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(54) Firing mechanism for double barrelled shotguns

(57) Based on a trigger plate (1) equipped with means for mounting upon it the firing mechanism proper, comprising the rocker (4) of the breech block, the hammers (8), the hammer rocker (9), the spring (10), the top cap (11) for the said spring, the trigger rocker (12) and the counterweight (13), it is characterised in the fact that the said trigger plate (1) has at its forward end a latch (14) which interlocks with the forward end of the housing recess in the stock of the gun for the said firing mechanism, while at its posterior end and substantially recessed it incorporates a locking catch (16), which can be retracted against the tension of a spring (17), by acting on an external button (23), a catch which can be engaged in a complementary housing in the said recess in the stock of the gun, all such that the trigger plate (1) and the firing mechanism as a whole associated therewith is engaged in the recess in the stock of the gun by simple pressure and can be removed without anything more than pressing the said button (23) which is protected beneath a posterior extension (24) of the trigger guard (2) protecting the trigger (3).

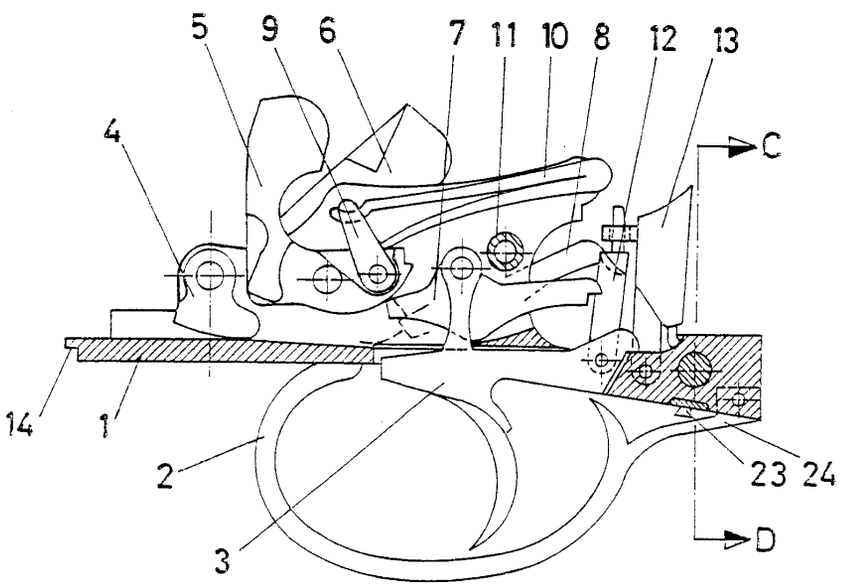

FIG.2

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Description

SUBJECT MATTER OF THE INVENTION

[0001] This invention relates to a firing mechanism for shotguns, normally known as a breech block, constructed on the basis of a frame which houses the said firing mechanism proper within it, and a trigger plate on which the said firing device is mounted, comprising a single block assembly which can be easily attached to the stock of the gun and detached therefrom.

[0002] The mechanism according to the invention has been specially designed for shotguns with two parallel barrels, those commonly known as side-by-side shotguns, and the purpose of the invention is to provide maximum ease and speed in the work of fitting and dismantling the firing mechanism, together with optimum fitting and stability thereof in the operating or fitted condition.

PRIOR ART

[0003] In the field of double barrelled shotguns, shotguns provided with a firing block comprising a trigger plate which is fixed to the guard protecting the trigger and on which the breech block rocker, the left hand and right hand hammers, the left hand and right hand cocking levers, the rocker for each hammer, the rocker for each trigger and a counterweight are mounted, this assembly being housed within a frame which is conveniently attached to the trigger plate.

[0004] This assembly comprising the breech block is in turn intended to be housed within the stock of the shotgun in such a way that the trigger plate is coplanar with the lower surface of the stock, from which the trigger guard emerges, the said assembly being conveniently fixed to the stock of the shotgun, with the possibility of being dismantled.

[0005] One of the normal arrangements in the scope of side-by-side shotguns consists of providing each of the end portions of the trigger plate which project beyond the firing mechanism with openings for the passage of corresponding screws or bolts which tap into the stock of the shotgun in such a way that the trigger block can be removed from the latter by removing the said screws.

