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(71) Applicant: **Sociedad Estatal Correos y Telégrafos S.A.**  
**28042 Madrid (ES)**

(72) Inventor: **Cruz Novillo, José**  
**28006 Madrid (ES)**

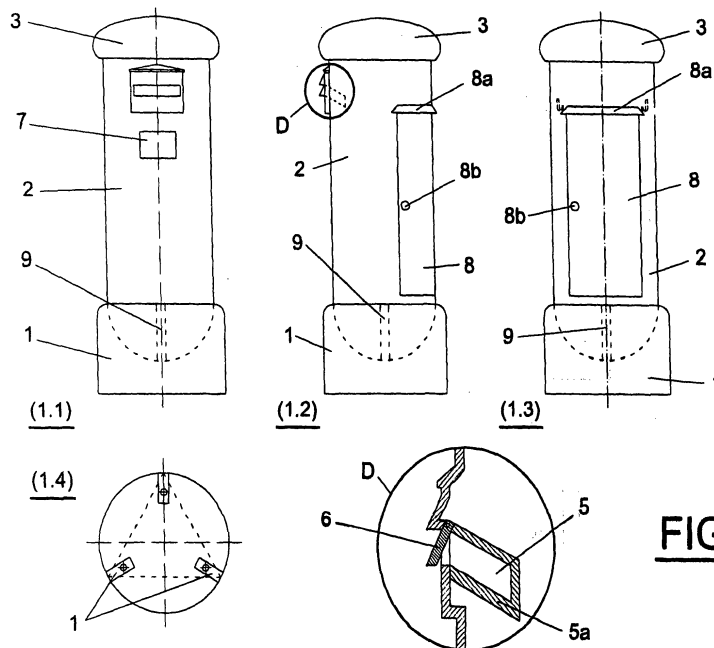
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(74) Representative: **Riera Blanco, Juan Carlos**  
**Avenida Concha Espina**  
**8, 6° D**  
**28036 Madrid (ES)**

(54) **Cylindrical letterbox**

(57) A cylindrical letterbox, of the type installed in public thoroughfares or similar for the reception of postal objects, is disclosed, the letterbox configuration of which is of conventional type, comprised of a lower body or base and an upper base equipped with an access door and destined to contain the sack that collects postal objects introduced through an entrance slot within reach of users. The letterbox assembly includes characteristics that provide substantial improvements with respect to other letterboxes of the current state of the art materialised in the provision of strips inside the lower body, or-

thogonally intercrossed and welded to the edge of the body, to support the sack; anchoring elements of the lower body in angularly equidistant positions; an entrance slot protected against the introduction of foreign objects, for which purpose it includes a ramp associated to a door that opens by gravity and is equipped with a closing magnet; and reinforcement strips welded to the sack extraction door, that prevent the warping or deformation thereof and which, together with the safety lock that actuates internal catch elements, guarantee the secure use of the letterbox.



**FIG. 1**

**EP 2 090 203 A1**

## Description

**[0001]** The present invention relates to a cylindrical letterbox that offers novel essential characteristics and significant advantages with respect to other similar letterboxes used in the current state of the art.

**[0002]** More particularly, the invention proposes the development of a letterbox of the type having a cylindrical configuration and which, for operating purposes, is installed outdoors, and has an opening or entrance slot for introducing the letters or other documents that are mailed through conventional postal services, the constructive and design characteristics of which have been devised in a substantially improved manner with respect to conventional letterboxes, both in relation to the structure of the letterbox and its anchoring means, with the security closing devices of the door that accesses the interior thereof, or even with the fixed or folding elements that protect and configure the aforementioned entrance slot.

**[0003]** The field of application of the invention is obviously comprised within the industrial sector dedicated to the manufacture and/or installation of means and devices associated to postal services, and particularly the industrial sector dedicated to the manufacture and/or installation of letterboxes.

## BACKGROUND AND SUMMARY OF THE INVENTION

**[0004]** Letterboxes installed in public thoroughfares or other predetermined places are known to be used for receiving and/or storing letters or other postal documents, whether mailed by users to other places or to provide service to the Post Office itself. The letterboxes consist of generally elongated boxes or receptacles, with different configurations in accordance with the specific application for which they have been designed, normally made of a metal protected against rust, painted in predetermined colours and, where applicable, having an opening or entrance slot for introducing documents, protected by a swinging or folding sheet to avoid the entrance of water. Additionally, they have a small door to access the interior of the letterbox and collect the objects that have fallen inside a sack disposed for such purpose on being deposited therein.

