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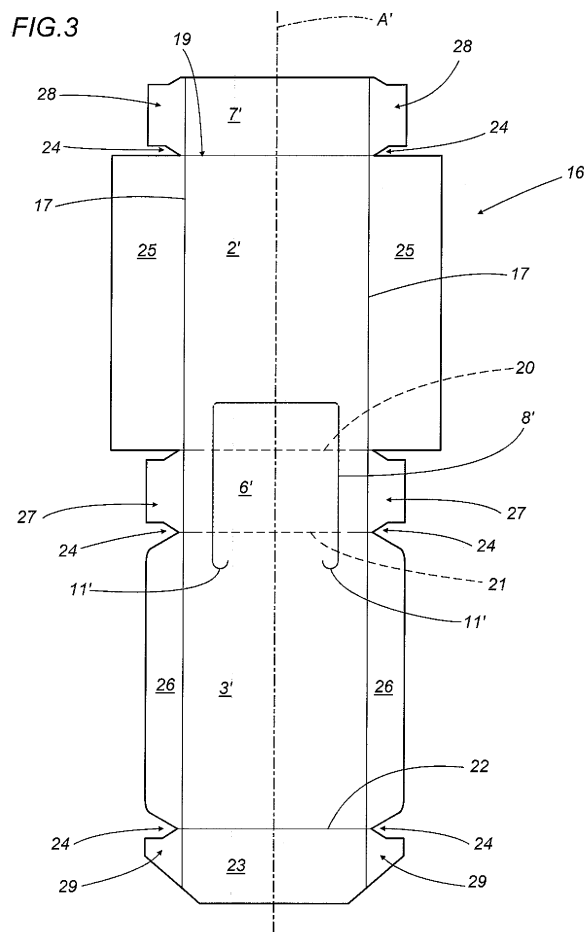
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(54) **A hermetically sealed packet**

(57) A hermetically sealed cigarette packet is fashioned from a flat blank (16) of substantially rectangular outline, referable to a longitudinal axis (A'), having at least one face coated with an impermeable and heat-sealable material. The blank is divided by two crease lines (17, 18) extending parallel to the axis (A'), and by further crease lines (19, 20, 21, 22) transverse to the selfsame axis (A'), into a series of panels (7', 2', 6', 3', 23) aligned on the longitudinal axis (A'), each furnished with two flaps (28, 25, 27, 26, 29) extending from its opposite ends; each flap is separated from the adjacent flap by a V-shaped notch (24) of which the tip is positioned at a given distance (D) from the corresponding longitudinal crease line (17, 18), on the side remote from the longitudinal axis (A'), rather than extending the full depth of the flap and intersecting the selfsame crease line (17, 18).



Description

[0001] The present invention relates to a hermetically sealed packet, for cigarettes, by way of example.

[0002] The prior art embraces cigarette packets of hermetically sealed type, generally parallelepiped in appearance, made of soft thermoplastic material that is both heat-sealable and highly impermeable to air and moisture.

[0003] The packets in question are manufactured on a cigarette packer utilizing leaves of rectangular outline, and employing a known method of which a brief description now follows.

[0004] First, each leaf is wrapped around a group of cigarettes, ordered side by side, in such way as to form a tubular sheath aligned on an axis parallel to the axes of the cigarettes.

[0005] This first step is followed by a succession of folding steps in which the two projecting ends of the tubular sheath are flattened against the opposite end faces of the group of cigarettes.

[0006] One side face of the folded wrapper is then engaged by sealing means, to effect a longitudinal closure, whereupon the opposite end faces are sealed similarly to close the packet completely.

[0007] The resulting packet affords a secure hermetic seal, since the various joined parts of the wrapper consist in multiple overlapping layers of material welded one to another over relatively large areas of their corresponding surfaces.

[0008] The finished wrapper will be furnished normally with a tear ribbon of conventional type, located on the inside near to one of the end faces, presenting a pull tab and designed to facilitate the operation of breaking open the packet.

