(Model.) 2 Sheets—Sheet 1.

T. J. LOCKWOOD.

GUN LOCK.

No. 468,002. Patented Feb. 2, 1892.

FIG. 1.

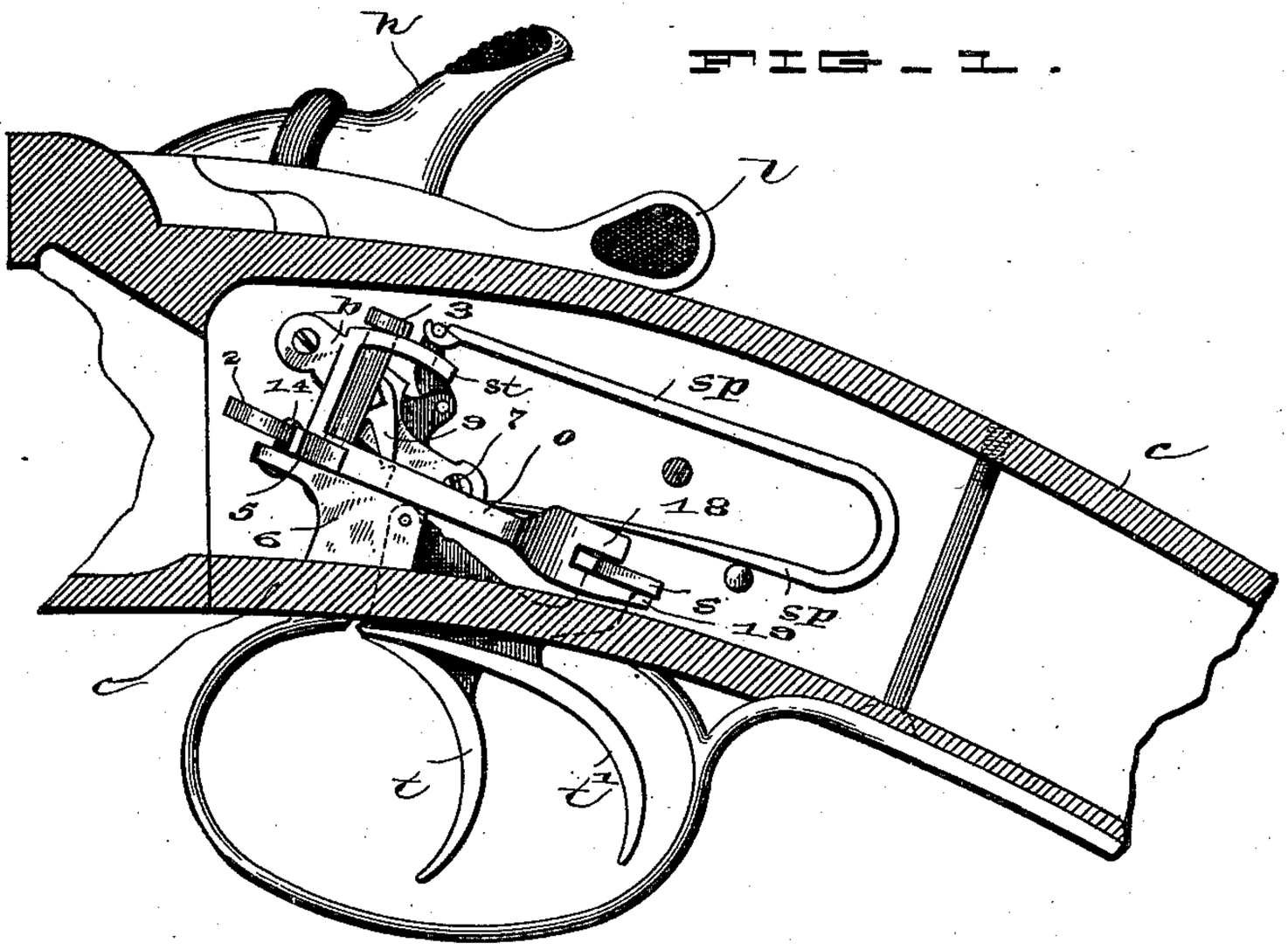


FIG. 2.

