

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 361 713
A1

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 89309101.7

(51) Int. Cl.⁵ **E04D 13/15**

(22) Date of filing: 07.09.89

(30) Priority: 08.09.88 GB 8821050

(43) Date of publication of application:
04.04.90 Bulletin 90/14(64) Designated Contracting States:
BE DE FR GB NL SE

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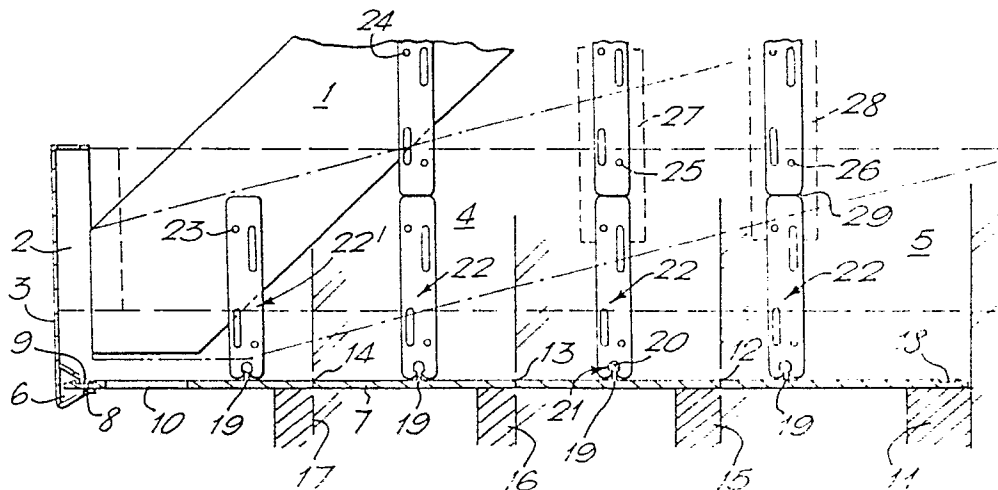
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(54) **Soffit system for a building.**

(57) A soffit system for a building including a soffit comprising an elongate panel (7) which, between its edges, has a longitudinally extending upstand (19) adapted to engage slidingly in a recess (21) formed in a support bracket (22).

FIG.1.



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Soffit system for a building

This invention relates to a novel soffit system for a building. In many buildings roof tiles or the like are supported on rafters which extend beyond the outer wall of the building. Along the ends of the rafters extends a fascia board or the like. The space between the fascia and the wall of the building, underneath the rafters, is provided with a soffit which can be a sheet of suitable rigid material, interlocking plastics panels, and so forth. Soffits are used in conventional pitched roof buildings, or with flat roof or bargeboard arrangements.

The present invention is concerned amongst other things with a system providing an effective, but simple and versatile, system for mounting a soffit. Generally speaking a soffit may have one edge resting on the wall of a building and the other engaged with the fascia. The system disclosed herein provides support for a central region of a soffit.

Thus according to the present invention there is provided a soffit comprising an elongate panel which, between its edges, has a longitudinally extending upstand adapted to engage slidably in a recess formed in a support bracket. The system disclosed herein consists of such a soffit in combination with a number of brackets which will be attached to successive rafters, so that the soffit is supported along its length.

One advantage of providing such a system is that it is not necessary for the soffit to have its inside edge resting on a wall. Instead, it can abut the wall, with support being provided by the brackets. This is particularly advantageous in e.g. timber frame buildings which for example have a brick skin. There is a tendency for the frame, including the roof, to settle downwardly. However, the brick skin will not settle to the same extent. If a soffit has one edge resting on the bricks and the other connected to the roof construction, then the differential in settling will result in the soffit being tilted at an angle.

By contrast if the soffit abuts the wall - as is possible with the present system - then it can slide vertically with respect to the wall and can remain at its desired angle, e.g. perpendicular to the wall.

The sliding engagement between the brackets and the upstand allows for movement of the soffit due to thermal expansion. This can be a particular problem in the case of a soffit of plastics material such as UPVC. The preferred soffit is extruded from a plastics material.

The sliding engagement also provides a means for facilitating installation. Thus a number of brackets can be slid onto the upstand and positioned longitudinally at spacings corresponding to the

rafter spacings of a roof. The soffit can then be positioned and a first bracket nailed to the first rafter. Succeeding brackets can then be slid to exactly the right positions and nailed to their respective rafters.

