No. 700,116. Patented May 13, 1902.

C. P. FAY.

BREECH BLOCK AND LEVER CONNECTION.

(Application filed July 22, 1901.)

(No Model.)

Fig. 1.

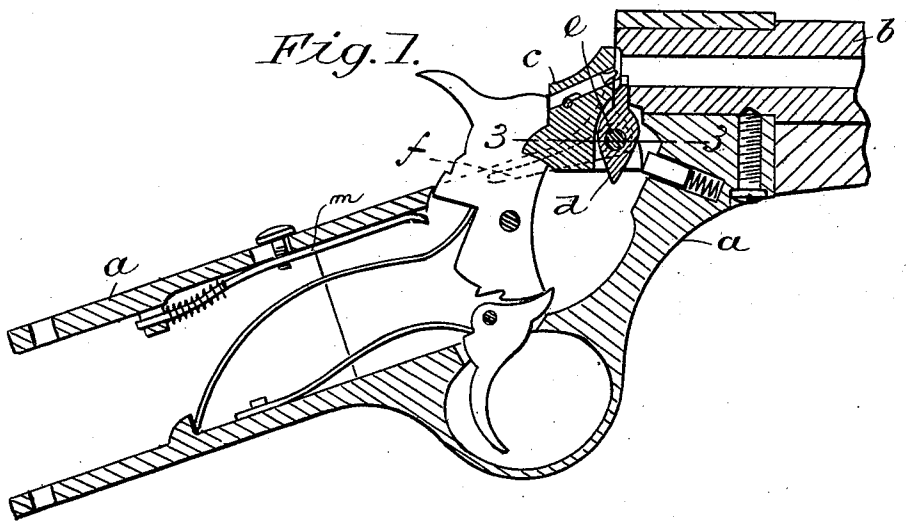


Fig. 2.

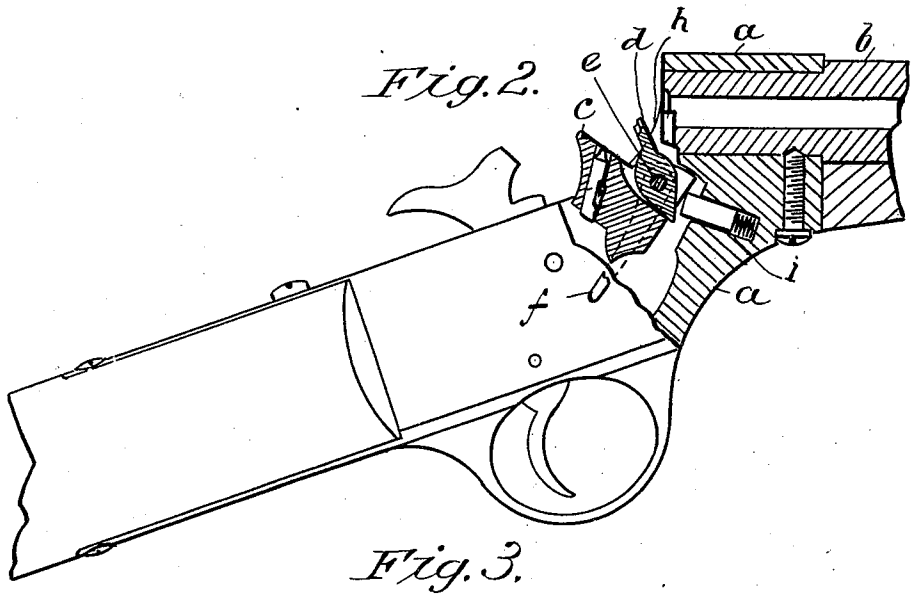
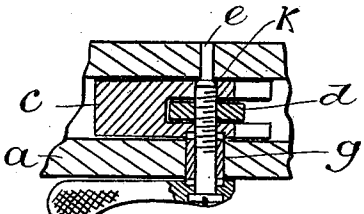


Fig. 3.



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Fig. 4.



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UNITED STATES PATENT OFFICE.

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BREECH-BLOCK AND LEVER CONNECTION.

SPECIFICATION forming part of Letters Patent No. 700,116, dated May 13, 1902.

Application filed July 22, 1901. Serial No. 69,219. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. FAY, a citizen of the United States of America, residing at Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Breech-Block and Lever Connections, of which the following is a specification.

