To all whom it may concern:

Be it known that I, Martin Bye, of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improved Cylinder-Stop for Revolvers, of which the following is a specification, reference being made therein to the accompanying drawings.

This invention relates to an improvement in the construction and combination of the mechanism whereby the cylinder-stop device is arranged for operation in conjunction with the lifter, which is provided with engaging means therefor, as described, the objects being to provide a convenient, durable, and less expensive construction; to avoid the necessity of a yieldable part on the stop-piece, and to render the action stronger and less liable to become broken or deranged.

The nature of my present invention is illustrated in the drawings, wherein—

Figure 1 represents a side view of mechanism embodying my invention as applied to a revolver. Fig. 2 is a fragmentary view showing the trigger, lifter-pawl, cylinder-stop, and adjacent parts. Fig. 3 represents a back view of the trigger, lifter, cylinder-actuating pawl, and cylinder-actuating device. Fig. 4 is a separate plan view of the stop-piece. Fig. 5 is a front view of the stop-piece and the return-spring, and Fig. 6 is a view from the side opposite that shown in Fig. 1 and illustrating the primary action of the devices. Figs. 2, 3, 4, and 5 are drawn on a somewhat enlarged scale.

Referring to the drawings, the part marked A represents the frame, B the barrel, C the revolver-cylinder, D the hammer, and F the trigger, all of which parts may be of well-known or suitable construction as heretofore employed. The hammer is pivoted at d and pressed forward by the mainspring M. The trigger is pivoted at f and pressed forward by the usual spring.

I indicates the lifter for automatically cocking the hammer, and G the finger or pawl for rotating the cylinder. Said lifter and finger are both pivoted to the heel of the trigger at e, and the finger is provided with a spring n, that acts against the lifter and serves both for pressing the finger forward and pressing the lifter rearward to afford normal engagements of their upper end with the parts actuated thereby.

P indicates the cylinder-stop device pivotally fulcrumed on a transversely-disposed pin 2 within the frame A and arranged to have tilting movement. The stop-piece is formed with a supporting body portion carrying a cylinder-engaging member 3 and in accordance with my invention is provided with a rearwardly and upwardly extending rigid arm 6, having at or near its end an offset or lateral stud 5, which normally stands in adjacency to the upper end of the lifter I, which latter is also provided with an offset lateral stud 7, adapted for upward engagement with the stud on the arm of the cylinder-stop.

A suitable spring device is provided for pressing upon the cylinder-stop, so that its end or member 3 will normally engage the cylinder C, which has the usual external notches 4 at its periphery. Said spring device, as herein shown, consists of a coiled wire spring 9, inserted in a recess 10 in the head of the trigger F and carrying a stud 12, that acts against the under surface of the rocking stop-piece P, as best shown in Fig. 2. A spring of other form may be employed, if in any instance preferred, for pressing forward the cylinder-stop device in equivalent manner.

The engaging means or studs 5 and 7 are disposed so that the one on the cylinder-stop arm is adjacent above that on the lifter-pawl when the hammer is down or at rebound position and when the cylinder-stop is in the notch of the cylinder. In the operation of my invention the primary movement of the lifter I, either by a pull of the trigger or by thumb cocking the hammer, causes the lifter-stud 7 to engage the stud 5 of the cylinder-stop arm 6 and by movement of said parts to swing the engaging end 3 of the stop device P from the notch of the cylinder, as indicated in Fig. 6, thereby unlocking the same and keeping the stop from the cylinder-notch for an instant sufficient for permitting the starting of its rotation by the finger G. Then the stud 7 of the lifter moving upward and the stud 5 of the stop device moving with the swing of the arm 6 causes the stud 5 when it reaches a position in a plane in front of the path of the stud.
7 to escape or throw off from the lifter-stud, this being effected at about the position indicated in Fig. 6, and the stop device then falls into normal relation for stopping the cylinder at its next notch, while the lifter 1 moves upward for full cocking the hammer or until it is released by the escape of the lifter-nose i from its notch k. When the lifter 1 is returning to its primary position, the nose of the lifter slides down the front surface of the hammer and the stud 7 is carried downward, passing in front of the position of the stud 5 without contacting or engaging with the latter and without displacement of or interference with the arm 6 during the retractive movement and until the nose of the lifter drops into the notch h at the front of the tumbler. Then the stud 7 passes under and takes position beneath the stud 5 ready for the next action. The form of the engaging faces of the studs 5 and 7 may be any suitable contour and size to effect their interengagement and throw off at the desired instant of action.

