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BARREL MOUNTING FOR AUTOMATIC PISTOLS

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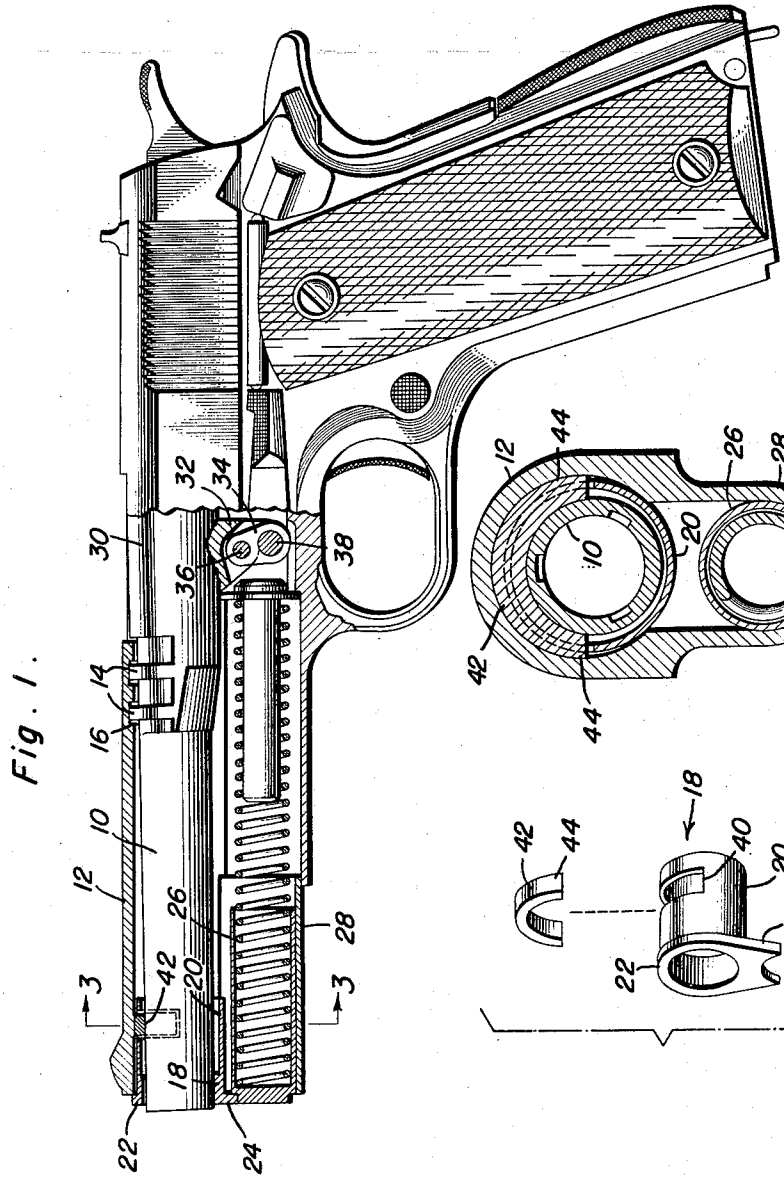


Fig. 1.

Fig. 3.

Fig. 2

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BARREL MOUNTING FOR AUTOMATIC PISTOLS

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6 Claims. (Cl. 42—75)

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This invention relates generally to automatic firearms, and more particularly to a fulcrum mounting for use in automatic and semiautomatic pistols and the like.

In brief, this invention comprises a fulcrum member which is positioned between the barrel and slide in an automatic or semiautomatic pistol or the like and spaced a short distance from the muzzle end of the barrel, so that the muzzle end of the barrel is positively held with relation to the slide, against both vertical and horizontal movement, and the breech end of the barrel is also steadied against movement relative to the slide. Heretofore reasonable accuracy has been achieved by careful machining of the barrel bushing at the muzzle end of the barrel to provide minimum clearance between the barrel and the bushing compatible with provision of free action of the barrel during its rocking motion within the bushing, careful construction of the link assembly at the breech end of the barrel also contributing to the accuracy of the firearm. However, as long as the barrel bushing is of any considerable length measured in the direction of the bore of the barrel, greater clearances than absolutely necessary have had to be provided, and the present invention contemplates the incorporation of a fulcrum member of limited width carried by a rearwardly extending portion of the barrel bushing, so that free action of the firearm is achieved without allowing for needlessly large clearances with consequent loss of accuracy.