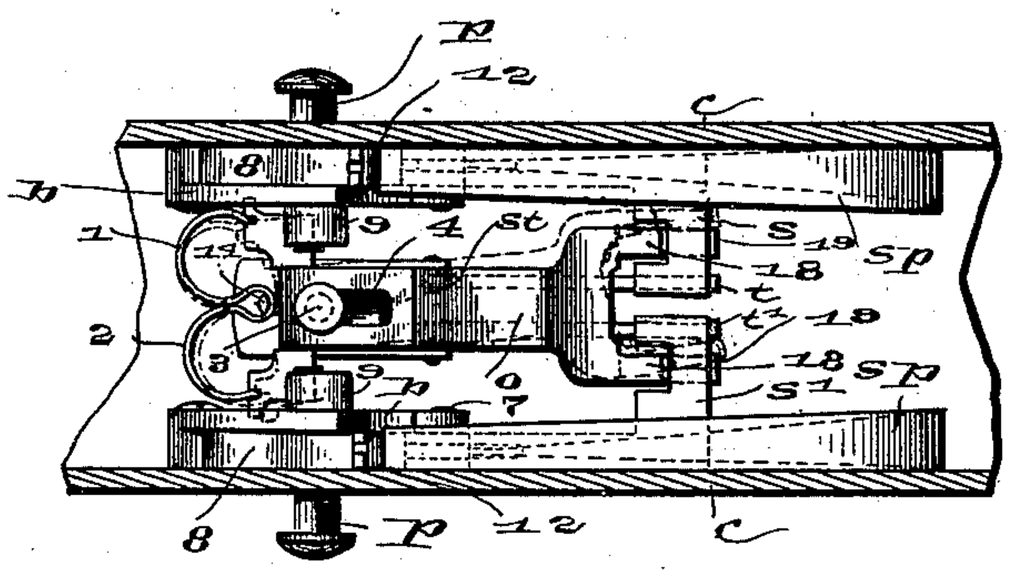


FIG. 3.

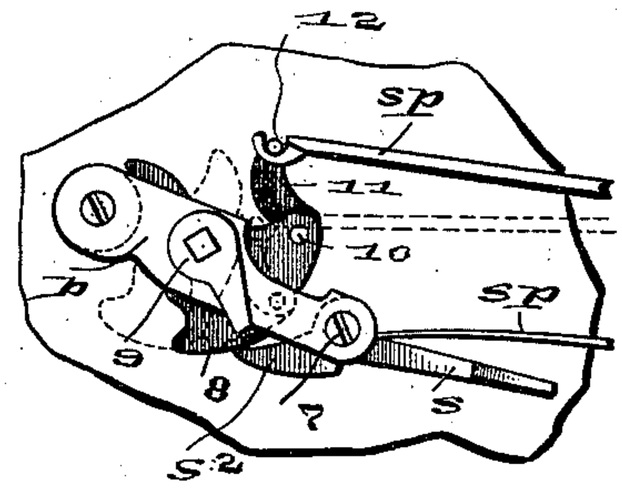
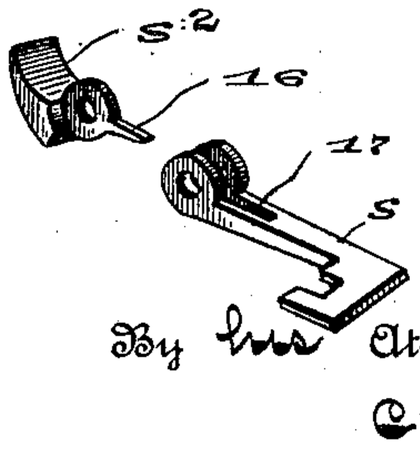


FIG. 4.



Witnesses.

H. D. Neely.

E. B. Griffith.

Inventor.

Thomas J. Lockwood,

By his Attorney

C. F. Jacobs.

(Model.) 2 Sheets—Sheet 2.

T. J. LOCKWOOD.

GUN LOCK.

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FIG. 5.

