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(71) Applicant: **Saica Pack, S.L.**
50015 Zaragoza (ES)

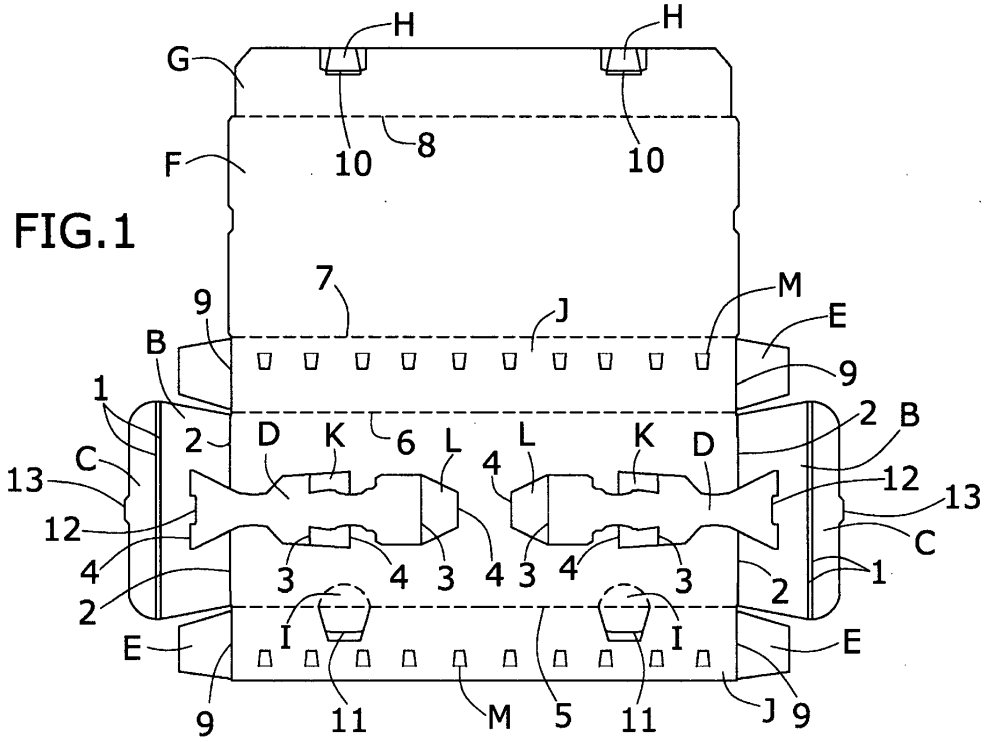
(72) Inventor: **Fredon, Mickaêl**
87150 Cussac (FR)

(74) Representative: **Capitán García, Maria Nuria**
ARS Privilegium, S.L.
Felipe IV no. 10, bajo iz.
28014 Madrid (ES)

(54) **Box with integrated inserts**

(57) Box comprising a base (A), two larger lateral sides (J) attached to the base by folding lines (5) and (6), two smaller lateral sides (B) attached to the base by folding lines (2) presenting a sloping side edge flaps (E) to create the box, a closing lid (F) emerging from the edge of one of the larger sides (J), having on its free edge a closing flap (G), joined by a fold line (8) and extensions (C) attached to the smaller lateral sides (B) by a double fold line (1), where it also has cuts and creasing lines on the base (A) and smaller lateral sides (B), which form a raised surface (D) in relation to the base (A). A box which can be created manually or mechanically, the final shape can be maintained without any glue, and wherein the material consumption is minimised.

FIG.1



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Description

PURPOSE OF THE INVENTION

[0001] The subject of the present invention, as the title states, is to create a box with integrated inserts designed for placing and transporting a product so that it always stays in the same position within the packaging.

[0002] The present invention can be used, although by no means limited, in the transport and packaging of electrical appliances such as plugs, switches, sockets mechanisms, and any other rigid product; its use may be extended to any other field that requires the claimed features.

[0003] This invention is characterised by the special configuration and design of the cardboard sheet which it is cut from to create the package of the invention, in which each and every one of the different parts, the cutting lines, the folding lines and pre cut lines allow, from a single sheet, to form a package in which a product may be used so as to remain stable during transportation thereof.

