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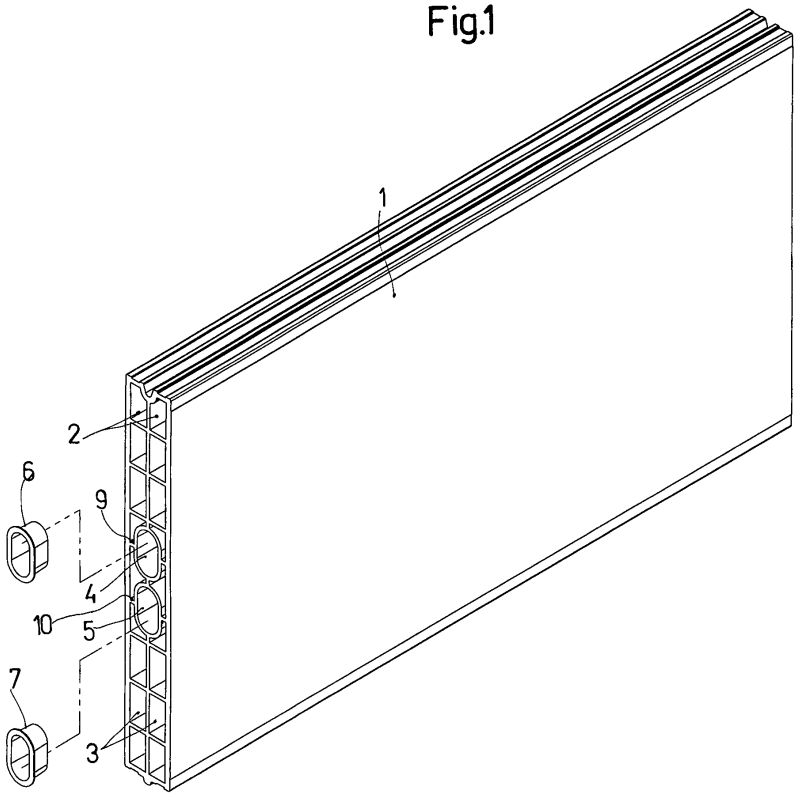
A request for correction of the description has been filed pursuant to Rule 88 EPC. A decision on the request will be taken during the proceedings before the Examining Division (Guidelines for Examination in the EPO, A-V, 3.).

(54) **Large hollow grooved brick**

(57) The present invention relates to a large hollow grooved brick, formed by a large double cavity brick (1,1A) having continuous and longitudinal diaphanous, clear grooves (4,5) suitable for comfortably and easily guiding the installation of service conduits, being equipped with elements (6,7) covering the openings of said grooves (4,5) useful for facilitating the assembly of said conduits and having the purpose of covering the contour of said openings and preventing the grooves (4,5) from becoming obstructed.

Fig.1



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Description

OBJECT OF THE INVENTION

[0001] The invention has as an object providing bricks, and particularly large hollow bricks, with grooves along their entire longitudinal extension for the purpose of providing said bricks with the suitable means for installation through each one of them or the entire tier of the service conduits corresponding to the dwelling, shop or any building, particularly those for electricity, water, gas or the like such that through said grooves it is possible to install conduits from one end to the other end of the wall, with no obstacles no matter what the extension.

[0002] The difficulty of installing service conduits through the walls traditionally built with a hollow brick is known. It requires manually or mechanically making chasings on the constructed surface. This work implies considerable skill and even then, the chasings are very irregular and rather unaligned. The tendency so as to not affect the thickness of the brick is to make them very carefully, not very deep and not very wide, which does not contribute to allowing the installation of several conduits in the same chasing and does not assure a blind installation preventing projections in laying out the cloth when mortar is applied or when applying the parge coat.

[0003] Nor is it easy to make a large hollow brick containing more than one groove throughout without altering the inner structure of the brick, without it loosing resistance or symmetry and which on the other hand allows the formation of tiers such that said grooves coincide and the mortar joint or glue does not enter the groove at the intersection, completely or partially blocking it.

[0004] The object of the invention thus effectively and simply solves the possibility of making installations of service conduits through continuous, clear and precise grooves incorporated, in this case, in a large hollow brick without the general features of the brick imposing any variation in the work of the builder who does it without any predicament or unusual demand.

