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(54) Assembly system for cooking plates

(57) Assembly system for cooking plates that is destined preferably for the assembly of the cooking plates that are introduced into the corresponding cavity of the top surface, being usable preferably for the assembly of ceramic glasses, and that has a body (5) of flexible material like a joint, that acts as a protecting and tight element with regard to the top surface, in which the ceramic glass (3) without not any frame is inserted, and it has

also the fixing means of the ceramic glass inserted in the own support structure (1) of all the whole, so that the body (5) of flexible material, in which the ceramic glass (3) is inserted, has a C-shaped general section and clasps to the same one in a perimetric way, remaining placed on the top surface (2) and acting as a protecting and tight element since its seat base has a whole of little projections (7).

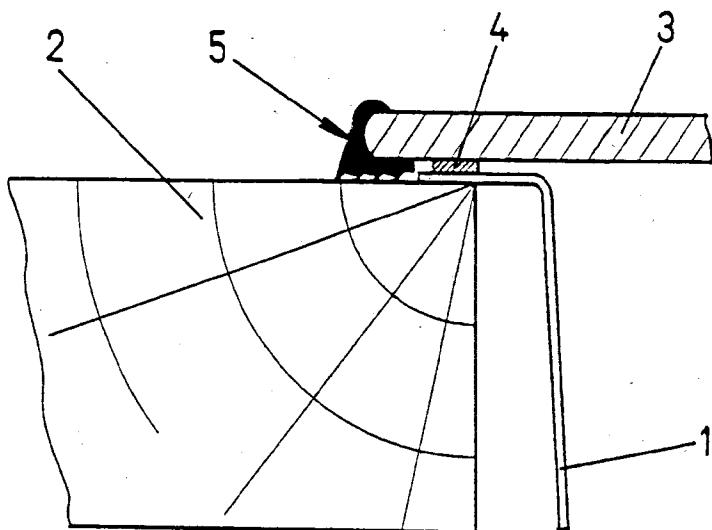


FIG. 1

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Description**OBJECT OF THE INVENTION.**

As is expressed in the title of the present descriptive report, the following invention consists on an assembly system for cooking plates that is destined preferably for the assembly of ceramic glasses, being the cooking plate of the kind of those that are placed on the level of the top surface in which the support structure of the same one is introduced, with the different mechanisms for its correct working, so that the cooking plate has not a frame of placement, remaining the same one placed on a slastic sealing beautifying element that is displaced to the interior with regard to its perimetric edge that act as a fixing element of the same one, while the cooking plate is introduced in a body of plastic material that protects it of the external elements (knocks, transport, etc.).

Through the assembly system that is showed, the frame on which the plate is placed is eliminated, as well as the perimetric flexible strip on which the frame is placed on the upper side of the top surface in which it is introduced, so that the cooking plate remains as an ornamental element, being perimetric with regard to the body in which it is introduced, which acts as a protecting element of the same one for avoiding some possible knocks during the transport or manipulation by the own user, that could damage the plate, leaving it useless.

The perimetric body of flexible material, in which the cooking plate is introduced, also acts as a tight and beautifying element, with the top surface on which placed since its base has a whole of projectings that cause a perfect insulation.

In this way, an economic saving is obtained because of the elimination of the support frame and the beautifying elemet of the cooking plate, as well as the elimination of the flexible strip on which the conventional frame is perimetrically placed on the present top surface, besides of simplifying its assembly, since the same one is done by a simple pressure on the cooking plate for placing it in the body of flexible material that is laterally placed with regard to the same one, as a protecting and tight element.

In the other hand, in an alternative execution, the assembly system of cooking plates that is preferably used for ceramic glasses, is made up of a silicone joint or similar thing, in which there is a L-shaped sheet structure, so that the ceramic glass is placed on one of its branches with the interposition of a sealing element, while the other vertical branch of the L-shaped sheet remain between the joint since this one has a jutting out stretch on which the ceramic glass is perimetrically joined. Thus, the L-shaped sheet structure is also joined in a perimetric way to the joint, for making possible the placement of the ceramic glass on it with the interposition of a sealing element, and remaining the joint placed on the shelf of wood or marble on which the ceramic glass is assembled.

