No. 644,402. Patented Feb. 27, 1900.

M. BYE.

MAINSPRING ATTACHMENT FOR FIREARMS.

(Application filed Jan. 2, 1900.)

(No Model.)

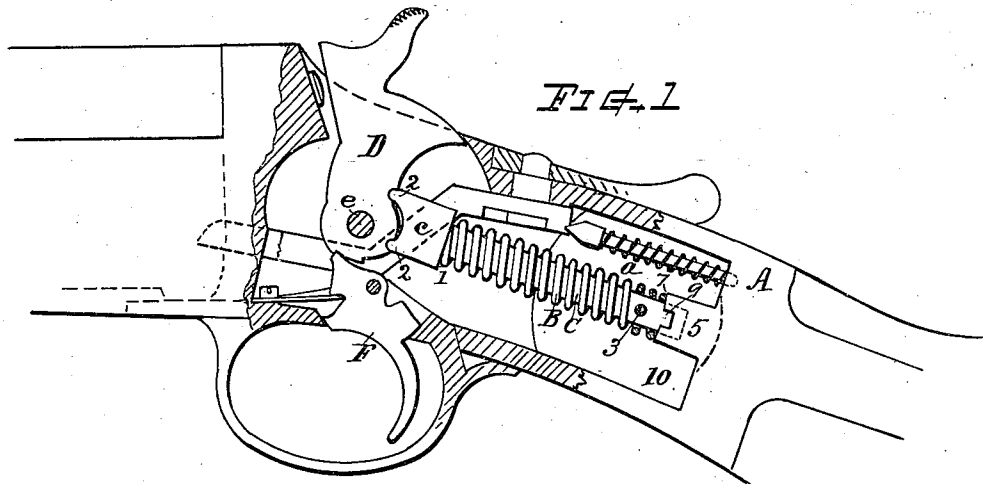


FIG. 1

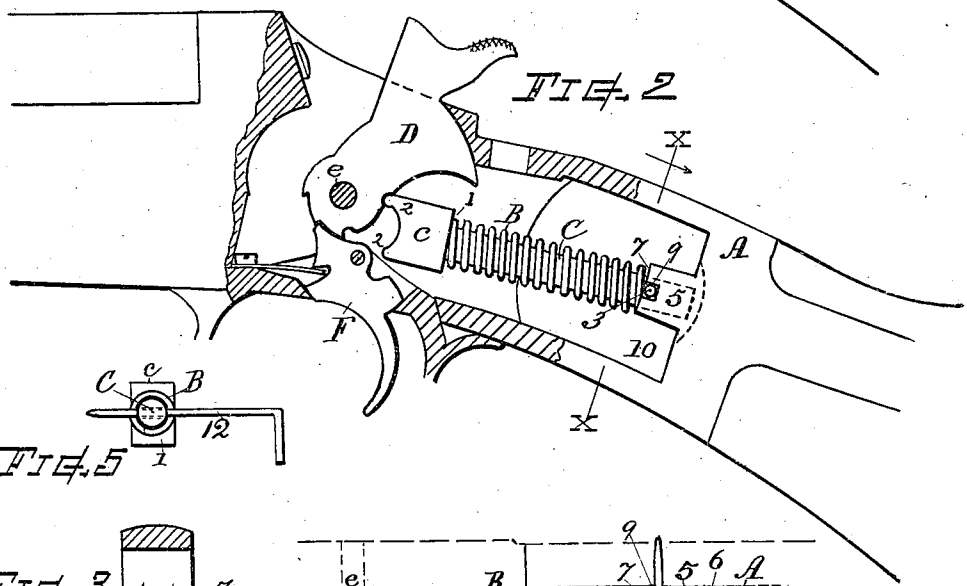


FIG. 2

FIG. 5

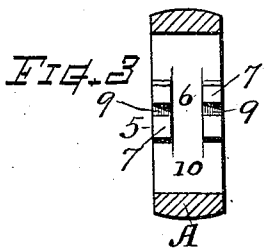


FIG. 3

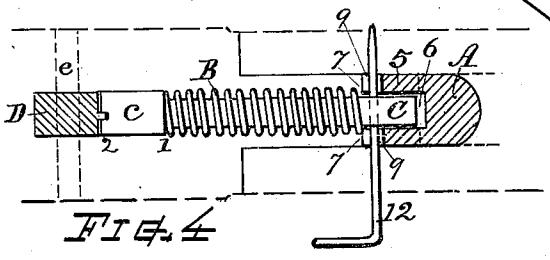


FIG. 4

Witnesses.
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UNITED STATES PATENT OFFICE.

MARTIN BYE, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE HARRINGTON & RICHARDSON ARMS COMPANY, OF SAME PLACE.

MAINSPRING ATTACHMENT FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 644,402, dated February 27, 1900.

Application filed January 2, 1900. Serial No. 62. (No model.)

