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(54) **IMPROVED WINDOW**

(57) The invention relates to an improved window, which is preferably round, formed by lower profile (2a) and upper profile (2b), with symmetrical attachment parts (6) and elements (7) holding and hinging the sheet (3) configured by solid L-shaped frame (4). The lower profile (2a), in an inverted T-shape, has asymmetrical transverse branches (9) and (10) for the inner part, and the end of the perpendicular branch (11) is reduced, with rabbets (12) for the profiles (13) emerging from the at-

tachment parts (6). The upper profile (2b) has a perpendicular branch (14) with rabbets (15) for the profiles (13), and a long outer section (16) at the inner part of the closure, whereas the end (17) of the perpendicular section (14) is bent towards the inside of the window, embracing the frame (4), said end (17) being the widest externally visible area of the sash (2) of the window (1).

EP 2 141 318 A1

Description

Object of the Invention

[0001] As expressed in the title of the present specification, the invention relates to an improved window, which provides a series of advantages and innovative features, which will be described in detail below, which involve a noteworthy improvement and/or alternative to what is already known in this field.

[0002] More specifically, the object of the invention consists of a window, the purpose of which lies in being configured as a window applicable in any gap which is considered suitable, logically in accordance with the dimensions thereof, which can be variable in shape and size, example can be rectangular or round, and which is especially designed to incorporate a single sheet the opening mechanisms of which are of the hinged type, its structure and configuration having a series of improvements which substantially improve certain aspects thereof with respect to conventional windows of this type known up until now, specifically in terms of safety, tightness and especially appearance.

Background of the Invention

[0003] Currently and as a reference to the state of the art, it must be mentioned that a great number of windows are known, made in wood, aluminium, plastic, iron profiling, among which, those of the type at hand, i.e., those which are configured from a single part with a hinged opening and closing mechanism, different types are also known.

[0004] However, this type of window is in most cases configured by profiles forming the frame and profiles forming the sheet which generally have considerable dimensions, which, in addition to making them stand out considerably, being able to aesthetically affect the uniformity of the façade and the actual gap of the window, i.e., the part of the glazing, reduces its dimensions, which considerably affects the assembly, in addition to reducing the amount of light.

[0005] It is therefore necessary to create a window which allows maximally reducing the dimension of both the sash, externally, and the frame of the hinged sheet in order to achieve that both are virtually concealed, without losing the safety and tightness qualities necessary in this type of window, therefore allowing the gap of light or glazing of the window to occupy the maximum possible amount of the existing space and allowing the sash to be virtually unnoticeable externally.

[0006] It must furthermore be indicate that the applicant is not aware of the existence of any window having technical structural and configuration features similar to those of the window proposed herein, the object of which is to solve the problems described above as well as to improve other aspects of known systems.

Description of the Invention

[0007] To that end, and more specifically, the window proposed by the present invention is essentially conventional, formed from an outer frame, sash or casement, which is fixed and fitted by means of known systems to the corresponding gap of the wall or closure, logically with dimensions and shape in accordance with the window, and from an inner frame forming the sheet, to which the glazing of the window is suitably coupled said sheet preferably having a hinged type opening and closing mechanism.

[0008] The mentioned outer frame or sash, and now in a characterizing manner, is formed by means of the mutual coupling of respective solid profiles, a lower one and another upper one, attached by means of welding with the collaboration of respective attachment parts, which act as support for the bolts or rotation mechanisms to allow the corresponding hinged opening and closing of the sheet of the window.

[0009] Said sheet in turn has the particularity of being configured from a frame formed by a narrow profile, to which the glazing is fixed with the collaboration of a batten, and the configuration and special design of which, together with the configuration and design of the described sash, allow this frame forming the sheet and the described outer sash to be virtually concealed by the upper part of the sash and completely concealed by the lower part of the sash, thus fulfilling the aforementioned advantages or extending the gap of light and of minimum visual impact on the outer façade proposed by the improved window of the invention.