FIELD OF APPLICATION.

The presented assembly system is applicable in the instalation of all kind of cooking plates, being destined for being introduced in relationship to the corresponding cavity of the top surface where they are assembled, so that the own cooking plate remains as an ornamental element inside the aesthetic of the whole, trying to leave it at the level of the top surface where it is installed.

Definitively, it is a question of harmonizing all the whole, giving a new image of modernity to it.

BACKGROUND OF THE INVENTION.

There are a great variety of cooking plates in the market, so that with the advance of the new technologies, each day is bigger the commercialization of ceramic glasses in substitution of the conventional cooking plates, so that centring the background in this kind of

cooking plates, we can quote that usually the ceramic glasses are placed in a metallic frame that is obtained through the usual procedures and at the same time it acts as a beautifying element of the whole, being introduced into the corresponding cavity that is made in the

top surface, leaning perimetrically on this one with regard to the beautifying external streetch for which, the frame has a surface of perimetric support of the ceramic glass.

For that, a silicone cord is placed on the seat surface of the ceramic glass and later, a second silicone cord is placed in relationship to the hollow that is defined between the lateral of the ceramic glass and the frame, for being able to materializing a totally tight closing.

The frame, with the assembled cooking plate, will be installed into the corresponding hob cavity, leaning the cited frame in a perimetric way on a flexible strip for fixing finally the support structure of the same one to the hob.

Besides,as the frames of placement and beautifying of the glass-ceramic plates are materialized by stretch-forming, there is a drawback that consist on if the support base of the cooking plate is materialized with marked angles, there are accumulations of stresses that cause the break of the same one making it useless, for which in practice there is a tendency to realize it with not much accused angles.

This drawback is bigger for the vertexes of the seat base of the cooking plate, in the inlaid plate, so that for avoiding the contact among the cooking plate and the vertexes of the seat base, the cooking plate must be manufactured with their rounded vertexes, which means a substantial cost increase.

This is thus, because the direct contact between the cooking plate and the seat base can cause the break of the same one so that with a minimum break, the cooking plates remains useless, since it does not fulfil the minimum guarantees because in this situation, it has a behaviour totally unpredictable.

Likewise, the holder of the present dossier, also is the holder of the Invention Patent P900885 in which an union system between the ceramic glass and the frame of fixing to the hob is claimed, which is based on both the ceramic glass remain interlocked to a frame of plastic material during the own embodiment process of the same one by a double injection, and the union from the ceramic glass to the frame, in which the frame remain lowerly with regard to the upper surface of the ceramic glass, remaining it ready for its direct placement on the hob, so that the own frame, that is materialized by injection, acts as a element that supports the whole, being leaned laterally or perimetricaly against the cavity that is materialized in the top surface, so that such as it has been expressed, the ceramic glass remains fixed to the own frame.

In this case, a support and fixing frame of the ceramic glass is shaped, and besides this remains interlocked to the same one.

DESCRIPTION OF THE INVENTION.

In the present report, an assembly system for glass-ceramic plates is described, being of the kind of those that are used in the cooking and that are installed in the corresponding cavity of the hob, so that the system is made up of a protecting and tight body of flexible material in which the cooking plate is inserted, without not any frame and the fixing means of the cooking plate in the own support structure of all the whole.

The body, in which the cooking plate is inserted by simple pressure, has a C-shaped general section, more or less open, and the same one clasps perimetricaly to the ceramic glass, and is placed on the installation top surface acting as a tightness element with the top surface on which it is installed, since it has a whole of little projections in relationship to its seat base, as well as a protecting element against the possible knocks.

The cited body, in which the ceramic glass is inserted, clasps perimetricaly to the same one even its upper surface, being it finished off close to its perimetric edge in a beveled way, in whose case it has a C-shaped general section.

Likewise, the body in which the ceramic glass is inserted can be perimetricaly prolonged by the lateral side of the same one, remining slightly finished off beneath the level of its upper surface in a beveled way, having a C-shaped general section more open.

