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54 A guide device for the lock of a crank-locked firearm.

57 A guide device for the lock of a crank-locked firearm, comprising on the one hand a guide surface (5) made on the surface of a cylindrical lock (2) and on the other hand a corresponding guide piece (3) in the frame (1) of the lock. With the purpose of facilitating and improving the guiding of the lock, the guide piece is a roller (3) mounted by a bearing on a shaft transverse to the lock, the shape of the circumference of the roller corresponding to the axial guide surface (5) machined on the surface of the lock (2). In the simplest case the roller (3) can be cylindrical, in which case the guide surface (5) of the lock is respectively a flat segment surface.

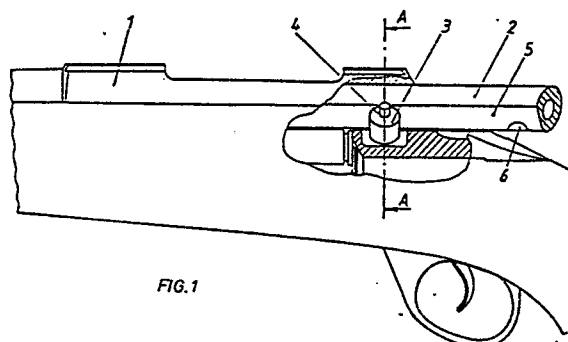


FIG. 1

A guide device for the lock of a crank-locked firearm

The present invention relates to a guide device for the lock of a crank-locked firearm, wherein a guide surface has been machined on the surface of the lock, the main shape of which is cylindrical, the guiding of the lock being effected by the guide surface in conjunction with a guide piece in the frame of the lock.

For the operation of the lock of such a firearm, especially for the joint operation of the locking shoulders in the fore part of the lock and the corresponding depressions in the frame, it is important that during its axial movement the mainly cylindrical lock remains in the same position until the lock, only at the end of the movement, is turned by means of a crank extending to its side.

In known solutions the guiding of the lock has been arranged by machining on the lock surface an axial groove in which a protrusion in the lock frame fits. This protrusion can also be, for example, a spring-loaded lever. It is essential, however, that the sensitivity of the movement of the lock has until now been based on the properties of the materials of the longitudinal slide surfaces and on the quality of the surfaces. Poor surface quality results in a non-smooth movement of the lock, and a good surface is expensive to produce. In addition, in lock devices which have locking shoulders made on the inner surface of the exterior surface of the lock frame, it is always necessary to seek the correct position for the lock by rotating the lock before the lock can be pressed in place after being detached.

The object of the present invention is to eliminate these problems and to provide improved sensitivity of the lock

movement, at the same time facilitating the seeking of the correct initial position for the lock.

5 In order to achieve this, the guide device according to the invention is characterized in that the guide piece in the frame of the lock comprises a roller attached by bearings on a shaft transverse to the axial direction of the lock, the circumferential shape of the roller corresponding to the guide surface machined on the surface of the lock.

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According to one preferred embodiment, the roller has a cylindrical shape and the guide surface in the lock is respectively a flat segment surface. The machining of such a surface, as well as the manufacture of the roller, is very
15 inexpensive, and the movement of the lock is very smooth.

The invention is described below in greater detail in the form of examples and with reference to the accompanying drawings, in which

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Figure 1 depicts diagrammatically, and partly in section, a firearm the lock of which is provided with a guide device according to the invention, and

25 Figures 2a, b and c depict alternative shapes of the guide roller.

In the drawing, the frame of the lock of the firearm is indicated by reference numeral 1. The lock 2 of the firearm moves axially in the frame. In the fore part of the lock
30 there are locking shoulders working in conjunction with the frame; the shoulders are not shown in the drawing. Likewise, the rear part of the lock is not shown.

In accordance with the invention, to guide the lock 2 there
35 is in the frame 1 a roller 3, the shaft of which is

transverse in relation to the lock 2. The roller 3 rests against a corresponding guide surface 5 in the lock 2; in Figure 1 it is a flat segment surface. At the edge of the surface 5 there is, furthermore, a notch 6, which allows the lock 2 to be turned without being hindered by the roller 3 when the lock has been pushed in so far that the notch 6 is in alignment with the roller 3.

Figure 2 shows a few different shapes of the guiding roller. In Figure 2a the outer surface of the roller 3 is somewhat convex, and the guide surface in the lock 2 is respectively concave. Figure 2b corresponds to Figure 1, the guide roller 3 being cylindrical. Figure 2c depicts a guide roller 3 which is otherwise cylindrical but is provided in the middle with a ring-like protrusion, there being a corresponding groove in the guide surface of the lock.

The shaft 4 of the roller can be placed obliquely on the side of the lock 2 below the center line, as shown in the drawing. In the figures, the bearing of the roller 3 is a slide bearing, but it is clear that it can also be implemented as a roller bearing. It is also clear that it is possible to consider other embodiments of the guide roller, deviating from the figure, without deviating from the scope of the invention.