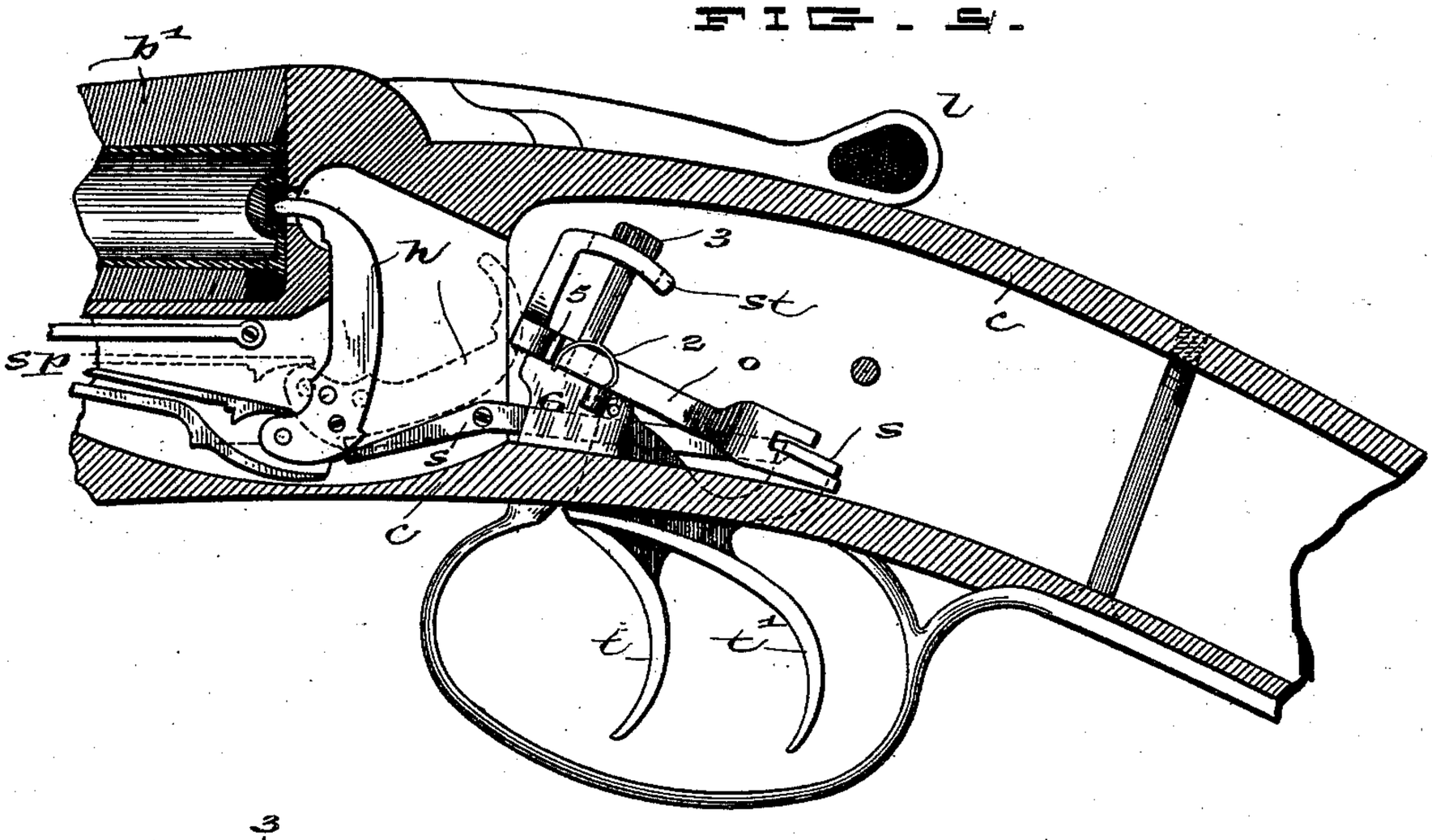


FIG. 6.

