

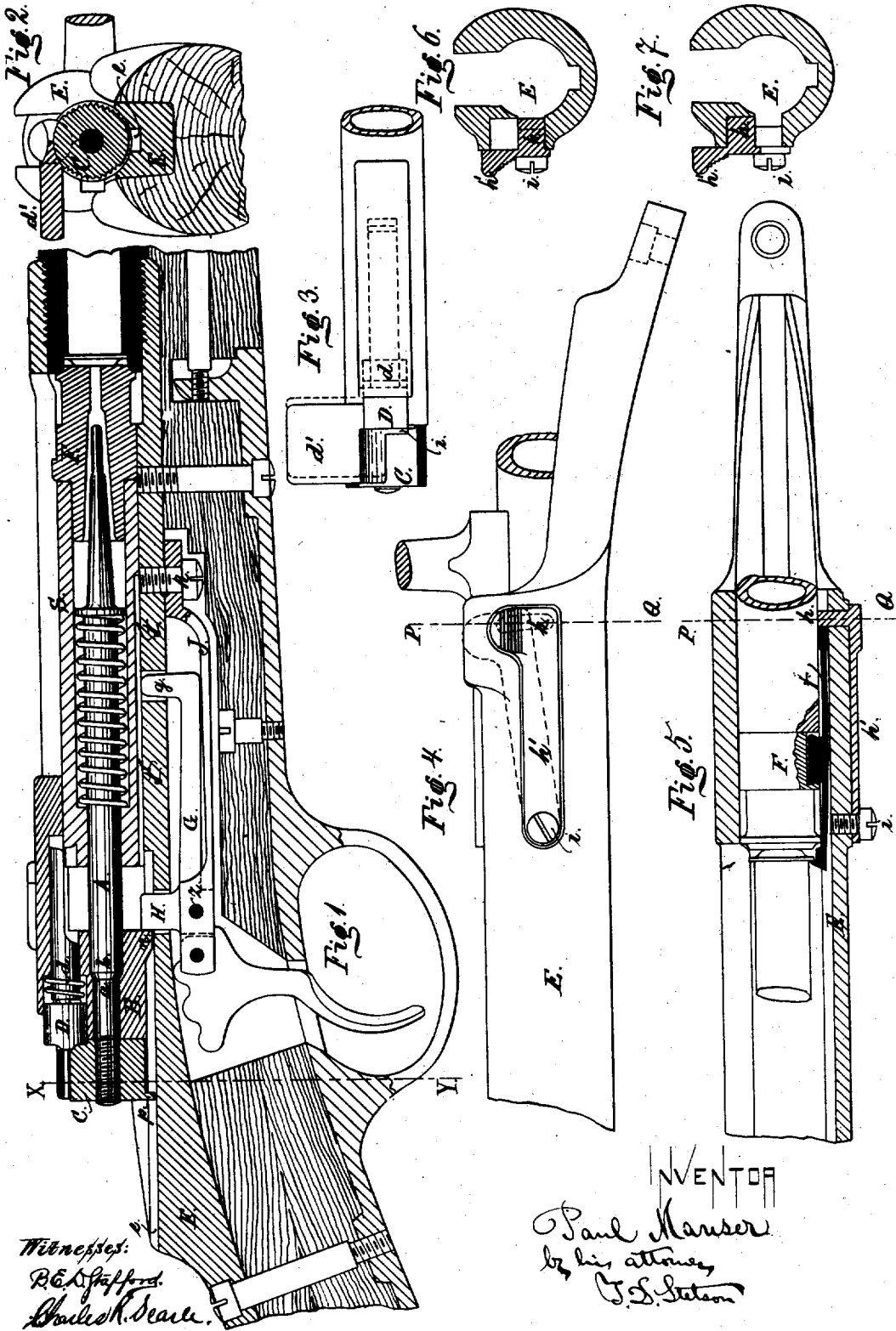
(No Model.)

2 Sheets—Sheet 1.

P. MAUSER.  
BREECH LOADING FIRE ARM.

No. 249,967

Patented Nov. 22, 1881.



Witnesses:  
R. C. Stafford.  
Charles H. Deane.

