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(54) **STOP ELEMENT FOR BLINDS**

(57) This invention relates to a stop for blinds, among stops meant to prevent the blinds from entering the blinds box in their entirety, making them leave their guides. The stop is **characterised by** being formed by a special con-

struction of a trunco-conical body, together with a washer and a screw. The threaded orifice is blind, so that dirt cannot enter it, also preventing the screw from rusting due to humidity.

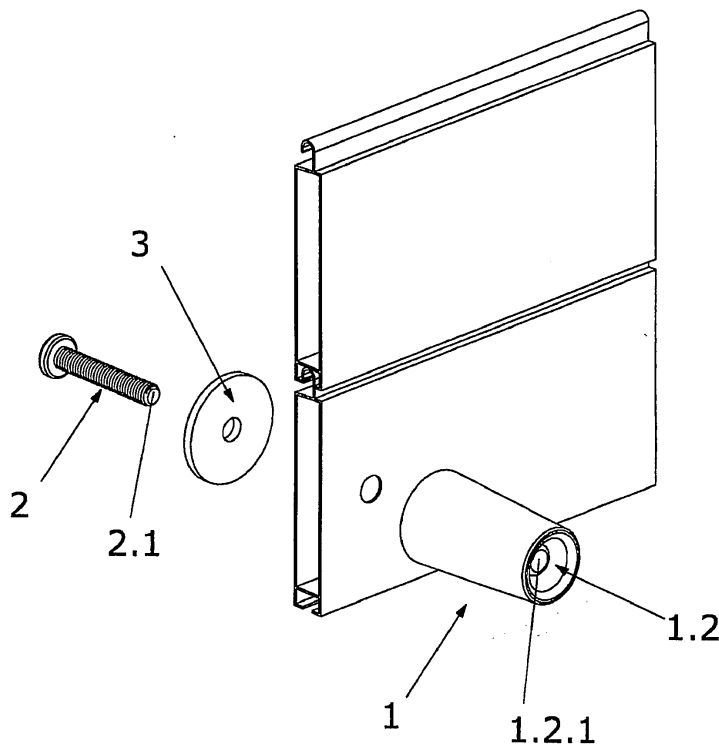


FIG. 1

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Description

OBJECT OF THE INVENTION

[0001] This invention relates to a stop for blinds from among stops meant to prevent the blinds from entering the blinds box in their entirety, which would make the blinds leave its guides.

[0002] This stop for blinds is characterised by a special construction of a trunco-conical body, together with a washer and a screw.

[0003] This stop is characterised in that inside the trunco-conical body there is a threaded orifice with a fine thread, such as a Whitworth gas thread.

[0004] The threaded orifice is not a through orifice, thereby preventing the entry of dirt and rusting of the screw due to moisture.

[0005] The stop is additionally characterised in that the screw that attaches the stop to the blind slats is antagonistic to the threaded orifice, thereby preventing the screw from loosening and deteriorating due to meteorological factors.

BACKGROUND OF THE INVENTION

[0006] Stops for blinds are known, generally with a cylindrical or cone shape housing a sheet-metal screw with a metric thread, screwed in an orifice provided for such purpose, and a washer placed between the slat of the blinds in which the stop is fitted and the screw head.

[0007] The applicant of the present Utility Model also holds Model ES 1037581U, which protects a stop for blinds characterised by its special construction in which the stop injection mass defines itself a central thread.

DESCRIPTION OF THE INVENTION

[0008] This invention consists of a stop for blinds, from among stops meant to prevent the blinds from being wound entirely in the box, which would make them leave their guides.

[0009] The stop is characterised by a special construction of the trunco-conical body, with two recesses on both of the end bases and an interior having a large threaded orifice with a fine pitch or thread, in a suitable combination, such as a Whitworth gas type. The threaded orifice is blind in order to prevent entry of dirt and humidity, thereby protecting the screw.

[0010] The screw is antagonistic of the threaded orifice, in this example a Whitworth thread, so that it will not be loosened and will always remain protected from damage.

[0011] Between the screw head and the slat is a protection washer that prevents the screw from damaging the slat when it is threaded, while the washer has a central recess in which the screw head is housed.

DESCRIPTION OF THE DRAWINGS

[0012] This description is completed by a set of drawings that illustrate the example of a preferred embodiment without limiting the invention.

Figure 1 is an exploded view of the stop and the end slat of the blinds.

Figure 2 is a cross section of an elevation view of the stop, showing the thread integrated in the mass and the orifice that does not reach the outside.