[0010] The new improved window therefore represents an innovative structure with structural and constitutive features that were unknown up until now for such purpose, which reasons, added to its practical usefulness, provide it with sufficient grounds for obtaining the exclusivity privilege sought.

Description of the Drawings

[0011] To complement the description which is being made and for the purpose of aiding to better understand the features of the invention, a set of drawings is attached to the present specification as an integral part thereof, in which the following has been depicted with an illustrative and nonlimiting character:

Figure 1 shows a plan view of an embodiment of the new improved window according to the invention, in which the main elements that it comprises as well as the configuration and arrangement thereof are seen.

Figures 2 and 3 correspond to respective vertical section views, according to sections A-A and B-B indicated in Figure 1, and which correspond respectively to the lower and upper part of the window.

Figure 4 shows a perspective view in which the con-

figuration of the attachment part between the lower and upper profiles forming the outer sash or frame of the window, as well as the inner element incorporated in said part and allowing the pivoting of the sheet in said frame, is seen in more detail.

Preferred Embodiment of the Invention

[0012] In view of the mentioned figures, and according to the adopted numbers, a preferred embodiment of the improved window can be observed therein, which window comprises the parts indicated and described in detail below.

[0013] Thus, as is seen in said figures, the window (1) in question, is essentially formed from an outer sash (2), which is fixed and fitted by means of known systems to the corresponding gap of the wall or closure, and from a sheet (3) configured by an inner frame (4), to which a glazing (5) is suitably coupled, said sheet (3) having a hinged type opening and closing mechanism.

[0014] The mentioned outer sash (2), and now in a characterizing manner, is formed by respective solid profiles, a lower profile (2a) and another upper profile (2b), the mutual coupling of which is carried out by means of welding with the collaboration of respective attachment parts (6) arranged symmetrically on respective opposite sides of the sash (2), which parts have a hole (6a) and internally comprise respective elements (7), likewise provided with a coinciding hole (7a), facilitating and allowing said parts (6) to simultaneously hold and hinge the rotation mechanism of the corresponding hinged opening and closing operations of the sheet (3) with respect to the sash (2).

[0015] The mentioned sheet (3) in turn has the particularity of being configured from a frame (4) formed by an L-shaped narrow profile, which is likewise solid, to which the glazing (5) is fixed by means of a batten (8), as well as the additional placement of fixing elements, such as silicone or the like.

[0016] It is important to emphasize, as is seen in Figures 2 and 3, that the configuration and special design of the profile of the frame (4) as well as of the lower profile (2a) and upper profile (2b) of the sash (2) allow said frame (4) and said sash (2) to be virtually concealed externally, for which, as is seen in Figure 2, the lower profile (2a) of the sash adopts a configuration approximately in an inverted T-shape, in which the transverse branches (9) and (10) of said T, which are in the inner part of the closure, are asymmetrical, the outer branch (9) being considerably larger than the inner branch (10) after which the profile of the frame (4) is coupled, and in which the end of the perpendicular branch (11), which is in the outer part of the closure, i.e., in the part of the façade, has reduced dimensions, said branch (11) laterally having respective rabbets (12) suitable for receiving and being coupled respectively to the profiles (13) emerging in parallel and laterally from the attachment parts (6).

[0017] The upper profile (2b), likewise forming the sash

(2), in turn adopts a slightly different shape, likewise having a perpendicular branch or section (14) laterally provided with respective rabbets (15) suitable for the profiles (13) emerging from the attachment parts (6), as well as with a long outer section (16) which is at the inner part of the closure, whereas the end (17) of the perpendicular section (14) is bent towards the inside of the window, partially embracing the frame (4) of the sheet, said end (17), with a short length, being the widest externally visible area, i.e., the area visible by the part of the façade or outer part of the closure, of the entire window (1).

[0018] Having sufficiently described the nature of the present invention, as well as the way to put it into practice, it is not considered necessary to extend its explanation for any person skilled in the art to understand its scope and the advantages which are derived therefrom, stating that, within its essence, other embodiments may be put into practice which differ in detail from the one indicated as an example and which will also be covered by the protection requested, provided that its fundamental principle is not altered, changed or modified.