[0006] This arrangement gives rise to a problem which has two aspects, on the one hand the relative difficulty involved in removal and replacement of the said screws, which requires the use of an appropriate tool, which on many occasions is not available when necessary, and on the other hand the erosion which takes place in the stock of the shotgun at the point where the said screws are located when dismantling of the trigger block takes place a considerable number of times, which can lead to play and lack of adjustment in the firing mechanism.

[0007] Arrangements based on the provision of a hook provided in one of the ends of the trigger plate in relation to a complementary support on the stock of the gun, supplemented by a single screw located at the opposite end of the said trigger plate, attempting to minimise this problem are known, but obviously this arrangement only resolves part of the problem, mentioned above, in that a screw is still maintained as the final means for securing the trigger block.

DESCRIPTION OF THE INVENTION

[0008] The firing mechanism proposed by the invention, intended as stated above for side-by-side shotguns, provides a fully satisfactory solution to the problems stated above.

[0009] In order to do this, more specifically, and on the basis of the operating components which have been mentioned above, the features of the said mechanism are based on the fact that the trigger plate on which the said operating components of the firing mechanism are mounted, and the frame making up the breech block, incorporates at one of its ends, preferably at its forward end, a latch which is intended to engage a mortise constructed in the stock of the gun, specifically at the front end of the housing in the said stock which receives the trigger block, while at the other end of the trigger plate there is incorporated a catch which can be retracted against the tension of a spring which acts as a member locking the trigger plate in another mortise constructed in the stock of the gun, into which it slidably engages, i. e. as a result of mere frontal pressure on the corresponding end of the trigger plate, a catch which can be caused to release it by means of a safety button also provided in the trigger plate, which is duly protected by an extension of the trigger guard, and using a small key which is designed to form part of the shotgun's accessories.

[0010] In this way the trigger block is fitted by engaging the trigger plate by one of its ends and then by applying frontal pressure from the latter on its opposite end, while for dismantling it is sufficient to pull the trigger guard gently while at the same time pressing the safety button which retracts the lock on the trigger plate.

DESCRIPTION OF THE DRAWINGS

[0011] To supplement the description which is provided and with the purpose of aiding understanding to a greater extent of the features of the invention, in accordance with a preferred embodiment thereof, a set of drawings representing the following in an illustrative and non-restrictive way are provided as an integral part of the said description:

Figure 1 - shows a plan view of a firing mechanism for a side-by-side shotgun constructed in accordance with the subject matter of this invention, which includes both the firing mechanism proper and the trigger plate on which it is mounted.

Figure 2 - shows a view in lateral elevation and in longitudinal cross section of the assembly shown in the foregoing figure, along the section line A-B in the said figure.

Figure 3 - shows a detail of the said assembly in transverse cross section at the level of the locking catch associated with the trigger plate, along the section line C-D in Figure 2, and alongside which is shown the operating key for retracting the said catch.

Figure 4 - shows a view in lateral elevation and longitudinal cross section of the frame which when attached to the trigger plate receives within it the firing mechanism proper, forming the breech block.

Figure 5 - shows a plan view from above of the frame illustrated in the foregoing figure.

Figure 6 - shows a view in lateral elevation of the trigger plate included in Figures 1 and 2, in this case without any of the mechanisms associated with it.

Figure 7 - shows a plan view from above of the trigger plate in Figure 6.

Figure 8 - shows a detail of the trigger plate in transverse cross section along the section line E-F in Figure 7.

Figure 9 - shows a plan view of the said trigger plate from beneath.

Figure 10 - shows a view in lateral elevation of a trigger plate which differs from that in Figure 6.

Figure 11 - shows a lateral view of the same trigger plate in longitudinal cross section along the section line G-H in Figure 9.

Figure 12 - shows another transverse cross section through the trigger plate, this time along the section line I-J in Figure 10.

Figure 13 - shows a plan view of the right cocking lever or lever which is involved in the firing mechanism proper.

Figure 14 - shows a view of the same cocking lever in lateral elevation .

Figure 15 - shows another lateral view of the same cocking lever differing from that in Figure 14.

Figures 16, 17 and 18 - in turn show similar representations to those in

Figures 13, 14 and 15, but in this case corresponding to the left hand cocking lever.

