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Europäisches Patentamt
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Office européen des brevets



11 Publication number:

0 648 883 A1

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EUROPEAN PATENT APPLICATION
published in accordance with Art.
158(3) EPC

21 Application number: **94906932.2**

51 Int. Cl.⁶: **D06F 55/02**

22 Date of filing: **09.02.94**

86 International application number:
PCT/ES94/00012

87 International publication number:
WO 94/18370 (18.08.94 94/19)

30 Priority: **09.02.93 ES 9300317 U**

43 Date of publication of application:
19.04.95 Bulletin 95/16

84 Designated Contracting States:
**AT BE CH DE DK FR GB GR IE IT LI LU MC NL
PT SE**

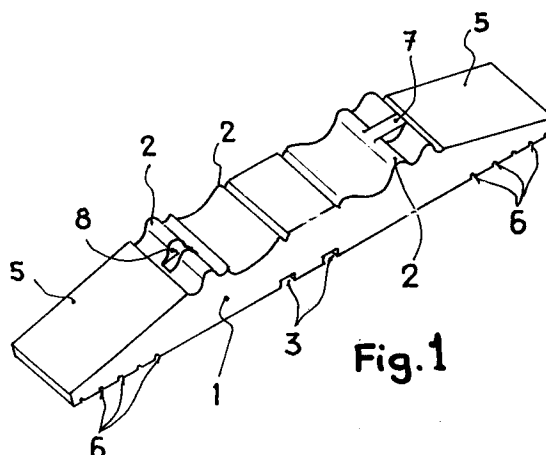
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54 **IMPROVED DOUBLE-MOUTH CLIP.**

57 The present invention relates to an improved double-mouth clip comprised of two symmetrical parts (1) having a large portion of their internal face provided with complementary teeth (2). Two extreme cradles (5) are formed from the extreme teeth and are manually actuated by the user for opening the jaw determined in the opposite area, said jaw being comprised between the imaginary transverse central line and the respective end tooth of the corresponding area. There is also provided a transversal wire ring or hoop (4) which maintains permanently closed the two jaws conformed between the two pairs of extreme cradles, each of the two component parts of the clip being provided, between the two last teeth of each of the extreme areas, with a rib (7) which is arranged transversally and centrally with respect to both ribs, while the last tooth of the opposite area is provided with a complementary groove (8).



EP 0 648 883 A1

The invention refers to an improved double-mouth clip, with the peculiarity that it clamps by both ends and presents a symmetrical structure, both longitudinally and cross-sectionally.

The applicant of such clip is also the owner of a utility model which claims a clip of the same type, i.e., formed by two symmetrical pieces with several cross-sectional teeth laid on at the central area, so that such teeth match each other as a consequence of the gap existing to allow such matching or insertion. Beginning from the last tooth, the pieces extend along their ends divergently by their inner face, i.e., in the form of a wedge. An outer slot is incorporated by each piece perpendicular to the teeth and corresponding to the central area, in order to insert either the ends of a wire spring or a strap, band or ring made of an elastomeric material, which forms the spring which keeps the clip closed by its both ends, so that when one of the ends is pressed, the other one opens, and vice versa.

The clip, although it incorporates a great number of advantages compared with the traditional ones, presents the problem that, after a sustained use of it, one of the pieces moves sideways with respect to the other one. In certain circumstances, both pieces may become disengaged and, while it is easy to place them again in position, it is very upsetting for the user. The clip claimed herein solves this problem satisfactorily in an efficient and simple manner. For this purpose, it has been foreseen that each piece incorporates between the last teeth of one of its ends a projection laid transversally to such teeth, while on the last tooth of the opposite end it has been foreseen a recess to house such projection so that when both pieces of the clip join, due to the opposite laying, the projections of one side will be housed inside the recesses of the other, and vice versa, thereby producing a cross-sectional interlocking of both pieces, preventing them to move sideways.