Claims

1. An improved window, of the type formed from an outer sash (2), which is fixed and fitted to the corresponding gap of the wall or closure, and from a sheet (3) configured by an inner frame (4), to which a glazing (5) is suitably coupled by means of a batten (8), said sheet (3) having a hinged type opening and closing mechanism, **characterized by** the fact that the mentioned outer sash (2) is formed by respective solid profiles, a lower profile (2a) and another upper profile (2b), the mutual coupling of which is carried out by means of welding with the collaboration of respective attachment parts (6) arranged symmetrically on respective opposite sides of the sash (2), which parts have a hole (6a) and internally comprise respective elements (7), likewise provided with a coinciding hole (7a), facilitating and allowing said parts (6) to simultaneously hold and hinge the rotation mechanism of the corresponding hinged opening and closing operations of the sheet (3) with respect to the sash (2); and in that the sheet (3) is configured from a frame (4) formed by an L-shaped narrow profile, which is likewise solid.
2. The improved window according to claim 1, **characterized by** the fact that the lower profile (2a) of the sash adopts a configuration approximately in an inverted T-shape, in which the transverse branches (9) and (10) of said T, which are in the inner part of the closure, are asymmetrical, the outer branch (9) being considerably larger than the inner branch (10) after which the profile of the frame (4) is coupled, and in which the end of the perpendicular branch (11), which is in the outer part of the closure, i.e., in

the part of the façade, has reduced dimensions, said branch (11) laterally having respective rabbets (12) suitable for receiving and being coupled respectively to the profiles (13) emerging in parallel and laterally from the attachment parts (6).

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3. The improved window according to claims 1 and 2, **characterized by** the fact that the upper profile (2b), likewise forming the sash (2), in turn adopts a slightly different shape from the lower profile (2a), likewise having a perpendicular branch or section (14) laterally provided with respective rabbets (15) suitable for the profiles (13) emerging from the attachment parts (6), as well as with a long outer section (16) which is at the inner part of the closure, whereas the end (17) of the perpendicular section (14) is bent towards the inside of the window, partially embracing the frame (4) of the sheet, said end (17) being the widest externally visible area of the sash (2) of the window (1).

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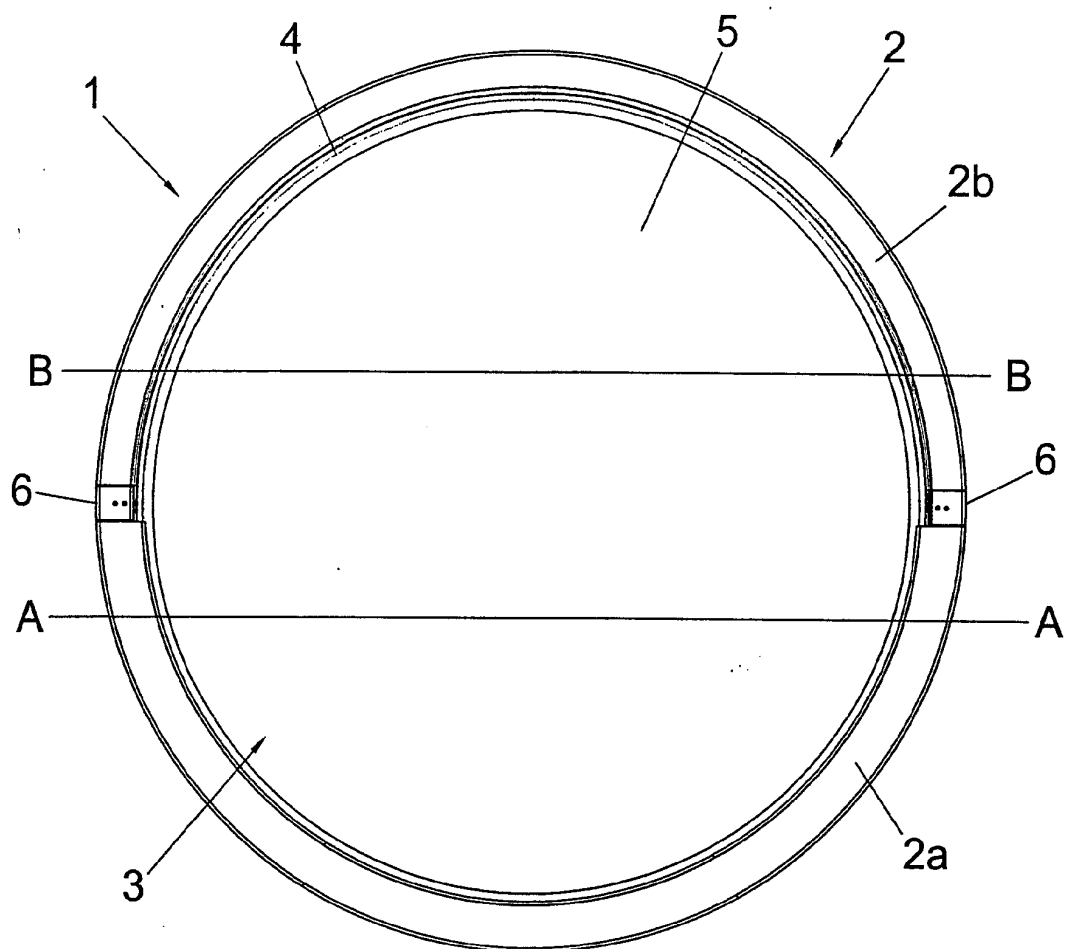


