

(19)



(11)

**EP 2 175 090 A2**

(12)

**EUROPEAN PATENT APPLICATION**

(43) Date of publication:

**14.04.2010 Bulletin 2010/15**

(51) Int Cl.:

**E04H 17/00 (2006.01)**

(21) Application number: **09380156.1**

(22) Date of filing: **02.10.2009**

(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 SM TR**

Designated Extension States:

**AL BA RS**

(30) Priority: **07.10.2008 ES 200802024 U**

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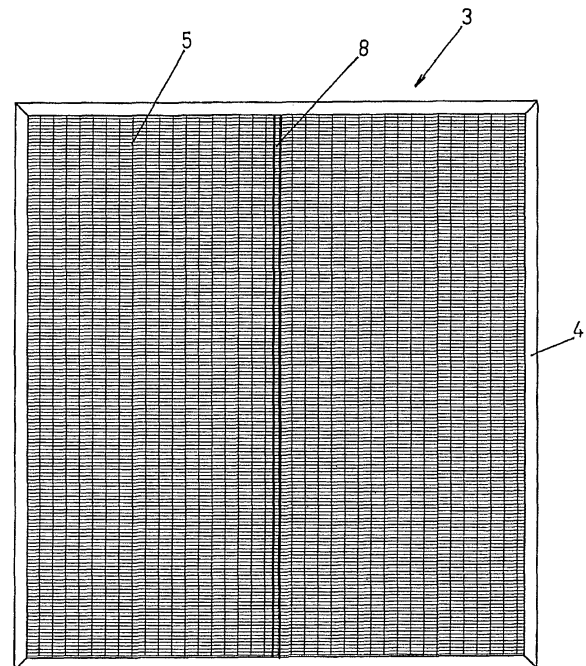
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(54) **Anti-intrusion fence**

(57) Anti-intrusion fence, of utility in the protection of road enclosures, long routes or border zones requiring security, in order to prevent any attempt at access via the fence, based on a series of posts, anchored in the ground, between which are mounted respective modules defined by a frame with a steel wire mesh, the posts (2) presenting a "U" shaped cross-section, with one side of the frame (4) making up the respective two contiguous modules (3) meeting at the post being backed on and fixed to the core of the post (2), the screws for securing via the interior of its core remaining inaccessible from the outside of the fenced zone, which permits a continuous linearity of the frames (4) to be obtained along the entire perimeter or contour to protect, preventing anyone trying to get through from being able to gain access to the removable elements of the fence and preventing them from suffering accidents.



**Fig.1**

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## Description

### OBJECT OF THE INVENTION

**[0001]** As stated in the title of this descriptive specification, the following Utility Model relates to an anti-intrusion fence, being of special utility for being installed in the protection of enclosures and roads requiring the provision of a certain level of security, such as in border zones, with the aim of securely and reliably preventing any attempt at access through the fence.

**[0002]** Likewise, an important objective of the invention is to permit a continuous linearity of mesh frames to be obtained along the entire perimeter or contour to protect, at the same time, given its structure, preventing the possibility of anyone trying to cross through being able to gain access to removable elements of the fence or of their suffering accidents in the attempt to pass through.

### FIELD OF APPLICATION

**[0003]** The present specification describes an anti-intrusion fence, which is of special application for its installation in the protection of long routes of perimeters, enclosures and roads which have to have a certain level of security. The fence device also has application in the protection of border zones.

### BACKGROUND OF THE INVENTION

**[0004]** Different means of fencing have conventionally been used for the protection of certain enclosures, such that among the structural systems used, in which no physical presence is required, we can consider that consisting of a wall topped with barbed wire, without any additional element.

**[0005]** Entering into a consideration of border fences with the aim of preventing passage from one country to another, we can consider that system which consists of a pair of fences, parallel to each other, installed along the entire length of the zone to protect in which the fences comprise support profiles between which is arranged a metallic network.

**[0006]** Likewise, in an initial embodiment, the upper part of the support profiles can be topped in at least one inclined section, with several rows of barbed wire being provided between those sections.

