March 1, 1966 R. W. KERR 3,237,335

SAFETY FIREARM AND AMMUNITION FOR THE SAME

Filed May 21, 1964

FIG. 1

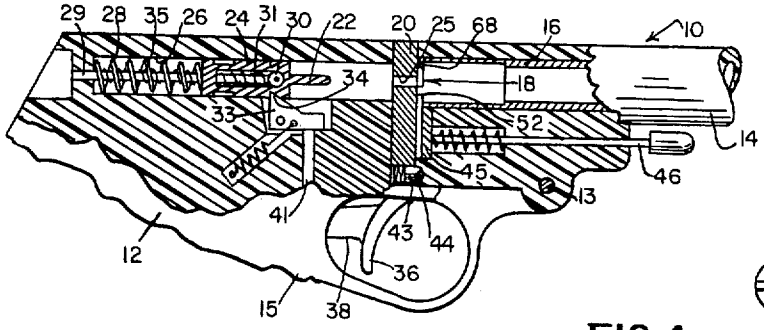


FIG. 3a

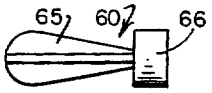


FIG. 2



FIG. 4

FIG. 3

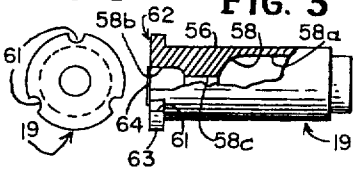


FIG. 5

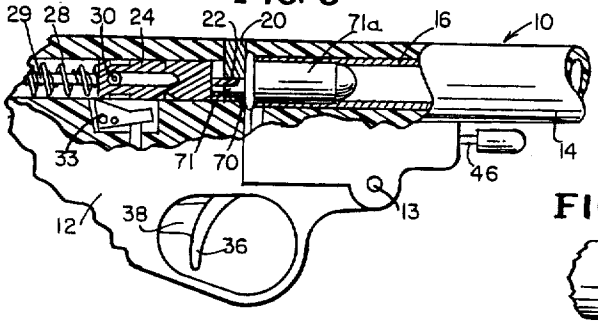


FIG. 4a

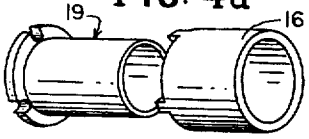


FIG. 6

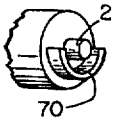


FIG. 6a

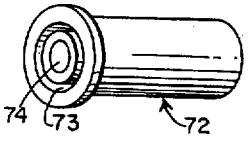


FIG. 9

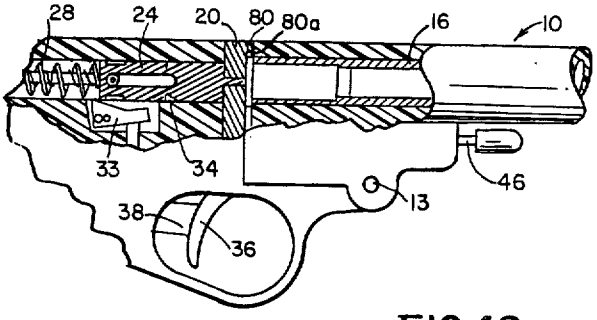


FIG. 8

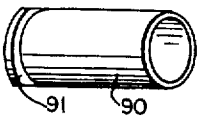


FIG. 7

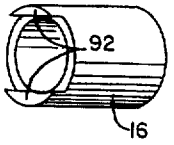


FIG. 10

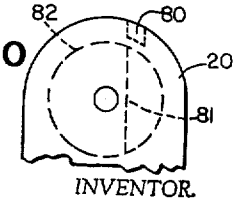


FIG. 11

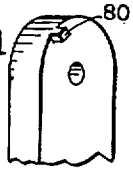
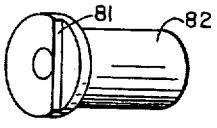


FIG. 12



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ATTYS.

