Feb. 7, 1956 W. B. RUGER 2,733,529

CYLINDER STOP FOR A REVOLVER

Filed July 28, 1953 2 Sheets-Sheet 1

Fig. 1.

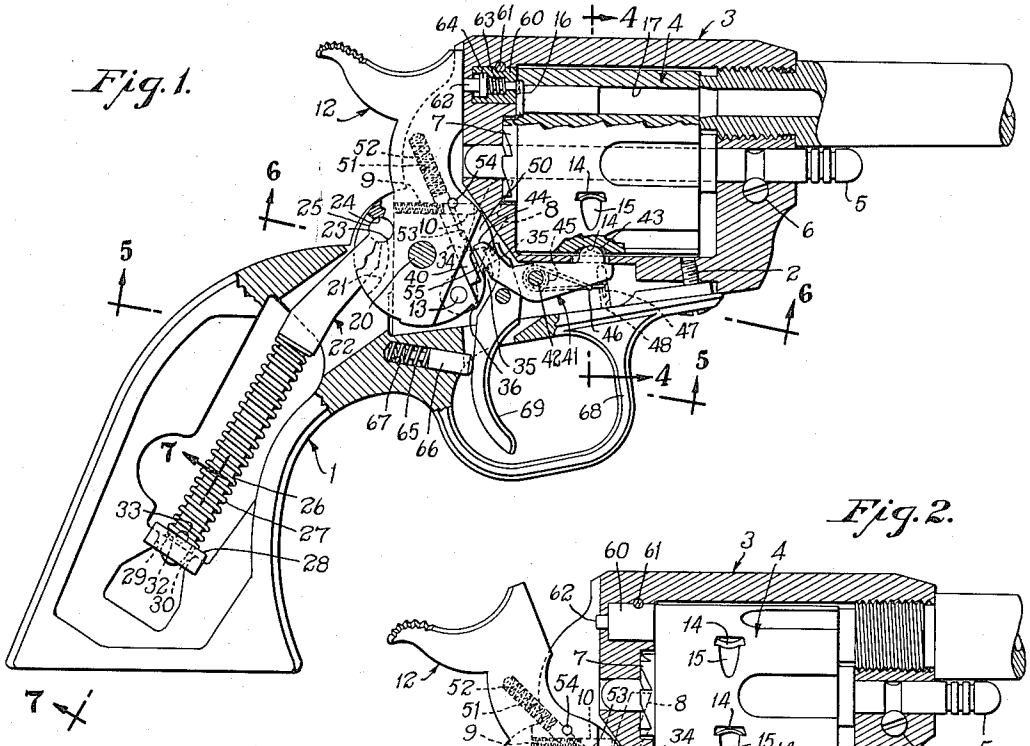


Fig. 2.

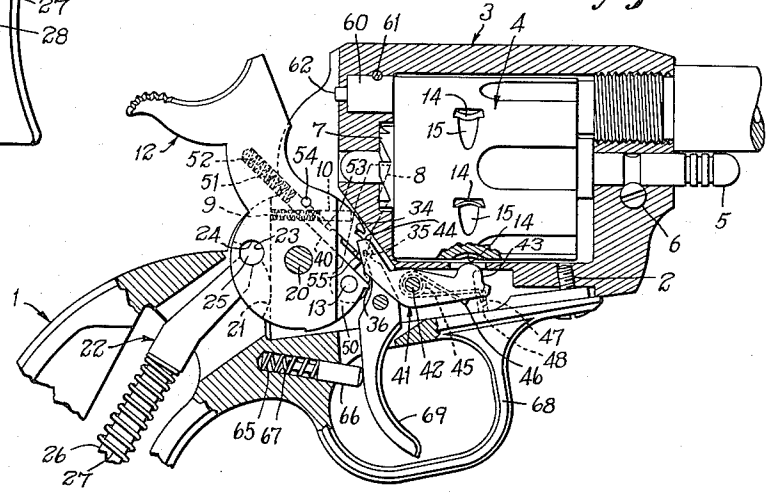
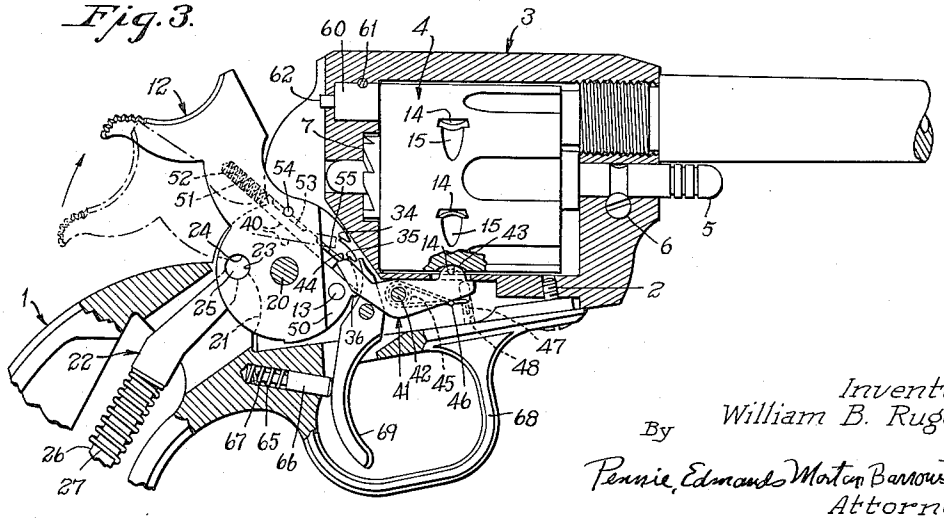