By my invention an efficient and simple construction of cylinder-stop mechanism is produced in which the action is effected by the lateral engaging studs carried upon parts that permit of strength and durability in their structure. The stop device is without definite and yieldable members, and since there is no frictional contact with or displacement of the stop-arm while the trigger is returning to normal position on release of the trigger a trigger-spring of moderate strength or tension may be employed, rendering the action easier, while the working of the mechanism is accomplished smoothly, with less wear, and with more satisfactory result.

What I claim, and desire to secure by Letters Patent, is—

1. In a revolving firearm, in combination with the cylinder and the trigger, a cylinder-stop pivoted in the frame below the cylinder and having a rigid, upwardly-inclined actuating-arm, and a lifter pivoted on the trigger, said arm and lifter each provided, at their upper end, with laterally-projecting interfacing devices that move into engaging or non-engaging relation by the swinging action of said lifter-arm and cylinder-stop arm; said devices engaging to actuate the cylinder-stop for unlocking the cylinder with the primary upward movement of the lifter, and moved out of alignment for non-engagement when the lifter-nose escapes from the notch of the hammer, the device on the lifter passing downward forward of, and without contacting with the cylinder-stop device, when the trigger and lifter return to primary position.

2. In a cylinder-stop mechanism for the purpose described, the lifter-pawl provided at its top end with an offset lug; in combination with a tiltable stop device provided with a cylinder-engaging end and a non-flexible, upwardly-projecting arm having an offset lug that engages with the lug on said lifter-pawl when at its primal position, when its end is within the notch of the hammer, and is released as the lifter moves upward, and assumes a non-contacting path of movement when the end of the lifter is out of said notch, and means for returning said stop device to unprimed position.

3. A mechanism for the purpose specified, comprising, in combination with the revolving cylinder, the pivoted trigger, and means for rotating the cylinder; a tiltable stop device comprising a transversely-supporting-body, having a cylinder-engaging member and an upwardly-directed rigid actuating-arm, a pivoting axis for said stop device in the frame, the lifter pivoted on the trigger and provided on its head with means for a primary lifting engagement with said arm, and for release thereof by its upward movement and a reaction-spring for said stop, said lifter and stop-actuating arm and their engaging means being relatively disposed, to pass each other without contacting when the end of the lifter-arm is against the outer face of the hammer-tumbler, thereby preventing engagement or contact of the lifter and arm during the retractive movement of the lifter until it reaches its approximate primal position.

4. In a revolving firearm comprising the cylinder, the hammer, the trigger and cylinder moving finger; the combination, of the cylinder-stop device consisting of the body portion P pivotally supported in the frame and carrying the integral cylinder-engaging member S, and a rearward upwardly-extending rigid arm 6 having at its upper end a laterally-offset stud 5, the hammer-lifter pawl 7 pivotally provided on the trigger and provided at its head with the laterally-projecting stud 7 that engages the stud on said arm by upward movement of the lifter when its end is in engagement with the notch of the hammer, and passing in front of, and without contact with the stud of the cylinder-stop arm during the return movement of the lifter-pawl, and a coiled expanding spring supported in a recess in the trigger and carrying a stud that impinges against said stop device, all constructed and operating as described.

Witness my hand this 6th day of September, 1905.

MARTIN BYE.

Witnesses:

CHAS. H. BURLEIGH,
W. A. HARRINGTON.