This invention relates to firearms, and has for its object the improvement in the construction of the breech mechanism, and particularly of the construction of the connection between the thumb-lever and breech-block and extractor; and the invention consists in the construction described in the following specification and clearly defined in the claims appended thereto.

In the drawings forming part of this specification, Figure 1 is a longitudinal sectional elevation of an arm having my invention embodied therein. Fig. 2 is a side elevation, partly in section, showing the parts in a different position. Fig. 3 is a horizontal sectional view on line 3 3, Fig. 1. Fig. 4 is a perspective view of a sleeve on the pivot-pin of the breech-block.

Referring to the drawings, *a* is the frame; *b*, the barrel; *c*, the breech-block; *d*, the extractor; *e*, the breech-block pivot-pin; *f*, the thumb-lever, rigidly secured to the breech-block, and *g* a sleeve on the pivot-pin *e*, extending through the side of the frame and interlocking both with the breech-block *c* and said thumb-lever *f*.

The breech-block *c* is a solid block hung on the pivot-pin *e*, as shown below, and substantially in the plane of the breech end of the barrel, whereby the block is adapted to be swung down into the frame, leaving the end of the barrel open for receiving a cartridge, as usual in this type of breech mechanism.

The forward lower end of the breech-block *c* is provided with a slot *h* for the reception of the extractor *d*, the pivot-pin *e* passing through said slot and supporting the extractor therein. The form of this slot is such that the breech-block may swing downward for a certain distance to open the breech before coming in contact with the lower end of the extractor to operate the latter in the usual manner. The forward end of the breech-block rides over the end of a spring-actuated plunger *i* in the frame, whereby the usual spring action is imparted to the block near the limit of its opening and closing movements.

The thumb-lever *f* is rigidly connected with the breech-block *c* by means of the sleeve *g*, (shown in section in Fig. 3 and in perspective in Fig. 4,) this sleeve being provided with lugs *j* at either end thereof, which enter suitable recesses formed in the side of the breech-block next to the thumb-lever and on the inner side of the latter.

The pivot-pin *e* is necked down at the end which enters the side of the frame opposite to that on which the thumb-lever is located, and from the shoulder *k*, formed thereon by said necking down of the end back toward the head, the pin is threaded, but has no threaded engagement either with the sleeve *g* or the frame, the threaded portion thereof engaging with the threaded hole in the breech-block *c* and extractor *d*. The slot *h* in the breech-block, wherein the extractor is located, is wide enough to admit the extractor loosely therein.

When the parts are assembled and the pivot-pin *e* is screwed up to its proper position (shown in Fig. 3) and tightened up to hold the lugs *j* securely in engagement with the recesses formed in the breech-block *c* and in the inner side of the thumb-lever *f*, the block is then swung down to open the breech of the gun, the pin *e* moving with it, the sleeve *g* and the end of the pin rotating in their bearings in the frame, and the extractor when it is operated by the movement of the breech-block will turn on the pin, and thus by reason of the threaded engagement it has with the pin will have imparted to it a slight sidewise movement on the pin, and it is for this reason that it is made to fit loosely in the slot *h*. The spring-actuated arm *m* (shown in Fig. 1 in position to engage the hammer when the latter is brought to full cock) is a safety-catch. This device forms no part of the present invention, but is the subject of a separate application. By means of this construction the pivot-pin *e* is always easily removable from the breech-block *c* to dismount the gun,

as there is no action of the parts to upset the screw-thread on it, and the sleeve *g* affords means for rigidly connecting the thumb-lever *f* and breech-block *c* without setting the head of the pin tightly into the frame, as is necessary when the pin has a threaded engagement with the frame.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination in a breech-loading firearm of a breech-block pivotally supported therein and adapted to swing in the plane of the bore of the arm, a thumb-lever for operating the block, and means for rigidly connecting the lever to the block consisting of a sleeve, lugs thereon for engaging recesses in the breech-block and in the side of the thumb-lever, and a screw-threaded pin loose in the sleeve and having a threaded engagement with the breech-block, substantially as described.

2. The combination in a breech-loading firearm, of a breech-block pivotally supported therein adapted to swing in the plane of the bore of the arm, said block having a vertically-located slot therein, an extractor in said slot, a thumb-lever for operating the block, and means for rigidly connecting the lever to the block and for supporting said extractor, consisting of a sleeve, lugs thereon for engaging recesses in the breech-block and in the side of the thumb-lever, and a screw-threaded pin loose in the sleeve and having a threaded engagement with said breech-block and extractor, substantially as described.

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