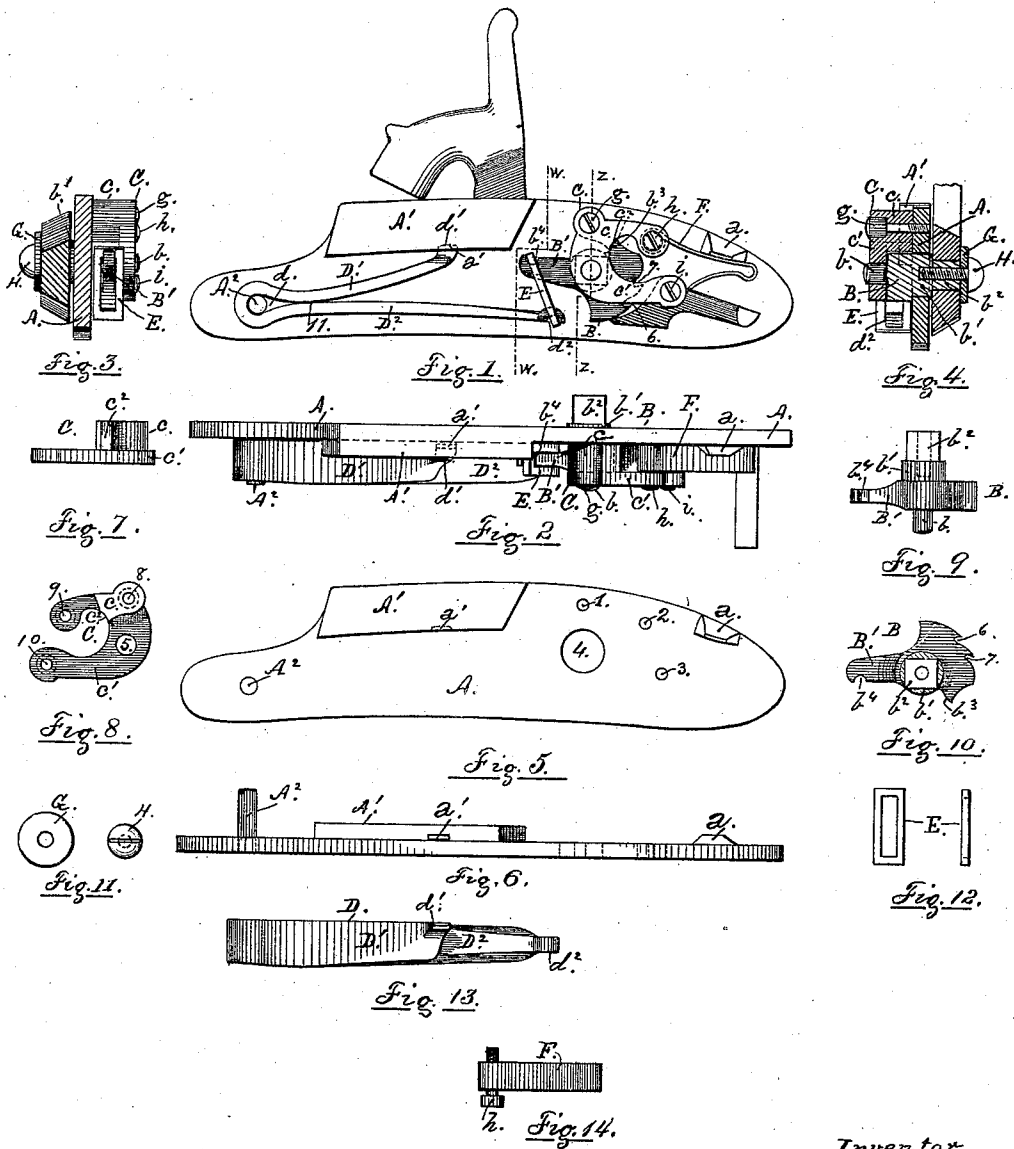


(No Model.)

G. W. WERNER.
GUN LOCK.

No. 468,853.

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Witnesses:

William C. Mosser
Clara M. Evans.

Inventor

G. W. Werner

By

Dan H. Kerr.
Attorney,

UNITED STATES PATENT OFFICE.

GEORGE W. WERNER, OF LANCASTER, PENNSYLVANIA.

GUN-LOCK.

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To all whom it may concern:

Be it known that I, GEORGE W. WERNER, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Gun-Locks as an Article of Manufacture; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in gun-locks of the ordinary pattern known to the trade; and the object of my invention is the production of a gun-lock as an article of manufacture, constructing it cheaper and yet in better form than is the one now in common use.