BACKGROUND OF THE INVENTION

[0005] In reference to the state of the art, the invention is carried out based on common large double cavity bricks such as those provided in Community model K 158712-1-2 "HOLLOW BRICK", belonging to the same applicant and of the same inventor, in which double cavities are alternatively arranged in a combined version of different widths in which their distribution is calculated for better performance under the working stresses of said brick according to the measurements of the format.

[0006] There are other hollow bricks in the state of the art aiming to incorporate solutions for the installation of conduits but none in reference to large hollow bricks in which the very construction of the inner structure is useful for this purpose without altering the mechanical resistance of the brick or its symmetry or its cellular appearance.

DESCRIPTION OF THE INVENTION

[0007] The invention, based on a large hollow brick of the type mentioned in the background of the invention, preferably with symmetrical double cavities, makes use of the intersecting ribs of the central cavities, more specifically the two junctions of the three central cavities, keeping a regular and proportional part of the ribs of each one, forming two diaphanous, clear, overlaid grooves of a particular oblong section for two important reasons:

- the vault or half-round of each oblong section has a coefficient of resistance that is higher than the compressive stresses;

- the inner circular arch of each oblong section allows better and easier coupling of the generally circular service conduits, and better installation thereof as corners or sharp edges are prevented.

[0008] As stated, an important detail of the invention is that it consists of a double grooving extending throughout the brick, from end to end, assuring the possibility of being able to install each and every one of the conduits required for the common service of a dwelling, shop, business or structure in general.

[0009] Another characteristic detail of the invention is that inserted at the ends of each groove, at one or both ends, there are tubular sleeves, i.e. open sleeves allowing the passage from one groove to another one with no obstacles, and more advantageously facilitating the passage as it prevents friction due to its special material and design conditions.

[0010] The sleeves are tubular sleeves made of injected plastic materials or the like internally glazed for the sliding of the conduits, and their configuration is slightly cone-shaped so as to be inserted into the openings of each groove against which they act as stops so that they are not introduced beyond the section of said opening which has for that purpose an outer rim surrounding the larger base so as to assure the limitation of its penetration and at the same time provide an outer lip having an important functional purpose such as the spacing between bricks of the same tier.

[0011] For said function to be carried out the outer rim of said mouth has a width suitable for covering the contour of the mouth of the groove and a thickness having a slight wedge profile so as to better adapt to the opening, and on the other hand it has section measurements suitable for determining half of the space which, at the intersection of the bricks, must be completed with the other half of the sleeve corresponding to the adjacent brick aligned with the previous one.

[0012] Therefore there will vertically be a seam equivalent to the opposing rims of each brick that will allow applying the mortar or glue for joining the bricks such that

while maintaining the seam for said joining, mortar does not enter the grooves, partially or completely obstructing them, preventing the function for which they are essentially intended in the invention.

[0013] According to the invention, the grooves carry out and meet an important need in the way of being able to install the conduits, and especially hugely simplifying and saving in the current manner of working for the preparation of the chasings or similar means for being able to install said conduits, apart from the aesthetics, comfort and effectiveness of the result with this proposed mode of installation.

[0014] A broader idea of the features of the invention will be given below in reference to the sheets of drawings attached to this specification which, in a somewhat schematic manner and only by way of example, show the preferred details of the invention.

DESCRIPTION OF THE DRAWINGS

[0015]

Figure 1 shows a foreshortened longitudinal perspective view of a double cavity brick (1) from one end thereof with its sleeves (6-7) projecting out of their respective grooves (4-5).

Figure 2 shows a side elevational view of said brick (1) with the sleeves (6-7) also outside of the grooves (4-5).

Figure 3 shows an elevational view at one of the ends of the brick (1) with its sleeves (6-7) inserted.

Figure 4 shows view of said brick (1) cut vertically and transversely by means of a plane passing through the sleeves (6-7).

Figure 5 shows a view longitudinally cut by the A-A line of Figure 4.

Figure 6 shows an enlarged detail of the insertion of one of the sleeves (6-7) of Figure 4.

Figure 7 shows a view similar to the previous one of a detail of two facing sleeves (6-7).

