

- [54] **BREECH MECHANISM FOR A HAND FIREARM**
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[58] Field of Search..... **42/69 B, 16**

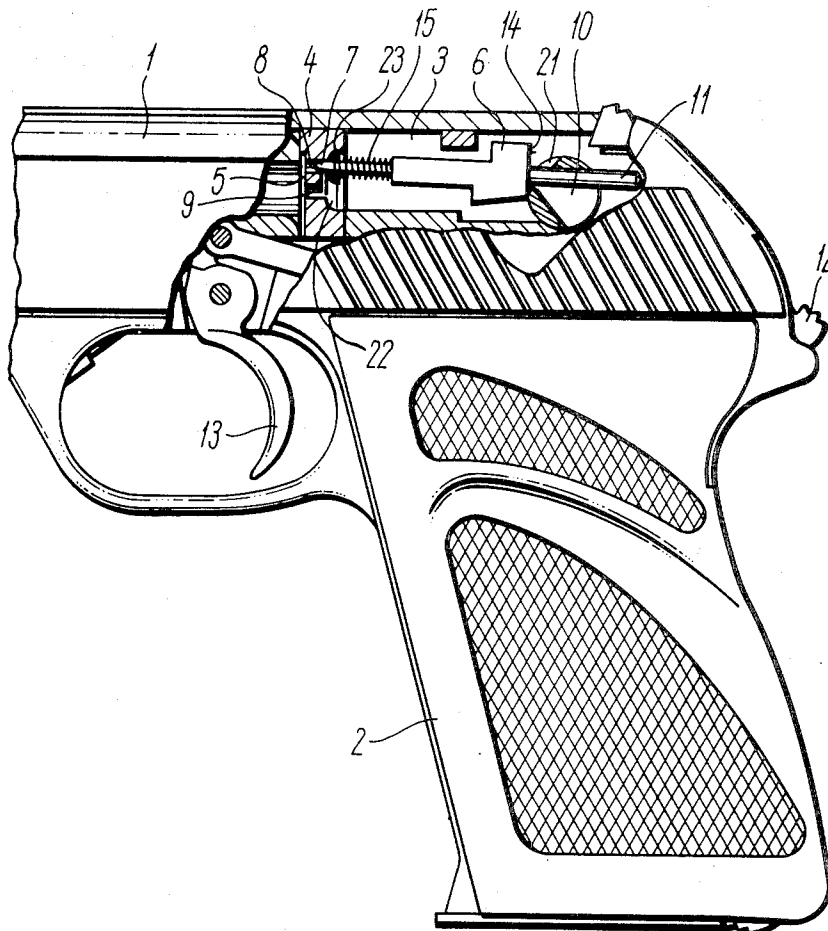
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Attorney—George H. Spencer et al.

[57] **ABSTRACT**

A breech mechanism for a hand firearm such as a pistol which can be converted for use of cartridges of different calibres. The pistol has a striker pin which extends through a cavity in the breech block and through an impact plate closing this cavity forwardly, and which can be displaced selectively into the one or the other of two different positions in which the point of the striker is directed either towards the center or the edge of the bottom of a cartridge located in the cartridge chamber. The striker pin is surrounded with play by a guide member which is displaceable in the adjustment direction relatively to the breech block. Two detent positions are provided for the guide member in which the guide member retains the striker pin either in the one or in the other position.

