J. H. WESSON.

AUTOMATIC PISTOL.

APPLICATION FILED NOV. 5, 1914.

1,181,416. Patented May 2, 1916.

Fig. 1.

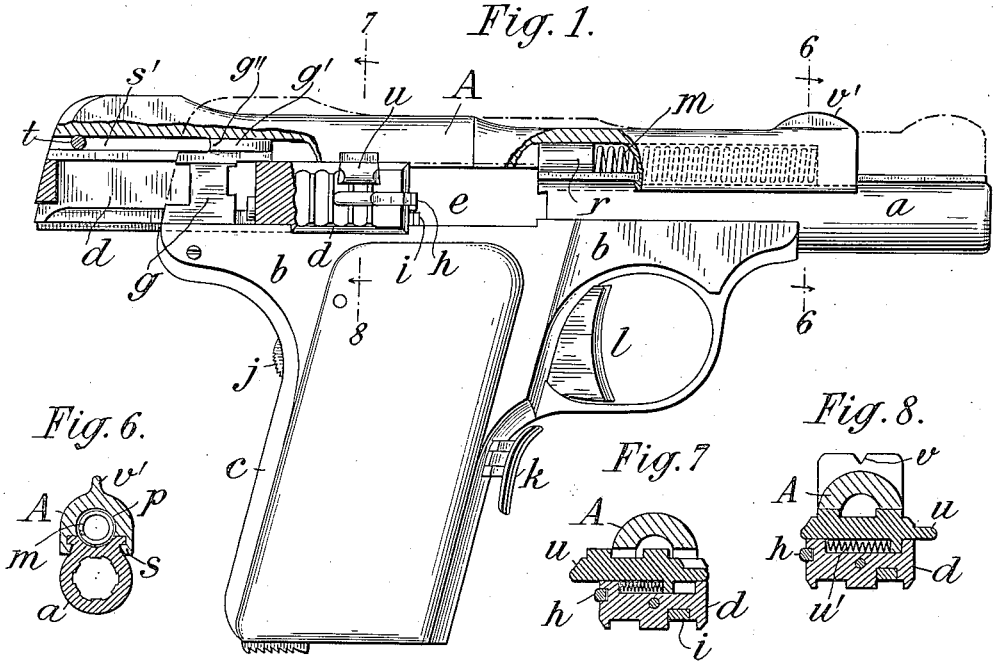


Fig. 6.

Fig. 7

Fig. 8.

Fig. 2.

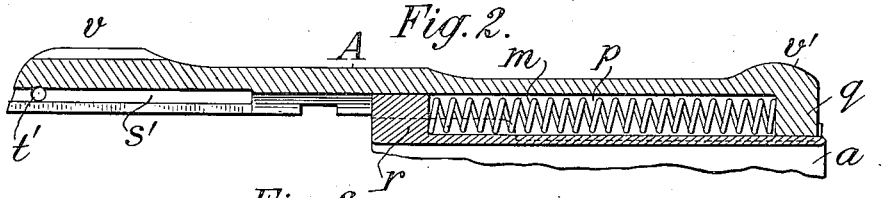


Fig. 3.

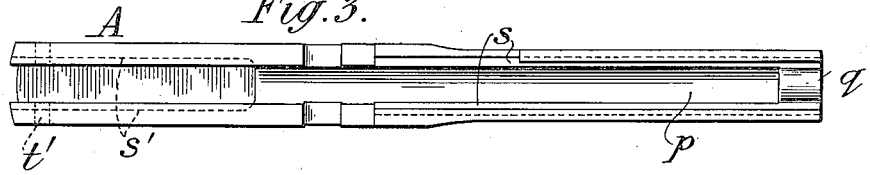


Fig. 4.

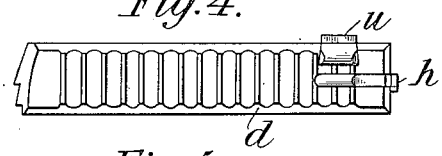
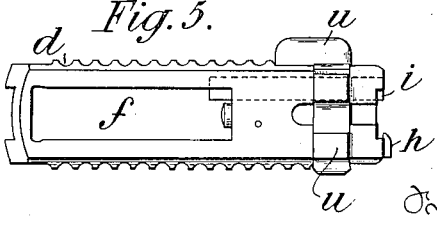


Fig. 5.



