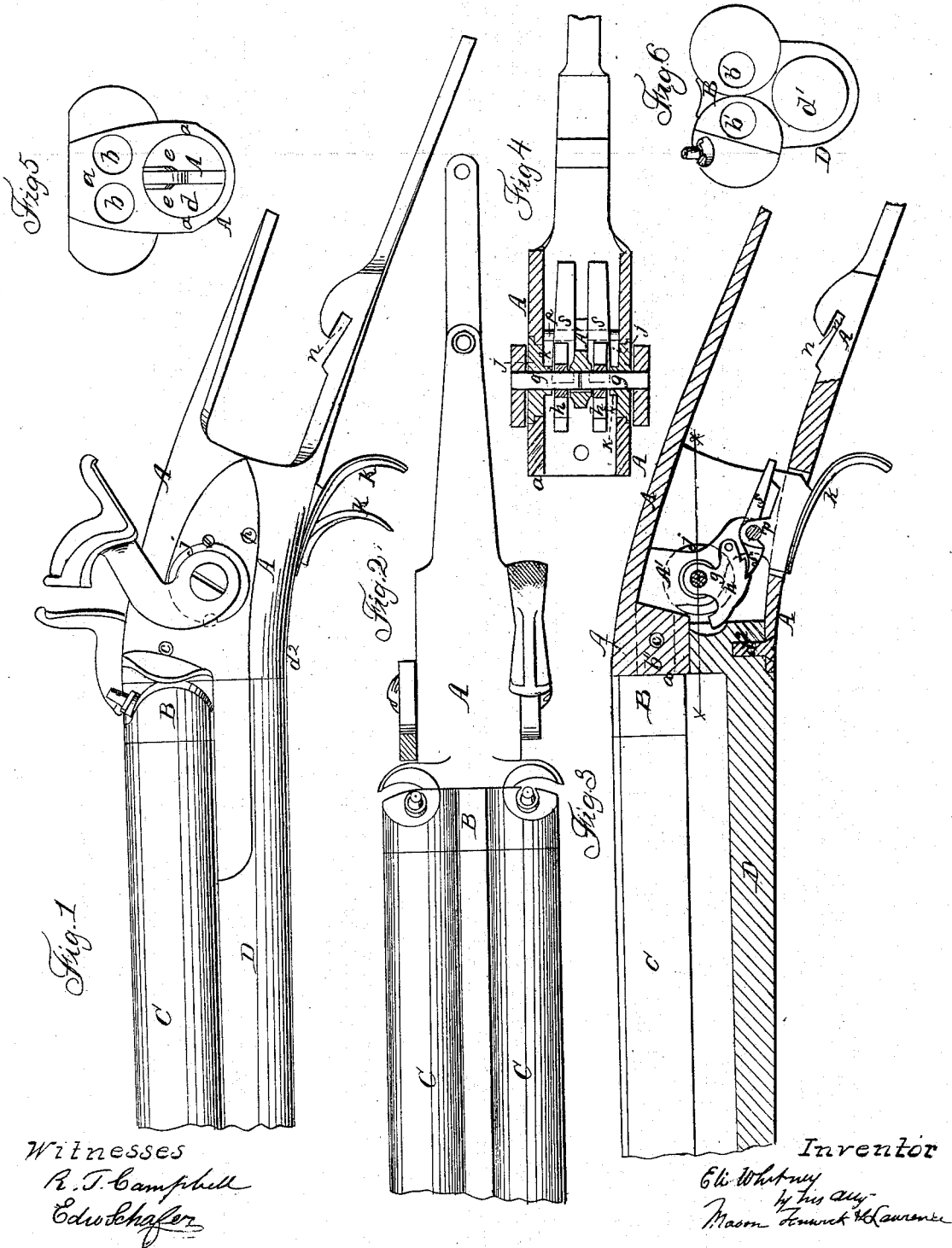


E. WHITNEY.

Muzzle-Loading Fire-Arm.

No. 59,110.

Patented Oct. 23, 1866.



# UNITED STATES PATENT OFFICE.

ELI WHITNEY, OF NEW HAVEN, CONNECTICUT.

## IMPROVEMENT IN DOUBLE-BARRELED FIRE-ARMS.

Specification forming part of Letters Patent No. 59,110, dated October 23, 1866.

*To all whom it may concern:*

Be it known that I, ELI WHITNEY, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in the Construction of Muzzle-Loading Double-Barrel Guns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view of one side of my gun without the stock. Fig. 2 is a top view of the gun. Fig. 3 is a vertical section through the gun. Fig. 4 is a section through the lock-frame or breech, taken in the plane indicated by red line *x x* in Fig. 3. Fig. 5 is a view of the front end of the breech. Fig. 6 is an end view of the patent breech and forward part of the frame or stock.

Similar letters of reference indicate corresponding parts in the several figures.

