No. 701,159. Patented May 27, 1902.

W. H. DAVENPORT.

LOCKING KEY FOR FIREARMS.

(Application filed Aug. 7, 1901.)

(No Model.)

Fig. 1.

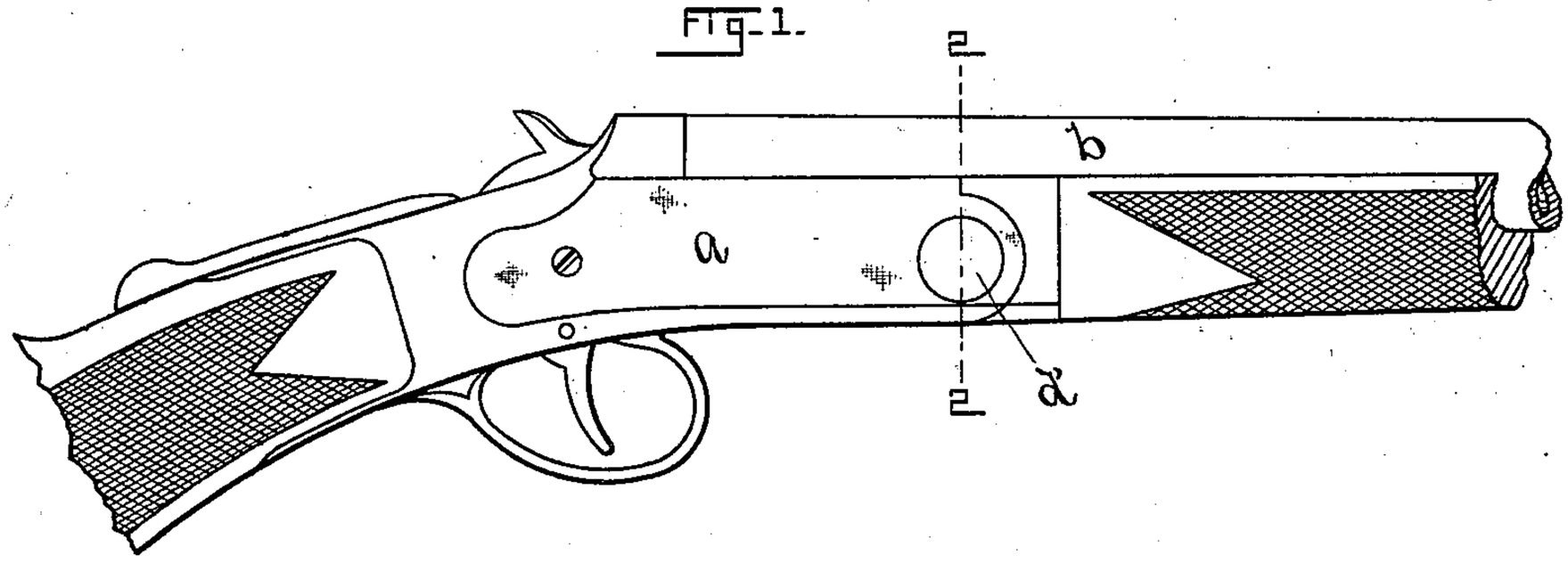


Fig. 2.

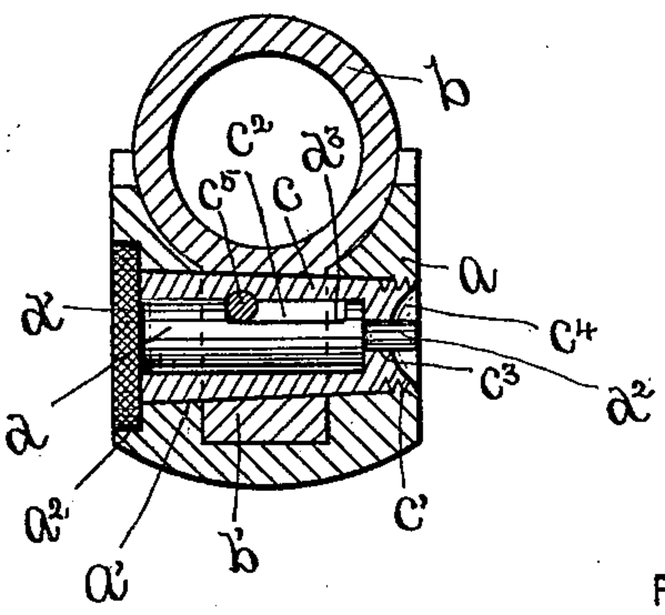


Fig. 3.

