central members 12. The mountings of the posts 6 are such that the back faces of these posts are flush with the upper faces of the members 12 when the posts are in the prone state, so that the baseplate 5 thus has a relatively flat and smooth surface on which a vehicle can drive without risk for the tires thereof.

[0027] The central walls of the posts have holes drilled through them enabling a plate (not shown) to be fitted, fixed to the back of these posts; This plate enables the posts 6 to be connected together so that the two posts can thus be moved simultaneously between their prone and upright positions; it also enables, when the posts 6 are in the prone position, a smooth upper surface to be formed on the top of the baseplate 5.

[0028] The two lateral walls of each post have slots 21 enabling the pivoting connection of the rods 8 by means of trunnions 22 sliding within these slots 21. As shown more clearly in Figure 4, these slots 21 are inclined in relation to the longitudinal direction of the post 6 and end, at their inner parts, in housings 23 arranged in a perpendicular direction thereto, receiving the trunnions 22 when the post is in the upright position; this reception allows the post to be wedged in this position. Furthermore, one of the posts 6 comprises a hole 24 arranged close to the site of the edge of one of the rods 8 located on the front face of the device 1 when the trunnions 22 are engaged in the housings 23. This hole 24 is intended to receive a padlock 25 preventing, when it is inserted in this hole, the trunnions 22 from exiting the housings 23 and thus locking the post 6 in the upright position, together with the other post 6, connected to the other post by the above-mentioned plate.

[0029] Each stop bar 7 has a main square-section, with a hole drilled through its back end, this hole being passed through by the pin 20, which creates a hinged assembly of the stop bar 7 on the baseplate 5. At a distance from this hole, towards the front of the bar 7, this main portion also has a hole drilled through it enabling the hinged assembly of the rods 8 to this bar 7, on each lateral side of the bar 7, by means of a pin 26 fitted into this hole.

[0030] The stop bar 7 has, at the longitudinal ends of this central portion, two longitudinal end portions having cross-sections reducing down towards their free ends. This reduction in section allows the insertion of the back end portion of the bar 7 into the ground, in the positions of this bar shown in Figures 9 and 10, and allows the insertion of the front end portion of the bar 7 into the tires and/or chassis of the vehicle V in said positions.

[0031] With reference to Figures 7 and 8, it is apparent that the position of a post 6, on the one hand, and the position and length of the stop bar 7, on the other hand, are determined so that the distance from the front face

of a post 6 to the front end of the bar 7 is less than the distance from the radiator grill of the vehicle V to the front of the front wheels of this vehicle.

[0032] In practice, as shown in Figures 5 and 6, an anti-intrusion barrier B of a vehicle V is formed by the juxtaposition of a plurality of devices 1 side by side so that the posts 6 of the different devices are aligned in a transverse direction to the direction of travel on the traffic lane VC; the devices 1 are joined together by engaging the flanks 16 of the boxes 10, 11 on the corresponding studs 15 of the adjacent baseplates 5, and the posts 6 are locked in the upright position by fitting the necessary number of padlocks 25.

[0033] Since each device 1 weighs several hundred kilograms, the barrier B can in no way be moved by one or several malicious persons, without lifting means.

[0034] In the event of a ram-raider vehicle V attempting to force the barrier B, the vehicle V hitting the posts 6 immediately results, by means of the rods 8, in the stop bars 7 tilting into an active oblique position of this bar 7; in this position, the back portions of the bars 7 penetrate the ground, creating an instant anchorage of the devices 1 to the ground and the front portions of these bars 7 penetrate into the tires and/or into the chassis of the vehicle V, as shown in Figures 9 and 10, stopping the progression of this vehicle.

[0035] If an authorized vehicle is to be allowed to pass through, the necessary number of posts 6 is unlocked by removing the padlocks 25 locking these posts 6 then the posts 6 are lowered into the prone position; the device 1 can then be easily crossed by the vehicle V as shown in Figure 11, the device then presenting itself as a simple speed bump.

[0036] The invention has been described above with reference to an embodiment given solely by way of example. It goes without saying that it extends to all of the other embodiments covered by the accompanying claims.