The soffit may be provided with a plurality of upstands positioned laterally at intervals across the panel. This enables adequate support to be given, by means of a corresponding series of brackets across the width of the soffit. With such an arrangement, it is also possible to use a single extrusion system to cope with soffits of various desired widths and depending on the distance between the fascia and the wall. Typical widths are 150 mm, 275 mm, 400 mm and 550 mm. Thus, an extrusion die can be set up for a soffit of e.g. 550 mm width with, say, four upstands. One possibility is for the die to be blocked off to give soffits of smaller width - say 275 mm with two upstands. Another possibility is to cut the soffit longitudinally at the desired width. However, at the site of manufacture this need not lead to wastage providing that both the products of a longitudinal cut are usable. This can be achieved by ensuring that both edges of the extruded soffit can be used in the desired form of installation.

In one preferred system, each edge is provided with a longitudinally extending channel. This permits the soffit to be engaged with an interlocking system of a fascia. Thus, if a 550 mm soffit is extruded with two such edges, it can be cut into, say, one 400 mm and one 150 mm soffit, each with a channel along one edge and each with the appropriate upstand(s).

The soffit may also be provided with ventilation slots. These could be provided along each edge during manufacture by means of suitable punches or the like. They could be provided along only one edge initially, and then, if division of the extruded soffit takes place, provided in the unslotted position if desired.

Preferably the upstands and brackets are designed to interengage in such a way that easy engagement is possible only by longitudinal sliding of the upstand relative to the bracket. Push-fitting is possible but may not provide sufficient security of engagement.

The brackets are preferably adapted to be attached to a rafter by means of nails or other suitable fasteners, for example by having suitable apertures or slots. It may be necessary to have brackets of varying height to cope with the difference in spacing between rafters and soffits. In a conventional pitched roof system, the distance between the rafters and the soffit increases towards

the wall. It has been found that it is possible to deal with most eventualities with a bracket which has a recess at each end, to receive a soffit upstand, and which is readily split in half. Thus it can provide two relatively short brackets, or be used as it is. In some cases it may be necessary to attach an extension - such as a wooden batten - to a rafter if the bracket is not long enough although, of course, longer brackets could be provided.

The brackets are preferably rigid and whilst they could be made from metal they are preferably moulded from a suitable plastics material, such as a foamed plastics or a material with a high filler content.

It will be appreciated that the brackets, being double ended and readily divisible into two parts, may be of use in other contexts and this disclosure extends to such usages. Thus, novel aspects disclosed herein, and for which protection is sought, are the soffit, the method of making the soffit (and particularly, but not exclusively, severing a wide extrusion into individual soffits), the brackets, and the combination of the components in a system.

There will now be described, by way of example, a specific soffit system embodying certain of the above aspects, with reference to the accompanying diagrammatic drawings in which:-

Figure 1 shows a soffit system for various different configurations; and

Figure 2 shows a complete bracket for use in the system.

In Figure 1, there is shown the region at the eaves of the roof. Thus, a roof rafter 1 is attached to a wooden fascia batten 2 which is in turn provided with a plastics fascia panel 3 of known type. Also shown in outline are arrangements for a roof of a lower pitch, with rafters 4, and a flat roof or bargeboard arrangement indicated at 5.

The fascia panel 3 has a channel 6 at its lower edge which receives one edge of a soffit 7 in a known manner. The soffit 7 has adjacent its edge a channel 8 in which engages resiliently a portion 9 of the fascia. The soffit is an elongate extruded plastics panel of e.g. UPVC. It is provided with ventilation slots 10 along its length, near to its outer edge.

At its other edge the soffit rests on the upper course of brickwork of the outer wall of the building, the width of the soffit depending on the distance between the fascia and the wall. In the present case there is shown a full width soffit of 550 mm, resting on a wall 11. However, also indicated are the dividing points 12, 13 and 14 for 400 mm, 275 mm and 150 mm soffits, together with the appropriate wall positions 15, 16 and 17 respectively. The soffit has a channel 18 adjacent the right hand edge portion which rests on wall 11. This is identical to channel 8 but in the context of

the 550 mm soffit serves no purpose. However, if the soffit is divided so as to give two soffits of smaller width, i.e. 150 mm and 400 mm, or 275 mm and 275 mm, each will have an appropriate channel 8 or 18 along one edge. Whilst for ease of illustration three division lines have been shown, in practice a manufacturing system need only involve two dividing sites, namely line 13 and one of lines 12 and 14, since there is symmetry. However, it might be desired to provide the ventilation slots 10 along one edge only - as shown in the Figure - so that three possible dividing lines 12, 13 and 14 give a choice of 400 mm, 275 mm and 150 mm soffits with or without ventilation slots.