PREFERRED EMBODIMENT OF THE INVENTION

[0012] With reference to these figures, and especially Figure 2, it will be seen that the firing mechanism proposed by the invention, which is intended for double barrelled shotguns or side-by-side shotguns, comprises, in the conventional way, on the basis of a trigger plate (1) to which is attached the trigger guard (2) for the trigger (3) and on which are fitted the rocker (4) of the breech block, the left hand (5) and right hand (6) hammers, the left hand (7) and right hand (8) cocking levers, the hammer rocker (9), the spring (10), the top cap (11) for the said spring, the rocker (12) of the trigger and the counterweight (13), while the structure and arrangement of these components can vary without affecting the essence of the invention which, as already mentioned, is centred on the means whereby this assembly, specifically the trigger plate (1) is attached to the stock of the gun.

[0013] In this respect trigger plate (1) incorporates at its forward end a latch (14), which in the embodiment illustrated in the figures is provided by a lower step in the said trigger plate and adopts a half-moon configuration, while obviously it may adopt any other configuration, this latch (14) obviously being intended to engage a complementary step in the stock of the gun, specifically in the step (14') of the frame (15) illustrated in Figures 4 and 5 which is intended to be secured in the said housing of the gun and receive the trigger plate (1) bearing the said firing mechanism proper, trigger plate (1), at its end opposite the said latch (14), where it is considerably recessed, incorporating as a supplementary means of attachment a locking catch (16) which emerges laterally from trigger plate (1) and which has a preferably curved/convex bevelled front, as may be seen especially in Figure 3, to encourage its coupling with a receiving mortise in the body of the gun, and more specifically the frame (15) located in the said mortise, by merely pressing the trigger plate (1) with its various accessories against the said stock.

[0014] This locking catch (16) can be retracted against a spring (17) which projects against catch (16) at all times and is in turn affected by a transverse hole in which there is housed a gudgeon (18) which is secured to catch (16) with the help of an engaged screw (19) housed axially within the said spring (17) and which can be adjusted from the exterior through a small lateral hole (20) in the trigger plate, this gudgeon or bolt (18) being integral with a shoe (2) which engages a mortise (22) in the trigger plate and is in turn associated with an operating button (23) which emerges externally through the base or underside of the trigger plate so that it can be operated.

[0015] As will be seen in Figure 2, this release button (23) for the firing mechanism as a whole is protected by a posterior extension (24) of the trigger guard (2) for the trigger (3) in such a way that it is virtually impossible to accidentally or involuntarily operate it, possibly causing release of the mechanism, it being necessary in order to achieve this to have the assistance of a small auxiliary key (25), as shown in Figure 3, in order to bring about the necessary lateral displacement of button (23) which will cause locking catch (16) to be retracted against spring (17).

[0016] Figures 6 to 12 show in great detail the structure of trigger plate (1), both in respect of the forms of attachment of the various components of the firing mechanism proper, which are conventional, and in respect of its own and novel means of attachment to the stock of the gun, while Figures 13 to 15 show the right

hand cocking lever and Figures 16 to 18 show the left hand cocking lever, which, as can be seen from the said figures, are substantially larger than normal, the opening (25) for their rocking axis being maintained in the central zone, incorporating at their distal end a laterally matched side piece (26) and at their other end, the proximal end, a bevel (27) so as to open a recess having a curved/concave base (28) affecting half the thickness of the cocking lever, the left hand cocking lever (7) being substantially symmetrical with respect to the right hand cocking lever (8), to which it is laterally adjacent in the mounting of the two cocking levers on the trigger plate (1).

Claims

1. Firing mechanism for double barrelled shotguns, of the type commonly described as side-by-side, which incorporates a trigger plate to which is integrally attached the trigger guard and on which the various components of the firing mechanism are mounted, specifically the rocker of the breech block, the two hammers, the two cocking levers, the hammer rocker, the trigger rocker and the counterweight, and a spring and its corresponding cap or top, components which are housed within a frame which is attached and fixed to the said trigger plate and which is housed in a receptacle in the body of the gun, characterised in that the said trigger plate (1) incorporates at its frontal end latch (14) which engages with the anterior end of the housing recess in the stock of the gun, while at its opposite end the said trigger plate (1) has a locking catch (16) which can be retracted against the tension of a spring (17) and which tends to emerge laterally from the trigger plate (1) to engage in a complementary housing in the said opening of the receptacle in the stock of the gun.