In the other hand in a variant of execution the body, in which the ceramic glass is inserted, is defined as a unitary element, having of flexible material its lower part and metallic its upper part, allowing also the fitting of the ceramic glass, since it can be bent in the fitting of the same one.

The body in which the ceramic glass is inserted can be manufacture with a monocomponent or bicomponent material of silicone, silicone foam, sealing retractile material or similar one, as well as by a unitary body that is

defined by a lower flexiblepart and a upper metallic part.

The fixing means of the ceramic glass on the own support structure of all the whole, are preferably defined by a perimetric silicone cord, or by a strip whose two sides are autoadhesive, or else by any other not mechanic mean that makes easy its static placement.

In a variant of execution, the silicone body, silicone foam or similar sealing material, to which the ceramic glass is joined and that acts as a protecting and sealing 10 beautifying element, is defined by a body of L-shaped general section, so that the horizontal branch of seat on the top surface where it is introduced with regard to its support external side has a whole of pointed projectings, while its other branch is finished off to the interior with 15 a jutting out stretch that is prolonged to the lower part, defining the backing surface to the ceramic glass, so that in the space that there is between the jutting out stretch and L-shaped joint body, a L-shaped sheet structure is placed on which the ceramic glass is placed with 20 the interposition of the sealing element. Thus, the L-shaped sheet structure is defining a perimetric seat frame of the ceramic glass with the interposition of the sealing element.

In order to complement the description which is 25 done hereinafter and for the purpose of providing a better understanding of its characteristics, the present descriptive report is accompanied by a drawing, in whose figures the most significant details of the invention are defined in an illustrative and not limitative way.

30 BRIEF DESCRIPTION OF THE DESIGNS.

Figure 1.- It shows a detailed sectioned view of a practical execution of the ceramic glass assembly, 35 where we can observe as the same one is placed on a silicone cord for its fixing, and as the same one remains perimetricaly inserted in a flexible body like a joint of C-shaped general section, that clasps laterally to it and that acts as a protecting and tight element.

Figure 2.- It shows a detailed sectioned view of a variant of practical execution of the ceramic glass assembly, where we can observe as the same one is placed on a silicone cord for its fixing , and as the same one remains perimetricaly inserted in a flexible body like 40 a joint of open C-shaped general section, that acts as a protecting and tight element.

Figure 3.- It shows a detailed sectioned view of a practical execution of the body in which the ceramic glass is inserted, which is made up of a lower part of 45 flexible material and a metallic extreme part, so that in this way the fitting of the ceramic glass is making easy since the flexible body can be bent.

Figure 4.- It shows a detailed sectioned view of a practical variant of execution of the ceramic glass assembly, where we can observe as the same one is placed on a L-shaped sheet structure with the interposition of a a sealing element, being the L-shaped sheet 50 inserted in the joint that has a jutting out stretch on which

the ceramic glass is backed laterally and perimetricaly.

DESCRIPTION OF A PREFERRED EMBODIMENT.

In view of the cited figures and in accordance with the adopted numbering, we can observe as the assembly system of ceramic glasses is made up of the support (1) of the whole that is inserted into the cavity of the top surface (2) and is placed on the perimetric edge of the same one, so that the ceramic glass (3) without not any frame remains on it, being it fixed statically to the cited structure of the support (1) by means of a silicone cord (4). The cited silicone cord (4) can be substituted by a strip whose two sides are autoadhesive.

With the purpose of avoiding the deterioration that can be caused by the possible knocks on the lateral of the ceramic glass, it is protected by a body (5) of flexible material like a joint, in which the ceramic glass (3) is inserted and which acts as a protecting element and also as a tight element in relationship to the seat top surface so that for this motive, its support base has a whole of projections (7).

The body (5) of flexible material in which the ceramic glass (3) is inserted has a C-shaped general section, so that it can clasp laterally to the same one, being finished off by its upper surface (figure 1), or else it can be prolonged only on its lateral surface, being finished off close to the level of upper side (figure 2), having in this case an open C-shaped general section and acting the cited body as a protecting element against the possible lateral knocks that can damage the ceramic glass, as well as a tightness element.