PREFERRED EMBODIMENT OF THE INVENTION

[0013] In view of the above, the present invention consists of a stop.

[0014] Figure 1 represents the stop placed on an end of a slat of the blinds, consisting of the trunco-conical body (1), a screw (2) and an intermediate washer.

[0015] The trunco-conical body (1) is characterised by a recess (1.1) in the greater base and a recess (1.2) in the minor base, defining, in the central area of these recesses (1.1) and (1.2) inside the body, a threaded orifice (1.3) with a thread angle sufficiently distant from the reversibility limit angle of 4.85° for the sheet-metal screw used in conventional stops, thereby preventing an undesired loosening due to the repeated impacts resulting from an incorrect operation of the blinds, both when raising and lowering it.

[0016] To this end, either a suitable combination of the pitch of the thread (1.3.2) and the pitch diameter of its antagonistic screw (2) is established, or market-available screws are found that fulfil the condition of being sufficiently separated from the reversibility limit angle, the latter operation being more practical and economic. This condition is fulfilled, among others, by 5 mm diameter Whitworth gas screws (3.05°) and fine pitch metric screws (2.92°), both of which are sufficiently distant from the reversibility limit angle, and therefore can receive continuous impacts without the screw being loosened, which would disassemble the stop and allow the entire blind to enter the box limited by the buffers.

[0017] In the preferred example chosen, it incorporates a Whitworth gas screw whose blind end (1.2.1) may or may not meet the interior of the inner recess (1.2.1), provided with a peripheral flange and located in the centre of the recess (1.2) of the minor base.

[0018] In addition to the peripheral flange (1.2.1) as a means of joining the outer body and the inner threaded body, it is possible optionally to use reinforcements (1.5).

[0019] In figure 2, the circular crown located in the recess (1.1) of the greater base around the threaded orifice (1.3) is divided into four sectors (1.4) by four radial reinforcements (1.5) distributed equidistant from the threaded (1.3.2) orifice (1.3).

[0020] The inner face of the recess (1.1) of the greater base has four semicylindrical reinforcement ribs (1.6) lon-

gitudinal and equidistant.

[0021] Although in this embodiment of the invention four sectors (1.4) are used defined by four reinforcements (1.5) plus four semicylindrical reinforcement ribs (1.6), the use of a number other than four of each of these elements is considered to be part of the same invention when using reinforcement ribs, as long as their number is the same.

[0022] The threaded orifice (1.3) is not a through orifice, thereby preventing the entry of dirt and the oxidation of the screw. In addition, the screw (2) makes impossible the perforation of the blind end (1.3.1) of the threaded orifice (1.3), as its length is not greater than the length of the threaded orifice (1.3) plus the thickness of the washer (3) plus at least the 6 mm thickness of a slat.

[0023] Alternatively, when the dimensional and material characteristics of the blinds allow, this stop assembly can do without the washer (3), which will be maintained whenever the length of the screw does not exceed the orifice (1.3).

[0024] The essence of the invention is not affected by variations in the materials, shape, size and arrangement of the component elements, described in a non-limiting manner to allow its reproduction by an expert.

characterised in that it has a plurality of sectors (1.4) defined by an identical number of equidistant radial reinforcements (1.5) and the inner wall of the recess (1.1) of the greater base also has the same number of semicylindrical reinforcement ribs (1.6), longitudinal and equidistant.

5. Stop for blinds, according to the previous claims, **characterised in that** the number of sectors (1.4), of equidistant radial reinforcements (1.6) and of reinforcement semicylindrical ribs (1.6) is four.
6. Stop for blinds, according to the previous claims, **characterised in that** alternatively, the washer (3) is not present, as long as the length of the screw does not exceed the base (1.3.1) of the orifice (1.3).

Claims

1. Stop for blinds, from among those having a truncated-conical (1), a screw (2) and a washer (3) with corresponding recesses on their opposing bases, essentially **characterised in that** the recess (1.1) of the greater base of the body (1) and the recess (1.2) of its minor base define a threaded orifice (1.3) with a thread angle smaller than the reversibility limit angle, in order to prevent its undesired loosening both while raising and lowering the blinds, by obtaining a suitable combination of the pitch of the thread (1.3.2) and the pitch diameter of its antagonistic screw (2), whose length does not exceed the sum of the length of the threaded orifice (1.3) the thickness of the washer (3) and the minimum thickness of a slat.
2. Stop for blinds, according to the previous claim, **characterised in that** it incorporates 5 mm diameter Whitworth gas thread screws with a 3.05° angle or, alternatively, fine pitch metric screws (2.92°).
3. Stop for blinds, according to the previous claims, **characterised in that** the blind end (2.1) of the screw (2) that may or may not meet the inside of the inner flange (1.2.1) has a peripheral flange and is located in the centre of the recess (1.2) of the minor base connecting the inner body with a blind threaded (1.3.2) orifice (1.3) to the outer body.
4. Stop for blinds, according to the previous claims,