United States Patent Office

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Patented Mar. 1, 1966

3,237,335

SAFETY FIREARM AND AMMUNITION FOR THE SAME

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Filed May 21, 1964, Ser. No. 369,129
8 Claims. (Cl. 42—8)

The present invention relates generally to firearms and ammunition intended for training and practice use and, more particularly, to an improved firearm of the safety type which is capable of receiving certain safety ammunition, but not conventional ammunition. This invention also relates to improved ammunition of the safety type which is adapted for use in either the safety firearm of the invention or in conventional firearms not of the safety type.

It is a primary object of the present invention to provide improved safety firearms and ammunition which are effective for training and practice purposes but which are selective in that the firing only of the safety ammunition is permitted and the firing of standard or conventional ammunition is precluded. More particularly, it is an object of this invention to provide an improved safety firearm which will readily receive and fire certain safety cartridges, but which will effectively prevent the insertion and firing of conventional cartridges so that there is no danger of mistakenly loading the firearm with the more dangerous ammunition.

It is another object of the present invention to provide a safety round of ammunition which is capable of being used interchangeably with both standard or conventional firearms and the selective safety firearm, even though the safety firearm can fire only the safety round of ammunition. Thus, it is an object of the invention to provide such safety ammunition which can be used in standard firearms without modification of those firearms as by the use of any special adapters or the like.

It is a further object of the invention to provide safety firearms and ammunition of the foregoing type which are simple to use, of relatively simple form, and permit economical manufacture.

Other objects and ancillary advantages of the invention will be apparent from the following detailed description and upon reference to the accompanying drawings, in which:

FIGURE 1 is a fragmentary side elevation partially in section of a safety firearm embodying features of the present invention which are adapted to selectively receive certain safety ammunition while precluding the use of standard or conventional ammunition;

FIG. 2 is a fragmentary section taken along line 2—2 in FIGURE 1 to show the front portion of the firing chamber;

FIG. 3 is a side elevation of a safety cartridge adapted for use in the safety firearm of FIGURE 1;

FIG. 3*a* is a side elevation of a preferred projectile adapted for use in the safety cartridge of FIG. 3;

FIG. 4 is an end elevation showing the rear end of the cartridge of FIG. 3;

FIG. 4*a* is a perspective of a safety cartridge and the metal liner used therewith;

FIG. 5 is a fragmentary side elevation partly in section of another safety firearm adapted to selectively fire only certain other safety ammunition in accordance with the present invention;

FIG. 6 is a fragmentary perspective of the front end of the firing mechanism in the firearm of FIG. 5;

FIG. 6*a* is a perspective of a safety cartridge adapted for use in the firearm of FIG. 5;

FIG. 7 is a perspective of the rear portion of a modified metal liner for use in the barrel assembly of the firearm of FIGURE 1 and adapted to receive still another form of safety ammunition while precluding the use of conventional ammunition;

FIG. 8 is a perspective of a safety cartridge adapted for use with the modified liner of FIG. 7;

FIG. 9 is a fragmentary side elevation partly in section showing still another safety firearm embodying the present invention and adapted to receive yet another form of safety ammunition while precluding the use of conventional ammunition, with a round of the safety ammunition being shown in its firing position in the firearm;

FIG. 10 is a fragmentary section taken along line 10—10 in FIG. 9 to show the front face of the recoil plate;

FIG. 11 is a perspective of the recoil plate in the firearm of FIG. 9; and

FIG. 12 is a perspective of a safety cartridge adapted for use in the firearm of FIG. 9.

While the invention is described in connection with certain preferred embodiments, it will be understood that it is not thereby intended to limit the invention to those particular embodiments. On the contrary, it is intended to cover all alternatives, modifications, and equivalents which may be included within the spirit and scope of the invention as defined by the appended claims.

Turning now to the drawings, there is shown in FIGURE 1 a pistol type firearm 10 embodying the present invention and intended for training and practice use. The illustrative firearm 10 includes a frame 12 pivotally mounting, as at 13, a forwardly extending barrel assembly 14 and having a depending stock or grip 15. As shown, the firearm 12 and barrel assembly 14 are made of a suitable plastic material with the barrel being reinforced with a tubular metal liner 16. A firing chamber, generally indicated at 18, is provided to receive a suitable safety cartridge, such as the cartridge 19 shown in FIGURES 3 and 4. The forward portion of the firing chamber 18 is defined by the rear portion of the barrel assembly 14 and its metal liner 16, while the rearward portion of the firing chamber 18 is defined by a recoil plate 20 which is carried by the frame 12.

