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J. W. KIMBALL

2,781,697

TRIGGER MECHANISM FOR A SEMIAUTOMATIC FIREARM

Filed March 15, 1955

2 Sheets-Sheet 1

Fig. 1

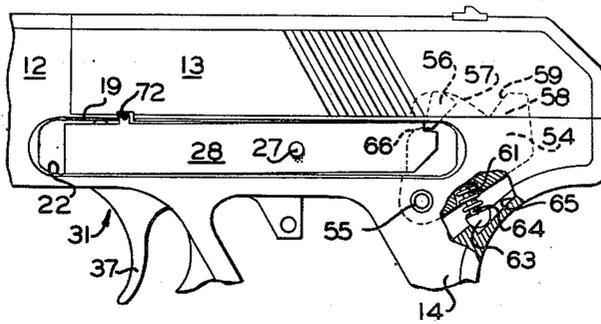


Fig. 2

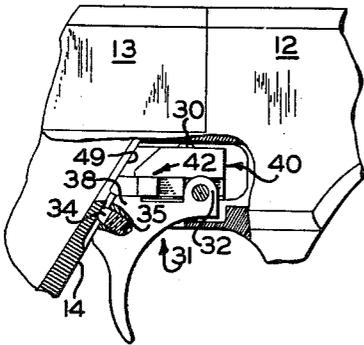


Fig. 3

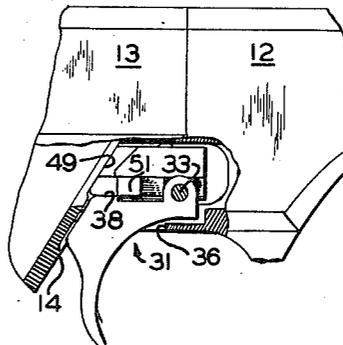


Fig. 4

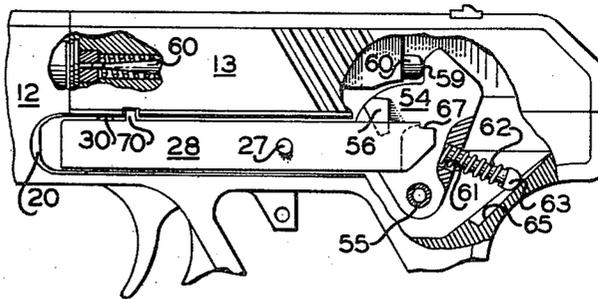
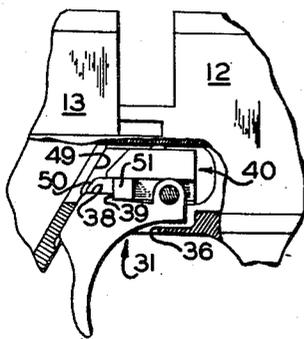


Fig. 5



INVENTOR.