Figure 8 shows a perspective view of a detail of the depiction of said sleeves (6-7) inserted.

Figure 9 shows a front and side foreshortened perspective view of a sleeve (6-7).

Figures 10, 11, 12 and 13 are, respectively, front elevational and side elevational views, a section view cut along the A-A line of Figure 10 and a plan view of said sleeve (6-7).

Figure 14 shows a partial view of the detail (B) of FIGURE 13.

Figure 15 shows a partial view of the brick (1) longitudinally cut at its grooves (4-5).

Figure 16 shows a foreshortened longitudinal perspective view from one of its ends cut by a tangential plane so as to see the grooves (4-5).

PREFERRED EMBODIMENT OF THE INVENTION

[0016] A preferred embodiment of the invention is expressed in the example provided in said drawings, consisting of a large double cavity brick (1) of the type comprised in K N° 158712-1-2 "LADRILLO HUECO" of the same applicant having regular symmetrical cavities (2) and (3) and central or longitudinal grooves (4) and (5) from end to end and in the openings of which tubular sleeves (6) and (7) are inserted into one or both grooves (4) and (5), respectively.

[0017] The grooves (4) and (5), preferably having an oblong section, are geometrically inscribed at the junctions of the ribs (9) and (10) of the central cavities, part of the ribs (9) and (10) of said junctions being useful as reinforcement, and their half-round sections will act so as to facilitate installation of the generally cylindrical conduits.

[0018] The sleeves (6) and (7), made of an injected plastic material and preferably internally glazed so as to facilitate said installations, are tubular sleeves.

[0019] The sleeves (6) and (7) are inserted in the openings of the grooves (4) and (5) (Figures 3 to 8) either at one end or both. They have a slightly cone-shaped projecting body (8) of about 3° so as to be snapped into said grooves (4) and (5), and they frontally have a perimetral rim (11) on the larger base acting as a stop against the opening of the grooves (4) and (5), with a thickness (12) and an inner bevel (13) forming an outer lip forming, when opposite to the next adjacent brick (1A) (Figure 8) of the same tier, the space for a seam (14) in which the mortar joint (15) is introduced between said bricks (1), (1A) such that the lips (12-12) of the rims (11-11) prevent the mortar joint (15) from obstructing the grooves (4-5), but it penetrates the cavities (2-3) of the large brick (1).

[0020] The grooves (4-5) (Figure 16) are thus arranged for an excellent way of installing service conduits, even throughout the wall given that they are continuous, diaphanous and clear throughout the entire tier.

[0021] Having sufficiently described the nature of the invention, it is hereby stated for all intents and purposes that said invention is not limited to the exact details of this specification, rather on the contrary, those modifications considered appropriate shall be introduced provided that they do not alter the essential features thereof claimed below.

Claims

1. A large hollow grooved brick, consisting of a large double cavity brick having diaphanous and clear grooves for the installation of service conduits, **characterized in that** said grooves extend longitudinally from end to end of the brick and are inscribed in the junction of the ribs of the central hollows such that the remaining ribs of said junction reinforce the groove and its ends, one or both, are covered with respective tubular sleeves snapped in them, acting as stops against the opening of said grooves and creating an outer lip so as to form, in conjunction with other adjacent lips, the space or seam for determining the thickness of the load of mortar joint or glue of the tier.

2. A large hollow grooved brick according to claim 1, **characterized in that** the grooves have an oblong section with vaulted half-round ends with a diaphanous and clear interior.

3. A large hollow grooved brick according to claim 1, **characterized in that** the sleeves closing the openings of the grooves are tubular sleeves made of injected plastic or any other similar material and are internally glazed and have a slightly cone-shaped body of about 3° for snapping into the groove, a perimetral rim on the large base which, when inserted, acts as a stop against the opening of the groove, covering its contour so as to prevent the mortar joint from obstructing the groove.

4. A large hollow grooved brick according to claim 3, **characterized in that** the planar perimetral rim has a precalculated thickness so as to form a lip on the opening of the groove and a bevel on the back plane so as to assure its coupling, such that the meeting point of two adjacent opposing lips forms the space or seam for the mortar joint load.