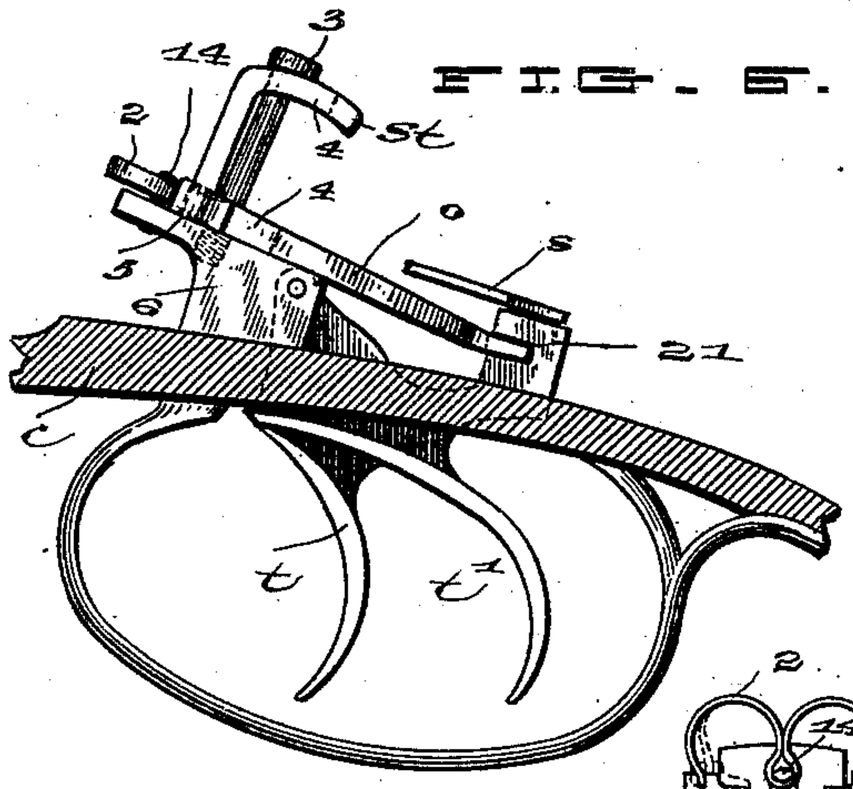


FIG. 7.

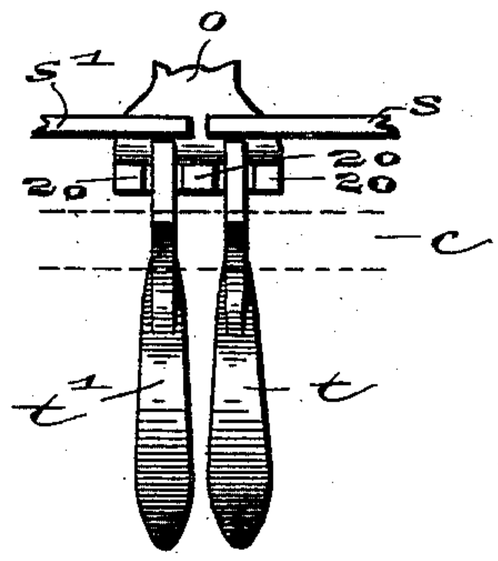
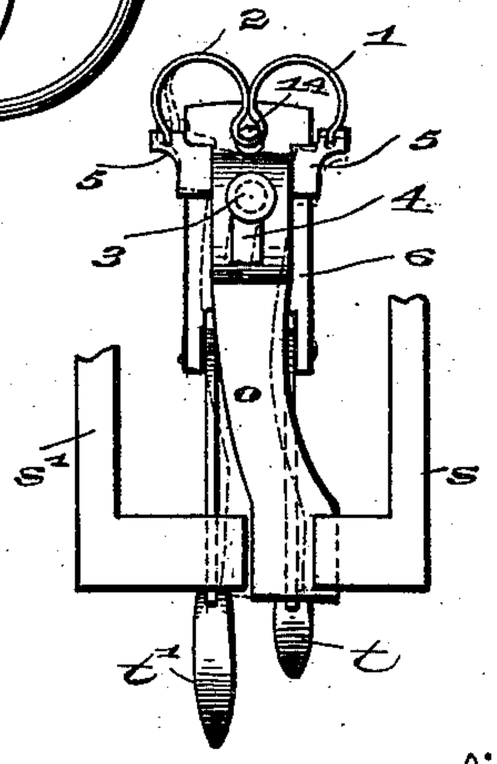


FIG. 8.