For the purpose of detonating the cartridge 19 when it has been inserted into the firing chamber 18, the firearm 10 is provided with a firing mechanism including a firing pin 22 which is mounted upon a carrier 24 for longitudinal movement between cocked and firing positions. In the latter position the firing pin 22 projects through an opening 25 in the recoil plate 20 so as to engage and detonate the primer of the safety cartridge that is disposed at the forward end of the opening 25 in axial alinement therewith. The instant firing mechanism is shown merely for purposes of illustration, and it will be apparent that any number of operable constructions can be used. In the illustrative firing mechanism, the firing pin carrier 24 is longitudinally movable within a bore 26 formed in the upper rear portion of the frame 12. The carrier 24 is biased forwardly toward the firing position by means of a mainspring 28. The mainspring 28 is compressed by manually withdrawing a cocking pin 29 which has a crosshead 30 at its forward end disposed within a slot 31 formed in the firing pin carrier 24. Upon withdrawing the cocking pin 29 the crosshead 30 engages the rear end of the carrier slot 31 so that the carrier 24 is pulled rearwardly within the bore 26, thereby compressing the spring 28 and withdrawing the firing pin 22 from the aperture 25 of the recoil plate. Withdrawal movement is continued until the cocked position of the firing pin carrier 24 is attained, as illustrated in FIGURE 1.

To retain the carrier 24, and with it the firing pin 22, in cocked position, a spring biased pawl 33 is provided for engagement in a notch 34 located near the front end of the carrier 24. The cocking pin 29 is equipped with a light return spring 35 which, as shown, is disposed con-

centrically within the mainspring 28 and about the cocking pin 29. The return spring 35 is also compressed as an incident to withdrawal movement of the cocking pin. When the cocked position of the carrier 24 is attained and the cocking pin 29 is released, the return spring 35, which at its forward end engages the crosshead 30, serves to retract the cocking pin 29 back into the bore 26.

To release the firing pin carrier to the action of the mainspring, the frame is equipped with a trigger mechanism. This mechanism includes a trigger 36 which is mounted at the forward end of a slide 38, the latter being biased toward normal forwardly extended position by means of an internal expansion type spring. A suitable cam member is provided on the top of the internal portion of the trigger slide 38 so as to engage a push rod 41 interposed between the cam member and the pawl 33, the lower end of the push rod being complementally inclined with the cam member. Consequently, when the trigger 36 is moved rearwardly upon being squeezed by an operator using the illustrative firearm, the cam member is effective to urge the push rod 41 upwardly to the end that the pawl 33 is rotated against the action of its biasing spring to release the firing pin carrier 24 to the action of the mainspring 28, whereupon the carrier 24 is driven forwardly and the firing pin 22 is projected through the aperture 25 in the recoil plate 20 and into position for engagement with the primer of a safety cartridge received in the firing chamber 18 so as to detonate the same.

In order to gain access to the firing chamber 18 to permit loading and unloading of the illustrative firearm, the barrel assembly 14 is broken with respect to the frame 12 so as to pivot the barrel assembly downwardly around the pivot point 13. To hold the barrel assembly in normal or closed position, a spring biased detent 43 is provided in the frame 12 to engage a complementally formed and juxtaposed recess 44 formed in the lower portion of the barrel assembly 14.

In the particular embodiment illustrated, the barrel assembly 14 includes an ejector 45 which is disposed at the rear end of the barrel assembly so that it engages the front surface of the rim of a cartridge received within the firing chamber. The ejector 45 is mounted for limited longitudinal movement upon an extractor rod 46 which, in turn, is spring biased so as to normally retain the ejector in forward position. The ejector 45 is operable to engage and urge the cartridge rearwardly, when the barrel assembly 14 is in open position with respect to the frame 12, a sufficient distance to permit the cartridge head to be grasped by an operator's fingers and removed from the firing chamber.