Claims

1. A guide device for the lock of a crank-locked firearm, wherein a guide surface (5) has been machined on the surface of the lock (2), cylindrical in shape, the guide surface
5 together with a guide piece (3) in the frame (1) of the lock effecting the guiding of the lock, characterized in that the guide piece in the frame (1) of the lock comprises a roller (3) attached by a bearing on a shaft (4) transverse in relation to the axial direction of the lock (2),
10 the shape of the circumference of the roller corresponding to the guide surface machined on the surface of the lock.
2. A guide device according to Claim 1, characterized in that the roller (3) is cylindrical and the
15 guide surface (5) in the lock (2) is respectively a flat segment surface.
3. A guide device according to Claim 1, characterized in that the circumference of the roller (3) is
20 convex in shape and the guide surface of the lock (2) is an axial concave surface.
4. A guide device according to Claim 1, characterized in that the roller (3) is substantially
25 cylindrical in shape, but has on its circumference a ring-like protrusion which fits in a corresponding groove in the guide surface of the lock (2).
5. A guide device according to any of Claims 1-4,
30 characterized in that the shaft (4) of the roller (3), as seen in the longitudinal direction of the firearm, is located obliquely below the horizontal center line of the lock (2) and to the side from the vertical center line of the lock.

6. A guide device according to any of the above claims, characterized in that the roller (3) has been mounted on its shaft (4) by means of a slide bearing.

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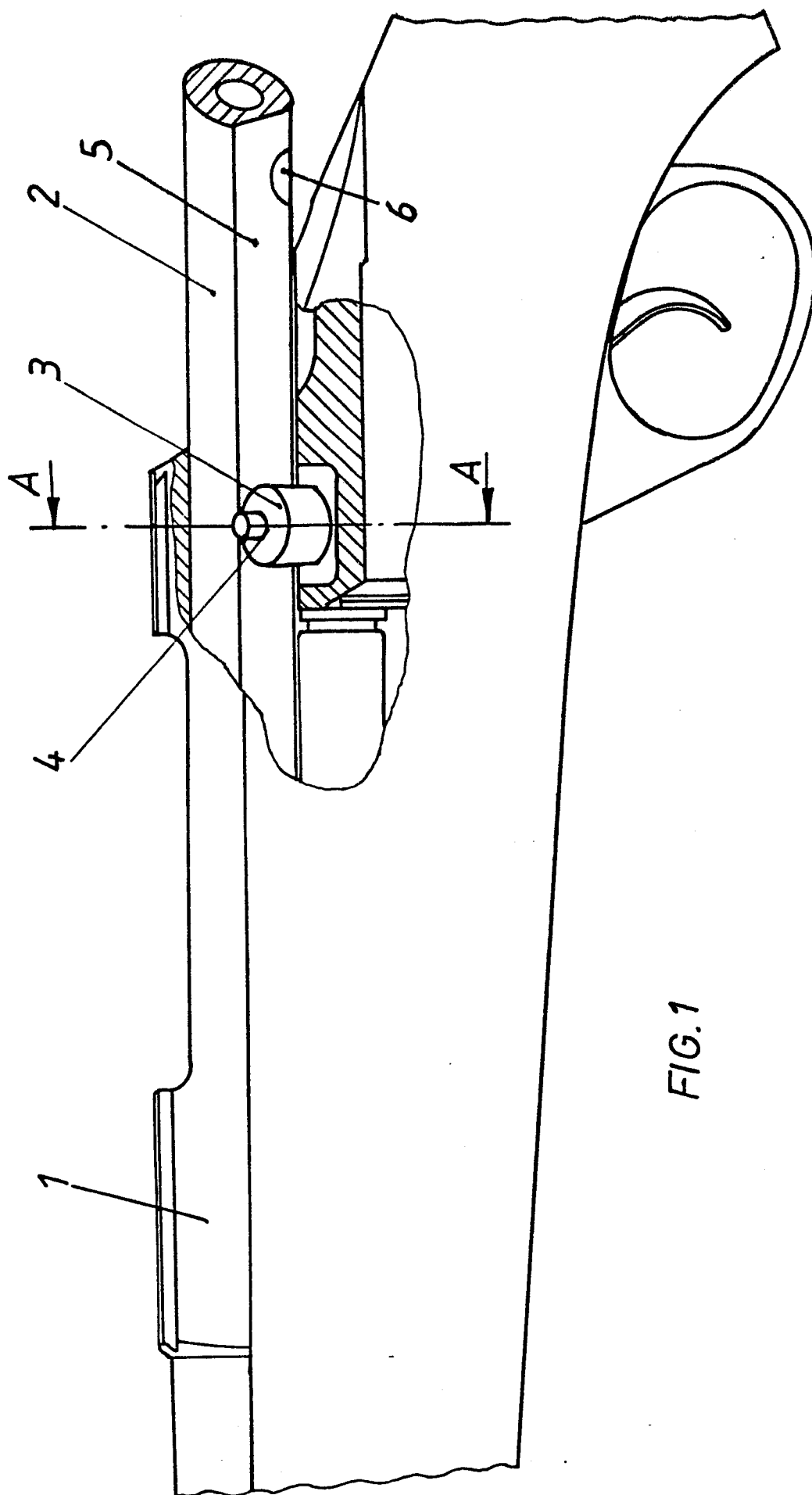