Fig. 3.



Inventor
William B. Ruger
By
Pennie, Edmonds, Morton, Barrows & Taylor
Attorneys

Feb. 7, 1956 W. B. RUGER 2,733,529

CYLINDER STOP FOR A REVOLVER

Filed July 28, 1953 2 Sheets-Sheet 2

Fig. 4.

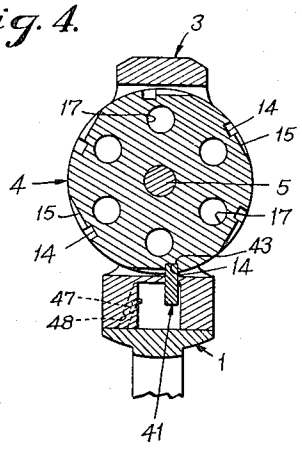


Fig. 5.

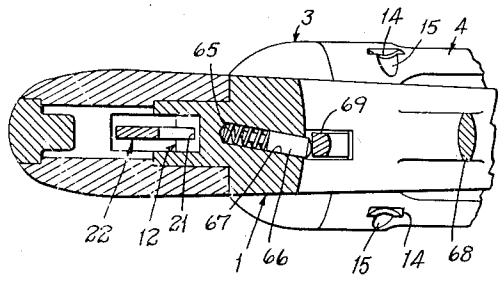


Fig. 6.

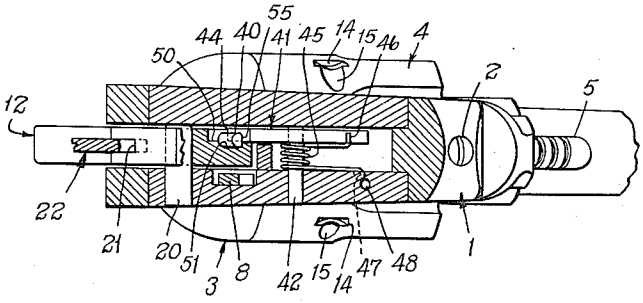


Fig. 7.

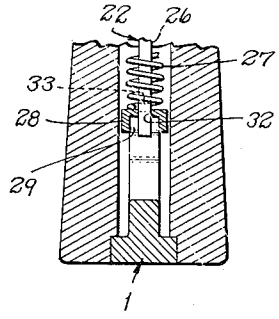


Fig. 8.

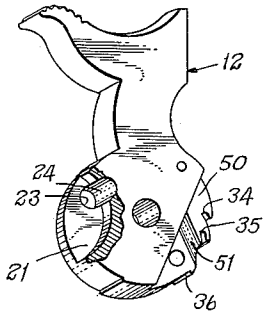


Fig. 10.

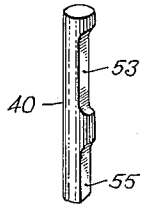


Fig. 9.

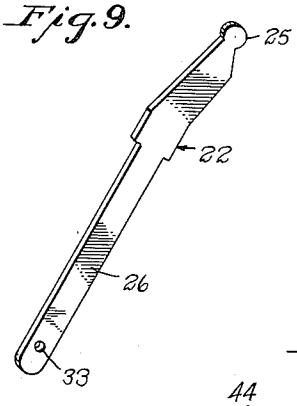
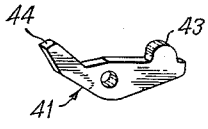


Fig. 11.



Inventor
William B. Ruger

By
Pennie, Edmonds, Morton, Barrows & Taylor
Attorneys

United States Patent Office

2,733,529

Patented Feb. 7, 1956

2,733,529

CYLINDER STOP FOR A REVOLVER

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

Application July 28, 1953, Serial No. 370,732

3 Claims. (Cl. 42—67)

This invention relates to firearms, and has for its object the provision of certain improvements in revolvers. Revolvers of well known and common construction have certain characteristic elements including a cylinder rotated in increments by a pawl which is operatively connected to the hammer, a trigger, a latch for locking the cylinder in firing position, and spring means operatively interconnecting the hammer and latch for setting the latch in locking position for firing and releasing the latch for loading and unloading. My invention is particularly concerned with improvements in the hammer, trigger, latch and associated operating means.