To determine the seated or firing position of a round of ammunition, the firing chamber 18 is formed with a transaxial surface for abutment by the rim of the cartridge of a round of ammunition inserted therein. In the particular firearm illustrated, the transaxial surface, indicated at 52, is defined by the rear end of the liner 16 and the bordering material of the barrel 14 and the ejector 45. The rear portion of the firing chamber is defined by the front surface of the recoil plate 20, which is spaced a predetermined distance away from the end of the metal liner 16 to insure abutment of the cartridge rim with the rearward facing transaxial surface 52 when the firing chamber is closed.

The safety weapon of FIGURES 1 and 2 is intended for use with safety ammunition of the type utilizing the explosive force only of a primer to propel its lightweight projectile and wherein the construction is such that its primer is disposed for engagement and detonation by the firing pin 22. One example of such ammunition is the safety cartridge 19 shown in FIGURE 3, which is of the general type disclosed and claimed in my copending application Serial No. 359,647, filed April 14, 1964. It includes a cartridge casing 56 formed of plastic or other lightweight material having a bore 58 extending therethrough. The forward portion 58*a* of the bore is enlarged

for the reception therein of a projectile 60. At its rear end, the cartridge casing 56 is formed with a head 62 having a rim 63 for engagement with the transaxial surface 52 of the firing chamber 18 which determines the seated or firing position of the cartridge within the firing chamber. In the rear end of the head 62 the cartridge casing bore terminates in a recess 58*b* for receiving a primer 64. The recess 58*b* and the enlarged forward portion 58*a* of the cartridge bore 58 are interconnected by a bore portion 58*c* of reduced diameter for effecting venturi action upon the explosive force produced by detonation of the primer 64 for expelling the projectile 60 from the casing 56. In addition to utilizing only that force produced by the primer, the penetrative properties of the projectile 60 are desirably further reduced by fashioning it of lightweight resilient material such, for example, as rubber or relatively soft plastic. In order to stabilize the flight of the projectile 60, traveling at low velocity, it is preferably formed with a plurality of symmetrically spaced radial fins 65 that extend rearwardly from its body 66. This projectile construction has been found to effect a substantially flat trajectory for a range on the order of 25 feet to 30 feet when propelled by the explosive force resulting from detonation of a small primer.

In accordance with the present invention, the firearm is provided with safety means for preventing the firing of conventional cartridges in the firing chamber of the firearm, while permitting the firing of a safety cartridge having a casing complementally formed for cooperation with the safety means. Thus, in the firearm of FIGURES 1 and 2, three small axial projections or lugs 68 are provided on the rear end of the metal liner 16 so as to provide a plurality of keying means associated with the forward portion of the firing chamber and circumferentially spaced around the transaxial surface 52. These keying means 68 are adapted to mate with corresponding keyway means in the form of small grooves or notches 61 which are complementally formed and located in the rim of the safety cartridge 19. When the firing chamber is open, the safety cartridge 19 is simply inserted into the forward portion of the firing chamber 18 and rotated until the keyways 61 mate with the keys 68 so that the cartridge can slide forwardly until its rim abuts the transaxial surface 52. The firing chamber is then closed, and the weapon is ready for firing.

It will be appreciated that if an attempt is made to insert a standard or conventional cartridge into the open firing chamber, the rim of the cartridge will abut the keys 68 so that it will be impossible for the operator to close the firing chamber. Thus, the projecting keys 68 provide a simple and foolproof safety means which effectively preclude the firing of conventional cartridges. On the other hand, the keyways 61 which enable the safety cartridge 19 to be selectively received into the firing chamber of the weapon, do not prevent this same cartridge from being used in a standard weapon. In other words, the weapon will accept only safety ammunition, and yet the ammunition can be used interchangeably in either safety weapons or standard weapons.

Although the embodiment of FIGURES 1 through 4 has been described with particular reference to the use of three equally spaced keys and keyways, a number of different modifications of this arrangement will be readily apparent to those skilled in the art. For example, any number of cooperating keys and keyways could be employed and, indeed, even a single key and keyway would provided adequate protection. Similarly, the shape and location of the complementally formed elements may vary widely. Thus, the projecting key means could be tapered to assist in seating the cartridge within the firing chamber. Moreover, it is possible to provide the protruding keys along the inner surface of the metal liner 16 so as to interfit complementally formed grooves in the surface of the cartridge casing 56, rather than the cartridge rim.