The details of my invention consist of, first, an improved lock-plate, in which I dispense with the two holes or recesses heretofore used to receive and hold the integral side lugs or points of the main and sear springs; second, a mainspring without the usual side lug to keep it in place, also without the usual bifurcated tip; third, a tumbler having a solid lever in place of the slotted one, to which the $\perp$ -swivel was formerly pivoted; fourth, a rectangular link to connect the tip of the mainspring with the forward end of the tumbler-lever instead of the $\perp$ -shaped swivel in former use; fifth, an improved bridle; sixth, a sear-spring without the usual side lug to hold said spring in place, and, seventh, a washer and common round-head screw in place of the usual flat-headed English screw to hold the hammer to the $\square$ end of the tumbler-trunnion.

In the accompanying drawings my invention is clearly illustrated.

Similar letters and figures refer to similar parts throughout the several views.

Figure 1 is a full inside elevation of a gun-lock embodying the elements of my invention; Fig. 2, a top view of Fig. 1, the hammer, screw, and washer removed; Fig. 3, a cross-section through the line ww in Fig. 4, viewed from the left; Fig. 4, a cross-section through the line zz in Fig. 1, viewed from the right; Fig. 5, an inside view of the lock-plate in Fig. 1, with all the working parts removed; Fig. 6, a side view of Fig. 5 viewed from below; Fig. 7, a view of the bridle turned over end for end, as

it appears in Fig. 1 viewed from below; Fig. 8, a top view of Fig. 7; Fig. 9, a top view of the tumbler detached from Fig. 1; Fig. 10, a top view of Fig. 9; Fig. 11, plan views of the screw and washer used to hold the hammer to the $\square$ end of the tumbler-trunnion; Fig. 12, plan and side elevation of the link used to join the tip of the mainspring to the forward end of the tumbler-lever; Fig. 13, top view of the mainspring detached from Fig. 1; Fig. 14, top view of the sear-spring detached from Fig. 1, showing the retaining-screw in place.

A plate A-shaped, as shown in Figs. 5 and 6, forms the base of my invention. Along the upper edge near the rear end, on the inner face of this plate and integral therewith, is a raised point or projection a , adapted to engage the back of the sear-spring, keeping it in place to perform its proper action upon the sear, as will hereinafter more readily appear.

1, 2, and 3 are holes threaded and adapted to receive the end of screws, as will hereinafter be shown.

4 is a larger hole adapted to receive the action of the large trunnion of the tumbler to be described.

A' is an angular elevation along the upper edge, adapted to be recessed to receive the nipple arm or tube of the gun-barrel. In the under edge of this elevation A' is a recess a' , adapted to receive and keep in place the sharpened point of the turned-up end of the mainspring, to be hereinafter described. Near the forward end of this plate and rigidly attached thereto is a pin A^2 , adapted to pass through the loop or fold of the mainspring referred to, holding its rear end in place.

B is a tumbler shaped as shown in Figs. 9 and 10. b and b' are trunnions of different diameters placed on opposite sides thereof, having their centers on the same axis; b , the smaller, being adapted to engage and turn in a hole 5 in the bridle, to be hereinafter described, and b' , the larger, adapted to engage and turn in the hole 4 of the plate A, before mentioned. The trunnion b' , extending through the body of the plate A, has its forward end b^2 made angular and adapted to enter and engage the angular orifice in the end of the hammer-stock and having along its axis

a hole threaded to engage the screw adapted to hold the hammer thereto.

6 and 7 are notches adapted to engage the toe of the sear when the hammer is cocked.

- 5 b^3 is a shoulder adapted to engage the base of the bridle to stop the downward motion of the tumbler against the action of the main-spring when the same is in operation.

- B' is a solid arm or lever somewhat thinner 10 than the body of the tumbler, centrally located, and having in the upper side, near its forward end, a notch b^4 , adapted to receive and hold the link, yet to be described. The tumbler B and all its parts, as described, form 15 one body or piece.

- C is a bridle made of one piece and shaped as shown in Figs. 7 and 8, consisting of two portions c and c' . The portion c forms the base and is adapted to rest against the plate 20 A. The portion c' forms the top and is adapted to extend over the tumbler, the sear, and the looped end of the sear-spring, Fig. 1. The portion c is raised from the portion c' far enough when the bridle is in place to form a 25 recess to receive the tumbler, the sear, and sear-spring, allowing freedom of action to the tumbler and sear. The perpendicular wall c^2 is adapted to come in contact with the shoulder b^3 of the tumbler B and stop the down- 30 ward progress of said tumbler, as mentioned.