Witnesses

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E. B. Griffith.

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UNITED STATES PATENT OFFICE.

THOMAS J. LOCKWOOD, OF MUNCIE, INDIANA.

GUN-LOCK.

SPECIFICATION forming part of Letters Patent No. 468,002, dated February 2, 1892.

Application filed August 2, 1890. Serial No. 360,754. (Model.)

To all whom it may concern:

Be it known that I, THOMAS J. LOCKWOOD, of Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Gun-Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters and figures refer to like parts.

My invention relates to the construction of locks for double-barrel guns; and it consists in the construction and arrangement of the several parts so that either trigger may operate either lock independently or both locks successively of either barrel, and is applicable both to the ordinary hammer-gun and the hammerless gun, and will be understood from the following description.

In the drawings, Figure 1 is a side view of a part of the stock with one of the locks removed, showing the interior mechanism of the other lock and the oscillating lever. Fig. 2 is a top view of my device, showing both locks in place, the upper plate of the case and hammers being removed. Fig. 3 is a detail side view of the sear and tumbler mechanism. Fig. 4 is a detail view, slightly enlarged, of the divided sear. Fig. 5 is a side view similar to Fig. 1 of my device as applied to a hammerless gun. Fig. 6 is a side view of a modification of the mechanism shown in Fig. 5, wherein the oscillating lever operates directly upon the triggers instead of upon the sears. Fig. 7 is a rear end view of a part of Fig. 6. Fig. 8 is a top view of a modified form of the oscillating lever and its connections wherein it is possible to discharge either barrel with the same trigger, only lifting one sear instead of both.

In detail, *c* is the lock-casing, which is connected to the stock in the usual manner.

h are the hammers, *l* the lever which locks the breech, and *b'* the barrel.

s p is the lock-spring, which is loop-shaped, its upper arm bearing upon the pivot 12, connected to the dog 11, which is pivoted at 10 to the tumbler 8. The lower end of the spring rests upon the tongue 16 of the front part s^2 of the sear. This sear is formed in two parts, as shown in Fig. 4, pivotally united at 7 by a screw that passes through the lower end of the bridle *b*. The rear part of the sear *s* has a recess 17, in which the tongue 16 of the part s^2 enters.

b is the bridle which confines the tumbler, as shown in Fig. 3, and 9 is a pawl or dog rigidly mounted on the inner end of the screw-pin *p*, which passes through the hammer and the tumbler, and as the hammer is raised the point of this dog 9 moves in an opposite direction and is so located as to bear against a shoulder 5 on the side of the oscillating lever *o*. One form of this lever is shown in Figs. 1 and 2, its upper end forming a stirrup *s t*, having slots above and below, through which passes a guide-pin 3, threaded to enter the block 6, upon which the oscillating lever rests, this block being formed integral with the base of the casing *c*.

1 and 2 are small springs, whose outer ends fit into notches in projections on the end of the oscillating lever *o*. The opposite end of these springs (which may be formed in one piece, as shown in Fig. 2) are held in place by a slot in the pin 14, which is connected to the front end of the block 6. The opposite end of the lever *o* is notched, forming two short arms 18, which are adapted to enter corresponding notches in the end of the sears *s s'*, and when in this position (shown in Fig. 2) the lever *o* is inoperative.

t t' are the triggers, pivoted to the block 6 and having rear projections, which are adapted to press upon the inner end of the sears. When the hammers are down, by pulling the trigger on either side its sear is raised, its notch passing up astride of the arm 18 of the oscillating lever, and no effect is produced upon the latter, as the sear in that case rests directly upon the longer arm 19 of this lever, a notch being formed between the arms 18 and 19 on each side to admit the sear, as shown in Fig. 1. When the hammer is cocked or thrown up, the tang or lower end of the pawl 9 is thrown forward, as shown in dotted lines in Fig. 3, engaging with the shoulder 5 of the oscillating lever, and this causes a rotary movement of the lever about the guide-pin 3, swinging its inner end toward the lock-spring and causing its upper arm 18 to rest directly upon the inner shank of the sear, as shown in the dotted lines in Fig. 2. Upon pulling the trigger the pressure of the pawl

9 is removed from the shoulder 5 of the oscillating lever, and the pressure of the spring 1 tends to throw the lever back, oscillating about its guide-pin, and the upper arm 18 is thrown away from the lock-spring, and, falling into the notch of the sear, drops down out of the way.

