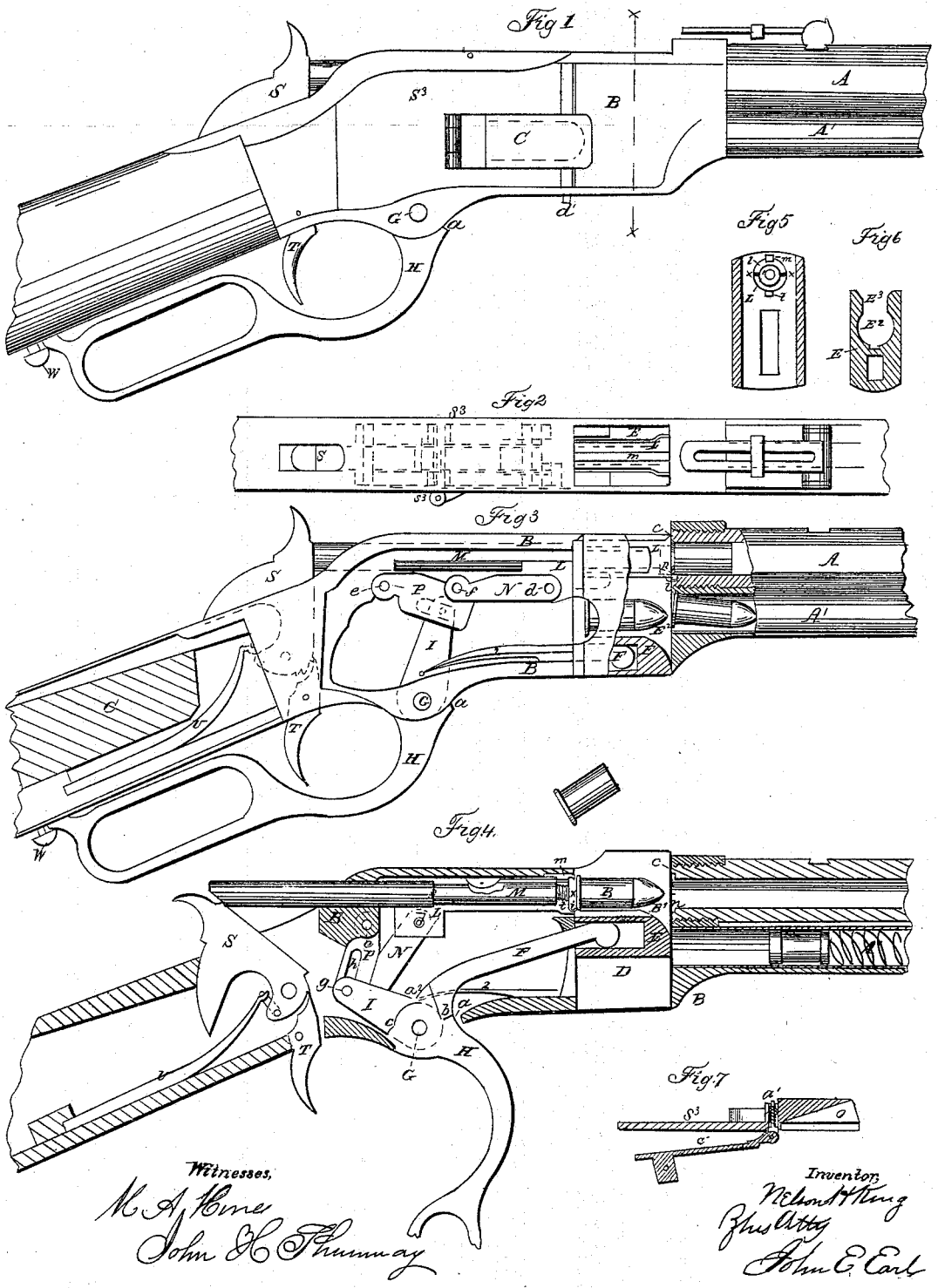
N. KING.

Magazine Fire-Arm.

No. 55,012. Patented May 22, 1866.



UNITED STATES PATENT OFFICE.

NELSON KING, OF BRIDGEPORT, ASSIGNOR TO O. F. WINCHESTER, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **55,012**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, NELSON KING, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Magazine Fire-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view; Fig. 2, a top view; Fig. 3, a sectional side view; Fig. 4, a longitudinal central section; Fig. 5, a section through the frame on line *x x*, looking to the rear; Fig. 6, a section of the carrier-block on the same line, and in Fig. 7 a detached view of the plate.

My invention relates to an improvement in the repeating fire-arms patented by Horace Smith and Daniel B. Wesson the 14th of February, 1854, improved by B. T. Henry, patented October 16, 1860, in which several metallic cartridges are placed in a tube or magazine beneath the barrel of the arm and carried therefrom to the barrel by the movement of the trigger-guard; and my invention consists in an improvement in the said arm whereby the cartridges may be placed in the magazine with greater facility and without other objections which exist to the tube as heretofore constructed.