FIG. 1

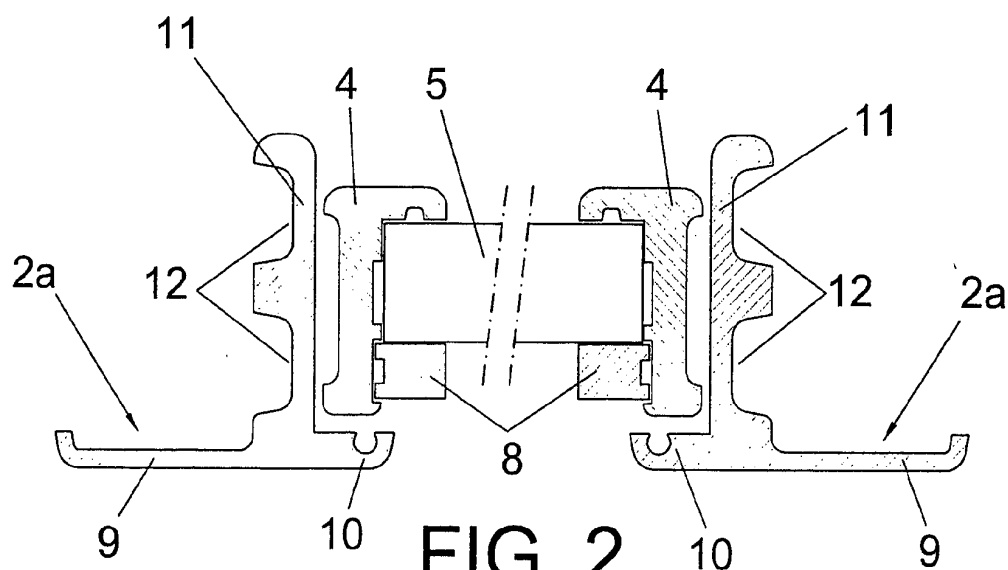
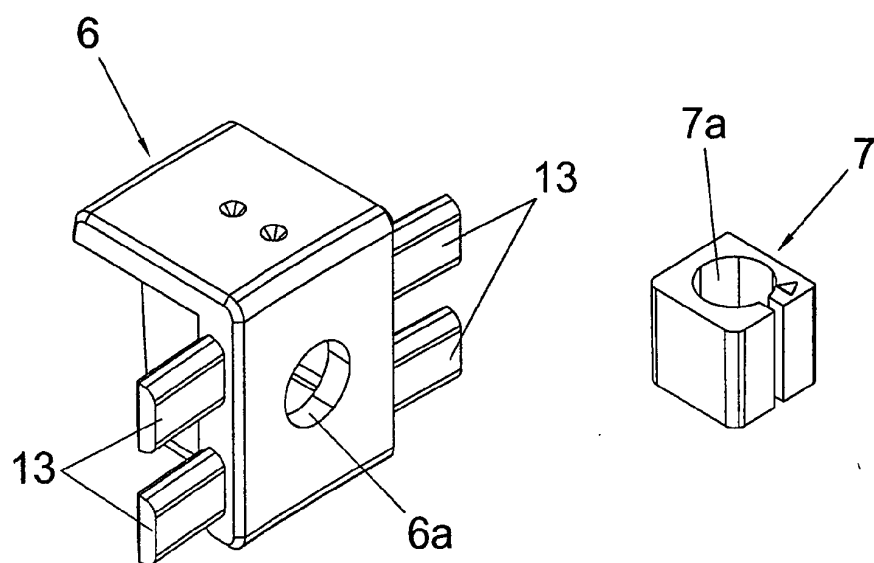
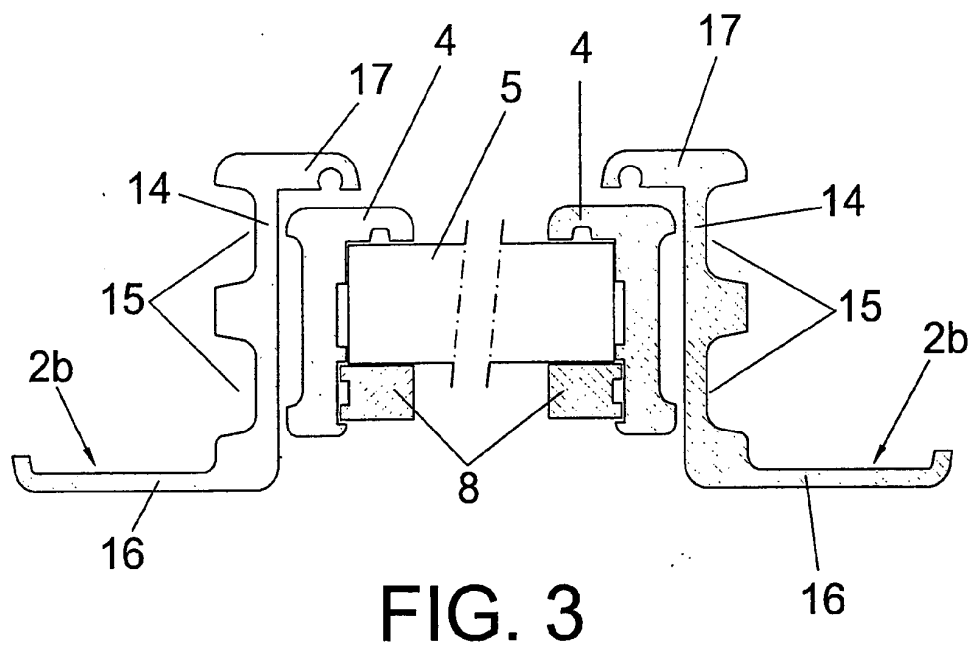


FIG. 2



INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES 2008/000046

A. CLASSIFICATION OF SUBJECT MATTER

E06B 3/40 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E06B+

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT,EPODOC,WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 915549 A (JAMES GIBBONS LTD) 16.01.1963, page 1, lines 43-52; figures.	1-3
Y	FR 1141344 A (DEROUIN HENRI-AUGUSTE-LOUIS) 30.08.1957, page 1, lines 32-60; figures.	1-3
A	DE 3308129 A1 (WOLFARTH FRIEDRICH) 13.09.1984, the whole document.	1-3
A	US 1452519 A (FRANK et al.) 24.04.1923, page 1, line 72 - page 2, line 13; figures.	1-3

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance.	
"E" earlier document but published on or after the international filing date	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"O" document referring to an oral disclosure use, exhibition, or other means	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/ ES 2008/000046

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
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