**[0005]** Among the types of letterboxes most commonly used in many parts of the world for the collection of mail (envelopes of up to certain sizes), within reach of users due to their installation in public thoroughfares, we must point out one that adopts a generally cylindrical configuration. Structurally, a cylindrical letterbox consists of three clearly differentiated parts, namely, a portion corresponding to the lower body or base, a portion corresponding to the central body and a portion corresponding to the cap or cover. The three aforementioned portions are made of metal materials that guarantee sufficient resistance to external agents or even against possible acts of vandalism, joined together by welding or similar means. The anchorage of the lower portion or base to

the ground is carried out by means of anchorings, for example three fastenings, with the help of metal blocks or other similar means which, pursuant to the legislation in force, must support breakage loads above a predetermined threshold. Similarly, the hinges of the small doors, the hooks used in the interior of the letterbox or the anchorings must also be made of a material that guarantees a secure and effective operation of each and every one of the parts that comprise the letterbox.

**[0006]** Although current letterboxes undoubtedly function adequately in accordance with the purposes for which they have been designed, it is evident that, in view of the external actions to which they are frequently subjected, it is desirable to have letterboxes which are capable of offering the highest possible levels of protection and security so as to prevent the documents received in the interior thereof from being affected by any type of undesired external actions. Consequently, the objective of the present invention is precisely that of manufacturing a letterbox with substantially improved characteristics as compared to traditional letterboxes, with greater levels of security and protection in all of its components, but with a design such that these improvements do not represent greater complexity with regard to the manufacturing operations nor an increase in production costs. The proposed objective has been fully achieved by the cylindrical letterbox which is the object of the description below, the main characteristics of which have been included in the characterising part of Claim 1 attached hereto.

**[0007]** In essence, the letterbox proposed by the invention is comprised, as in the case of conventional letterboxes, of three portions successively piled one on top of the other and joined together by welding or similar means: a lower base, an intermediate body and a cap or cover. The lower base consists of a cylindrical piece comprised of a steel sheet of considerable thickness throughout its contour (preferably, around 5 mm thick), with a sheet-iron ring disposed on the upper part and fixing means on the lower part consisting of anchorings welded to the base (preferably three anchorings, angularly equidistant). The central body, which has the opening through which the postal objects are introduced and the small door to access its interior, consists of a cylinder of a diameter somewhat smaller than that of the base comprised of an iron plate, protected against rust by means of a known process and having internal means for fixing the sack that receives the letters or other postal documents, in the usual manner. In turn, the cap or cover closes the letterbox by its upper end, and is also comprised of a metal material such as a plate around 2 mm thick or similar, having an upper rounded base with the approximate shape of a spherical cap, and a diameter equivalent to that of the lower base. These structural characteristics, together with the conception of hinges, hooks and improved anchorings, and with the additional security elements that will be discussed below, make the letterbox proposed by the invention especially suitable for the purpose to which this type of device is intended.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0008]** These and other characteristics and advantages of the invention shall be further expounded in the following detailed description of an example of embodiment thereof, included by way of illustrative and unlimitative example, with reference to the accompanying drawings, in which:

- Fig. 1 shows a set of representations, 1.1 to 1.4, together with an enlarged detail (D), of a cylindrical-type letterbox built in accordance with the invention;
- Fig. 2 shows representations 2.1 and 2.2, which illustrate a lower plan view of the letterbox of Figure 1 and a perspective view of an anchoring element, respectively;
- Fig. 3 shows representations 3.1 and 3.2 of elements associated to the entrance slot through which the letters or documents are introduced towards the interior of the letterbox; and
- fig. 4 shows representations 4.1 to 4.5, which illustrate views of some of the security elements included in the letterbox of the invention.