John W. Kimball

BY

H. E. Thibodeau + A. W. Dew

ATTORNEYS

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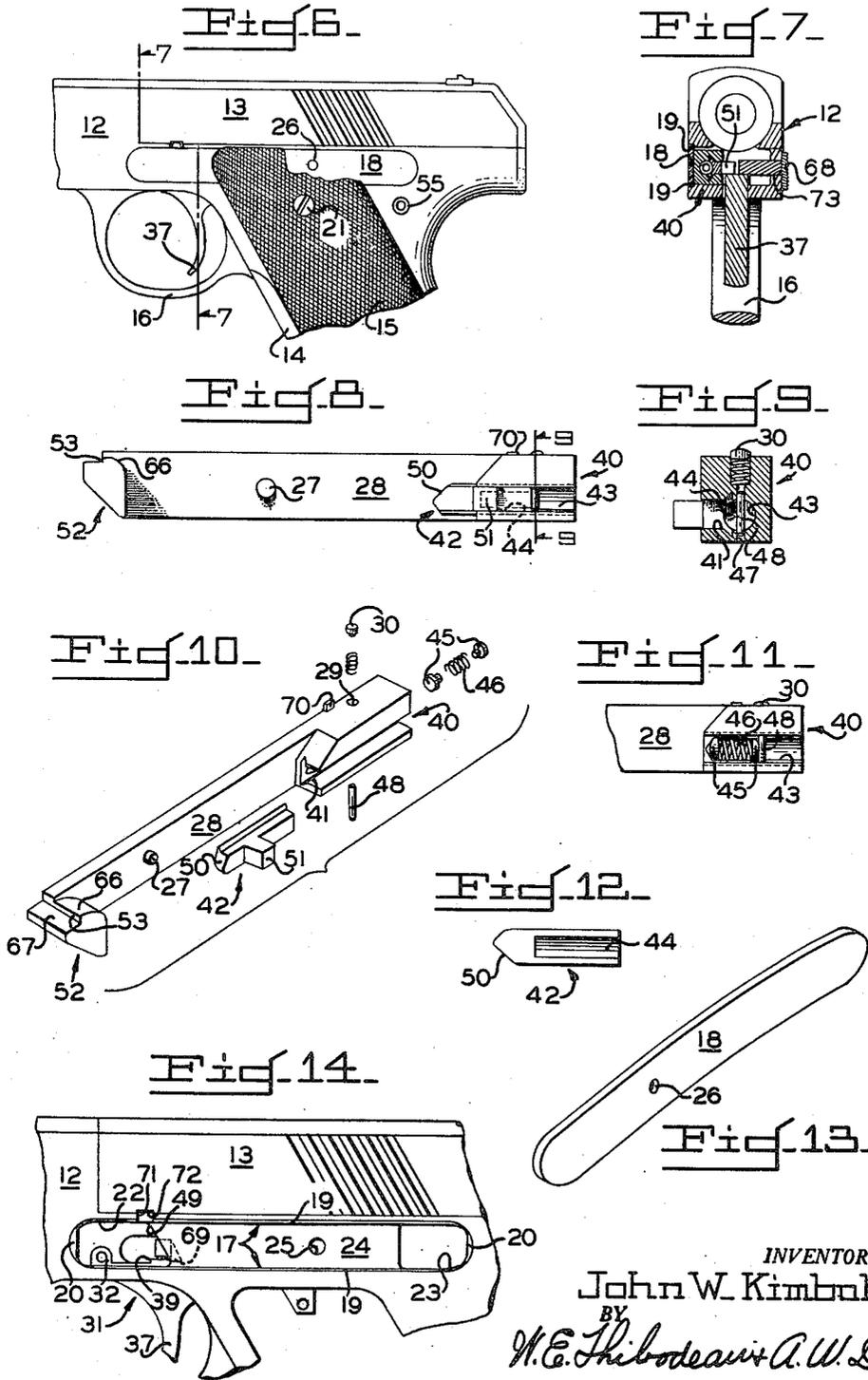
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2 Sheets-Sheet 2



INVENTOR.
John W. Kimball
BY
W. E. Thibodeau & A. W. Dew
ATTORNEYS

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TRIGGER MECHANISM FOR A SEMIAUTOMATIC FIREARM

John W. Kimball, Detroit, Mich.

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9 Claims. (Cl. 89—144)

(Granted under Title 35, U. S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment of any royalty thereon.

This invention relates to firearms adapted for semiautomatic operation and is more particularly directed to improved disconnecter means for an impact type of firing mechanism.

Hand-operated firearms such as pistols are primarily employed for defensive purposes or for target practice and, therefore, do not require the discharge of more than one shot for each pull of the trigger. In fact, automatic operation of pistols may even prove to be dangerous because of the difficulty of preventing excessive climb of the relatively short barrel under the cumulative recoil which would be imparted thereto during continuous fire. Accordingly, the firing mechanism of semiautomatic pistols is generally provided with a disconnecter which serves to free the sear from engagement by the trigger mechanism only during the interval in which the trigger is held in the pulled position. Since the trigger and the sear in most pistols are disposed on opposite sides of the projecting grip by which the pistol is held, the necessary connection therebetween is customarily provided by a longitudinal trigger bar. The disconnecter, therefore, is ordinarily located between the rear end of the trigger bar and the sear and serves to transmit the firing movement of the trigger to the sear.

