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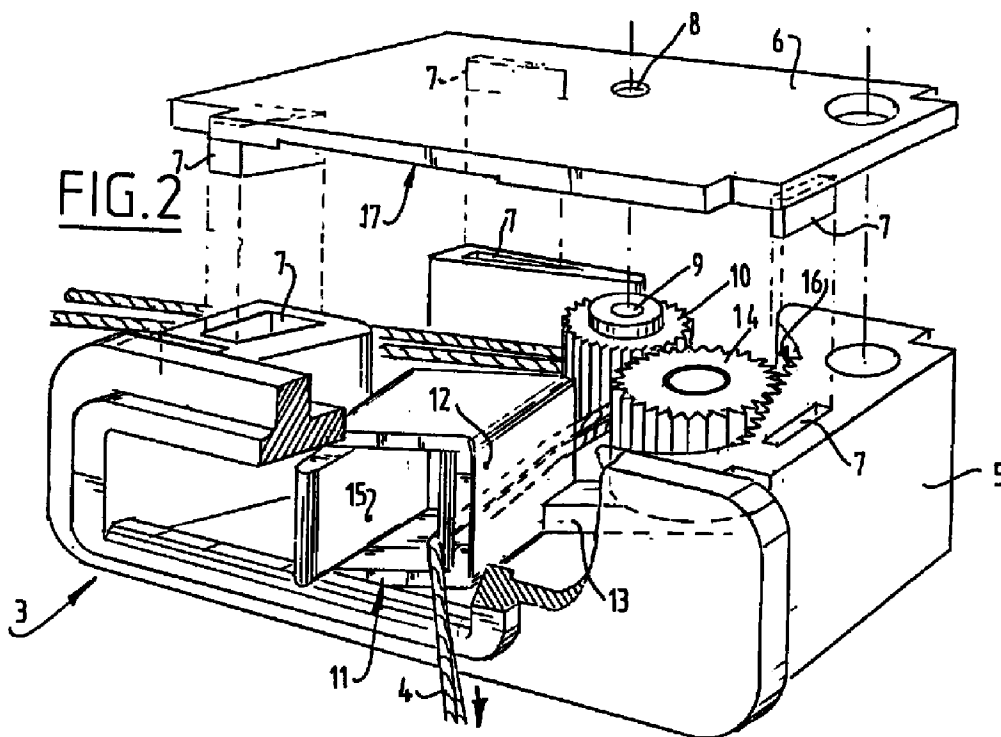
(54) **Cordlock**

(57) The invention relates to a cordlock (3) for a vertically displaceable window covering comprising:

- a locking body (11) provided with a clamping member (14), and
- a housing (5) accommodating the locking body and having a counter clamping member (10) forming

part thereof and co-acting with the clamping member, and an inlet and outlet for passage of the cord,

wherein the housing encloses the locking body such that it is displaceable between a clamping position and a release position, wherein the locking body is also provided with a guide (12) which is connected to the clamping member.



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Description

The invention relates to a cordlock for a vertically displaceable window covering as according to the preamble of claim 1.

Existing cordlock systems of the stated type have the drawback that when the lock is set into operation the window covering drops downward a determined distance before locking of the cord takes place. This property is undesirable since the locked situation of the window covering is hereby difficult to determine exactly. This dropping back of the window covering is particularly undesirable in the fully opened position because of the increase in the height of the lifted components.

The present invention has for its object to provide an improved cordlock of the above stated type with which dropping back of the window covering after activation of the lock is reduced to a minimum. The present invention has the further object of providing a cordlock which functions in operationally certain manner, is simple to install and replace and which can also be used in different positions.