**[0007]** In a second practical embodiment the support profiles can be topped according to two inclined sections, on both sides, with several rows of barbed wire being provided between them, with a "V" shaped space being defined in its central upper part between the two inclined sections, in which a spiral roll of barbed wire can be laid.

**[0008]** In this way, some ladders or other similar elements can be laid on the barbed wire provided between the inclined sections in which the support profiles are topped, with the intention of being able to access the upper part of the fence and, by means of placing some

protective elements, such as simple cardboard, on top of the barbed wire in order to prevent cuts, the fence can then be overcome.

**[0009]** Likewise, in relation to the inner face of the first protective fence, one or more spiral rolls of barbed wire can be provided, which can be laid according to different arrangements.

**[0010]** The barbed wire defining the spiral roll can contain blades of different shapes, with the drawback that it can cause wounds of varying consideration to anyone trying to cross the fence.

**[0011]** This configuration has the drawback that, as well as not being infallible, when one tries to "clear" the protective fence described, those people doing so could suffer serious accidents, mainly as a consequence of severe cuts.

**[0012]** In addition, we can cite the utility model document ES 1 066 931 which describes a "Protective fence device", consisting of an array of posts anchored in the ground between which a mesh is provided defined by a rectangular steel wire mesh; a set of angle bars fitted in the top part of the mesh via one of their wings, with the other wing, in an orthogonal position, having a small lobe with a hole; a rope passing through the holes in the lobes of the angle bars; and a guide with a "U" shaped cross-section, integral with the mesh, between the posts, which houses a sensor defined by a transducer cable housing an optical fiber inside.

**[0013]** We can equally consider document U200801619 which describes an "Anti-intrusion fence", such that the mesh of the modules making it up includes in the horizontal position at least one conducting wire, which defines a presensorized detector of the mesh being cut and/or, above that, the modules making up the fence incorporate an anti-leap sensor along its entire length, defined by a pair of profiles hinged together and kept in position by a set of springs, a first profile being integral with the fence and the second profile having the possibility of rotation with respect to both sides of the vertical plane of the axis of rotation and with a set of sensors for detecting the rotation of the second profile being incorporated between the two profiles.

### DESCRIPTION OF THE INVENTION

**[0014]** The present specification describes an anti-intrusion fence, being of special utility for its installation in the protection of road enclosures and long routes requiring the provision of a certain level of security, as well as in border zones, with the aim of being able to detect rapidly, securely and reliably any attempt at access via the fence, which is based on a series of posts, anchored in the ground, between which are mounted respective modules defined by a frame with a steel wire mesh, in such a way that the posts anchored in the ground present a "U" shaped cross-section, with one side of the frame making up the respective two contiguous modules meeting at the post being backed on and fixed to the core of the

post, the screws for securing via the interior of its core remaining inaccessible from the fenced zone.

**[0015]** The profile defining the sides of the frame making up the modules presents a quadrangular general cross-section with a projection with respect to its front face towards the interior of the frame that is created.

**[0016]** In this way, the steel wire mesh is fixed to the inner face of the projection presented by the frame with respect to its front face, preventing it from being able to be manipulated.

**[0017]** The modules present at least one stiffening vertical central profile.

**[0018]** The posts anchored in the ground present a "U" shaped general cross-section, in such a way that their wings can define a convergence or divergence, their core defining a dihedral angle and allowing the fencing to be able to be adapted to the perimeter or contour it is wished to fence.

**[0019]** In order to complement the description that is going to be made forthwith, and with the aim of aiding a better understanding of the characteristics of this invention, this descriptive specification is accompanied by a set of plans containing figures in which, on an illustrative and non-limiting basis, the most characteristic details of the invention have been represented.

#### BRIEF DESCRIPTION OF THE DESIGNS

##### **[0020]**

Figure 1. Shows a front view of a module making up the fencing, where it can be seen how it has a stiffening profile in the vertical central position.

Figure 2. Shows three views of an anchoring post in the ground, where it can be seen how it presents a "U" shaped general cross-section with its core provided with a series of holes for the fixing of the module via corresponding fixing elements.

Figure 3. Shows a sectioned view of the fixing of a pair of modules meeting in a post, where it can be seen how the wire mesh remains via the inner face of a projection on the front side of the profile making up the frame of the modules.

