Aug. 5, 1958 M. G. HOYER 2,845,737

MECHANICAL RECOIL COMPENSATOR

Filed Oct. 10, 1955

Fig. 1

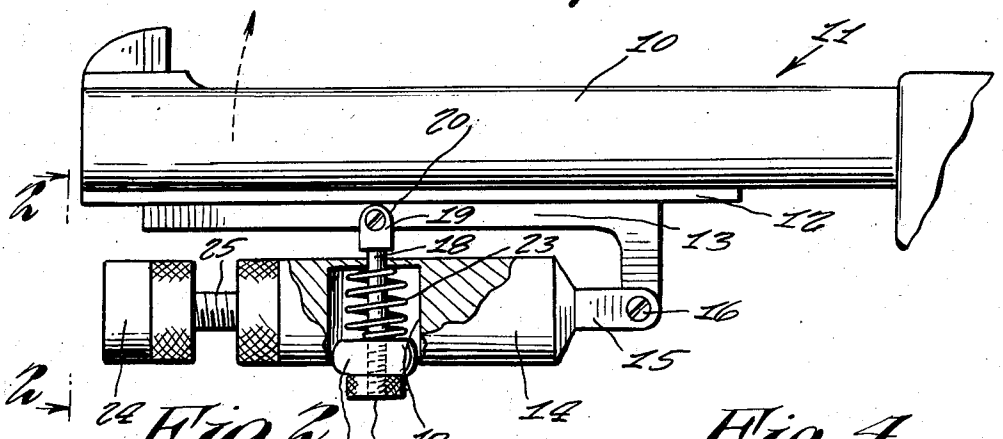


Fig. 2

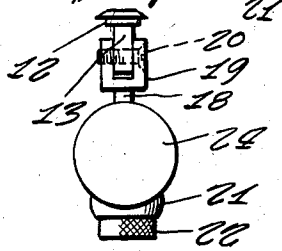


Fig. 4

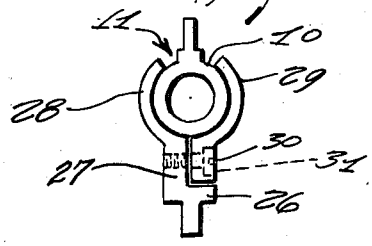
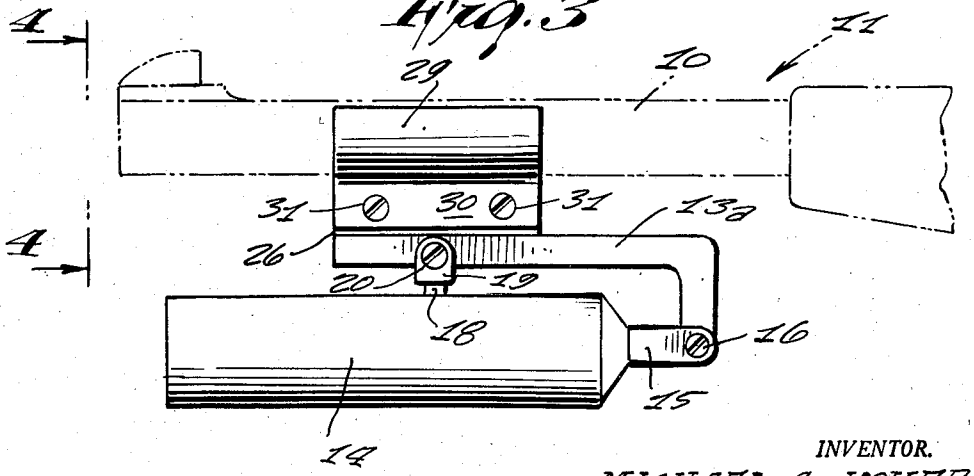


Fig. 3



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MECHANICAL RECOIL COMPENSATOR

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4 Claims. (Cl. 42—1)

This invention relates to recoil reducing devices, for firearms.

It is an object of the present invention to provide a recoil compensator for pistols and revolvers which reduces the recoil and increases the accuracy of the pistol.

It is another object of the present invention to provide a recoil compensator of the above type which may be adjusted so as to exert an adjustable pressure on the barrel to accommodate the device to persons having varying degrees of steadiness and weight holding capabilities.

It is still another object of the present invention to provide a recoil compensator of the above type which will help the shooter improve his overall score.

Other objects of the invention are to provide a recoil compensator having the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation.

For other objects and a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a side view shown partly in elevation and partly in section of a preferred embodiment of the present invention shown in operative use;

Fig. 2 is an end elevational view thereof looking along the line 2—2 of Fig. 1;

Fig. 3 is a side elevational view of a modified form of the present invention;

Fig. 4 is an end elevational view looking along the line 4—4 of Fig. 3.