The present invention provides for this purpose a cordlock for a vertically displaceable window covering comprising:

- a locking body provided with a clamping member, and
- a housing accommodating the locking body and having a counter clamping member forming part thereof and co-acting with the clamping member, and an inlet and outlet opening for passage of the cord,

wherein the housing encloses the locking body such that it is displaceable between a clamping position and a release position, characterized in that the locking body is also provided with a guide which is connected to the clamping member. Connecting the guide and the clamping member enables placing of the clamping member in a clamping position by moving the cord; the cord is hereby directly locked. In addition, the construction is exceptionally simple and comprises few moving parts; the construction is hereby relatively simple to assemble, inexpensive to manufacture and operationally reliable in use. Another advantage is that, when the window covering is pulled up without conscious release of the locking body, the lock releases automatically due to the clamping member rolling off over the counter clamping member. This prevents excessive wear to the cord. Finally, it is possible using this lock to block a cord without the window covering being therein displaced. This direct method of blocking enables accurate placing of the window covering in a desired position, which is particularly advantageous in a fully opened or pulled-up position.

A preferred embodiment of the cordlock is formed in that the clamping members comprise a profiled surface and/or a rough surface. These steps increase the clamping ability of the clamping member and the counter clamping member.

The inner surface of the housing preferably comprises a contact surface for co-action with the clamping member. The contact surface guides the clamping member to the counter clamping member such that the clamping action of the clamping member and the counter clamping member is thereby increased.

The contact surface preferably comprises a rough surface and/or has a surface provided with a profile. These steps result in optimum contact between the contact surface and the clamping member.

The inside of the housing preferably comprises a curved guide surface for co-action with the locking body. The freedom of movement of the locking body in the housing is partly determined by this curved surface. The curved surface herein provides a rotation of the locking body during translating thereof.

In a preferred embodiment the locking body comprises a projecting part. Due to the engagement of the cord on this projecting part a lever action is obtained whereby the position of the locking body can be changed relatively simply.

Yet another preferred embodiment is characterized in that the guide of the locking body is connected to the clamping member with interposing of an arm. The force exerted on the guide by the cord is now transferred to the clamping member via a lever. This step also enhances the clamping action of the cordlock.

The outside of the housing is preferably provided with channels for fixing the cordlock into two profile beams slidable relative to each other in lengthwise direction. This construction enables simple assembly and/or disassembly of the cordlock.

The present invention will be further elucidated with reference to the non-limitative embodiments shown in the following figures. Herein:

fig. 1 shows a perspective view of a vertically displaceable window covering provided with a cordlock according to the invention,

fig. 2 is a perspective, partly cut away view of a cordlock as applied in fig. 1,

fig. 3 and 4 show cut away top views of the cordlock as shown in fig. 1 and 2 respectively in release and clamping position,

fig. 5 is a perspective view of a cordlock in vertical position,

fig. 6 is a perspective view of the cordlock of fig. 5 in exploded situation, and

fig. 7 is a partly cut away view of a cordlock as shown in fig. 5 and 6 mounted in two profile beams.

Fig. 1 shows a window covering 1 which is vertically displaceable relative to a profile beam 2 in which is arranged a cordlock 3 according to the invention. (Partial) opening and closing of window covering 1 takes place by manipulating a cord 4.

Fig. 2 shows a cordlock 3 in partly cut-away view. The outside of cordlock 3 is formed by a housing body 5 and a housing cover 6. These can be mutually fixed by means of form-fitting elements 7. In situations where cordlock 3 will be loaded to an extreme extent it is possible to secure the cover 6 relative to body 5 by inserting a bolt (not shown) through openings 8, 9 in respectively cover 6 and body 5. A profiled counter clamping member 10 is connected to housing body 5. A locking body 11 lies unattached in the housing body 5. This locking body 11 comprises a guide 12 to which is fixed an arm 13, to which a clamping member 14 is fixed at a distance from the guide 12. The operation of cordlock 3 will be described with reference to the following figures.