So far I have been speaking of the movement of the parts when the forward trigger *t*, which is normally adapted to operate the right-hand hammer, is pulled. Of course it will be understood that a similar lock is on each side of the casing and is similarly adapted to engage with the oscillating lever *o*. In such case, when the left-hand hammer is raised, the pawl 9 on that side bears against the corresponding shoulder 5 and the lever oscillates in an opposite direction toward the lock-spring on that side, throwing the arm 18 over upon the sear, and when the rear trigger *t'* is pulled the hammer is thrown forward, the dog s^2 of the sear being disengaged from the notch in the tumbler, the pressure of the pawl 9 is released from the shoulder 5, the spring 2 on that side returns the lever to its normal position, and the arm 18 drops down into the notch of the sear out of the way. When either hammer is thrown back, the dog s^2 of the sear engages with a notch formed in the edge of the tumbler 8 in the usual manner and locks it in position.

Heretofore the sear has been formed of a single piece. In other words, it has been solid from the rear to the front end. A sear of this kind would not operate with the oscillating lever *o* when constructed and applied in the manner just described, because upon raising either hammer the oscillating lever is so shifted as to lock both sears in position, and the raising of the other hammer would neutralize this result, shifting the lever and releasing the sear on the opposite side, thus discharging that barrel. It will therefore be readily seen that when either hammer is raised the lever *o* is shifted by that operation and both sears are locked, because the arms 18 of the lever are thrown over upon the shank of each sear, and no matter which of the triggers is pulled it will operate the sear upon that side, and, through its connection, operate the opposite side also, discharging the barrel whose hammer is cocked. When both hammers are raised, the oscillating lever is brought back to the center in the position shown in Fig. 2, being in the same position as when both hammers are down, and the lever is then inoperative and each trigger will operate its own hammer independent of the other. It therefore becomes necessary for me in using a lever of the shape shown in Figs. 1 and 2 to divide the sear into two parts, so that the dog or point s^2 of the sear may have a slight movement independent of its shank, which is operated by the trigger, and this independent movement of the point s^2 of the sear will allow the raising of the hammer without operating the inner rear end of the sear, and thus actuating the oscillating lever to discharge the opposite barrel.

Where the hammers are concealed, or in that class of guns commonly called "hammerless" guns, a slight modification of the shape of the lever becomes necessary, and this modification is shown in Fig. 5. Here the hammers *h* are concealed, and are adapted to be cocked or raised by the two movements of throwing the breech up and down in the ordinary manner. When these hammers are cocked, they take the position shown in the dotted lines in Fig. 5, and in that position bear against the shoulders 5, which in this case are formed outside the springs 1 and 2 instead of behind them, as shown in Figs. 1 and 2. They may, however, be released separately by pulling either trigger, the same as in the hammer-gun, and in the manner hereinbefore described. It will thus be seen that either trigger will actuate either lock separately or both locks successively whether the gun be of the one pattern or of the other, the only advantage of having two triggers being that where the barrels are of a different bore it gives the operator a choice of which barrel he will fire first.

In Figs. 6 and 7 I show a modification of the mechanism whereby the end of the lever *o*, instead of operating upon the end of the sears, engages directly in notches 21, formed in projections on the upper part of the triggers, so that the connection between the oscillating lever and the trigger is direct instead of through the sear. In this case the cocking of either hammer shifts the lever to one side, the same as before, projections 20, formed on the end of the lever, (shown in Fig. 7,) entering notches 21 in the upper end of the triggers, as shown in Fig. 6, thus locking both triggers by the operation, and the pulling of either trigger will discharge the barrel, and when both hammers are raised or when both are down the oscillating lever is not engaged with either trigger, the parts being in the position shown in Fig. 7. In this figure the projections 20 on the oscillating lever take the place of the arms 18 and 19 (shown in Figs. 1 and 2) and the sears *s s'* are shown in position directly over the triggers, and when either hammer is raised the oscillating lever is shifted to the opposite side, the projections 20 engaging the notches 21 in both triggers.