Referring now more in detail to the drawing, 10 represents the barrel of a pistol or revolver indicated at 11 and to the undersurface of which is secured the elongated strip 12, substantially as illustrated.

In the practice of my invention, an L-shaped plate 13 is secured to the undersurface of the plate 12 and pivotally mounts at the depending, vertical portion thereof a cylindrical counterweight 14 of relatively great mass by means of the lug 15 connected to the latter and the bolt 16. The counterweight 14 is provided with a cylindical bore 17 extending upwardly from the bottom thereof and terminating short of the upper face and through which passes the vertical shaft 18 in a slidable manner, the upper end of the shaft 18 fixedly carrying the bifurcated portion 19 which is pivotally connected to the plate 13 by means of the screw 20.

The lower end of the shaft 18 extends downwardly below the counterweight 14 in an externally threaded portion onto which is screwed a first nut 21 and therebelow an externally knurled lock nut 22, a coil spring 23 sleeving the shaft 18 intermediate the nut 21 and the upper end of bore 17.

In operation, when the gun 11 is fired, the barrel 10 tends to move upwardly in the direction of the arrow of Fig. 1. The counterweight 14 in cooperation with the compression spring 23 presents a retarding force through the compression spring and counterweight which latter is reluctant to rise and tends to hold the barrel 10

on its original course. The knurled adjustment nut 22 controls the amount of pressure exerted by the spring 23, providing a greater or lesser counterweight reaction in the vertical direction. Turning the nut 22 in a clockwise direction will increase the pressure and in a counterclockwise direction will reduce the same. Screw in plugs 24 having the externally threaded shanks 25 which are screwed into internally threaded openings provided in the front end of the counterweight will provide a greater adjustment range of counterweight pressure. Varying weights of plugs 24 will be provided as an adjustment because different persons have varying degrees of steadiness and weight holding capabilities. Thus, the device may be adjusted to their particular condition.

Referring now particularly to Figs. 3 and 4, there is shown a modified form of the invention wherein the L-shaped plate 13*a* is integrally formed at its upper end with a laterally extending flange 26, one side of which is integrally formed with the upwardly extending vertical plate 27 in turn integrally formed at its upper end with the arcuate barrel encircling portion 28 (Fig. 4). A complementary arcuate barrel encircling plate 29 is provided and is integrally formed at its lower edge with the depending vertical plate 30 adapted to fit against the plate 27 above flange 26 and to be retained thereat by means of the screws 31. By means of this construction the recoil compensator can be installed in any type pistol or revolver with a fixed barrel of appropriate length and accustomed to the particular barrel shape.

In other respects the form of the invention shown in Figs. 2 and 3 is the same as that shown in Fig. 1, and like reference numerals identify like parts throughout the several views.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth and disclosed the nature of my invention, what is claimed is:

1. A recoil compensator comprising an L-shaped plate, means for securing said L-shaped plate to the undersurface of the barrel of a firearm, counterweight means pivotally connected to the depending portion of said L-shaped plate, and spring means acting between said counterweight and said L-shaped plate whereby to reduce recoil and improve accuracy, said counterweight means comprising a substantially cylindrical member of relatively great mass pivotally connected at its rear end to the depending portion of said L-shaped plate, a depending shaft having its upper end secured to said L-shaped plate forwardly of the depending portion thereof, said counterweight having a cylindrical bore extending upwardly through the bottom thereof and terminating short of the upper surface thereof, said depending shaft passing downwardly through said bore, said spring means comprising a compression spring sleeving said shaft within said bore and adjustable means for varying the tension of said compression spring.

2. A recoil compensator according to claim 1, said adjustable means comprising a first nut, the lower end of said depending shaft being externally threaded and a second externally knurled lock nut below said first nut screwed onto the externally threaded portion of said depending shaft whereby to vary the tension of said compression spring.

3. A recoil compensator according to claim 2, said means for securing said L-shaped plate to the undersurface of the barrel comprising a laterally extending flange at the upper end of said L-shaped plate, said flange at one side fixedly mounting a vertical plate fixedly mounting in turn at its upper end an arcuate barrel encircling shaped plate and a complementary arcuate barrel en-

circling plate adapted to be positioned on the underside of the barrel and formed along its lower edge with a depending vertical plate adapted to fit against said first vertical plate and to rest on said flange, and screw means securing said depending vertical plates together.

4. A recoil compensator as set forth in claim 3, wherein the longitudinal axis of said cylindrical member extends substantially parallel to the longitudinal axis of said gun barrel, and said rear end of said cylindrical member comprises a stem extending concentric with said cylinder axis.

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