A primary object of this invention is, therefore, to provide an improved fulcrum mounting for barrels in automatic pistols and the like, whereby accuracy is improved without the considerable clearances which have heretofore been found necessary for certainty of action of such firearms.

Still another object of this invention is to provide a fulcrum member which prevents transverse shifting of the barrel relative to the slide.

Still another object is to provide means of the character mentioned above which will function to prevent undue play in the breech end of the barrel when the same is in shooting position, this feature having particular reference to deletion of vertical movement of the barrel relative to the other portions of the firearm.

Another object of this invention is to provide means which will improve the accuracy of automatic pistols and the like without materially increasing the cost of manufacture of the firearms, and to provide a device which may be marketed as an accessory or incorporated with

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the firearm at the time of its manufacture without any considerable alteration in the other elements of the firearm.

And a last object to be mentioned specifically is to provide a device of the character mentioned above which is relatively inexpensive and practicable to manufacture, which is safe as well as completely convenient to install and use, and which will give generally efficient and useful service.

With these objects definitely in view, this invention resides in certain novel features of construction, combination and arrangement of elements and portions as will be hereinafter described in detail in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a side elevational view of an automatic pistol with this invention incorporated thereon, portions being broken away and the underlying portions shown in vertical section and in elevation, in order to amplify disclosure of this invention and to simplify the illustration thereof;

Figure 2 is a grouped view of a substantially conventional barrel bushing with a slot therein and an arcuate fulcrum member adapted to be carried in this slot, the parts being shown in perspective and positioned so as to suggest the arrangement thereof in use;

Figure 3 is a transverse vertical sectional view, taken substantially on the line 3—3 in Figure 1.

Similar characters of reference designate similar or identical elements or portions throughout the several views in the drawings.

Referring now to the drawing in details, the environment wherewith this invention is adapted to be used will include an automatic or semiautomatic firearm, exemplified in the drawing as an automatic pistol having a barrel 10, a slide 12, the barrel having lugs 14 on an intermediate portion thereof adapted to be engaged in recesses 16 on the inner surface of the slide near the rear end thereof. The illustrated pistol also includes a barrel bushing 18 having a rearwardly extending cylindrical portion 20, an upwardly extending flange portion 22 adapted to engage the front end of the slide 12, and a downwardly extending flange 24 adapted to engage the front end of a recoil spring cover 26 which houses a recoil spring and which slides within a recoil spring cover guide 28. The rear or breech end 30 of the barrel 10 is provided with a depending lug 32 which carries one end of the link 34 which is pivoted thereon by a link pin 36, while a slide

stop pin 38 is used to pivotally support the other end of this link 34.

All the above mentioned structure may be conventional, and when the barrel bushing 18 is provided with a rearwardly extending cylindrical portion 20, a transverse slot 40 will be provided therein. The slot 40 will extend throughout substantially the upper one half of the cylindrical portion 20 and the slot will be of a width slightly greater than the width of the arcuate fulcrum member 42, so that the latter may slip easily within the slot. The exact configuration of the fulcrum member 42 will vary according to the particular firearm with which it is to be used, but in all cases the fulcrum member will be provided with laterally and downwardly extending arm portions 44 which will bear against the sides of the barrel 10 to prevent lateral play in the front end portion of the barrel, the embodiment of this invention illustrated best in Figure 3 showing how the fulcrum member 42 may be shaped so as to simultaneously contact the adjacent portions of the barrel and slide 12 throughout relatively large portions of the surface of the fulcrum member, thus positively holding the gun barrel in position, with the lower surface of the barrel abutting the lower inside surface of the barrel bushing 18, as indicated in Figure 1, and the upper surface of the fulcrum member 42 also contacting the inner surface of the slide 12 as indicated in both Figures 1 and 3. It is preferred that the fulcrum member 42 should be slightly resilient but very hard and wear-resistant.

The operation of this invention will be clearly understood from a consideration of the foregoing description of the mechanical detail thereof, taken in connection with the drawing and the above recitation of the objects sought to be achieved by this invention. In recapitulation, when the firearm is fired, the barrel in recoiling will be carried downwardly as well as rearwardly by the action of the link 34 and the pins 36 and 38, so that the lugs 14 are temporarily released from the recesses 16 and the barrel is in position for reloading automatically. A certain amount of clearance will be required, even with the effective front mounting of the barrel spaced rearwardly of the muzzle end of the barrel in accordance with this invention, when the barrel and slide recoil, in order to provide for certainty of action, but it will be clear how the fulcrum member 42 will allow for the minimizing of this clearance or preferably the provision of a negative clearance between the lower portion of the muzzle and the lower forward bore portion of the barrel bushing, in cases where the barrel can be slightly sprung, when the barrel is in shooting position, with the result that accuracy of positioning of the gun barrel within the firearm at the time of firing is materially increased. When the barrel is positioned as shown in the Figure 1, that is the shooting position, the link 34 will cause an upward pressure on the breech end of the barrel acting against the fulcrum member 42 and the forward end portion of the barrel bushing 18, the arms 44 of the fulcrum member also laterally engaging the barrel, so that the barrel is rigidly held in proper shooting position.