The body (5) of flexible material in which the ceramic glass (3) is inserted can be preferably materialized with silicone, silicone foam, retractile sealing material or similar one, so that the flexibility of the cited materials allows the fitting of the ceramic glass into the cited body (5) with a simple pressure on the ceramic glass.

Likewise, the body (5) in which the ceramic glass (3) is inserted also can be materialized as an unitary body, so that it is defined by its lower part (6) of flexible material, being endowed of the the lower projectings (7) for acting as a tight element, in relationship to the top surface of placement and a metallic upper part (8), defining itself a C-shaped general section more or less open.

The body (5) can be materialized likewise with its vertexes being pointed or marked, in a right angle, allowing the fitting of all the kind of ceramic glasses so that the flexible component allows the fitting of all the ceramic glasses with similar shape, by a simple pressure.

In a variant of execution, the silicone joint (5), silicone foam, retractile sealing material or similar one, has a L-shaped general section, so that it remains placed on the top surface (2) by its horizontal branch that has some pointed projections (7), materializing a total tightness with regard to the top surface, while its vertical

branch is upperly finished off with a stretch (9) whose lower prolongation is jutting out, so that the lateral and perimetric backing surface of the ceramic glass (3) is defined.

5 A L-shaped structure (10) of sheet is placed in the joint (5), so that the ceramic glass (3) is leaned against this structure with the interposition of a sealing element (11).

The stretch (9) of the joint (5) that is jutting out has 10 the backing surface with the ceramic glass (3) with a pair of extreme projectings that materialize a perfect tightness, since they are adapted to the perimetric lateral surface of the ceramic glass.

Through the described assembly system, it is a 15 question of eliminating the classical concept of the cooking plates that have a metallic frame, improving their aesthetic, enhancing the surface of ceramic glass and giving them a image of modernity.

Besides, through the use of the system that is proposed for the assembly of ceramic glasses, there is a 20 considerable economic saving because of eliminating the frame of placement such as of the ceramic glass that acts simultaneously as a beautifying element, as well as the cords of fixing and lateral blockage with the workforce in the cleaning of the same ones, as well as with 25 the elimination of the flexible strip on which the conventional frame on the hob is placed.

Likewise, the assembly of the ceramic glass is realized in a simple and fast way, diminishing both the 30 workforce and the execution time.

Claims

35 1. ASSEMBLY SYSTEM FOR COOKING PLATES, being destined preferably for the assembly of the cooking plates that are introduced into the corresponding cavity of the top surface, and being usable preferably for the assembly of ceramic glasses,

40 characterized in that the system has a body (5) of flexible material like a joint, that acts as a protecting and tight element with regard to the top surface, in which the ceramic glass (3) without not any frame is inserted, and it has also the fixing means of the ceramic glass, in the own support structure (1) of all the whole.

2. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first claim and characterized in that the body (5) of flexible material, in which the ceramic glass is inserted, has a C-shaped general section and claspes to the same one in a perimetric way, remaining placed on the top surface (2) and acting as an element of protection and tightness since its seat base has a whole of little projectings (7).

3. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first and second claims and char-

acterized in that the body (5), in which the ceramic glass (3) is inserted through simple pressure, clasps the same one to its upper surface in a perimetric way, being finished off on it in a beveled way.