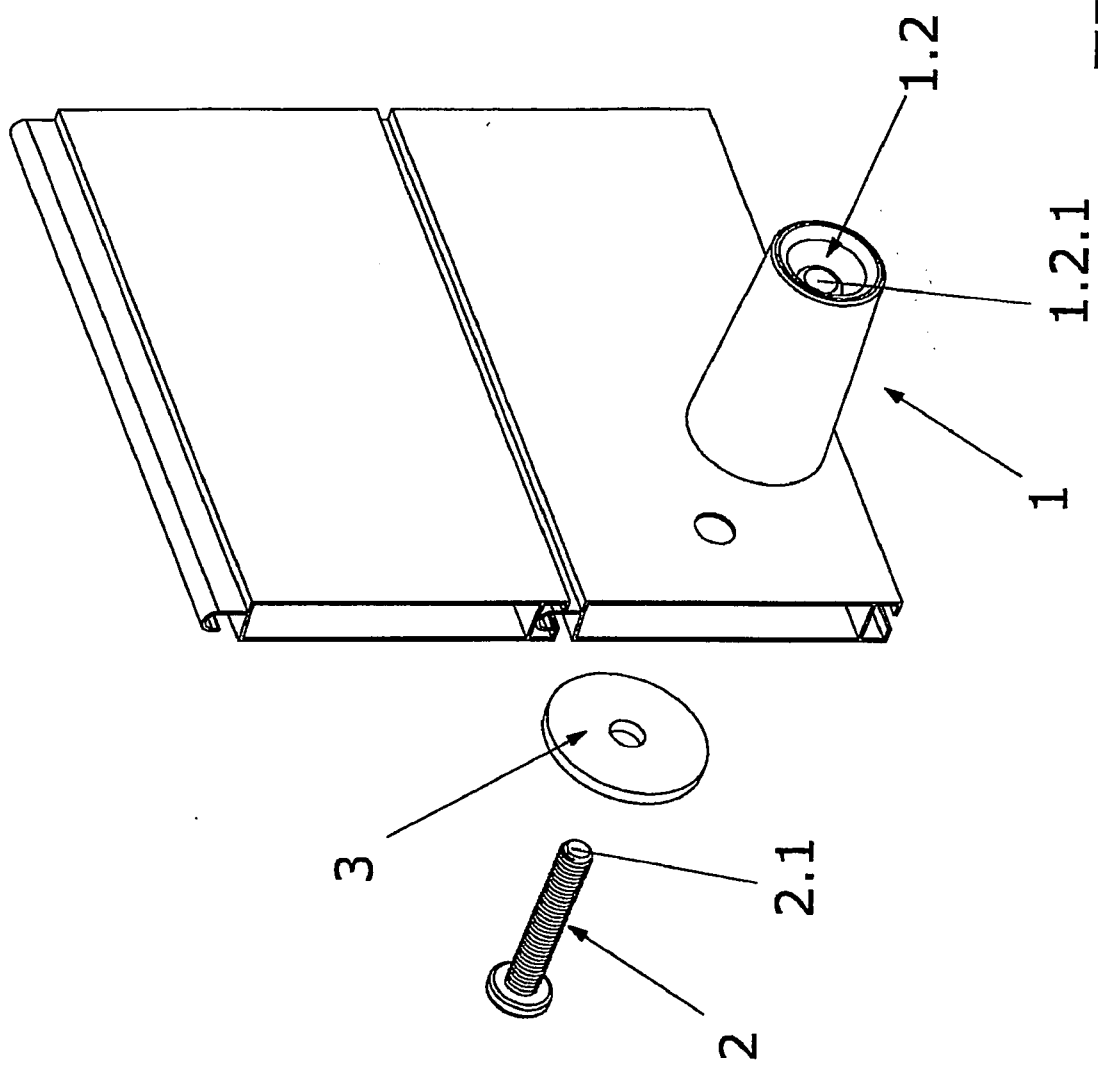
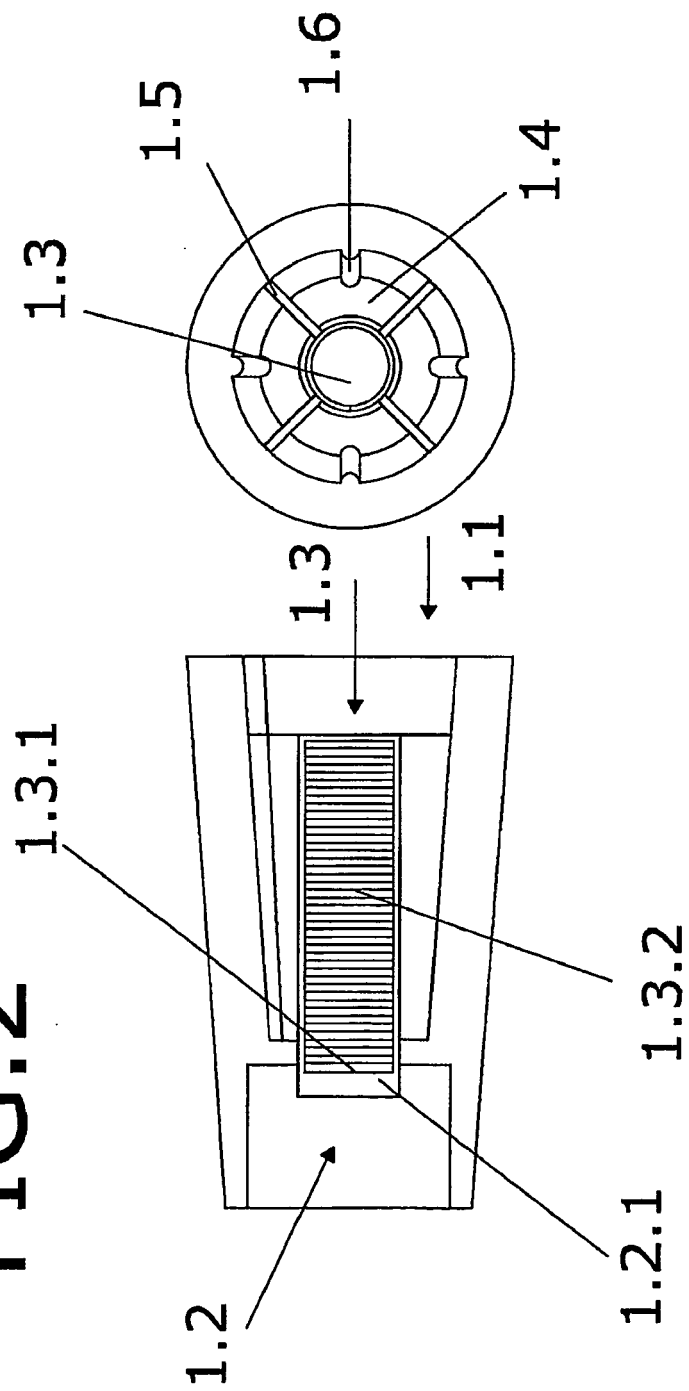