Within each 150 mm region of the soffit is provided a longitudinally extending, integrally moulded upstand 19. Thus, for the minimum width soffit of 150 mm there will be one upstand and for the other widths there will be 2, 3 or 4 spaced at regular intervals. These upstands have enlarged heads 20 which engage with recesses 21 in support brackets 22 and 22'. These brackets, which are injection moulded from a suitable rigid plastics material, are attached to the rafters by nailing through holes such as at points 23 and 24 for rafter 1. In the lower pitch rafter 4 and flat roof/bargeboard arrangement 5, this system of direct attachment can be used for all brackets. However, for rafter 1, with a maximum roof pitch, the right hand two brackets are attached at 25 and 26 by nails or the like to vertical droppers 27 and 28, in the form of e.g. wooden battens, which are in turn secured to rafter 1.

Generally speaking such extra battens will only be needed for exceptionally steep roofs with deep soffits.

As shown in Figure 2, the brackets 22 are formed symmetrically with recesses 21 at each end and dividing line 29. Thus, to obtain a shorter bracket 22', as used at one place in the system of Figure 1, the bracket is separated into two parts by breaking along a line of weakness, cutting, sawing or the like.

The shape of the recesses 21 and upstands 19 - having enlarged heads 20 - is such that there is location of the heads 20 in the recesses with relative longitudinal sliding movement possible. The recesses 21 have significantly narrowed throats 30 with flat shoulders 31 and this, coupled with the rigidity of the brackets, resists the upstands being snapped into and out of engagement. Thus, for assembly the soffits are generally slid into place in this arrangement.

As can be seen, the brackets have slots 32 and relatively small apertures 33. The apertures 33 receive nails such as nails 25 and 26 in Fig. 1 to fix the brackets to roof rafters or the like. Slots 32 are also intended to receive fixing nails but are in the

form of slots to allow for adjustment during installation. Thus, for installation the brackets 22 (or part brackets 22') are slid onto the upstands 19 on the soffit 7, and spaced longitudinally to correspond to the spacing between rafters. The soffit is then positioned and a first bracket 22 nailed to a roof rafter through slot 32. The bracket is then adjusted vertically and tiltably to ensure that the soffit is horizontal and at the correct level and is then fixed by means of a further nail through an aperture 33. This is repeated for the other brackets along, and where appropriate across, the soffit.

Many novel features are disclosed herein and protection is sought for all of these, alone or in combination, and in contexts other than soffits, and for modifications thereof.

The soffit systems disclosed herein may be used with the fascia systems in the Applicant's co-pending application of even date entitled "Fascia and soffit system for buildings", or with other fascia systems.

It is to be clearly understood that there are no particular features of the foregoing specification, or of any claims appended hereto, which are at present regarded as being essential to the performance of the present invention, and that any one or more of such features or combinations thereof may therefore be included in, added to, omitted from or deleted from any of such claims if and when amended during the prosecution of this application or in the filing or prosecution of any divisional application based thereon. Furthermore the manner in which any of such features of the specification or claims are described or defined may be amended, broadened or otherwise modified in any manner which falls within the knowledge of a person skilled in the relevant art, for example so as to encompass, either implicitly or explicitly, equivalents or generalisations thereof.

Claims

1. A soffit comprising an elongate panel (7) which, between its edges, has a longitudinally extending upstand (19) adapted to engage slidingly in a recess (21) formed in a support bracket (22).

2. A soffit according to claim 1 wherein a plurality of upstands (19) are positioned laterally at intervals across the panel (7).

3. A soffit according to claim 1 or claim 2 wherein at least one edge of the soffit is provided with a longitudinally extending channel (8) for engagement with an interlocking system of a fascia.

4. A soffit according to any of claims 1 to 3 wherein ventilation slots (10) are provided along at least one side of the soffit.

5. A soffit according to claim 3 or 4 wherein a

said channel (8) is provided at both edges of the soffit and the soffit is adapted to be divided into two parts along its length to form two separate soffits of the same or different widths.