In an effort to better understand the main characteristics of the invention, a set of drawings is attached to this description forming an integral part of it and where, as an illustration and without limitation, the following has been represented:

Figure 1 shows a perspective view of one of the pieces of the clip which is the object of this invention. The other pieces are exactly symmetrical to the one represented.

Figure 2 shows a longitudinal section of the clip where the elastic connection between both pieces is achieved by means of a band made of an elastomeric material.

The numerical references corresponding to such figures correspond to the following parts and elements:

1.- Symmetrical pieces of the clip

- 2.- Cross-sectional teeth of the pieces (1)
- 3.- Outer cross-sectional slots of the pieces (1)
- 4.- Elastomeric band
- 5.- Wedges or end sections of the pieces (1)
- 6.- Grooves or low-reliefs of the pieces (1)
- 7.- Projections of the pieces (1)
- 8.- Recesses of the pieces (1)

As it can be seen in the figures, the clip which is the object of this invention is formed by two symmetrical elements (1) each one of which conventionally includes in its central area, and matching the inner face, a series of cross-sectional teeth (2), while the outer face incorporates one or more cross-sectional slots (3) to house and position the element that will keep both pieces joined each other. Such element may be a wire spring or a band made of elastomeric material (4) as it can be appreciated in Figure 2.

From the last tooth of both ends, the inner face of the element (1) is projected divergently, i.e., as a wedge (5) determining the clamping sections for the opening of the clip. Such sections incorporate on their outer face grooves or low-reliefs (6) intended to avoid slippages.

Each piece (1) incorporates between the last teeth of one end a projection (7) transversally laid on with respect to such teeth. Such projections (7) match a recess or housing (8) foreseen at the last tooth of the opposite end.

In accordance with the structure of the piece herein described, when both wedge ends (5) are pressed, the space between the teeth of such area will be clear, and the pressed end will serve as a balance pole. Therefore, the clip will be kept closed at the two central areas included between an imaginary cross-sectional intermediate line and the adjacent ends opposite to the wedges (5), so that when pressing one or the other end pair of clips (5), the opposite clamp will be opened, as indicated in this description.

The outer surface opposite to the toothed area (2) may be slightly concave with parallel grooves near the ends, thereby facilitating the clip gripping by the user.

Claims

1. Improved double-mouth clip, formed by two symmetrical elements with matching teeth in the major part of the inner face. The outermost teeth determine a pair of end wedges actuated by the user to open the clamp determined at the opposite end. The clamp is included within an imaginary cross-sectional central line and the last tooth of the relevant area; it also incorporates a wire spring or cross-sectional band which keeps both clamps formed by the end wedge pairs constantly closed. It is essentially

characterized in that each of both elements forming the clip itself incorporates between the last two teeth of one of the outmost areas a cross-sectional central projection, while the last tooth of the opposite area incorporates a matching recess or housing, so that when the projections and recesses of both clip elements are coupled, they determine a mean to prevent the sideways movement. of one element with respect to the other.