FIG.1

FIG. 2



INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2004/070076

A. CLASSIFICATION OF SUBJECT MATTER		
IPC ⁷ E06B9/42, 9/17, 9/80		
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)		
IPC ⁷ 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		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	ES 1048152 U (LA MECANICA IBENSE, S.A.) 16.06.2001, column 1, lines 15-50; figures.	1-3 4-6
X A	ES 1053454 U (VIUDA DE RAFAEL ESTEVAN GIMENEZ, S.L.) 16.04.2003, column 1, lines 15-55; column 2, line 55 - column 4, line 3; figures.	1-3 4,5
A	ES 1051869 U (JOSE JAVIER MIRA BERNABEU) 16.10.2002, column 1, lines 19-52; column 2, lines 15-35; figures.	1-6
A	ES 1037581 U (FORJAS DEL VINALOPO, S.L.) 16.03.1998, figures.	1-4
A	FR 2836511 A (MIDI MOULAGES PLAST) 29.08.2003, the whole document.	1-4
☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents: "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "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 "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 "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 such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search (03.12.2004)		Date of mailing of the international search report 16.12.2004
Name and mailing address of the ISA/ S.P.T.O.		Authorized officer
Facsimile No.		Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/ ES 2004/070076

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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ES1053454U U	16.04.2003	NONE	-----
ES 1051869 U	16.10.2002	ES 1051869 Y	16.06.2003
ES 1037581 U	16.03.1998	ES 1037581 Y	01.11.1998
FR2836511 A B	29.08.2003	NONE	-----