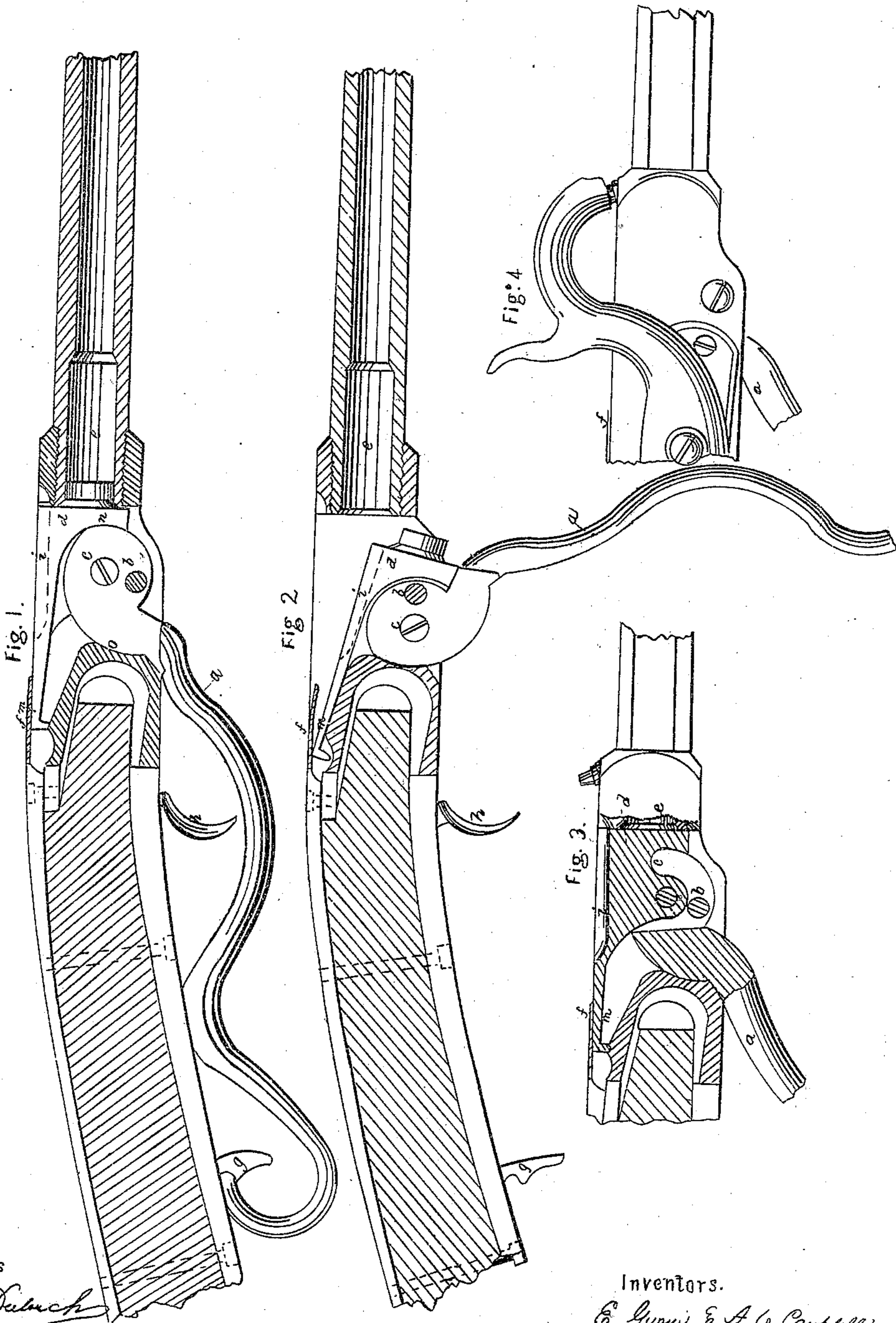


GWYN & CAMPBELL.
Breech-Loading Fire-Arm.

No. 36,709.

