

Feb. 10, 1953

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2,627,686

RECOIL REDUCER AND ACCURACY IMPROVER

Filed May 18, 1951

2 SHEETS—SHEET 1

Fig. 1.

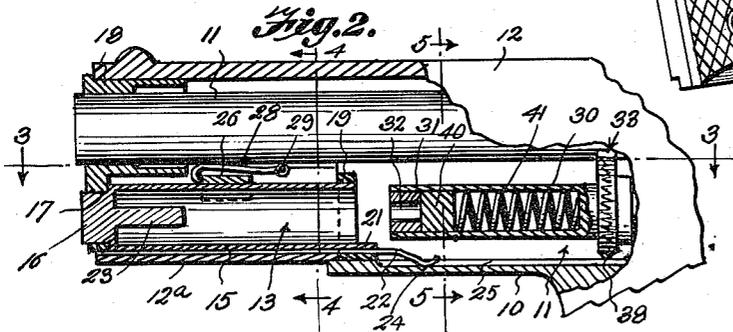
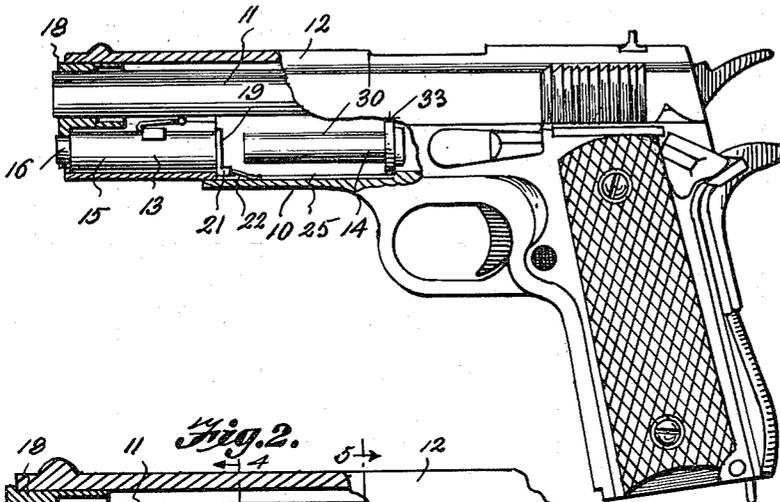


Fig. 3.

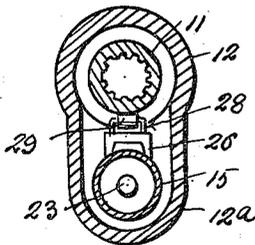
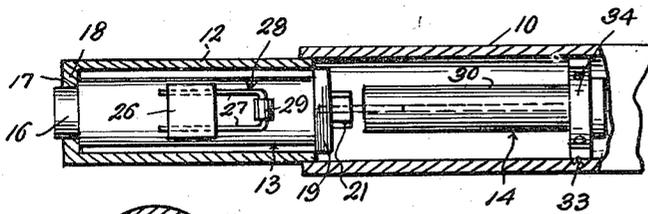


Fig. 4.

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2 SHEETS—SHEET 2

Fig. 5.

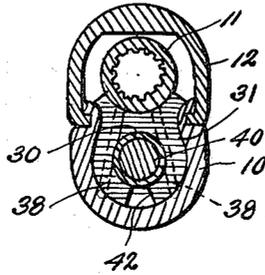


Fig. 6.

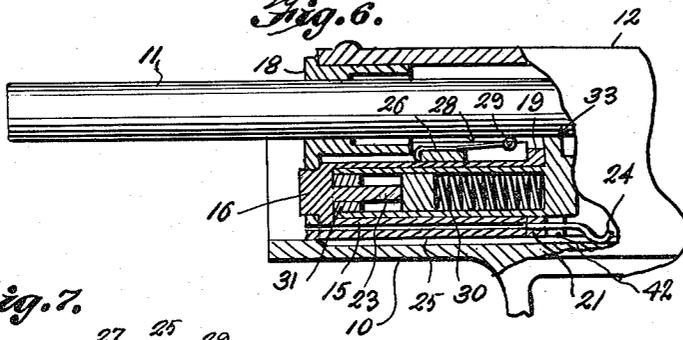


Fig. 7.

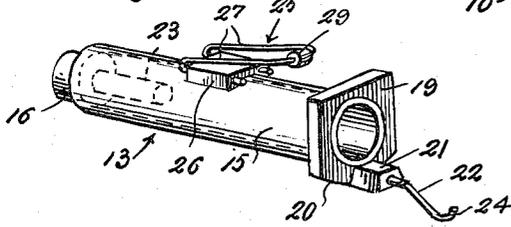


Fig. 8.

