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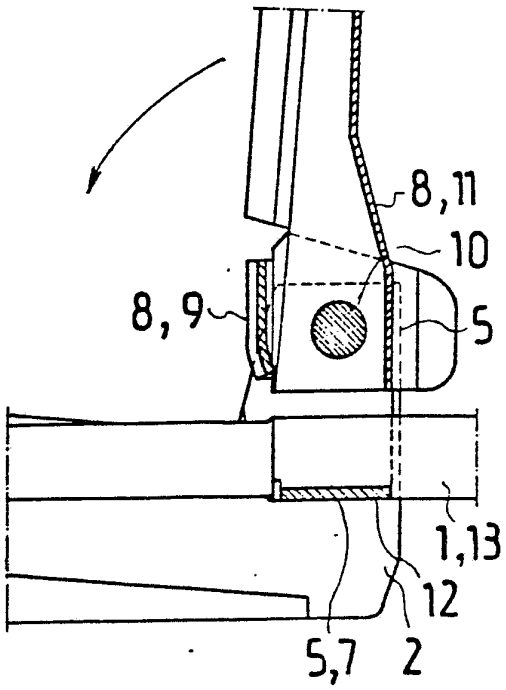
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(54) Title: FIXING MEANS FOR FIXING A BARREL TO THE BODY OF A FIREARM

(57) Abstract

The object is to provide a fixing means which is simpler and easier to operate, and less expensive, fixing mechanisms of prior art. As taugth by the invention, the fixing means comprises a cradle-like, U-shaped fork (5) suspended by its two legs (6) to be borne by the body (2) and on the bottom (7) of which the barrel (1) has been disposed to be borne, and a fixing member (8) arranged to fix the barrel against the bottom of the fork. The fixing member (8) consists to advantage of an eccentric lever, for instance the upper housing of the firearm, and it comprises an eccentric locking member (9) disposed to press the barrel (1) against said bottom of the fork when the lever is turned into the locking position. The eccentric lever is, when desired, pivotally attached to the body with the aid of said axle pin. On the barrel (1) is preferably provided a notch (12), and the bottom (7) of the fork (5) or alternatively the fixing member (8) has been fitted to enter said notch to lock the barrel unturnably to the fork.



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FIXING MEANS FOR FIXING A BARREL TO THE BODY OF A FIREARM

The present invention concerns a fixing means for fixing a barrel to the body of a firearm, said firearm further comprising an obturation mechanism and a cocking and fixing mechanism. In particular, the invention concerns a fixing mechanism for fixing the barrel to the body of the firearm for use in connection with small-calibre single-round and continuously firing, automatic arms.

The fixing means and mechanisms attaching the barrel to hand firearms are complicated and frequently difficult to disassemble, i.e., the barrel is difficult to detach and to remount e.g. in connection with cleaning of the gun or when changing the barrel.

The object of the invention is to provide a new kind of fixing means and mechanis for fixing the barrel to the body in particular for light - e.g. calibre less than 11 mm - automatic and mainly hand firearms, which means enables the barrel to be easily and rapidly detached and likewise to be easily and rapidly remounted. It is a further object of the invention to provide a fixing means that is simpler that any barrel fixing means known in the art.

Regarding the circumstances which are characteristic of the invention, reference is made to the claims section.

The invention is based on fixing the barrel in support of the body with the aid of a particular, cradlelike and mainly U-shaped fork and attaching it to said fork with the aid of a fixing member. The fixing member consists of an eccentric lever disposed in the immediate vicinity of the barrel's muzzle part and which has been arranged in its locked position to

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press the barrel against the bottom of the fork. The barrel is preferably provided with a groove or notch and the bottom of the fork, or alternatively the eccentric locking member of the fixing member, has been fitted to enter said notch and thereby to lock the barrel unturnably fast to the fork.

Advantageously, the fixing means is so disposed on the muzzle part of the barrel that said notch or groove does not detract from the strength of the barrel in its highpressure portion.

