

No. 748,263.

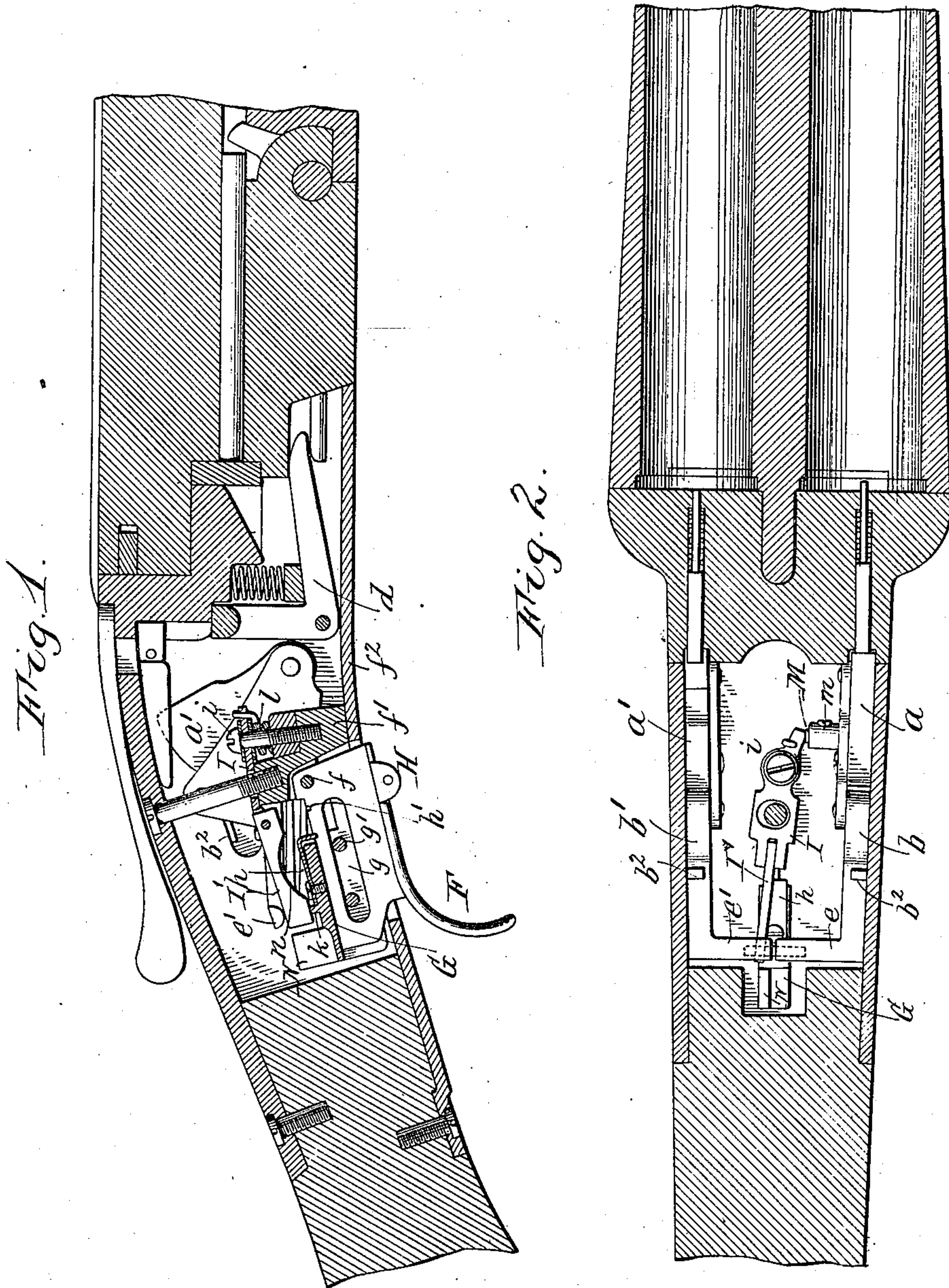
PATENTED DEC. 29, 1903.

G. C. CLINE.
SINGLE TRIGGER MECHANISM FOR FIREARMS.

APPLICATION FILED MAR. 5, 1903.