[0004] Therefore, the present invention falls within the field of packaging that has inserts to place a product inside in a stable manner.

BACKGROUND OF THE INVENTION

[0005] In the state of the art, packaging defined in FR2816283 and FR2898874 patents are known, and they are presented as aspects that can be improved by the fact that to achieve precise inserts, they propose a lock of sides doubled at the base of the box, which forces many packing materials to be deployed under the FEFCO European code encoded under number 421.

[0006] In addition, these productions require supplemental materials for the creation of the product insertion points.

[0007] It is therefore a subject of the present invention to develop a package for inclusion of products which do not have a design that requires the use of excessive material, both for manufacturing, and to define inserts for the products to place inside, developing a package such as the one described below and is essentially collected in its first claim.

DESCRIPTION OF THE INVENTION

[0008] The packaging of the invention is formed from a single sheet previously cut and with score lines, which allows the configuration of packaging with integrated inserts.

[0009] The sheet from which of the package creation begins features:

- A base.
- Four sides, two larger and two smaller, for the creation of the side walls and which emerge from the side edges of the base. The smaller sides have their inclined side edges in a diverging direction from the base of the box.
- A lid joined to one of the larger sides by a fold line, and has a closing flap with closing means.
- Some dies and score lines made in the base and smaller side walls that serve to create inserts which allow products to be placed in a stable manner.

[0010] The four lateral sides are joined together by flaps which emerge from the ends of the larger lateral sides, and that in the creation of the box they are retained on the inner sides of the smaller lateral sides, by the additional extensions that the smaller lateral sides have.

[0011] Furthermore, the lateral sides can be placed in a slightly inclined way in relation to the base, defining a top surface access larger than the base surface. They also have a series of pre cut holes which work in the proper placing of products housed inside the packaging.

[0012] Additionally, from the upper edge of the smaller lateral sides a side emerges that has a locking flap which is received in a recess defined by the die on the smaller lateral sides, serving as a means of housing and retention of the flaps emerging from the ends of the larger lateral sides and serving for the creation of the box.

[0013] The advantages to be derived from a design of the box as indicated are, on the one hand financial, since with a single sheet an integrated insertion is achieved, being designed so that it adapts to the products to be placed inside the packaging, and also, they do not need supplemental material. Moreover, in a practical and economical way, since the creation of the box can be done manually or mechanically, it will keep the volume without requiring any gluing.

EXPLANATION OF FIGURES

[0014] In order to supplement the description being made and with the aim of aiding in a better understanding of the features of the invention, in accordance with a preferred practical embodiment example thereof, a set of drawings, in which the following has been represented in an illustrative and not limiting manner, accompany said description as an integral part:

In Figure 1, we can see a cut sheet for creating a package such as the subject of the invention.

Figures 2 to 5 show the successive steps which have to be performed for the creation of the box.

Figures 6 and 7 illustrate different perspective views of the box once created.

PREFERRED REALISATION OF THE INVENTION

[0015] In view of the figures, a preferred method for realising the proposed invention is described below.

[0016] In Figure 1 we can see that the base sheet from

which the package is created, it comprises:

- A base (A).
- Two emerging larger lateral sides (J) from the base length sides (A) and attached to the base by folding lines (5) and (6).
- Two smaller emerging lateral sides (B) from the smaller sides of the base (A) and joined to it by folding lines (2), presenting inclined side edges in a divergent direction from the base (A).
- Flaps (E), for the creation of the box, which emerge from the ends of the larger lateral sides (J), and which are joined to these by folding lines (9).
- A closing lid (F) emerging from the edge of one of the larger sides (J) and connected thereto by a fold line (7), said closing lid (F) having on its free edge a closing flap (G) bound by a fold line (8).
- Extensions (C) connected to the smaller lateral sides (B) by a double folding line (1).
- Some cuts and score lines made on the base (A) and smaller lateral sides (B), which form a surface (D) in the creation of the box used to define some inserts, leaving the surface (D) raised regarding the base (A), being attached to the base by a few sections (K) and (L), which are attached to the base by a fold line (3) and the surface (D) by a fold line (4).

