Feb. 25, 1958 J. F. FISCHER 2,824,402

BREECH BOLT AND FIRING PIN SAFETY MECHANISM FOR FIREARMS

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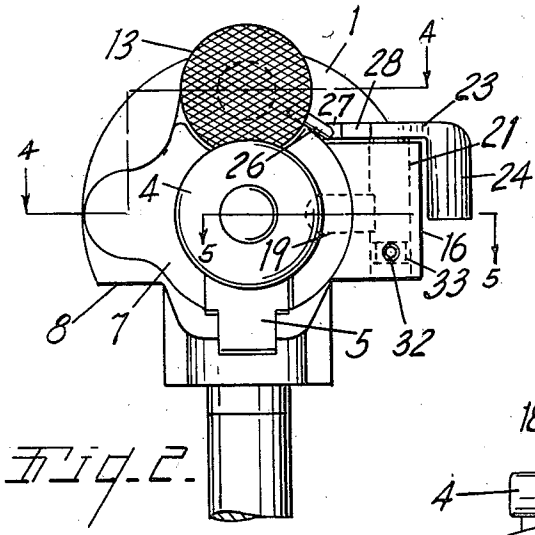

Fig. 2.

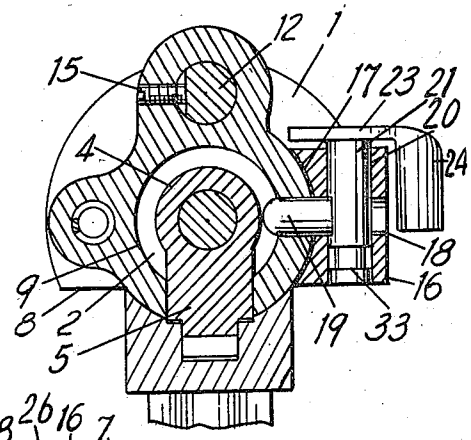

Fig. 3.

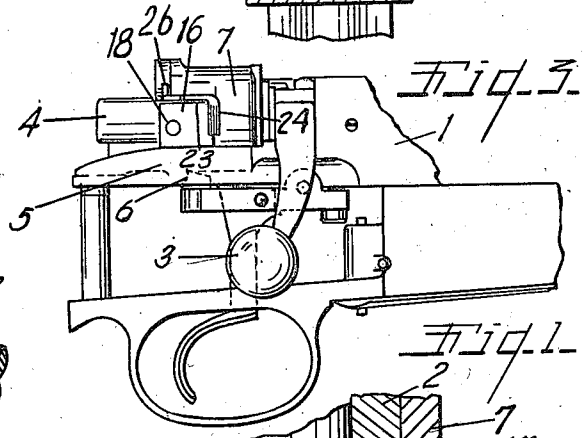

Fig. 1.

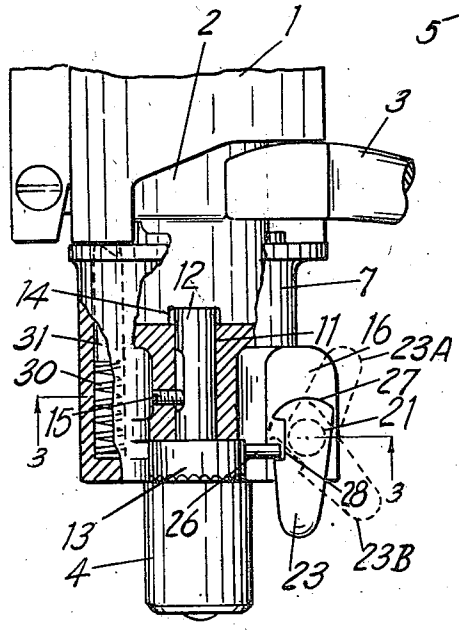

Fig. 4.