INVENTOR  
Paul Mauser  
by his attorney  
J. S. Eaton

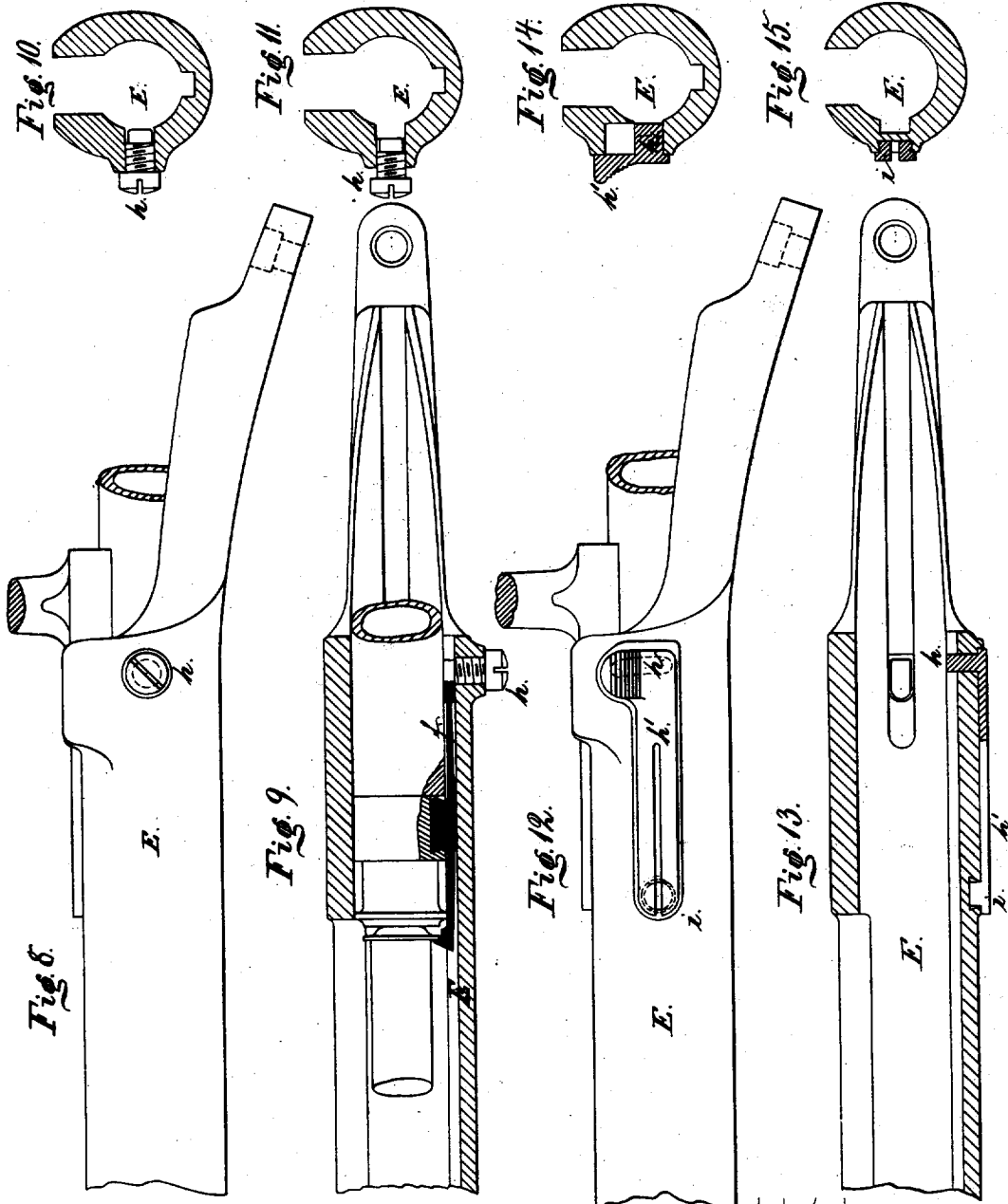
(No Model.)

2 Sheets—sheet 2.

P. MAUSER.  
BREECH LOADING FIRE ARM.

No. 249,967.

Patented Nov. 22, 1881.



WITNESSES

*B. E. Stafford*  
*Charles R. Seale,*

INVENTOR

*Paul Mauser*  
*his attorney*  
*J. L. Stearns*

# UNITED STATES PATENT OFFICE.

PAUL MAUSER, OF OBERNDORF-ON-THE-NECKAR, WÜRTEMBERG, GERMANY.

## BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 249,967, dated November 22, 1881.

Application filed August 20, 1881. (No model.) Patented in Germany January 23, 1880, in Belgium January 29, 1880, and in Austria-Hungary July 9, 1880.

To all whom it may concern:

Be it known that I, PAUL MAUSER, a citizen of Germany, fire-arms manufacturer, residing at Oberndorf-on-the-Neckar, in the Kingdom of Würtemberg, in the German Empire, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a specification.

The invention is intended more particularly for that class of breech-loading fire-arms manufactured by me, and which are known by the name of "Mauser;" but it may be used also on breech-loading arms of other styles having a general similarity in character.

The improvements relate to the means for cocking and firing and for expelling the exploded shells.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

The drawings represent the novel parts, with so much of the ordinary parts as will serve to show their relation thereto.

Figure 1 is a vertical longitudinal section. Fig. 2 is a cross-section on the line X Y in Fig. 1. Fig. 3 is a plan view of a portion detached. Fig. 4 is a side view of a portion. Fig. 5 is a plan view, partly in section. Figs. 6 and 7 are cross-sections through the breech-piece and through a certain adjustable part at the side, which performs important functions. Each is a cross-section on the line P R in Fig. 5 and the line P Q in Fig. 4. Fig. 6 shows the parts arranged to throw out the shell, and Fig. 7 shows the parts arranged to be of no effect. Figs. 8 to 11 represent a slight modification of the means for expelling the cartridge-shell after a piece has been fired. Fig. 8 is a side view; Fig. 9, a plan, partly in section; Figs. 10 and 11, cross-sections. Fig. 10 shows the parts adjusted for throwing out the cartridge-shell, and Fig. 11 the parts adjusted to be of no effect. Figs. 12 to 15 are corresponding views representing still another modification of the cartridge-extractor.

Similar letters of reference indicate corresponding parts wherever they occur.

The firing-bolt A is made more stout than usual in its middle part. The small cylindrical part *a* at the rear is fitted closely in a cor-

responding hole in the small lock or stout locking-piece B. The shoulder *b*, where the thick part of A unites with the thin portion, is conical. The hole in the small lock B is correspondingly formed. A stout nut, C, unites the firing-pin A and the small lock B. It is formed with a nose, *p*, which, when the gun is worked, slides in a longitudinal groove, *e*, in the interior of the breech-piece E. The locking-piece or small lock B has also a nose, *n*, sliding in the same groove *e*, and serving as a stop to engage with the trigger-catch H and hold the firing-piece in the locked condition until the latter is depressed by pulling the trigger, as will be understood. By means of these two noses *p* and *n* a reliable guide is obtained for preventing the turning of the parts B C, and the nut C is prevented from working loose or unscrewing in the use of the gun. I employ what I term a "safety-pin." The main body or head of this pin is marked *d*, and the enlargement or head D, and a flat thumb-piece, by which it may be turned, is marked *d'*. This safety-pin lies near the firing-pin A and parallel to it. A portion of the body of the pin *d* is cut away on one side, as indicated in Fig. 1. A portion of the head D is also cut away, as indicated in Fig. 2. It will be understood that after a cartridge has been introduced in the piece and secured by moving forward and partially rotating the bolt *s f* in the ordinary manner, the firing-pin A and its immediate attachments B C D are left behind, ready to effect the discharge of the cartridge on their being suddenly released and thrown forward by the spiral spring. This is effected by the engagement of the trigger-catch H with the nose *n*. This trigger-catch is pressed upward by the spring J, on which it is pivoted, and it remains engaged until it is depressed by the pulling of the trigger, as will be obvious.

When it is desired to hold the improved piece in a loaded and cocked condition, but without risk of its being fired, the safety-pin D is turned partially around by means of its thumb-piece *d'*, so that the half-round part of the body *d* engages with the chambered piece S. In this condition of the parts the firing-pin is held permanently back, notwithstanding that the trigger may be pulled to draw down the trigger-catch H. The firing-pin A

and its attachments cannot move forward, because the safety-pin D *d* engages firmly by its end against the chambered piece S and prevents any motion. Before the piece can be fired the safety-pin must be again turned back into the position shown in Figs. 1 and 2, so that the cut-away portion of the body *d* will be presented toward the chambered piece S, and the remaining half-round portion of the pin will be out of engagement therewith. The safety-pin also serves an important use in keeping the nut C in place when the whole lock is removed from the breech-piece E for cleaning or repairs. The safety-pin is kept in close contact with the nut C by the force of the spiral spring *d*<sup>2</sup>, wound around the body of the pin. This forces the head D into a corresponding recess of the nut C, and prevents the nut C from being turned relatively to the other parts so long as the safety-pin remains in that position. Whenever it is required to unscrew the nut C from the firing-pin A, the safety-pin must be pressed in so as to compress the spiral spring *d*<sup>2</sup> and move the head out of the recess in C; then the latter may be turned at will by any suitable wrench.