2. Firing mechanism for double barrelled shotguns according to Claim 1, characterised in that the said latch (14) has a half-moon shape and is defined by a lower step of the trigger plate (1).

3. Firing mechanism for double barrelled shotguns according to Claim 1, characterised in that the locking catch (16) has an inclined front which converts it into a kind of slider which can be retracted by simple pressure from the trigger plate (1) against the stock of the gun.

4. Firing mechanism for double barrelled shotguns according to Claims 1 and 3, characterised in that the locking catch (16) incorporates a transverse hole in which is housed and secured a gudgeon or bolt (18) with the assistance of an engaged screw (9), bolt (18) in turn terminating in a side piece (21) which engages in a mortise (22) in the trigger plate (1) and which is in turn integral with an externally operated button (23) in such a way that the said mortise (22) restricts the axial displacement of the catch (16) in one direction and the other.

5. Firing mechanism for double barrelled shotguns according to Claims 1, 3 and 4, characterised in that the button (23) which operates the locking catch (16) is located in the base or underside of the trigger plate (1), at its posterior end, and is hidden by a likewise posterior extension (24) of the trigger guard (2) for the trigger (3), the said button being accessed with the assistance of a small auxiliary key (25).

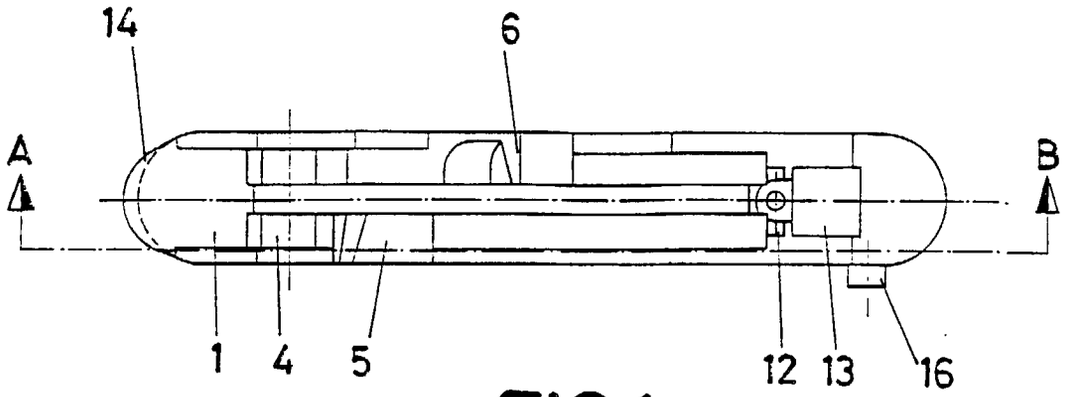

FIG.1

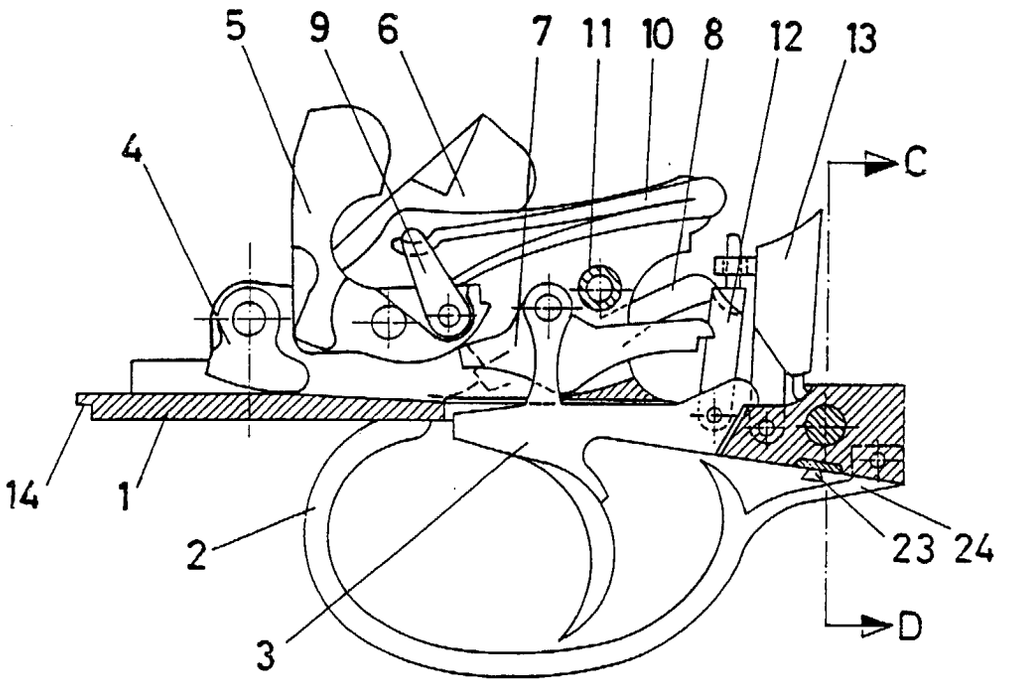

FIG.2

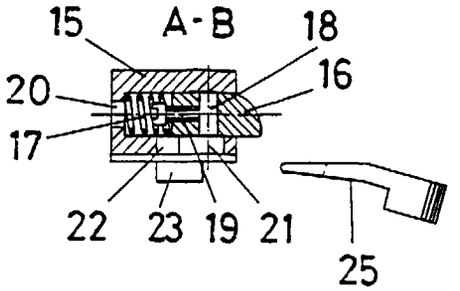

FIG.3
C-D

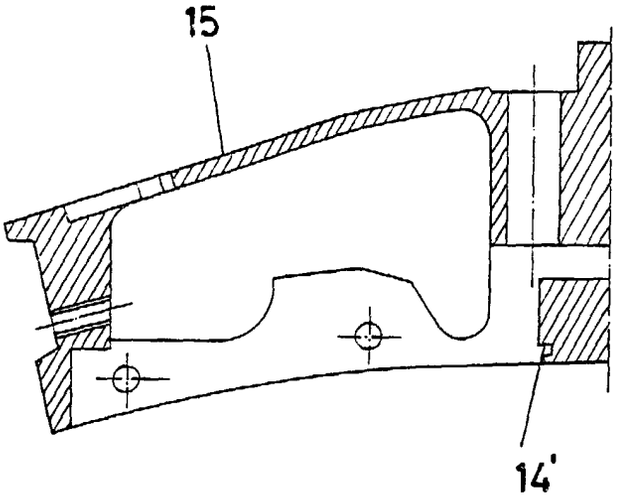

FIG.4

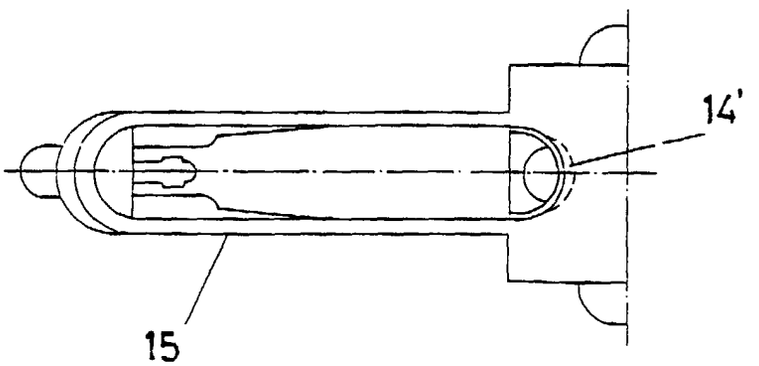