While the conventional disconnecter type of firing mechanism has proven quite effective in preventing the discharge of more than one shot in response to each pull of the trigger, the various tolerances which necessarily exist between the trigger, trigger bar, disconnecter, and sear permit slight increments of trigger movement without imparting a corresponding movement to the sear. The resulting erratic pull of the trigger, or "creep," as it is commonly termed, prevents the operator from attaining the maximum accuracy of which the pistol is capable. Furthermore, the sudden change in the effort required to pivot the trigger once the firing member has been released by the sear is accentuated in prior art firearms by the cumulative resistance produced during the compression of the usual trigger, disconnecter, and sear springs. It is well known in the art that a variable trigger pull of this kind tends to produce an involuntary flinching on the part of inexperienced operators in anticipation of the sudden shock normally imparted to the trigger finger by the unavoidable impact of the trigger against its stop and consequently will render it almost impossible to maintain the sight of the firearm in accurate alignment with the target at which the operator is firing.

It is, therefore, an object of this invention to provide a semiautomatic type of firing mechanism having a minimum number of components between the trigger and the firing member.

Another object of this invention is in the provision of a simple yet positive semiautomatic firing mechanism wherein the pull of the trigger does not involve any noticeable creep.

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An important aim of the present invention resides in the provision of improved disconnecter means for a firing mechanism of the type wherein a longitudinal trigger bar holds the firing member in the cocked position.

5 A further object of this invention is to provide an improved semiautomatic firing mechanism wherein the force required to pivot the trigger remains substantially constant both before and after the release of the firing member.

10 Still another object of this invention is to provide an improved semiautomatic firing mechanism having a pivotal hammer arranged to provide a substantially greater resistance to the initial portion of the cocking movement of the slide than to the final portion thereof.

15 A specific object of this invention is to provide a simple, positive and sensitive trigger mechanism for releasing a pivotal hammer from the cocked position thereof in a magazine-fed, autoloading, semiautomatic pistol.

20 The invention essentially comprises a trigger mechanism in which a longitudinal trigger bar is freely pivoted in the side of the pistol and is normally biased in a clockwise direction as viewed from the right side thereof to lift a shoulder on the rear end into position to hold a pivotal hammer in the cocked position. The front end of the trigger bar is provided with a disconnecter disposed immediately above a raised portion on the top of the trigger and arranged to transmit the clockwise retracting movement of the latter directly to the trigger bar for effecting a positive release of the hammer. At the same time, an angular cam surface in the frame of the pistol forces the disconnecter forwardly to move off the raised portion on the trigger and consequently permit the trigger bar spring to pivot the trigger bar back to the normal hammer-engaging position thereof. It is, therefore, necessary to release the trigger in order to reengage the raised portion thereon with the underside of the disconnecter in order to fire another shot.

25 The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of the preferred embodiment as shown in the accompanying drawings in which:

30 Fig. 1 is a left-side view of the rear end portion of a pistol containing the firing mechanism of the present invention with the trigger bar cover and grip stock removed to show the cooperation between the trigger bar and hammer in the cocked position of the latter;

35 Fig. 2 is an enlarged, right-side, fragmentary view of the pistol in partial cross-section showing the relation between the trigger, disconnecter, and trigger bar immediately prior to actuation of the trigger;

40 Fig. 3 is a view similar to Fig. 2 but with the parts in the position at the moment the disconnecter rides off the shoulder portion of the trigger;

45 Fig. 4 is a view similar to Fig. 1 but with the parts in the fired position and in partial cross-section to show the relation between the hammer and the firing pin;

50 Fig. 5 is a view similar to Fig. 2 but with the parts in the position assumed immediately after the conclusion of trigger retraction;

55 Fig. 6 is a reduced left-side exterior view of the rear portion of the pistol to which the firing mechanism of the present invention is adapted;

60 Fig. 7 is a cross-sectional view taken along line 7—7 in Fig. 6 and shows the safety in the trigger-blocking position;

65 Fig. 8 is a right-side view of the trigger bar showing the disconnecter mounted therein;

70 Fig. 9 is a cross-sectional view taken along line 9—9 in Fig. 8;

Fig. 10 is an exploded view of the trigger bar assembly; Fig. 11 is a fragmentary view of the trigger bar show-

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ing the forward end thereof with the disconnecter removed;

Fig. 12 is a side view of the back of the disconnecter;

Fig. 13 is a perspective view of the trigger bar cover; and

Fig. 14 is a left-side fragmentary view of the pistol with the trigger bar and cover removed to show the relation between the trigger and the safety.