7 Claims, 3 Drawing Figures



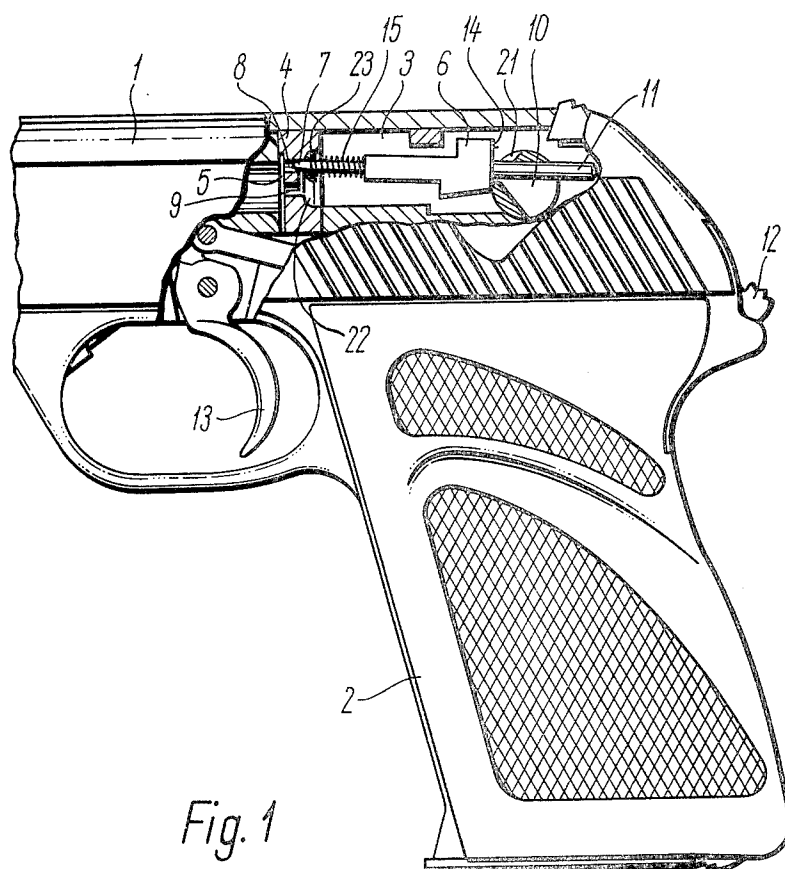


Fig. 1

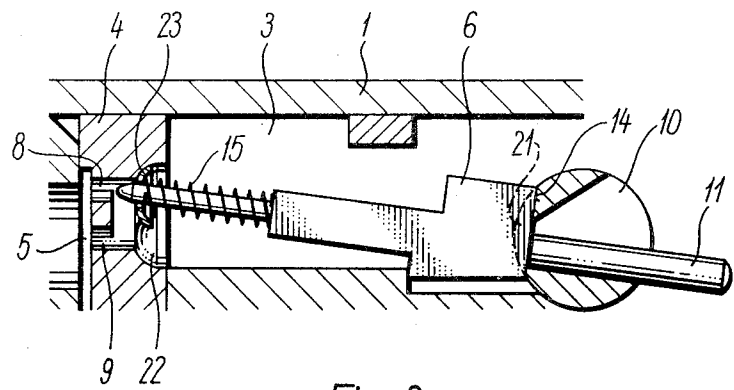


Fig. 2

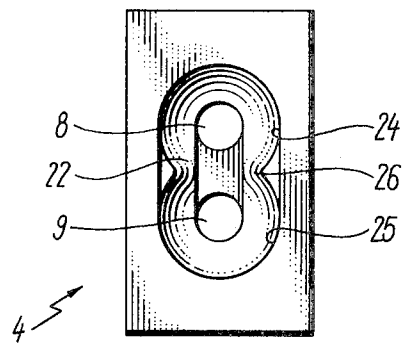


Fig. 3

BREECH MECHANISM FOR A HAND FIREARM

This invention relates to a breech mechanism for a hand firearm which can be converted for use of cartridges of different calibres, and is more particularly concerned with a pistol having a striker pin which penetrates a cavity of the breech block and an impact plate which closes this cavity forwardly and which can be displaced selectively into the one or the other of two different positions in which the point of the striker pin is directed either to the centre or the edge of the bottom of a cartridge in the cartridge chamber.