The invention is described in detail in the following with the aid of an embodiment example, referring to the attached drawing, wherein:-

Fig. 1 presents in elevational view and partly sectioned, an automatic firearm according to the invention,

Fig. 2 presents in elevational view and partly sectioned, the barrel fixing means of the firearm of Fig. 1,

Fig. 3 presents the fixing of the barrel of firearm of Figs 1 and 2, viewed from the direction of the muzzle,

Fig. 4 presents in elevational view and partly sectioned, another barrel fixing means for an automatic firearm according to the invention, and

Fig. 5 presents the fixing of the barrel of the firearm of Fig. 4, viewed from the direction of the muzzle.

The automatic mechanical firearm depicted in Figs 1-3 comprises a body 2 provided with handle 14, with obturation mechanism 3 and with cocking and firing mechanism 4; the mode of functioning both of the obturation mechanism and the cocking and firing mechanism is conventional and shall not be more closely described here. The firearm furthermore

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comprises a barrel 1, which has been attached to the body 2 by the aid of a fixing means.

As taught by the invention, the fixing means comprises a mainly U-shaped fork 5 which has by its legs 6 been fixed to be borne by the body 2. The barrel 1 has been installed to be borne by the bottom 7 of the fork 5 and it has been fixed against said fork bottom with the aid of a fixing means 8. The fork 5 has been suspended from its legs 6 with the aid of a horizontal axle pin 10 placed above the barrel 1 and transversal to the barrel. The fixing means 8 urges the barrel 1 against the bottom 7 of the fork 5. On the barrel 1, a notch 12 has been provided, and the bottom of the fork 5 has been fitted to enter this notch to lock the barrel unturnably to the fork.

In the embodiment just presented, the fixing member 8 consists of an eccentric lever, that is of the top housing 11 of the arm, which has been pivoted to the body 2 of the arm to be turnable in the vertical plane placed to pass through the barrel 1, this pivotal attachment being accomplished by the above-mentioned axle pin 10 which also fixes the fork 5 to the body 2 by its legs 6. The eccentric lever 8 has to be provided with an eccentric locking member 9 which is disposed to urge the barrel 1 against the bottom of the fork 5 when the lever is turned into the locking position. In Fig. 2 is seen the eccentric lever 8 in opened position, i.e., turned to be upright with reference to the barrel 1 and at right angles to the barrel. The eccentric locking member 9 is then likewise upturned and out of contact with the barrel 1. In Fig. 1, the eccentric lever 8 has been turned down, and the locking member 9 has descended against the top surface of the barrel 1, at the same time pressing the barrel against the bottom 7 of the fork 5.

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In the embodiment shown in Figs 1-3, the fixing means fixes the barrel 1 to the body by the muzzle part of the barrel. In that case, the notch made in the barrel 1 for the bottom 7 of the fork 5 will not coincide with the high-pressure portion of the barrel. The bottom 7 of the fork 5 has been fitted into the notch provided on the barrel so that the fork will lock the barrel, with the aid of said notch, fast to the body unturnably and immovably in the longitudinal direction. The notch 12 has a flat bottom, and the bottom 5 of the fork 5 is likewise of planar shape.

In the embodiment shown in Figs 4-5, two substantially annular projections 15 have been provided on the muzzle portion of the barrel. The bottom 7 of the fork 5 has been fitted to enter between the projections formed on the barrel 1 so that the fork will lock the barrel with the aid of said projections to be immovable longitudinally. The bottom 7 of the fork 5 is curved consistent with the curvature of the barrel and of the projections. On the topside of the barrel, at the projections, planar surfaces 16 have been provided flush with the surface of the barrel. Thereby the barrel 1 will be fixed by the fixing means unturnably to the body, because the locking member 9 presses the flat surfaces of the projections and the upper surface of the barrel against the bottom 7 of the fork 5.

The embodiment of the invention are meant to be variable within the scope of the claims following below. The barrel may equally be fixed to the body at points other than its muzzle portion; if desired, a notch may be provided on the barrel also on the side of the fixing member 8, e.g. so that the eccentric locking member 9 is fitted into a notch made on the barrel to lock the barrel to the body unturnably and longitudinally immovably. It is further possible to

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provide a plurality of notches or grooves on the barrel in addition to the bottom of the fork and said locking member and/or in their stead for the side walls of the fork or for other fixing means. Furthermore, the fixing means may also consist of other kinds of fixing mechanism, for instance of a screw attachment known in itself in the art, etc. Furthermore, the fork may be attached to the body not only with its bottom pointing downward but alternatively equally with its bottom upward or to one or the other side.