While the firing mechanism of the present invention is applicable to all types of firearms in which semiautomatic fire is employed, it is particularly advantageous in magazine-fed pistols having an impact type of firing member. Such pistols are generally provided with a hollow receiver or frame 12 on which a slide 13 is reciprocally mounted for movement between a battery and a recoil position. As best shown in Fig. 6, frame 12 includes a depending angular grip portion 14 which carries a checkered stock member 15 on either side thereof. Frame 12 is also provided with a conventional trigger guard portion 16 forwardly of and adjacent to grip portion 14.

For purposes of the present invention, however, a slot 17, preferably terminating in opposite arcuate ends, is longitudinally formed along the left side of frame 12 above both grip portion 14 and trigger guard portion 16. Slot 17 is arranged to be completely closed by a similarly contoured cover 18 held in place by the overlapping of the upper portion of the stock member 15 on that side of frame 12. The dimensions of slot 17 are reduced to form a vertical shoulder 19 in the top and bottom edges thereof and a flat chordal portion 20 at each arcuate end as best shown in Fig. 14. Shoulders 19 and portions 20 serve to laterally position cover 18 so as to lie flush with the exterior periphery of the side of frame 12. In order to insure such flush relationship, cover 18 is slightly bowed as illustrated in Fig. 13 so that when stock member 15 is tightly secured to the side of grip portion 14 as by a screw 21, the consequent resiliency of cover 18 prevents the ends from such curling as might cause them to protrude beyond the side of frame 12. The bottom surface of slot 17 is cut away at both the front and rear end portions thereof to communicate with the hollow interior of frame 12 as best indicated at 22 and 23 in Fig. 14. The remaining portion of the bottom of slot 17 forms a wall 24 in which a transverse hole 25 is drilled in axial alignment with a similar hole 26 in cover 18.

Holes 25 and 26 serve to pivotally mount a long narrow trigger bar 28 in slot 17 by means of a transverse pin 27 fixedly secured therein at a point closer to the rear end than to the front end thereof and substantially centrally between the upper and lower edges thereof. The opposite ends of pin 27 project equally from either side of trigger bar 28 and extend into holes 25 and 26 so as to position such trigger bar substantially centrally between wall 24 and cover 18. The forward end of trigger bar 28 is provided with a vertical hole 29 in the top edge thereof for slidably receiving a spring-biased headed plunger 30 which bears against the upper edge of slot 17 immediately behind shoulder 19 to normally urge trigger bar 28 counterclockwise into the position shown in Fig. 1 wherein the lower front corner thereof contacts the lower edge of slot 17.

A trigger 31 provided with an upwardly projecting portion 32 at the front end thereof is pivotally mounted on a transverse pivot pin 33 having one end thereof fixedly secured in the right side of frame 12 opposite the open portion 22 at the front end of slot 17. Trigger 31 is laterally positioned on pin 33 to lie within the hollow interior of frame 12 inwardly of trigger bar 28. A spring-biased plunger 34 seated within an angular hole 35 formed into the rear end of trigger 31 bears against the sloping forward wall of grip portion 14 to normally urge trigger 31 to the unpulled position. This pivotal movement of trigger 31 is halted by contact of the forward

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end with a front end wall 36 defined by the opening in the underside of frame 12 through which a conventional depending finger piece 37 of trigger 31 projects into trigger guard portion 16. The rear end of trigger 31 is provided with a raised rectangular portion 38 on the top thereof which forms a forwardly facing shoulder 39.

The forward end of trigger bar 28 is formed with a laterally projecting rectangular block 40 which extends into the interior of frame 12 through opening 22 at the front end portion of slot 17. Block 40 contains a rectangular dovetailed slot 41 open at either end thereof as best shown in Fig. 10 and arranged to slidably receive a similarly contoured disconnecter 42. The bottom of slot 41 includes a longitudinal arcuate recess 43 which terminates short of the rear end of block 40. The circumferential periphery of recess 43 is slightly greater than that of a semi-circle and is arranged to cooperate with a complementary arcuate recess 44 formed in the back side of disconnecter 42 as shown in Figs. 9 and 12 to form a hole for slidably receiving a pair of buttons 45 separated by a spring 46. Hole 29 in block 40 is extended downwardly therethrough to bisect the hole provided for disconnecter spring 46 but such extension is of reduced diameter as shown at 47 in Fig. 9. Disconnecter spring 46 is arranged to be slightly compressed between the rear end of recess 43 and a vertical pin 48 fixedly secured in hole 47 in abutment with the front face of the foremost of buttons 45. The rear face of the rearmost of buttons 45 normally positions disconnecter 42 in trigger bar 28 so that the rear end thereof contacts a forwardly and upwardly inclined cam surface 49 formed by the front edge of wall 24. The rear end of disconnecter 42 is similarly inclined as shown at 50 so that when trigger bar 28 is pivoted in a counterclockwise direction as viewed in Figs. 2, 3 and 5 disconnecter 42 is forced forwardly against the bias of spring 46.