Claims

1. A device (1) making it possible to form a vehicle (V) anti-intrusion barrier (B) for a traffic lane, comprising
 - a baseplate (5);
 - at least one post (6) connected to the baseplate (5), movable in relation to this baseplate between a prone position in which it is folded down into or against the baseplate (5) and does not obstruct the passage of a vehicle (V), and an upright position in which it projects from the baseplate (5) and obstructs the passage of a vehicle (V); and
 - locking means (25) for locking each post (6) in the upright position;

characterized in that:

- the baseplate (5) is intended to be placed on the ground, has a height such that it is capable of being crossed by a vehicle (V), includes immobilization means preventing it from being moved by a person or several persons without lifting means, and comprises an opening in the bottom thereof;
 - the device (1) further comprises at least one stop bar (7) pivotally mounted in the baseplate (5), which is movable between an inactive position in which it is housed in the baseplate (5) and an active position in which it is oblique in relation to the baseplate (5) and in which a back portion of this stop bar (7) penetrates into the ground through said opening in the bottom of the baseplate (5) and a front portion of this stop bar (7) projects above the baseplate (5), on the front side thereof; and
 - a hinged connection (8) connecting said post (6) and said stop bar (7) so that a forcing of the post (6) beyond the upright position of this post (6), towards the back side of the device (1), causes the instantaneous passage of said stop bar (7) from said inactive position to said active position.
2. The device (1) according to claim 1, **characterized in that** said immobilization means are formed by the mass of the device (1) itself.
 3. The device (1) according to claim 1, **characterized in that** said immobilization means include surface roughened areas on the faces of the baseplate (5) intended to come into contact with the ground, capable of creating friction with the ground when the baseplate (5) is placed on this ground.
 4. The device (1) according to anyone of claims 1-3, **characterized in that** the baseplate (5) has one front inclined surface and one back inclined surface.
 5. The device (1) according to anyone of claims 1-4, **characterized in that** said stop bar (7) has at least one longitudinal end portion having a cross section decreasing towards its free end, so as to facilitate, in the case of the back end portion, the insertion of this end portion into the ground in the event of the device (1) being hit by a vehicle (V) or, in the case of the front end portion, the insertion of this end portion into the vehicle (V).
 6. The device (1) according to anyone of claims 1-5, **characterized in that** said locking means comprise a padlock (25) placed between two moving parts from among the baseplate (5), the post (6), the stop bar (7) and the hinged connection (8) so as to prevent movement between these two parts; these locking means are preferably arranged between the post (6)

and the hinged connection (8).

7. The device (1) according to anyone of claims 1-6, **characterized in that** the hinged connection is formed by a pair of connecting rods (8) arranged side by side, connected to two opposite faces of the stop bar (7) and the post (6), these connecting rods (8) moving within slots (21) formed in the post (6) to enable the movement of this post (6).
8. The device (1) according to anyone of claims 1-7, **characterized in that** the baseplate (5) comprises several posts (6) connected to one another by a transverse connecting element.
9. The device (1) according to claim 8, **characterized in that**; said transverse connecting element is in the form of a plate fixed to the back of the posts (6), enabling, in the prone position of the posts (6), a smooth upper surface to be formed on the top of the baseplate (5).
10. Anti-intrusion barrier (B) formed by means of several devices (1) according to anyone of claims 1-9 placed side by side, **characterized in that** each baseplate (5) comprises assembly means (15, 17) enabling it to be joined to another baseplate (5).
11. The anti-intrusion barrier (B) according to claims 10, **characterized in that** said assembly means are in the form of shouldered studs (15) projecting from one of the lateral flanks of a baseplate (5), capable of being engaged in corresponding recesses (17) in the corresponding lateral flank (16) of another baseplate (5).

