

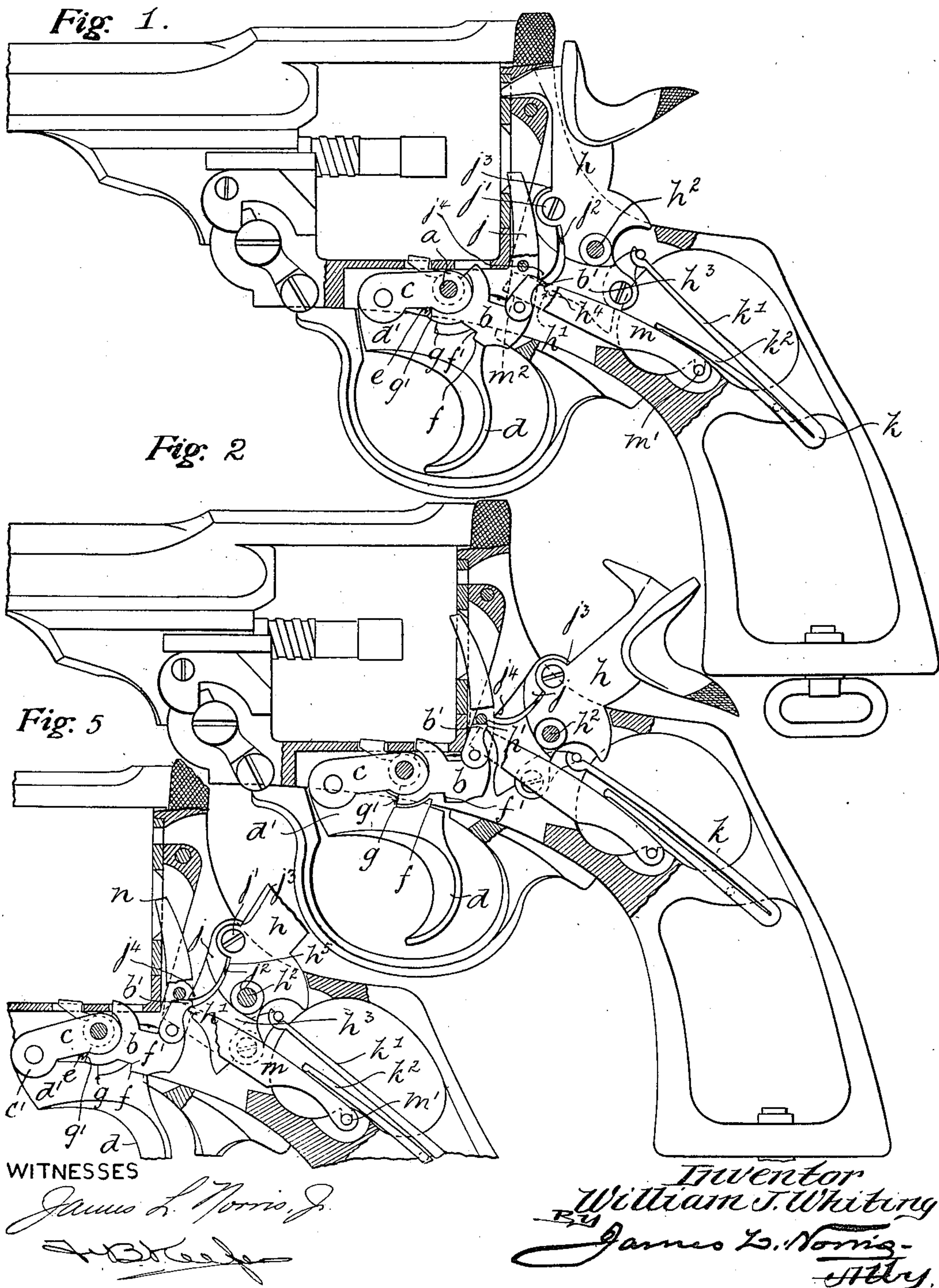
No. 750,743.

