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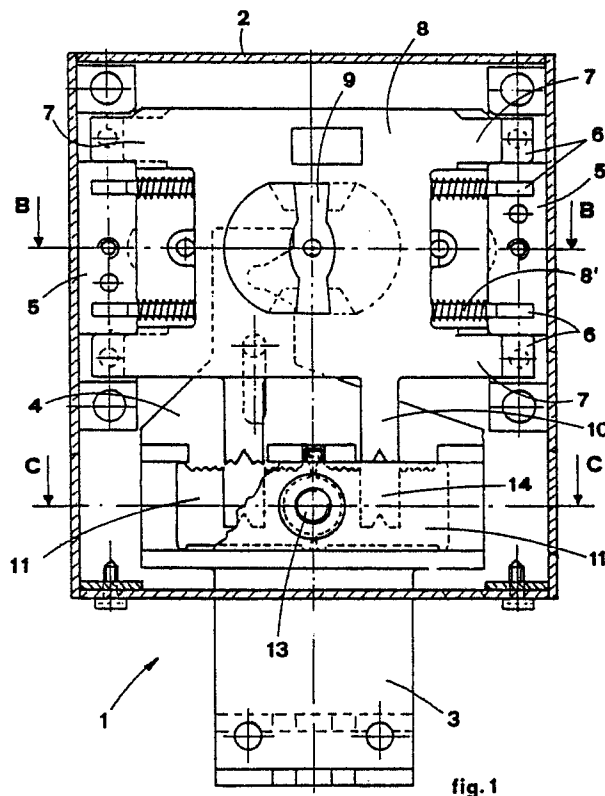
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D-7300 Esslingen(DE)(54) **Safety lock for an armoured door or the like, the lock being provided with an opening and/or closing device.**

(57) The invention refers to a safety lock (1) comprehending a series of devices for diversifying the arrangement of the opening elements of a latch (3), in order that the lock may be adapted for keys of same type but presenting different toothed profiles. The lock in question comprehends plates (8) which mate with the counter profiles of further adjustable plates (11), disposed according to the profile of the key in question.

The regulation is done by simply unclamping the plates (11) showing the counterprofiles, then introducing the different key which arranges the plates (11) according to a new map.



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A SAFETY LOCK FOR AN ARMoured DOOR OR THE LIKE, THIS LOCK BEING PROVIDED WITH OPENING AND/OR CLOSING DEVICES THE MAP OF WHICH IS CHANGEABLE

The present invention relates to a safety lock with a changeable map, in particular for an armoured door. It is known that in this field, the art provides devices with changeable maps for opening and/or closing armoured doors or the like. However, these devices present disadvantages or defects either in their assembling or in their functioning. In fact, in order that the use of a device of this kind is made sure, very frequent setting-ups and adjustments of the same are necessary. Another inconvenience consists in the very rapid wear of the stressed elements of the devices, and owing to this wear the lock is not very reliable.

The present invention solves the problems presented by the known devices and other problems, as well, and is built in a very simple, highly reliable manner. The invention is characterized in particular in that for consisting of a box in the inner part of which there are seats for housing little plates shaped in a particular manner, these plates sliding in said seats; the plates show projections and recesses alternately which mate with counter profiles of corresponding little plates which are adjustable and supported by means of a sliding body acting as a latch; moreover spring elements, as well as locking, unclamping elements are provided for permitting the opening and/or closing map to be diversified so that it is possible to insert keys showing whatever profiles in the lock.

The invention will be better understood from the following specifications, set forth as an example not restricting the invention, as well as from the accompanying drawings in which:

-figure 1 shows a schematical plan of the invention as a whole;

-figure 2 shows a schematical back view of the invention as a whole;

-figure 3 shows a schematical view of the lock according to section A-A of figure 2;

-figure 4 shows a sectional view according to arrows B-B of figure 1; and

-figure 5 shows a schematical sectional view according to arrows C-C of figure 1.