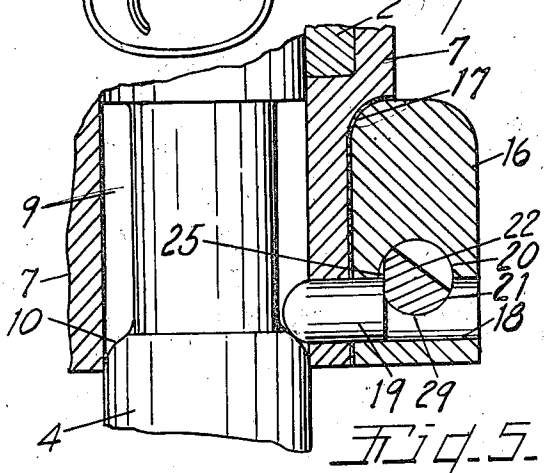

Fig. 5.

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BREECH BOLT AND FIRING PIN SAFETY MECHANISM FOR FIREARMS

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14 Claims. (Cl. 42—70)

This invention relates to improvements in safety mechanism for fire arms. The principal objects of this invention are:

First, to provide a novel safety mechanism for rifles of the Mauser type which safety does not interfere with the mounting of a telescopic sight on the rifle and which is mounted for easy operation on the bolt handle side of the rifle.

Second, to provide a safety mechanism for Mauser type gun actions which will lock the firing pin in safe position without interfering with or preventing the removal of the bolt from the receiver of the gun.

Third, to provide a safety that locks the firing pin in safe position regardless of the position of the bolt so that the bolt may be opened and closed to inspect the chamber of the gun without removing the safety lock of the mechanism.

Fourth, to provide a firing pin safety lock with an operating member that interlocks with the bolt lock of a Mauser type rifle to hold the bolt in closed, locked position and the firing pin in cocked, locked position as when the gun is double locked for rough handling or transportation through brush or in a saddle scabbard.

Fifth, to provide a bolt and firing pin lock mechanism in which movement of the firing pin lock to firing position automatically moves the bolt lock to unlocked position.

Sixth, to provide a firing pin lock for a Mauser type gun action which is extremely simple and silent in operation and which is relatively inexpensive to incorporate in the bolt assembly either as initial construction or as an attachment to existing guns.

Other objects and advantages of the invention will be apparent from a consideration of the following description and claims. The drawings, of which there is one sheet, illustrate a highly practical form of the safety mechanism.

Fig. 1 is a fragmentary side elevational view of the rear end of the receiver of a Mauser type rifle action with the bolt having the safety mechanism of the invention assembled in the receiver in cocked firing position.

Fig. 2 is an enlarged fragmentary rear elevational view of the receiver and bolt with the safety in first intermediate locked position.

Fig. 3 is a fragmentary transverse cross sectional view through the bolt and safety taken along the plane of the line 3—3 in Fig. 4 with the safety in a first or intermediate locked position corresponding to the position shown in Fig. 2.

Fig. 4 is a fragmentary top plan view of the receiver and bolt partially broken away in horizontal section along the plane of the broken line 4—4 in Fig. 2 and showing

the safety in double safe locked position with the bolt locked in the receiver.

Fig. 5 is a fragmentary transverse cross sectional view taken along the plane of the line 5—5 in Fig. 2.

The gun action to which the safety mechanism of the invention is applied is the familiar type of Mauser rifle which is well known so no attempt will be made to disclose or describe in detail the construction of the gun action except as it cooperates with the safety mechanism of the invention. The action includes generally a receiver 1 in which the bolt 2 is rotatably and reciprocably mounted for loading and cocking the gun action. The bolt includes the familiar bolt handle 3 that projects rigidly from the right side of the action for rotating the bolt in the receiver to unlock the bolt and cam it rearwardly. Reciprocably mounted within the bolt 2 is a firing pin 4 that is spring pressed forwardly to fire the gun in the well known manner. The rear end of the firing pin 4 carries a depending rib 5 with a notch therein that is engaged by the sear 6 of the trigger mechanism to control the firing of the gun. The rear end of the firing pin 4 is slidably and non-rotatably received in the bolt sleeve 7 which embraces the rear end of the tubular bolt and within which the bolt rotates to effect cocking of the firing pin. The bolt sleeve 7 has a flatted undersurface 8 that non-rotatably engages the rear end of the receiver in the well known manner.

