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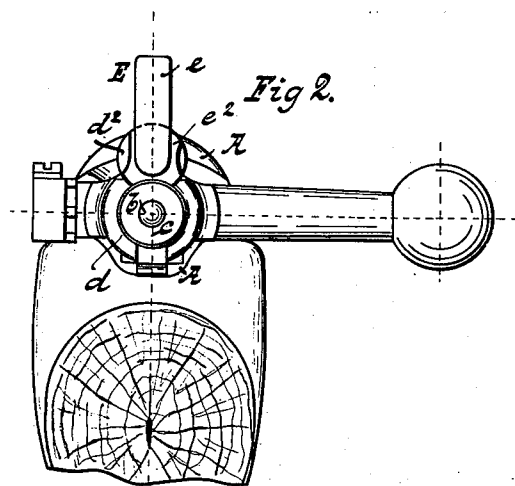
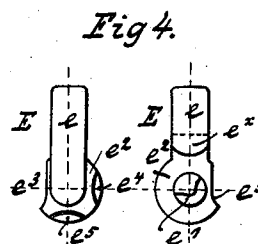
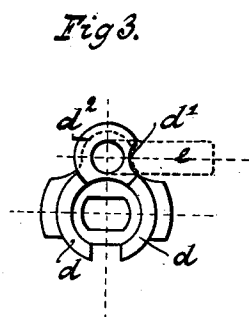
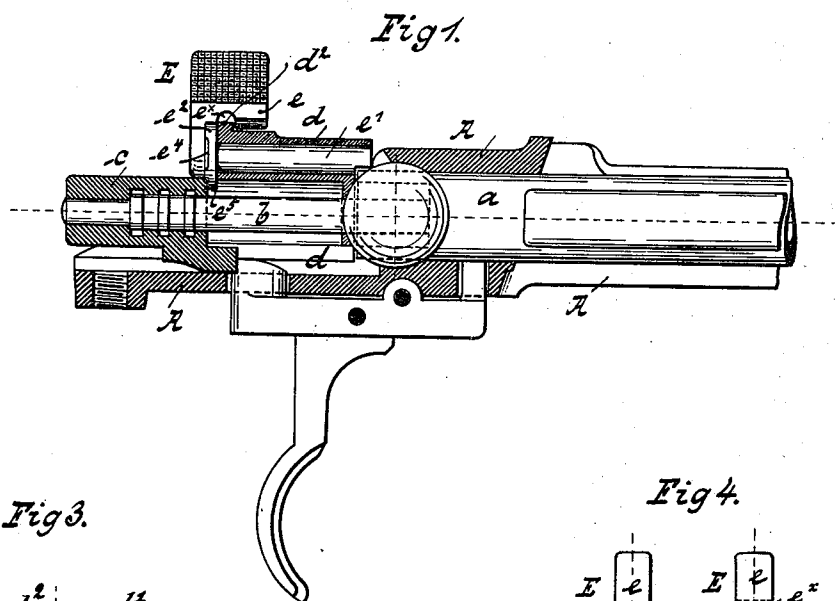
2 Sheets—Sheet 1.

P. MAUSER.

SAFETY LOCK FOR BREECH BOLTS OF GUNS.

No. 547,933.

Patented Oct. 15, 1895.



WITNESSES:

Fred White
Thomas Wallace

INVENTOR:

Paul Mauser.

By his Attorneys

Arthur C. Fraser & Co.

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Fig 5.

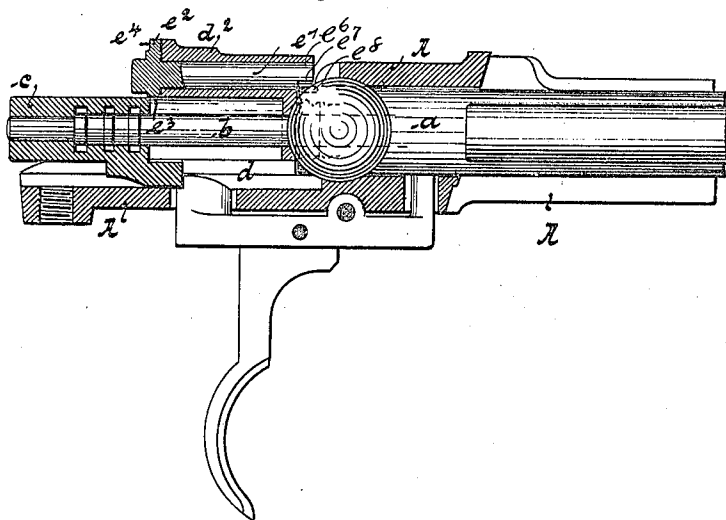


Fig 6.