One modified form of the invention is illustrated in

FIGURES 7 and 8. In this embodiment, the safety cartridge 90 is provided with a rim which projects only from opposite sides of the cartridge casing in the form of arcuate rim portions 91. To receive this form of cartridge, the rear end of the tubular metal liner 16 is provided with a pair of diametrically opposed notches which define a pair of rearwardly extending projections 92 complementally formed and located with respect to the rim portion of the cartridge casing. Thus, the projections act as a pair of keys which cooperate with the keyways formed by the missing portions of the cartridge rim. It will be recognized that since the maximum rim diameter of the safety cartridge 90 is the same as the rim diameter of a conventional cartridge, the safety cartridge 90 can be used in standard firearms as well as the illustrative safety firearm.

In accordance with another aspect of the present invention, the safety means can be associated with the firing mechanism rather than the firing chamber. Thus, a stop means is provided which is movable with the firing pin of the weapon and which projects forwardly beyond the leading end of the firing pin so as to abut the rearward end of a conventional cartridge, outwardly of the primer, and stop the firing pin a predetermined distance away from the cartridge primer, thereby preventing the firing of conventional cartridges. The safety cartridge for this embodiment is provided with a complementally formed and located recess adapted to receive the projecting stop means so that the firing pin is free to advance into engagement with its primer to detonate the safety cartridge. Accordingly, in the illustrative firearm of FIGURES 5 and 6, an arcuate pin stop 70 is provided on the leading end of the firing pin carrier 24 so as to project forwardly beyond the end of the firing pin 22 in generally parallel relationship therewith. Since both the firing pin 22 and the stop 70 are attached to the carrier 24, the firing pin and the stop always move together so that the stop continuously projects out ahead of the firing pin. In order to permit the stop 70 to pass through the recoil plate 20 along with the firing pin, the recoil plate is provided with an enlarged aperture 71 adapted to pass both the firing pin and the stop into the firing chamber.

It can be seen that if a conventional cartridge is placed in the firing chamber, such as the cartridge 71*a* in FIG. 5, the stop rod 70 will abut the solid rear end wall of the cartridge and prevent the firing pin 22 from engaging the cartridge primer so that the conventional cartridge cannot be detonated. However, when the safety cartridge 72 of FIGURE 6*a* is placed in the firing chamber, the arcuate pin stop 70 is received within an annular recess 73 which is complementally formed and located with respect to the arcuate stop 70 in the rear end of the cartridge casing. Consequently, as long as the safety cartridge 72 is properly seated within the firing chamber, the firing pin 22 is permitted to advance all the way to its firing position where it engages the primer 74 of the safety cartridge and detonates the same. It will be appreciated that if the firing chamber is not fully closed, the arcuate stop 70 cannot enter the misalined recess 73, and detonation will be prevented until the firing chamber is properly closed. It will be appreciated that the particular stop 70 and complemental passageway 71 and recess 73 represent only one example of this aspect of the invention, and that any number of operable constructions can be used. For example, the stopping means could be in the form of a complete annulus extending all the way around the firing pin rather than just an arcuate segment. Similarly, the stopping means could be in the form of one or more small pins similar to the firing pin itself, but having a greater longitudinal dimension. If desired, the stopping means and its complemental recess may be tapered to facilitate the entry of the stop into the cartridge casing. With any of these constructions, the safety cartridge need only be provided with a suitable recess in the rear portion of its casing and, therefore, the safety cartridge is still capable of use in a standard weapon as well as the instant safety weapon.