[0017] In particular, to create the box, each of the surfaces (D) is raised in relation to the base (A) and supported at four points. Two intermediate points defined by the sections (K) arranged on each side of the surface (D), and two end points, one being the smaller lateral side (B) itself and another section (L).

[0018] The sections (K) and (L) as well as the surface (D) at its junction with the smaller lateral sides (B) are joined at the base and smaller lateral sides by fold lines (4), while sections (K) and (L) are joined to the surface (D) by reverse folding sections.

[0019] On the free edge of the extensions (C), there is a defined flap (13), which in the creation of the box would be fitted into the recess (12) defined by the folding line (4) between the surface (D) and the larger lateral side (B).

[0020] The double fold line (1) at the junction between the extensions (C) and smaller lateral sides (B) serves to define a space in which to house and hold the flaps (E), thereby ensuring the prismatic creation of the box. The flaps (E) are held in the space between the extensions (C) and larger lateral sides, and remain below the surface (D) once lifted.

[0021] On the free edge of the closing flap (G), there are defined cuts which configure the flaps (H) attached to the closing flap via a folding line (10). The flaps are inserted into the box through the slit defined in the larger lateral side (J) opposed to the side to which the closing lid is joined (F), so that when opened, it is necessary to tear the surface (I) by the tear line (11).

[0022] On the larger lateral sides (J) there are a series of pre cuts (M), which presence in combination with the arrangement of lateral faces (J) and insertions defined on the base of the box help to keep the products in the right position.

[0023] In figures 2 to 5 the different actions which must be performed for creating the box subject of the invention are shown.

[0024] In figure 2 it can be seen that, firstly, the smaller lateral sides are folded (B) towards the base (A) at 90° in relation to the folding line (2). At the same time a slight pressure on the surface (D) is exercised so that it rises on the fold lines (4) combined with folding lines on reverse folding (3), so that the sections (K) and (L) are vertically arranged when folded in relation to the fold lines (4) to leave said surface (D) at the desired height.

[0025] Then the flaps are folded (E) at 90° in relation to the larger lateral sides (J). This folding is done by folding lines (9), as shown in Figure 3.

[0026] Then the larger lateral sides (J) are folded, depending on the angle of the larger lateral sides (B), by the fold lines (5) and (6), whereby the shape shown in Figure 4 is obtained.

[0027] The next step consists of folding the extensions (C) by the double folding line (1) until the flap (13) is housed in the recess (12) leaving the flaps (E) housed and held between sides (B) and (C).

[0028] When the box is filled, the products are held in place due to the surfaces (D) on the one hand and by the fact that the product reaches the base of the box.

[0029] Then the closing lid is folded (F) at 90° in relation to the base (A) by the folding line (7). The side (G) is folded at 90° against side (J).

[0030] The flaps (H) are pressed towards the inside of the box in order to close the box. The flaps (H) are folded according to the fold lines (10) by pushing the surface or section (I) which is folded according to a folding line. These fold lines also allow the sides (I) to go back to its initial position and allow the locking of the box closing.

[0031] For the opening of the box it is necessary to tear the sides (I) by the tear lines (11), that way it becomes evident that the box has been opened.

[0032] This sheet design for creating a box with inserts integrated, seeks to overcome the drawbacks of the prior state of the art by proposing a box where its creation can be done manually or mechanically, without any gluing maintaining the final shape, and wherein material consumption is minimised.

Claims

1. Box with integrated inserts comprising:

- A base (A).
- Two emerging larger lateral sides (J) from the base long sides (A) and attached to the base by folding lines (5) and (6).
- Two sides emerging under (B) the smaller sides of the base (A) and attached to the base

by folding lines (2), presenting inclined side edges in a divergent direction from the base (A).
- Flaps (E) for creating the box emerging from the ends of the larger lateral sides (J), and which are joined to the larger lateral sides (J) by folding lines (9).
- A closing lid (F) emerging from the edge of one of the larger sides (J) and connected by a fold line (7), having said closing lid (F) on its free edge a closing flap (G) bound by a fold line (8).
- Extensions (C) connected to the smaller lateral sides (B) by a double folding line (1).

Characterized by further features:

Some cuts and score lines made on the base (A) and smaller lateral sides (B), which form a surface (D) in the creation of the box used to define some inserts, leaving the surface (D) raised regarding the base (A), being attached to the base by a few sections (K) and (L), which are attached to the base by a fold line (3) and the surface (D) by a fold line (4).