My invention provides an improved latch-operating and releasing device which is positive in operation and of inherently durable construction comprising a spring-operated plunger mounted in the hammer which is proportioned and positioned to engage an end portion of the latch and press a locking portion thereof into locking engagement with a notch of the cylinder when the hammer is fully cocked and to release the latch as the hammer is being cocked so that the pawl can turn the cylinder to another position for firing, and as the hammer moves to its fully cocked position to apply such positive pressure on the latch that it snaps into locking position in the next notch of the cylinder.

In another aspect, the invention provides a torsion coil spring for the latch having one end secured in a hole in the grip frame of the revolver and the other end in bearing engagement with the latch.

The invention also provides an improved hammer strut and hammer connection therefor comprising a torsion coil spring and strut combination which facilitate machining and simplify assembly, and an improved trigger spring and bearing rod mounted in the grip frame.

These and other objects of the invention will be better understood after considering the following description taken in connection with the accompanying drawings, in which:

Fig. 1 is a fragmentary elevation, with parts in section, of a revolver embodying my invention with the hammer in firing position and the latch in locking position;

Fig. 2 is a view similar to that of Fig. 1 showing an intermediate position of the hammer with the latch in unlocking position;

Fig. 3 is another view similar to that of Fig. 1 with the hammer moved rearward to a position where the latch has moved into locking position;

Fig. 4 is a sectional view at 4—4 of Fig. 1;

Fig. 5 is a sectional view from below at 5—5 of Fig. 1;

Fig. 6 is a sectional view from below at 6—6 of Fig. 1;

Fig. 7 is a sectional view at 7—7 of Fig. 1;

Fig. 8 is a perspective of the hammer with a part removed;

Fig. 9 is a perspective of the hammer strut;

Fig. 10 is a perspective of the latch-operating plunger, and

Fig. 11 is a perspective of the latch.

The improved revolver of my invention illustrated in the drawings has the general characteristics of construction and function of a famous single-action revolver of great popularity but no longer in production. The revolver comprises a grip frame 1 connected by screw 2 and other screws not shown to the cylinder frame 3. The cylinder 4 of more or less conventional construction is rotatably mounted in the frame 3 on the shaft or pin 5 which is removably attached to the frame by the spring catch 6. The cylinder has the usual ratchet teeth 7 by means of which it is turned from firing position to firing position by the usual pawl 8 shown in broken lines in Figs. 1 and 2 which is held against the ratchet teeth by the spring 9 and plunger 10 also shown in broken lines. The pawl is connected to the hammer 12 by the pin 13. Since the invention pertains to single-action revolvers, the hammer is cocked by hand and the cylinder is turned only when the hammer is cocked. The cylinder has a locking notch 14 for each cartridge position and a sloping entrance cut 15 for progressive entrance of the latch. The cylinder of the invention has a narrow annular groove 16 in its rearward-end face which cuts across the cartridge chambers 17 to provide clearance for the end of the firing pin.

The hammer 12 is pivotally connected to the frame 3 by the screw 25 and can swing from the firing position of Fig. 1 to the fully cocked position shown in broken lines Fig. 3. The hammer has a narrow slot 21 milled out in the back in the plane of the hammer movement for receiving the flat hammer strut 22. A hole 23 (Fig. 8) is bored through the hammer transverse to the slot 21 and the cylindrical surface 24 thereof forms a bearing pocket in which the cylindrically shaped end 25 (Fig. 9) of the strut makes bearing engagement with the hammer. The strut has a follower rod portion 26 for the hammer spring 27. The spring bears upwardly against the strut and downwardly against a channel-shaped bracket 28 which straddles two lugs 29 and 30 of the frame 1 (Figs. 1 and 7). The follower rod slides in a rectangular hole 32 in the bracket, the hole 33 being provided in the strut for the insertion of a pin in assembling the hammer spring. The hammer has three notches for engaging the sear end of the trigger, a safety notch 34 for holding the hammer off the firing pin, an unlocking notch 35 to hold the cylinder latch out of contact with the notches 14 of the cylinder, and a rear notch 36 for holding the hammer in firing position.

One of the important features of this invention is the provision of the slidable and spring pressed plunger 40 in the hammer for operating the cylinder latch 41. This latch is pivotally mounted in the frame 3 by the screw 42 and has an arcuate end 43 for engaging the cylinder notches 14, and an opposite beveled end 44 which engages the projecting end of the plunger 40. The latch is a flat member and is mounted over the torsion spring 45 on the screw 42. One end of the spring has a hook 46 which bears on the under surface of the latch normally urging the end 43 in the direction of the cylinder and another hooked end 47 which is seated in a hole 48 bored in the frame 1.