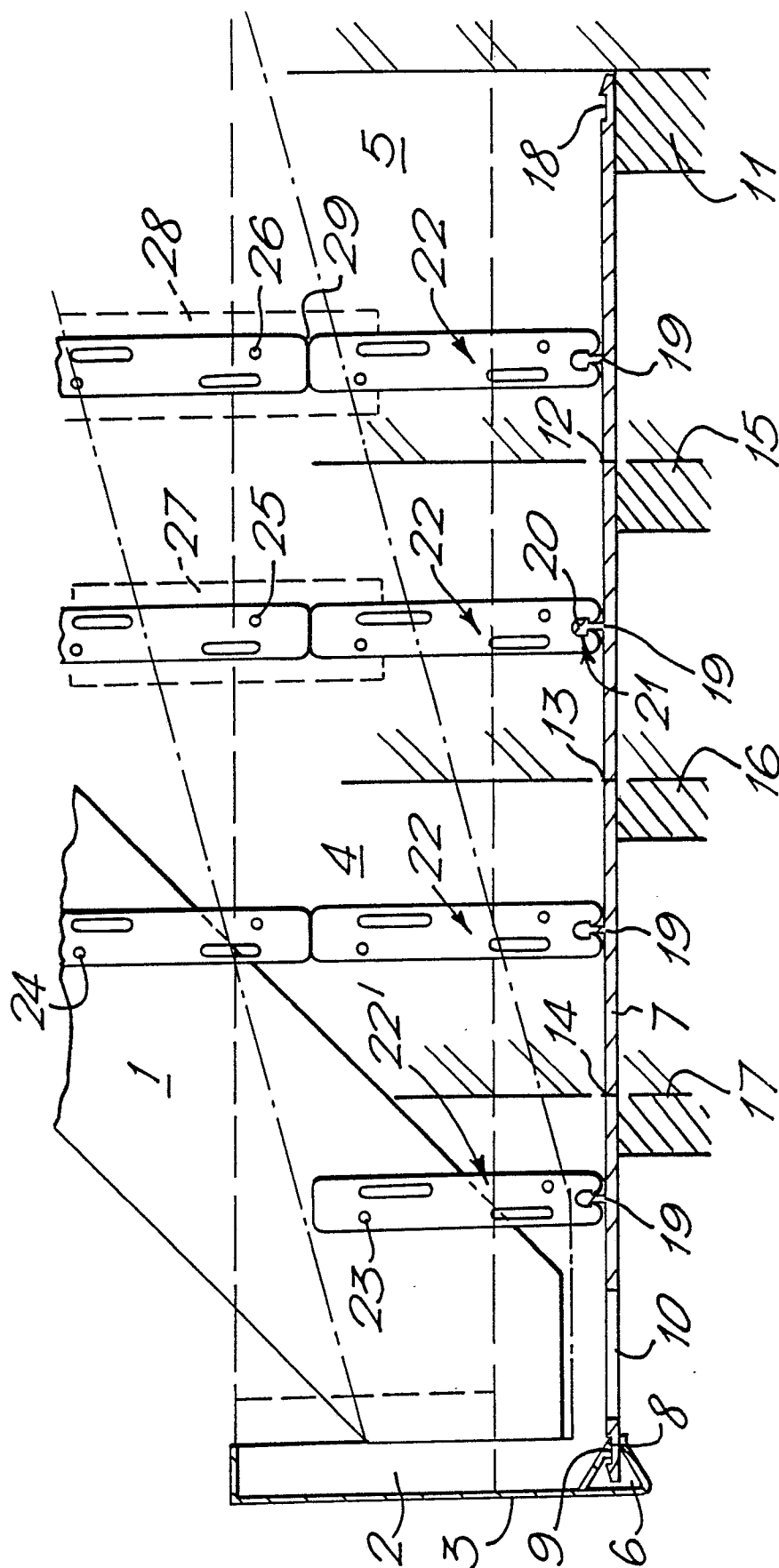
6. A soffit according to claims 4 and 5 wherein said ventilation slots (10) are provided along both sides of the soffit.