The main object of my invention is to construct the breech-frame and lock-case of one piece of metal and adapt it to receive the patent breech of the barrels, and also the rear end of the hand-piece of said barrels, thus rendering the gun very compact and simple in its construction, and dispensing with a number of parts usually applied to the common double-barrel shot-guns.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a breech-frame and lock-case, which is constructed with a flat face, *a*, having three circular holes formed in it, as shown in Fig. 5. The two holes *b b* are intended for receiving the cylindrical tangs *b' b'* of the patent breech B, into which the barrels C C are screwed in the usual manner before they are united together. This patent breech-piece B is secured rigidly to the frame A by means of a key-pin, *c*, which passes transversely through the tangs *b' b'*. Below these two sockets *b b* is a larger hole, *d*, for the reception of a cylindrical tang or tenon, *d'*, that is formed on the rear end of the hand-piece D of the barrels, which piece is secured to the frame A by means of a screw, *d<sup>2</sup>*, inserted beneath this frame and forward of the triggers, as shown in Fig. 3.

The frame A is also constructed with a cen-

tral vertical partition, A', which forms two lock-chambers, *e e*, (shown in Figs. 3, 4, and 5,) and serves as an inner bearing for the two tumbler-shafts *g g*, and also as a lateral support for the two tumblers *h h*.

The outer ends of the shafts or pins *g g* have their bearings in two circular plates, *j j*, which are fitted into side openings through the frame A, and secured therein by means of screws or otherwise. Upon removing these circular plates *j j* access can be had to the interior of the frame A for removing the tumblers or replacing them. The plates *j j*, by reason of their serving as bearings for the hammer and tumbler shafts *g g*, require to be made of a harder metal than that of which the lock-case A is formed. They may be of hard bearing metal, or they may be bushed with such metal. The passing of the pins *g g* (or a single pin, *g*, as would be the case with a single-barrel gun, which has a lock-case cast in one part and with a circular plate, *j*) through the circular plate, as I have shown, constitutes one feature of my invention, and the same enables me to make a very compact and cheap double-barrel gun, the same pins which carry the tumblers also answering for the hammers, and, although great wear and strain come on the pins and their bearings, these parts are very durable when my mode of construction is adopted.

Each plate *j* has a tubular collar, *k*, projecting from its inside surface and surrounding the shaft *g*, so as to keep the tumbler in contact with a corresponding projection surrounding the opening through the partition A', and at the same time afford very little friction-surface. By thus arranging the tumblers *h h* between two side supports they will not be allowed lateral motion, yet they will be free to vibrate.

The inner bearing for the tumbler and hammer shafts *g g* may be bushed with some harder metal than that of which the frame A A' is made, so as to prevent a rapid wearing away of the bearing. The circular plates or outer bearings for the two tumbler and hammer shafts *g g* are also made of a harder metal than that of which said frame is made, thus enabling me to construct the breech-frame of a comparatively soft metal and still have durable bearings for the ends of the shafts *g g*.

The triggers *k' k'* and sears *s s* are pivoted

loosely or in a detached manner to a transverse pin, *p*, which passes through the sides of the frame *A*, and also through the interior partition *A'*.

As my triggers are detached or loose on the pin *p*, it is quite important that the partition *A'* extend back, so as to continue the length of the separate chambers *e e*. It is also important to cast offsets or checks on the inner sides of the case, so that they, together with the partition, shall keep the triggers and sears in proper and true position—that is, the case *A* should be cast internally with two channels or chambers, *e e*, which just admit of the introduction between their vertical faces of the tumblers and sears and inner portions of the triggers.

The mainsprings (which are not shown in the drawings) are secured at their rear ends in a slot, *n*, and connected to the rear ends of the tumblers in any suitable manner.

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

1. The manner, substantially as herein described, of constructing the lock-case *A A'* in one piece and with tang sockets or holes *b b d* and side apertures for plates *j j*, for the purpose set forth.

2. The combination of the pin *c* and the tangs of the breech-piece in the construction of a double-barrel gun, as set forth.

3. The combination of the removable perforated circular plates *j j* and shafts *g g* with the one-piece lock-case *A A'*, substantially as described, and for the purpose set forth.

4. The construction of the perforated plate *j* with an offset, *k*, and passing the tumbler and hammer shaft through it, substantially as described.

5. The arrangement of the partition *A'*, case *A*, detached triggers *k' k'*, sears *s s*, and single pin *p*, substantially in the manner and for the purpose described.

6. The combination of the socket *d* with the sockets *b b*, when the socket *d* is a continuation of the lock-chamber *A*, and said sockets *b b d* receive tangs *d' b' b'* of the parts *C C D*, substantially as described.

7. The partition *A'* within the case *A*, constructed as specified, and serving, in connection with the case *A*, the several described functions, as set forth.

8. The manner herein described of constructing the lock-case *A A'* in one piece, and with hard-metal bearings such as described, for the purpose set forth.

ELI WHITNEY.

Witnesses:

S. C. LEWIS,  
WM. WEBSTER.