Fig. 3 shows the cordlock 3 in release position. The locking body 11 freely movable in housing 5 is urged to the left because the cord 4 lies against a projecting part 15 of guide 12. The clamping member 14 fixedly connected to guide 12 is therefore also urged to the left, whereby it lies clear of a profiled contact surface 16. The clamping member 14 is also situated some distance from counter clamping member 10 so that the cord 4 can be moved therebetween without being impeded by the clamping member. In fig. 4 the cord is moved to the right relative to the position of the cord 4 shown in fig. 3. Cord 4 now lies otherwise against the guide 12 of locking body 11, whereby it is shifted relative to the position shown in fig. 3. The locking body 11 is translated some distance to the right but also rotated due to the presence of a curved guide surface 17 which forms part of the housing. The clamping member 14 thereby comes to lie against contact surface 16. Partly due to a corresponding profile on clamping member 14 and contact surface 16 a clamping force is exerted on cord 4 whereby it is clamped between clamping member 14 and counter clamping member 10. The latter is also provided with a profiled surface; this increases the clamping ability of cordlock 3.

Fig. 5 shows the cordlock 3 in a vertical position and the arrangement of the cord 4 in cordlock 3 will be described with reference to this figure. Using for instance a pin, the cord 4 is first inserted through a first and second opening 18, 19 in the side walls of the housing body 5. The cord 4 is then placed through the second opening 19 in the wall of the housing body 5, then carried between the counter clamping member 10 and the clamping member 14 and placed through the guide 12 and eventually leaves the housing body 5 at an actuating opening 20. In short, this means that cord 4 can be arranged by means of two feeding movements.

Fig. 6 shows the above described components in exploded view, wherein the counter clamping member 10 can be fixed to housing body 5 by means of a shaft with internal screw thread 21. The figure also shows a bolt 22 which can be placed through the cover 6 and screwed into shaft 21. By means of this construction the counter clamping member can be fixed to housing body 5, but the cover 6 can also be secured relative to housing body 5.

Finally, fig. 7 shows in cut away view two profile beams 23, 24 which are slidable relative to each other and both provided with an insertion aperture (here on the underside) for receiving the cordlock 3. Fixing of the cordlock 3 in the profile beams 23, 24 takes place by sliding the profile beams 23, 24 relative to each other such that edges 25, 26 of the insertion apertures of profile beams 23, 24 engage in channels 27, 28 specially arranged for this purpose in the outside of housing body 5. The head end of profile beams 23, 24 is subsequently finished using a closing element 29.

Claims

1. Cordlock for a vertically displaceable window covering comprising:

- a locking body provided with a clamping member, and
- a housing accommodating the locking body and having a counter clamping member forming part thereof and co-acting with the clamping member, and an inlet and outlet for passage of the cord,

wherein the housing encloses the locking body such that it is displaceable between a clamping position and a release position, **characterized in that** the locking body is also provided with a guide which is connected to the clamping member.

2. Cordlock as claimed in claim 1, **characterized in that** the clamping member and counter clamping member are formed by a substantially cylindrical body.

3. Cordlock as claimed in claim 1 or 2, **characterized in that** the clamping members comprise a profiled surface.

4. Cordlock as claimed in any of the foregoing claims, **characterized in that** the clamping member and the counter clamping member comprise a rough surface.

5. Cordlock as claimed in any of the foregoing claims, **characterized in that** the inner surface of the housing comprises a contact surface for co-action with the clamping member.

6. Cordlock as claimed in claim 5, **characterized in that** the contact surface is profiled.

7. Cordlock as claimed in claim 5, **characterized in that** the contact surface comprises a rough surface.

5 8. Cordlock as claimed in any of the foregoing claims, **characterized in that** the inside of the housing comprises a curved guide surface for co-action with the locking body.

9. Cordlock as claimed in any of the foregoing claims, **characterized in that** the locking body is provided with a projecting part.

10 10. Cordlock as claimed in any of the foregoing claims, **characterized in that** the guide of the locking body is connected to the clamping member with interposing of an arm.

15 11. Cordlock as claimed in any of the foregoing claims, **characterized in that** the outside of the housing is provided with channels for fixing the cordlock into two profile beams slidable relative to each other in lengthwise direction.