As is standard in Mauser type gun actions the rear end of the firing pin 4 is annularly grooved as at 9 within the bolt sleeve 7 to provide a safety lock shoulder 10. The upper portion of the bolt sleeve 7 is axially bored as at 11 to receive the bolt lock pin. The standard Mauser bolt lock pin is rotated by a lever on its rear end but in this lock assembly a new bolt lock pin 12 is substituted. The pin 12 is reciprocable in the sleeve and projects to the bolt lock button 13 on the rear end of the sleeve. The rear end of the bolt 2 as currently and previously manufactured already has a peripheral notch 14 cut therein. In the standard Mauser this notch coacts with the rotary bolt lock pin but in this assembly it registers with the bolt lock pin 12 when the bolt is in closed locked position in the receiver. By pressing forwardly on the bolt lock button 13 the pin 12 enters the notch 14 and prevents rotation of the bolt in the receiver and therefore prevents removal of the bolt or cocking of the firing pin. A lock screw 15 prevents rotation of the bolt lock pin 12.

The bolt lock pin 12 cannot control the trigger action or the firing pin and it is possible to fire the gun with the bolt locked unless there is other safety mechanism provided. For this purpose the present invention provides a small solid block of metal 16 that is secured as by the silver solder indicated at 17 along the right side of the bolt sleeve 7. The block 16 and the adjacent portion of the bolt sleeve are transversely bored as at 18 to receive the short safety pin 19 having a rounded inner end projected into the path of the locking shoulder 10 on the firing pin 4 when the firing pin is cocked. In order to selectively control the position of the safety pin 19 the block 16 is vertically bored as at 20 to receive the operating shaft 21 in intersecting relation to the bore 18. The shaft 21 has a cutaway portion 22 forming a broad flat area which when registered with the outer end of the safety pin permits the complete retraction of the safety pin from the firing pin 4 and permits firing of the rifle.

This position of the shaft **21** is the unlocked position of the shaft and the gun action and corresponds to the dotted position **23A** of the safety shaft shown in Fig. 4. In order to conveniently rotate the shaft **22** it is provided on its upper end with the arm **23** extending laterally to a depending finger piece **24** that swings along the side of the block **16**. The shaft **21** is further provided with a shallow flatted surface **25** which when registered with the safety pin **19** presses the safety pin into the intermediate safe position shown in Fig. 5 in which the firing pin can not be released by the trigger and in which the gun action is in safe condition. The intermediate safe position of the safety and the actuating arm **23** corresponds to the dotted position **23B** appearing in Fig. 4. The shallow flat **25** not only locks the safety pin **19** but forms a detent surface that is readily felt in the finger pass **24** as the safety mechanism is rotated to intermediate safe position. The marksman is thus advised that the finger piece has been moved fully from firing position **23A** to safe position **23B** or vice versa.

In order to interlock the firing pin safety lock with the bolt lock of the action the bolt lock button **13** is provided with a laterally and downwardly inclined interlock pin **26** that projects into the plane of the operating arm **23** of the safety mechanism. The inner end of the operating arm **23** is provided with a concentric arcuate portion **27** that intercepts and prevents forward locking motion of the bolt locking pin **12** and the interlocking pin **26** when the safety mechanism is in off or firing position. The actuating arm **23** is provided with a laterally opening notch **28** that opens to receive the interlock pin **26** when the safety is in intermediate safe position corresponding to position **23B** in Fig. 4. Thus in the bolt closed cocked position of the gun action the safety can be moved to intermediate safe position and the bolt lock member advanced to lock the bolt. In order to further lock the gun action for rough handling or transporting through brush or in a scabbard, the actuating arm **23** and the finger piece **24** can be rotated to a full rearwardly directed position as shown in full lines in Fig. 4 in which case the rear end of the notch **28** will engage and prevent accidental retraction of the bolt lock pin **12**. This is the full or double locked position of the safety mechanism. In this full locked position of the safety the rounded portion **29** of the shaft **21** appearing in Fig. 5 engages the outer end of the safety pin **19**.