The invention relieves the firing-bolt A from undue friction, and the spiral spring driving it may be lighter than is usually employed. On the opening of the breech I withdraw and throw out the cartridge-shell.

Referring to Fig. 1, G is a long arm, made in one with the trigger-catch H, and having its forward end turned up sharply, as indicated by *g*. It is mounted on the spring J by the pivot *z*, on which it can turn a little. The trigger-catch H stands in one hole in the breech-piece E, and the upturned nose *g* in another hole considerably forward thereof. The latter is under where the withdrawn shell will lie after it has been drawn rearward from the barrel by the pulling back of the chambered piece S and its attachments. The trigger-catch H stands in a longitudinal groove, *t*, on the under side of the chambered piece S, and is unaffected by the withdrawal of the latter until near the end of its rearward motion. It is struck by the end of the groove *t* when the breech is fully opened. The sudden blow thereby received causes it to turn on the pivot *z*, thereby raising the forward nose, *g*, smartly and causing it to strike upward through its aperture and throw out the shell lying above it.

The modifications shown in the succeeding figures may for some reasons be preferred.

Referring to Figs. 4, 5, 6, and 7, the shell-extractor *f* is made to throw out the shell by the concussion induced by striking the stop *h* when the breech is fully opened. The pin H is arranged on one end of a slightly-turned piece, *h'*, attached to the outside of the breech-piece E by means of a screw, *i*. On the free end of this piece *h'* is an arm, *h*, extending

inward through a slot, as shown. When this piece *h'*, with its stop or arm *h*, is depressed in the position shown in Figs. 4 and 6, the stop *h* will meet the extractor *f* and induce the desired concussion, with the effect to throw out the shell. When, on the contrary, the piece *h'*, with its stop *h*, is raised, it is of no effect, and the cartridge-shell or the unfired cartridge may be withdrawn without being thrown out of the piece. A slight modification of this construction is shown in Figs. 12, 13, 14, and 15.

Figs. 8, 9, 10, and 11 show how a simple screw-pin, *h*, may be made to serve in a corresponding manner. When this pin is screwed in, as shown in Figs. 9, 10, the point of the screw stands in the path of the extractor *f* and induces the desired shock. When, on the contrary, the screw *h* is turned to partially withdraw it, as indicated in Fig. 11, the point of the screw is out of the path and the shell or cartridge will not be thrown out.

Whenever it is desired to remove the lock entirely from the breech-piece the stop *h* must be moved out of the way.

Modifications may be made in the forms and proportions of many of the details without departing from the principle or sacrificing all the advantages of the invention.

What I claim as the present improvement in breech-loading fire-arms is—

1. The locking-piece or small lock B, in combination with the firing-pin A, having the conical shoulder *b*, and with the nut C, arranged for joint operation as herein specified.

2. The nut C, formed with the nose *p*, in combination with the breech-piece E, having the groove *e*, and with the locking-piece B and firing-pin A, having the shoulder *b*, as herein specified.

3. The safety-pin D *d* and operating-spring *d*<sup>2</sup>, in combination with the firing-pin A, the locking-piece or small lock B, and with the nut C, recessed to receive a portion of the safety-pin, as herein specified.

4. The nose *n* of the small lock B, in combination with the nose *p* of the nut C, and with the breech-piece E, having the groove *e*, as shown and described, and for the purposes explained.

5. In combination with the bolt S, having the groove *t*, the lever G *g* H, turning on the pivot *z* in the spring J, discharging the gun by the action of the trigger, and throwing out the shell by the action of the bolt, as herein specified.

This specification signed by me this 20th day of July, 1881.

PAUL MAUSER.

Witnesses:

OSCAR G. RUH,  
Mrs. I. M. ELKIN.