With reference to the accompanying drawings, number 1 denotes a safety lock as a whole. The safety lock consists essentially of a box 2 provided with a latch 3. The latch 3 may slide in an inner seat 4 of the box 2, as described below. Slide blocks 5 are mounted on side walls of the inner part of the box 2. The slide blocks 5 are provided with recessed seats 6 in which extensions 7 of plates 8 particularly shaped may slide. The plates 8 are placed one upon another in order to form a unit in which a middle seat 9 is obtained. The

middle seat 9 acts as a lock. Moreover, the plates 8 show further side extensions 10 and are arranged in such a way that the extension 10 of each plate is alternately staggered with respect to the extensions of the adjacent plates. The plates 8 may move transversally in two opposed directions alternately and move in contrast with a spring 8'.

When the opening key is inserted in the lock, the plates 8 open, so that the extensions 10 insert in corresponding seats 14 of a further plate unit consisting of plates 11. The plates 11 move according to the movement of the latch 3 and are mounted near the seat 4.

As it appears in the figure 5, the plates 11 are kept in position by means of a horizontal small bar 12 which is in contrast with a bolting 13.

The plates 11, which are provided with the seats 14, are arranged in order to permit the latch 3 to be pulled back when inserting a key with a profile corresponding to a predetermined map. Thus, the extensions 10 may be inserted in the corresponding seats 14. In this case, the plates 11 insert perfectly in the plates 8, the extensions 10 of which show a single vee groove and couple with corresponding angles of seats 14.

When the map of the plates 11 must be changed because the key to be inserted is different, it is sufficient to loosen a pinion 15 which is provided with a stroke end 16 and is joined to the bolting 13.

Then, the plates may be arranged in a different manner according to the profile of the new key to be inserted in the lock.

Claims

1. A safety lock for an armoured door or the like, this lock being provided with opening and/or closing devices the map of which is changeable, characterized in particular in that for consisting of a box in the inner part of which there are seats for housing little plates shaped in a particular manner, these plates sliding in said seats; the plates show projections and recesses alternately which mate with counter profiles of corresponding little plates which are adjustable and supported by means of a sliding body acting as a latch; moreover spring elements, as well as locking, unclamping elements are provided for permitting the opening and/or closing map to be diversified so that it is possible to insert keys showing whatever profiles in the lock.

2. A safety lock as claimed in claim 1, characterized in that the adjustable plates (11) show cuneiform parts which insert in counter parts of the extensions (10) of the plates (8).

3. A safety lock as claimed in previous claims, characterized in that the plates (11) are blocked by means of a horizontal bar (12) which acts in contrast with the bolting (13). 5

4. A safety lock as claimed in claim 3, characterized in that the bar (12) is connected through a bolting (13) to a pinion (15) which may rotate in an essentially circular seat provided with a groove cooperating with a stroke end (16) of the pinion itself. 10

5. A safety lock as in previous claims, characterized in that these plates (8) show alignment extensions in contrast with a spring. 15