Figures 4 and 5 show practical embodiments of a fence with different changes of direction in its configuration for adaptation to the perimeter or contour to fence, with the section of the posts where the changes of direction take place having been represented in detail.

#### DESCRIPTION OF A PREFERRED EMBODIMENT

**[0021]** With the said figures in view and in accordance with the adopted numbering, we can see how the fence 1 is based on a series of posts 2 anchored in the ground between which are assembled respective modules 3 defined by a frame 4 with a steel wire mesh 5.

**[0022]** Starting from this structuring, the fence incor-

porates a series of improvement resulting in obtaining a high efficacy and safety in the avoidance of accidents to anyone trying to cross the fence.

**[0023]** In this way, the posts 2 anchored in the ground present a "U" shaped cross-section with one side of the frame 4 making up the respective two contiguous modules 3 meeting in it being backed on and fixed to the core of the post, the screws 7 for securing via the interior of its core remaining inaccessible from the fenced zone. In this way, no one will be able to manipulate any removable element in order to try to gain access from that zone.

**[0024]** Moreover, the profile 4 defining the sides of the frame making up the modules 3 presents a quadrangular general cross-section with a projection 6 with respect to its front face toward the interior of the frame that is created.

**[0025]** In this way, the steel wire mesh 5 is fixed to the inner face of the projection 6 presented by the profile 4 making up the frame with respect to its front face.

**[0026]** In figure 3 of the designs it can be seen how the steel wire mesh 5 remains fixed, preferably by means of welding, to the inner face of the projection 6 which is defined with respect to the front face of the profile 4 making up the frame of the module 3, preventing it from being able to be manipulated.

**[0027]** Moreover, the modules 3 present at least one stiffening vertical central profile 8 thereof, by means of which the modules are prevented from being able to be bent, for example.

**[0028]** Furthermore, with the aim of being able to materialize a fence 1 which is adapted to the desired perimeter or contour, the posts 2 anchored in the ground can present a "U" shaped general cross-section with their convergent or divergent wings defining their core in a dihedral angle as can be seen in the details of figures 4 and 5.

**[0029]** The materialization of the fence 1 as has been described permits having continuity throughout the entire length thereof, as well as permitting sensorization that is likewise continuous.

#### **Claims**

1. ANTI-INTRUSION FENCE, being of special utility for its installation in the protection of road enclosures and long routes requiring the provision of a certain level of security, as well as in border zones, with the aim of being able to detect securely and reliably any attempt at access via the fence, which is based on a series of posts, anchored in the ground, between which are mounted respective modules defined by a frame with a steel wire mesh, **characterized in that** the posts (2) anchored in the ground present a "U" shaped cross-section, with one side of the frame (4) making up the respective two contiguous modules (3) meeting at the post being backed on and fixed to the core of the post (2), the screws for se-

curing via the interior of its core remaining inaccessible from the outside of the fenced zone.

2. ANTI-INTRUSION FENCE, according to claim 1, **characterized in that** the profile (4) defining the sides of the frame making up the modules (3) presents a quadrangular general cross-section with a projection (6) with respect to its front face towards the interior of the frame that is created. 5  
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3. ANTI-INTRUSION FENCE, according to claim 2, **characterized in that** the steel wire mesh (5) is fixed to the inner face of the projection (6) presented by the frame with respect to its front face. 15
4. ANTI-INTRUSION FENCE, according to claim 2, **characterized in that** the modules (3) present at least one stiffening vertical central profile (8). 20
5. ANTI-INTRUSION FENCE, according to claim 1, **characterized in that** the posts (2) anchored in the ground present a "U" shaped general cross-section with their convergent wings defining their core in a dihedral angle. 25
6. ANTI-INTRUSION FENCE, according to claim 1, **characterized in that** the posts (2) anchored in the ground present a "U" shaped general cross-section with their divergent wings defining their core in a dihedral angle. 30