Fig.1

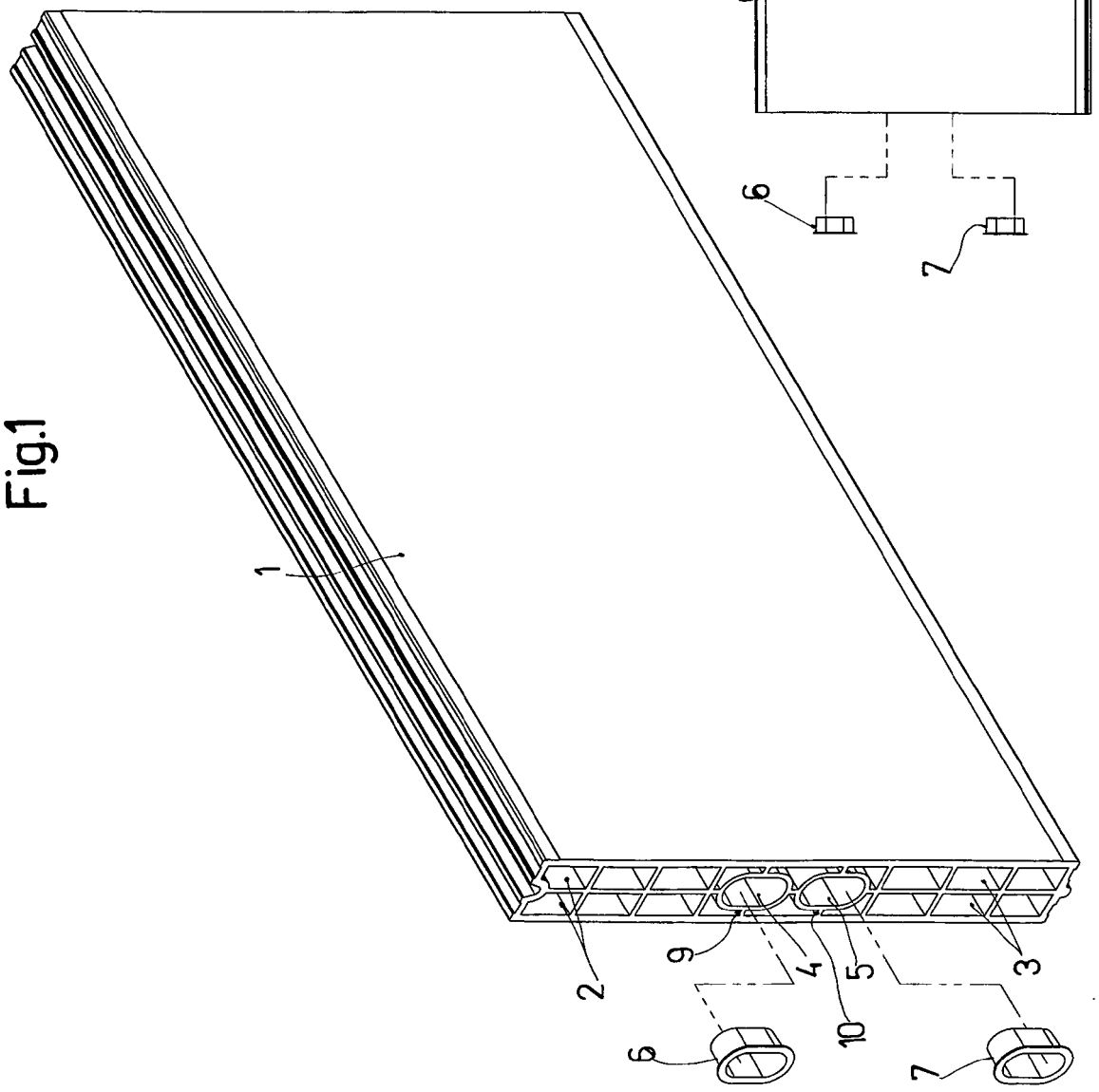
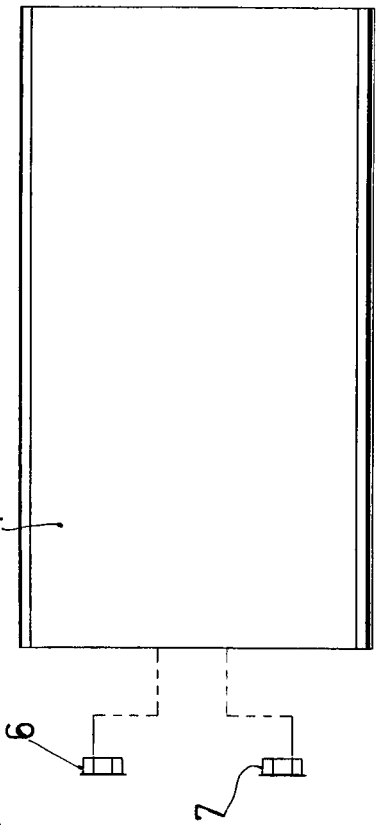