PATENTED JAN. 26, 1904.

W. J. WHITING.
REVOLVING FIREARM.
APPLICATION FILED APR. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

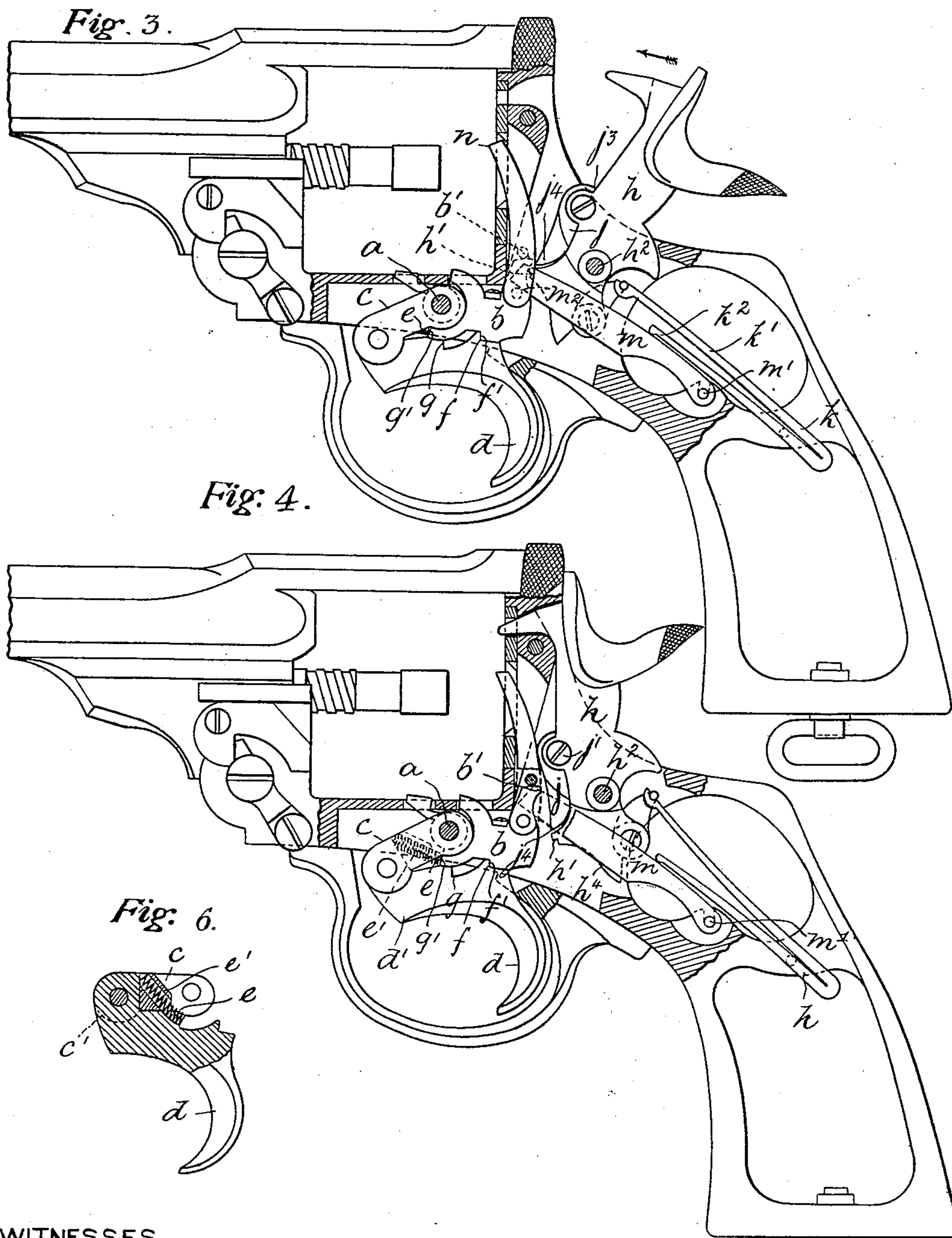


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WITNESSES

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WILLIAM JOHN WHITING, OF HANDSWORTH, NEAR BIRMINGHAM,
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REVOLVING FIREARM.