To all whom it may concern:

Be it known that I, MARTIN BYE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Mainspring Attachments for Firearms, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

My present invention relates to the improved construction of parts and manner of seating, supporting, and assembling the mainspring within the gun-frame, the objects being to provide means or facilities whereby a coiled-wire mainspring may be readily assembled in the lock and at any time easily removed and reassembled by any person having occasion therefor without release of the spring tension and in a quick, simple, and convenient manner. I attain these objects by the mechanism illustrated in the drawings, wherein—

Figure 1 represents a longitudinal section of the frame of a gun constructed in accordance with my present invention. Fig. 2 is a similar view, but showing the parts as with the hammer pulled back. Fig. 3 is a transverse section of the frame at line X X on Fig. 2 looking toward the stock. Fig. 4 is a horizontal section or plan, and Fig. 5 is an end view of the mainspring and its stem as removed from the lock.

Referring to parts, A indicates the frame; B, the coiled-wire mainspring; C, the pusher-bar or spring-supporting stem; D, the discharging-hammer, pivoted at *e*, and F the trigger, which parts are relatively disposed in suitable manner, as shown.

The rod or spring-supporting stem C is provided with a head *c*, that acts against the back of the hammer as a pusher-rod in well-known manner and having a shoulder 1, against which the spring B abuts, and transverse ridges 2, that seat in grooves on the back of the hammer. Near the rear end of said stem I provide a hole or opening 3, formed transverse to the axis of the stem and preferably horizontal.

Upon the frame A, at the rear end of the lock-chamber *a*, I form a bifurcated seat 5, forwardly projecting at about mid-height of the frame and having between its side lugs a recess, vertical slot, or space 6, the width of which is sufficient for freely receiving the rear end of the spring-supporting stem C, while the end surface or shoulder 7 of said projection is fitted to serve as a seat against which the spring B may take its bearing for exerting its thrust tension against the hammer through the stem C, which follows the movement of the hammer, the rear end of the stem sliding between the seat-lugs as the hammer swings forward or backward.

In the fore end of the seat-lug 5 I form a transverse recess or notch 9, which is preferably somewhat larger than the hole 3 in the stem. The hole 3 through the stem is so located that it will approximately correspond in position with the notch or recess 9 when the hammer is drawn back to the full-cock. At such position the hole 3 is in rear of the spring end, which latter is resting against the end 7 of the projecting seat 5.

The lock-chamber *a* is made with sufficient space beneath the spring-seat, as at 10, to permit the passage of the spring B and stem C into and out of the bifurcated seat 5 and into and from said chamber.

In the manufacture the coiled-wire mainspring B is placed upon the pusher-rod or stem C and compressed endwise thereon for giving the required tension and until the end of the spring has passed the opening 3. Then a stop or wire pin 12 is thrust through said opening (see Fig. 4) and the spring is allowed to exert its expansive force against said stop-pin. The spring and stem can then be handled as a single part. To assemble in the lock after the hammer is in place, the head *c* is introduced and placed against its spot on the hammer-back and the rear end of the stem followed into the space 10 and then raised vertically into the space 6 between the seat-lugs 5, so as to bring the end of the spring in front of the ends of the seat-surface 7 and the pin 12 into alinement with the notch 9. The hammer is then swung back, which movement presses back the stem C, compressing the coil-spring B against the seat 5 and relieving the

pin, so that it can be easily pulled out endwise from the opening 3 and notches 9. The spring is then in condition for full action in throwing the hammer in well-known manner.

When it is desired to remove the spring, it is simply performed by first cocking the hammer to bring the hole 3 into alinement with the notch 9, then inserting the stop or wire pin 12, and then allowing the hammer to swing forward. This leaves the spring and stem free. Then the parts can be moved forward to clear the pin from the notch 9, the rear end of the stem dropped sufficient to clear beneath the seat 5, and then removed laterally from the space 10, as will be understood. The pin 12 through the opening 3 in the stem retains the tension of the spring-coil B and keeps the spring and stem in condition until the parts are reassembled in the frame, so that no resetting of a stiff coil-spring is required, and any person, as the user of a gun, can easily take out and replace the spring and stem with comparative ease and convenient facility and without requiring any special spring-straining tools for the operation.

It will be understood that I do not claim, broadly, a coiled-wire mainspring and stem for operating a hammer in a firearm; but

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. In a firearm having a pivoted hammer, a spirally-coiled wire mainspring and a spring-supporting stem or push-bar embraced by said coiled spring and acting against the hammer; the combination with said spring and its stem, of a supporting-seat for the end of said spring provided with a slot or recess for the end of said stem, into and from which the stem can pass, a transverse opening in said stem adapted for receiving a stop or pin, when the stem is at rearward position, as a means for retaining the spring under tension upon the stem, and to permit free removal of the stem and spring when the hammer is dropped, substantially as set forth.

2. In a firearm, the frame provided with the forwardly-projecting bifurcated or vertically-slotted seat having a transverse recess or notch in the end thereof, in combination with the discharging-hammer, the coiled-wire mainspring, and the hammer-actuating spring-supporting stem having a transverse hole therethrough that moves into alinement with said notch when the stem is forced back by the cocking of the hammer, for the purpose set forth.

Witness my hand this 29th day of December, 1899.

MARTIN BYE.

Witnesses:
CHARLES S. BACON,
CHAS. H. BURLEIGH.