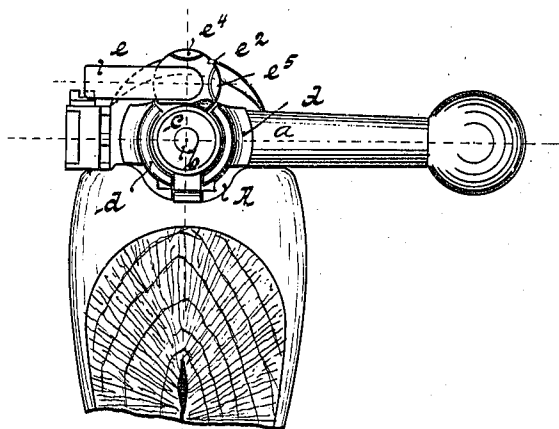
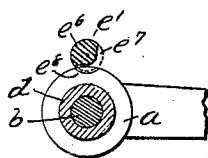


Fig. 7.

WITNESSES:

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UNITED STATES PATENT OFFICE.

PAUL MAUSER, OF OBERNDORF, GERMANY, ASSIGNOR TO THE WAFFEN-FABRIK MAUSER, OF SAME PLACE.

SAFETY-LOCK FOR BREECH-BOLTS OF GUNS.

SPECIFICATION forming part of Letters Patent No. 547,933, dated October 15, 1895.

Application filed April 26, 1894. Serial No. 509,075. (No model.) Patented in England April 13, 1894, No. 7,400, and in Belgium July 16, 1894, No. 110,627.

To all whom it may concern:

Be it known that I, PAUL MAUSER, a subject of the King of Württemberg, residing in Oberndorf-on-the-Neckar, in the Kingdom of Württemberg, Germany, have invented certain new and useful Improvements in Safety-Locks for Breech-Bolts of Guns, of which the following is a specification, which invention is the subject of Letters Patent in Great Britain, No. 7,400, dated April 13, 1894, and in Belgium, No. 110,627, dated July 16, 1894.

This invention relates to safety devices for breech-loading bolt-guns such, for example—as the device shown in my United States Letters Patent No. 449,352, dated March 31, 1891, in which an oscillatory lock is provided for locking the firing-pin against movement. The invention aims to provide certain improvements in this class of safety devices.

The object of the invention is to produce by means of certain improvements a very simple lock which shall perform its locking function well, and which can with little trouble be either loosened and disconnected from, or fastened and secured to, the proper parts of the lock and the bolt without using any special tools for either proceeding.

To this end in carrying out the invention I provide certain features of improvement, which will hereinafter be fully set forth.

In the accompanying drawings, in which I have shown the preferred form of my invention, Figure 1 is a fragmentary vertical axial section of those parts of the lock mechanism of a gun to which my invention relates, showing the firing-pin and the bolt in elevation, the former cocked and locked by the safety device, which is shown in the mid-position, and the pin-nut and small lock being in axial section. Fig. 2 is a rear elevation of the parts shown in Fig. 1 fitted on a gun-stock, which is shown in fragmentary section. Fig. 3 is a rear elevation of the small lock alone, the handle of the safety-lock being shown in dotted lines. Fig. 4 comprises a rear and a front elevation of the safety-lock. Figs. 5 and 6 are views similar to Figs. 1 and 2, but showing the safety device in the firing position; and Fig. 7 is a diagrammatic section at rear of the bolt.

Referring to the drawings, A is the receiver of the gun; *a*, the bolt working in this case; *b*, the firing-pin; *c*, the firing-pin nut thereof; *d*, the small lock in which the firing-pin nut *c* is guided, to which, as usual, the firing-pin and its nut and the bolt are removably coupled, and in the upper part *d*² of which is carried or moved the safety device, (lettered E,) having the handle *e* and the collar or flange *e*². As shown in my said Letters Patent, the safety device E here shown consists of an oscillatory cylindrical shaft *e*¹, mounted in a cylindrical hole in the upper part of the small lock *d*, preferably in the ridge at the upper side thereof, and extending in an axial direction parallel with that of the bolt and firing-pin. The periphery of the shaft *e*¹ projects within the peripheral plane of the end of the bolt *a*, and the shaft has a forward end *e*⁶, which is recessed or cut out at one side to form a recess *e*⁷. The end of the bolt is recessed at *e*⁸ opposite the shaft, into which recess *e*⁸ the end *e*⁶ of the shaft enters when the shaft is turned to the locked position, so that then the bolt cannot oscillate. When the shaft is turned to the unlocked position, the end *e*⁶ will pass above the bolt and the recess *e*⁷ be opposite the latter, which will permit the oscillation of the bolt relatively to the shaft *e*¹, as shown in my said Letters Patent No. 449,352. In contradistinction to the arrangement shown in my said patent, the shaft is fitted or pushed loosely into its hole in the upper part of the small lock, and there is no spring catch or snap and no corresponding groove in the periphery of the ridge of the small lock for fastening the two parts together. This is accomplished according to my present invention in the manner shown, in which the handle *e* extends forwardly, overhangs the ridge of the small lock, and is constructed on its inner edge or face with a recess or cavity *e*^x, and the ridge is formed with a projection or ring-shaped collar *d*², entering, fitting, or projecting in rear of the recess *e*^x of the handle *e*, which handle overlaps this collar, and by the interlocking of the reciprocal shoulders formed by their respective faces the withdrawal of the shaft of the safety device from its socket in the small lock is ordinarily pre-