Patented Oct 21, 1862.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD GWYN AND A. C. CAMPBELL, OF HAMILTON, OHIO.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 36,709, dated October 21, 1862.

To all whom it may concern:

Be it known that we, EDWARD GWYN and ABNER C. CAMPBELL, of Hamilton, in the State of Ohio, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates to that species of breech-loaders which are intended to be used with cartridges which are inserted into the barrel of the gun, instead of those in which the cartridge is inserted into a movable breech.

To enable other skilled in the art to make and use our invention, we will proceed to describe the manner in which it is constructed. This will be better understood by reference to the drawings, in which—

Figure 1 is a view of the internal machinery used in our invention, showing the position of the parts when the gun is ready to be fired. Fig. 2 is a view of the same machinery when the breech-plug is withdrawn in readiness for the insertion of a new cartridge. Fig. 3 is a section through the center of such machinery. Fig. 4 is an external view of a portion of the lock and gun when ready for use.

a is a lever, which revolves on the fulcrum *b*, and is so contrived that when the breech-plug is thrown into the chamber of the gun in readiness for firing, this lever serves as a guard both to the trigger *h* and to the catch *g*, which then holds the lever in place. This lever is attached to the breech-plug *d* by the screw-pin *c*, and as it is brought into the position shown in Fig. 2 the whole will assume the position therein represented. The rear end, *m*, of the breech-plug being held up by the shoulder on which it rests, the forward end of the plug will be depressed, so as to afford room to insert a fresh cartridge. As the lever *a* is brought backward and upward against the stock of the gun, as shown in Fig. 1, the screw-pin *c* describes the arc of a circle around the fulcrum *b*, and the rear end, *m*, of the breech-plug, being held down by the spring *f*, serves as a guide and, in connection with the motion of the screw-pin *c*, directs

the breech-plug into the rear end of the chamber *e*. At first the motion of this screw-pin is almost vertical or perpendicular to the axis of the gun, by which means the forward end of the breech-plug is rapidly elevated; but as this screw-pin approaches the point which is perpendicularly over the fulcrum *b* it moves nearly in a longitudinal direction parallel to the axis of the gun. The proper motion is thus given to the breech-plug in the most simple and effectual manner. The breech-plug *b* should reach its seat shortly after the screw-pin *c* has passed the highest point in the arc and begins to descend. As the motion of this screw-pin is not entirely in a straight line after the breech-plug has begun to enter the chamber and before it has finally reached its seat, the aperture in the plug through which the screw-pin passes should be slightly slotted; or it should be made so large that the screw-pin will fit loosely therein, in order to enable the breech-plug to work freely and to prevent it from binding. The upper surface of the breech-plug serves as a platform to guide the cartridge into its chamber *e*, and we generally construct a groove or channel, *i*, in this platform to facilitate this operation. The upper end of the lever is made cam-shaped or eccentric, and so arranged that when the lever is brought home to its bearing against the stock of the gun and the breech-plug is firmly in its seat one side of this cam presses against a shoulder on the breech-plug at *n*, while another portion rests in a closely-fitting seat at *o*, whereby the strain resulting from the concussion caused by the discharge of the gun falls almost entirely on this cam of solid iron, and thus relieves the weaker portions of the apparatus from strain.

We are aware that breech-loading arms have been so contrived that the breech-plug shall be elevated or depressed into the line of the axis of the gun, and then moved forward in nearly a straight line parallel to such axis to its seat in the rear end of the chamber of the gun. We do not claim any such motion in and of itself; but

What we do claim as new, and desire to secure by Letters Patent, is—

1. The contrivance above described for with-

drawing a breech-plug from its seat, depressing it to make room for the insertion of the cartridge, then elevating it, and afterward carrying it longitudinally back to its seat by the simple revolution of the screw-pin backward and forward in the arc of a circle around a fixed center, substantially as above set forth.

2. The combination of the lever *a*, the fulcrum *b*, the screw-pin *c*, the breech-plug *d*,

with its guide *m*, and the spring *f*, constructed, arranged, and operated substantially in the manner and for the purpose above set forth.

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A. C. CAMPBELL.

Witnesses:

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