In accordance with a further aspect of the invention, the safety means is associated with the stationary recoil plate 20 which defines the rearward limits of the firing chamber. Thus, in the safety firearm illustrated in FIGURES 9 through 11, a small longitudinally projecting key means in the form of a lug 80 is provided at the top of the front face of the recoil plate 20, with a complemental keyway means in the form of a vertical groove 80*a* being formed in the opposed portion of the barrel assembly 14 to permit the barrel assembly to pass the lug 80 during opening and closing of the firing chamber. If a conventional cartridge is placed into the firing chamber while in its open position, the projecting lug 80 will abut the rear rim portion of the cartridge when the operator attempts to close the firing chamber, thereby effectively precluding the firing of conventional cartridges in the illustrative weapon. In the case of the safety cartridge 82 shown in FIGURE 12, the complementally formed and located groove 81 is provided in the rear end wall of the cartridge casing so that this cartridge will clear the projecting lug 80 to permit the firing chamber to be closed. To facilitate the opening and closing of the firing chamber when it contains the safety cartridge, the forward surface of the lug 80 is rounded to prevent catching on the barrel assembly. Although only one groove 81 is shown in the cartridge in the drawing for purposes of illustration, it would be possible to provide a pair of such grooves diametrically opposed to each other. Similarly, the projecting lug 80 could be provided at the bottom of the face of the recoil plate rather than the top, as long as it effectively prevents the closing of the firing chamber when it contains a conventional cartridge. It is contemplated that other modifications and alternatives of this form of the invention will be apparent to those skilled in the art.

From the foregoing detailed description, it is apparent that the present invention provides an improved safety firearm and ammunition which are effective for training and practice purposes but which are selective in that the firing only of the safety ammunition is permitted, and the firing of standard or conventional ammunition in the safety firearm is precluded. Moreover, although the safety firearm can fire only the safety round of ammunition, the ammunition itself can be used interchangeably with both the selective safety firearm and standard firearms, and without the use of any special adapters or the like. Furthermore, the safety means provided by this invention does not require the manipulation of any movable elements, and is relatively simple and economical to manufacture.

What is claimed is:

1. In an improved firearm of the safety type, the combination comprising a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, a recoil plate having a portion engageable with the cartridge to insure abutment of its rim with said surface and defining the rearward limits of said chamber, stop means movable with said firing pin and projecting beyond the forward end of said firing pin for engaging the rearward end of a conventional cartridge and stopping said firing pin a predetermined distance away from the primer of said conventional cartridge so as to preclude firing of the same, said stop means being adapted to interfit a complementally formed safety cartridge whereby said firing pin can be advanced into engagement with the primer of said safety cartridge to detonate the same, said recoil plate being adapted to pass said firing pin and said stop means therethrough into the firing chamber.

2. In an improved firearm of the safety type, the combination comprising a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, a recoil plate having a portion engageable with the cartridge to insure abutment of its rim with said surface and defining the rearward limits of said chamber, stop means movable with said firing pin and projecting beyond the forward end of said firing pin for engaging the rearward end of a conventional cartridge so as to stop the firing pin with its forward end a predetermined distance rearwardly of said transaxial surface which distance is substantially greater than the rim thickness of a conventional cartridge thereby locating the primer of a conventional cartridge in spaced relation to the firing pin so as to preclude firing of the same, said stop means being adapted to interfit a complementally formed safety cartridge whereby said firing pin can be advanced into engagement with the primer of said safety cartridge to detonate the same, said recoil plate having apertures therein through which said firing pin and said stop means are projecting into said firing chamber.

3. In an improved firearm of the safety type, the combination comprising means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, a recoil plate having a portion engageable with the cartridge to insure abutment of its rim with said surface and defining the rearward limits of said chamber, a longitudinally movable carrier for advancing and retracting a firing pin with respect to said firing chamber, a firing pin connected to said carrier so as to be movable a predetermined distance between cocked and firing positions, a pin stop connected to said carrier so as to be movable with said firing pin, said pin stop projecting beyond the forward end of said firing pin for engaging the rearward end of a conventional cartridge and stopping said firing pin a predetermined distance away from the primer of said conventional cartridge so as to preclude firing of the same, said pin stop being adapted to interfit a complementally formed safety cartridge whereby said firing pin can be advanced into engagement with the primer of said safety cartridge to detonate the same, said recoil plate being adapted to pass said firing pin and said stop therethrough into said firing chamber.