Patentansprüche

1. Vorrichtung (1), die es ermöglicht, eine Barriere (B) gegen das Eindringen von Fahrzeugen (V) für eine Fahrspur zu bilden, aufweisend
 - eine Grundplatte (5);
 - mindestens einen mit der Grundplatte (5) verbundenen Pfosten (6), der in Bezug auf diese Grundplatte zwischen einer liegenden Position, in der er in oder gegen die Grundplatte (5) geklappt ist und die Durchfahrt eines Fahrzeugs (V) nicht behindert, und einer aufrechten Position, in der er aus der Grundplatte (5) herausragt und die Durchfahrt eines Fahrzeugs (V) behindert, beweglich ist; und
 - Verriegelungsmittel (25) zum Verriegeln jedes Pfostens (6) in der aufrechten Position;

dadurch gekennzeichnet, dass:

- die Grundplatte (5) dazu bestimmt ist, auf den Boden gestellt zu werden, eine solche Höhe hat, dass sie von einem Fahrzeug (V) überquert werden kann, Feststellmittel aufweist, die verhindern, dass sie von einer Person oder mehreren Personen ohne Hebemittel bewegt werden kann, und eine Öffnung in ihrem Boden aufweist;
- die Vorrichtung (1) weist außerdem mindestens eine Anschlagleiste (7) auf, die schwenkbar in der Grundplatte (5) angebracht ist, die zwischen einer inaktiven Position, in der sie in der Grundplatte (5) untergebracht ist, und einer aktiven Position, in der sie schräg zur Grundplatte (5) steht, beweglich ist und in der ein hinterer Teil dieser Anschlagleiste (7) durch die Öffnung im Boden der Grundplatte (5) in den Boden eindringt und ein vorderer Teil dieser Anschlagleiste (7) auf der Vorderseite der Grundplatte (5) über diese hinausragt; und
- eine Gelenkverbindung (8), die den Pfosten (6) und die Anschlagleiste (7) verbindet, so dass ein Drücken des Pfostens (6) über die aufrechte Position dieses Pfostens (6) hinaus in Richtung der Rückseite der Vorrichtung (1) den sofortigen Übergang der Anschlagleiste (7) von der inaktiven Position in die aktive Position bewirkt.
2. Vorrichtung (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Immobilisierungsmittel durch die Masse der Vorrichtung (1) selbst gebildet sind.
 3. Vorrichtung (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Immobilisierungsmittel auf den Flächen der Grundplatte (5) aufgeraute Oberflächenbereiche aufweisen, die dazu bestimmt sind, mit dem Boden in Berührung zu kommen, und die geeignet sind, eine Reibung mit dem Boden zu erzeugen, wenn die Grundplatte (5) auf diesen Boden gestellt wird.
 4. Vorrichtung (1) nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** die Grundplatte (5) eine vordere Schrägfläche und eine hintere Schrägfläche aufweist.
 5. Vorrichtung (1) nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** die Anschlagleiste (7) mindestens einen länglichen Endabschnitt aufweist, der einen zu seinem freien Ende hin abnehmenden Querschnitt aufweist, um, im Falle des hinteren Endabschnitts, das Einführen dieses Endabschnitts in den Boden zu erleichtern, wenn die Vorrichtung (1) von einem Fahrzeug (V) getroffen wird, oder, im Falle des vorderen Endabschnitts, das Einführen dieses Endabschnitts in das Fahrzeug (V).
 6. Vorrichtung (1) nach einem der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** die Verriegelungsmittel ein Vorhängeschloss (25) aufweisen, das zwischen zwei beweglichen Teilen aus der Grundplatte (5), dem Pfosten (6), der Anschlagleiste (7) und der Gelenkverbindung (8) angeordnet ist, um eine Bewegung zwischen diesen beiden Teilen zu verhindern; diese Verriegelungsmittel vorzugsweise zwischen dem Pfosten (6) und der Gelenkverbindung (8) angeordnet sind.
 7. Vorrichtung (1) nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet, dass** die gelenkige Verbindung durch ein Paar nebeneinander angeordneter Verbindungsstangen (8) gebildet wird, die mit zwei gegenüberliegenden Flächen der Anschlagleiste (7) und des Pfostens (6) verbunden sind, wobei sich diese Verbindungsstangen (8) in Schlitz (21) bewegen, die in dem Pfosten (6) ausgebildet sind, um die Bewegung dieses Pfostens (6) zu ermöglichen.
 8. Vorrichtung (1) nach einem der Ansprüche 1 bis 7, **dadurch gekennzeichnet, dass** die Grundplatte (5) mehrere Pfosten (6) aufweist, die durch ein quer verlaufendes Verbindungselement miteinander verbunden sind.
 9. Vorrichtung (1) nach Anspruch 8, **dadurch gekennzeichnet, dass** das Querverbindungselement die Form einer Platte hat, die an der Rückseite der Pfosten (6) befestigt ist und es ermöglicht, in der liegenden Position der Pfosten (6) eine glatte obere Fläche auf der Oberseite der Grundplatte (5) zu bilden.
 10. Eindringungsbarriere (B), die durch mehrere nebeneinander angeordnete Vorrichtungen (1) nach einem der Ansprüche 1 bis 9 gebildet wird, **dadurch gekennzeichnet, dass** jede Grundplatte (5) Montagemitte (15, 17) aufweist, die es ermöglichen, sie mit einer anderen Grundplatte (5) zu verbinden.
 11. Eindringungsbarriere (B) nach Anspruch 10, **dadurch gekennzeichnet, dass** die Montagemitte die Form von abgesetzten Zapfen (15) haben, die aus einer der seitlichen Flanken einer Grundplatte (5) herausragen und in entsprechende Aussparungen (17) der entsprechenden seitlichen Flanke (16) einer anderen Grundplatte (5) eingreifen können.
- ## Revendications
1. Dispositif (1) permettant de former une barrière anti-intrusion (B) de véhicule (V) pour une voie de circulation, comprenant :
 - une embase (5) ;
 - au moins un poteau (6) lié à l'embase (5), mobile par rapport à cette embase entre une posi-