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CLAIMS

1. Fixing means for fixing the barrel (1) of a firearm to the body (2) of the firearm, said firearm comprising in addition an obturation mechanism (3) and a cocking and firing mechanism (4), said fixing means comprising a mainly U-shaped supporting member, in support of the bottom (7) of which the barrel (1) has been mounted, c h a r a c t e r i z e d in that the fork has been disposed to constitute a supporting member (5), and that the fixing member (8) consists of an eccentric lever formed of the housing of the firearm and pivotally attached to the body (2) turnably in the immediate vicinity of the muzzle part (13) of the barrel (1) and provided with an eccentric locking member (9) which has been disposed to press the barrel (1) against the bottom (7) of the fork (5) when the lever is turned into the locking position and to fix the barrel against the bottom of the fork.

2. Fixing means according to claim 1, c h a r a c t e r i z e d in that the fork (5) has been attached by both its legs (6) to be borne by the body (2) with the aid of an axle pin (10) transversal with reference to the barrel (1), and that the eccentric lever (8) has been pivotally attached to the body by the aid of said axle pin.

3. Fixing means according to claim 1 or 2, c h a r a c t e r i z e d in that the fixing member (8) consists of the upper housing (11) of the firearm, which has been pivoted to the body (2) of the firearm to be turnable in the vertical plane passed through the barrel (1).

4. Fixing means according to any one of claims 1-3, c h a r a c t e r i z e d in that on the barrel (1) has been provided a notch (12) and the bottom (7) of the fork (5), or alternatively the fixing member (8), has been fitted into said notch to lock the barrel

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unturnably to the fork.

5. Fixing means according to any one of claims 1-4, c h a r a c t e r i z e d in that the fixing means has been provided at the muzzle portion (13) of the barrel (1).

6. Fixing means according to any one of claims 1-5, c h a r a c t e r i z e d in that the fork (5) has been suspended by its legs (6) to be borne by the body (2) with its bottom (7) downwards.

7. Fixing means according to any one of claims 1-5, c h a r a c t e r i z e d in that the fork (5) has been attached to be borne by the body (2) with its bottom (7) pointing upward or alternatively to one or the other side.

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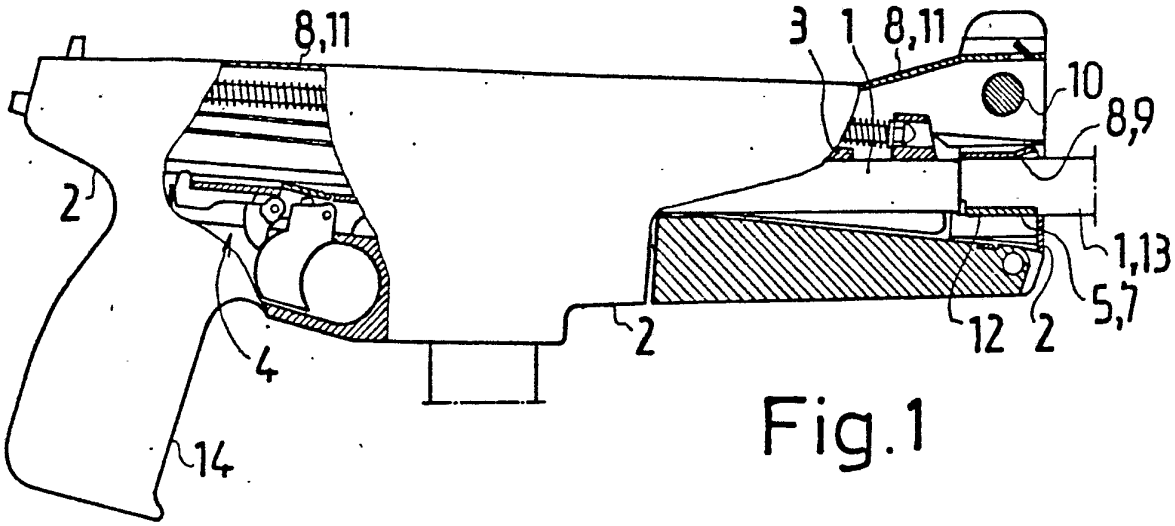