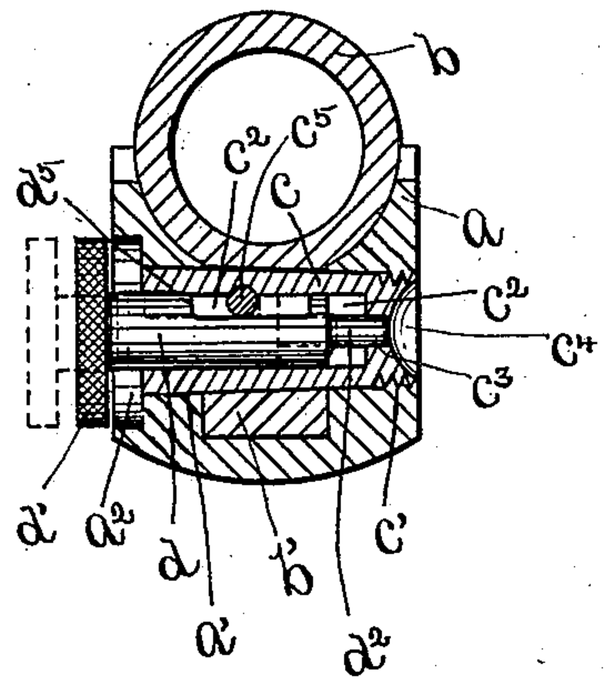


Fig. 4.

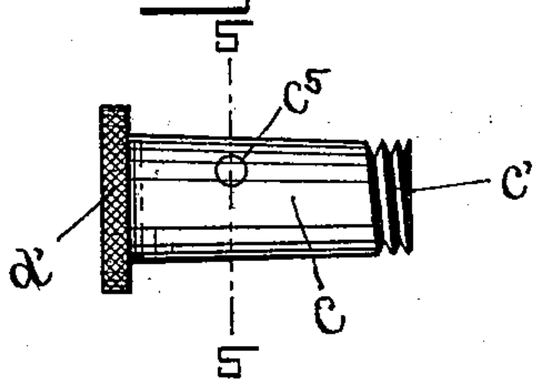
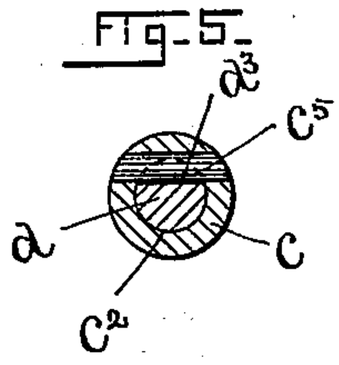


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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LOCKING-KEY FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 701,159, dated May 27, 1902.

Application filed August 7, 1901. Serial No. 71,174. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DAVENPORT, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Locking-Keys for Firearms, of which the following is a full, clear, and exact description.

This invention relates to that class of firearms in which the barrel and breech-frame are removably connected by a locking key or pin; and my chief aim is to provide a locking device that may be readily operated (during the act of connecting or disconnecting the barrel and frame) without the aid of a screw-driver or other implement and which shall be flush with the sides of the frame when the arm is ready for use.

I have shown my device in the annexed drawings as applied to so-called "breakdown" guns, in which the barrel is hinged to the frame and adapted to be swung on a pintle or hinge-pin, so as to expose the rear end of the barrel; but my newly-improved device could be utilized with as great advantage in guns and rifles in which the rear end of the barrel is slipped into a frame-socket of ring form and locked therein by a key or dowel extending through the breech-frame and lying partly in a channel cut transversely in the lower portion of the barrel. In either application of my device the exposed opposite ends of the locking-key are flush with the sides of the frame, and they therefore do not present any projecting parts that may catch in clothing or interfere with the free entrance of the arm into a carrying-case.

To assist in explaining my invention, I have provided the accompanying drawings, illustrating the same, as follows:

Figure 1 is a side elevation of a portion of an arm, showing my newly-invented locking device in place therein. Fig. 2 is a cross-sectional view, on a somewhat-enlarged scale, taken on the line 2 2 of Fig. 1. Fig. 3 is a view similar to Fig. 2, illustrating the manner in which my newly-invented locking device is manipulated. Fig. 4 illustrates the said device removed from the arm. Fig. 5 is a cross-sectional view taken on the line 5 5 of Fig. 4.

Referring to the drawings, the letter a denotes the frame of a breakdown arm, b the barrel, and b' the barrel-lug. The frame a is adapted to receive my newly-invented locking-key, which latter also passes through the barrel-lug b', and thus serves as a pintle to hinge the barrel and frame together in the usual manner.