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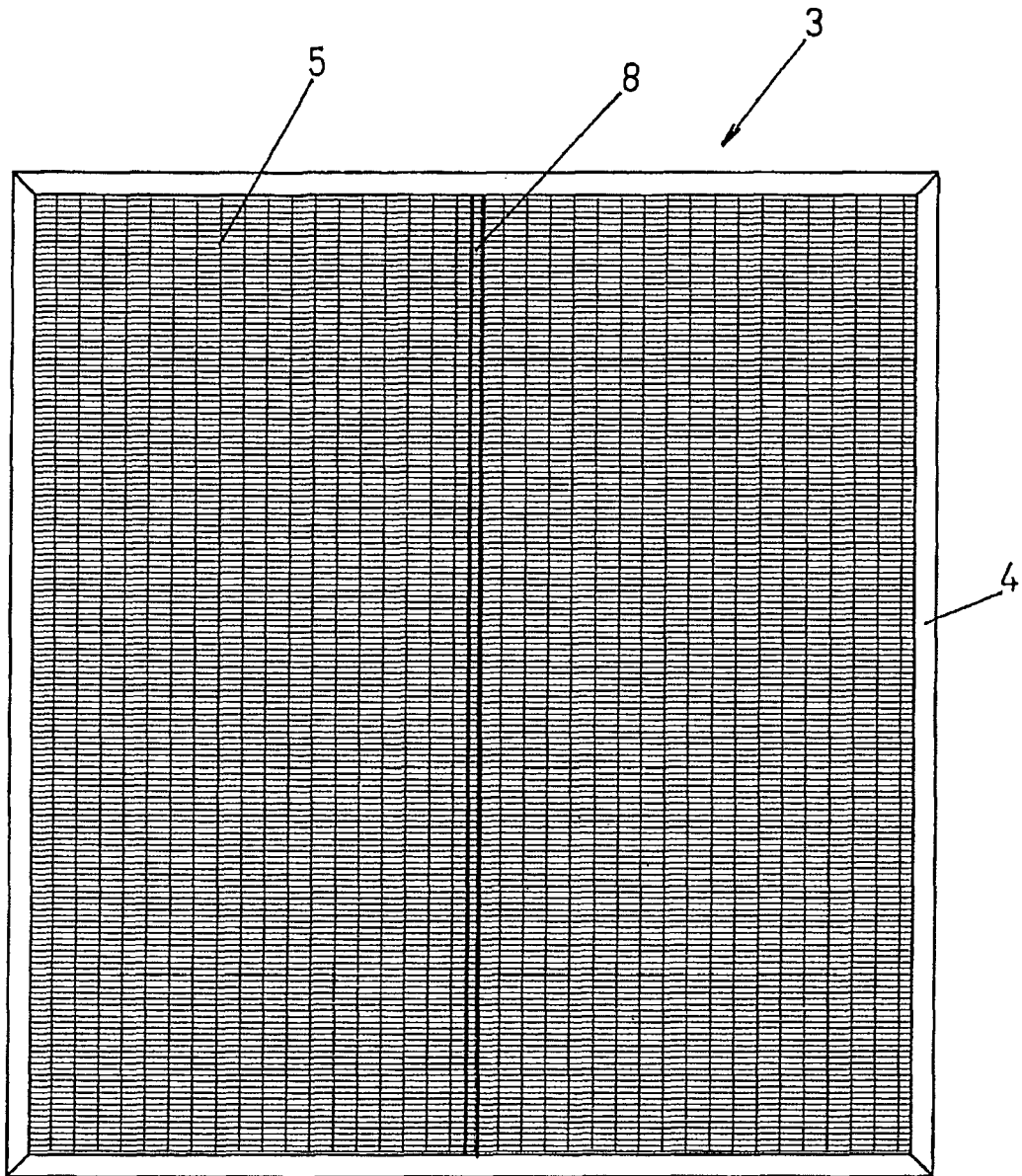