[0009] When compared with soft packets of conventional design, a pack of the type described above offers not only the merit of hermetic tightness but also a cost advantage, given that it consists in a single wrapper, rather than an inner wrapper of metal foil paper and an outer wrapper of paper material.

[0010] In another packet representative of the prior art, the hermetically sealed pack described above is inserted into a rigid packet, of the type with a hinged lid, for example, manufactured from a flat blank of familiar type that is divided by crease lines into a plurality of panels and lateral flaps and erected to form the packet by effecting a succession of folding steps.

[0011] This solution is obviously less advantageous, in economic terms, than that of the packet described previously.

[0012] Moreover, the diecut blanks of stiff or semi-stiff paperboard that are most suitable for manufacturing cigarette packets, by reason of their strength and visual qualities, are unsuitable for use as a single wrapping element when the requirement is for a pack providing a hermetic seal.

[0013] Conventionally, in effect, a packet fashioned

from a stiff diecut blank of the type mentioned above presents critical points, particularly at the ends of the corner edges delimiting the bottom end face and the top end face, through which air and moisture can enter. There is no adhesive applied at these points, which coincide simply with the joined edges of panels and flaps bent at right angles one to another.

[0014] The object of the present invention is to provide a cigarette packet fashioned from a blank of cardboard or paperboard, such as will be more economical to manufacture than packets of conventional type using diecut blanks of the material in question, as well as providing a hermetic seal.

[0015] The stated object is realized, according to the present invention, in a cigarette packet as recited in the appended claims.

[0016] The invention will now be described in detail, by way of example, with the aid of the accompanying drawings, in which:

- figures 1 and 2 are perspective views of a cigarette packet according to the invention, illustrated respectively in a closed position and in an open position;
- figure 3 is a plan view of a blank from which to fashion the packet of figures 1 and 2;
- figure 4 shows an enlarged detail of figure 1;
- figure 5 shows an enlarged detail of figure 3.

[0017] With reference to figures 1 and 2, numeral 1 denotes a packet, in its entirety, containing cigarettes S arranged side by side and disposed parallel to the longitudinal axis A of the packet 1.

[0018] The packet 1, made of cardboard or paperboard, is substantially parallelepiped in appearance and of rectangular section, presenting four side walls, and more exactly a front wall 2, a rear wall or back 3 disposed parallel to the front wall, two lateral walls or flanks 4 and 5, an upper wall or top 6, and a lower wall or bottom 7.

[0019] The top part of the packet 1 presents a perforation line or cutout 8 substantially of letter "U" outline, including a curved central portion 9 occupying the front wall 2, and two parallel portions 10 extending from the ends of the curved portion 9 across the front wall 2, the top 6, and the uppermost part of the back 3.

[0020] The free ends of the two portions 10 located on the back 3 are curved toward one another, in such a way as to form respective curls 11 (see figure 3).

[0021] The U-shaped perforation line 8 delimits a closure portion, or tongue 12, complementary to an opening 13 through which the cigarettes S are taken from the packet. With the packet 1 in use, the tongue 12 is held in the closed position by mutual engagement of the edges matched along the perforation line 8, or employing other means of conventional type (not illustrated).

[0022] Referring to figure 3, the packet 1 is fashioned from a flat and substantially rectangular diecut blank of cardboard or paperboard material, denoted 16 in its entirety.

[0023] Certain component parts of the blank 16 are indicated with the same numerals, primed, as used to denote the corresponding parts of the packet 1.

[0024] The blank 16, referable to a longitudinal axis denoted A' and presenting at least one face, destined to provide the outer surface of the packet 1, coated at least in part with an impermeable and heat-sealable material, is scored with two longitudinal crease lines 17 and 18 placed symmetrically on either side of the axis A', and four transverse crease lines denoted 19, 20, 21 and 22, proceeding from top to bottom.

[0025] The blank 16 is divided by the aforementioned longitudinal and transverse crease lines into five panels 7', 2', 6', 3' and 23 aligned on the longitudinal axis A', each associated at its opposite ends with two lateral flaps; more exactly, the flaps are separated one from the next on either side of the blank by substantially V-shaped notches 24, of which the tips are directed toward the axis A'.