It is pointed out that the action of the actuating arm **23** in moving from either of the locked positions to firing position automatically disengages the bolt lock pin **12** because the forward end of the notch **28** cams the interlock pin **26** rearwardly to unlock the bolt as the safety is moved to unlocked firing position. The finger piece **24** of the safety actuating member is conveniently located along side of the bolt sleeve near the bolt operating handle **23** and the trigger mechanism where it can be operated by the thumb of either right or left handed marksmen. The camming action of the flatted surfaces on the shaft **21** provides positive locking movement of the safety pin **19** with a minimum of effort on the part of the marksman. The position of the safety mechanism in all of its adjusted positions is below the top of the bolt sleeve so as not to interfere with any auxiliary sights mounted on the gun action. The position of the safety mechanism also balances the appearance of the bolt sleeve by occupying the area opposite the housing for the spring **30** that presses the locking pin **31** of the bolt sleeve forwardly into engagement with the rear end of the bolt to non-rotatably lock the sleeve to the bolt as is familiar in the Mauser type of bolt. The safety operating shaft **21** is retained in the block **16** by a lock screw **32** threaded through the rear of the block into the groove **33** in the lower end of the shaft.

Having thus described the invention, what is claimed as new and is desired to be secured by Letters Patent is:

1. A safety mechanism for a fire arm of the Mauser type having a bolt slidably and rotatably mounted in a receiver and a firing pin reciprocably mounted within the bolt with a bolt sleeve positioned around the rear of the bolt and non-rotatably engaged with the receiver, said safety mechanism comprising a block fixedly secured as an attachment to the side of said bolt sleeve, a safety locking pin extending through the side of said sleeve and having its outer end received in a transverse bore in said block, an upright bore in said block intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said pin, a retaining screw threaded in said block and engaged in a groove in said shaft, said shaft having a cutaway portion permitting retraction of said safety pin from the inside of said sleeve and a flatted portion engageable with the end of said pin in the intermediate safe position of said shaft to project said safety pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, an arm secured to the top of said shaft and projecting laterally to a downturned finger piece at the side of said block, said bolt having a notch in the periphery of its rear end located within said sleeve, a bolt lock pin reciprocally and non-rotatably mounted in said sleeve and projecting from the rear end of the sleeve, said bolt lock pin being receivable in said notch in the locked position of said bolt, and an interlock pin projecting from the rear end of said bolt lock pin into the path of the arm on said shaft, said arm having a rounded inner end cammingly engageable with said interlock pin to retract said bolt lock pin when said arm and said finger piece are moved forwardly to register the cutaway portion on said shaft with said safety pin to condition the mechanism for firing, said arm having a notch adjacent said rounded end receiving said interlock pin when said arm and finger piece are rotated rearwardly to prevent retraction of said bolt locking pin from bolt locking position when said shaft is in a double safe position rotated rearwardly from said intermediate safe position with a rounded portion of its surface engaged with the outer end of said safety pin and holding it in locking engagement with said firing pin.

2. A safety mechanism for a fire arm of the Mauser type having a bolt slidably and rotatably mounted in a receiver and a firing pin reciprocably mounted within the bolt with a bolt sleeve positioned around the rear of the bolt and non-rotatably engaged with the receiver, said safety mechanism comprising a block fixedly secured to the side of said bolt sleeve, a safety locking pin extending through the side of said sleeve and having its outer end received in a transverse bore in said block, an upright bore in said block intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said pin, said shaft having a cutaway portion permitting retraction of said safety pin from the inside of said sleeve and a flatted portion engageable with the end of said pin in the intermediate safe position of said shaft to project said safety pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, an arm secured to the top of said shaft and projecting laterally to a finger piece at the side of said block, said bolt having a notch in the periphery of its rear end located within said sleeve, a bolt lock pin reciprocally and non-rotatably mounted in said sleeve and projecting from the rear end of the sleeve, said bolt lock pin being receivable in said notch in the locked position of said bolt, and an interlock pin projecting from the rear end of said bolt lock pin into the path of the arm on said shaft, said arm having an inner end cammingly engageable with said interlock pin to retract said bolt lock pin when said arm and said finger piece are moved forwardly to register the cutaway portion on said shaft with said safety pin to condition the mechanism for firing, said arm having a notch adjacent said end receiving said interlock pin when said arm and finger piece

are rotated rearwardly to prevent retraction of said bolt locking pin from bolt locking position when said shaft is in a double safe position rotated rearwardly from said intermediate safe position with a portion of its surface engaged with the outer end of said safety pin and holding it in locking engagement with said firing pin.