A lug 51 of preferably rectangular configuration projects outwardly from the exposed side of disconnecter 42 and is so positioned so that the rear face of lug 51 normally lies above and slightly to the rear of shoulder 39 on the top of trigger 31 as shown in Fig. 2. Thus, the lifting movement imparted to disconnecter lug 51 by the retraction of trigger 31 is in turn directly imparted to trigger bar 28 which thereby pivots counterclockwise about pin 27 as shown by the change in position depicted in Figs. 2 and 5.

The rear end of trigger bar 28 is enlarged to provide a laterally projecting portion 52 on the same side as that from which block 40 extends. A rearwardly facing step 53 is formed across the top of trigger bar 28 and continues along the top of projecting portion 52 as is particularly well shown in Fig. 10. A triangular-shaped hammer 54 is pivotally mounted within the interior of frame 12 for swinging movement about the lower apex thereof by means of a transverse hollow pin 55 having one end fixedly secured in the side of frame 12 adjacent and below rear opening 23. Hammer 54 is laterally positioned on pin 55 so that the lower front corner of a lug 56 projecting from the side of hammer 54 is engaged by step 53 on the rear end of trigger bar 28. The top of hammer 54 is arcuately formed as indicated at 57 and is also provided with a projecting striker portion 58 rearwardly of arcuate surface 57 which presents a vertical impact face 59 at the instant of contact with the protruding rear end of a firing pin 60 slidably mounted in slide 13. An angular hole 61 is provided in the rear end of hammer 54 to seat a helical spring 62 with the free end thereof in contact with the underside of an enlarged head 63 on a plunger 64 slidably disposed in hole 61. The top of plunger head 63 is movably engaged in an angular recess 65 formed in the hollow interior of frame 12 and disposed between the rear end wall thereof and the upper end of grip portion 14. The depth of recess 65 is a maximum at the lower end thereof and progressively decreases toward the upper end thereof for a purpose to be presently shown.

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When trigger 31 is pulled to the rear, the ensuing contact between raised portion 38 thereon and the underside of disconnector lug 51 forces trigger bar 28 to pivot counterclockwise about pin 27 as shown in Figs. 2 and 5 and thereby withdraw step 53 on the rear end thereof from cocking engagement with the lower front corner of hammer lug 56 whereby hammer 54 is pivoted from the cocked position shown in Fig. 1 to the fired position of Fig. 4 under the urging of spring 62. During the retraction of trigger 31, surface 49 on the forward edge of wall 24 cams disconnector 42 forwardly in trigger bar 28 until lug 51 rides off raised portion 38 on trigger 31 immediately after the counterclockwise pivoting of trigger bar 28 has released hammer 54 from its cocked position. Spring-biased plunger 30 then returns trigger bar 28 to the prefired position thereof while trigger 31 is still being pulled and thereby brings the rear face of disconnector lug 51 into contact with the forwardly facing shoulder 39 on the top of trigger 31. Consequently, the engagement between raised portion 38 on the top of trigger 31 and the underside of disconnector lug 51 necessary to lift the forward end of trigger bar 28 cannot be obtained until trigger 31 is fully released.