A pistol is known which can be adjusted to various calibres by interchange of the barrel and the magazine. An interchange of the breech mechanism is not necessary with this known pistol. However, the impact plate of the breech mechanism has two openings for the point of the striker pin and the impact plate is held at the breech block by a screw, so that after release of the impact plate the striker pin can be repositioned from the one opening to the other, when a calibre change is connected with a change from edge fired cartridges to centrally fired cartridges, or vice versa. Although the release of the impact plate and the reversal of the striker pin do not require particular expert knowledge and therefore can be performed by anybody, nevertheless a certain dexterity and also a certain amount of time are required. Moreover, there exists the risk that with clumsy handling the striker pin and/or the striker pin spring drop out of the breech mechanism and/or also the impact plate and/or the fixing screw thereof fall on the ground whereby these parts may be soiled or even damaged, which then in turn can lead to trouble in the functioning of the pistol.

The invention is based on the problem of avoiding such difficulties connected with the reversal of the striker pin in a hand firearm which can be adjusted to different calibres, and of constructing the breech mechanism of such hand firearm in such manner that the reversal of the striker pin is possible without the need for dismantling the breech mechanism.

This problem is solved according to the invention in that the striker pin is surrounded with clearance by a guide member which is displaceable in the adjustment direction relatively to the breech block and that two detent positions are provided for the guide member in which the guide member holds the striker pin either in the one or in the other position.

In the breech mechanism according to the invention, the striker pin is thus not directly held in the selected position but only indirectly by means of the guide member, so that it can be moved from the one position into the other without difficulty by displacement of the guide member from the one detent position into the other. In this case, the guide member may be constructed for example in the manner of a slide member, which is inserted into the impact plate of the breech mechanism or even penetrates through the impact plate, and which is directly displaceable from the outside. However, the guide member may alternatively be located within the breech block and may be arranged to be engaged for the purpose of displacement for example through an opening in the breech block by means of a hook-shaped tool or the like. In many cases, however, pressure exerted on the trailing end of the striker pin projecting from the breech block may even be sufficient for performing the adjustment of the

striker pin. For retaining the guide member in its two detent positions, any suitable device may be provided, for example detent springs mounted in the breech block or spring loaded detent members which engage in corresponding recesses of the guide member.

In a preferred embodiment of the invention, the guide member is resiliently pressed against the inside of the impact plate and co-operates with detents disposed at the inside of the impact plate. Such arrangement is particularly simple and requires only little space. In particular with this constructional form of the invention, the guide member may be loaded directly by the striker pin spring which holds the striker pin in the rest position and which otherwise would be supported on the inside of the impact plate. In this case, it is sufficient to provide the detent means on the inside of the impact plate, and to place the guide member on the striker pin; this arrangement is extremely simple and requires an extremely small space so that it can be accommodated practically in any breech mechanism.

Also, in the arrangement according to the invention, the impact plate may be provided in a known manner with two openings for the striker pin point and when the striker pin is in its rest position an abutment of the striker pin may rest against a safety roll mounted in the breech mechanism. In a further embodiment of the invention the safety roll may then be provided with a recess, into which the abutment of the striker pin engages in the safe position of the safety roll, whereby the striker pin recedes in its rest position to such extent that the point of the striker pin leaves the appropriate opening of the impact plate, whereas in the firing position of the safety roll the point of the striker pin engages into the opening which corresponds to the respective selected position of the striker pin. In this case, whenever the firearm is ready for firing, the striker pin is thus directly retained in the opening of the impact plate corresponding to the selected position and cannot therefore be displaced from the selected position by the hammer impinging on the rear end of the striker pin. In contrast, when the firearm is secured, there is no direct engagement of the striker pin into the openings of the impact plate and the striker pin can then be easily displaced by a light pressure on its rear end which projects from the breech mechanism. This constructional form of the invention, therefore, provides extremely high operational reliability, because the striker pin is directly held in the desired position when the firearm is not secured and, on the other hand, a particularly effortless adjustment is rendered possible, because the detent of the striker pin which is not exposed to external forces when the firearm is secured can be made relatively weak so that there is no need for exerting a large force on the rear end of the striker pin projecting from the breech mechanism, for effecting displacement from one position into the other.