3. A safety mechanism for a fire arm of the Mauser type having a bolt slidably and rotatably mounted in a receiver and a firing pin reciprocably mounted within the bolt with a bolt sleeve positioned around the rear of the bolt and non-rotatably engaged with the receiver, said safety mechanism comprising a block on the side of said bolt sleeve, a safety locking pin extending through the side of said sleeve and having its outer end received in a transverse bore in said block, an upright bore in said block intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said safety pin, said shaft having a cutaway portion permitting retraction of said pin from the inside of said sleeve and a flatted portion engageable with the end of said safety pin in the safe position of said shaft to project said pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, an arm secured to the top of said shaft and projecting laterally to a finger piece at the side of said block, said bolt having a notch in the periphery of its rear end located within said sleeve, a bolt lock pin reciprocally and non-rotatably mounted in said sleeve and projecting from the rear end of the sleeve, said bolt lock pin being receivable in said notch in the locked position of said bolt, and an interlock pin projecting from the rear end of said bolt lock pin into the path of the arm on said shaft, said arm having a notch therein receiving said interlock pin when said arm and finger piece are rotated rearwardly to prevent retraction of said bolt locking pin from bolt locking position when said shaft is in double safe position with a portion of its surface engaged with the outer end of said safety pin and holding said safety pin in firing pin locking position.

4. A safety mechanism for a fire arm of the Mauser type having a bolt slidably and rotatably mounted in a receiver and a firing pin reciprocably mounted within the bolt with a bolt sleeve positioned around the rear of the bolt and non-rotatably engaged with the receiver, said safety mechanism comprising a block on the side of said bolt sleeve, a safety locking pin extending through the side of said sleeve and having its outer end received in a transverse bore in said block, an upright bore in said block intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said safety pin, said shaft having a cutaway portion permitting retraction of said safety pin from the inside of said sleeve and a portion engageable with the end of said pin in the safe position of said shaft to project said pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, an arm secured to the end of said shaft and projecting laterally to a finger piece at the side of said block, said bolt having a notch in the periphery of its rear end located within said sleeve, a bolt lock pin reciprocally and non-rotatably mounted in said sleeve and projecting from the rear end of the sleeve, said bolt lock pin being receivable in said notch in the locked position of said bolt, and an interlock pin projecting from the rear end of said bolt lock pin into the path of the arm on said shaft, said arm having a notch therein receiving said interlock pin when said arm and finger piece are rotated rearwardly to prevent retraction of said bolt locking pin from bolt locking position when said shaft is in double safe position with a portion of its surface engaged with the outer end of said safety pin and holding said safety pin in firing pin locking position.

5. A safety mechanism for a fire arm of the Mauser type having a bolt slidably and rotatably mounted within the bolt with a bolt sleeve positioned around the rear of

the bolt and firing pin and non-rotatably engaged with the receiver, said safety mechanism comprising a safety locking pin extending through the side of said sleeve and having its outer end received in a transverse bore in said sleeve, an upright bore intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said safety pin, said shaft having a cutaway portion permitting retraction of said safety pin from the inside of said sleeve and a flatted portion engageable with the end of said pin in the safe position of said shaft to project said pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, an arm secured to said shaft and projecting laterally to a finger piece at the side of said sleeve, a bolt lock in said sleeve and engageable with said bolt in the locked position of said bolt, and an interlock member on said bolt lock extending into the path of the arm on said shaft, said arm having a first portion cammingly engageable with said interlock member to retract said bolt lock when said arm and said finger piece are moved forwardly to register the cutaway portion on said shaft with said safety pin to condition the mechanism for firing, said arm having a second portion locking said interlock in bolt locking position when said arm and finger piece are rotated rearwardly to double safe position with another portion of its surface engaged with the outer end of said safety pin to hold said safety pin in firing pin locking position.