During the recoil movement of slide 13 the rear end thereof strikes impact face 59 and pivots hammer 54 rearwardly about pin 55 whereupon the underside of lug 56 rides along an arcuate surface 66 formed on the top of the enlarged rear end portion 52 on trigger bar 28 forwardly of step 53. However, the counterclockwise pivotal movement thereby imparted to trigger bar 28 is not sufficient to completely disengage the rear face of disconnector lug 51 from shoulder 39 on the top of trigger 31. Instead, spring-biased plunger 30 is merely depressed sufficiently to effect a positive return of trigger bar 28 which insures reengagement between step 53 on the rear end thereof and lug 56 as hammer 54 begins to pivot counterclockwise. In this respect, it should be noted that the top surface of trigger bar 28 rearwardly of step 53 slopes rearwardly and downwardly as shown at 67 in Fig. 4 to avoid interference with lug 56 prior to the engagement thereof with the vertical face of step 53. Prior to rearward cocking movement of hammer 54, head 63 of spring-biased plunger 64 is disposed at the upper end of angular recess 65 in frame 12 and thereby lies along an axis which is slightly tilted relative to the longitudinal axis of hole 61 as shown in Fig. 4. However, since the pivotal movement of hammer 54 about pin 55 causes hole 61 to describe an arcuate path, the enlarged head 63 of plunger 64 is forced to slide along the bottom surface of angular recess 65. Thus, the initial rearward pivotal movement of hammer 54 is opposed not only by the compression of spring 62 but also by the frictional resistance between plunger head 63 and the bottom of recess 65. Such frictional resistance, however, constantly decreases as plunger 64 approaches the position wherein the longitudinal axis thereof is perpendicular to the bottom surface of angular recess 65. As a result, the initial maximum resistance to recoil movement of slide 13 constantly decreases as hammer 54 approaches cocking position.

A safety 68 is slidably mounted for longitudinal reciprocal movement through an elongated slot 73 in the right side of frame 12 opposite the opening 22 in the front end of slot 17. The underside of safety 68 is provided with a depending step portion 69 which normally lies immediately to the rear of raised portion 38 on the top of trigger 31. In this position, the underside of safety 68 forwardly of step portion 69 merely serves as a stop for the counterclockwise pivoting of trigger 31. However, when safety 68 is pushed forwardly and retained in such position by detent means (not shown), depending step portion 69 moves over raised portion 38 on the top of trigger 31 to prevent any pivoting thereof.

An additional safety device prevents firing of the pistol out of battery and comprises a stud 70 on the top of trigger

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bar 28 adjacent the front end thereof which is arranged to extend through a correspondingly located but wider vertical groove 71 in the side of frame 12 and projects into a notch 72 formed in the underside of slide 13. It is, therefore, apparent that the underside of slide 13 will limit the pivoting of trigger bar 28 sufficiently to prevent the release of hammer 54 except when slide 13 has reached battery position and aligns notch 72 with groove 71 in the side of frame 12.

The above-described firing mechanism is characterized not only by a complete absence of creep but by a minimum amount of light trigger pull which remains substantially constant throughout the entire pivotal movement thereof. Since disconnector 42 can only move longitudinally in trigger bar 28, the pivotal retraction of trigger 31 is directly converted into a corresponding pivotal movement of trigger bar 28 in which the rear face of step 53 thereon moves out of cocking engagement with the lower front corner of lug 56 on hammer 54. It is, therefore, apparent that the release of hammer 54 is in direct correspondence with the pull of trigger 31 due to the lack of relative movement between trigger 31 and trigger bar 28 and, therefore, eliminates the customary creep encountered in those prior art firearms which employ a pivotal disconnector in cooperation with a separately mounted sear.

Moreover, since the contact area between trigger bar 28 and hammer 54 is unusually small, the consequent rapid release of hammer 54 minimizes the possibility of accidental movement of the firearm during retraction of trigger 31 and thereby enables the operator to more nearly attain the best possible accuracy of fire. In addition, since trigger bar 28 pivots directly out of cocking engagement with hammer 54 without the necessity for compressing disconnector spring 46, the trigger mechanism of the present invention eliminates the progressive increase in trigger pull invariably encountered in those prior art devices where the longitudinal actuation of the trigger bar was resisted by the springs employed to operate both disconnector and sear.

Another advantage in the construction of the trigger mechanism of the present invention is the fact that the pull of trigger 31 continues to be resisted by forward camming of disconnector 42 even after the release of hammer 54 and almost up until the instant trigger retraction is halted by contact with the underside of safety 68. Such cushioning in the pull of trigger 31 virtually eliminates the anticipatory flinching of the operator which is ordinarily encountered where the release of the hammer produces such a sudden decrease in trigger pull that the continued force imparted thereto produces a sharp impact on the trigger finger when the trigger movement is suddenly halted by contact with a fixed portion of the firearm.

Although a particular embodiment of the invention has been described in detail herein, it is evident that many variations may be devised within the spirit and scope thereof and the following claims are intended to include such variations.