[0026] The four panels denoted 7', 2', 6' and 3' coincide respectively with the bottom 7, the front wall 2, the top 6 and the back 3 of the packet 1.

[0027] The fifth panel 23, joined to the adjacent panel 3' along the transverse crease line denoted 22, provides an element by which the back 3 and the bottom 7 are connected, in the erected packet 1.

[0028] The flaps 25 attached to the panel denoted 2', when overlapped and bonded with the flaps 26 attached to the panel denoted 3', combine to provide the two flanks 4 and 5 of the packet 1.

[0029] The two flaps 27 attached to the panel denoted 6' provide elements by which the top 6 is connected to the flanks 4 and 5.

[0030] The two flaps 28 attached to the panel denoted 7' and the two flaps 29 attached to the panel denoted 23 provide elements by which the bottom 7 is connected to the flanks 4 and 5.

[0031] The blank 16 presents a perforation line 8' of upturned-U profile, positioned in a central area and delimiting the closure tongue 12 aforementioned.

[0032] The tips of the notches 24 separating the lateral flaps one from the next, unlike similar notches presented by blanks of conventional design, do not intersect the longitudinal crease lines 17 and 18 but are positioned, relative to the longitudinal axis A', externally of and at a predetermined distance D from these same lines (see figure 5, in particular). The blank 16 is coated at least in part with a heat-sealable material, and most importantly, the coating will be applied to the areas around the tips of the notches 24.

[0033] Observing figures 4 and 5, in particular, it will be seen that by virtue of this special configuration adopted for the blank 16, the action of the folding means utilized by the cigarette packer will produce pinched folds in the wrapping material at the points where the longitudinal and transverse corner edges of the packet 1 meet one another.

[0034] Thus, when the layer of heat-sealable is melted

through the agency of heat-seal means, in and around the pinch folds formed at the points where the corner edges of the packet converge, this will result in the formation of sealant plugs 30 by which the packet 1 is guaranteed hermetically airtight and moisture-tight.

[0035] According to the present invention, therefore, it becomes possible to fashion a flat blank of cardboard or paperboard into a packet such as will hold any kind of product, and cigarettes in particular, providing a hermetic enclosure and consequently exploitable as a single wrapper, with evident cost advantages when compared to packets representative of the prior art.

15 Claims

1. A hermetically sealed packet, typically for cigarettes, obtainable from a flat blank (16) divided by crease lines (17, 18) into a plurality of panels (7', 2', 6', 3', 23) and a plurality of connecting flaps (28, 25, 27, 26, 29) extending from the panels,

characterized

in that the flaps associated with at least two contiguous panels of the blank (16) are separated partially one from another by a notch (24), in such a way as to remain joined one to another along a portion (D) of predetermined length at the tip of the notch (24); and

in that the blank presents at least one face coated at least in part with a heat-sealable material.

2. A hermetically sealed packet as in claim 1, obtained from a blank (16) presenting a substantially rectangular outline, divided by two longitudinal crease lines (17, 18) extending parallel to the longitudinal axis (A') of the blank (16), and by a plurality of crease lines (19, 20, 21, 22) disposed transversely to the axis (A'), into a plurality of panels (7', 2', 6', 3', 23) aligned along the selfsame axis (A'), wherein the panels are associated each with two flaps (28; 25; 27; 26; 29) extending from the opposite ends of the relative panel (7', 2', 6', 3', 23), disposed symmetrically in relation to the longitudinal axis (A'), and each flap is connected to a flap of the adjacent panel externally of the longitudinal crease line (17, 18), considered relative to the longitudinal axis (A').
3. A hermetically sealed packet as in claim 1 or 2, wherein the notch (24) presents a V shape and is positioned with the tip located externally of the corresponding longitudinal crease line (17, 18), considered relative to the longitudinal axis (A'), at a predetermined distance (D) from the selfsame crease line (17, 18).
4. A hermetically sealed packet as in claims 1 to 3, wherein the blank (16) presents a perforation line or cutout (8) of letter "U" outline, such as will create an

opening (13) through which the cigarettes can be taken from the packet.