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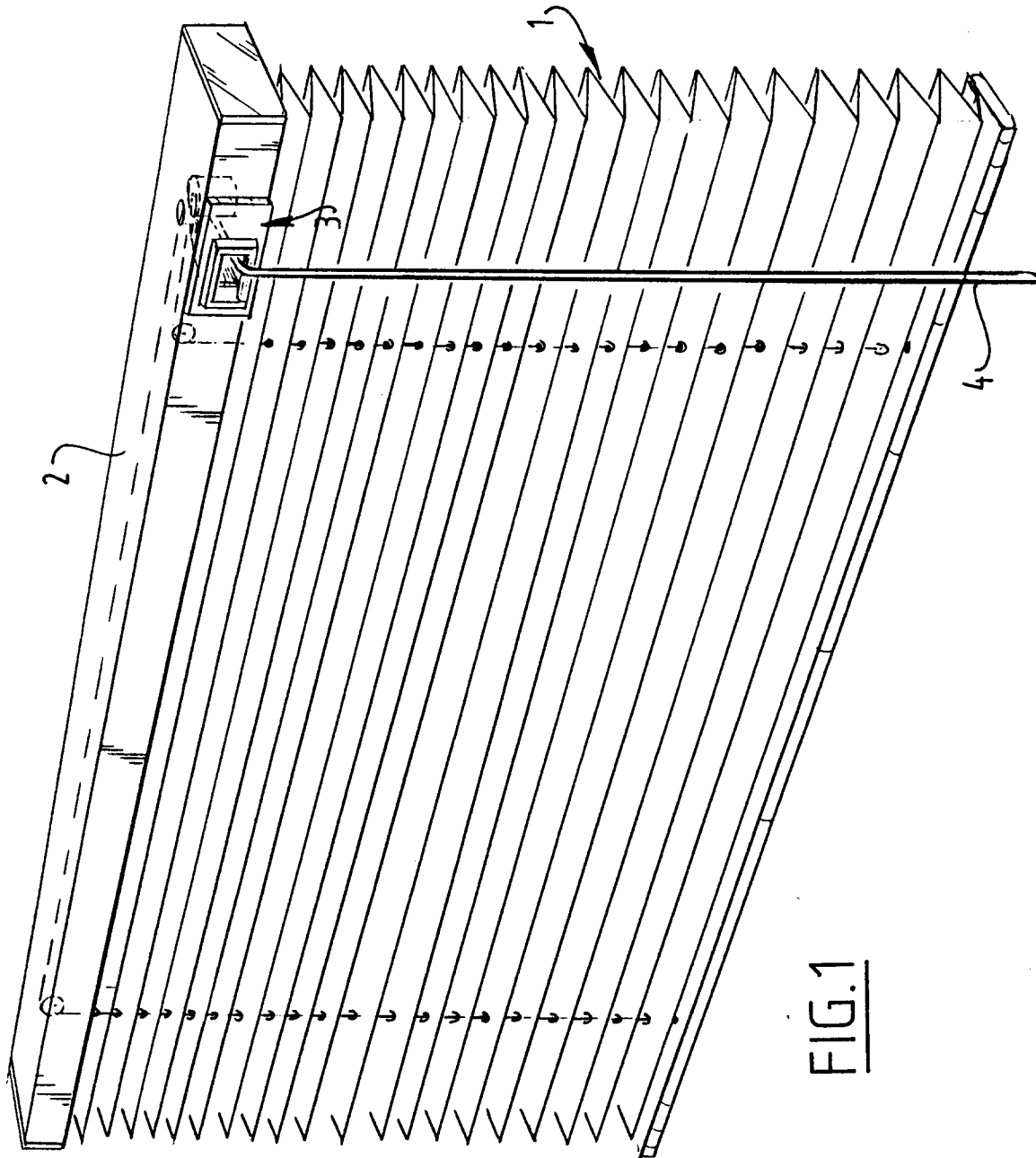
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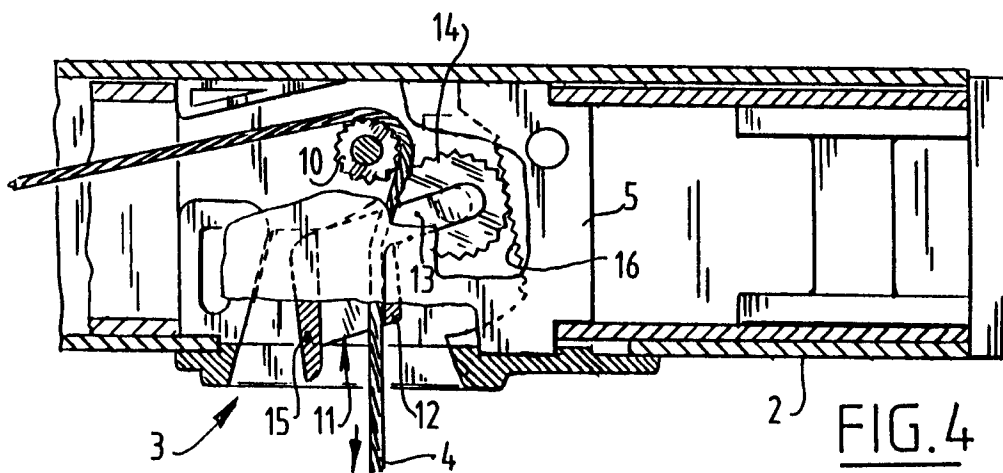
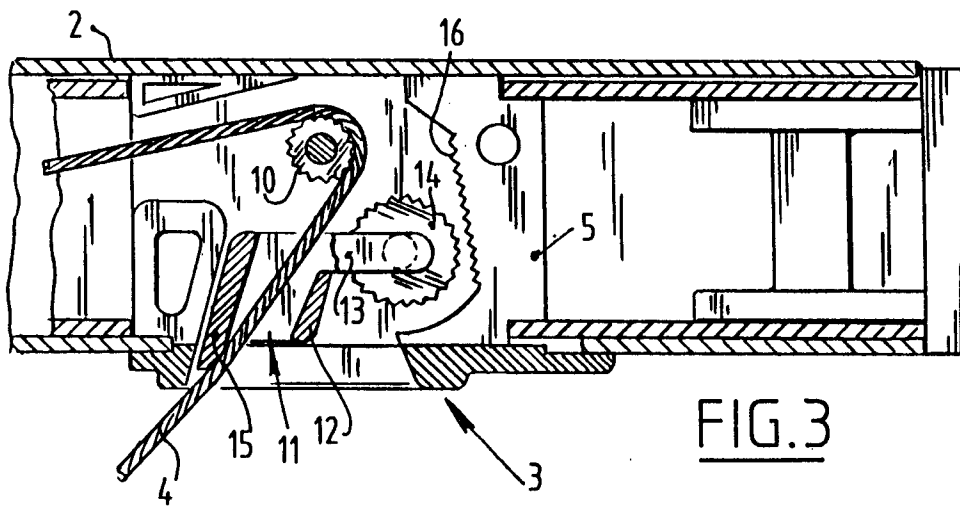
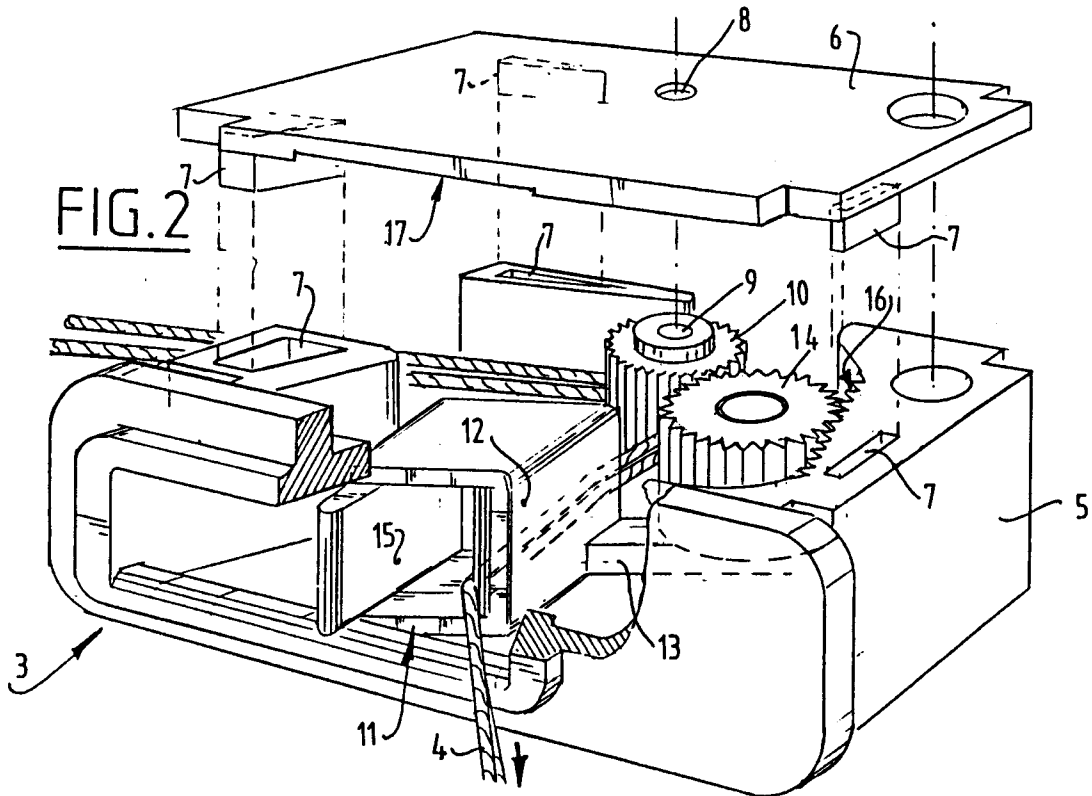