SPECIFICATION forming part of Letters Patent No. 750,743, dated January 26, 1904.

Application filed April 14, 1903. Serial No. 152,578. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN WHITING, works manager, a subject of the King of Great Britain, residing at Douglas Road, Handsworth, near Birmingham, England, have invented certain new and useful Improvements in Revolver Small-Arms, of which the following is a specification.

This invention has relation to revolver small-arms, and particularly to the trigger actions or firing mechanism of revolvers in which combined single and double action movements are employed to provide for the recocking of the hammer either by hand when the revolver is being used as a single-action arm for target practice and other deliberate shooting or by means of the trigger when being used as a double-action revolver for rapid firing. Now in ordinary combined single and double revolver actions the recocking of the hammer by hand when used in single-action shooting entails a considerable backward movement or disturbance of the position of the trigger and the shooter's finger necessarily has to travel back with the said trigger, which is a disadvantage in target-shooting, as it is apt to disturb the aim.

According to the present invention improved combined single and double action trigger mechanism is provided whereby this backward movement of the trigger and disturbance of the finger position in recocking by hand is avoided, as the trigger remains practically stationary while the hammer is being pulled back for recocking.

Figure 1 of the accompanying drawings represents an elevation of a revolver pistol constructed in accordance with this invention with the cylinder removed and with parts of the body broken away or drawn in longitudinal vertical section in order to show the arrangement of the action. In this view the parts are represented in the positions which they respectively assume after the hammer has fallen. Fig. 2 is a similar view of the revolver to that shown in Fig. 1, but represents the positions assumed by the parts when the hammer has been cocked by hand for single-action shooting—i. e., drawn back directly

instead of being cocked automatically by the pulling of the trigger. Fig. 3 is a view showing the positions of the parts after the trigger has been pressed (in double-action shooting) to release the hammer, which is shown in this view in the act of moving forward under the impulse of the mainspring. Fig. 4 shows the positions assumed by the parts when the hammer has completed its forward movement in double-action shooting, but before rearward finger-pressure has been removed from the trigger to allow same to assume its normal position, as represented in Fig. 1. Fig. 5 is a view of a part of the revolver, showing how the hammer is cocked indirectly by the act of pulling back the trigger in double-action shooting. Fig. 6 is a separate sectional view of the trigger and the part of the action to which it is connected, showing the arrangement of the spring which is provided in conjunction with this part of the mechanism for the purposes hereinafter referred to.

The same letters of reference indicate corresponding parts in the several figures of the drawings.

The body of a revolver carries at a point above the trigger a fixed pin or pivot *a*, which serves as a common center for both the sear *b* of the action, which is located behind the said pin, and a forwardly-directed radius arm or link *c*, having pivoted to its front end *c'* the forward extremity of the body or blade *d'* of the trigger *d*, the top edge of which is of considerable width and lies under and is opposed to the bottom of the said radius-arm and also extends below a portion of the sear. The mainspring (or a separate spring) is arranged to act upon the sear, so as to cause the same under certain conditions, as hereinafter explained, to take up a position at a slight angle relative to the radius-link, as shown in Figs. 1, 3, 4, and 5.