NO MODEL

2 SHEETS—SHEET 1.



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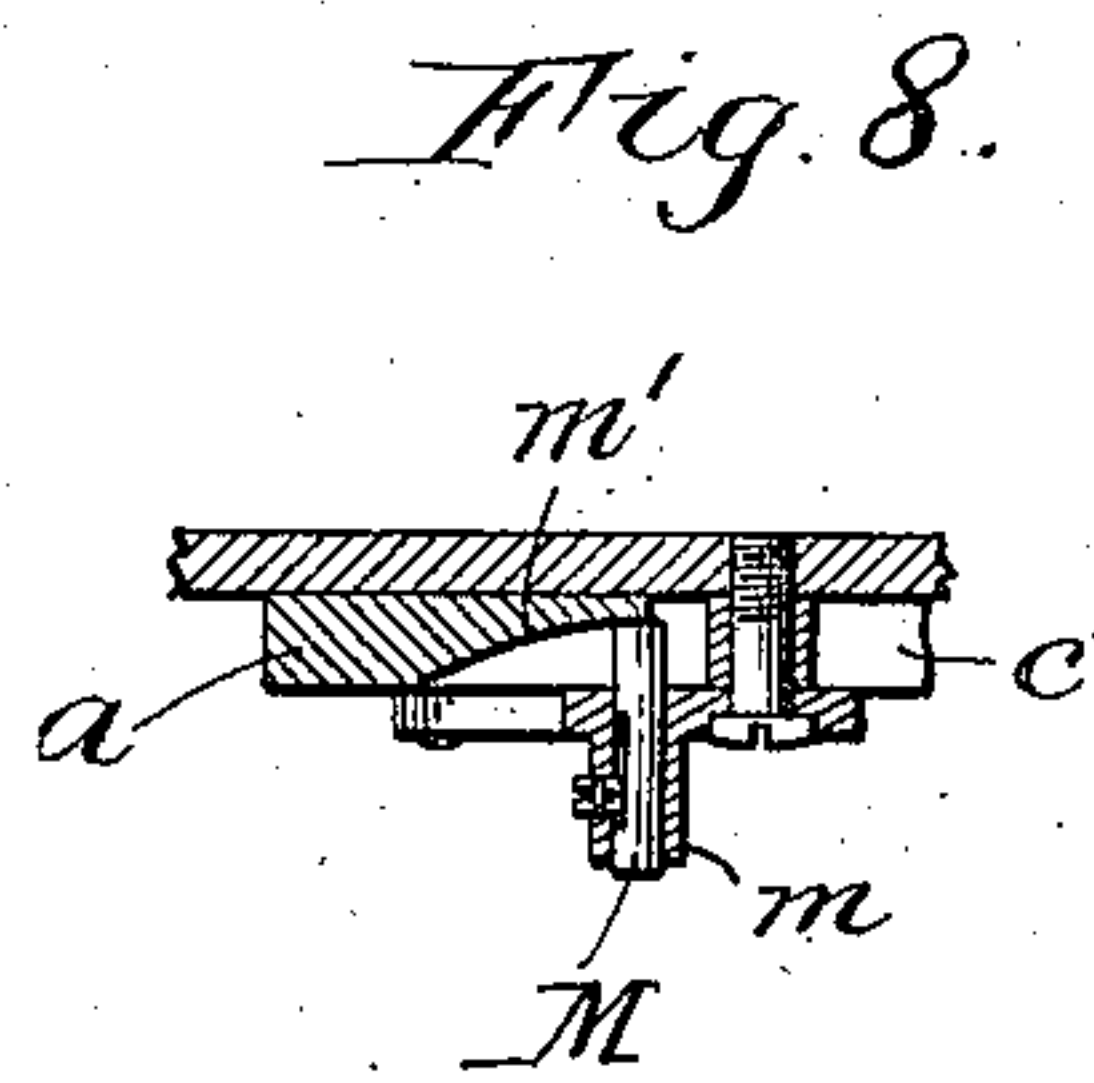
