

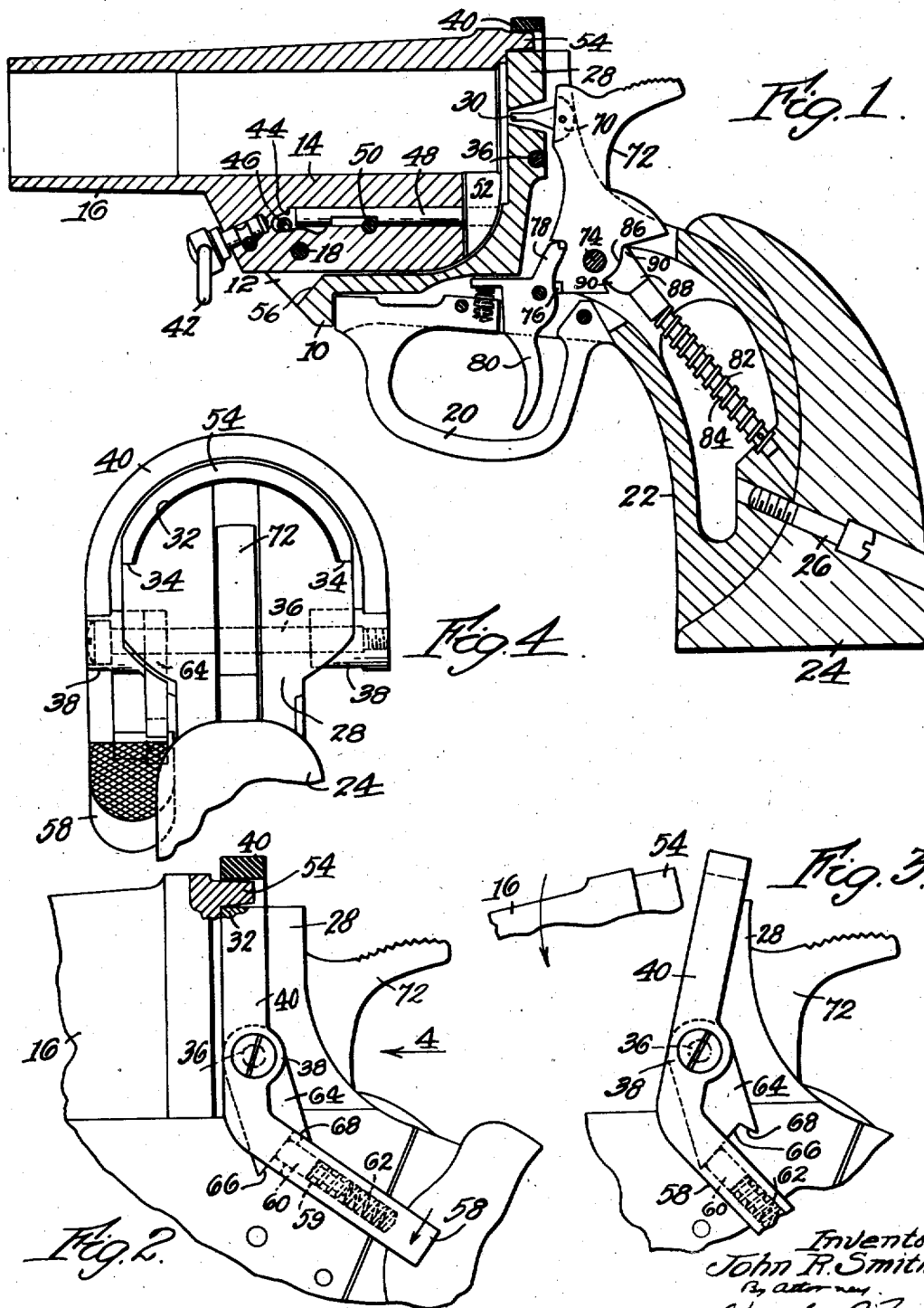
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FLARE GUN

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FLARE GUN

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This invention relates to flare guns or Very pistols, and the objects of the invention include the provision of a more positively acting and cushioned firing mechanism, an improved barrel catch for a breech-loading barrel pivotally mounted on the frame of the gun, and an improved shell extractor means.