In a further embodiment of the invention the openings may be connected on the inside of the impact plate by a groove into which the striker pin point still engages, even when the safety roll has been turned into the safe position. In this manner, the point of the striker pin is directly provided with a guide which ensures that the striker pin can be moved only in a straight line from the one position into the other. In this case, the guide member may then be formed by a simple plate spring, the bottom of which engages in depressions in the inside of the impact plate which are concentric with the

openings. The depressions are preferably so disposed that they overlap each other and have a common contour which corresponds approximately to the shape of a figure eight, and which merge into each other with a saddle-like face. In this manner, a perfect detent as well as a satisfactory transfer of the plate spring from the one detent position into the other is ensured.

Further details and constructional features of the invention are clear from the following description of the constructional example illustrated in the drawing. The features which may be seen from the description and the drawing may be utilised in other embodiments of the invention individually by themselves or severally in any combination.

In the accompanying drawing:

FIG. 1 illustrates, partly in side view and partly in section, the rearward portion of a pistol with a breech mechanism according to the invention in the ready state,

FIG. 2 illustrates a longitudinal section through the breech mechanism of the pistol according to FIG. 1 on an enlarged scale and in the secured state, and

FIG. 3 illustrates a view of the inside of the impact plate of the breech mechanism according to FIG. 2.

The breech mechanism of a pistol illustrated in FIG. 1 consists of a member 1 which is substantially U-shaped in cross-section and which extends in the longitudinal direction of the pistol and the lower edges of which are guided at a hand grip 2. In the rearward portion of the U-shaped member 1, there is disposed a hollow breech block 3, for example secured by welding to the U-shaped member 1; the block is closed at its forward end by an impact plate 4. The impact plate 4 serves for closing the rear end of the barrel of the pistol and is provided with an abutment face 5 for the bottom of a cartridge inserted in the cartridge chamber. Within the breech block 3 there is located a striker pin 6 the forward end 7 of which engages, in the position illustrated in FIG. 1, into the upper of two openings 8 and 9 in the impact plate 4; the striker pin 6 is mounted, near its rearward end, in a safety roll 10 which penetrates transversely through the U-shaped member 1 and at the same time closes the breech block 3 rearwardly. The rear end 11 of the striker pin 6 penetrating through the safety roll 10 lies in the non-secured state of the pistol illustrated in FIG. 1 in the region of the hammer 12 of the pistol which, when the firearm has been cocked, is released by actuation of the trigger 13 and impinges on the rear end 11 of the striker pin 6 thereby driving the striker pin against the force of a striker pin spring 15 disposed on the forward end of the striker pin, in a forward direction to such extent that the striker pin point 7 projects from the impact plate 4 of the pistol and fires a cartridge when the firearm is loaded. When the striker pin is located in the upper opening 8 of the impact plate 4, the firearm is adjusted for firing edge-fired cartridges, whereas the striker pin point must penetrate through the lower opening 9 in FIG. 1 for firing centrally fired cartridges. The striker pin spring 15 holds the striker pin 6 normally in a rest position in which an abutment 14 of the striker pin rests on the side of the safety roll 10 facing the impact plate 4.

When the safety roll 10 is turned into the safe position which is illustrated in FIG. 2, the rear end 11 of the striker pin 6 is displaced downwardly to such extent that this rear end is moved out of the path of the hammer 12. Furthermore, the side of the safety roll 10 fac-

ing the abutment 14 of the striker pin 6 is provided with a recess 21 into which the abutment 14 the striker pin engages in the safe position so that the striker pin is displaced further rearwardly relatively to its position when the firearm is not secured. Thereby, the striker pin point travels into the region of a groove 22 which connects the openings 8 and 9 one to the other on the rear of inner face of the impact plate 4. This groove 22 thus permits displacement of the striker pin 6 from the one opening 8 to the other opening 9 and vice versa, when the safety roll 10 is in the safe position. In order to retain the striker pin in a desired position, even when the firearm is secured, it is surrounded by a plate spring or dished spring 23 which serves as a guide and detent member and by which the forward end of the striker pin spring 15 is supported; the bottom of the spring rests under the pressure of the striker pin spring 15 on the rear face of the impact plate 4.