Fig.2



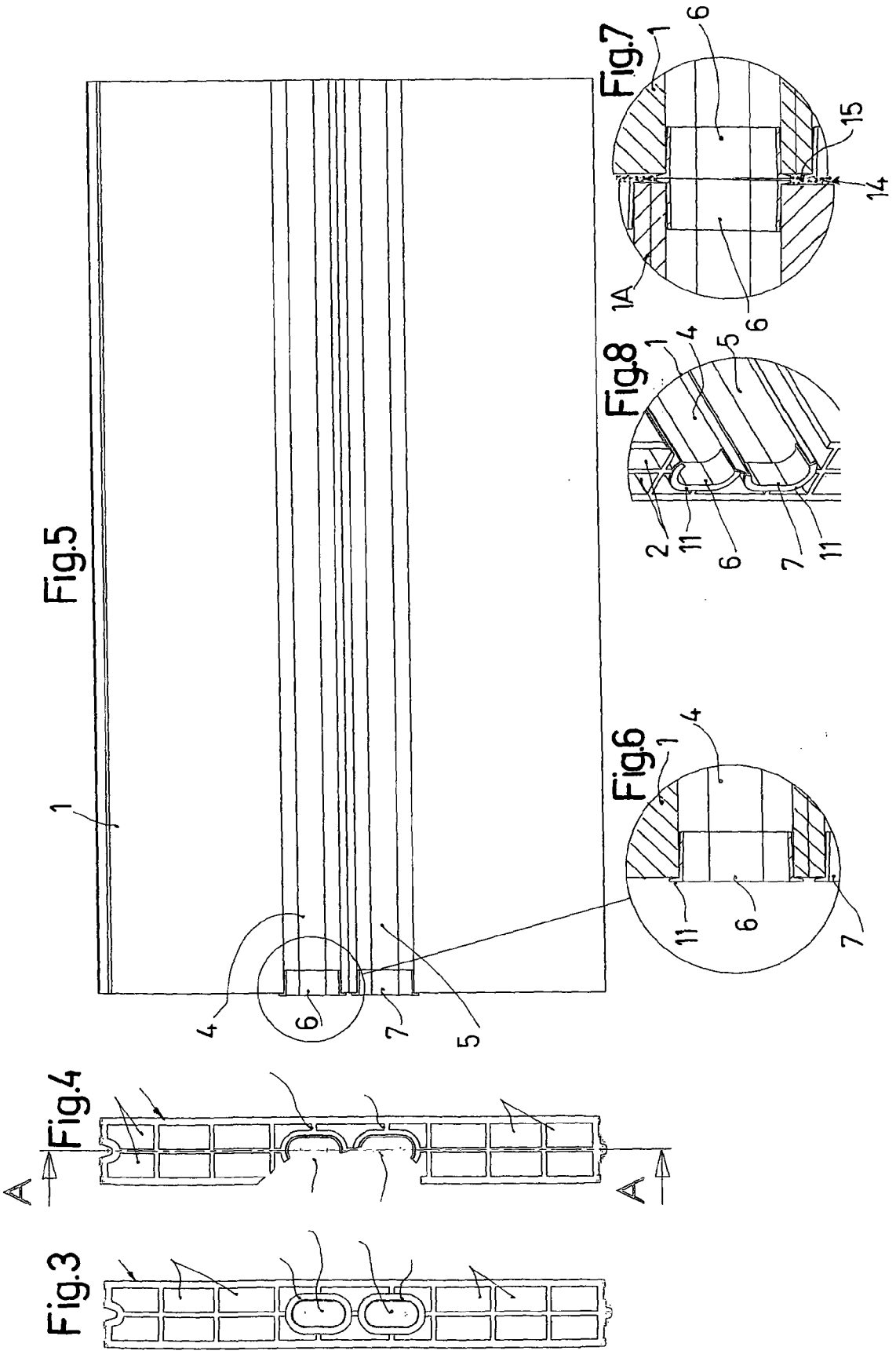


Fig.3
Fig.4
A
A
Fig.5
1
4
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7
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Fig.6
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11
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Fig.7
1
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Fig.8
1
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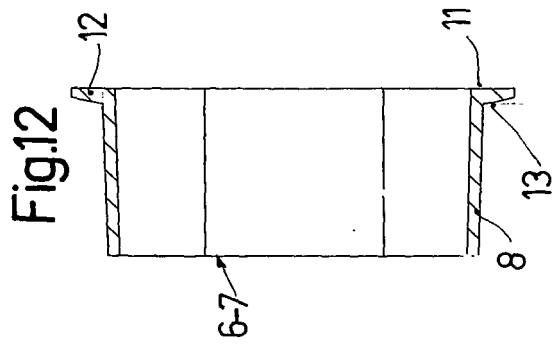


