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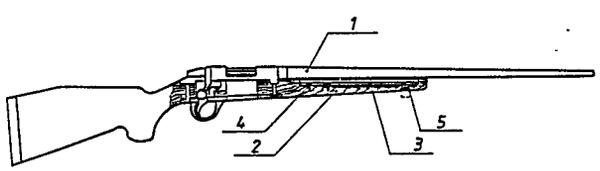
(54) An arrangement in a firearm for adjusting the clearance between the fore-end of the stock and the barrel.

(57) An arrangement in a firearm for adjusting the clearance between the fore-end of the stock (2) and the barrel (1), the stock being stiffened by means of a stiffening rail (3), preferably of metal, fastened to it. To enable the adjustment to be carried out, the rear end of the stiffening rail (3) is fastened (4) rigidly to the stock (2), while between the fore--end of the stiffening rail (3) and the fore-end of the stock there is an adjustment means (5) which, during the adjustment, produces a lateral force between these parts in such a way that the clearance can be adjusted to be equal on both sides of the barrel. The adjusting means (5) can be a turning piece, fitted through the stock from below, the eccentric pin of the piece engaging in a notch in the rail (3).



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An arrangement in a firearm for adjusting the clearance between the fore-end of the stock and the barrel

The object of the present invention is an arrangement for adjusting the clearance between the fore-end of the stock and the barrel in a firearm, the stock being stiffened by means of a stiffening rail, preferably of metal, fastened to it.

Especially in firearms used in competitions, a barrel not touching the stock, i.e. a free-floating barrel, is used. This means that between the fore-end of the stock and the barrel there is on both sides a small clearance, for example about 1 mm, so that the barrel does not touch the stock.

Especially when a wooden stock is used, the manufacture and continual maintaining of a suitable clearance cause difficulties. Before the making of the stock and the assembling of the firearm, the wood is usually seasoned for about half a year so that warping will no longer occur. In spite of this, rejects cannot always be avoided, and on the average it is necessary to replace perhaps about a couple of percent of the wooden stocks manufactured.

The object of the present invention is to eliminate this problem and to provide an arrangement by means of which the clearance can be adjusted to the precisely correct dimension in connection with the manufacture and can, when necessary, also be repaired later. It is previously known to fasten to or embed into the stock a stiffening rail, and according to the invention this idea has been developed so that the clearance is adjusted to the suitable dimension by means of this stiffening rail.

The main characteristics of the invention are given in the accompanying independent claim, and its preferred embodiments are given in the unindependent claims.

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

Figure 1 depicts diagrammatically, and partly in section, a side view of a rifle which is equipped with the arrangement according to the invention,
Figure 2 depicts side and top views of one embodiment of the invention, and
Figure 3 shows, also side and top views, of another embodiment of the invention.

Figure 1 depicts a rifle intended for competitive shooting, the barrel 1 of the rifle being free-floating, i.e. not touching the stock 2.

Under the barrel there is fastened by means of screws 4 to the stock a stiffening rail 3, which is preferably of metal. For the sake of illustration, part of the stock 2 has been cut out in the figure. In reality, the stock extends close to the barrel on both sides around the rail 3, the clearance between the stock and the barrel being about 1 mm. It is clear that the stiffening rail 3 can extend even somewhat further back than shown in the figure.

What is essential to the invention is that an adjustment means 5 holding onto the rail 3 is fitted to the fore-end of the stock 2; by using this means it is possible to produce in the stock a lateral force in relation to the rail 3 in the manner described below.

Figure 2 depicts one manner of implementing the adjustment. In the fore-end of the stock 2 there is embedded a turning piece 6 which has an eccentric pin 11 engaging in a hole or groove in the rail 3. When the turning piece 6 is turned, a lateral force in one direction is produced between the stock 2 and the rail 3, so that the clearances X1 and X2 can be adjusted to be equal. The turning of the piece 6 can be effected by means of a protruding part 7 fastened to it, the part 7 at the same time forming a fastener for the sling of the firearm. The piece 6 is locked in the correct position by means of a locking screw 8 resting against it. Behind the rail 3, in the part not shown in the figure, the barrel is secured to the stock 2 by mediation of a locking device.