Fig.1

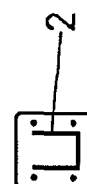
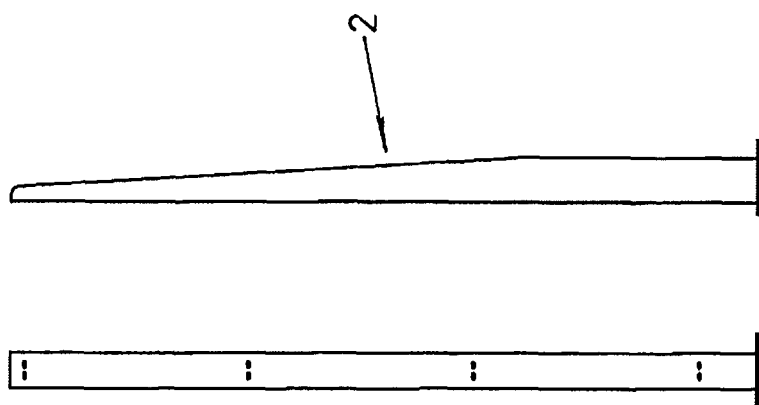


Fig. 2

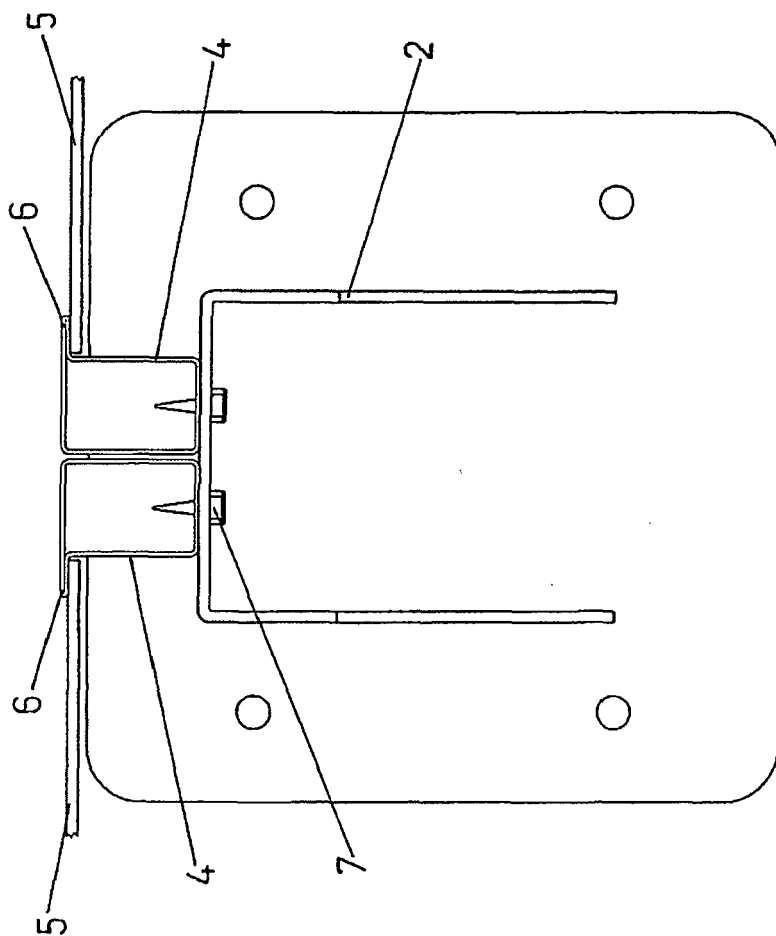
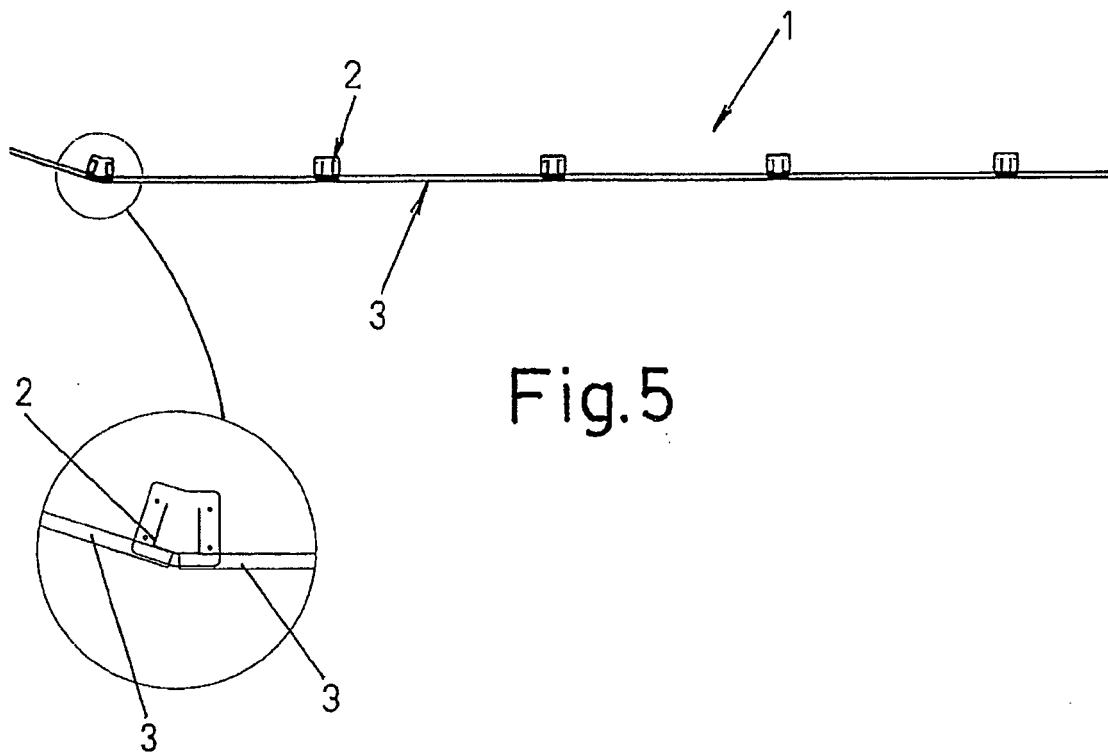