The hammer is cut back on one side to provide the recess 50 (Fig. 8) which receives the end 44 of the latch. The hole 51 in which the plunger 40 is inserted cuts through the recess leaving part of the plunger exposed and in position to engage the latch end 44. The hole 51 is quite deep and receives the plunger spring 52 which presses the plunger outwardly. The plunger is cylindrical but has one flat cut face 53 by means of which it is held in the hole by the cross pin 54, and a flat bearing face 55 which makes contact with the latch end 44. The pin 54 not only limits the movement of the plunger but it bears on the face 53 and holds the bearing face 55 in the position shown.

The firing pin assembly comprises a cylinder **60** which is held in a cylindrical bore of the frame **3** by a cross pin **61**. The cylinder **60** is bored out to receive the firing pin **62** and the rebound spring **63** which normally bears on the collar **64** and holds the firing pin rearward of the cartridge base but can be moved easily under the impact of the hammer to ignite the cartridge.

Still another feature which has contributed to the superior performance and reliability of the improved revolver of the invention is the coil spring **65** and rod **66** which bear against the trigger **69**. A hole **67** is bored on a slant into the grip frame 1, as best shown in Fig. 5, the drill just clearing the trigger guard **68** at the front. By means of a slanted hole, I can make use of the superior coil spring and rod to regulate the trigger tension, thereby eliminating the unreliable flat springs heretofore used.

When the hammer **12** is in firing position as shown in Fig. 1, the end **44** of the latch lies alongside of the flat face **55** of plunger **40** and the spring **45** holds the arcuate locking end **43** in one of the notches **14**, thereby locking the cylinder. It will be noted with reference to Fig. 3, however, that the latch end **43** also holds the cylinder locked when the hammer is fully cocked (shown in broken lines). In this position the end **44** slides over the end of plunger **40** and is accordingly not blocked. As the hammer moves forward, the plunger backs into the hole and soon reaches a position clearing the end **44** and the spring **52** then snaps the plunger to the position shown in Fig. 1. During this cycle, the latch end **43** is in positive pressed contact with one of the notches **14**. When the hammer is moved rearward to the loading position with the sear end of the trigger in notch **35**, as shown in Fig. 2, the flat face **55** of the plunger bears against the end **44** from below and depresses the end **43** of the latch out of the notch **14** and the cylinder is accordingly released and is free to be rotated clockwise. This is the loading and unloading position of the cylinder. The frame **3** carries a gate (not shown) which can be swung open to permit insertion of the cartridges. When loaded, the gate is closed and then the hammer is either moved forward to the safe position with the sear in notch **34**, at which position the latch is in locking engagement with the cylinder, or to the fully cocked position. With reference to Fig. 3, it will be noted that just after the hammer is moved to clear notch

35 that the end **44** of the latch can snap under the end of the plunger **40**, as shown in full lines, and again assume the locking position of the latch.

When the cartridges have been fired, the gate is again opened and the hammer set in the position of Fig. 2 with the cylinder freely rotatable. Single-action revolvers of the type known as the Frontier or Colt Army have a rod mounted along one side of the barrel to push the cartridge cases out of the cylinder and a similar device (not shown) is preferred for use in this revolver.

I claim:

1. The improvement in revolvers having a hammer, a cylinder and a latch for the cylinder in operative connection with the hammer which comprises a resiliently operated plunger mounted in the hammer having means for limiting the movement thereof, said latch having a pivotal connection between its ends with the revolver frame and having one end portion for effecting a locking engagement with a notch in the cylinder and a spring for pressing said end portion into locking engagement and another end portion positioned to engage the plunger, the operative position of the plunger end portion being such that when the hammer is turned to an intermediate cocking position the plunger presses the latch out of the locking engagement leaving the cylinder freely rotatable and when said hammer is fully cocked said plunger assumes an out-of-the-way position permitting the spring to press the latch into locking engagement with the notch to hold the cylinder in firing position.

2. The improvement in revolvers according to claim 1 which comprises a torsion spring for operating the latch.

3. The improvement in revolvers according to claim 1 in which the plunger is mounted in a hole in the hammer and engages a coil spring in the hole and the hammer is recessed for movement therein of the end of the latch which engages the plunger.

References Cited in the file of this patent

UNITED STATES PATENTS

611,826	Wesson	Oct. 4, 1898
650,931	Ehbets et al.	June 5, 1900
1,004,172	Johnson	Sept. 26, 1911
1,046,268	Cobb	Dec. 3, 1912