Describing now the said device, which I will designate as the "hinge-pin," the letter c denotes the pin proper, which is preferably slightly tapering and at its smaller end is screw-threaded, as shown. The pin c is chambered centrally from its larger end throughout the greater portion of its length, as indicated by the letter c^2, and the end wall of said chamber is bored through, as at c^3, to connect the chamber c^2 with a concave recess c^4, provided in the smaller (threaded) end of the pin c. The chamber c^2 is provided for the reception of a bolt d, having at one end a disk-shaped head d' and at its opposite end a shouldered-down extension d^2, that is adapted to be received in the counterbored hole c^3. The bolt d is adapted to be slid longitudinally within the chamber c^2; but the rotation of the said bolt within its chamber is prevented by means of a small pin c^5, located in the pin c and crossing the chamber c^2 at right angles to its length in order to engage an elongated notch d^3 in the bolt d. The said pin c^5 serves also to limit the outward movement of the bolt d and to prevent its accidental separation from the pin c. While the bolt d may be slid longitudinally in the chamber c^2, as described, the said bolt is a sufficiently tight fit in the said chamber c^2 to cause the same to be retained frictionally in any position to which it may be adjusted within the said chamber c^2. The total length of the bolt d, inclusive of its head d' and extension d^2, is equal to or slightly less than the width of the frame a, and when said bolt is in its inner position, with the under side of its head engaging the larger end of the pin c, the shouldered-down extension d^2 enters the concave recess c^4 of the pin c, the extreme end of said extension being practically in the plane of the smaller end of the pin c.

The frame a is bored with a tapering hole a' to receive the pin c, the smaller end of which hole is tapped to receive the threaded end c' of the pin c, and the other end of said

hole a' is enlarged to provide a recess a^2 for the reception of the bolt-head d'.

The elements comprising my newly-invented hinge-pin are assembled, as already described, forming a device complete in itself, which device is operated as follows whenever it is desired to utilize the same for connecting a barrel and frame: The pin c is passed through the taper hole a', provided for its reception in the frame a, (and also through a hole in the barrel-lug b',) until the threaded end c' of the said bolt engages the tapped portion of the hole a'. The pin c is then rotated to screw it into the said hole a', such rotation being continued until the smaller end of the pin is flush with the face of the frame a, which condition results substantially simultaneously with the proper seating of the taper pin c in the hole a', and when in said last-named position the larger end of the pin c is flush with the bottom of the recess a^2.

To enable the rotation of the pin c after the latter has entered the frame a, the bolt d is first drawn outward from the pin, as shown in dotted lines in Fig. 3, and in order that the complete device may be readily rotated the bolt-head d' is preferably provided with a milled edge.

After the pin c has been screwed home, as just described, the bolt d is forced to its inner position, the head d' entering the recess a^2, which latter is of sufficient depth to receive said head, and when in said inner position the outer face of the said bolt-head is flush with the frame a, as shown in Fig. 2.

When it is desired to separate the barrel and frame, the operation of removing the hinge-pin is as follows: The thumb or finger is inserted in the concave recess c^4 against the projecting end of the extension d^2, and the bolt extension d^2 and bolt d are forced forward from the positions shown in Fig. 2 to those shown in Fig. 3. The bolt-head d' may now be readily grasped and drawn to its extreme outward position, (into the position shown in dotted lines in said Fig. 3,) after which the bolt d and connected pin c may be readily rotated to unscrew the pin from its seat in the frame.

My newly-invented device may be cheaply constructed, is operated without the use of tools, and when in position in the arm has no projecting portions, thereby adding to the appearance of the arm and enabling the packing of the same to be much more readily accomplished than heretofore.

Having thus described my invention, I claim—

1. In combination, in a screw-key, a threaded pin, an operating-head having a stem that is longitudinally movable in said pin; and means for preventing the rotation of said stem relatively to the said threaded pin the opposite end of said stem being extended through the pin, substantially as specified.

2. In combination with the frame and barrel of an arm, a key for locking said parts together consisting of a threaded pin adapted to be screwed into said frame, an operating-stem that is longitudinally movable in said pin and means for preventing the rotation of the stem in the said pin.

3. In combination, a barrel, a frame having a recess a^2, a key for locking together said frame and barrel, consisting of a threaded pin screwed into said frame, an operating-head having a stem that is longitudinally movable in said pin; and means for holding the said stem against rotation relatively to the said threaded pin the said operating-head being adapted to enter the said frame-recess, substantially as and for the purpose specified.

4. In combination with the frame and barrel of an arm, a locking-key consisting of a threaded pin that is adapted to be screwed into the said frame, one end of said pin being cupped, as set forth, a stem mounted to slide longitudinally in said pin; and means for holding the said stem against rotation in the threaded pin one end of said stem being formed with an enlarged operating-head and the opposite end being extended to enter the cupped end of the pin.

Signed at Norwich, Connecticut, this 27th day of July, 1901.

WILLIAM H. DAVENPORT.

Witnesses:

FRANK H. ALLEN,

MAY F. RITCHIE.