Figure 3 depicts one alternative embodiment of the adjustment. In it, transverse threaded pins 9 have been fitted through the stock 2 and the rail 3, the pins being kept in the stock by means of a thread and their ends resting against the rail 3. By turning the pins 9 by means of a screwdriver, it is possible to produce a lateral movement of the stock in relation to the rail 3. Of course, it is also possible to use one single threaded pin 9 extending through the rail 3 and being axially stationary in relation to the rail.

The fastener 7 of the sling is fastened to the rail and the stock so loosely that this fastening does not prevent the adjustment. The vertical clearance Y can, respectively, be adjusted by means of the screw 12.

It is clear that several other ways of implementing the adjustment can be considered without deviating from the scope of the invention and the following patent claims.

Claims

1. An arrangement in a firearm for adjusting the clearance between the fore-end of the stock (2) and the barrel (1), the stock being stiffened by means of a stiffening rail (3), preferably of metal, fastened to the stock, c h a r a c t e r i z e d i n that the rear end of the stiffening rail (3) is fastened (4) rigidly to the stock (2) and that to the fore-end of the stock there is fitted an adjustment means (6; 9) secured to the fore-end of the stiffening rail, the adjustment means tending during adjustment to move the stock (2) laterally in relation to the stiffening rail (3) in order to adjust the clearance between the stock (2) and the barrel (1) so as to be equal on each side of the barrel.

2. An arrangement according to Claim 1, c h a r a c t e r - i z e d i n that the adjustment means comprises a turning piece (6) extending from the lower side of the fore-end of the stock (2) through it, the piece having an eccentric pin (11) or the like, engaging in a corresponding hole and slit in the stiffening rail (3).

3. An arrangement according to Claim 2, c h a r a c t e r - i z e d i n that the said turning piece (6, 7) at the same time forms a fastener for the sling of the firearm.

4. An arrangement according to Claim 2 or 3, c h a r a c t e r i z e d i n that in connection with the turning piece (6) there is fitted a locking means, for example a screw (8) to be screwed from the side against the piece in order to lock the piece (6) in its predetermined position.

5. An arrangement according to Claim 1, c h a r a c t e r - i z e d i n that the adjustment means comprises at least

one threaded pin (9) extending across the fore-end of the stock (2), the pin (9) being turnable by its end by means of a screwdriver and being secured to the stock (2), respectively the stiffening rail (3), by means of a thread, at the same time having a moving effect on the rail (3), respectively the stock (2), in the axial direction.