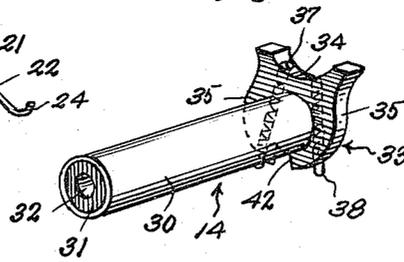
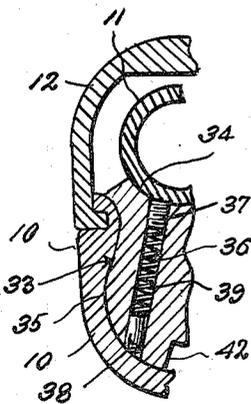


Fig. 9.



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RECOIL REDUCER AND ACCURACY IMPROVER

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3 Claims. (Cl. 42-1)

1

The present invention relates to a recoil reducer and accuracy improver for automatic weapons and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

Generally the invention comprises a device which may be substituted, for example, in the Colt .45 automatic pistol, for the conventional recoil spring plug and recoil spring guide contained in such weapons. Its purpose is to improve the accuracy of such weapons and to distribute the recoil of the same when fired in such manner as to make the gun more pleasant to fire. Such recoil distribution is also a great aid in rapid fire shooting. The device forces the barrel, slide and frame of the conventional pistol into their same relative positions each time the slide comes to rest in its forward position. It also compensates for wear on the barrel, barrel bushing, slide, link and pin construction and the frame. While accuracy is partly achieved by the reduction of recoil, it is also accomplished by having the barrel, slide and frame in the same position each time the weapon is fired. Due to mass production, these parts fit very loosely and do not always come to rest in the same positions after each shot. With the present construction the barrel of the weapon is forced to assume its same position with respect to the frame after each shot thus making for a great improvement in the accuracy of the weapon.

It is accordingly an object of the invention to provide a recoil mechanism for automatic pistols and the like which may be quickly and easily substituted for the conventional recoil spring plug, and recoil spring guide of such weapons.

Another object of the invention is the provision of a device of the character set forth which is comparatively simple in construction, easy to manufacture and yet effective and efficient in use.

Another object of the invention is the provision of a device of the character set forth having means for maintaining the same in constant relative position to the conventional parts of an automatic pistol.

A further object of the invention is the provision, in a device of the character set forth, of a novel spring and guide groove therefor forming a part of the invention.

A further object of the invention is the provision of novel means for the prevention of wear in a spring and barrel forming a part of the invention.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a side elevational view, partly broken away, of an embodiment of the invention shown in position in an automatic pistol,

2

Figure 2 is an enlarged fragmentary vertical sectional view, partly in elevation, of the device,

Figure 3 is a fragmentary sectional view taken substantially along line 3-3 of Figure 2,

Figure 4 is a sectional view taken along line 4-4 of Figure 2,

Figure 5 is a sectional view taken along line 5-5 of Figure 2,

Figure 6 is a view similar to Figure 2 but showing the device at the moment of its most rearward movement,

Figure 7 is a perspective view of the forward portion of the device forming the present invention,

Figure 8 is a perspective view of a rearward portion of the device forming the present invention, and

Figure 9 is a fragmentary sectional view similar to Figure 5 but enlarged and illustrating certain details of construction.

Referring more particularly to the drawings, there is shown therein an automatic pistol including a frame 10, a conventional barrel 11 and a slide 12.

In Figure 7 there is generally illustrated at 13 a forward assembly which replaces in a pistol the conventional recoil spring plug and in Figure 8 of the drawings there is generally illustrated at 14 a rearward assembly which replaces in a pistol the conventional recoil spring guide.

The forward portion of the slide 12 is provided with a dependent portion 12a which normally houses the forward assembly 13.

The forward assembly 13 consists of a hollow longitudinally extending cylinder 15 provided at its forward end with a solid reduced portion 16 which is adapted to normally extend through an opening 17 formed in a bushing 18 mounted in the forward end of the slide 12.

The rearward end of the cylinder 15 is provided with a squared flange 19 which bears against the frame 10 and also keeps the frame and slide in close alignment. The flange 19 is provided with a rounded lower edge 20 to which is affixed a rearwardly extending lug 21 in which is mounted a rearwardly and downwardly extending spring 22. A pin 23 is centrally and longitudinally affixed to the inner face of the reduced portion 16 within the cylinder 15 and the lower end of the spring 22 is upturned slightly, as indicated at 24. The lower end of the spring 22 is adapted to be received in a longitudinal groove 25 formed in the lower side of that part of the frame accommodating the rearward assembly 14.

Centrally affixed to the upper side of the cylinder 15 is a bracket 26 in which is affixed the legs 27 of a U-shaped spring 28 upon whose bight portion is mounted a roller 29, the roller 29 bearing against the underside of the barrel 11.