In the case of the hammerless gun, inasmuch as both hammers are cocked by the same operation the lever *o* is then inoperative, being in the position shown in Fig. 7, and each trigger will then operate its own lock; but as soon as one trigger is discharged the pressure of the spring upon the opposite side shifts the lever, its projections 20 entering the notches 21 in the upper ends of the triggers, locking both of them, and then by slightly releasing the pressure upon the trigger that has been pulled and again pulling it it will discharge the opposite barrel in the

same manner as where the lever operates directly upon the sears.

In Fig. 8 I show a modified form of the lever *o*, which may be also used in either class of guns. Here the shank of the lever is curved and bears against the under side of the sear *s* of the right-hand lock, the trigger *t* being directly under such lever when the parts are in their normal position—that is, when both hammers are either up or down. Upon cocking the right-hand hammer the pressure of the pawl 9 against the shoulder 5 oscillates the lever, throwing it still more to the right and still farther under the sear *s*. Upon cocking the other hammer the pressure of its pawl 9 against the shoulder 5 on that side operates to bring back the lever *o* to the position shown in Fig. 8, which is its normal position, but, it still being over the trigger *t*, the pulling of that trigger produces no effect upon the left-hand sear. Consequently the barrel on that side will not be discharged. Indeed, the left-hand trigger will never operate the right-hand barrel; but it will operate the barrel on its own side in any position, thus giving the operator, as before, a choice of which barrel he will fire first. Now if the right-hand trigger *t* be pulled when both hammers are raised, the parts being in the position shown in Fig. 8, the right-hand hammer will be thrown down and the barrel discharged, and the pressure on the shoulder 5 on that side being released the pull of the opposite spring oscillates the lever, throwing it under the left-hand sear *s'* and freeing it from the sear *s*, and the lever *o* being still over the right-hand trigger a pull upon the latter will then discharge the left-hand barrel. If the lever *o* have its shank curved to the left, then the operation above described will be in reverse order—that is, the right-hand trigger will operate only its own barrel, while the left-hand trigger will operate both barrels successively, of course firing its own barrel first. In using this form of the lever for the hammerless gun the springs 1 and 2 will be set back of the shoulders 5, as shown in Fig. 5. The object of this form of lever is to prevent the operation of both sears by the pulling of a single trigger, thus avoiding in such movement the combined pressure of both springs.

In the form of lever shown in Figs. 6 and 7, where it acts directly upon the triggers, a divided or jointed sear is unnecessary, and this is true also of the form of lever shown in Fig. 8.

It is entirely practicable, instead of making the pawl 9 and the tumbler 8 in separate pieces, to extend the forward part of the tumbler so that its end will operate directly against the shoulder 5 instead of the pawl, thus performing the exact office of the latter, and this might be advantageous where the gunstock is narrow and there is want of room to use the tumbler and pawl shown in Fig. 3. I do not intend to limit myself to the exact form of device herein shown and described, provided the principle of my invention be not departed from.

It should be added that when both hammers are raised the pressure of the pawls 9 on the shoulders 5 is equal on both sides, and this forces the lever *o* bodily forward against the pressure of the springs 1 and 2, and the slots 4 in the arms of the stirrup *s t* allow this forward movement. Of course in the hammerless gun this movement is backward instead of forward.

When the hammers are thrown down, the action of the spring reverses this movement, carrying the lever bodily back to its former place. The two positions of the guide-pin 3 in Figs. 5 and 6 illustrate this movement.