## DESCRIPTION OF A PREFERRED EMBODIMENT

**[0009]** As mentioned in the preceding section, the detailed description of the preferred embodiment of the invention will expounded hereunder with the help of the drawings attached hereto, using the same numerical references to designate same or similar parts. In this manner, and according to the different representations that comprise Figure 1, an elevational view of the cylindrical letterbox can be seen in three positions, 1.1, 1.2 and 1.3, successively inter-rotated at an angle of 90°. In accordance with these representations, the cylindrical letterbox is of the conventional type, i.e. of the type formed by a portion (1) corresponding to a lower body or base, a portion (2) corresponding to an intermediate or central body and an upper portion (3) corresponding to a cap or cover. Inside the lower portion (1), the inclusion of two strips (9), generally semi-circumferential in shape and perpendicularly intercrossed, disposed on the seam formed by welding between the lower body (1) and central body (2) has been envisaged, welded to the perimeter of said lower base, in such a manner that the assembly comprises a semi-spherical cavity destined to providing a support for the sack that must be placed inside the letterbox, in such a manner that it does not reach the bottom of the body (1) and can therefore be handled more easily and conveniently.

**[0010]** At the opposite end, the central body (2) and the portion (3) corresponding to the cap or cover, are also joined together by means of a seam formed by welding throughout the perimeter.

**[0011]** In relation to the central body (2), the opening of an entrance slot, in the conventional manner, has been

envisaged, which is represented enlarged in detail (D), at a predetermined height, while a door (8) has been disposed in a diametrically opposed position. The entrance slot through which the letters and postal documents are introduced has a folding lid (6) underneath a fixed visor, said lid (6) being susceptible to being lifted at the time of introduction and returning by its own means, due to the effect of gravity, to its resting position once freed, while after the entrance slot there is a space (5) delimited by a descending ramp (5a) (representation 3.1 of figure 3), with the suitable inclination to guide the letters in their descent towards the inner collection sack (not represented). Coupled to said ramp is a small box that, together with the former, determine the formation of said reception space (5), while in order to avoid the introduction of foreign objects such as, for example, syringes, lit cigarettes, etc., the inclusion of a door that opens by gravity has been envisaged, materialised by a plate (5b) having a magnet and which normally remains closed due to the effect of gravity.

**[0012]** With regard to the door (8) disposed on the cylindrical letterbox of the invention, it is protected from rainwater by means of a small roof (8a) which, projecting from the central body (2) of the letterbox with a certain descending inclination, extends transversely to the full width of the door. Said door is visible in the elevational and side views of representations 4.1 and 4.2, and is comprised of a metal sheet with a predetermined thickness (preferably, around 2mm thick), having a solid hinge (12) (see representation 4.5 of figure 4), for hinging the central body (2). The door includes a safety lock (8b), of the cylinder-free type, with a spring-free pin displacement system and double bolt, that holds the corresponding edge of the door by its upper part and by its lower part with the help of two rods (11) materialised in the form of door catches (representation 4.4 of figure 4), and which have a substantially flattened portion (11a), with a respective orifice (11b), which is joined to the actuating lock with the help of screws nuts. The rods (11) can be protected by means of a respective metal angle cover (not represented), welded to the inner surface of the door (8).

**[0013]** Additionally, as a complementary security measure, the door (8) includes two strips (10) (see representation 4.3 of figure 4) that present orifices (10a, 10b), joined by welding to the inner side thereof next to the upper and lower edges of the door (8), which not only constitutes an effective reinforcement for the door, but also prevents any warping or deformation thereof, ensuring that it is perfectly closed. Additionally, hooks (13) have been disposed next to the upper corners of the door (8) cavity, on either side, joined to the inner surface of the central body (2) by means of welding, and disposed in such a manner as to maintain and hold the inner sack, in the conventional manner.

**[0014]** As in the case of currently existing letterboxes, the letterbox of the invention includes a timetable that can be clearly seen in representation 1.1 of figure 1, disposed underneath the entrance slot and identified with

numerical reference 7. This timetable is fastened to the central body (2) of the letterbox by means of a riveting operation, in such a manner that it cannot be lifted or separated from the latter.

**[0015]** Returning to figure 2 of the drawings, a plan view of the letterbox can be observed (representation 2.1), taken from the lower part of the base body (1), for the purpose of showing the anchoring means of the letterbox to the ground. These anchoring means are materialised by anchorings (4) that are distributed throughout the perimeter of the lower edge of the base (1), in angularly equidistant positions. In the specific case of representation 2.1, three anchorings (4) can be seen separated from each other by 120° angles, although the number of anchorings and their corresponding distribution could vary according to need. Representation 2.2 illustrates a side view of an anchoring (4), showing a body with a generally prismatic shape, having orifices (4a) for the passage of screws and their coupling to metal blocks, for example, nailed to the corresponding positions on the ground.