The rear or inner face of the impact plate is provided with a groove connecting the openings 8 and 9 and additionally with depressions 24 and 25 which are concentric to the openings 8 and 9 and in which the plate spring engages and thereby retains the striker pin point 7 concentric with one of the two openings 8 and 9. The two depressions 24 and 25 overlap slightly, so that they have a common contour which corresponds approximately to the shape of a figure eight, and are provided with a saddle-shaped face 26 in the region where they merge into one another. This saddle-shaped face 26 affords the plate spring 23 the possibility of sliding out of the one depression 24 against the force of the striker pin spring 15 and engaging into the adjacent other depressions. The detent is sufficiently pronounced to prevent automatic displacement of the striker pin during handling of the secured firearm. In contrast, however, the striker pin can be displaced without difficulty by a slight pressure on the rear end 11 of the striker pin which penetrates the safety roll 10, to move the striker pin point 7 selectively into alignment with the upper opening 8 or the lower opening 9, dependently upon whether edge fired cartridges or centrally fired cartridges are to be fired from the pistol. When the safety device of the firearm is thereafter released, the striker pin is displaced forwardly by the safety roll 10 to such extent that the striker pin point 7, as stated already, engages into the appropriate opening 8 or 9 of the impact plate 4 and is thereby directly retained in the selected position, so that unintentional displacement of the striker pin during handling of the firearm cannot take place.

It is understood that the invention is not limited to the embodiment illustrated by way of example, but that deviations therefrom are possible without the scope of the invention being exceeded. Nevertheless the constructional example illustrated involves an embodiment of the invention which is characterised by its particularly simple construction and particularly high operative reliability.

What I claim is:

1. A breech mechanism for a hand firearm which can be converted for use of cartridges of different calibres, in particular a pistol having a cartridge chamber, a breech block and a striker pin, said striker pin extending through a cavity in the breech block and through an impact plate closing this cavity forwardly, said striker pin being selectively displaceable into each of two different positions in one of which the point of the striker

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pin is directed towards the center of the bottom of a cartridge located in the cartridge chamber and in the other of which positions the point of the striker pin is directed towards the edge of the bottom of such cartridge, the striker pin being surrounded with play by a guide member which is displaceable in the adjustment direction relatively to the breech block and wherein two detent positions are provided for the guide member in which the guide member retains the striker pin in said two positions, respectively.

2. A breech mechanism according to claim 1, wherein the guide member is pressed resiliently against the inside of the impact plate and co-operates with detents disposed at the inside of the impact plate.

3. A breech mechanism according to claim 1, wherein the guide member is loaded directly by a striker pin spring which retains the striker pin in the rest position.

4. A breech mechanism according to claim 1, wherein the impact plate is provided with two openings for the striker pin point and an abutment of the striker pin rests, in the rest position of the latter, against a safety roll mounted in the breech block, and wherein the safety roll is provided with a recess into which the

abutment of the striker pin engages in the safe position of the safety roll, whereby the striker pin recedes so far in its rest position that the striker pin point leaves the respective opening of the impact plate whereas in the firing position of the safety roll the striker pin point engages into the opening corresponding to the desired position of the striker pin.

5. A breech mechanism according to claim 4, wherein the openings are connected on the inside of the impact plate by a groove into which the striker pin point still engages even when the safety roll has been rotated into the safe position.

6. A breech mechanism according to claim 1 wherein the guide member is formed by a plate spring the bottom of which engages into each of the respective detent positions, the latter being formed by depressions which are disposed on the inside of the impact plate concentric to the openings.

7. A breech mechanism according to claim 6 wherein the depressions overlap one another so that they have a common contour which corresponds approximately to the shape of a figure eight and which merge one into the other with a saddle-shaped face.

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