2. . Box with integrated inserts, according to claim 1, **characterized in that** in the free edge of the extensions (C) there is a defined flap (13) which in the creation of the box would be seated in the recess (12) defined in the fold line (4) between the surface (D) and the smaller lateral side (B), leaving the flaps (E) housed in the interior space defined by the smaller lateral sides (B) and the extensions (C), these being folded on the smaller lateral sides (B).

3. Box with integrated inserts, according to claim 1, **characterized in that** on the free edge of the closing flap (G) there are defined some cuts that configure flaps (H) attached to the closing flap by means of a fold line (10), while on the opposite larger lateral side (J) to the side to which the closing lid is attached (F) there is a cut defined to house the flaps (H), where said cut is next to a surface (I) defined by a tear area (11).

4. Box with integrated inserts, according to claim 1, **characterized in that** on the larger lateral sides (J), there are a series of pre cuts (M),

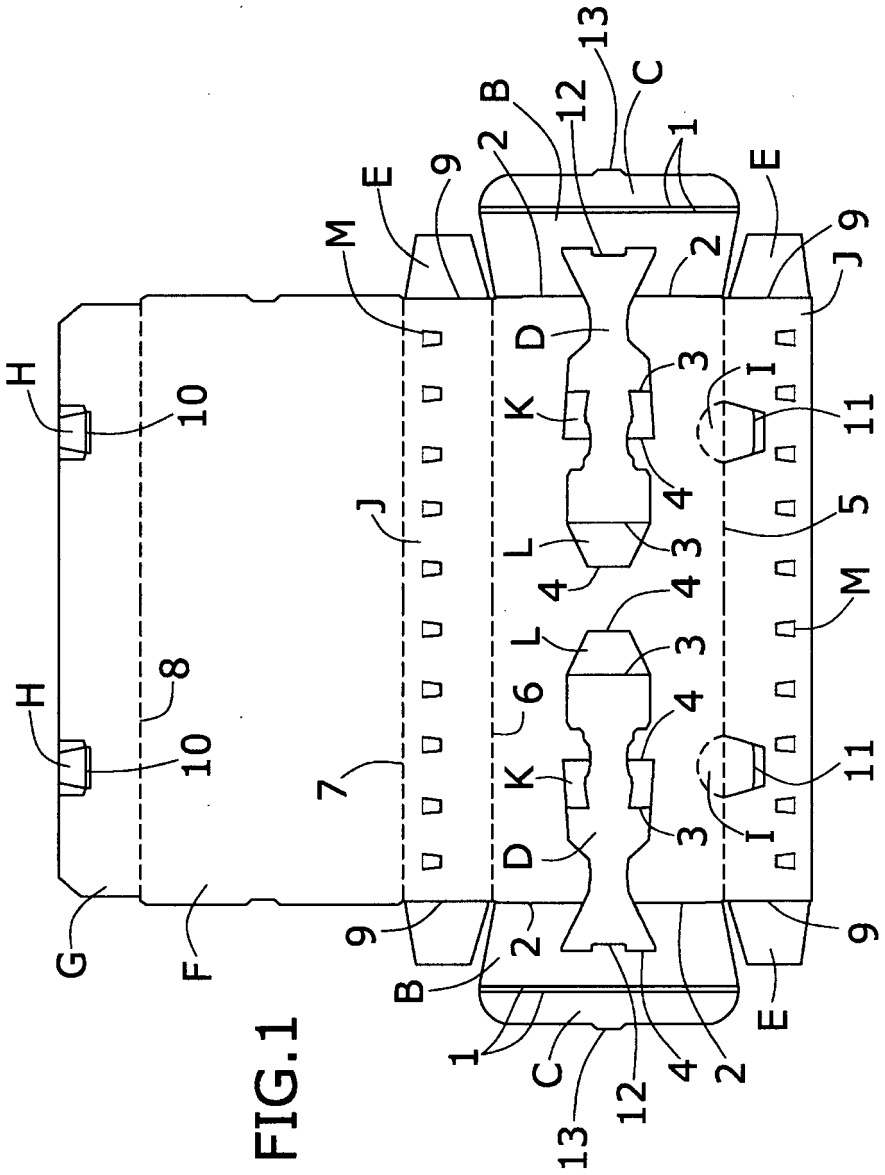

FIG.1

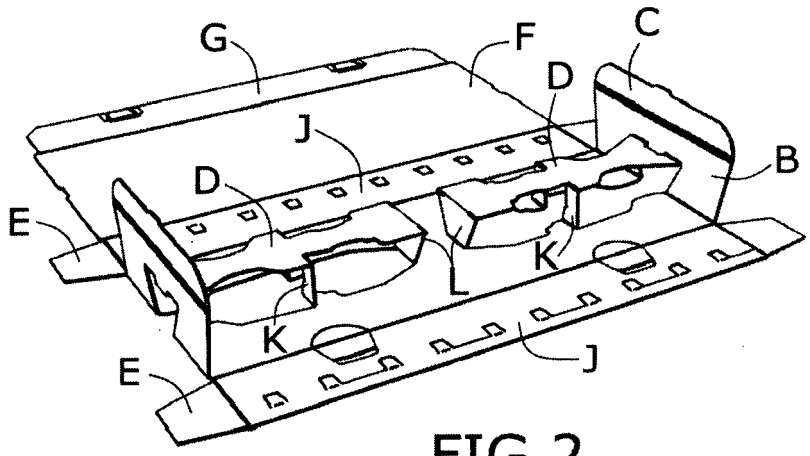

FIG.2

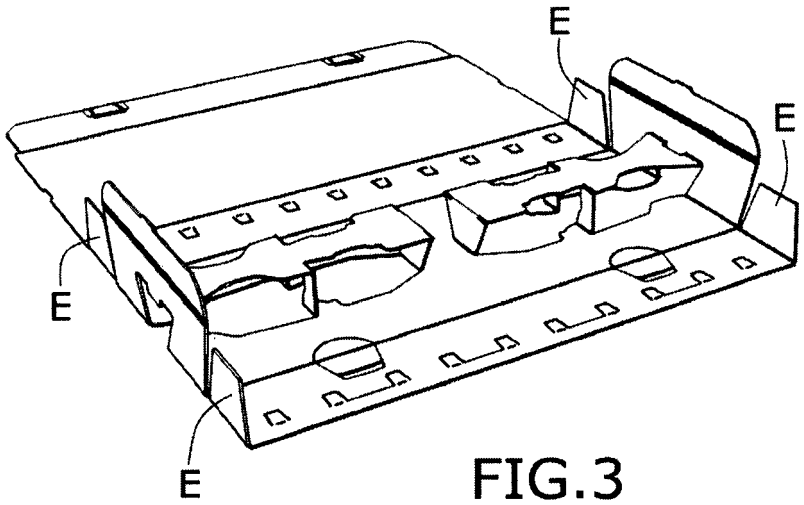

FIG.3

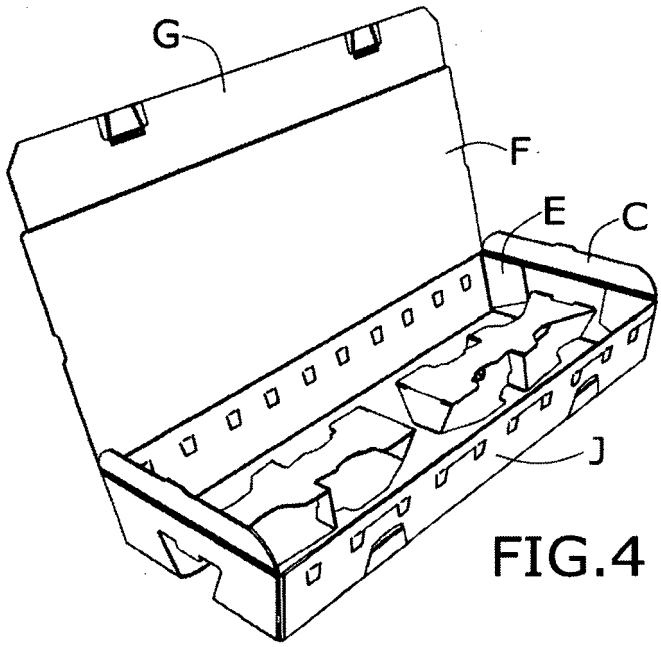

FIG.4

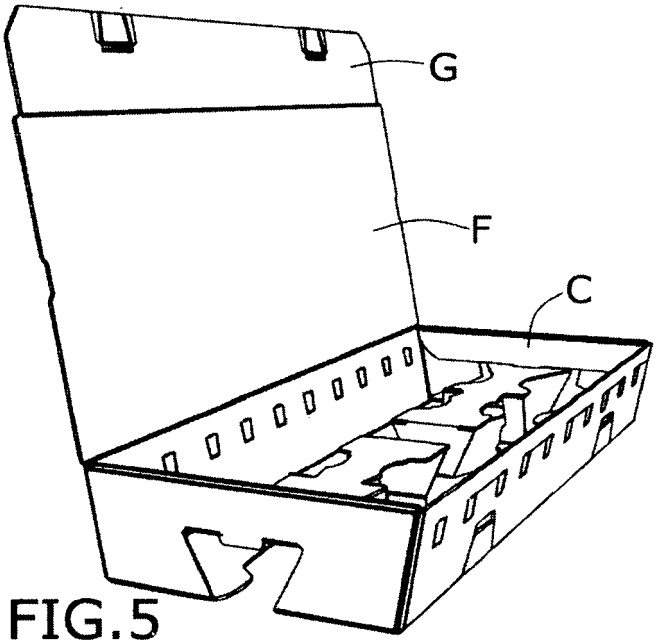

FIG.5

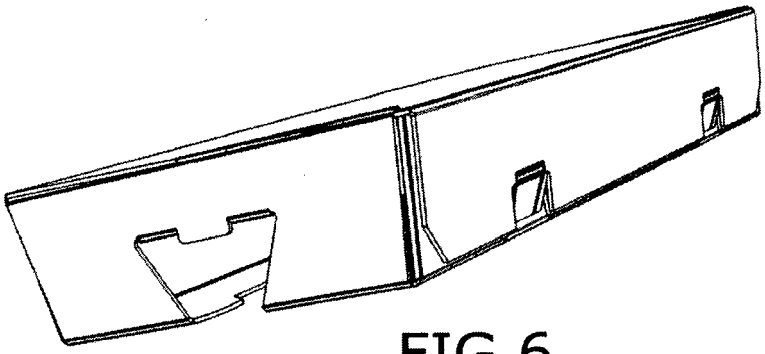