WITNESSES:

René Spuine

L. F. Wallace

INVENTOR:

Joseph H. Wesson,

By Attorneys,

Fraser, Durle & Myers

UNITED STATES PATENT OFFICE.

JOSEPH H. WESSON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO SMITH & WESSON, OF SPRINGFIELD, MASSACHUSETTS, A VOLUNTARY ASSOCIATION.

AUTOMATIC PISTOL.

1,181,416. Specification of Letters Patent. Patented May 2, 1916.

Application filed November 5, 1914. Serial No. 870,331.

To all whom it may concern:

Be it known that I, JOSEPH H. WESSON, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Automatic Pistols, of which the following is a specification.

This invention relates to an automatic firearm, and is applicable to automatic pistols or other firearms of the blow-back type in which the breech block is forced back by the reaction of the charge in firing the pistol, thereby compressing a spring which presses the breech block forward to force a new cartridge into the barrel.

The invention is shown as applied to an automatic pistol of the general type and construction of that shown for example in my Patent No. 1,033,971, dated July 30, 1912.

In automatic pistols as shown in said patent the reaction diplaces backwardly only the breech block. The weight of the breech block by its inertia tends to steady the arm against the reaction of the discharge. This steadying effect is sufficient in an arm of the usual small caliber and with the light projectile and small charge employed in the cartridge fired in such arms; but for a larger and heavier arm employing cartridges having heavier bullets and impelled by a larger charge, the reaction would not be adequately taken up by the weight of the breech block alone unless this were made impracticably large and heavy. My Patent No. 1,041,928 dated October 22, 1912, shows a construction in which the weight of the breech-block is increased by extending it over the top and rear of the breech-portion of the pistol. For more effectively attaining the desired result, my present invention adds to the weight of the breech-block, the weight of another part of the arm which can practicably be made to slide with the breech-block, and thus proportionately increases the inertia and hence the steadiness of the arm under fire.

In carrying out this invention, I mount the spring case or housing for the actuating spring so that it may slide relatively to the barrel, and so that by attaching it to the breech block it participates in the backward and forward movements of the latter.

The accompanying drawings show the invention as applied to a pistol of the character referred to.

Figure 1 is a side elevation partly in section showing the breech block and attached parts in the retracted position in full lines and in the forward or loaded position in dotted lines. Fig. 2 is a vertical longitudinal mid-section of the spring housing and the adjacent upper part of the barrel. Fig. 3 is an under side plan of the spring housing removed. Fig. 4 is a side elevation of the breech block removed. Fig. 5 is a plan of the latter. Fig. 6 is a transverse section on the line 6—6 in Fig. 1. Figs. 7 and 8 are transverse sections on the line 7—8, of the breech block and spring housing and their connecting catch, showing it unfastened in Fig. 7 and fastened in Fig. 8.

In the drawings, the barrel *a* is mounted in the usual manner upon the main frame *b*, which includes the hollow stock or grip *c* within which is inserted the magazine as usual. Behind the barrel is the breech block *d* (Figs. 4 and 5) which is mounted to slide in the usual breech opening *e*, and which has the usual slot *f* (Fig. 5) within which projects the fixed post *g* at the rear of the frame serving as an abutment to limit the retractile movement of the breech block. The breech block as usual is driven backwardly by the reaction on firing, and in its backward movement withdraws and ejects the spent shell as usual. The extractor is shown at *h* and the ejector at *i*, these being of a usual construction. The hand safety lock *j*, automatic or grip safety *k*, and trigger *l*, are shown as of the construction usual in the Smith & Wesson automatic pistol.