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4. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first and second claims and characterized in that the body (5), in which the ceramic glass (3) is inserted, is prolonged in a perimetric way for the lateral surface of the same one, being finished off lightly below the level of its upper surface in a beveled way. 10
5. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first and second claims and characterized in that the body (5), in which the ceramic glass is inserted, is defined by an unitary body whose lower part (6) is made of flexible material, being metallic its upper part (8). 15
6. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first claim and characterized in that the fixing means from the ceramic glass (3) to the own support structure (1), are defined by a perimetric silicone cord (4). 20
7. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first claim and characterized in that the fixing means from the ceramic glass (3) to the own structure (1) of the support, are defined by a perimetric strip with a double adhesive surface. 25
8. ASSEMBLY SYSTEM FOR COOKING PLATES, according to the first claim and characterized in that the silicone joint (5), silicone foam, sealing retractile material or similar one, has a general L-shaped, being its horizontal branch leaned on the top surface (2) while its vertical branch is finished by a jutting out stretch (9) so that on the horizontal branch of the joint (5), there is a structure of sheet with a 30
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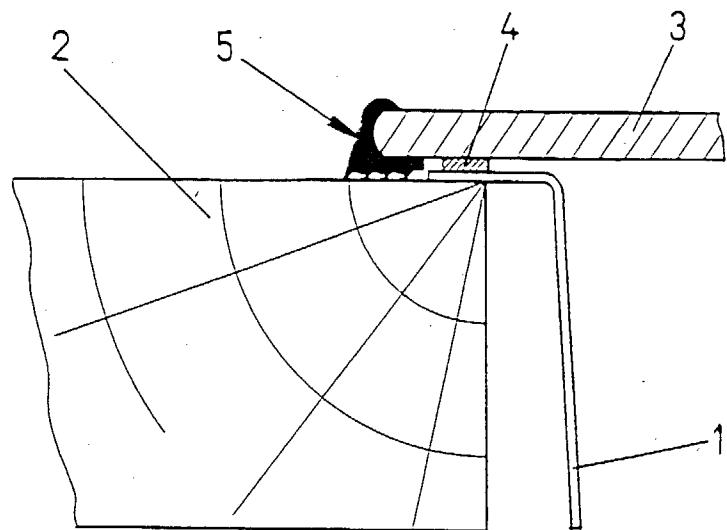