The slots 4 are made only wide enough to allow the free entrance of the guide-pin and the lateral up-and-down movement of the lever without friction, and yet so as to prevent any twisting movement of the lever, which would be the natural result when one of the sears is lifted, unless prevented by the sides of the stirrup, and to prevent this is the main object of the stirrup *s t*.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. In a gun, a double-lock mechanism, a lever pivoted between the locks, and means whereby the cocking of either hammer shifts the lever into connection with both sears, substantially as described.

2. In a gun, a double-lock mechanism, a pivoted lever normally spring-balanced between the locks, and operative means between the hammers and the lever whereby the cocking of either hammer shifts the lever into connection with both sears, substantially as described.

3. In a gun, a double-lock mechanism, a pivoted lever normally spring-balanced between the locks, the rear end of such lever having two horizontally-slotted prongs thereon, shoulders on either side of such lever in front of its pivot, and lugs on the hammer-tumblers which impinge on the respective shoulders on the lever during the cocking movement, and flat sears which register with the slots on the prongs of such lever when either hammer is cocked, substantially as shown and described.

4. In a gun, a double-lock mechanism, a pivoted lever normally spring-balanced between the locks, its slotted end engaging with the sears on each side when either hammer is cocked, and lugs connected to the opposite end of such lever for contacting with the hammers when the latter are raised, whereby the pressure of either trigger on its sear will operate its own hammer separately and both hammers successively, substantially as shown and described.

5. In a gun, a double-lock mechanism, an oscillating lever normally spring-balanced pivoted between the locks, one end contacting with the hammers when the latter are

raised, the opposite end of such lever having slotted prongs thereon, and sears connected to the locks, which register with the slots on the prongs of such lever when either hammer is cocked, substantially as shown and described.

6. In a gun, a double-lock mechanism, a pivoted lever normally spring-balanced between the locks, one end of such lever adapted to contact with the hammer-tumblers during the cocking movement, the other end of such lever provided with two slotted prongs, and sears which register with the slots of the prongs of such lever when either hammer is cocked, substantially as shown and described.

7. In a gun, a double-lock mechanism, an oscillating pivoted lever normally spring-balanced between such locks, one end of such lever having two slotted prongs thereon, shoulders on either side of such lever at the other end, lugs on the hammer-tumblers which impinge on the respective shoulders of the lever during the cocking movement, and sears which register with the slots of the prongs of such lever when either hammer is cocked, substantially as shown and described.

8. In a gun, a double-lock mechanism, an oscillating pivoted lever normally spring-balanced between the locks, shoulders on either side of such lever, at one end contacting with each hammer, respectively, when the latter is raised, and sears located above the opposite end of such lever, engaging therewith when but one hammer is cocked and free from such lever when both hammers are cocked, whereby both sears may be tripped successively by a single trigger, substantially as shown and described.

9. In a gun, a double-lock mechanism, a lever pivoted between such locks, and means whereby the cocking of either hammer shifts the lever into connection with both triggers, substantially as shown and described.

10. In a gun, a double-lock mechanism, a pivoted lever normally spring-balanced between the locks, and operative means between the hammers and the lever whereby the cocking of either hammer shifts the lever into position to be operated upon by either trigger, substantially as shown and described.

11. In a gun, a double-lock mechanism, a pivoted lever normally spring-balanced between the locks, one end of such lever contacting with the hammers when the latter are both raised, its opposite end located above a single trigger and beneath its sear, whereby the pressure of such trigger on the lever will trip both sears successively, substantially as described.

12. In a gun, a double-lock mechanism, a pivoted lever normally balanced between the locks, sears formed of two parts hinged together, and means whereby the cocking of either hammer shifts the lever into connection with both the sears, substantially as shown and described.

13. In a gun, a double-lock mechanism, a pivoted lever normally balanced between the locks, sears formed of two parts hinged together, whereby the dog is allowed a movement independent of its shank, and means whereby the cocking of either hammer shifts the lever into connection with both the sears, substantially as described.

14. In a gun-lock mechanism, a sear formed of two parts hinged together at the pivotal point, whereby the dog is allowed a slight movement independent of its shank, substantially as described.

In witness whereof I have hereunto set my hand this 24th day of July, 1890.

T. J. LOCKWOOD.

Witnesses:
C. P. JACOBS,
E. B. GRIFFITH.