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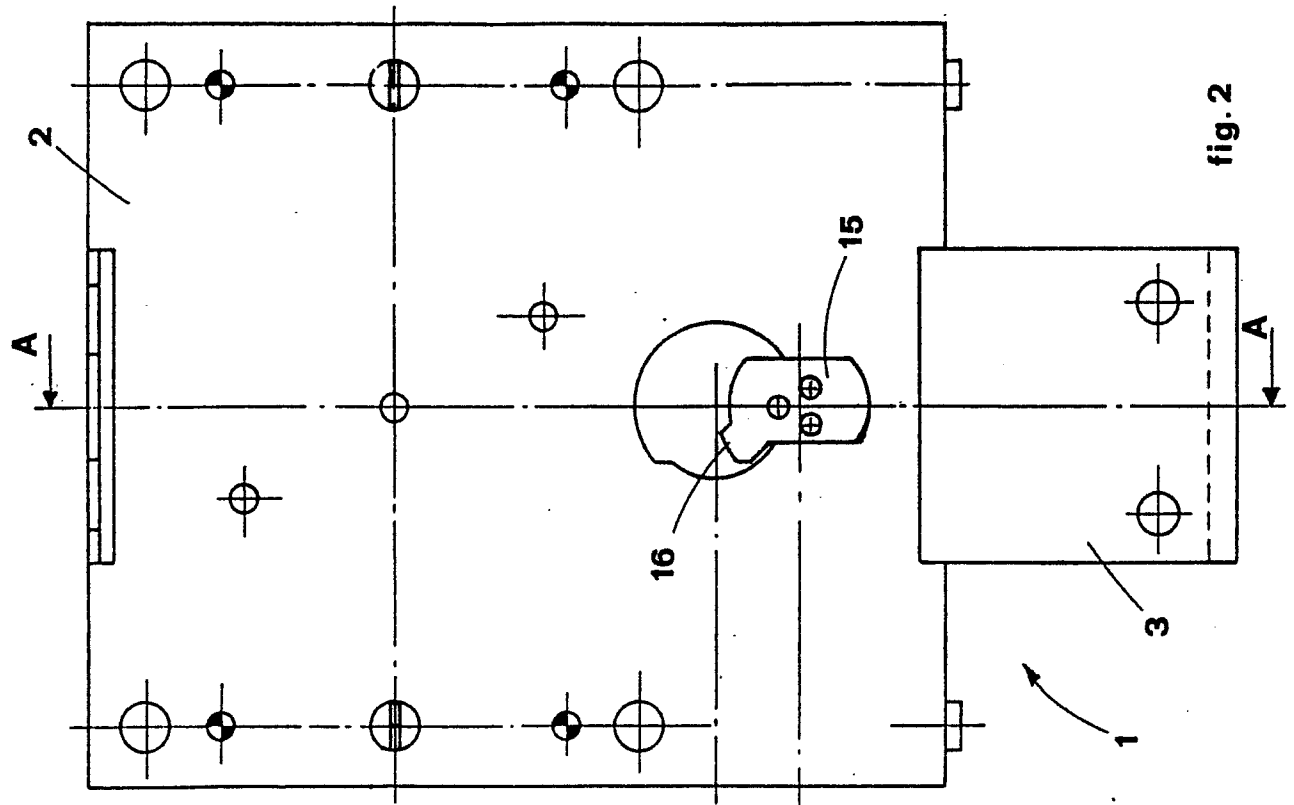