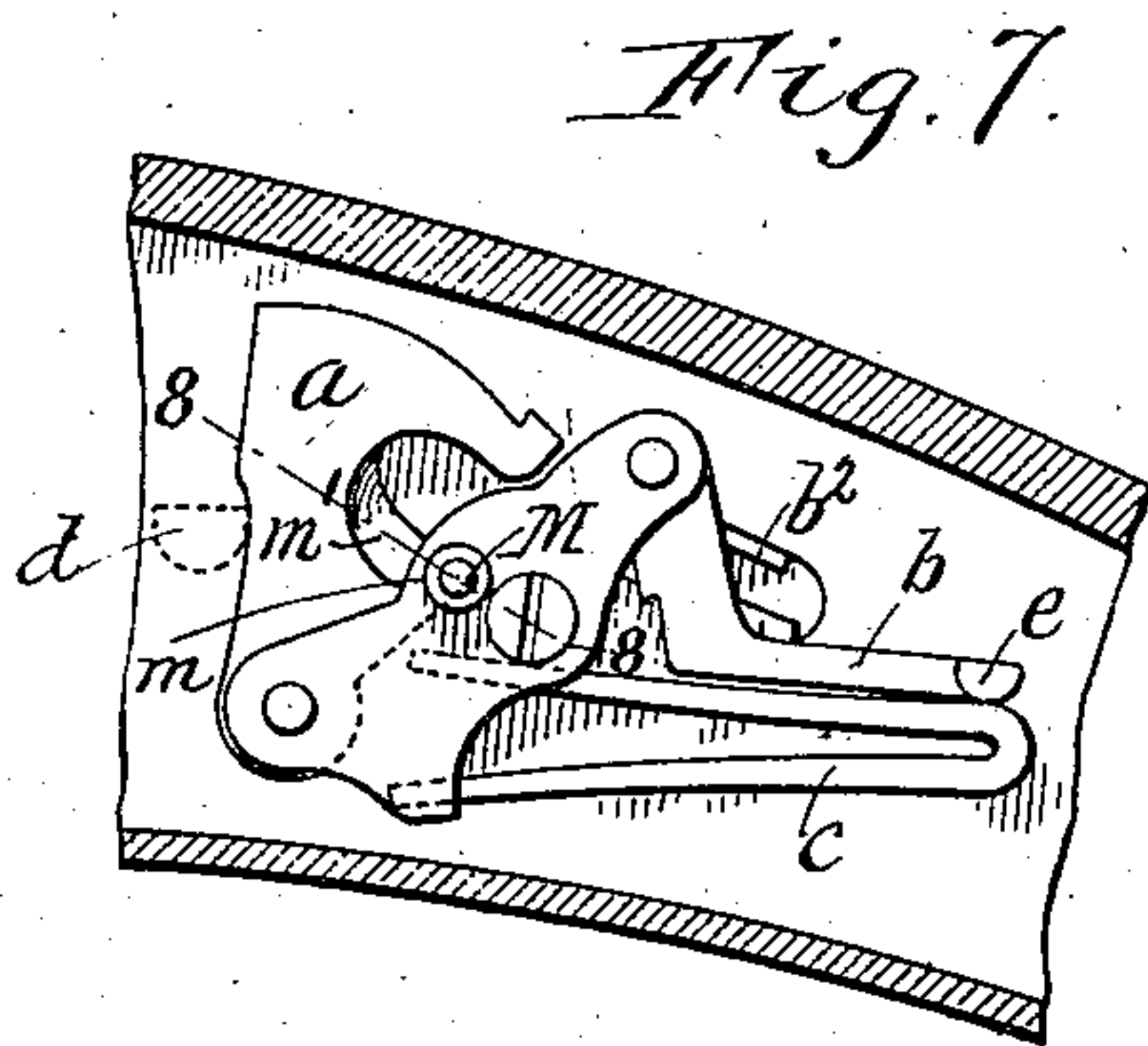
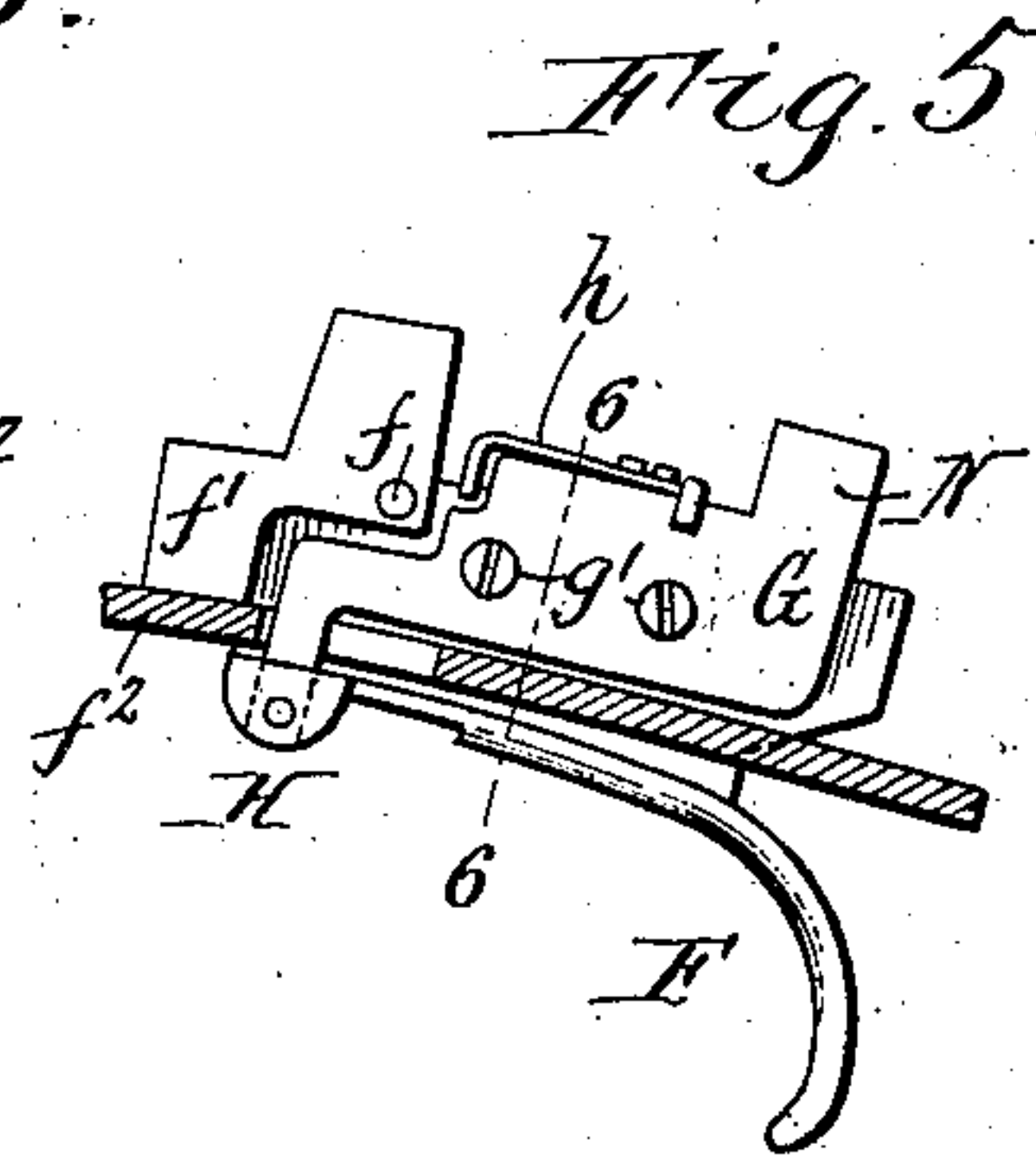