Cut transversely upon the top edge of the trigger-body are a pair of notches or shoulders *f g*, one of which comes at the rearward end of the said body and may be termed the "double-action" cocking and firing notch and the other is disposed a distance forward of the first named and may be described as the "sin-

gle-action" firing-notch, while the under side of the sear-piece is provided with a corresponding pair of shoulders or bents f' g' , the rearmost one, f' , of which comes into engagement with the double-action notch of the trigger when the sear and radius-link are in the relatively inclined positions shown in Figs. 1, 3, 4, and 5, and when thus engaged the pulling of the trigger (assuming that same is in its normal position and the hammer is down, as shown in Fig. 1,) will cause the sear and the radius-link to swing bodily with it upon their common center, and by the action of the sear upon the hammer in the manner herein- after described the said hammer will be cocked when the revolver is being used as a double-action arm. The other and foremost bent, g' , is adapted to engage the single-action firing-notch g of the trigger only when the sear and radius-arm are disposed in line with one another, as represented in Fig. 2, which is the position these parts are made to assume on the hammer being drawn back or cocked by hand for single-action shooting, and when the bent g' is thus engaged with the corresponding notch g of the trigger the whole of the three members—viz., the sear, the link, and the trigger—are again coupled together, as shown in the said Fig. 2, and will on the trigger being pulled turn bodily or collectively about the said pin, and thus disengage the nose b' of the sear from the bent h' of the hammer h . A small spiral e , constantly in a state of compression, is located, as best seen in Fig. 6, within an oblique hole e' in the radius-link and bears at its upper end against the trigger at a point above its joint-center, while the lower end bears against the middle of the forward bent of the sear, the arrangement being such that the spring acts upon the trigger and lifts same in the sear, being brought into line with the link when the revolver is cocked by hand; but after the discharge and on the finger-pressure upon the trigger being relieved the mainspring which was tensioned by the act of cocking the hammer reacts upon the trigger through the medium of the sear and causes the same to drop and take its single-action firing-notch out of engagement with the sear, and immediately the said notch is clear the angularity of the sear and link is restored by the continued reaction of the mainspring upon the sear, which is forced farther downward until its back bent is taken into engagement with the double-action cocking and firing notch of the trigger, leaving the whole of the parts in their normal positions, as shown in Fig. 1. The hammer swings about a pin h^2 , which is disposed behind and in a higher plane than the sear-center, and said hammer is extended below the said pin into a foot h^3 , at the front of which is a toe or projection h^4 , having formed within it the bent h' , which is located (when the hammer is in its normal or rebound position, as shown in Fig.

1) below the said hammer-center and is adapted to be engaged by the nose of the sear only when the hammer is placed at full cock by hand, as shown in Fig. 2, it being understood that this bent is only engaged by the sear in single-action shooting. The front edge of the foot above the bent is curved backward at h^5 to provide a clearance, within which is hung a wiper arm or pawl j , swinging upon a pin j' , disposed above the hammer-center and having arranged in connection with it a spring j^2 and stop j^3 , adapted to preserve or restore the lower or nose end j^4 of the said pawl in or into a determinate position in which it hangs a little above the single-action bent of the hammer and over the nose of the sear. This yielding pawl on the front of the hammer constitutes the means by which the hammer is first cocked and then released in double-action shooting—that is to say, if the trigger is pulled when the hammer is at the rebound and the back bent of the sear is engaged with the double-action notch of the trigger the nose of the sear will come underneath or at the back of the lower extremity j^4 of the pawl or cocking-piece j and the hammer is levered back or cocked in opposition to the mainspring (see Fig. 5) until on the lifting motion of the trigger having been completed the nose of the sear has wiped past the point j^4 of the pawl, whereupon the hammer is impelled forward by the mainspring, fires the revolver, and comes again to the rebound, and then the nose of the sear on being restored to its normal position by the lowering of the trigger as the finger-pressure is relieved bears against and wipes down the front of the said pawl, which yields inward or rearwardly to admit of the sear-nose passing it, and finally when the said nose has cleared the point of the said pawl the latter is impelled outward by its spring, but is arrested and retained by its stop in the normal position ready to be reengaged by the sear when the trigger is again pulled.