Obviously many minor variations may be made in this invention without departing from the spirit thereof, especially in adapting the invention for use with firearms different from that illustrated in the drawing and described above. Accordingly the scope of this invention should be limited only as determined by the terms used in the subjoined claims.

Having described the invention, what is claimed as new is:

1. In combination in a firearm, a barrel, means to raise and lower said barrel at the breech end, a slide, and a fulcrum member disposed between said barrel and slide to contact adjacent intermediate portions of said barrel and slide, whereby the barrel in shooting position is positively held, said fulcrum member being on the top of said barrel adjacent but spaced from the muzzle end, a barrel bushing adjacent the muzzle of the barrel, the lower portion of the muzzle of the barrel contacting the lower forward bore portion of the bushing when said means forces the breech end of the barrel upwardly into said shooting position.

2. In combiination in a firearm, a barrel, means to raise and lower said barrel at the breech end, a slide, a fulcrum member disposed between said barrel and slide to contact adjacent intermediate portions of said barrel and slide, whereby the barrel, in shooting position, is positively held, said fulcrum member being on the top of said barrel adjacent but spaced from the muzzle end, a barrel bushing adjacent the muzzle of the barrel, the lower portion of the muzzle of the barrel contacting the lower forward bore portion of the bushing when said means forces the breech end of the barrel upwardly into said shooting position, the barrel being slightly sprung upwardly at its muzzle when the barrel is in shooting position.

3. In combination in a firearm, a barrel, means to raise and lower said barrel at the breech end, a slide, a fulcrum member disposed between said barrel and slide to contact adjacent intermediate portions of said barrel and slide, whereby the barrel, in shooting position, is positively held, said fulcrum member being on the top of said barrel adjacent but spaced from the muzzle end, a barrel bushing adjacent the muzzle of the barrel, the lower portion of the muzzle of the barrel contacting the lower forward bore portion of the bushing when said means forces the breech end of the barrel upwardly into said shooting position, the barrel being slightly sprung upwardly at its muzzle when the barrel is in shooting position, said bushing having a portion extending toward the breech end of the barrel and said fulcrum being carried on said portion.

4. In combination in a firearm, a barrel, means to raise and lower said barrel at the breech end, a slide and a fulcrum member disposed between said barrel and slide to contact adjacent intermediate portions of said barrel and slide between the muzzle and said means, a barrel bushing adjacent the muzzle end of the barrel, said bushing contacting a lower portion of the muzzle end of the barrel while the fulcrum contacts an upper intermediate portion of the barrel when the barrel is in shooting position, whereby the barrel, in shooting position, is positively held.

5. In combination in a firearm, a barrel, means to raise and lower said barrel at the breech end, a slide and a fulcrum member disposed between said barrel and slide to contact adjacent intermediate portions of said barrel and slide between the muzzle and said means, a barrel bushing adjacent the muzzle end of the barrel, said bushing contacting a lower portion of the muzzle end of the barrel while the fulcrum contacts an upper intermediate portion of the barrel when the barrel is in shooting position, whereby the barrel,

in shooting position, is positively held, said fulcrum member being arcuate and having laterally extending portions contacting the barrel on each side to hold the barrel against lateral shifting.

6. In combination in a firearm, a barrel, means to raise and lower said barrel at the breech end, a slide, a fulcrum member disposed between said barrel and slide to contact adjacent intermediate portions of said barrel and slide, whereby the barrel, in shooting position, is positively held, said fulcrum member being on the top of said barrel adjacent but spaced from the muzzle end, a barrel bushing adjacent the muzzle of the barrel, the lower portion of the muzzle of the barrel contacting the lower forward bore portion of the bushing when said means forces the breech end of the barrel upwardly into said shooting position, the barrel being slightly sprung upwardly at its muzzle when the barrel is in shooting position, said bushing having a portion extending

toward the breech end of the barrel and said fulcrum being carried on said portion, said extending portion of the bushing having a transverse slot, and said fulcrum member having an arcuate saddle in said slot.

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