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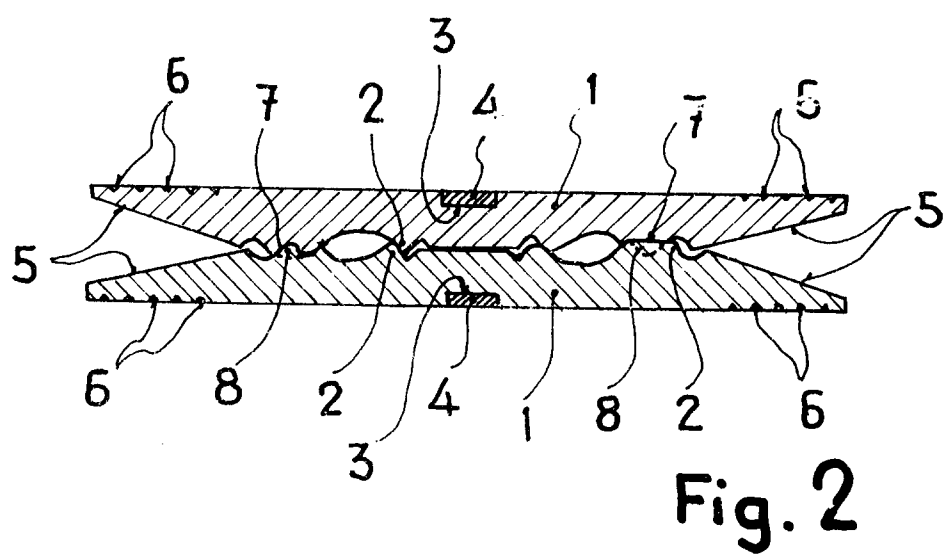
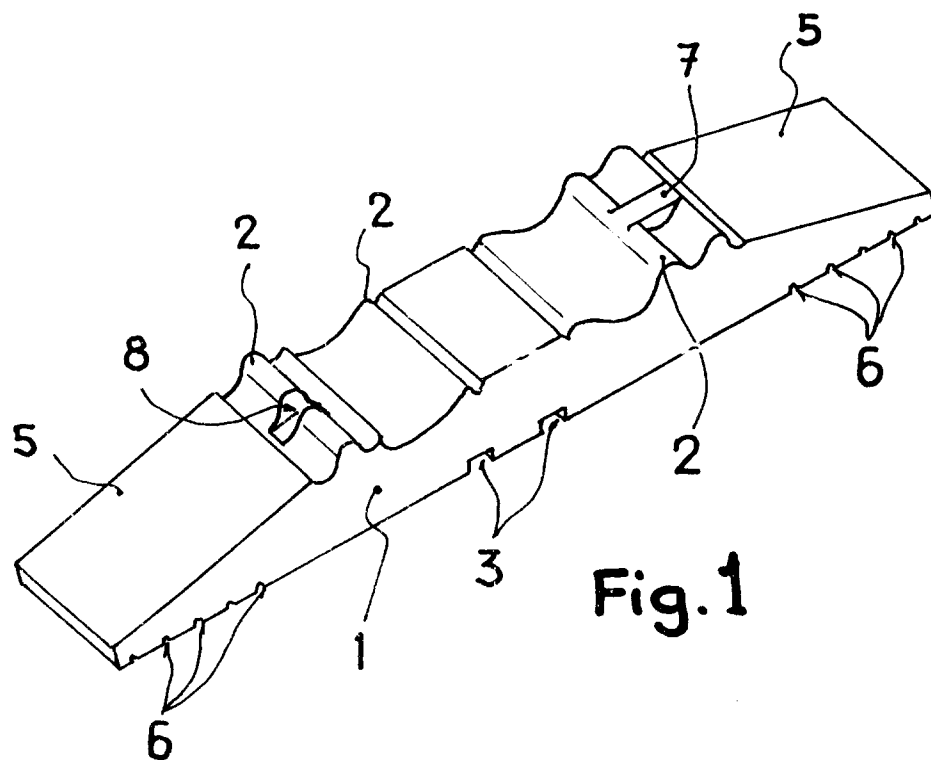
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 94/00012

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 D06F55/02

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 5 D06F

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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR,A,2 630 955 (J-C. BOULEY) 10 November 1989 see claims; figures ---	1
A	US,A,3 137 906 (R. ROB) 23 June 1964 see the whole document ---	1
A	FR,A,1 025 334 (A. WETZEL) 14 April 1953 see the whole document ---	1
A	US,A,2 615 221 (A.E. LINTON) 28 October 1952 see figures -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- "P" document published prior to the international filing date but later than the priority date claimed

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- "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.
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Date of the actual completion of the international search

18 May 1994

Date of mailing of the international search report

20. 06. 94

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/ES 94/00012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR-A-2630955	10-11-89	NONE	
US-A-3137906		NONE	
FR-A-1025334		CH-A- 268149 DE-C- 824335	
US-A-2615221		NONE	