FIG. 1

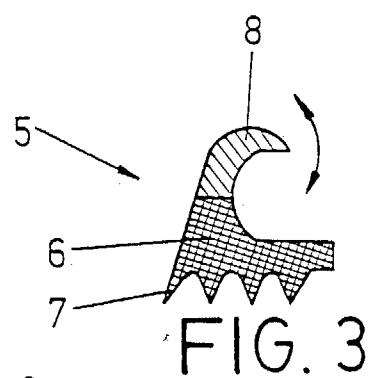


FIG. 3

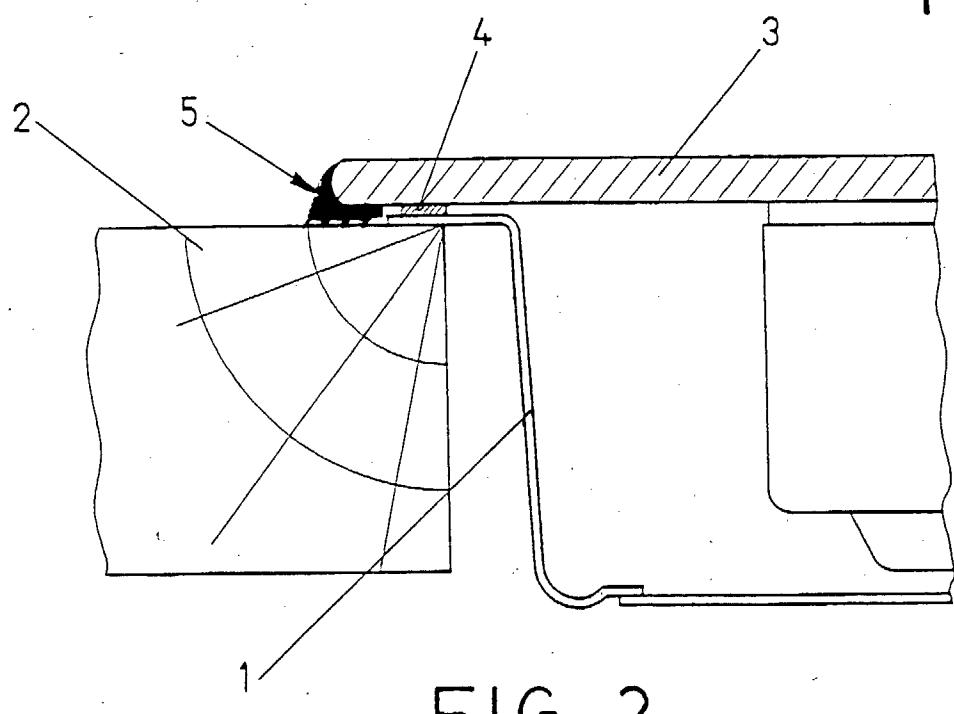


FIG. 2

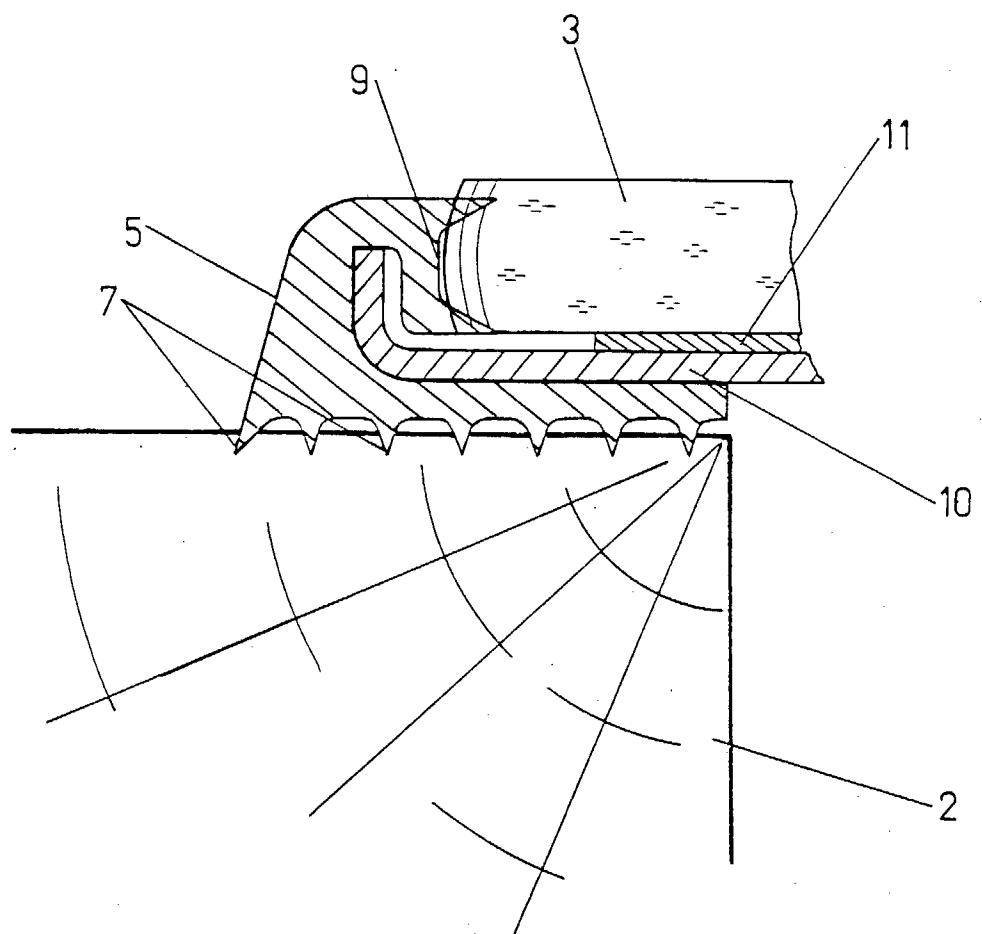


FIG. 4



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 98 50 0048

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE 32 27 058 A (LICENTIA GMBH) 26 January 1984 * claims 1-3; figures 1,2 *	1-4	F24C15/10
X	DE 94 18 476 U (GLUTOS WAERMEGERAETE GMBH) 9 March 1995 * claims; figure 1 *	1-4, 7	
X	DE 42 02 807 C (PROMETHEUS) 4 March 1993 * column 4, paragraph 2 – paragraph 3; figure 6 *	1, 2	
X	EP 0 083 757 A (LICENTIA GMBH) 20 July 1983 * claim 2; figure 2 *	1	

The present search report has been drawn up for all claims			
Place of search	Date of completion of the search		Examiner
THE HAGUE	25 May 1998		Vanheusden, J
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			