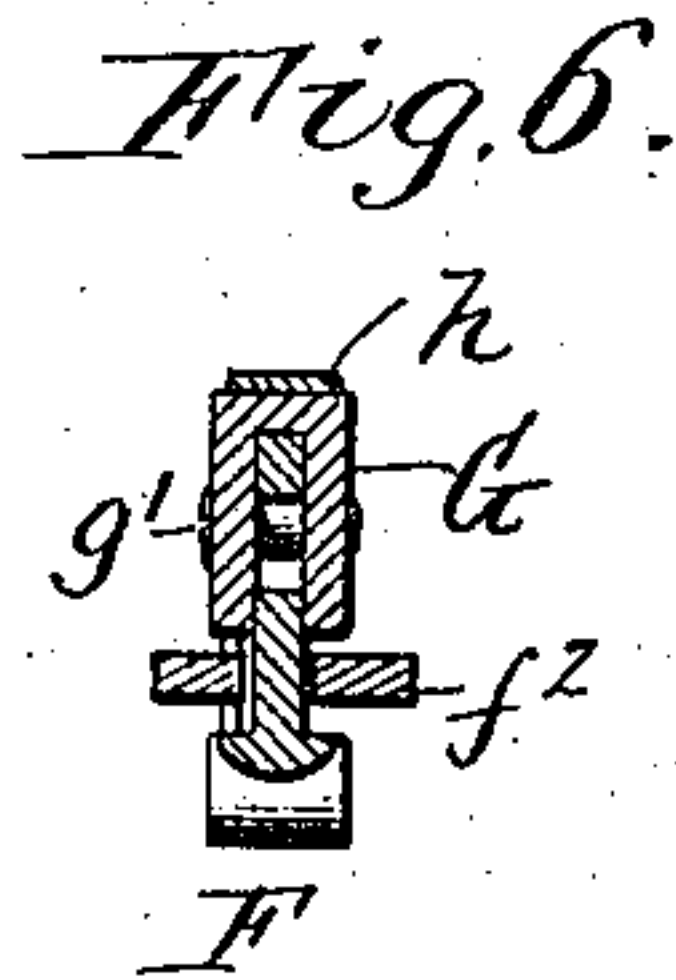
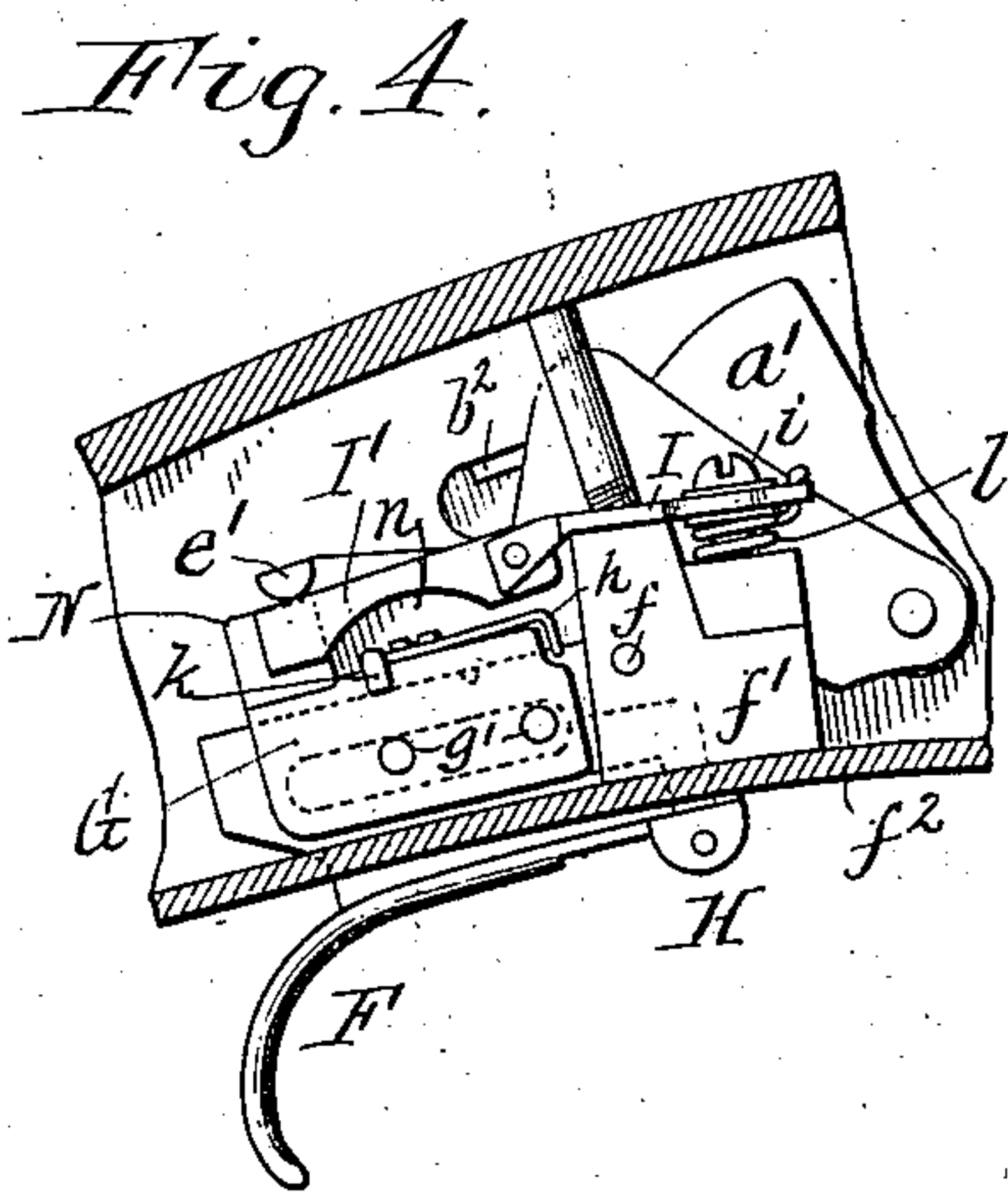
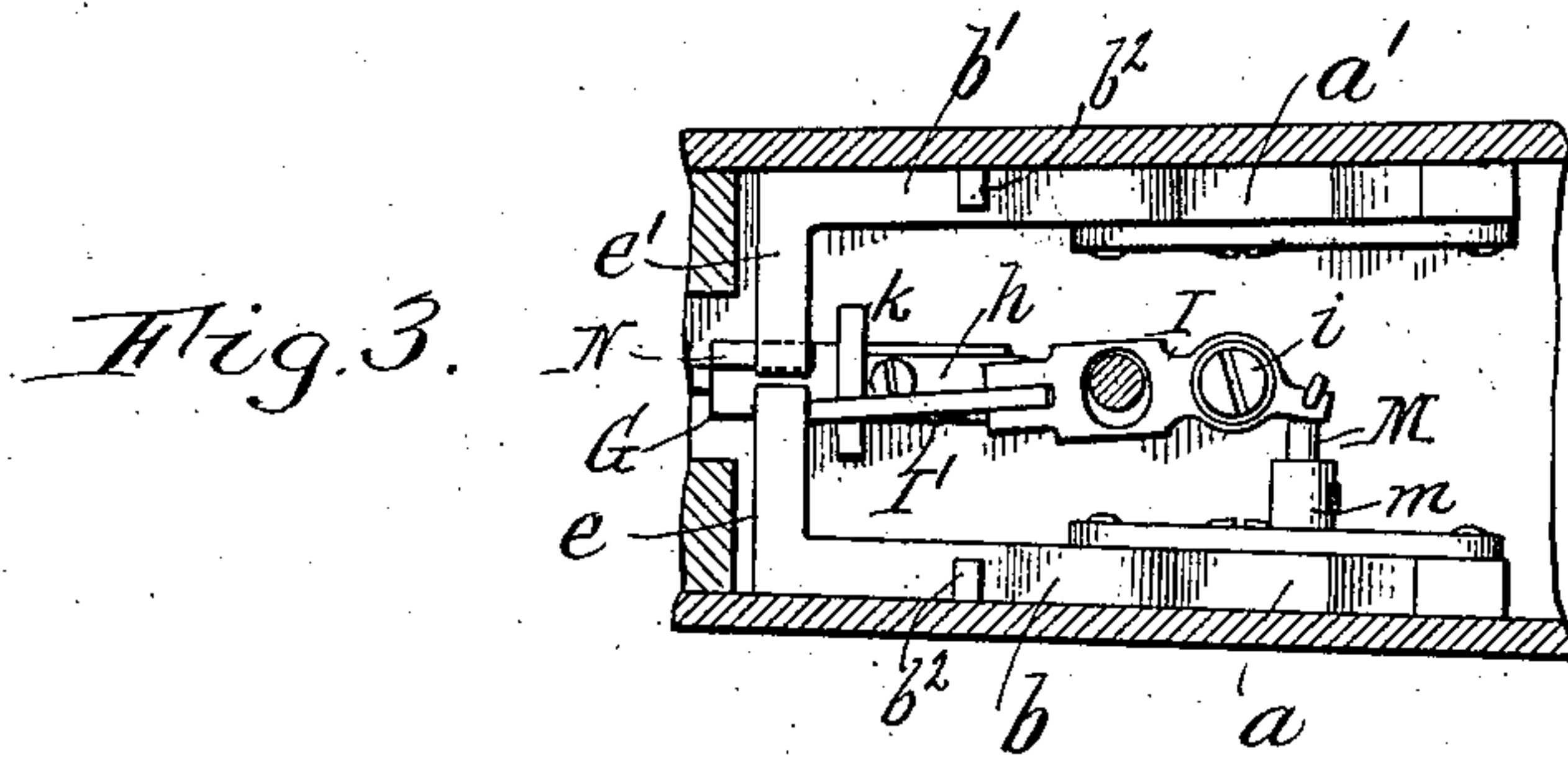
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GEORGE C. CLINE, OF BATAVIA, NEW YORK.