tion couchée dans laquelle il est rabattu dans ou contre l'embase (5) et ne gêne pas le passage d'un véhicule (V), et une position dressée dans laquelle il dépasse de l'embase (5) et obstrue le passage d'un véhicule (V) ; et

- des moyens de verrouillage (25) pour verrouiller chaque poteau (6) en position dressée ;

caractérisé en ce que :

- l'embase (5) est destiné à être posé au sol, à une hauteur telle qu'il est susceptible d'être traversé par un véhicule (V), comporte des moyens d'immobilisation l'empêchant d'être déplacé par une personne ou plusieurs personnes sans moyen de levage, et comprend une ouverture aménagée dans le fond de celle-ci ;

- le dispositif (1) comprend en outre au moins une barre d'arrêt (7) montée pivotante dans l'embase (5), qui est mobile entre une position inactive dans laquelle elle est logée dans l'embase (5) et une position active dans laquelle elle est oblique par rapport à l'embase (5) et dans laquelle une portion postérieure de cette barre d'arrêt (7) pénètre dans le sol par ladite ouverture du fond de l'embase (5) et une partie avant de cette barre d'arrêt (7) vient fait saillie au-dessus de la embase (5), sur le côté antérieur de celle-ci ; et

- une liaison articulée (8) reliant ledit poteau (6) et ladite barre d'arrêt (7) de sorte qu'un forçage du poteau (6) au-delà de la position dressée de ce poteau (6), vers le côté postérieur du dispositif (1), provoque le passage instantané de ladite barre d'arrêt (7) de ladite position inactive à ladite position active.

2. Dispositif (1) selon la revendication 1, **caractérisé en ce que** lesdits moyens d'immobilisation sont formés par la masse du dispositif (1) lui-même.

3. Dispositif (1) selon la revendication 1, **caractérisé en ce que** lesdits moyens d'immobilisation comportent des zones superficielles rugueuses sur les faces de l'embase (5) destinées à entrer en contact avec le sol, aptes à créer des frottements avec le sol lorsque l'embase (5) est placé sur ce terrain.

4. Dispositif (1) selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que** la embase (5) a une surface inclinée avant et une surface inclinée arrière.

5. Dispositif (1) selon l'une quelconque des revendications 1 à 4, **caractérisé en ce que** ladite barre d'arrêt (7) a au moins une partie d'extrémité longitudinale ayant une section transversale décroissante vers son extrémité libre, de manière à faciliter, dans le

cas du partie d'extrémité arrière, l'insertion de cette partie d'extrémité dans le sol en cas de choc du dispositif (1) par un véhicule (V) ou, dans le cas de la partie d'extrémité avant, l'insertion de cette partie d'extrémité dans le véhicule (V).

6. Dispositif (1) selon l'une quelconque des revendications 1 à 5, **caractérisé en ce que** lesdits moyens de verrouillage comprennent un cadenas (25) placé entre deux pièces mobiles parmi l'embase (5), le poteau (6), la barre d'arrêt (7) et la liaison articulée (8) de manière à empêcher tout déplacement entre ces deux pièces ; ces moyens de verrouillage sont de préférence disposés entre le poteau (6) et la liaison articulée (8).