Further objects of the invention include the provision of a fool-proof barrel catch which is always positive in its action and which is arranged to contact and hold a wide area of the barrel at the breech for improved holding thereof during firing; the provision of a hoop-shaped barrel catch which is pivoted at both ends on a pin extending through the frame and engages the entire top surface of the barrel, there being a conveniently located thumb piece adjacent the pistol grip for pivoting the catch out of barrel engagement for breaking the gun, said thumb piece being provided with a spring for normally maintaining it in barrel-catching position.

Still further objects of the invention include a new and improved barrel catch stop which is effective to limit the pivotal action of the catch in both of its directions of movement for greater convenience and ease of operation, said stop comprising a fixed member having a V-shaped free end, and said thumb-piece having surfaces selectively engageable with the inside surfaces of the V, in spaced positions, for stopping the pivotal movement of the thumb-piece and its attached barrel catch in both directions, this stop being completely out of the way of the rest of the mechanism and located so as to present no interference of any kind to the hand of the operator.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing in which:

Fig. 1 is a longitudinal sectional view through the new flare pistol;

Fig. 2 is an enlarged side elevation of the barrel catch in barrel locking position;

Fig. 3 is a view similar to Fig. 2, but showing the barrel catch in open position; and

Fig. 4 is a rear elevation of the barrel catch.

Referring to Fig. 1, the frame of the gun comprises a fore end 10 having a longitudinal slot 12 for accommodating a depending lug 14 on barrel 16 for swinging movement of the latter on a pivot pin 18. A trigger guard 20 is mounted on the frame below the barrel and a grip support 22 extends rearwardly to accommodate the grip 24. A screw or the like 26 extends through the grip

into the frame as shown for simple and easy attachment thereof.

Frame 10 is provided with an upwardly extending transversely arranged element 28 which is itself transversely apertured for reception of the firing pin as at 30, and element 28 is formed with an upper arc-shaped surface 32 and a pair of stops 34 at each end thereof for a purpose to be described, see Fig. 4. A pin 36 extends through element 28 from side to side of the gun and this pin provides a journal for bosses 38 which are integral with the hoop shaped barrel catch 40.

The barrel 16 may be smooth bored and chambered to receive any usual flare shell. A swivel ring 42 may be secured to the barrel lug 14 or to the grip as convenient, and the lug is provided with a slot 44 on an arc having a center at the pivot pin 18. An extractor trip pin 46 is fixed to the fore end 10 and extends across its slot 12 through the arcuate slot 44 so that as the barrel is pivoted to breech-open position, pin 46 will relatively ride in the slot from front to rear.

An extractor stem or plunger 48 is mounted in barrel lug 14 for axial movement therein, limited by a recess and pin device 50. This extractor stem has a cam-faced extractor head 52 located rearwardly of lug 14 and arranged in position to engage the shell. As the barrel is pivoted to open position, the forward end of the extractor stem impinges on trip pin 46, and the latter being fixed in the fore end, the extractor stem is clearly moved rearwardly relative to the barrel so as to extract the shell at the breech. The extractor head 52 is retracted by engagement of its cam face with the forward surface of frame element 28 in the swinging of the barrel to breech-closed position.

An important aspect of the barrel resides in the provision at the breech end thereof of a rearwardly extending arc-shaped lip or flange 54 which seats on frame element top surface 32, the latter being shaped to fit the flange, see Fig. 4. The ends of this flange form abutments to engage stops 34 in breech-closed position, and in this way the barrel will always be stopped in correct firing position. A stop 56 on the fore end 10 will stop the barrel in open position thereof as will be clear.

A thumb piece 58 is made integral with the barrel catch at one side of the frame for easy operation by the thumb of the right gun hand. A bore is provided in the thumb-piece from its front edge 59 for reception of a plunger 60 and a compression spring 62 normally urges the plunger outwardly thereof. The frame element 28 is

formed with a slot for reception of a stop element 64 which is apertured to receive pin 36 and the stop element is thereby held fixed in its slot with a free end extending therefrom. The free end of stop element 64 is provided with a V-shaped recess providing a pair of angularly disposed stop surfaces 66 and 68, and as will be clear from Figs. 2 and 3, the spring-pressed plunger 60 bears against surface 66 to normally maintain the barrel catch 40 in its latching position as in Fig. 2. In this position, the thumb-piece bears directly against surface 68 and is stopped thereby against any further counter-clockwise movement. However, if it is desired to break the gun, the thumb-piece is merely depressed in a clockwise manner until its front edge contacts surface 66, this of course preventing any further movement of the thumb-piece in this direction, see Fig. 3. The flange 54 of the barrel is now free and the latter may pivot about pin 18 to open the breech. To close the breech it is merely necessary to snap the barrel into position, the spring 62 automatically pivoting the barrel catch to barrel latching position. It will be appreciated that this construction provides for very simple barrel catch stops on a single element which is completely out of the way and cannot interfere with the operation of the gun.

