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22 CALIBER CONVERSION FOR A COLT 45 CALIBER SEMI-AUTOMATIC PISTOL

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This invention relates to the semi-automatic pistols commonly known as the "Browning" or "Colt," and has for its object the provision of an improved 22 caliber conversion for such pistols. While the invention is primarily and most advantageously adapted to the 45 caliber United States Army embodiment of the Browning automatic pistol, usually called the "Colt 45," it is to be understood that the invention applies to any of the various large calibers of such pistols, which are characterized by having a breech block, commonly called a slide, reciprocally mounted on a grip member, and a barrel which is connected by a linkage to the grip member, said slide being locked by lugs to the barrel at the time of firing. During recoil, the barrel moves a short distance in coupled connection with the slide and the linkage unlocks the barrel from the slide. (Hereinafter, for convenience, such pistols will be called the "Colt 45" or "Colt 45 caliber type.") This Colt pistol is described and illustrated in the patent of John M. Browning No. 380,924 and in the Williams Patent No. 2,090,657.

The 22 caliber conversion of my invention provides a 22 caliber barrel which is operatively fixed to, but removable from, the grip member, a breech block housing or receiver which is slid into engagement with the grip member during assembly in the manner of the original slide but which is secured in its operative position to the barrel and indirectly to the grip member, and a "blow-back" breech block which is mounted in the receiver. The conversion utilizes the mechanism in the grip member and includes a magazine for 22 caliber short or long-rifle cartridges and, accordingly, converts the said large caliber pistol into a 22 caliber blow-back semi-automatic pistol.

The Colt 45 and like embodiments of the Browning pistol have a link and cross-pin which connect the barrel to the grip member and another cross-pin known as the slide stop which passes through the grip member and limits the movement of the slide.

In my invention, I provide a barrel having a depending lug having a hole or recess by means of which the barrel is secured in its fixed position to the grip member by the slide stop. The barrel is mounted in the receiver and is secured to the receiver as by means of a nut.

One important feature of the invention is the construction and arrangement of the breech block in relation to the receiver and barrel by means of which I may, with considerable advantage, construct both the breech block and receiver of a light metal such as aluminum. The breech block reciprocates in the receiver and in its most rearward position projects beyond the rear end of the receiver. In this reciprocable motion cartridge feeds into the barrel, the empty cases are extracted and ejected and the hammer is cocked. The breech block is provided with an elevated shoulder which engages an abutment on the receiver to arrest the rearward travel of the breech block. When the receiver is made of aluminum, the receiver has a steel cross pin which serves as an abutment to stop the breech block without injuring the receiver. This construction gives the advantage of using a steel pin to absorb the blow and in that way further enables me to use aluminum for these members.

To facilitate the take-down and assembly of the entire conversion the receiver is provided with guide ribs which engage grooves in the grip member and the receiver is merely slid into position. A return coil spring is mounted over the barrel and connected by a rod to the breech block. The rod has a hooked end which engages a slot in the breech block and the conversion can be assembled by inserting the barrel with its surrounding return spring and the rod and breech block into the receiver and securing the barrel to the receiver by a nut. This conversion unit is then slid onto the grip member and is secured in place by inserting the slide stop through the hole in the grip member and the recess in the lug on the barrel. The barrel is thus secured to the grip member, the receiver is secured to the barrel and the breech block can reciprocate in the receiver as a true "blow-back" breech block.

In the accompanying drawings:

Fig. 1 is a side elevation of a semi-automatic pistol embodying the invention;

Fig. 2 is a vertical sectional view on an enlarged scale of the upper portion of the pistol of Fig. 1 illustrating the 22 caliber conversion of the invention;

Fig. 3 is a fragmentary portion of Fig. 2 illustrating the rearward position of the breech block;

Fig. 4 is a view from above of the pistol of Fig. 1 with parts shown in cross section;

Fig. 5 is a sectional view at 5—5 of Fig. 2; and

Fig. 6 is an end view of the breech block with parts removed.

The drawings show in full lines the elements comprising the 22 caliber conversion of the invention in operative connection with a standard grip member of a Colt 45 caliber semi-automatic pistol shown in broken lines. The conversion unit or assembly of the invention comprises a receiver 1 which is in slideable connection with the grip member 2 and is supported in guided connection thereto by the longitudinal ribs 3 and 4 which engage the side grooves 5 and 6 on the grip member. This receiver has the general shape and dimensions of the slide of the usual Colt 45, and gives the general exterior appearance of that pistol. In view of the relatively great weight of the Colt 45 it is advantageous to construct the receiver of a light metal such as aluminum or an aluminum alloy. The forward portion of the receiver has an opening 7 which is cylindrical in cross-section and which receives the barrel 8. The rearward portion of the receiver is also open, being generally rectangular in cross-section and receives the breech block 9.