FIG. 1

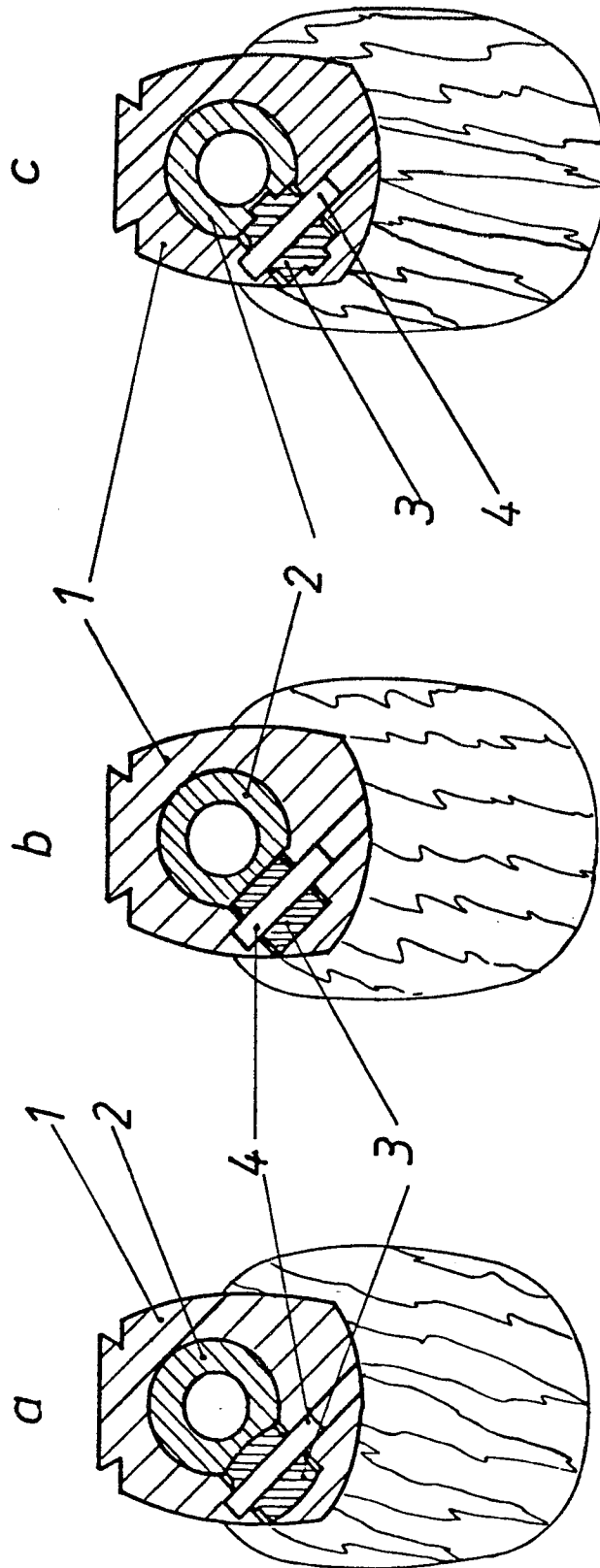


FIG. 2



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.4)
X	US-A-3 742 638 (ARCHER) * Column 2, lines 33-48; column 5, lines 8-22; figure 1 *	1	F 41 C 11/06
Y	---	2, 5, 6	
Y	US-A-1 754 943 (HAMMAR) * The whole document *	2, 5, 6	
P, X	---		
	EP-A-0 115 034 (BLASER) * Page 4, lines 1-22; page 8, lines 11-25; figures 7, 8 *	1, 2	
X	---	1	
	GB-A- 2 853 (HICKES)(AD.1869) * Page 2, paragraph 3 *		TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	---	3	F 41 C
	US-A-3 156 153 (LOCHHEAD) * Column 2, lines 28-36; figures 1-3 *		
A	---		
	GB-A- 166 851 (THOMPSON)		
A	---		
	US-A-3 636 648 (SPENCER)		
A	---		
	US-A-3 653 140 (ALDAY)		
	--- -/-		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 30-05-1985	Examiner VAN DER PLAS J.M.
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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0156590

Application number

EP 85 30 1739

Page 2

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. 4)
A	FR-A- 321 138 (WINCHESTER) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 30-05-1985	Examiner VAN DER PLAS J.M.
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	