I claim:

1. In a trigger mechanism for a firearm having an impact type of firing member, a longitudinal trigger bar pivotally mounted to hold the firing member in the cocked position, a disconnector slidably mounted in the front end of said trigger bar for longitudinal reciprocal movement therein, a pivotal trigger disposed beneath the front end of said trigger bar and having a raised portion arranged to contact the underside of said disconnector for transmitting the pivotal movement of said trigger directly to said trigger bar to release the firing member from cocked position, and cam means for forcing said disconnector forwardly in said trigger bar to disengage from the top of said raised trigger portion after the release of the firing member whereby said trigger must be returned to the unpulled position before said raised portion thereon will reengage the underside of said disconnector there-

by limiting the operation of the firearm to a single cycle for each pull of said trigger.

2. In a trigger mechanism for a firearm having an impact type of firing member, a longitudinal trigger bar having a step portion at the rear end thereof, said trigger bar being pivotally mounted for normally holding the firing member in the cocked position, a disconnecter slidably mounted in the front end of said trigger bar for longitudinal reciprocal movement therein and having a lug projecting outwardly from the side thereof, a pivotal trigger disposed beneath the front end of said trigger bar and having a raised portion adjacent the rear end thereof for contacting the underside of said lug upon retraction of said trigger and thereby transmitting the pivotal movement of the latter directly to said trigger bar to release the firing member from cocked position, cam means operative on the rear end of said disconnecter for forcing the latter forwardly in said trigger bar to disengage said lug from the top of said raised trigger portion after the release of the firing member, and spring means operative on the top edge of the forward end of said trigger bar for normally imparting pivotal movement thereto whereby said projecting lug on said disconnecter moves downwardly in front of said raised portion on said trigger following disengagement with the top thereof so that reengagement therebetween requires said trigger to return to the position assumed prior to the retraction thereof and thereby limits operation of the firearm to a single cycle for each pull of said trigger.

3. In a semiautomatic pistol having a fixed frame, a slide reciprocal thereon, and a pivotal hammer mounted within the frame and adapted to be cocked by the recoil movement of the slide, a trigger mechanism comprising a longitudinal trigger bar pivotally mounted in the frame for normally holding the hammer in the cocked position, a disconnecter slidably mounted in the front end of said trigger bar and having a substantially rectangular lug projecting outwardly from the side thereof beyond said trigger bar, a trigger pivotally mounted in said frame and having a raised portion adjacent the rear end thereof for contacting the underside of said disconnecter lug upon retraction of said trigger to transmit the pivotal movement thereof directly to said trigger bar for releasing the hammer from cocked position, a spring normally biasing said disconnecter rearwardly to position said lug thereon above said raised portion on said trigger, an inclined cam surface in the frame disposed rearwardly of said disconnecter and arranged to force the latter forwardly in said trigger bar during the retraction of said trigger to disengage said projecting lug on said disconnecter from the top of said raised surface on said trigger after the release of said hammer from said trigger bar, and spring means operative on the top edge at the forward end of said trigger bar for normally imparting pivotal movement thereto whereby said projecting lug on said disconnecter is forced downwardly in front of said raised portion on said trigger and retained in engagement therewith by said disconnecter spring means only during the period in which said trigger is retracted thereby limiting operation of the firearm to a single cycle for each pull of said trigger.

4. In a semiautomatic pistol having a fixed hollow frame and a slide reciprocally mounted thereon, the frame having a longitudinal trigger bar slot in the side thereof, said slot being cut away laterally at either end thereof to communicate with the hollow interior of the frame, a cover securely retained in said slot for effecting complete closure thereof, a trigger bar pivotally mounted between said cover and the wall of said slot remaining between said cutaway ends thereof, a spring-biased hammer pivotally secured within the frame at the rear end thereof and having a lug projecting outwardly from the side, said trigger bar having a shoulder at the rear end thereof for engaging the lower front corner of said hammer lug to hold the hammer in the cocked position, a

trigger pivotally mounted in the frame, a disconnecter slidably disposed in the front end of said trigger bar and adapted to be cammed forwardly during retraction of said trigger while simultaneously transferring the pivotal movement of said trigger to said trigger bar for releasing said hammer from the cocked position, spring means bearing between the upper edge of said slot and the top edge of said trigger bar to normally bias the latter into cocking engagement with said hammer, and cam means in the frame for forcing said disconnecter forwardly to interrupt the transmittal of the pivotal movement of said trigger to said trigger bar and to prevent the recurrence thereof until said trigger is returned to the normal prefiring position thereof.