The barrel 8 has a threaded forward end 10, a small diameter portion 11 and a depending lug 12 which, as shown, is driven into a slot 13 in the barrel and is accordingly secured in a fixed position. The lower portion of the lug has a recess 14 for receiving the standard cross pin 15 of the Colt 45 and the barrel is accordingly keyed to the grip member. The nut 16 secures the receiver to the barrel.

The breech block 9 may be made of any suitable metal, preferably aluminum, and is formed to move forward or rearward during action and is accordingly what is known as a blow-back breech block. The under surface of the breech block is cut out at 17 to provide clearance for the magazine 18. It also has a cut out 19 to operate the standard trigger disconnector 20 which is mounted in the grip member of the Colt 45. The breech block has a longitudinal slot 21 in which is mounted a flat firing pin.
22. The firing pin is held in its rearward position out of contact with the cartridge by the rebound spring 23 and follower pin 24. The forward end of the firing pin is held in position by a cross pin 25 in the breech block which passes through an elongated slot 26 in the firing pin. The rearward end of the firing pin is held in position by the steel insert 27 through which it projects. By pushing the firing pin forward the steel insert 27 may be lifted upward. This insert receives the blow of the hammer and prevents damage to the aluminum breech block.

The forward end of the breech block has a transverse slot 28 in which is mounted a lateral hook 29 on the return rod 30 which returns the breech block to its closed position. It will be noted that the breech block in its closed position, as shown in Figs. 1 and 4, extends through to the end of the receiver and is flush with the face of the hammer 32 in firing position. As best shown in Fig. 4 the breech block has laterally extending lugs or ears 34 and 35 for hand gripping to pull the breech block rearward and operate it manually. The rearward portion of the receiver has a cross pin 36 formed of a hard metal, such as steel, which enters the space traveled by the breech block. The breech block has an upwardly projecting shoulder 37 which bears against the top of the receiver and which also provides a stop for engaging the steel cross pin 36 to stop the rearward travel of the breech block, as shown in Fig. 3.

The breech block has a cartridge extractor 40 of a well-known type and the empty cartridge cases are ejected through the port 41 by striking the projection 42 on the top of the magazine.

The small diameter portion of the barrel 11 is surrounded by the return spring 38 which bears at one end against a shoulder 39 on the barrel and at the opposite end on a collar 40 that loosely surrounds the barrel and which is attached to the return rod 30. The threaded end 10 of the barrel projects beyond the forward end of the receiver and is secured in position by the nut 16.

It is to be understood that the grip member 2 comprises the hammer, hammer spring, safety, sear, sear spring, trigger assembly, magazine catch and trigger disconnector of the standard Colt 45. While the grip portion is constructed to receive a magazine for the larger caliber cartridges this standard magazine is replaced with a magazine having similar exterior dimensions but which is modified to receive either 22 caliber short or 22 caliber long rifle ammunition. The modified magazine shown comprises a band 45 which has a recess 46 on one side which engages the standard magazine catch and release 47.

The 22 caliber conversion of the invention is mounted on a Colt 45 as follows:
The slide is set in the proper position and the slide stop is removed. This enables one to remove the slide and barrel from the grip member. The receiver 1 is held in an upside down position and the barrel, return spring 10, collar 38, and return rod 30 are in the receiver in the position shown, and the nut 16 is screwed on to a point where the hook 29 projects into the receiver. The breech block 9 is then inserted into the receiver to the position shown in Fig. 2. The receiver is turned over and slid into position on the grip member. The longitudinal ribs 3 and 4 of the receiver engage the side grooves 5 and 6 on the grip member and the receiver and barrel are in their rigid fixed operative position. By adjusting the nut 16 the recess 14 on the lug 12 is moved into coincidence with the hole on the grip member and the slide stop is inserted through the hole. The nut can then be tightened to press the receiver tightly against the steel plug 49 and the receiver and barrel are in their rigid fixed operative position. While the steel plug may be omitted to allow the aluminum of the receiver 1 to engage the lug 12, the steel plug provides a more wearable surface. The standard slide stop has a lateral arm 50 with an inwardly projecting lug that is pushed through an opening in the grip member and the cut-out 53 on the receiver. In the standard Colt 45, the slide stop is held in position on the side of the grip member (not shown), but in this conversion, the pressure exerted by the nut 16 holds the slide stop in an immovable position.

I claim:

1. A 22 caliber conversion for a Colt 45 caliber semi-automatic pistol from which the slide and barrel have been removed, which comprises a grip member having a hammer mounted thereon, a cross-pin which passes transversely through the grip member, a receiver which is interchangeable with the slide attached in a fixed operative position on the grip member, a 22 caliber barrel mounted in the receiver and removably secured to the grip member by the cross-pin, a blow-back breech block in the receiver which travels rearward on firing and cocks the hammer, a return spring in the receiver, means connecting the return spring to the breech block, and means securely connecting the receiver and barrel together, whereby said 22 caliber barrel and receiver are held in fixed position with respect to the grip member.

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