SINGLE-TRIGGER MECHANISM FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 748,263, dated December 29, 1903.

Application filed March 5, 1903. Serial No. 146,360. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. CLINE, a citizen of the United States, residing at Batavia, in the county of Genesee and State of New York, have invented new and useful Improvements in Single-Trigger Mechanism for Firearms, of which the following is a specification.

This invention relates to a trigger mechanism for double-barrel firearms of that kind in which by means of a single trigger the barrels can be fired alternately or either barrel fired repeatedly or successively at the election of the user.

A source of great annoyance in single-trigger double-barrel firearms now in use arises from the fact that it often happens that when one barrel is discharged the gun recoils and in the rebound or involuntary forward movement of the gun to the initial position the trigger is pushed forward against the finger of the user and tripped, discharging the other barrel before the gun is lowered from the shoulder. These guns are further objectionable, for the reason that they are apt to be accidentally discharged in setting the mechanism to fire one barrel repeatedly or both barrels alternately.

The object of the invention is to provide a desirable single-trigger mechanism of very simple, strong, and inexpensive construction which can be applied at small cost to double-barrel firearms of known construction and which is free from the objections above noted.

In the accompanying drawings, consisting of two sheets, Figure 1 is a longitudinal vertical section through the breech and lock of a firearm provided with a single-trigger mechanism embodying the invention. Fig. 2 is a horizontal section thereof, showing the trigger mechanism in plan with the parts in the position they occupy for discharging the barrels alternately and after the right-hand barrel has been fired. Fig. 3 is a fragmentary sectional plan thereof, showing the position of the parts when the change-block has been set to cause the trigger to discharge the left-hand barrel only. Fig. 4 is a vertical sectional elevation of the parts shown in Fig. 3. Fig. 5 is a sectional elevation showing the reverse side of the trigger and change-block. Fig. 6 is a transverse section through the trigger and change-block in line 6-6, Fig. 5. Fig. 7 is a

sectional elevation showing the right-hand striker and associated parts. Fig. 8 is a section in line 8-8, Fig. 7.

Like letters of reference refer to like parts in the several figures.

The drawings show the improvements applied to a hammerless gun, for which they are more especially intended.

a a' represent, respectively, the right and left hand strikers or hidden hammers for operating the firing-pins of the two barrels; *b b'*, the sears controlling the right and left hand strikers; *b²*, the sear-springs; *c*, the operating-springs for the strikers, and *d* the cocking-lever, which is operated to raise or cock the strikers when the gun is broken at the breech for the purpose of loading. These parts are constructed, arranged, and operate in a well-known manner and are not specifically described herein. The sears are provided at their rear ends with lateral arms or portions *e e'*, which extend toward and into close proximity to each other.

F represents the single trigger, which is arranged centrally of the lock and is pivoted at its forward end by a pin *f* on a pivot-block *f'*, rising from the trigger-plate *f²*. The trigger has a body portion which extends rearwardly beneath the lateral arms of the sears and the usual curved finger-piece. The bottom face of the body of the trigger in the normal position of the latter is substantially parallel with the bottom face of the trigger-plate, so that the bottom face of the trigger-body is horizontal or inclines downwardly from its rear end when the trigger is pulled to fire the gun. The purpose of thus forming the trigger is to prevent the accidental discharge of the second barrel of the gun, as hereinafter explained.