Fig.1

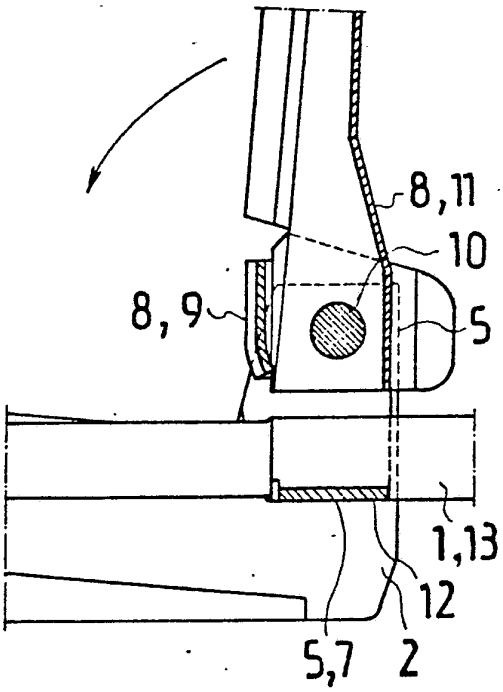


Fig. 2

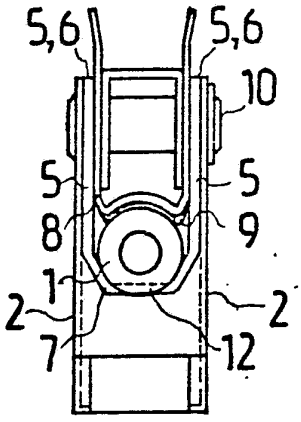


Fig. 3

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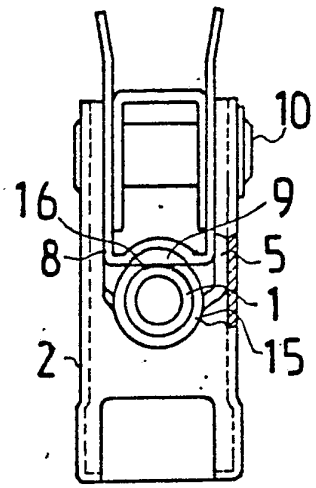


Fig.5

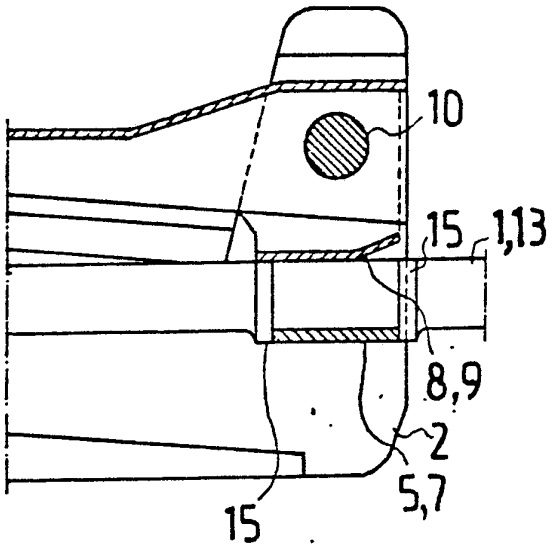


Fig.4

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INTERNATIONAL SEARCH REPORT

International Application No PCT/FI83/00018

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [3]

According to International Patent Classification (IPC) or to both National Classification and IPC 3

F 41 C 21/22

II. FIELDS SEARCHED

Minimum Documentation Searched [4]

Classification System	Classification Symbols
IPC 3	F 41 C 7/08, 21/00,08,18,24
National Cl	72a4,27/01, 27/03
US Cl	42:75

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [5]

SE, NO, DK, FI classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT [14]

Category *	Citation of Document, [16] with indication, where appropriate, of the relevant passages [17]	Relevant to Claim No. [18]
Y	GB, A, 2 017 880 (FABBRICA D'ARMI PIETRO BERETTA SPA) 10 October 1979	1
A	FK, A, 736 677 (CHARLIN) 26 November 1932	

* Special categories of cited documents: [15]

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IV. CERTIFICATION

Date of the Actual Completion of the International Search [2]	Date of Mailing of this International Search Report [2]
1983-05-11	1983-05-27
International Searching Authority [1]	Signature of Authorized Officer [20]
Swedish Patent Office	Martin Wennerström