7. Dispositif (1) selon l'une quelconque des revendications 1 à 6, **caractérisé en ce que** la liaison articulée est formée par une paire de biellettes (8) disposées côte à côte, reliées à deux faces opposées de la barre d'arrêt (7) et le poteau (6), ces biellettes (8) se déplaçant dans des fentes (21) formées dans le poteau (6) pour permettre le déplacement de ce poteau (6).

8. Dispositif (1) selon l'une quelconque des revendications 1 à 7, **caractérisé en ce que** l'embase (5) comprend plusieurs poteaux (6) reliés entre eux par un élément de liaison transversal.

9. Dispositif (1) selon la revendication 8, **caractérisé en ce que** ; ledit élément de liaison transversal se présente sous la forme d'une plaque fixée au dos des poteaux (6), permettant, en position couchée des poteaux (6), de former une surface supérieure lisse sur le dessus de l'embase (5).

10. Barrière anti-intrusion (B) formée au moyen de plusieurs dispositifs (1) selon l'une quelconque des revendications 1 à 9 juxtaposés, **caractérisée en ce que** chaque embase (5) comporte des moyens d'assemblage (15, 17) lui permettant d'être jointe à une autre embase (5).

11. Barrière anti-intrusion (B) selon la revendication 10, **caractérisée en ce que** lesdits moyens d'assemblage se présentent sous la forme de plots épaulés (15) en saillie sur l'un des flancs latéraux d'une embase (5), aptes à s'engager dans des encoches correspondantes (17) dans le flanc latéral correspondant (16) d'une autre embase (5).