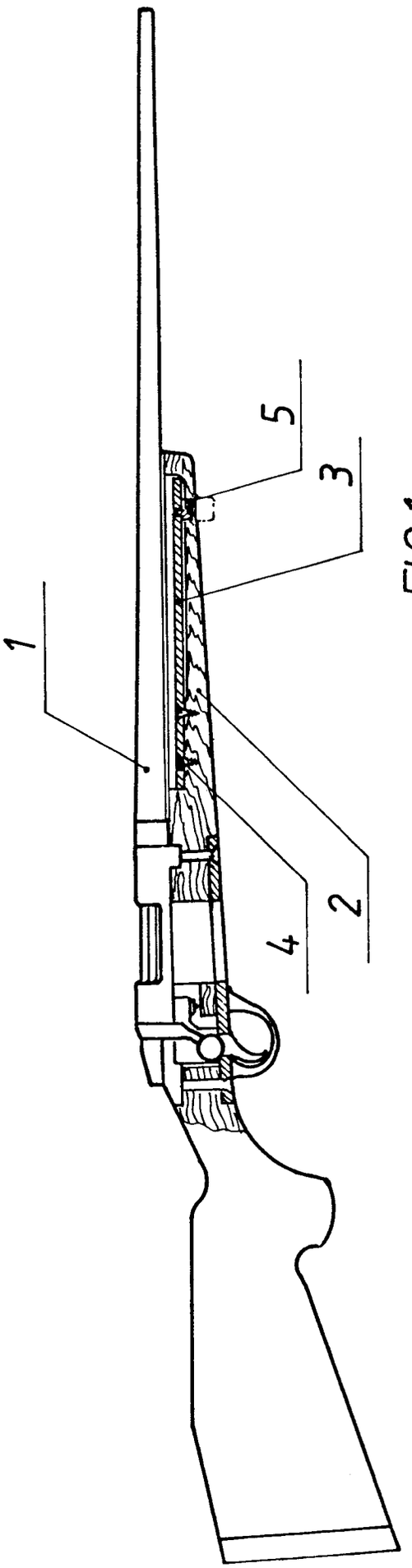

FIG.1

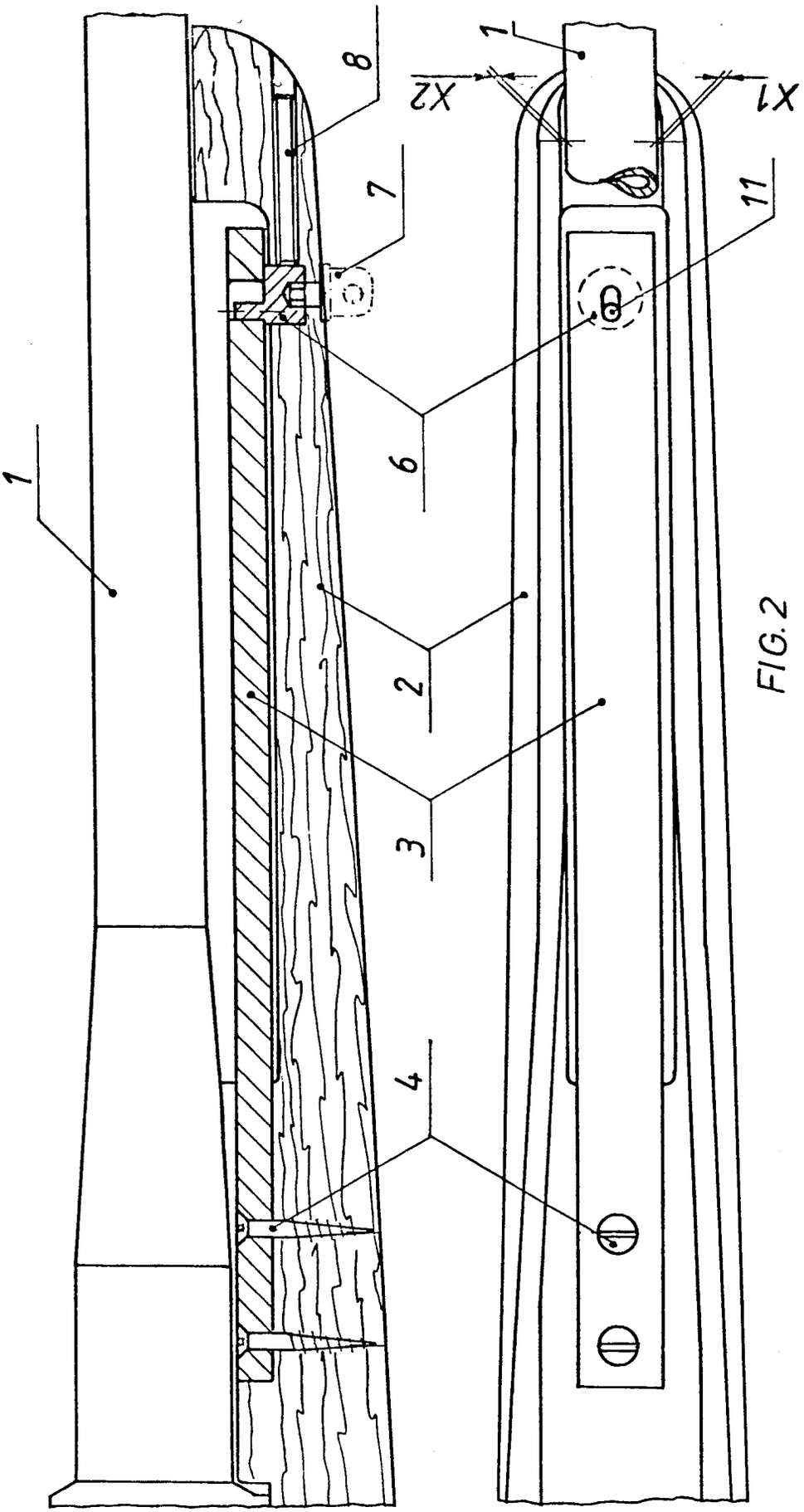

FIG.2

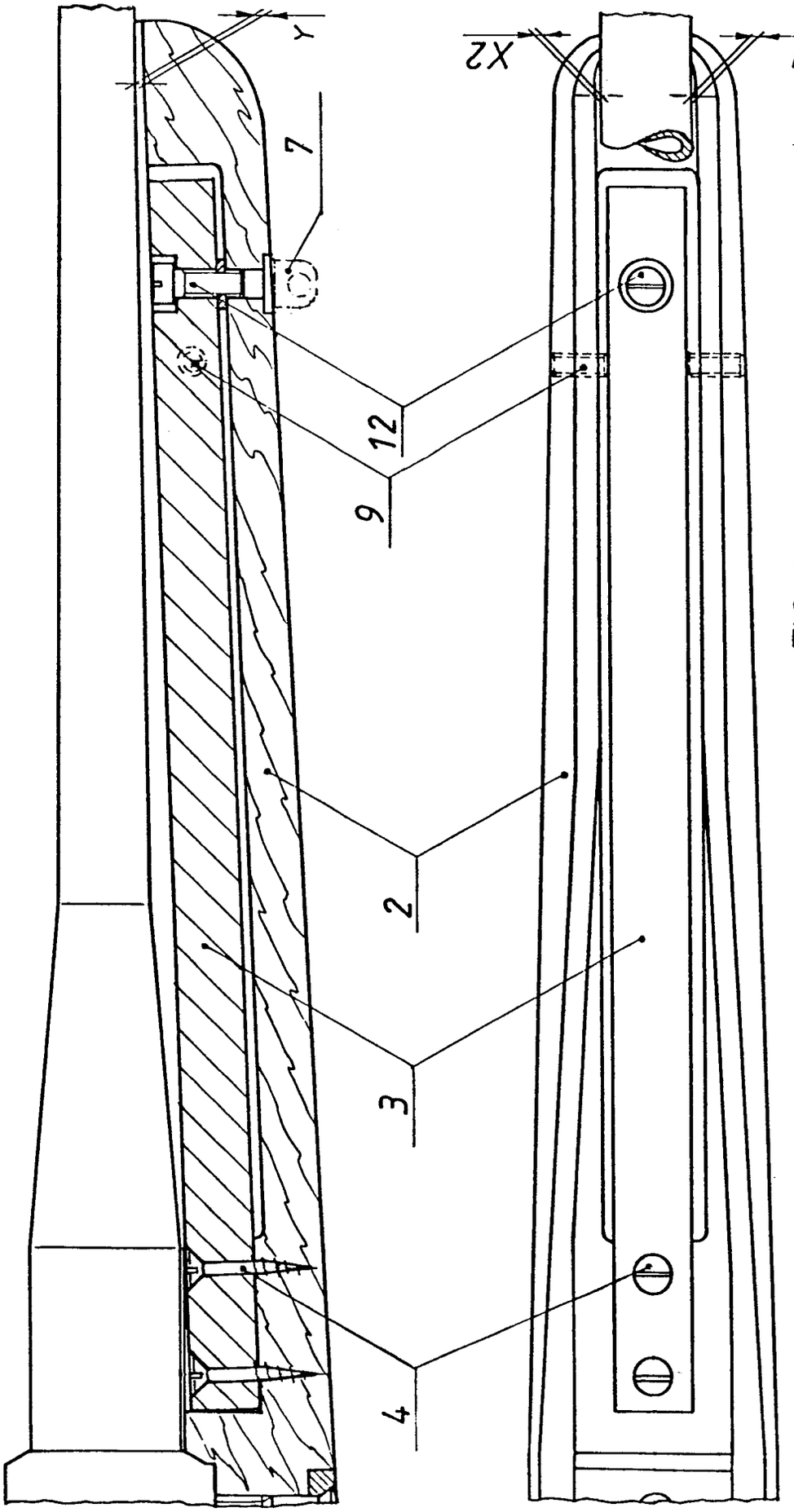

FIG. 3

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EUROPEAN SEARCH REPORT

0157515

Application number

EP 85 30 1738

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	CH-A- 88 203 (FUCHS) * Figure 2; page 2, right-hand column, paragraphs 3,5; claim *	1	F 41 C 21/22 F 41 C 23/00
A	US-A-2 241 825 (PAGE)		

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

F 41 C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	03-06-1985	FISCHER G.H.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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