REVOLVER CYLINDER PIN AND CROSS PIN

William B. Ruger, Southport, Conn., assignor to Sturm, Ruger and Company, Inc., Southport, Conn., a corporation of Connecticut

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1 Claim. (Cl. 42—59)

This invention relates to revolvers of the type having the cylinder mounted on a removable pin which is inserted

from the rear end into the hole in the frame in which it makes bearing contact, and has for its object the provision of certain improvements in revolvers of this type.

The well known Colt "Frontier" model and the improved Ruger are revolvers of the type with which the invention is primarily concerned.

The cylinder pin on which the cylinder is mounted is removably held in position by the cross-pin of a latch in the forward part of the frame that makes engagement with an annular groove in the cylinder pin. The cross-pin actually is a spring-pressed plunger which can be pressed out of latching position to release the cylinder pin, and because of the limited space, the cross-pin makes only a line contact with the groove. Recently these revolvers have been made for the powerful 44 Magnum cartridge which results in a violent recoil not known with the smaller calibers. As a result of this recoil and the small area of contact of the cross-pin with the groove the cross-pins have been pushed outward against the spring releasing the cylinder pin.

This invention overcomes the aforementioned drawbacks by providing an improved cylinder pin that cannot be released without actually depressing the cross-pin. My improved cylinder pin comprises a transverse groove, preferably arcuate, in which the cross-pin makes contact, and an enlarged head on the forward end having an arcuate cut which makes contact with the under surface of the barrel which is so located with respect to the groove that the cylinder pin can be inserted into the frame in only one position with the transverse groove always in a position coincident with the cross-pin. The transverse groove provides such long surface contact with the cross-pin that it cannot be displaced accidentally as a result of recoil.

In the accompanying drawings:

Fig. 1 is a side view of a revolver embodying the invention with parts removed;

Fig. 2 is an enlarged fragmentary sectional view taken at 2—2 of Fig. 3;

Fig. 3 is an enlarged sectional view taken at 3—3 of Fig. 1;

Fig. 4 is an enlarged sectional view taken at 4—4 of Fig. 1; and

Fig. 5 is a perspective of the cylinder pin.

The revolver illustrated in the drawings comprises a frame 1, a barrel 2 and a grip member 3. It is to be understood that this may be a revolver similar in its construction and action to the old Colt "Frontier" model or the currently produced Ruger model. It is a single action revolver having its cylinder 4 rotatably mounted on the cylinder pin 5 which is inserted from the forward end through a hole 6 in the forward part of the frame, through the cylinder, and into a hole 7 in the rearward portion of the frame.

The empty cases are ejected from the cylinder by means of a rod 8 which is mounted in the housing 9 attached to one side of the barrel. This rod is operated in the well known manner by pressing it into the cylinder against the action of the spring 10 which returns it to its inactive position.

As best shown in Fig. 5 the cylinder pin 5 has a transverse notch or groove 12 which assumes a position coincident with the hole 13 in the forward portion of the frame. In this hole a spring opposed latching member 14 is mounted. This latching member comprises a cross-pin 15 having a centrally tapped hole in it and the threaded end of the operating head 16 is in threaded engagement. As shown in the drawings, the cross-pin 15 is in latching engagement with the cylinder pin. It will be noted with reference to Fig. 4 that the hole 13 comprises an inner annular shoulder 17 against which the cross-pin 15 makes engagement on one side and the coil spring 18 surrounding the inner portion of member 16 makes bearing contact on the opposite side. In order to release the cross-pin 15 from its latching engagement with the notch 12 one merely pushes the member 16 inwardly or towards the left, as shown in Fig. 4, against the action of spring 18, until the cross-pin is removed from the notch 12. When this is done one can then slide the cylinder pin forward sufficiently to remove it from the cylinder thereby making it possible to remove the cylinder from the frame 1.

In order that the notch 12 shall always assume the proper position in the frame for the insertion therein of cross-pin 15, a collar or shoulder 20, preferably integral with the cross-pin, is provided. This collar has an arcuate cut 21 having the approximate shape of the cylinder barrel. In inserting the cylinder pin into the frame it is necessary to hold it in such a position that the arcuate cut 21 slides along the under surface of the barrel which guides it. It is impossible, therefore, to insert the cylinder pin into the frame and cylinder so that the notch 12 will not be in position to receive the cross-pin 15.

The annular grooves 22 on the forward end of the cross-pin are merely for the purpose of effecting a better grip.

It will be noted with reference to Fig. 4 that because of the annular shoulder 17 there is not sufficient space in the narrow area of the forward part of the frame to provide a spring opposed latching cross-pin that can extend across the entire width of the notch 12. It is because of this limitation of space that when the annular groove in the cross-pin as used heretofore is provided there is only a line contact between the cross-pin and the groove, and this line contact is made, at, or near, the center line of pin 5. If, because of dirt or tolerances in manufacturing, the cross-pin 15 does not reach the center line of 5, and, when the gun recoils violently, as with modern high power ammunition, there is a lateral component force set up which causes the cylinder pin to force the cross-pin out of engagement. With the present invention the position of the cross-pin is not critical and if the end of pin 15 does not go beyond the center line of 5, it will hold anyway. As shown in Fig. 4 this is not possible because of the substantial area of contact between the cross-pin and the notch 12.

I claim:

In revolvers of the type having a frame, a cylinder mounted in the frame, a barrel attached to the frame, a cylinder pin on which the cylinder rotates inserted through a hole in the front of the frame through the cylinder and into a bearing hole in the rear of the frame, a cross-pin mounted in a hole in the front part of the frame that engages means in the cylinder pin to hold the cylinder pin in secured but releasable position, the improvement which comprises a transverse notch on one side of the cylinder pin into which the cross-pin makes...
latching engagement, said transverse notch being a cylindrical segment and said cross-pin having a cylindrical notch engaging portion, a shoulder on the cylinder pin forward of the notch having an arcuate cut in the longitudinal direction of the cylinder pin and on a side diametrically opposite to the transverse notch, said shoulder and cut therein being proportioned and arranged to fit in close contact with the under surface of the barrel and to slide thereover when the cylinder pin is being inserted to locate the transverse notch in proper position for the insertion of the cross-pin.

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