Fig.12

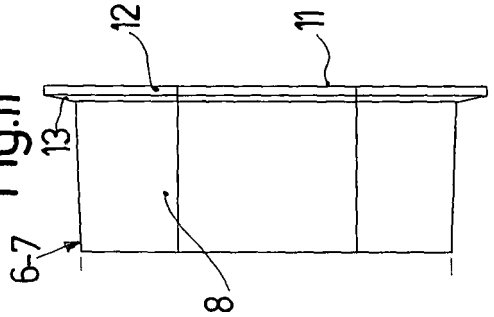


Fig.11

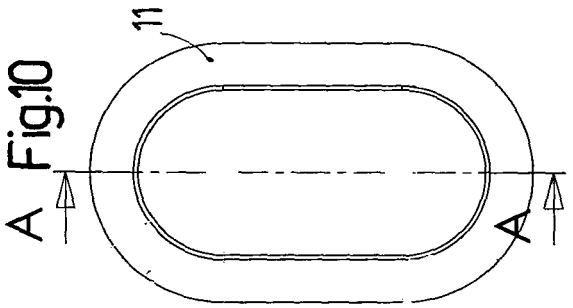


Fig.10

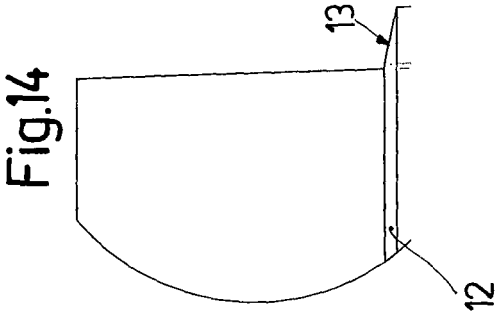


Fig.14

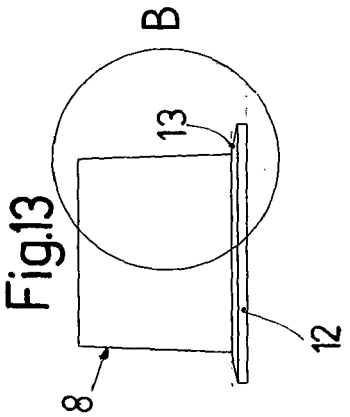


Fig.13

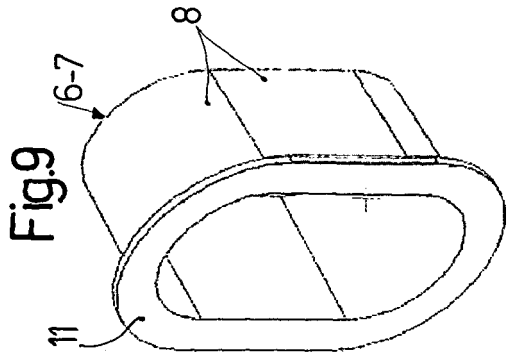


Fig.9

Fig.15

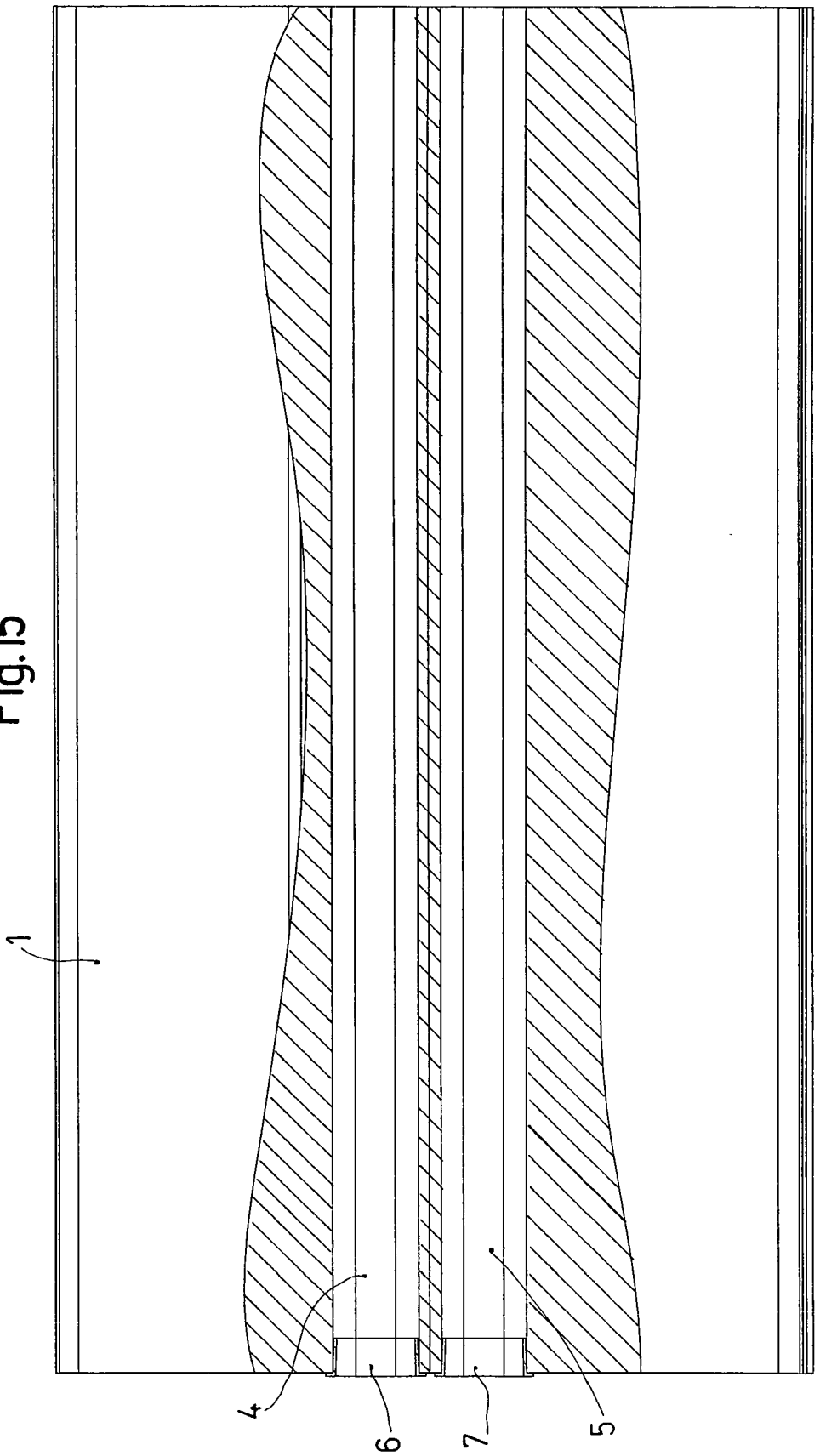
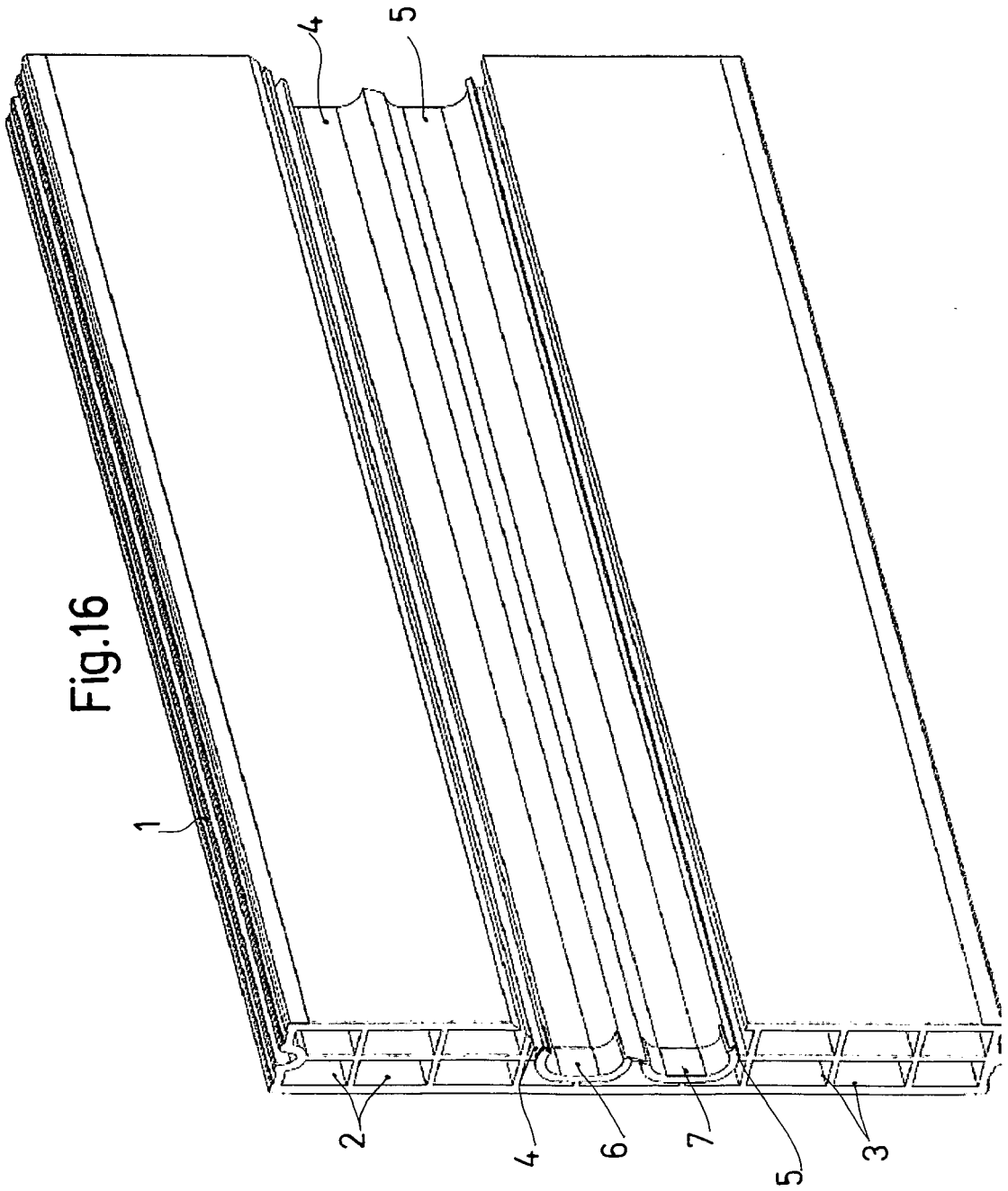


Fig.16



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 38 0008

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 2 755 713 A (L'INDUSTRIELLE REGIONALE DU BATIMENT) 15 May 1998 (1998-05-15) * figures 1,2,6 * -----	1-4	INV. E04C1/39

TECHNICAL FIELDS SEARCHED (IPC)

E04C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	12 June 2006	Vratsanou, V

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 06 38 0008

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12-06-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2755713 A	15-05-1998	DE 29720144 U1	05-03-1998
		ES 2149668 A1	01-11-2000

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