G represents an adjustable block which is mounted to move longitudinally on the body of the trigger and which is hereinafter termed the "change-block." In the construction shown the trigger is provided with a longitudinal slot *g*, and the change-block, which is of substantially inverted-U shape in cross-section and straddles the trigger, is slidably held on the trigger by pins or screws *g'*, secured to the block and passing through the slot of the trigger. The change-block is pro-

vided with an operating finger-piece H, which is connected to a part of the block extending down through a slot in the trigger-plate and is adjacent to and substantially beneath the pivot for the trigger. By means of this finger-piece the change-block can be moved forwardly or rearwardly on the trigger. The block is held in the position to which it is moved on the trigger by suitable means, such as a flat spring *h*, secured to the block and having its front end downturned, so as to engage in either of two shallow notches or depressions *h'* in the top face of the trigger.

I represents a tripping device or lever for the sears of the right and left hand strikers. This lever consists of a front section which is pivoted near its front end on an upright pivot *i*, secured to the pivot-block for the trigger, and a rear section or tailpiece I', which is pivoted to the front section to swing vertically. The tripping-lever is provided with an opening through which the bolt or screw connecting the top and trigger plates of the lock passes, so that the bolt does not interfere with the laterally-swinging movement of the tripping-lever. The rear end of the tailpiece of the tripping-lever is arranged to rest and swing laterally beneath the lateral arms of the sears on a laterally-extended horizontal face *k* on the change-block. A spring *l*, of any suitable character, is provided, that shown being a coiled spring surrounding the pivot for the tripping-lever, which tends to normally move the front end of the lever to the right and swing the rear end of the tailpiece of the tripping-lever to the left beneath the lateral arm of the left-hand sear.

M represents a laterally-movable device, preferably a bolt, which is mounted to slide horizontally in a bearing *m*, carried by the stationary frame-plate on which the right-hand striker is pivoted. The inner end of the bolt M is arranged opposite to and bears against the front end of the tripping-lever, while the outer end projects through the frame-plate into the path of a cam or inclined face *m'* on the right-hand striker. (See Figs. 7 and 8.) The bolt is normally projected outward in the path of the inclined face on the striker by the spring for the tripping-lever, so that when the right-hand hammer is raised the bolt is moved horizontally inward and the front end of the tripping-lever is moved to the left and its tailpiece to the right beneath the lateral arm of the right-hand sear, as shown in Fig. 3. If the trigger is now pulled to fire the gun, its rear end and the change-block thereon will be lifted and raise the tailpiece of the tripping-lever, which being beneath the right-hand sear will raise the latter and trip the right-hand striker, thus discharging the right-hand barrel of the gun. When the right-hand hammer is thrown forwardly, the inclined face thereon moves forward and permits the spring for the tripping-lever to move the front end of the trip-

ping-lever and operating-bolt therefor to the right to carry the tailpiece of the tripping-lever to the left beneath the lateral arm of the left-hand sear. If the trigger is now pulled a second time, the tailpiece of the tripping-lever will be raised and will operate the left-hand sear to trip the left-hand striker, thus firing the left-hand barrel. When the breech is opened to reload the gun, the inclined face on the right-hand striker again engages the operating-bolt for the tripping-lever and throws the tailpiece of the same beneath the right-hand sear. With the parts operating as described the two barrels of the gun will be fired alternately, the right-hand barrel always being first to be discharged.

In firing a gun the finger is almost invariably retained on the trigger, and in many double-barrel single-trigger guns when the gun recoils upon the discharge of the first barrel the trigger is released sufficiently for the tripping device to move into operative position for tripping the sear of the second barrel and is then again pulled and the hammer for the second barrel tripped by an involuntary pressure on the trigger, probably due to the return of the gun to the position occupied before the recoil. By forming the bottom face of the trigger as before described when the gun recoils the finger slides forwardly on the bottom face of the trigger and holds the latter up, so that the tail of the tripping-lever cannot engage under the left-hand sear until the gun is returned to its forward position or the trigger is purposely released by the removal of pressure thereon. Thus the recoil and consequent forward movement of the gun or the intentional release of the trigger must take place before the tripping-lever is in position to trip the left-hand sear, and the recoil of the gun will not cause the accidental discharge of the second barrel.

As the tailpiece of the tripping-lever is always thrown beneath the right-hand sear by opening the breech and raising the hammers, it will be obvious that after the right-hand barrel has been discharged if the breech is again opened and the right-hand barrel reloaded and the breech closed the tripping-lever will again be in position to fire the right-hand barrel. Thus the right-hand barrel can be fired continuously or repeatedly by reloading after each pull of the trigger.