Through the portion c' are holes 8, 9, and 10, corresponding, respectively, with the holes 1, 2, and 3 through the plate A, the hole 8 continuing through the portion c .

- 35 In Fig. 13 is shown in full top view a main spring D folded over, as shown in Fig. 1, so as to form a loop or eye d , adapted to receive the pin A^2 of the plate A, keeping this end of the main spring fixed when said spring is 40 placed in position. The folded portions D' and D^2 of said spring come together at a point 11. One portion, as D' , has its extremity forged thin, turned up and sharpened, forming the point d' , adapted to enter the recess a' and held in place thereby, as before 45 mentioned, and the other D^2 extending forward to a point below the lever B' of the tumbler B. Fig. 1 has its extremity narrowed and curved, forming underneath the notch d^2 50 adapted to engage and hold the lower bar of the connecting-link, yet to be described.

- E is a rectangular link. (Shown in plain front and side elevation in Fig. 12.) This link is punched entire from a thin plate of sheet 55 metal and is adapted to connect the forward end of the mainspring D by engaging the notch d^2 on the under side of the tip thereof to the forward end of the tumbler-lever B' by engaging the notch b^4 , as described and 60 shown in Figs. 1, 2, 3, and 4.

- F is a sear-spring made of a straight strip of spring metal, having an eye at one end through which a screw serves to hold it in place. A top view of this spring is shown in Fig. 65 14, together with the retaining-screw through its eye. This spring is shaped and placed as shown in Fig. 1. Its back near the looped end,

resting against the point a , before described, is held in place thereby, so that the point of said spring bearing against the back of the 70 sear, as shown, will impart to the sear the proper pressure.

The sear being of the ordinary well-known pattern is not here described.

In Fig. 11 are shown plan views of a washer 75 G and a common round-headed screw H used in combination in place of the large flat-headed English screw to hold the foot of the hammer to the angular end b^2 of the tumbler-trunnion b' , as shown in Figs. 3 and 4. 80

Now all the parts, as described, being placed in position on the plate A, as is indicated in Figs. 1, 2, 3, and 4, the bridle C so that the holes 8, 9, and 10 therein will correspond, respectively, with the holes 1, 2, and 3 85 in the plate A, it will be readily seen that the screw g , passing through the portion c , serves to hold the bridle C firmly to the plate A; that the screw h , passing through the loop or eye of the sear-spring, serves to bind the 90 parts together at this point, keeping the sear-spring in place, and that the screw i , passing through the sear, holds this end of the bridle and serves as a pivot, on which the sear acts. It will also be readily observed that 95 the point a , bearing against the back of the sear spring F, serves to keep the point of said spring permanently against the back of the sear, compelling positive action. Again, that the pin A^2 , passing through the loop d in the 100 folded end of the mainspring D, serves to hold the said spring in place at this point, and the sharpened point d' , entering the recess a' in the elevation A' , serves to keep this extremity of the mainspring in place, and 105 that the link E, engaging the notch d^2 in the under side of the curved tip of the mainspring and the notch b^4 in the upper side of the forward end of the tumbler-lever B' , serves to securely connect the mainspring D to the 110 tumbler B, imparting to said tumbler full and complete action, and, also, that the washer G and the screw H, tapped into the angular end b^2 of the tumbler-trunnion b' , in combination with said washer G, serves to hold the foot of 115 the hammer firmly to the tumbler B, Figs. 3 and 4, the screw and washer taking the place of the large flat-headed English screw so well known.

I am aware that devices similar to mine 120 have been used heretofore in the mechanic arts; but I am not aware that any of them have been used in the manner and for the purpose I propose. I therefore do not claim them nor any of them, broadly; but 125

What I do consider new and as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a gun-lock, as an article of manufacture, the plate A, possessed of the following 130 functional elements: centrally located along the upper edge of the face of said plate the angular elevation A' , adapted to be recessed to receive the nipple arm or tube of the gun-

barrel and having in its under edge the recess a' , adapted to receive and hold in place the pointed end d' of the mainspring, as described, located toward the rear end of said plate and along the upper edge, the elevated lug or point a , adapted to press against the back of the sear-spring, as described, located near the forward end and rigidly attached to said plate, the pin A^2 , passing through the eye d , adapted to engage and hold in place the looped end of the mainspring, as described, provided with the threaded holes 1, 2, and 3, adapted to receive, respectively, the ends of the screws g , h , and i , as described, and the hole 4, adapted to receive the action of the trunnion b' of the tumbler B, the said plate and all its elements made integral or rigid, substantially as described, and for the purpose set forth.