5. A hermetically sealed packet as in claims 1 to 4, wherein the blank (16) is of cardboard or paperboard material. 5
6. A hermetically sealed packet as in claims 1 to 5, wherein at least one face of the blank (16) is coated with heat-sealable material at least on and around the areas where the connecting flaps associated with two contiguous panels are joined one to another. 10

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FIG.1

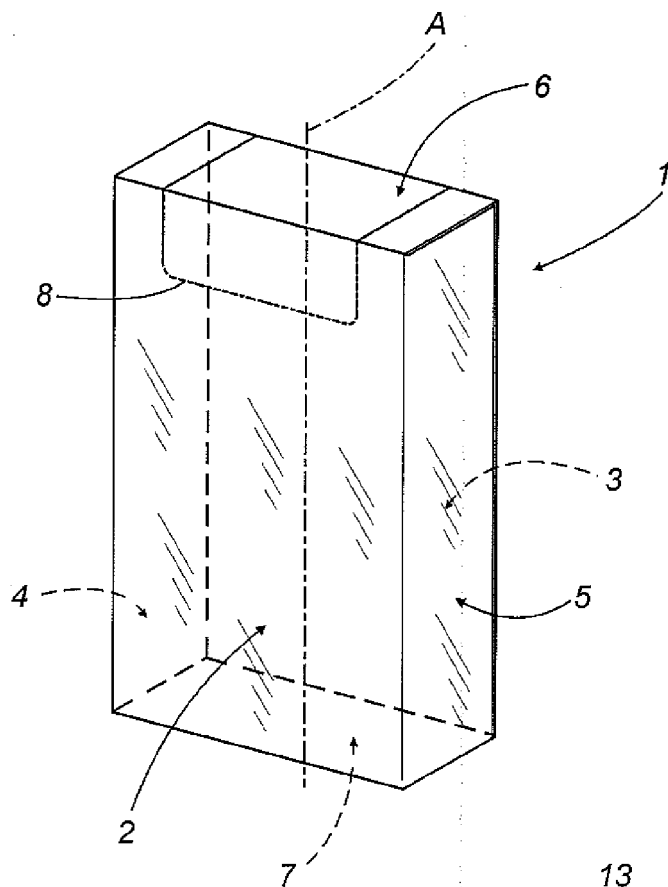


FIG.2

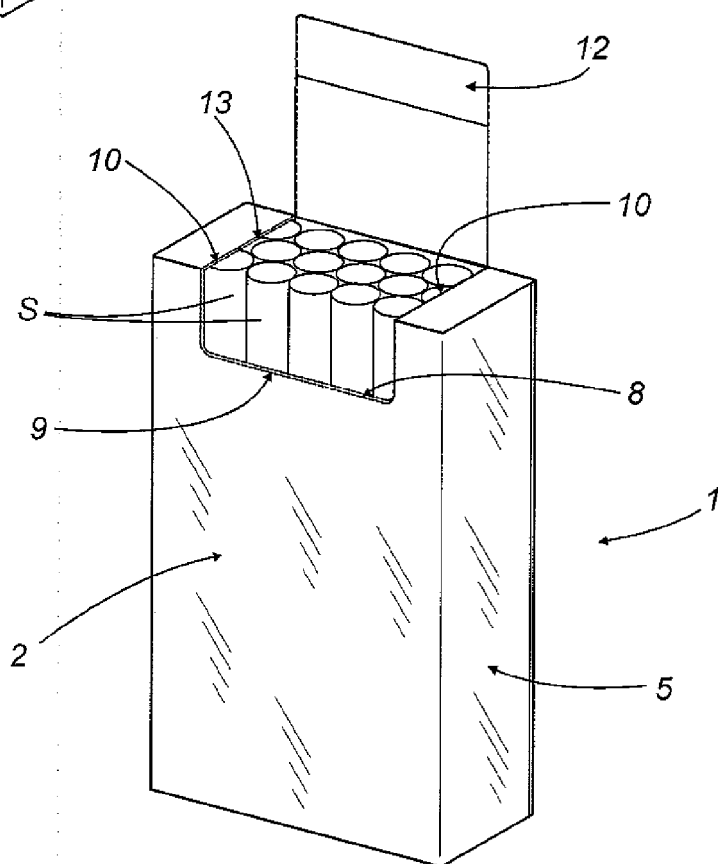


FIG.3

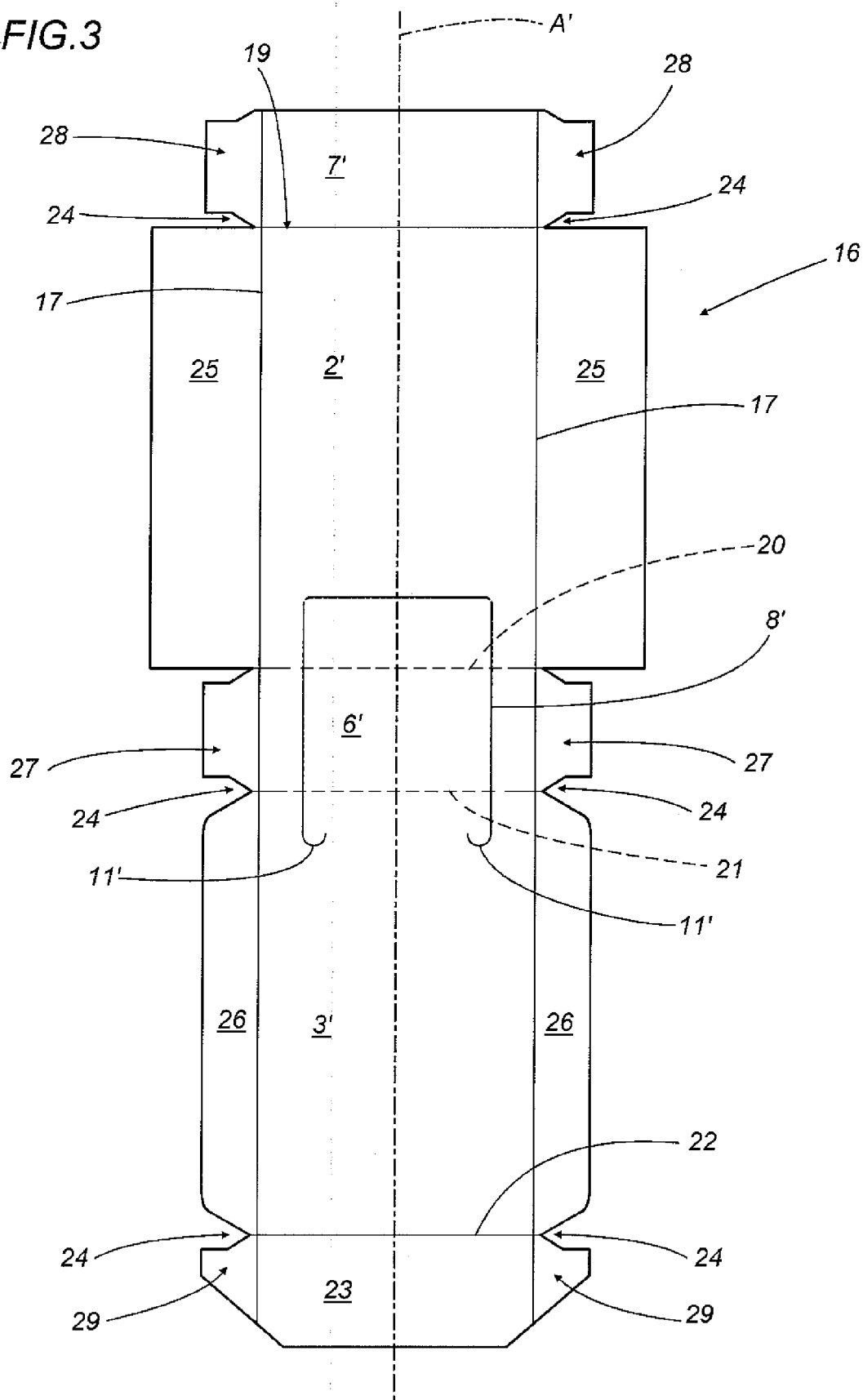


FIG.4

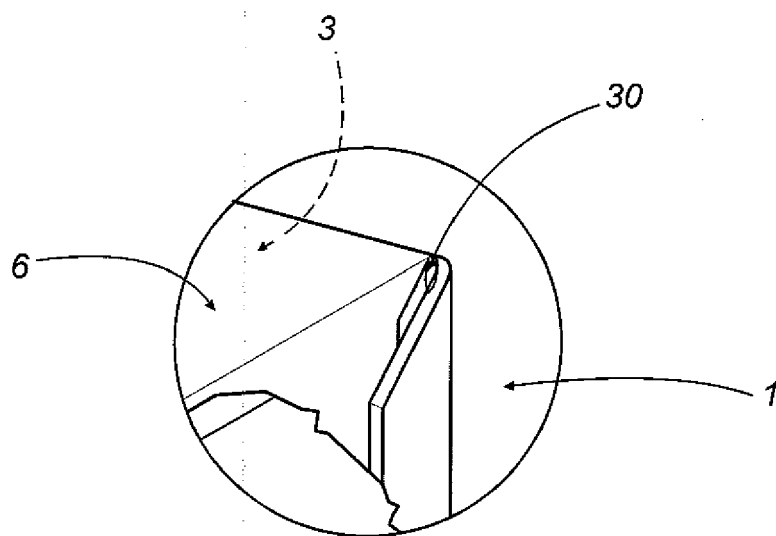
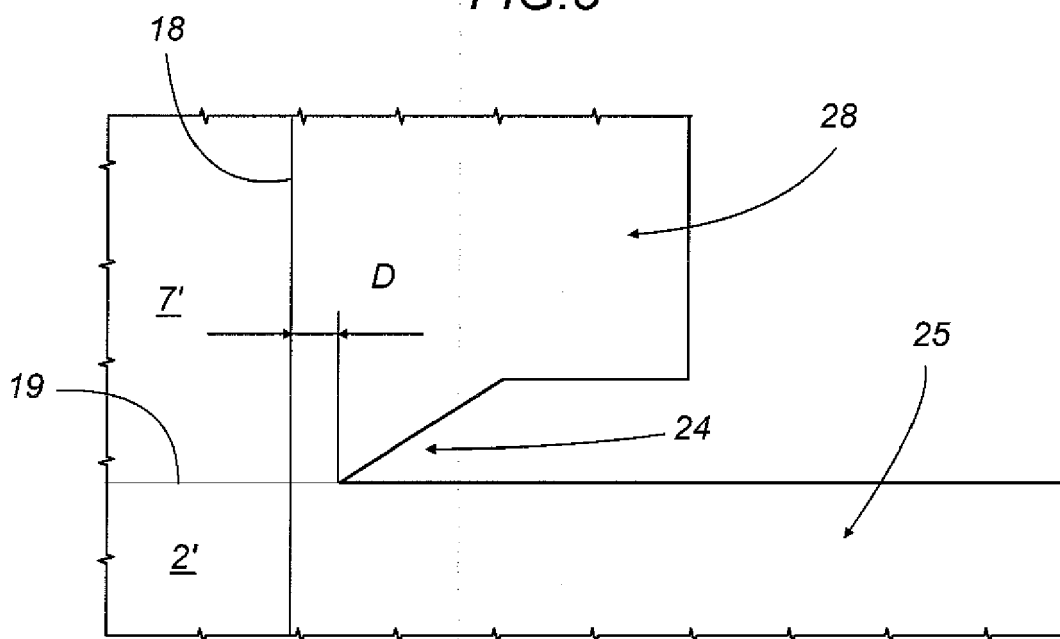


FIG.5





EUROPEAN SEARCH REPORT

Application Number
EP 09 16 1060

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Y	* column 3, line 24 - column 4, line 38; claims 1,8; figures 1-5 *	4	
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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 11 August 2009	Examiner Janosch, Joachim
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 16 1060

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-08-2009

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