When it is desired to fire the left-hand barrel first or successively, the operator pushes the change-block forward on the trigger by means of the finger-piece until the spring on the change-block engages in the front notch in the top face of the trigger. The forward movement of the change-block carries the horizontal face *k* forwardly from beneath the rear end of the tailpiece of the tripping-lever opposite to a notch or cavity *n* in the bottom face of the tailpiece, so that when the trigger is raised the face *k* of the change-block will not engage or lift the tailpiece. The change-

block is provided at the left-hand side of its rear end with an upright projection or portion N, which when the block is moved forward is carried forward beneath the lateral arm of the left-hand sear, as shown in Figs. 3 and 4. In this position of the change-block the tailpiece of the tripping-lever is beneath the lateral arm of the right-hand sear. If the trigger is now pulled, the projection N on the change-block will lift the left-hand sear and trip the left-hand striker; but the tailpiece of the tripping-lever will not be raised on account of the face k of the change-block entering the notch in the tailpiece of the tripping-lever. The left-hand striker only is tripped, therefore, and the left-hand barrel of the gun discharged. So long as the change-block is in its forward position the tailpiece of the trip-lever will be prevented by the upright projection N of the change-block from swinging to the left. So long as the change-block remains in its forward position the left-hand barrel only of the gun will be fired. When the change-block is again moved rearwardly, the projection N thereon is moved from beneath the left-hand sear and the horizontal face k of the change-block is returned to a position beneath the rear end of the tailpiece, so that when the trigger is next pulled the right-hand striker will be tripped and the right-hand barrel fired. As the operating finger-piece for the change-block is located at the front end of the trigger or beneath the pivot-pin for the latter, it is impossible to accidentally discharge the gun by moving the change-block forward, because the forward pressure on the finger-piece tends to swing the trigger downwardly instead of upwardly. The change-block can be returned to its rear position when the breech is opened for loading, and thus there is no danger of accidentally discharging the gun in moving the change-block rearwardly.

The single-trigger mechanism herein described is also applicable to firearms having the exposed hammers, in which case the strikers a a' will constitute the hammer-tumblers.

I claim as my invention—

1. The combination with the sears, a trigger, a movable tripping device, means for moving said tripping device into operative relation to one of said sears, and means for moving said tripping device into operative relation to the other sear, of an adjustable change device connected to the trigger and which in one position of the same operates said tripping device to trip the sear with which it stands in operative relation, and in another position of the same actuates one of said sears independently of said tripping device, substantially as set forth.

2. The combination with the sears, a trigger, a movable tripping device, means for moving said tripping device into operative relation to one of said sears, and means for

moving said tripping device into operative relation to the other sear, of an adjustable change-block carried by the trigger and having a part which in one position of said change device engages and operates said tripping device to trip said sears, and having a part which in another position of said change device engages and actuates one of said sears independently of said tripping device, substantially as set forth. 75

3. The combination with the sears, a trigger, a movable tripping device between said trigger and said sears and provided with a notch, and mechanism for moving said tripping device alternately into operative relation to said sears, of an adjustable change-block carried by said trigger and provided with a part which in one position of said block engages and moves said tripping device to trip said sears, and in another position of said change-block is opposite to said notch in the tripping device, said block having a part which in the second-mentioned position of said block engages and actuates one of said sears independently of said tripping device, substantially as set forth. 80 85 90

4. The combination with the sears, a trigger, a laterally-swinging tripping-lever provided with a vertically-movable tailpiece which is located between said trigger and said sears and is provided with a notch in its under side, and mechanism for moving said tripping-lever laterally to carry its tailpiece alternately into operative relation to said sears, of an adjustable change-block carried by said trigger and provided with a part which in one position of said change-block engages and lifts the tailpiece of said tripping-lever, and which in another position of said change-block is opposite to said notch in the tailpiece of the tripping-lever, and a projection on said change-block which in the second-mentioned position of the block is adapted to engage one of said sears to operate the same independently of said tailpiece of the tripping-lever, substantially as set forth. 95 100 105 110

5. The combination of the sears, a trigger, a movable tripping device and mechanism for moving said tripping device alternately into operative relation to said sears, of an adjustable change-block slidably secured to said trigger and provided with a part which in one position of said change-block moves said tripping device to operate said sears, and having a part which in another position of said change-block actuates one of said sears independently of said tripping device, and an operating finger-piece for said change-block which is located near the forward end of said trigger beneath the pivot for the latter substantially as set forth. 115 120 125

6. The combination with the sears, a trigger, a laterally-swinging tripping-lever which is pivoted on a stationary part and is provided with a vertically-movable tailpiece, and mech- 130

anism for moving said tripping-lever to alternately place its tailpiece in operative relation to said sears, of an adjustable change-block movable longitudinally on said trigger
5 and provided with a part which in one position of said change-block moves said tailpiece to operate said sears, and having a part which in another position of said change-block actuates one of said sears independently of said tripping-lever; and an operating
10

finger-piece for said change-block which is located adjacent to the forward end of the trigger beneath the pivot for the latter, substantially as set forth.

Witness my hand this 24th day of February, 1903.

GEORGE C. CLINE.

Witnesses:

JNO. J. BONNER,
CLAUDIA M. BENTLEY.