fig. 2

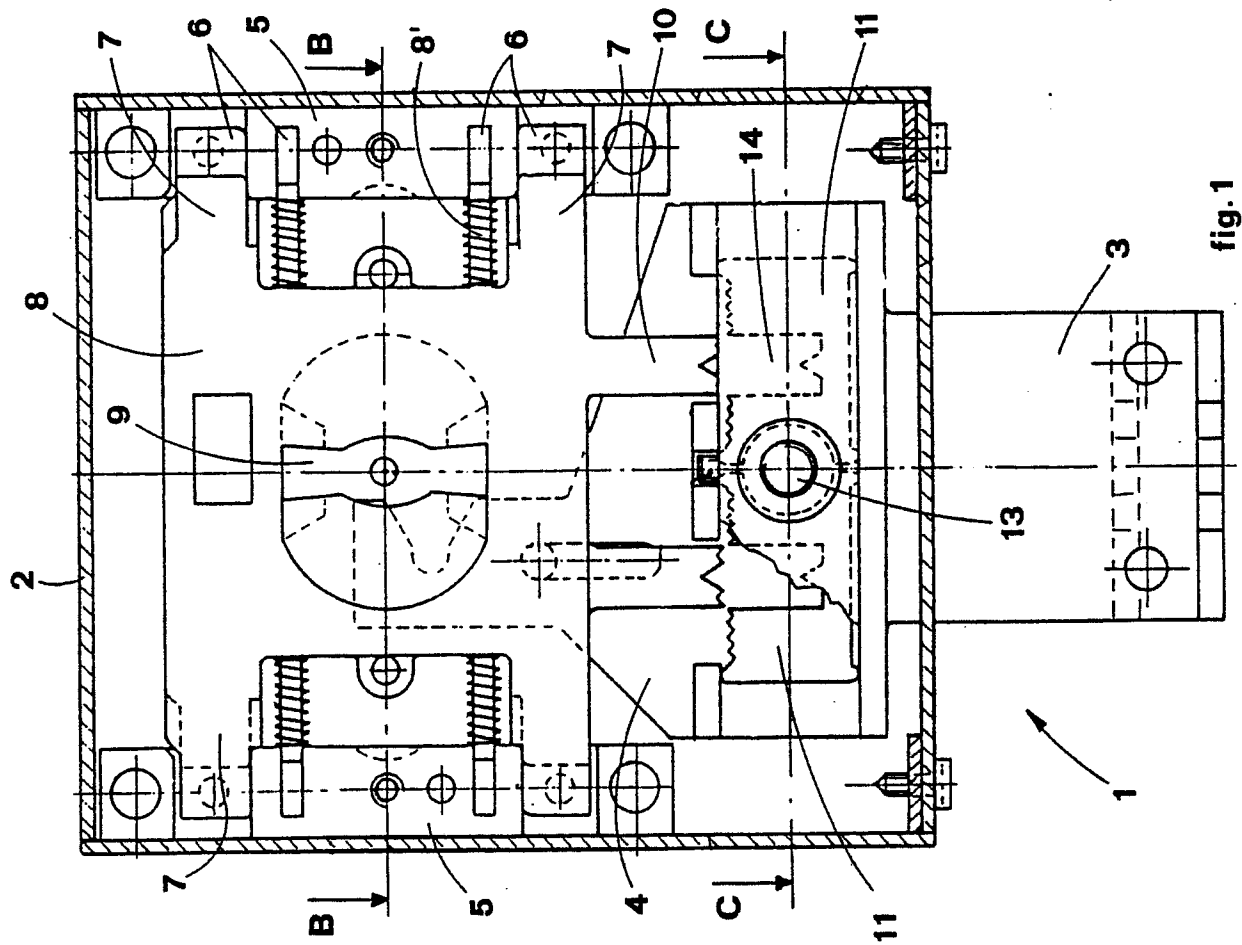


fig. 1

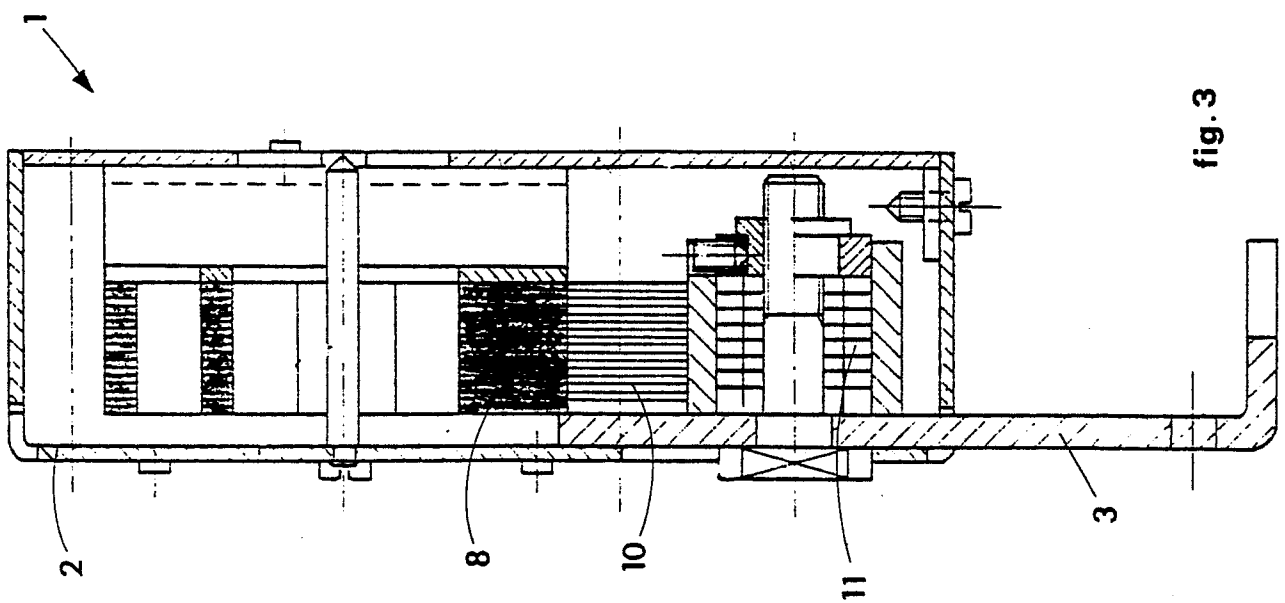


fig. 3

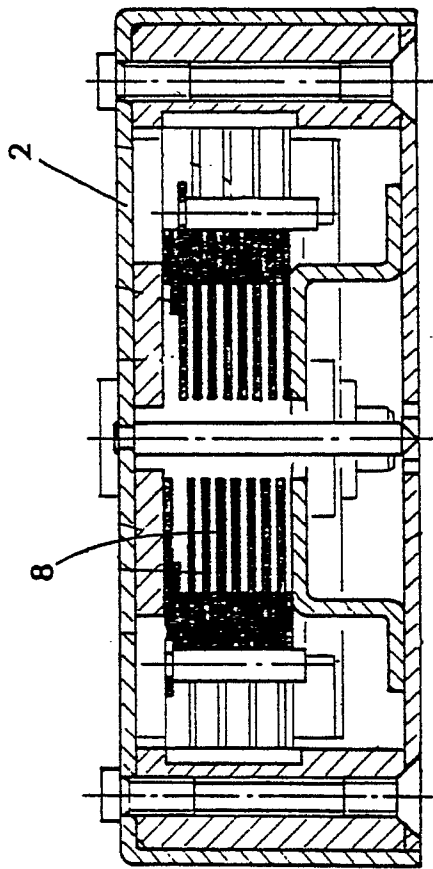


fig. 4

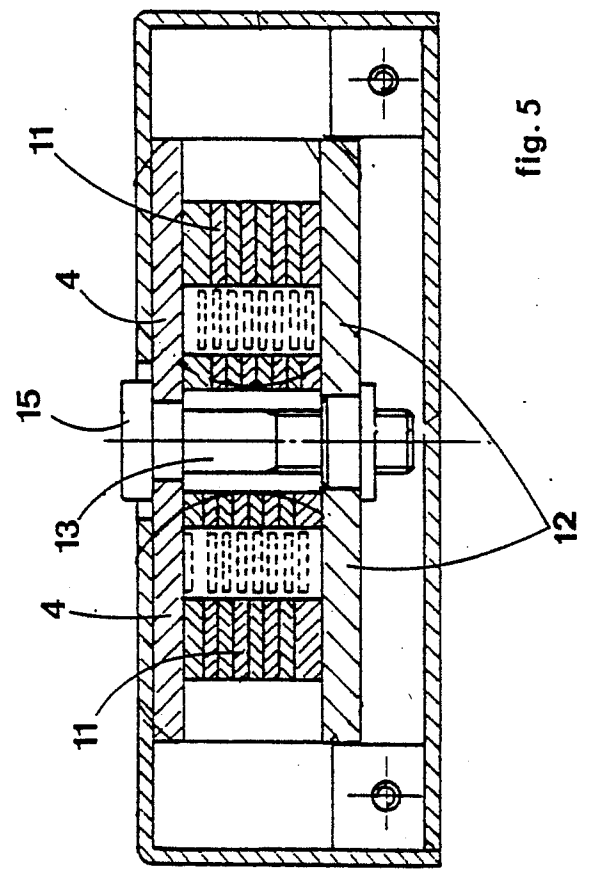


fig. 5



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DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	CH - A5 - 653 082 (STEINBACH & VOLLMANN GMBH & CO) * Claims 1-5; fig. 1-5 * --	1,2,3,5
A	AT - A - 329 401 (LITTOIN NOEL) * Fig. 1-7; pages 2-3 * ----	1,3,5
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner
VIENNA	19-01-1988	CZASTKA
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		

CLASSIFICATION OF THE APPLICATION (Int. Cl.4)

E 05 B 35/04

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

E 05 B