The rearward assembly 14 comprises a cyl-

inder 30 whose outside diameter is such that it may readily be received within the cylinder 15 when the forward assembly is moved rearwardly by the recoil of the pistol. Within the forward end of the cylinder 30 there is affixed a collar 31 having an opening 32 centrally disposed there-through. The cylinder 30 is provided with an irregularly shaped rear wall 33 provided at its upper end with a rounded groove 34 which is adapted to bear against the underside of the barrel 11 and with outwardly extending rounded sides 35.

In either vertical half of the member 33 there is provided a downwardly and outwardly extending passageway 36 in the upper end of which is mounted a plug 37 and in the lower end of each of which is slidably mounted a pin 38. A compression spring 39 is mounted in each of the passageways 36 and each is adapted to abut against its associated plug and pin 38. A cylindrical plug 40 is slidably mounted within the cylinder 30 and normally bears against the inner side of the collar 31 being urged into such position by means of a coil spring 41 mounted in the cylinder 30 and bearing against the member 33 at its rear end and against the plug 40 at its forward end.

In operation, it will be apparent that when the pistol is fired, the slide 12 will move rearwardly with respect to the barrel 11 thereby carrying with it the forward assembly 13 as a result of which the pin 23 will enter the opening 32 as the cylinder 30 passes into the cylinder 15. During this operation the lower end of the spring 22 will slide along the groove 25 and at the same time prevent rotation of the cylinder 15. When the pin 23 comes into contact with the plug 40 it will act to move the same rearwardly against the action of the spring 41 to thereby absorb and distribute some of the recoil from the firing of the pistol. As the action just described occurs, the spring 28 will bear against the underside of the barrel 11 and the roller 29, if mounted thereon, will prevent wear upon the spring 28 and barrel 11. This action of spring 28 acts to maintain the relative parts of the pistol and the recoil mechanism just described at all times in their proper relative positions. When the forward assembly 13 has reached its rearmost point in the recoil action, the lug 21 will be received in a groove 42 formed in the lower end of the member 33. It will also be noted that the spring pressed action of the pins 38 against the inner walls of the body of the pistol will likewise maintain the various parts above described in their proper relative positions.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. A device of the character described comprising, in combination with a pistol having a frame, a barrel, and a slide member slidable upon said frame and encompassing said barrel, the provision of a recoil absorber comprising a forward assembly and a rearward assembly, said forward assembly including a hollow cylinder carried by said slide member, said rearward assembly including a hollow cylinder mounted in said frame and receivable within the forward cylinder when said slide member is moved rearwardly, and means in said rearward assembly for

absorbing recoil, said means including a collar having a centrally disposed opening mounted in the forward end of the rearward cylinder, a plug slidably mounted in said rearward cylinder, a compression spring in said rearward cylinder for normally urging said plug into contact with said collar, a forward wall for said forward cylinder, and a centrally disposed longitudinally extending pin affixed to the inner side of said forward wall and receivable through the opening in said collar and adapted to impinge upon said plug against the action of said compression spring when the forward assembly is moved rearwardly.

2. A device of the character described comprising, in combination with a pistol having a frame, a barrel, and a slide member slidable upon said frame and encompassing said barrel, the provision of a recoil absorber comprising a forward assembly and a rearward assembly, said forward assembly including a hollow cylinder carried by said slide member, said rearward assembly including a hollow cylinder mounted in said frame and receivable within the forward cylinder when said slide member is moved rearwardly, and means in said rearward assembly for absorbing recoil, and means for maintaining said assemblies in relative position to said barrel when said slide member is moved, said last-named means including a spring atop said forward cylinder bearing against the underside of said barrel, a downwardly and rearwardly extending flat spring affixed to the rear of said forward cylinder, said frame having a longitudinal groove therein for the slidable reception of the free end of said flat spring, and a pair of spring-pressed pins extending outwardly from the rearward end of said rearward assembly.

3. A device of the character described comprising, in combination with a pistol having a frame, a barrel, and a slide member slidable upon said frame and encompassing said barrel, the provision of a recoil absorber comprising a forward assembly and a rearward assembly, said forward assembly including a hollow cylinder carried by said slide member, said rearward assembly including a hollow cylinder mounted in said frame and receivable within the forward cylinder when said slide member is moved rearwardly, and means in said rearward assembly for absorbing recoil, and means for maintaining said assemblies in relative position to said barrel when said slide member is moved, said last-named means including a spring atop said forward cylinder bearing against the underside of said barrel, a downwardly and rearwardly extending flat spring affixed to the rear of said forward cylinder, said frame having a longitudinal groove therein for the slidable reception of the free end of said flat spring, and a pair of spring-pressed pins extending outwardly from the rearward end of said rearward assembly, said spring mounted atop said forward cylinder having a roller mounted thereon, and said roller being in contact with said barrel.

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