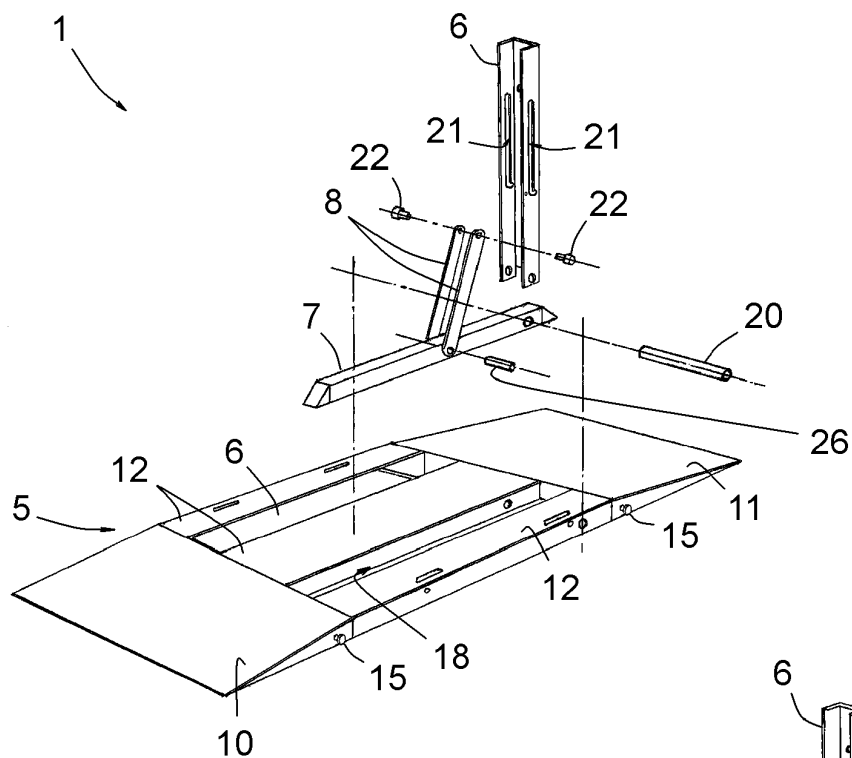


FIG. 1

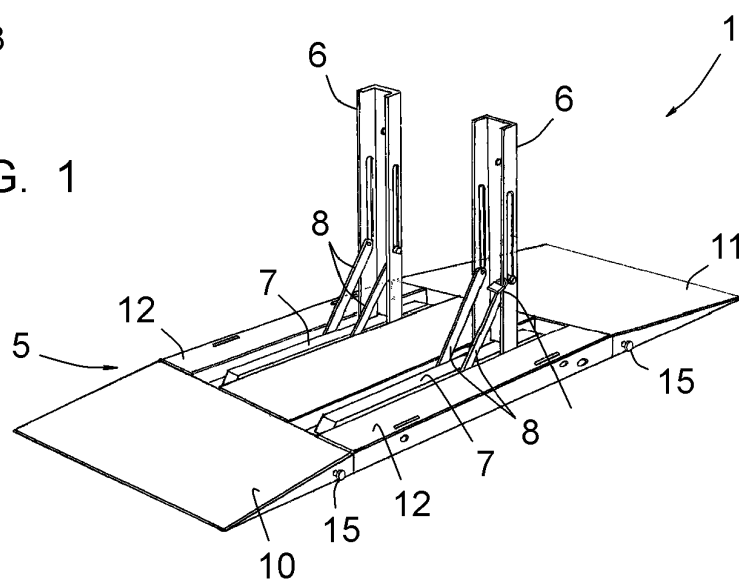


FIG. 2

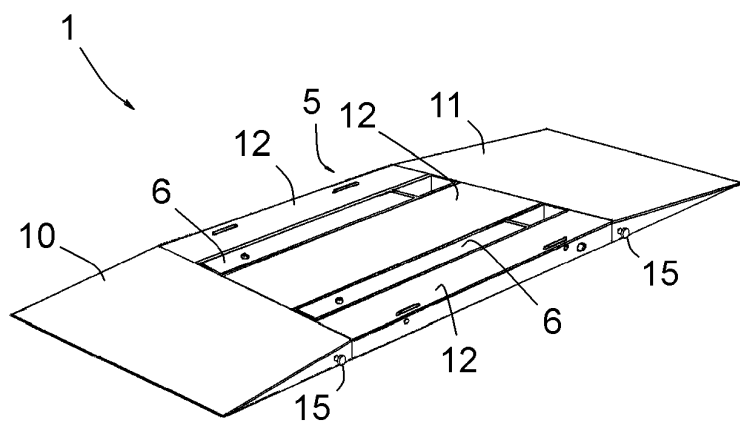


FIG. 3

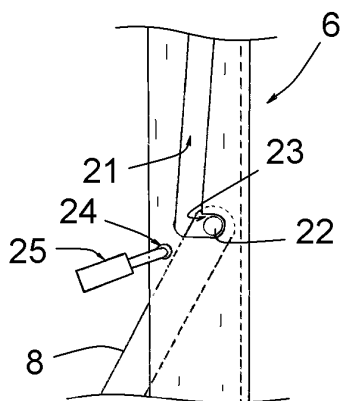


FIG. 4

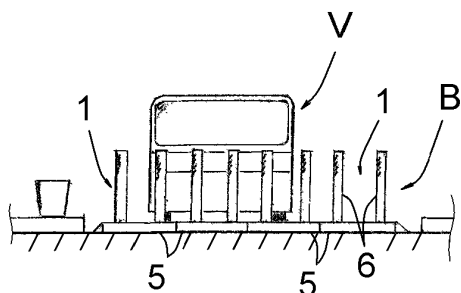


FIG. 5

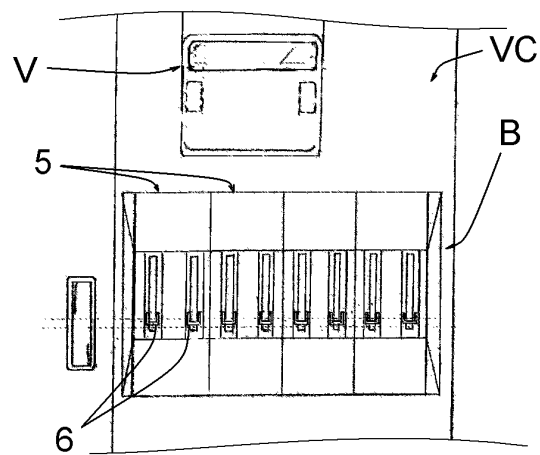


FIG. 6

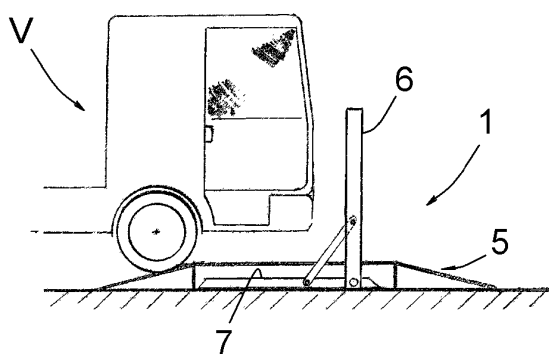