**[0016]** As it will be understood, we prefer that the metal body of the letterbox is protected against the corrosion derived from severe weather conditions, for which purpose it is provided with a hot-galvanisation treatment and subsequently coated with paint in the corresponding colour, and with a possible anti-graffiti impregnation.

**[0017]** It is not necessary to extend the content of this description for a person skilled in the art to understand the scope of the invention and the advantages derived therefrom, in addition to carrying out the practical embodiment thereof.

**[0018]** Notwithstanding the foregoing, and due to the fact that the foregoing description only corresponds to an example of preferred embodiment, it will be understood that variations in detail, also protected, may be introduced within its essential nature, which can affect formal or dimensional aspects, or those related to the manufacturing materials of the assembly or its constituent parts, or any other aspects that do not entail alteration of the grounds of the invention.

## Claims

1. A cylindrical letterbox, of the type normally installed on the ground in public thoroughfares and other places for the collection of letters or other postal documents, consisting of a lower body (1) or base, a central body (2) and an upper body (3) in the form of a cap or cover, the central body having an entrance slot through which the letters or documents are introduced that closes by means of a swinging lid (6) through which a reception space (5) inside the letterbox is accessed, in a diametrically opposed position to the entrance slot, the door (8) of which allows the extraction of the inner letter and document collection sack, the central body (2) also having a time-

table disposed underneath said entrance slot, **characterised in that:**

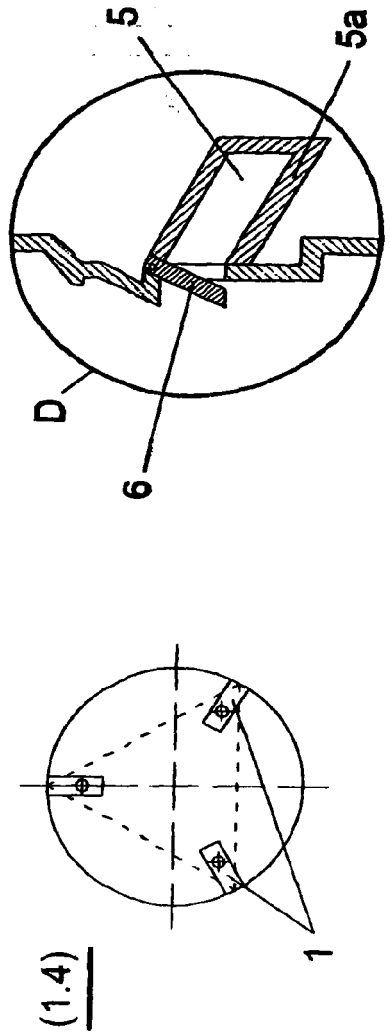
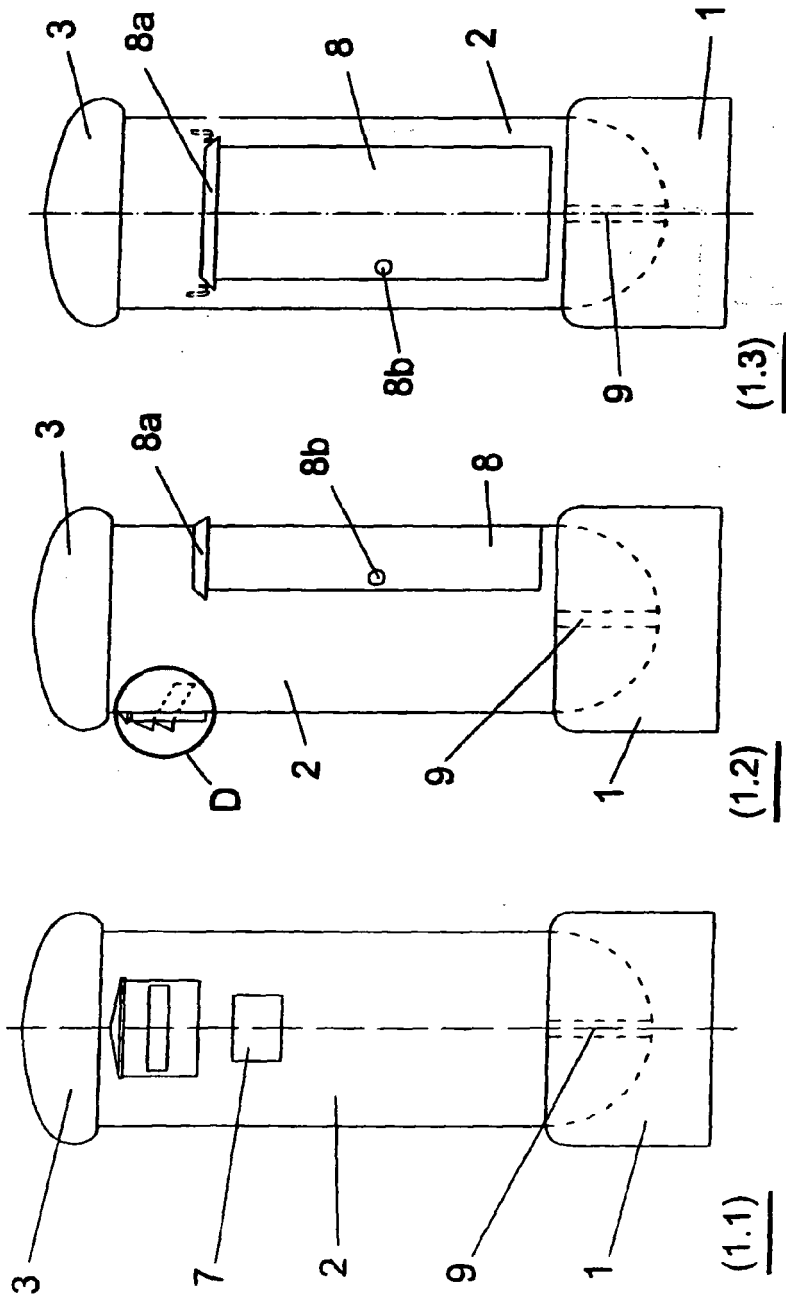
the lower body (1) has, in relation to its joining edge to the central body (2), a pair of strips (9) welded to said edge, configured along a semi-circumferential outline, orthogonally intercrossed, and which comprise a support base for the collection sack disposed inside the central body (2);