4. In an improved firearm of the safety type, the combination comprising a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, said forward portion of the firing chamber being pivotally mounted for opening and closing said firing chamber, a recoil plate having a portion engageable with the cartridge to insure abutment of its rim with said transaxial surface and defining the rearward limits of said firing chamber, said recoil plate having an aperture therein through which the firing pin is projected into its firing position, and key means associated with the forward face of said recoil plate for directly blocking the closing of said firing chamber when a conventional cartridge is seated therein, while permitting the closing of said firing chamber when a safety cartridge is seated therein, said safety cartridge having keyway means complementally formed and located for cooperation with said key means and a rim for seating engagement with said transaxial surface.

5. In an improved firearm of the safety type, the combination comprising a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof,

said forward portion of the firing chamber being pivotally mounted for opening and closing said firing chamber, a recoil plate having a portion engageable with the cartridge to insure abutment of its rim with said transaxial surface and defining the rearward limits of said firing chamber, said rearward portion of the firing chamber including means for directly blocking the closing of said firing chamber when a conventional cartridge is seated therein, while permitting the closing of said firing chamber when a complementally formed safety cartridge is seated therein, said recoil plate being adapted to pass said firing pin therethrough into said firing chamber for detonating the safety cartridge.

6. In an improved firearm of the safety type, a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, said forward portion of the firing chamber being pivotally mounted on said firearm for opening and closing said firing chamber, a recoil plate having a forward face engageable with the cartridge to insure abutment of its rim with said transaxial surface and defining the rearward limits of said firing chamber, a recoil plate having a forward face engageable with the cartridge to insure abutment of its rim with said transaxial surface and defining the rearward limits of said firing chamber, said recoil plate having an aperture therein through which the firing pin is projected into its firing position, and at least one key means projecting forwardly from the forward face of said recoil plate for directly blocking the closing of said firing chamber when a conventional cartridge is seated therein while permitting the closing of the firing chamber when a safety cartridge having a casing defining a complementally formed keyway for cooperation with said key means is seated therein, said cartridge having a rim for seating engagement with said transaxial surface.

7. A round of safety ammunition for use in a firearm having a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, a recoil plate having a portion engageable with the cartridge to insure abutment of its rim with said surface and defining the rearward limits of the firing chamber, and stop means movable with said firing pin and projecting beyond the forward end of said firing pin for engaging the rearward end of conventional ammunition and stopping said firing pin a predetermined distance away from the primer of said conventional ammunition so as to preclude firing of the same, said recoil plate being adapted to pass said firing pin and said stop means therethrough into the firing chamber, said safety round comprising a cartridge casing terminating at its rear end in a rim for engagement with the transaxial surface of the firing chamber and having a recess in the rear end wall thereof for receiving and holding a primer in position for engagement by the firing pin when projected through the recoil plate to detonate the same, the rear end wall of said cartridge casing having another recess which is complementally formed and located to receive said stop means whereby said firing pin can be advanced into engagement with the primer of said safety cartridge to detonate the same, and a projectile received in the forward end of said casing and adapted to be expelled from said casing upon detonation of the primer.

8. A round of safety ammunition for use in a firearm having a firing pin movable a predetermined distance between cocked and firing positions, means defining the forward portion of a firing chamber having a rearwardly facing transaxial surface for abutment by a cartridge rim to determine the seated position thereof, a recoil plate having a portion engageable with the cartridge to insure

abutment of its rim with said surface and defining the rearward limits of the firing chamber, and stop means movable with said firing pin and projecting beyond the forward end of said firing pin for engaging the rearward end of conventional ammunition and stopping said firing pin a predetermined distance away from the primer of said conventional ammunition so as to preclude firing of the same, said recoil plate being adapted to pass said firing pin and said stop means therethrough into the firing chamber, said safety round comprising a cartridge casing terminating at its rear end in a head having a rim for engagement with the transaxial surface of the firing chamber and having a recess in the rear end wall thereof for receiving and holding a primer in position for engagement by the firing pin when projected through the recoil plate to detonate the same, and the rear end wall of said cartridge casing having another recess which is complementally formed and located to receive said stop means whereby said firing pin can be advanced into engagement with the primer of said safety cartridge to detonate the same.

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