Firing pin 30 is mounted for a slight swinging movement on its semi-circular head 70 located in the face of the hammer 72 which is pivoted on a hammer pin 74. A notch 76 is adapted to engage the trigger finger 78 on trigger 80 to cock the hammer, and the gun is fired in an obvious manner by a slight pressure on the trigger. A main spring 82 is mounted on a guide rod 84 loosely slidable in a bore in the frame to urge the guide rod to firing position. The hammer is provided with a curved surface 86 for contact with a head 88 on the guide rod, this head having a forward face curved to fit the surface 86, and this construction provides a pair of horns 90, the upper one of which will move the hammer to firing position and the lower horn will come into play only towards the end of the hammer stroke to cushion the blow and to spring the hammer rearwardly so as to avoid any projection of the firing pin forwardly of the front face of frame element 28. The complementary curved surfaces on hammer and head 88 serve to maintain the parts in idle position as shown in Fig. 1.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. In a gun, a frame, a generally cylindrical barrel pivoted to said frame, a barrel catch movably mounted on said frame and shaped to fit the periphery of said barrel, said barrel catch engaging and latching the barrel in closed condition thereof, means for resiliently urging the barrel catch to its latching position, means for pivoting said barrel catch out of engagement with said barrel to release it, and a single element providing a separate stop means for each of the latching and releasing positions of said catch.

2. A gun as recited in claim 1 wherein said element is located in fixed position on the frame.

3. A gun as recited in claim 1 wherein said stop means comprises two generally opposed sur-

faces, said surfaces being effective to contact and stop the motion of said catch to both positions.

4. A gun as recited in claim 1 wherein said barrel catch-pivoting means comprises a thumb piece integral therewith and said resiliently urging means includes a plunger in said thumb piece and a spring for urging the plunger in one direction, said element being provided with a generally V-shaped notch, said plunger bearing on one inside surface of the notch and the other inside surface being effective to abut and stop the thumb piece in its movement to barrel latching position.

5. In a gun having a frame and a pivoted barrel, a movable catch for the barrel, means to resiliently urge the catch to barrel latching position, means to move the catch oppositely to free the barrel, and an element fixed to the frame and having a V-notch, said notch having a pair of surfaces adapted to contact and stop the motion of the catch to both positions.

6. In a gun having a frame and a barrel pivoted thereto, a catch for holding said barrel in closed condition, said catch being pivotally mounted on said frame and having a thumb piece for operation thereof, said thumb piece having a plunger therein, a spring urging said plunger outwardly thereof, a stop element for said thumb piece, said plunger bearing against a surface of said stop element to urge said thumb piece and catch to barrel-latching position, said thumb piece being stopped by said surface to limit pivoting of the thumb piece in a direction to free the barrel and against the action of the spring.

7. A gun as recited in claim 6 wherein another surface of the stop element is effective to contact the thumb piece and stop it against the action of the spring in barrel latching position of the catch.

8. In a gun having a frame and a barrel pivoted thereto, a breech element on the frame, a pin extending through said element from side to side of the gun, a U-shaped barrel catch pivoted on said element at its ends, means forming a bore in a surface of said catch, a spring in the bore, a plunger in said bore and normally urged outwardly thereof by the spring, an element mounted on said pin and having a pair of angled surfaces, said plunger bearing against one of said surfaces and serving to pivot the catch to barrel latching position, the other surface forming a stop to limit the movement of the catch in said position, said one surface being effective to abut and limit the motion of the catch in the other direction, and means on the frame for holding the element in fixed position.

9. A gun as recited in claim 1 wherein said catch is pivoted to swing from and to the latching and releasing positions, and said stop means embodies a pair of generally opposed surfaces.

10. A gun as recited in claim 6 wherein said stop element embodies means forming a notch, and said surface comprises a surface of the notch.

11. A gun as recited in claim 6 wherein said stop element embodies means forming a notch, said surface being located in the notch, the latter having another surface effective to contact the thumb piece and stop the same against the action of the spring in barrel latching position of the catch.

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