FIG.6

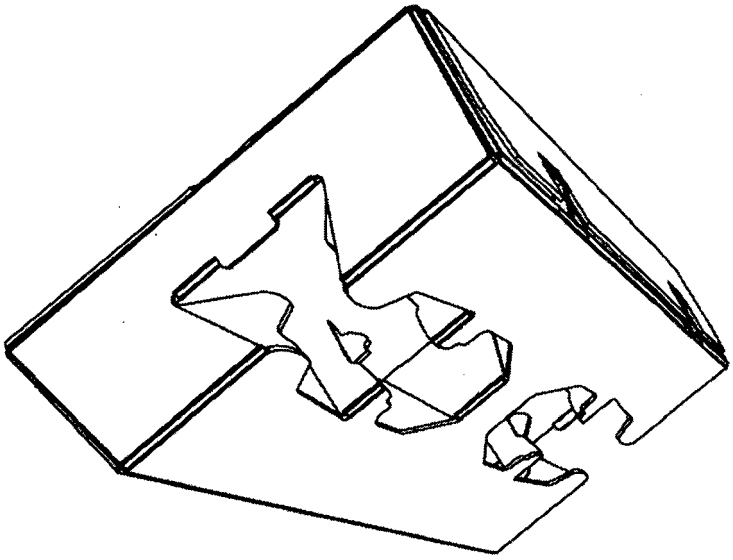

FIG.7

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EUROPEAN SEARCH REPORT

Application Number
EP 14 00 1078

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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TECHNICAL FIELDS SEARCHED (IPC)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	13 February 2015	Grondin, David

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

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13-02-2015

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

REFERENCES CITED IN THE DESCRIPTION

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