Before proceeding to describe my improvement, I will first describe the construction of the operative parts of the arm.

A is the barrel, of any known construction; B, the frame, to the forward end of which the barrel is secured, and to the rear end a wooden stock, C.

In the frame B, and directly in the rear of the barrel, is formed a chamber or mortise, D, in which is placed a carrier-block, E, the office of which is to receive a cartridge from the magazine and raise it for insertion into the barrel; also to throw the discharged shell from the arm after it has been withdrawn from the barrel for this purpose. The said carrier-block E is constructed with a chamber, E^2, (see Fig. 6,) to receive the cartridge from the magazine, and it is moved up within the chamber or mortise D to present the cartridge to the barrel for insertion, and down when the cartridge has been removed from the carrier to the barrel, and is thus moved by means of the lever F, one end of which lies within the carrier-block E, the other hung to the pivot G.

H is a lever, serving both as a trigger-guard and as an instrument by which the several mechanical parts of the arm are made to operate. It is hung to the pivot G, upon which both the levers F and H may be freely moved. By moving the lever H from the position denoted in Fig. 3 to that denoted in Fig. 4, a shoulder, *a*, formed upon the lever H, strikes a corresponding shoulder, *b*, upon the lever F, raising the said lever and carrier-block E, as denoted in Fig. 4. By returning the said lever H the upper arm, I, of the lever H strikes another shoulder, *c*, on the said lever F and returns the lever F, with the carrier-block E, to the position denoted in Fig 3.

L, the breech-pin, is hollow, of cylindrical form, through which passes a piston, M. The rear end of the said pin L is formed, as seen in Figs. 3 and 4, so as to attach upon either side to a pivot, *d*, a link, N, of a toggle-joint, as denoted in broken lines, Fig. 2. The other links, P, of the toggle are hinged to the frame by a pivot, *e*, and the two links hinged together at *f*. The upper arm, I, of the lever H extends up between the two toggle-joints, and through the said arm I a pin, *g*, passes, extending out upon either side, so as to enter a slot or groove, *h*, upon the inside of the links P, so that as the lever H is moved, as from the position in Fig. 3 to that in Fig. 4, the pin *g* will act to close the toggle and draw back the breech-pin L, which moves freely back and forth in the frame B, as denoted in Fig. 4, and by the return of the lever H will extend the toggle and return the breech-pin L, as seen in Fig. 3. The raising of the carrier-block E, as before described, occurs after the breech-pin has been drawn back, and the breech-pin is returned before the return of the carrier-block, passing through the chamber E^2 in the carrier-block, for the purpose, as more fully hereinafter shown, of removing the cartridge from the chamber E^2 in the carrier-block to the barrel. Therefore, in order to allow the carrier-block to return, it is necessary to cut a slot, E^3, from the chamber E^2 up through the carrier-block, as seen in Fig. 6.

This slot must be narrower than the chamber in order to prevent the accidental removal of the cartridge in the said chamber, as also to cause the raising of the carrier-block to eject the discharged and withdrawn shell; and that this narrow slot may pass down over the breech-pin, which is nearly the same diameter as the chamber in the carrier-block, the breech-pin is reduced upon its two sides, as seen in Figs. 2 and 3. On the lower side of the breech-pin L is formed a projecting lip, *i*, and upon the upper side a spring-latch, *m*. A cartridge, R, lying upon the carrier-block, as seen in Fig. 4, will, by the return of the breech-pin L, be forced into the rear of the barrel, the lip *i* entering a recess, *n*, below, and the latch *m*, rising and hooking over the flange of the cartridge, will enter a similar recess, *r*, above, as seen in Fig. 3, so that when the breech-pin is withdrawn the latch *m* will hold and withdraw the cartridge or discharged shell, as the case may be.

The piston M is enlarged to form a shoulder, as denoted at *s*, at the rear of the pin L; thence extends back through the frame, and so as to slide freely therein to the hammer S, so that when the pin is drawn back, as before described, the said piston will force the hammer back to full-cock, as denoted in Fig. 4, and on being returned to the position denoted in Fig. 3 will leave the hammer held at full-cock by the trigger T, which, when released in the usual manner, will, by the reaction of the mainspring U, fly back to the position denoted in Fig. 3, striking the end of the piston M. To the inner end of the piston M is fixed a collar, *t*, having projecting points *x* upon either side. (See Fig. 5.) The said collar *t* is of larger diameter than that part of the piston M to which it is attached, and the recess made in the breech-pin to receive the said collar is made a little deeper than the thickness of the collar, so as to allow the piston M, with the collar *t*, to move back, so that when the pin L is forced up against the cartridge, as before described, the projecting points *x*, as they press against the cartridge, will force the piston back, and thus situated, when the hammer strikes the piston M, as before described, the projecting points *x* will indent the metal of the cartridge sufficiently to explode the fulminate and ignite the powder within the cartridge.