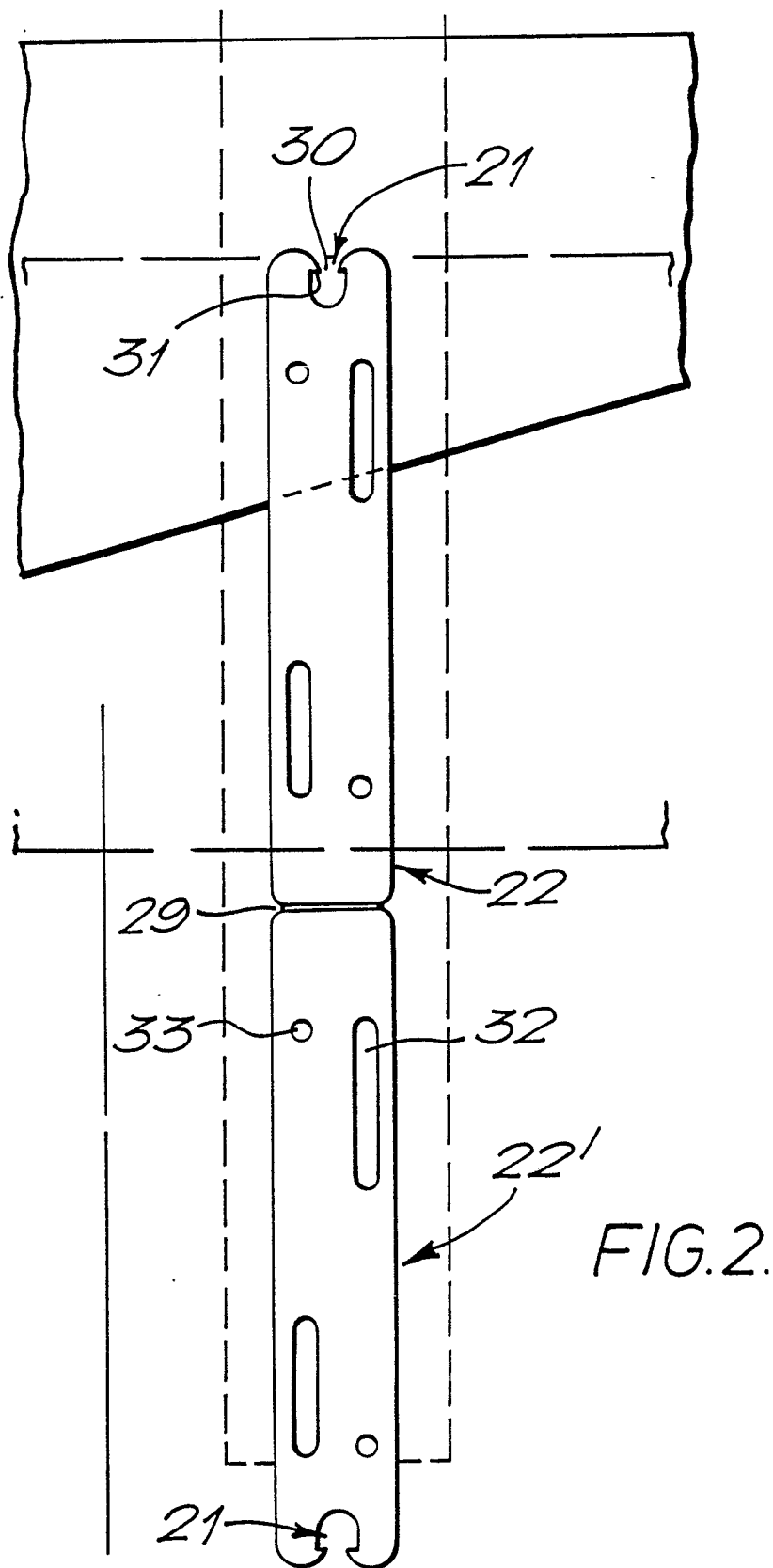
7. In combination, a soffit according to any of the preceding claims and a plurality of support brackets (22) therefor, each support bracket having a recess (21) for slidingly engaging a said upstand (19) of the soffit, the support brackets being attachable to successive roof rafters (1) so that the soffit can be supported along its length.

8. The combination according to claim 7 wherein the said support bracket (22) has a recess (21) at each of its ends to receive a soffit upstand (19) and is adapted to be divided centrally of its length to form two separate brackets..

9. A combination according to claim 7 or 8 wherein easy engagement of the or each upstand (19) of the soffit in the recesses (21) in the support brackets (22) is possible only by longitudinal sliding of the upstand relative to the bracket (22).

FIG. 1.







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.5)
X	FR-A-2 594 462 (RACCORDS ET PLASTIQUES NICOLL) * Abstract; page 4, lines 22-38; figure 1 *	1,2,7	E 04 D 13/15
Y	---	3,4,9	
Y	GB-A-1 181 115 (P. REVELL) * Page 1, line 88 - page 2, line 7; figures 1,2 *	3	
A	---	5	
Y	CA-A-1 007 419 (CREADY) * Page 2, line 28 - page 3, line 10; figures 1-3 *	4	
A	---	6	
Y	AU-B- 523 695 (P.J. HANSEN) * Page 5, lines 4-7; figures 1,3 *	9	
A	---	1,2,7	
A	GB-A-1 269 357 (MARSH) * Page 2, lines 37-88; figures 1,3,4 *		TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	FR-A-2 099 008 (J. ARICHELLO) * Page 3, line 12 - page 4, line 29; figures 1,2,7,8,10 *	1-3,5,7	E 04 D E 04 B
A	---	1	
A	GB-A-2 193 878 (CELUFORM) * Page 1, lines 44-56; page 2, lines 29-54; figures 1,9,10 *		
A	---	1,3-5	
A	GB-A-2 189 823 (RADWAY PLASTICS) * Page 5, lines 77-105; page 6, lines 36-40; figures 2-5 *		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 08-12-1989	Examiner RIGHETTI R.
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	