

No. 829,082.

PATENTED AUG. 21, 1906.

J. J. MURPHY.
FIREARM.

APPLICATION FILED APR. 6, 1906.

Fig 1

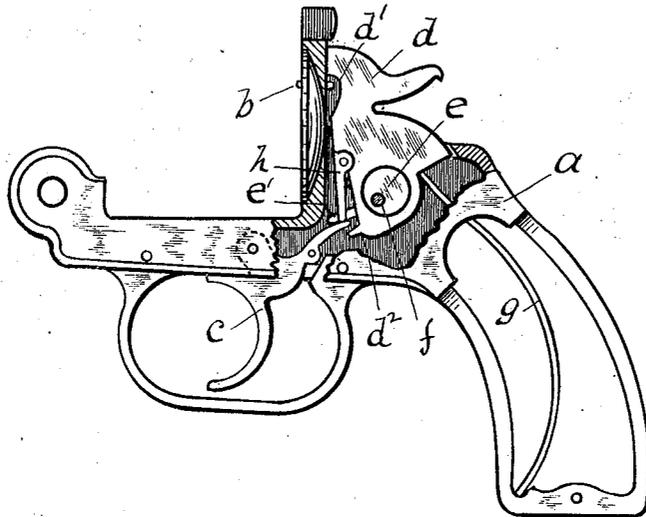


Fig 2

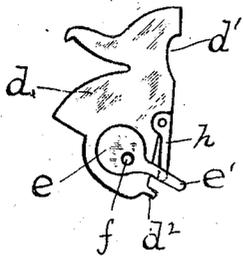
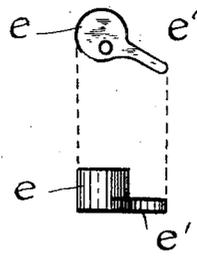


Fig 3



Witnesses
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UNITED STATES PATENT OFFICE.

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FIREARM.

No. 829,082.

Specification of Letters Patent.

Patented Aug. 21, 1906.

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To all whom it may concern:

Be it known that I, JOHN J. MURPHY, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented a certain new and useful Improvement in Firearms, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to safety devices for firearms, and particularly for revolvers, whereby premature or accidental discharges of such arms are rendered impossible; and my present invention consists, essentially, in simple and inexpensive means for moving the hammer into operative relation to the firing-pin when the trigger is pulled in the act of discharging the arm and for automatically moving and maintaining said hammer out of operative relation to said pin after said discharge.

In the accompanying drawings, Figure 1 is a side elevation of a revolver-frame embodying therein lockwork including my present improvement, the said frame being partly broken away to disclose said lockwork. Fig. 2 is a detached reverse side elevation of the hammer and parts immediately connected therewith. In Fig. 3 I have shown end and side views of the cam *e*, upon which the hammer is mounted.

In the drawings, the letter *a* indicates a revolver-frame, *b* a firing-pin of ordinary construction, and *c* the trigger. The hammer (indicated by the letter *d*) instead of being pivoted on a fixed stud, as is most common in this class of arms, is hung on an eccentric *e*, and said eccentric is mounted so as to rock on a stud *f*, screwed or otherwise fixedly secured in the frame *a*. The eccentric *e* serves as a floating support for the hammer and is so constructed and located that when said eccentric is suitably rocked on its pivot *f* the hammer may be made to move upward and downward in the frame *a*.

The front face or edge of the hammer is provided with a notch *d'*, that is coincident with the firing-pin at all times except when the trigger *c* is pulled rearward, as in the act of intentionally discharging the arm.

The eccentric *e* is formed with a tailpiece *e'*, that extends forwardly to a point where it rests upon the tail of the trigger *c*, as seen in

Fig. 1 of the drawings, and the mainspring *g* in seeking to force the hammer forward also operates with a tendency to raise said hammer, thus rocking the eccentric-tailpiece *e'* and causing the latter to rock the trigger forward to its normal position. The mainspring is thus made to serve also as a trigger-spring, and the trigger serves to limit the downward rocking movement of the eccentric-tailpiece.

Hinged to the front side of the hammer *d* is a dog *h*, whose lower (free) end is immediately over the tail of the trigger, said lower end being thus in the same plane as the lower edge of the eccentric-tail *e'* when the parts are in their normal positions.

When the trigger *c* is pulled rearward in the act of discharging the arm, the trigger pushes the dog *h* and connected hammer upward and also the eccentric-tail *e'*, thus simultaneously cocking the hammer and rocking its eccentric support so as to lower the hammer in frame *a* sufficiently to move the hammer-notch *d'* out of coincidence with the firing-pin.