A separate spring, *z*, for each of the levers F and H is secured upon the frame, the end of one of which bears one upon the lever H, as seen in Fig. 3, to retain the lever in its home position, as in Figs. 1 and 3, the other upon the lever F, (see Fig. 4,) for the purposes more fully hereinafter described. The lever H is held in its position against the frame by means of a thumb-screw, W, or an equivalent therefor.

This completes the general construction of that part of the arm contained within the frame as heretofore constructed.

The space in the frame where the operative parts are placed is inclosed by a plate, S^3, upon each side of the frame.

In the magazine as originally constructed, and as shown and described in the patent of Smith & Wesson before referred to, the magazine or tube was fixed to the barrel and a slot cut through the entire length of the tube, through which a pin or projection from the follower within the tube extended, by means of which the follower was drawn up to near the muzzle end of the said tube, where the follower, with the spring and the upper portion of the tube, were turned to one side, so as to allow the cartridges to be inserted within the tube; then the upper portion of the tube, with the follower and spring, were returned, so that the follower would again enter the tube and force the cartridge toward the rear or lower end of the tube into the carrier, in like manner as herein described. In this construction a great objection has existed from the fact that the open slot upon the under side of the tube would admit more or less dirt, or other substances foreign and injurious to the proper workings of the follower and spring, within the magazine, and the necessary complication in the construction of the upper part of the magazine and barrel renders them very liable to get out of repair.

I will now proceed to describe my invention, whereby I fully overcome the objections existing to the magazine as heretofore constructed.

Beneath the barrel A, I place a thin metal tube, A′, extending along the barrel nearly its entire length, its rear end entering the frame, so that when the carrier-block E is down, as in the position seen in Fig. 3, it will open directly into the chamber E^2 in the carrier-block. I secure the said tube to the barrel by means of bands or otherwise, and, if advisable, incase the lower portion of the tube with a wood stock. Within the tube I place a follower, G′, and close the upper end of the tube by a plug or otherwise, and between the follower and the plug I place a helical spring, as denoted in red, the tendency of which is to force the follower toward the lower or rear end of the tube. Through one of the plates S^3 (preferring that one upon the right-hand side) I form an opening, O, as denoted by broken lines, Fig. 1, and also seen in section, Fig. 7. This opening is formed so as to communicate through the frame directly to the chamber E^2 in the carrier-block, as seen in Fig. 3. Through this opening, and while the carrier-block is down and all parts of the arm in a state of rest, insert the cartridges, point first, through the said opening in the plate S^3 into the chamber E^2, the second cartridge pressing the first into the magazine, and so on with each successive cartridge until the magazine is filled, or until the requisite number has been inserted therein, the follower G′ being pressed up before the entering cartridges. In the rear of the chamber E^2 the frame forms a shoulder to prevent the cartridges from being forced out through the opening in the plate S^3. C′ is a cover for closing the

opening in the plate S^3, and is hinged thereto, as seen in Figs. 1 and 7, the hinge being provided with a spring, a^1, the tendency of which is to open the cover C'. A spring-catch, d', (see Fig. 1,) secures the cover when closed, so that by pressing upon the said catch the cover will fly open.

After the requisite number of cartridges have been placed within the magazine, close the cover, as seen in Figs. 1 and 2. One cartridge remains in the carrier-block, from which position (see Fig. 3) it will be carried up to the position in Fig. 4 and inserted into the barrel, and the block returned to receive a second cartridge, as before described. When the first cartridge has been discharged, as in Fig. 3, withdraw the shell, as before described. The latch m upon the breech-pin will hold the discharged shell until the carrier is nearly up to its full height, when the spring z will fall into a notch, a^2, on the lever F, giving a sudden movement to the carrier, which will eject the discharged shell entirely from the arm, as denoted in Fig. 4, and thus the operation of firing may be continued until all the cartridges within the magazine have been each in their turn discharged.

By this arrangement the objections existing in the arm as originally constructed and before mentioned are entirely overcome, and my arm is peculiarly adapted for cavalry uses, as when suspended from the neck of the cavalryman, hanging upon his right side, he may, with his right hand only, charge his arm, even under the most difficult circumstances, or when lying across the bridle-arm the same facility for charging is presented.

Having therefore thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

Forming an opening through the frame relatively to the carrier-block and magazine, and in combination therewith, so that the magazine may be charged through the carrier-block from one side of the arm, substantially in the manner herein described.

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Witnesses:
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