vented. Furthermore, when in the locked position, and also when in the middle rest or middle position, the flange e^2 of the safety device abuts against the front face of the firing-pin nut c , by reason of which the firing-pin is locked against forward movement, and also the safety device is fixed in its hole and secured against rearward withdrawal. The collar d^2 of the ridge of the small lock is constructed on its right-hand side with a cross hole or groove or cross-cut cavity d' , which is disposed to give free passage to the handle e when this handle is turned to coincide with this groove, which is done when the safety device is to be applied to or removed from its position on the small lock. In this manner the safety device can be instantly applied or removed by simply turning its handle to the extreme right-hand position and then pushing it in through or drawing it out through the groove d' . When applied after the inwardly-projecting portion of the handle has passed entirely through the groove d' , the handle is turned toward the left, which immediately brings this portion opposite the ridge d^2 and thereby locks the device to the small lock.

When it is desired to fire the gun, the safety device, which has previously been in position to lock the firing-pin cocked, is unlocked by throwing its thumb-piece or handle e to the left-hand side, thereby turning the shaft e' so that its forward recessed end will permit the oscillation of the bolt and removing its rear flange e^2 from in front of the firing-pin nut c . This flange or collar e^2 has two slight depressions e^4 and e^5 in its rear face, preferably arranged the one diametrically opposite the handle e and the other at an angle of ninety degrees therefrom and on its right-hand side, into which the front of the firing-pin nut enters into the notch e^4 when the safety device is in the fully-locked position—that is, when the handle e is turned fully down to the right—and into the notch e^5 when the device is in the middle-rest position—that when the handle stands vertically. In either position the front of the firing-pin nut enters into the recess in the flange of the safety device and resists accidental movement thereof. The recess e^3 traverses the flange e^2 at its left and allows free passage of the firing-pin nut when firing or cocking.

When the safety device is in its middle position or middle rest, the handle e is standing vertically and the cocked firing-pin is locked, the firing-pin nut c entering the depression e^5 on the collar e^2 of the safety device E, Figs. 1 and 2. The middle rest or position is provided for the purpose of enabling a facile loosening or disconnection of the parts of the

lock and the firing mechanism when the gun is to be inspected, repaired, or cleaned. To so disconnect the parts the gun is cocked and the safety device turned into its middle position, whereby the firing-pin is locked, whereupon the bolt may be taken out of the breech-case, and the small lock being in connection with the firing-pin can be screwed off or uncoupled from the bolt by the usual uncoupling operation. After this the firing-pin and its spring and nut can be disconnected from the small lock in the usual manner. To assemble the loosened parts they may by the reverse of the procedure for disconnecting be easily again connected together, and in no case, neither when the parts are to be either separated or assembled, is the use of any tool necessary.

It will be seen that this invention provides improvements in safety devices which can be advantageously and conveniently availed of, and it will be understood that the invention is not limited to the precise details of construction and arrangement set forth as its preferred form.

What I claim is, in safety devices for bolt-guns, the following-defined novel features and combinations, substantially as hereinbefore specified, namely:

1. The combination with the receiver, a bolt working therein, a firing pin working in said bolt, and a small lock connected to said pin and to said bolt, of a lock carried by said small lock consisting of an oscillatory cylindrical shaft e' mounted in said small lock and having a handle e constructed with a cavity e^x , overhanging said small lock, and said small lock constructed with a collar d^2 at its ridge entering the cavity of said handle, and with a groove d' through which said handle may pass, said cavity and collar interengaging and locking said lock to said small lock.

2. In a breech loading bolt gun, the receiver, a bolt therein, a firing pin carried by said bolt, and a small lock connected with said firing pin and to said bolt, in combination with a safety lock carried by said small lock and having a flange e^2 constructed with a recess e^3 for the unlocked position of the safety lock and permitting the forward movement of the firing pin, and having two depressions e^4 and e^5 receiving the front of the pin nut in the locked position and in the middle rest position respectively of said safety lock.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

PAUL MAUSER.

Witnesses:

HENRY M. REYNOLDS,
ISAAC GANS.