In applying the present invention, the actuating spring *m* which after the recoil drives the breech block forward to throw the fresh cartridge into the barrel, instead of being inclosed in a fixed housing formed integrally with or fastened upon the barrel as usual, is inclosed in a housing formed as part of a slide which as a whole is lettered A. This slide is substantially of the com-

bined length of the barrel and frame, so that when the arm is loaded it stands in the position shown in dotted lines in Fig. 1, so that with the proportions shown it preserves the conventionel outline of the pistol. Its forward part forms the housing for the spring *m;* thus it is hollowed out to form a chamber *p* (Figs. 2, 3 and 6). The spring presses forwardly against the closed front end *q* of the housing and backwardly against a reaction block *r* on the barrel. The slide A has a sliding engagement with the barrel *a* and frame *b*. Its engagemcnt with the barrel is best shown in Fig. 6, where an undercut slideway *s* is shown, also indicated in Fig. 3. The rear portion of the slide A has a similar engagement with the rear part of the frame *b*, the latter having on the part *g* outward flanges *g'* engaged by grooves *s'* in the slide. A removable pin *t* passed through a transverse hole *t'*, serves as a stop to limit the forward movement of the slide under the stress of the spring *m* by striking an abutment *g''* formed on top of the post *g*.

In order to connect the breech block so that its rearward movement shall compress the spring *m*, and so that the spring shall then force it forward, a catch piece *u* is provided, which is shown as of similar construction to a corresponding part in my said previous Patent No. 1,033,971. It is mounted on the breech block to slide transversely thereto, as shown in Figs. 4, 5, 7 and 8, being pressed to the locked position by a spring *u'*, and having a projection shown at the right in Fig. 8 by which it may be displaced to unlock it. Normally this catch piece locks together the breech block and the slide A, so that upon firing the arm the blow-back drives back the breech block and slide together and compresses the spring *m;* when this force is spent the spring *m* moves forward the slide and breech block to reload the arm. By displacing the catch piece the breech is disconnected from the slide and may be moved backward independently, so that the operator may retract and advance it for loading the first cartridge from the magazine into the barrel without having to overcome the resistance of the heavy spring *m*, as explained in my said patent.

The cocking and firing mechanism and the magazine are not shown, as these have no connection with the present invention. The operation of the arm in every respect except as herein described, is the same as set forth in my said patent and previous patents for automatic pistols of this type.

The practical effect of the invention is that to the weight of the breech block is added the weight of the slide A (which can be made of more or less mass as desired), so that a much greater inertia is available to be taken up by the blow-back of powder gases, and consequently less reaction or kick is transmitted to the frame and grip. Thus the arm is rendered steadier, and the firing reaction interferes less with the aiming of the arm for the next shot than would otherwise be the case. The sights *v v'* are conveniently formed on the slide A.

The present invention is not to be limited to the precise details of construction shown, as these may be greatly varied. The size, weight and shape of the slide A may be varied as desired. While this slide preferably includes the entire upper part of the arm as shown, yet if less mass is desired, a lesser proportion of the upper part of the arm may be included in the slide.

I claim as my invention:—

1. In an automatic arm of the described type, the combination with the movable breech block and the actuating spring, of a slide constituting part of the upper portion of the arm, and forming a housing for said spring, said slide normally connected to the breech block whereby the mass of said slide is added to that of the breech block to increase the inertia to be overcome by the reaction on firing, a stop for limiting the forward movement of said slide under stress of said spring independently of the breech block, and a catch piece for normally connecting said slide to the breech block, adapted to be displaced to disconnect the breech block and enable the latter to be retracted independently.

2. In an automatic arm of the described type, the combination with the barrel, frame, breech block and actuating spring, of a slide forming the upper part of the arm overlying the barrel and forming a housing for said spring, the frame having a post at its rear projecting upwardly into engagement with the slide, and the slide having a removable stop piece engaging an abutment on said post to limit the forward movement of the slide.

3. In an automatic arm of the described type, the combination with a barrel, frame, breech block and actuating spring, of a slide constituting part of the upper portion of the arm overlying the barrel and forming a housing for said spring, having a stop for limiting the forward movement of the slide, and a catch piece movable laterally in the breech block, engaging in its normal position a recess in said slide, and when displaced therefrom disconnecting the slide and breech block, whereby the breech block may be retracted independently of the slide.

4. In an automatic arm of the described type, the combination with a barrel, frame, breech block and actuating spring of a slide constituting part of the upper portion of the arm overlying the barrel and forming a housing for said spring, the frame having a post at its rear projecting upwardly, and

a removable stop pin normally socketed in the slide and in position to engage said post and limit the forward movement of the slide, the parts adapted upon the removal of said pin to permit the slide to be displaced forwardly to demount it.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH H. WESSON.

Witnesses:
SEVERIN WALLENBERG,
CHAS. W. WILLIAMS.