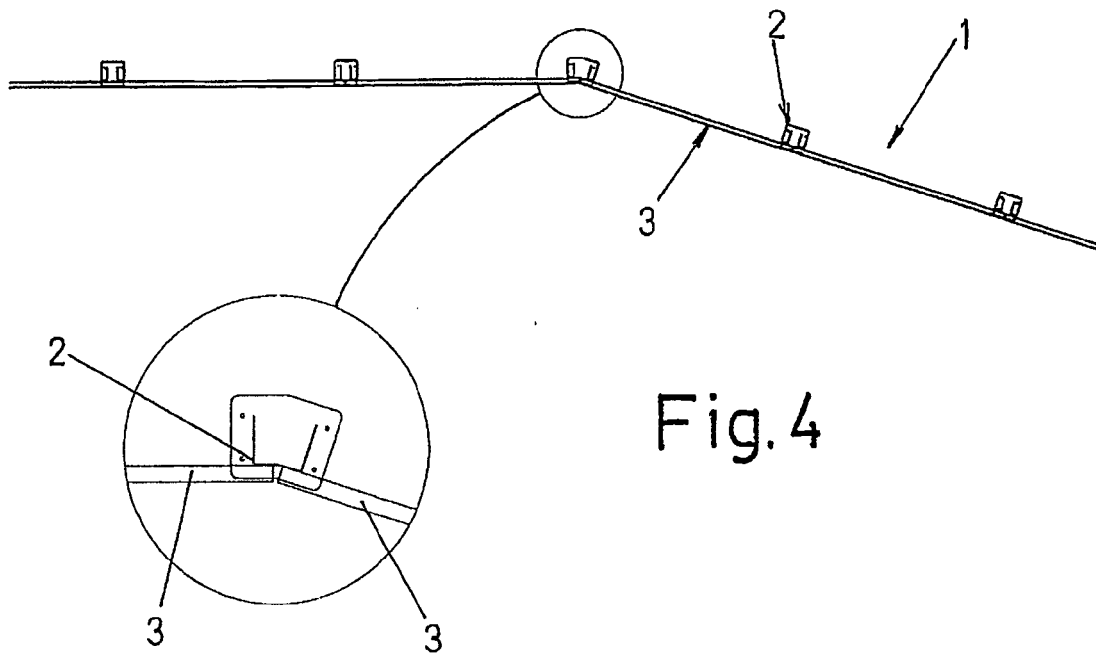


Fig. 3



**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- ES 1066931 [0012]
- ES 200801619 U [0013]