FIG. 7

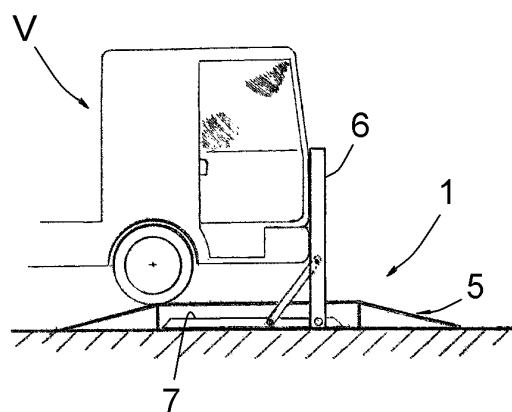


FIG. 8

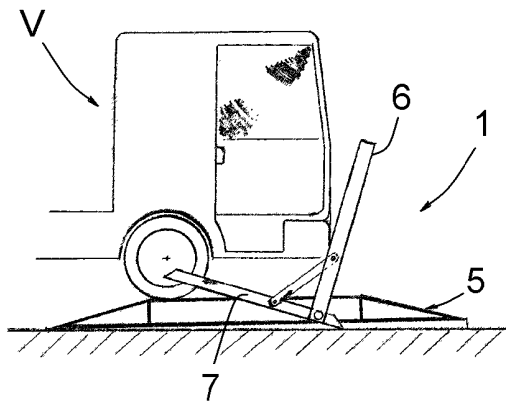


FIG. 9

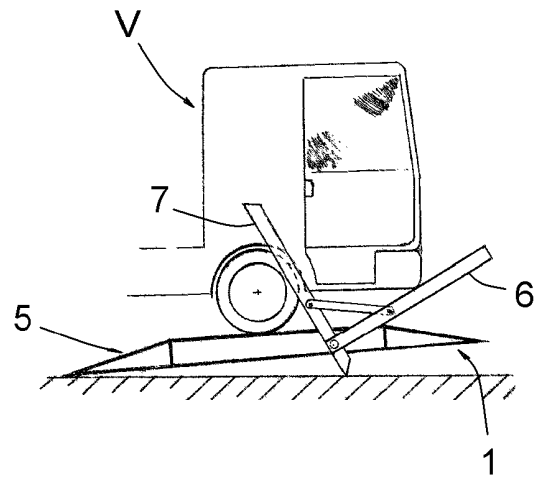


FIG. 10

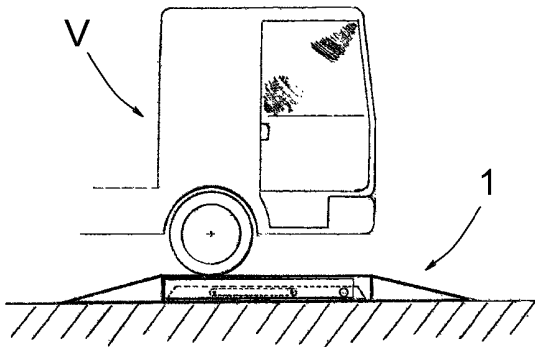


FIG. 11

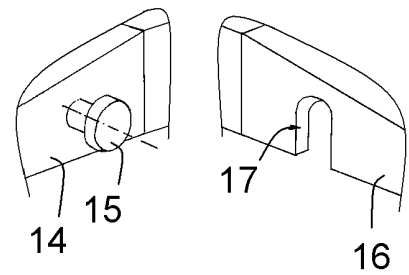


FIG. 12

REFERENCES CITED IN THE DESCRIPTION

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