Just as the extreme of trigger movement is reached the dog *h* slips off from the end of the trigger-tail and the hammer snaps forward into engagement with the firing-pin, while the eccentric-tail is held in its elevated position by said trigger. When the trigger is released, the mainspring *g* forces the hammer upward in the frame until the notch *d'* is coincident with the firing-pin—that is to say, until the hammer is in its safe position, and by the same action the eccentric is rocked, so as to cause its tail *e'* to force the trigger back to its normal position. The hammer *d* is also formed with an extension *d''* of ordinary construction, having a notch adapted to cooperate with the trigger when it is desired to cock the hammer by hand, as will be understood by reference to the drawings. When the hammer is in its inoperative position, as seen in Fig. 1 of the drawings, the rear end portion of the firing-pin lies within the hammer-notch *d'*, and thus serves as a dowel or bolt to prevent the hammer from being accidentally forced downward to the extent that the full portion of the hammer above the said notch could engage the firing-pin to discharge the arm, as might perhaps occur if the hammer *d* were forcibly struck upon its upper

end. The firing-pin thus serves as an inexpensive locking means to hold the hammer out of alinement with the said firing-pin when the hammer is down.

5 It will thus be seen that the eccentric *e* serves not only as an important feature of my safety device, but it also enables me to simplify the lockwork in this class of arms by eliminating the trigger-spring and sear and sear-spring as now very commonly used. It
10 also has the further decided advantage that the few necessary parts may be of strong construction, cheaply produced, and easily assembled.

15 With the application of my described device to arms of this class such arms are absolutely safe against discharge at all times excepting when the hammer is moved to full cock and the trigger pulled off with intent to
20 discharge the arm.

Having thus described my invention, I claim—

1. In a firearm in combination, a firing-pin, a hammer normally out of alinement
25 with said firing-pin, and means for moving said hammer into operative relation to said pin.

2. In a firearm in combination, a firing-pin, a hammer normally out of operative
30 relation to said firing-pin, and means consisting of an eccentric hammer-support and a cocking-trigger for moving said hammer into operative relation to said pin.

3. In a firearm, in combination, an eccentric hammer-support, a hammer mounted on
35 said support, a firing-pin, and a spring engaging said hammer with a constant tendency to move said hammer out of operative relation to said firing-pin.

4. In combination, in a firearm, an eccentric hammer-support having a laterally-extending
40 arm, a hammer mounted on said support, and a trigger adapted to coact with said arm to rock the hammer-support.

5. In combination, in a firearm, a firing-pin, an eccentric hammer-support having a
45 laterally-extending arm, a trigger engaging said arm, a hammer loosely mounted on said eccentric, and a spring engaging said hammer
50 with a tendency to move the hammer out of operative relation to the firing-pin.

6. In combination, in a firearm, a firing-pin, an eccentric hammer-support, a trigger
55 engaging said eccentric, a hammer mounted on said eccentric, and a spring operating with a constant tendency to move said hammer out of operative relation to said firing-pin.

7. In combination, in a firearm, means for

returning the trigger to its normal position after firing consisting of an eccentric having
60 an arm bearing upon said trigger, and yielding means for rocking said eccentric.

8. In combination, in a firearm, a firing-pin, an eccentric hammer-support, a hammer
65 mounted on said eccentric, a spring operating to move the said hammer normally out of engagement with the firing-pin, a lifter-arm *h* hinged to said hammer, and a trigger engaging the said eccentric and lifter-arm.

9. In combination, in a firearm, a firing-pin, an eccentric support for the hammer, a
70 hammer mounted on said eccentric, a spring operating to move the hammer to rock the said eccentric, and means for limiting such rocking movement of the said eccentric. 75

10. In combination, in a firearm, a firing-pin, an eccentric support for the hammer, a
hammer mounted on said eccentric, a spring operating to move the hammer to rock the
80 said eccentric, and means consisting of an arm *e'* and cocking-trigger for limiting such rocking movement of the said eccentric.

11. In a firearm, in combination, a firing-pin, an eccentric pivoted in the frame of said
85 arm, a hammer mounted on said eccentric, a lifter-arm hinged to said hammer, a spring operating to move said hammer out of operative relation to the firing-pin, and a trigger adapted to engage the said eccentric and
90 lifter to simultaneously cock the hammer and move said hammer into operative relation to the firing-pin.

12. In a firearm in combination with a trigger, means for returning the trigger to its
95 normal position after firing, consisting of an eccentric having an arm bearing upon said trigger, a hammer mounted upon said eccentric, and a spring engaging the said hammer.

13. In a firearm, in combination, a firing-pin, a hammer normally out of alinement
100 with said firing-pin, and means for preventing the movement of the hammer into operative relation to the firing-pin while the hammer is in its normal position.

14. In a firearm, in combination, a firing-pin, a hammer normally out of alinement
105 with said firing-pin, and means consisting of a coöperating bolt and hammer-notch for preventing the movement of the hammer into operative relation to the firing-pin while the
110 hammer is in its normal position.

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Witnesses:

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