When the parts of the revolver are in the normal positions (shown in Fig. 1) and the toe extension of the hammer lies underneath the head of the sear, so that on the said hammer being cocked by hand its toe makes an upward and forward movement and the sear is constrained to move with the said hammer and is turned upward upon its center, and by this elevation of the said sear its back bent is raised out of engagement with the double-action notch of the trigger, whereas the forward sear-bent is brought coincident with the single-action notch, and then by the action of the small compressed spring e the trigger is made to slightly rise and take the single-action firing-notch fully home into engagement with the sear, and by this time the toe of the hammer has wiped past the elevated head of the sear, whereupon the pressure of the mainspring upon the sear causes the nose of same to snap into bent with the hammer, which is thus held

or retained in its cocked position. From this description it will be understood that the small trigger-spring *e* serves to automatically lift the single-action notch of the trigger into bent with the sear when the hammer is cocked by hand and while the reaction of the main-spring is utilized to automatically depress the said trigger so as to take the single-action notch out of bent and then cause the sear to follow up the trigger movement so as to bring the double-action notch into engagement with the sear after the revolver has been discharged and the pressure of the shooter's finger upon the trigger has been relieved.

With mechanism constructed and arranged as above described the pulling of the hammer to full-cock by hand when the revolver is being used as a single-action arm does not communicate any corresponding backward movement to the trigger; but when the link and sear are automatically taken into line with one another by this recocking movement the sear-nose is raised and taken into engagement with the single-action bent in the fixed toe of the hammer, and the forward bent of the said sear comes into engagement with the single-action firing-notch of the trigger.

In connection with the trigger-and-hammer mechanism it is proposed to employ a double leaf-spring *k*, the free side *k'* of which is connected to the hammer in the usual way and impels the same forward when liberated from the sear and also takes it back to the rebound position, while the stand side *k''* of the said spring bears upon a long limb or auxiliary pressure-transmission arm *m*, whose rearward end *m'* is suitably fulcrumed in the frame, while the forward end *m''* bears on the shoulder, pin, or other convenient part of the sear to which the cylinder-rotating pawl *n* is also jointed. This auxiliary limb thus forms a means for transmitting the pressure of the mainspring both to the cylinder-pawl for drawing it down after its upward operative movement on the trigger being pulled and also for taking the rearward notch of the sear into engagement with the double-action cocking-and-firing notch of the trigger after every discharge of the revolver, whether same is being used on the single-action or double-action system of firing.

Having fully described my invention, what

I desire to claim and secure by Letters Patent is—

1. In combined double and single action revolver small-arms; the combination, with a hammer having a bent which is engaged by the sear on the hammer being placed at full-cock by hand and a yielding cocking-piece adapted to be engaged by the said sear for cocking the hammer, in double-action shooting, of a shifting or swinging sear provided with separated shoulders or the like constituting respectively a single-action firing-bent and a double-action cocking and firing bent, and a trigger provided with means whereby it is automatically taken into operative engagement either with the double-action sear-bent after each discharge of the revolver, or with the single-action sear-bent on the revolver being cocked by hand, for the purpose as herein described.

2. In combined double and single action revolver small-arms; the combination with a hammer having below its center a rigid forward extension in which a single-action bent is formed, and a yielding double-action cocking-piece located above said extension, of a shifting or rocking sear provided on its under side with a single-action firing-bent, and a double-action cocking and firing bent, a trigger provided with notches corresponding to the sear-bents, and springs acting upon the hammer, the trigger and the sear; substantially as shown and described and for the purpose set forth.

3. In combined double and single action revolver small-arms; the arrangement and combination with the rocking or shifting sear, of a radius-link pivoted on the same center as the sear and having the trigger jointed to its forward end, such trigger being provided with an auxiliary spring for raising same into engagement with the sear when the latter is elevated by the hammer on the revolver being cocked by hand, substantially as and for the purpose herein described and set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM JOHN WHITING.

Witnesses:

HENRY SKERRETT,
ARTHUR T. SADLER.