Sept. 12, 1950 P. L. PORTER 2,522,192

RECOIL REDUCER

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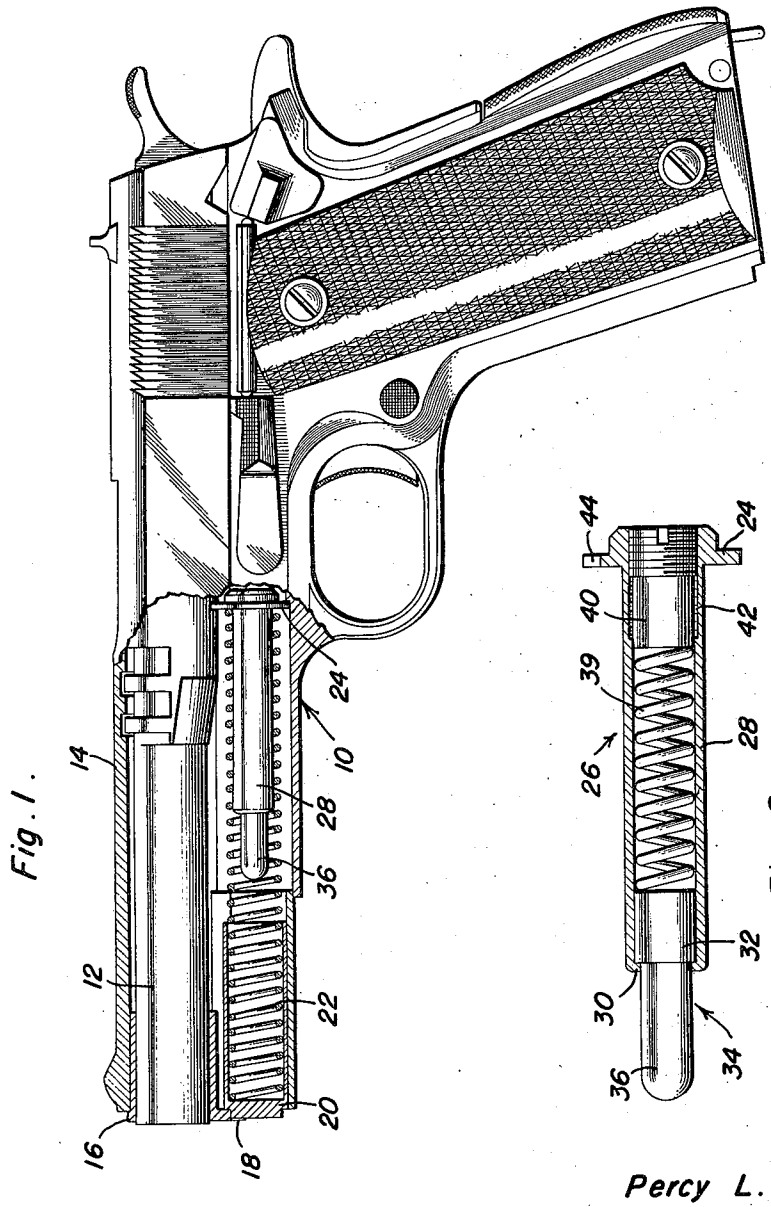


Fig. 1.

Fig. 2.

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RECOIL REDUCER

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1 Claim. (Cl. 89—198)

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This invention relates to novel and useful improvements in attachments for use in association with certain automatically operated weapons.

An object of this invention is to reduce the recoil of various types of weapons, particularly the automatically operative type, through the utility of modifying the conventional recoil spring guide as to provide a secondary function therefor.

Another object of this invention is to provide a shock absorber in the conventional recoil spring guide of an automatic weapon and means associated with the guide for selectively adjusting the efficacy of the shock absorber.

Another object of this invention is to provide a plunger or piston within the recoil spring guide, a threaded element adjustably supplied in the said guide and a spring interposed between the threaded element and the plunger, reacting on both.

Ancillary objects and features of novelty will become more apparent to those skilled in the art, in following the description of the preferred form of the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is an elevational side view of the conventional type of automatic weapon, portions being broken away in sections to illustrate the application and use of the invention, and;

Figure 2 is a longitudinal sectional view showing the actual element and elements forming the invention.

This invention has been developed in order to reduce the recoil of conventional automatic weapons. The present invention is adapted for use in many environments, particularly in weapons of the automatic type such as the Colt 38 and 45 caliber pistols.

The normal operation of this type of weapon is well known and the portions thereof which are affected by the present invention are as follows:

A frame generally indicated at 10 is of usual structure and has a conventional barrel 12 mounted therein. This barrel is also mounted in the usual slide 14, slidably mounted on the said frame. Upon firing of the weapon it is normal (due to the undisclosed structure) in a conventional weapon of this type that the slide 14 be actuated rearwardly, carrying with it the barrel bushing 16. This barrel bushing is provided at the forward end of the barrel 12 and also at the forward end of the slide 14. It is attached by means (unshown) of the locking nature engaging the inner surface of the slide 14. This bushing has a recessed portion 18 projecting therefrom which engages an end of a hollow plug 20.

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This hollow plug is also of conventional form and is slidably positioned in the frame 10. Thus, upon reciprocation of the slide 14, the hollow plug 20 will be actuated rearwardly through the medium of the interposed bushing 16, connecting the slide 14 with the plug 20. To complete the reciprocatory movement, the recoil spring 22 urges the hollow plug in the opposite direction thereby carrying with it the slide 14.

The said recoil spring 22 is positioned within the hollow plug, seating on the bottom thereof and also engages a collar 24. This collar 24 is formed with a cylindrical portion of a guide generally indicated at 26. This guide includes a sleeve having a slightly inturned portion 30 at the end opposite the said collar 24.

The said slightly inturned portion 30 forms a shoulder within the sleeve 28 operatively engageable by an enlargement 32 of a plunger or piston generally indicated at 34. This plunger or piston also includes a reduced shank 36 which projects normally exteriorly of the said sleeve 28.

A spring 39 or other suitable equivalent resilient urging means seats within the sleeve 28, reacting on the enlargement 32 and on a threaded element or member 40. This threaded element or member is actually in the form of a screw which is adjustably received in conventional threads 42 provided in the bore of the said sleeve 28. Inspection of Figure 2 clearly illustrates the adjustability of the effective compression of the spring 39 by manipulation of the threaded element 40.

The said collar 24 has a dished or recessed portion 44 therein which is slidably disposed on the bottom surface of the barrel 12.

In actuation and operation the said recoil spring 22 is compressed almost entirely within the hollow plug 20, but before it reaches its maximum compression, the reduced shank 39 of the plunger 34 engages the bottom of the hollow plug. Thus, the spring 39 is compressed along with the recoil spring 22 thereby reducing the recoil of the en-

tire gun an appreciable amount. The mechanism within the guide 26 is actually a shock absorber serving this function.

While there has been described and illustrated but a preferred form of the invention, it is apparent that variations may be made without departing from the spirit thereof.

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

For use in a weapon including a frame, a barrel attached to said frame, a slide mounted on said frame and said barrel, a barrel bushing attached to the end of said barrel, a hollow plug slidably mounted in said frame engaged by said bushing, and a recoil spring reacting on said plug and said frame, the improvement which comprises; a recoil spring hollow guide slidably mounted on said frame and barrel and a shock absorbing spring

mounted in said hollow guide compressed by said hollow plug upon compression of said recoil spring, and said hollow guide having a flange at one end with a recess in said flange, the barrel having a part of its lower surface disposed in said recess.

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