5. The combination defined in claim 4 including a safety slidably disposed in the side of the frame opposite to the side provided with said slot for movement between operative and inoperative positions, said safety having a projecting arm extending into the hollow interior of the frame and arranged in the operative position thereof to lie above said trigger for blocking pivotal movement thereof and in the inoperative position to limit the firing movement of said trigger.

6. In a semiautomatic pistol having a fixed hollow frame and a slide mounted thereon for movement between battery and recoil positions, the frame having a relatively shallow longitudinal trigger bar slot in the side thereof communicating at either end with the hollow interior therein, a cover fixedly secured to the side of the frame for effecting a complete closure of said slot therein, said cover having a transverse hole therethrough positioned closer to the rear end than to the forward end thereof and in axial alignment with a similar hole in the remaining bottom wall of said slot, a relatively narrow longitudinal trigger bar of lesser over-all dimensions than said slot in the frame, a pin projecting from opposite sides of said trigger bar into bearing relation with said hole in said cover and with said hole in the wall of said slot whereby said trigger bar is pivotally mounted in said slot substantially centrally between the wall thereof and the inner side of said cover, said trigger bar having a lug at the rear end thereof projecting laterally from the side into the interior of the frame through said opening in the rear of said slot, a hammer pivotally mounted in the frame and arranged to be held in the cocked position by engagement with said trigger bar lug, said trigger bar having a substantially rectangular block at the front end thereof projecting laterally from the side into the interior of the frame through the opening in the forward end of said slot, said block having a longitudinal dovetailed slot therethrough, a similarly contoured disconnecter slidably mounted in said dovetailed slot and having a lug projecting from the side thereof extending beyond the side of said trigger bar, and a trigger pivotally mounted in the underside of the frame beneath said projecting lug on said disconnecter whereby pivotal retraction of said trigger is transmitted through said disconnecter lug directly to said trigger bar to release said hammer from the cocked position.

7. The combination defined in claim 6 including a projecting stud on the top of said trigger bar adjacent the forward end thereof, the frame having a vertical channel therein communicating with said longitudinal slot at the forward end thereof and arranged to receive said trigger bar stud therein, the slide having a notch in the underside thereof arranged to align with said channel in the frame only in the battery position of the slide, said trigger bar stud being of such length as to limit the hammer-releasing movement of said trigger bar in all positions of the slide except battery.

8. The combination defined in claim 6 wherein said cover is laterally bowed, and a stock portion fixedly secured to the exterior of the frame compresses said cover to completely fill said slot in the frame without protruding outwardly therefrom.

9. In a semiautomatic pistol having a fixed hollow frame and a slide reciprocal thereon, a firing mechanism comprising a trigger pivotally mounted in the underside of the frame, a hammer pivotally mounted within the hollow interior of the frame at the rear end thereof, a 5 longitudinal trigger bar pivotally mounted in the side of the frame between said trigger and said hammer and normally arranged to hold said hammer in the cocked position, a disconnector slidably disposed in the front end of said trigger bar for transmitting the pivotal retraction 10 movement of said trigger thereto, a longitudinal firing pin slidably mounted in the slide, an impact surface projecting outwardly from said hammer for contact with the rear end of said firing pin upon disengagement between said hammer and the rear end of said trigger bar, 15 said hammer having a radially disposed hole in the rear end thereof at an angle to said impact surface, a plunger slidably disposed in said hammer hole and having an enlarged head on one end thereof projecting outwardly

therefrom into slidable contact with an upwardly and rearwardly inclined recess disposed within the interior of the frame adjacent the rear end thereof, and spring means seated between the bottom of said hole in said hammer and the underside of said enlarged plunger head portion and arranged to be compressed during the cocking movement imparted to said hammer by the recoil movement of the slide, said angular hole in said hammer and the inclined recess in the frame being so disposed relative to one another that said enlarged head on said plunger is biased against the bottom of the recess at an angle substantially greater than a right angle whereby the angular inclination of said plunger in said hole in said hammer effects a progressive decrease in the resistance of said hammer spring during the entire cocking movement of said hammer.

No references cited.