the lower body (1) has, in relation to the support base, anchoring elements (4) disposed along its perimeter in angularly equidistant positions, comprised of parts (4) with orifices (4a) for the passage of screws fixed to metal blocks nailed to the installation site;

the entrance slot for the introduction of letters and documents, closed at the front by means of a swinging lid (6), provides access to a space (5) delimited by a ramp (5a) with a predetermined inclination, in association with a door (5a) that opens by gravity and is equipped with a closing magnet, which prevents the introduction of undesired foreign objects;

the door (8) includes a safety lock (8b) which acts on a mechanism (11) that actuates catch elements that ensure the door closes by its upper and lower edge; and

additionally, the door includes reinforcement strips (10) welded next to the upper and lower edges thereof which prevent the deformation or warping of the door, thereby guaranteeing that it closes perfectly.



**FIG. 1**

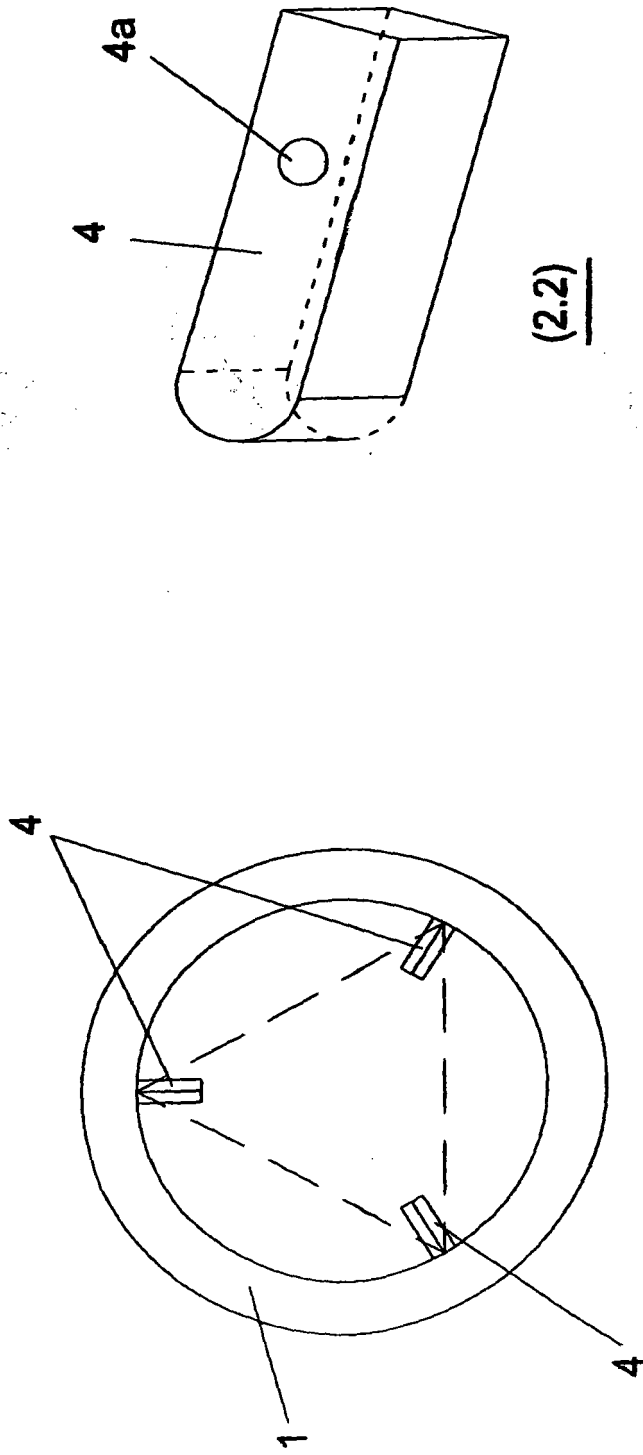


FIG. 2

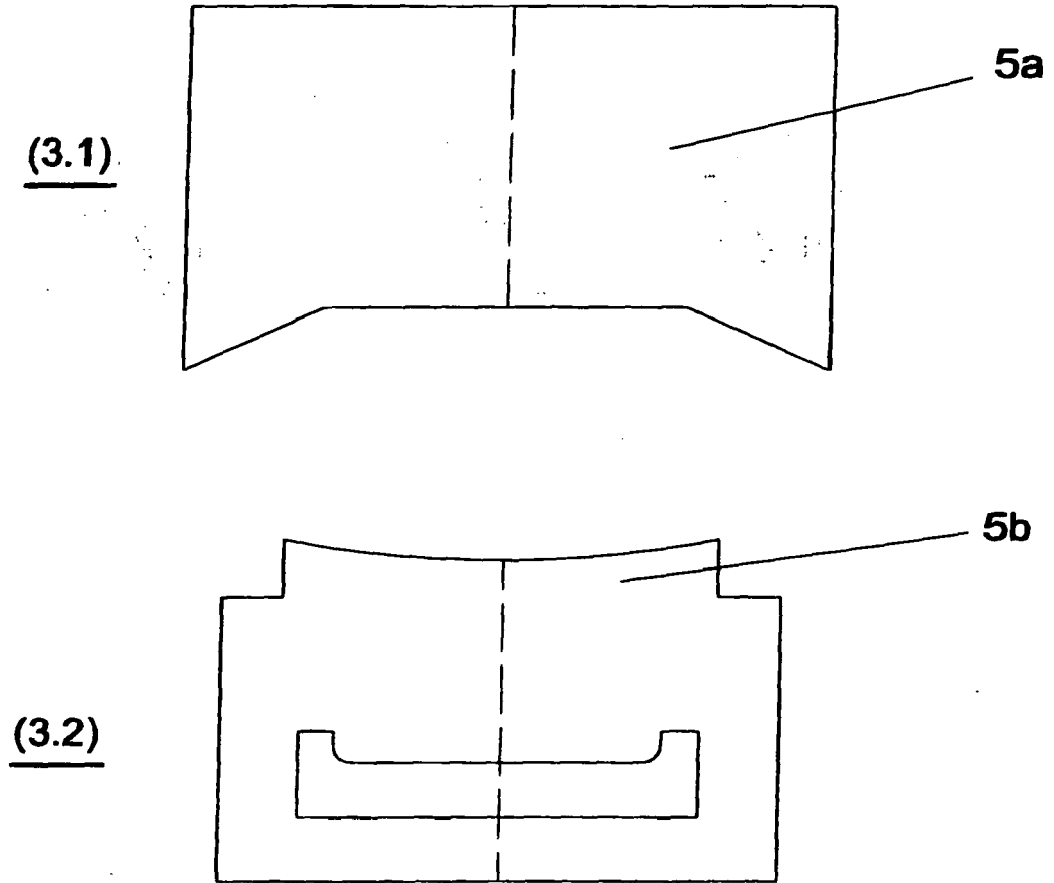
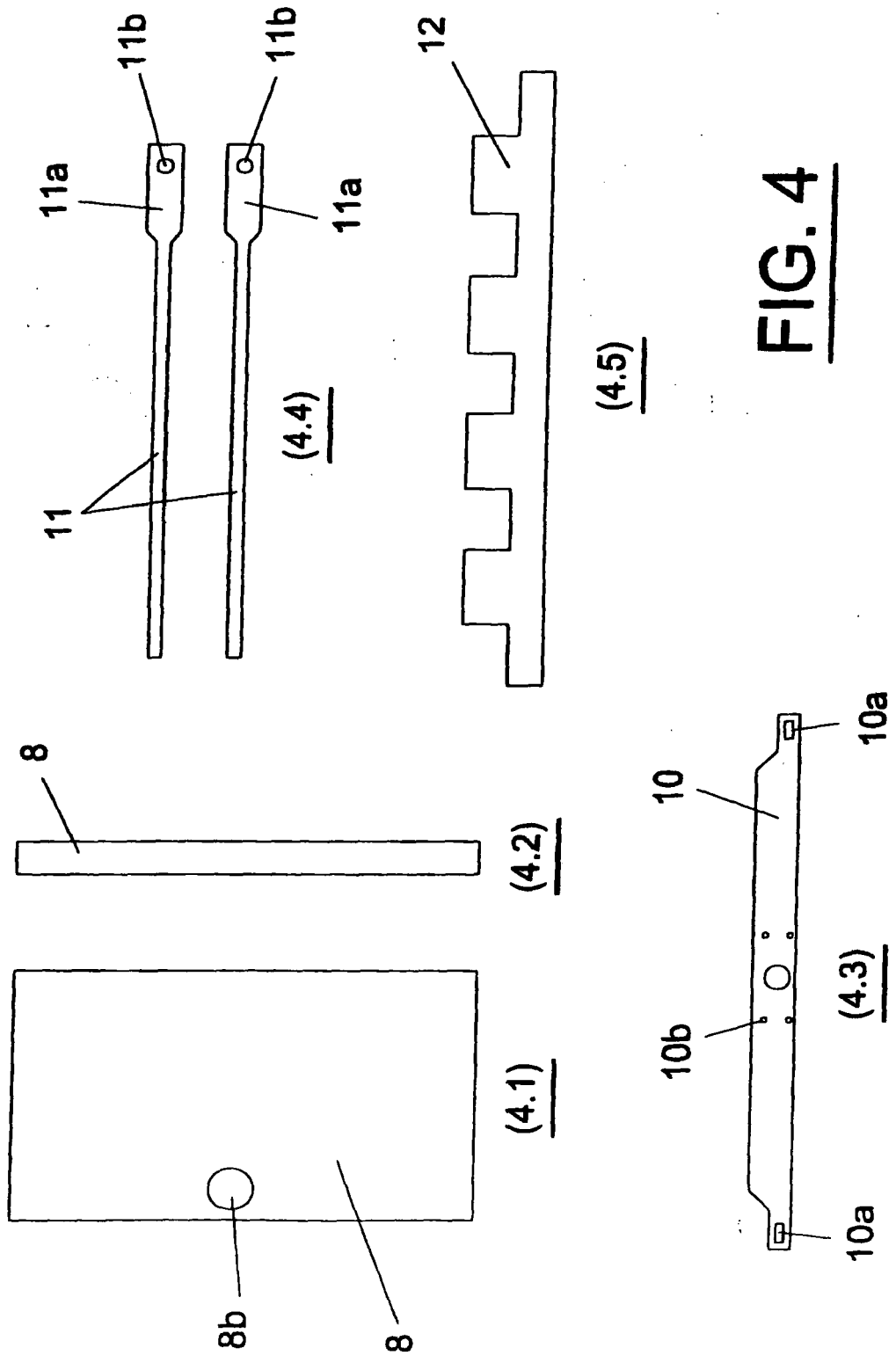


FIG. 3



**FIG. 4**



EUROPEAN SEARCH REPORT

Application Number  
EP 09 38 0007

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Place of search		Date of completion of the search	Examiner
The Hague		18 May 2009	Longo dit Operti, T
CATEGORY OF CITED DOCUMENTS		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	
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			

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EPO FORM 1503 03/02 (P04C01)

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

EP 09 38 0007

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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18-05-2009

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