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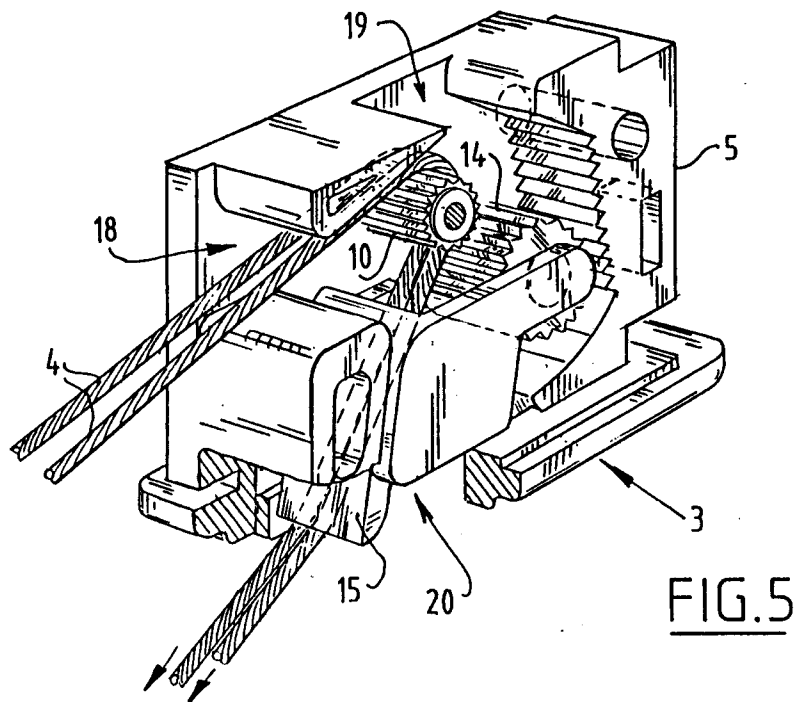
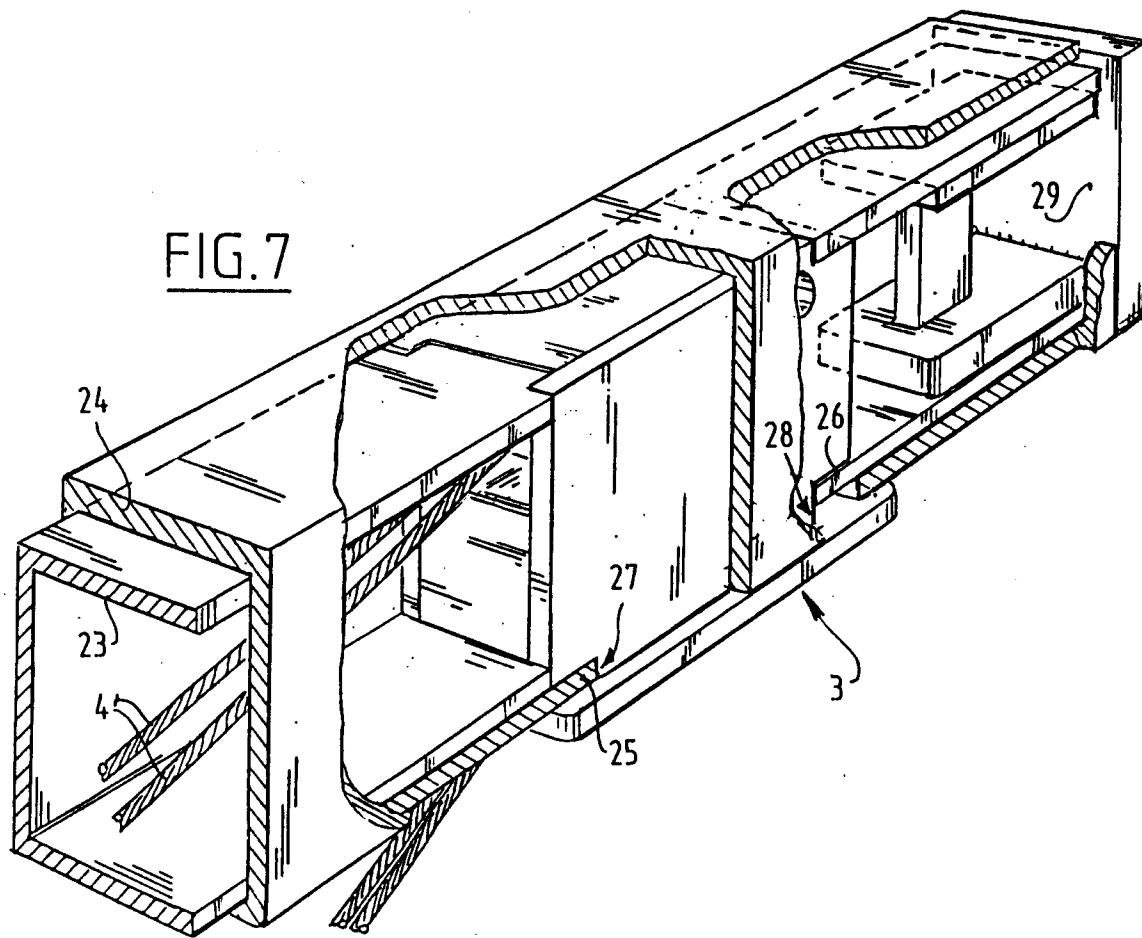
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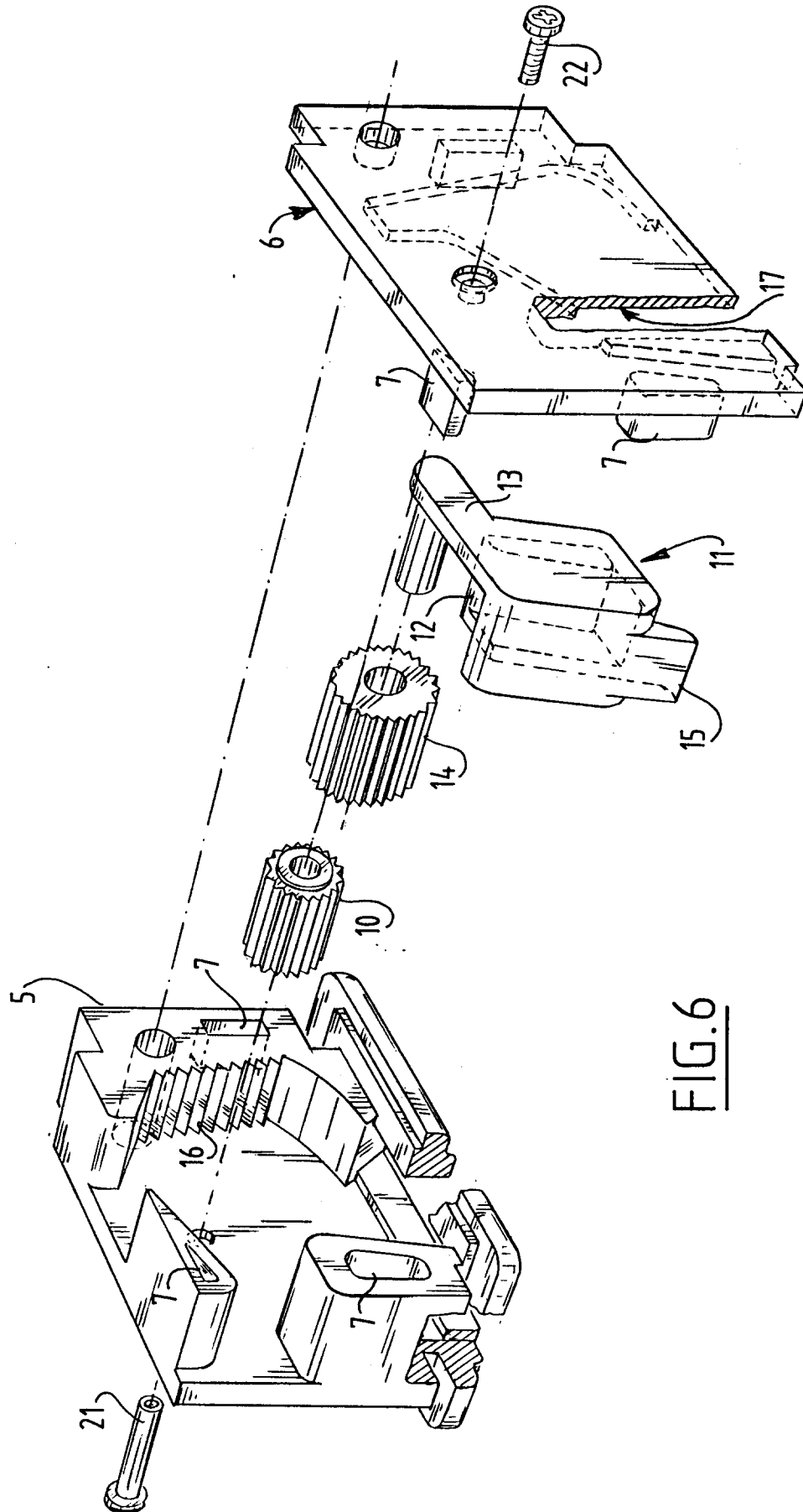


FIG.6



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EUROPEAN SEARCH REPORT

Application Number
EP 95 20 1660

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	US-A-2 674 350 (MOYER) 6 April 1954	1-3,5,6,9,10	E06B9/324
Y	* the whole document * ---	4,7,11	
Y	US-A-4 947 921 (HUANG CHUN-CHENG) 14 August 1990 * column 2, line 34 - line 38; figures 2,4 *	4,7	
Y	US-A-4 567 930 (FISCHER) 4 February 1986 * column 3, line 46 - line 57; figure 5 *	11	
A	US-A-4 722 383 (KROSS) 2 February 1988 * the whole document *	1-3,5,9,10	
A	DE-A-30 46 002 (BARDEHLE) 15 July 1982 ---		
A	GB-A-1 545 111 (COLLIANDER) 2 May 1979 ---		
A	US-A-4 945 970 (MAROCCO) 7 August 1990 -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			E06B A47H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 4 September 1995	Examiner Fordham, A
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			

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