FIG.5

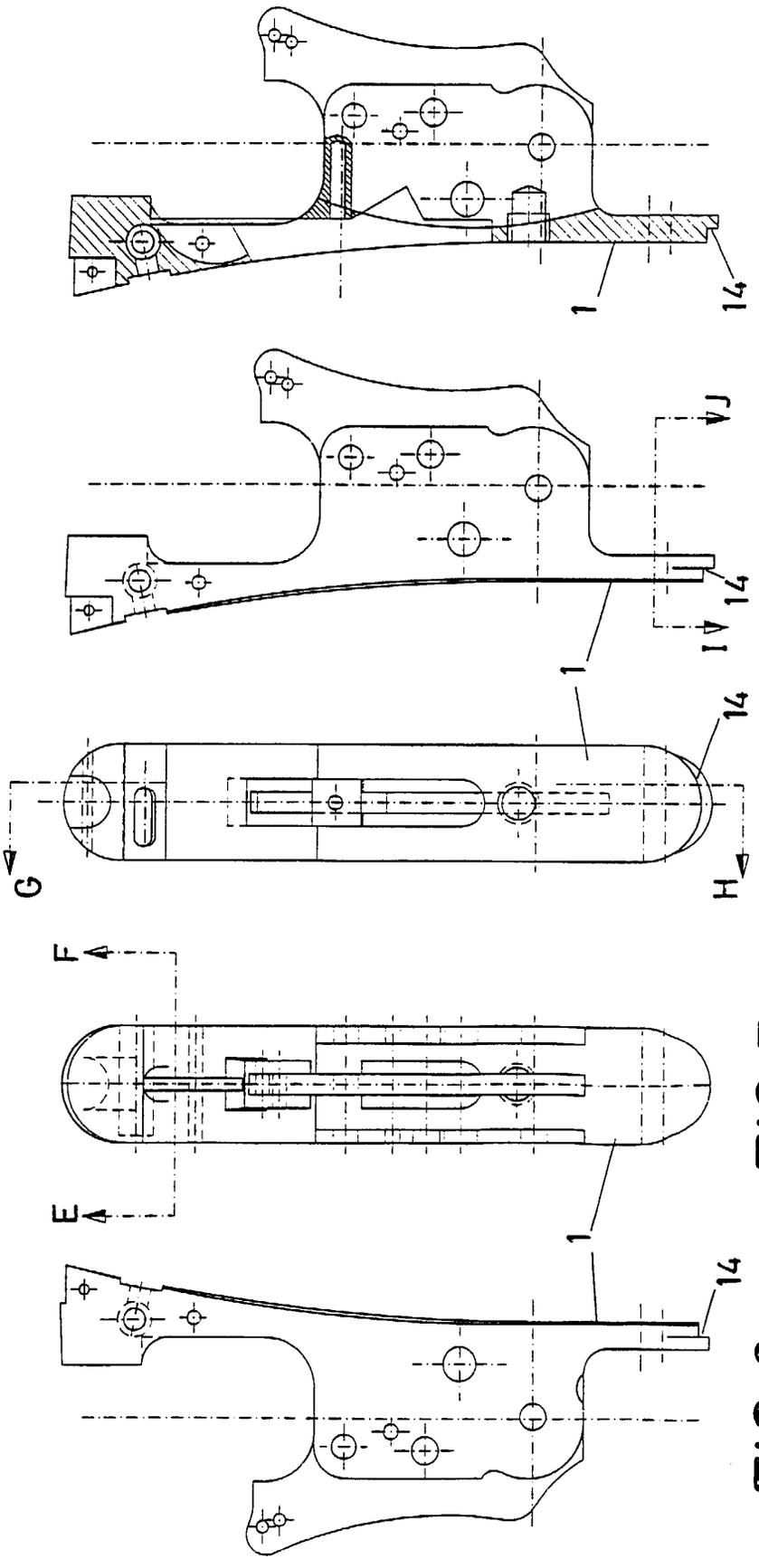

FIG.6

FIG.7

FIG.8
E-F

FIG.9

FIG.10

FIG.11
G-H

FIG.12
I-J

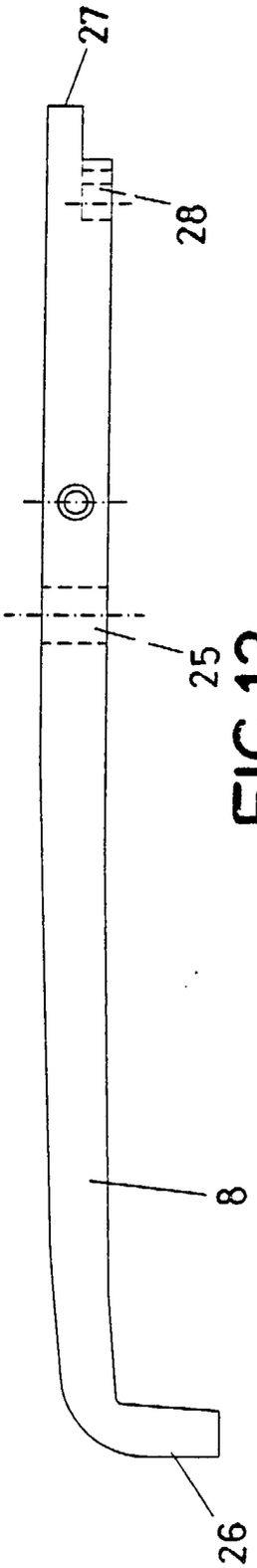

FIG.13

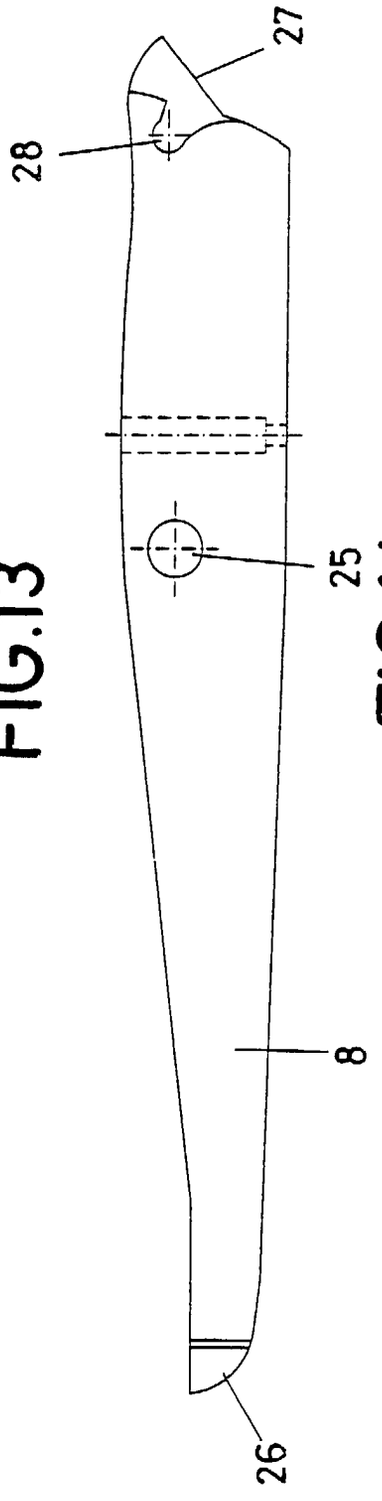

FIG.14

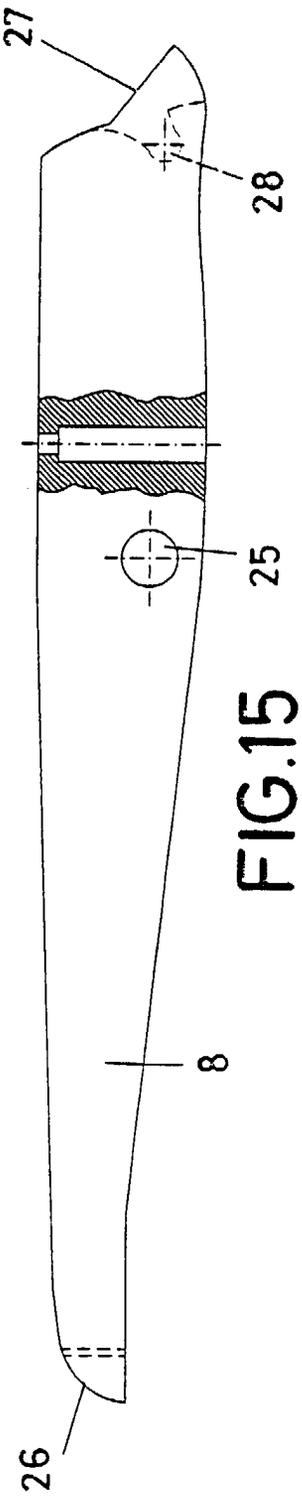

FIG.15

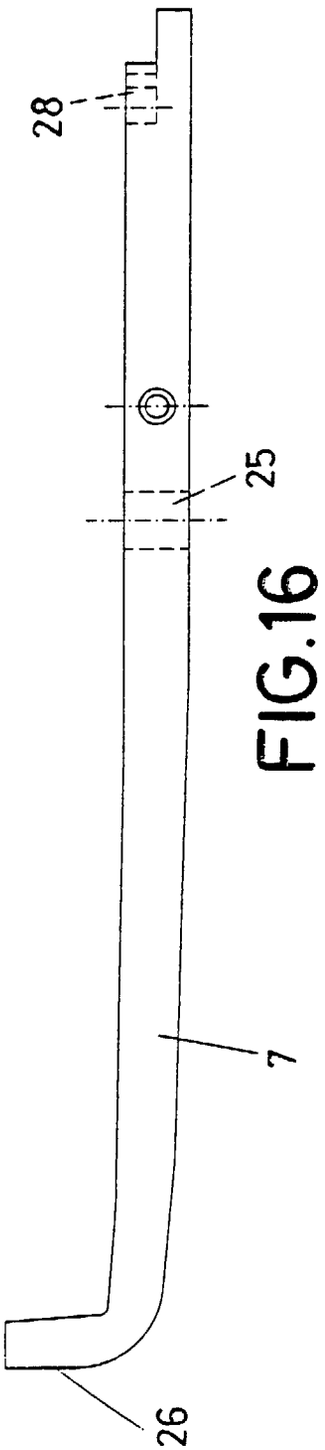

FIG.16

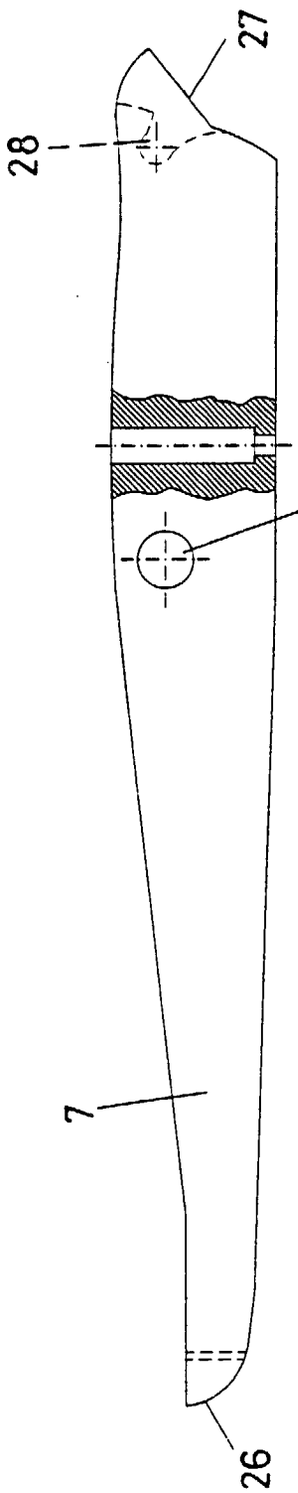

FIG.17

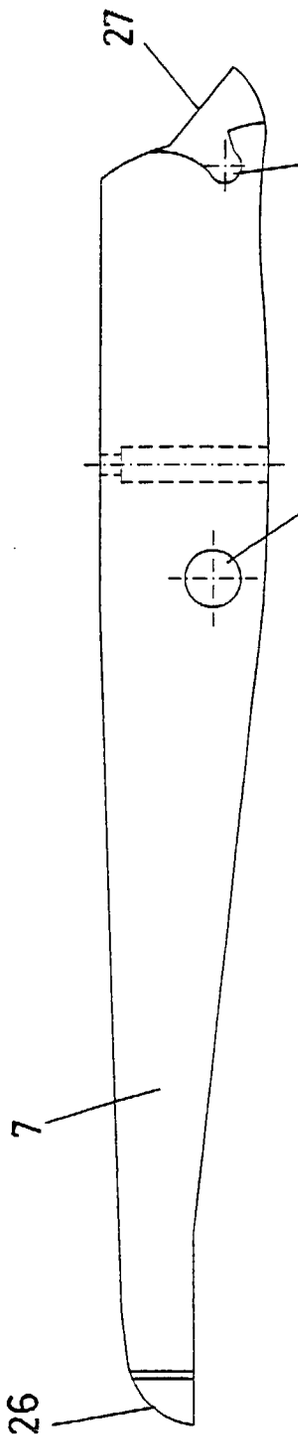

FIG.18