2. In a gun-lock, as an article of manufacture, the tumbler B, possessing the following functional elements: the body of the tumbler, as shown, the trunnions b and b' , of different diameters, placed on opposite sides, their centers in the same axis, the smaller b adapted to turn in the hole 5 of the bridle C, as described, and the larger b' adapted to turn in the hole 4 of the plate A, as described, having its forward end b^2 angular to engage the foot of the hammer and its center drilled and threaded to receive the screw H, as described, the notches 6 and 7, adapted to engage the toe of the sear in cocking the hammer, the shoulder b^3 , adapted to impinge against the wall c^2 of the bridle C to stop the downward progress of the tumbler against the downward action of the mainspring, as described, and the solid arm or lever B' , somewhat thinner than the body of the tumbler, having in its upper edge, near the forward end, the notch b^4 , adapted to receive and hold in place the upper bar of the suspending link E, as described, the tumbler B and all its elements made integral or of one piece of metal, substantially as described, and for the purpose set forth.

3. In a gun-lock, as an article of manufacture, the bridle C, having the following functional elements: the portion c , adapted to rest on the plate A and provided with the hole 8, through which the screw g attaches said bridle C to said plate A, said portion c having the wall c^2 , forming a stop to the downward action of the tumbler B, said portion c being high enough to form under the portion c' recesses, in the end of one of which the eyed end of the sear-spring is located and in the other operate the sear and tumbler B, as described, the portion c' , provided with the hole 5, in which turns the trunnion b of the tumbler B, the hole 9, through which the screw h holds the eyed end of the sear-spring F in place, and the hole 10, through which and the sear underneath the screw i passes, forming the pivot on which the sear has motion, all substantially as described, and for the purpose set forth.

4. In a gun-lock, as an article of manufacture, the herein-described mainspring D, having at one end the loop or eye d , adapted to engage the retaining-pin A^2 of the plate A, the arms D' and D^2 , said arms coming together at the point 11, the arm D' curving upward, as shown, having its extremity forged thin and turned up, terminating in the sharpened point d' , adapted to enter the recess a' in the side elevation A' of the plate A, and the arm D^2 , extending rearward and curving slightly downward, as shown, having its extremity narrowed and curved, forming on the under side the notch d^2 , adapted to engage and hold the lower bar of the link E, as described, the mainspring D, adapted to actuate the tumbler B, all substantially as described, and for the purpose set forth.

5. The combination, in a gun-lock, as an article of manufacture, with the mainspring D, consisting of the arms D' and D^2 coming together at the point 11, having the eye d at the junction of said arms, the sharpened point d' , projecting upward at the extremity of the arm D' , and the notch d^2 on the under side at the extremity of the arm D^2 , and the tumbler B, having the trunnions b and b' , the solid arm or lever B' , projecting forward from and integral with its body, and the notch b^4 in the upper edge at the forward end of said arm, said mainspring D and said tumbler B both, as described, mounted and held in place on the lock-plate A, as described and shown, of the rectangular link E, said link punched out of a metal plate, its upper bar in the notch b^4 in the upper edge at the extremity of the arm B' of the tumbler B and its lower bar in the notch d^2 in the under edge at the extremity of the arm D^2 of the spring D to securely link said spring and said tumbler together, substantially as described, and for the purpose set forth.

6. In a gun-lock, as an article of manufacture, the sear-spring F, made from a strap of spring metal, having an eye or loop at one end adapted to receive the screw h and to be held in place thereby under the upper extremity of the portion c' of the bridle C, as described, thence extending rearward, its back adapted to rest against the projection a of the plate A, as described, and a short distance rearward of the said projection a curving downward and forward, forming a compressed loop at this point, thence curving downward to the back of the sear, as shown, this extremity adapted to rest on the back of the sear to the rear of its pivot, the said spring adapted to actuate the sear, compelling engagement of its toe with the notches 6 and 7 of the tumbler as the hammer is cocked, all substantially as described, and for the purpose set forth.

7. The combination, in a gun-lock, as an article of manufacture, with the tumbler B, as described, said tumbler mounted upon the plate A, as described, and having the trunnion b' in the orifice 4 of the plate and its angular end b^2 on the outside of said plate, said

angular end having the screw-threaded axial bore, as described, and the hammer of the lock, said hammer mounted upon said trunion, its angular end in the angular orifice
5 through the shank of said hammer, of the washer G, said washer on said shaft, and the round-headed screw H, its shaft through the washer in the threaded orifice of said trunion and firmly screwed home on said washer,

whereby said hammer is securely held in place 10 on said tumbler, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEO. W. WERNER.

Witnesses:

J. L. LYTE,
H. REESE.