6. A safety mechanism for a fire arm of the Mauser type having a bolt slidably and rotatably mounted within the bolt with a bolt sleeve positioned around the rear of the bolt and firing pin and non-rotatably engaged with the receiver, said safety mechanism comprising a safety locking pin extending through the side of said sleeve and having its outer end received in a transverse bore in said sleeve, an upright bore intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said safety pin, said shaft having a cutaway portion permitting retraction of said safety pin from the inside of said sleeve and a portion engageable with the end of said pin in the safe position of said shaft to project said pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, an arm secured to said shaft and projecting laterally to a finger piece at the side of said sleeve, a bolt lock in said sleeve and engageable with said bolt in the locked position of said bolt, and an interlock member on said bolt lock extending into the path of the arm on said shaft, said arm having a first portion cammingly engageable with said interlock member to retract said bolt lock when said arm and said finger piece are moved to register the cutaway portion on said shaft with said safety pin to condition the mechanism for firing, said arm having a second portion locking said interlock in bolt locking position when said arm and finger piece are rotated to safe position with another portion of its surface engaged with the outer end of said safety pin to hold said safety pin in firing pin locking position.

7. In a fire arm having a bolt rotatable between locked firing position and unlocked retractable position and a firing pin reciprocable in said bolt and spring pressed forwardly to firing position, safety mechanism comprising a sleeve non-rotatably mounted on said fire arm around the rear of said bolt and said firing pin, a safety pin mounted in said sleeve in transversely extending relation to said firing pin and projectable into engagement with a shoulder on said firing pin in the safe positions of the pins, an actuating shaft rotatably mounted in said sleeve in transversely extending intersecting relation to the path of said safety pin and in transversely extending off-set relation to the axis of said bolt, said shaft having a first portion cut away to permit retraction of said safety pin to firing position and a second intermediate flatted portion engageable in an intermediate rotated safe position with

the outer end of said safety pin to advance the safety pin into safe position, said shaft having a third rounded portion engageable with said safety pin in a further rotated double safe position of the shaft to hold said safety pin in safe position, and a finger piece on said shaft to rotate the same, said fire arm having a bolt lock member interlocked with said finger piece on said shaft in the locked position of said bolt lock and the double safe position of the shaft and said finger piece, said finger piece having a portion cammingly engageable with said bolt lock to move the bolt lock to unlocked position upon rotation of the finger piece to safe position.

8. In a fire arm having a bolt rotatable between locked firing position and unlocked retractable position and a firing pin reciprocable in said bolt and spring pressed forwardly to firing position, safety mechanism comprising a sleeve non-rotatably mounted on said fire arm around the rear of said bolt and said firing pin, a safety pin mounted in said sleeve and projectable into engagement with a shoulder on said firing pin in the safe positions of the pins, an actuating shaft rotatably mounted in said sleeve in intersecting relation to the path of said safety pin and in transversely extending off-set relation to the axis of said bolt, said shaft having a first portion cut away to permit retraction of said safety pin to firing position and a second intermediate flatted portion enggaeable in an intermediate rotated safe position with the outer end of said safety pin to advance the safety pin into safe position, said shaft having a third portion engageable with said safety pin in a further rotated double safe position of the shaft to hold said safety pin in safe position, and a finger piece on said shaft to rotate the same, said fire arm having a bolt lock member interlocked with said shaft in the locked position of said bolt lock and the double safe position of the shaft and said finger piece.

9. In a fire arm having a bolt rotatable between locked firing position and unlocked retractable position and a firing pin reciprocable in said bolt and spring pressed forwardly to firing position, safety mechanism comprising a sleeve non-rotatably mounted on said fire arm around the rear of said bolt and said firing pin, a safety pin mounted in said sleeve in transversely extending relation to said firing pin and projectable into engagement with a shoulder on said firing pin in the safe positions of the pins, an actuating shaft rotatably mounted in said sleeve in transversely extending intersecting relation to the path of said safety pin and in off-set relation to the axis of said bolt, said shaft having a first portion cut away to permit retraction of said safety pin to firing position and a second portion engageable in a rotated safe position with the outer end of said safety pin to advance the safety pin into safe position, and a finger piece on said shaft to rotate the same, said fire arm having a bolt lock member, said bolt lock member being blocked from engagement with said bolt by said finger piece on said shaft in the firing position of the shaft and said finger piece, said finger piece having a portion cammingly engageable with said bolt lock to move the bolt lock to unlocked position upon rotation of the finger piece to firing position.

10. In a fire arm having a bolt rotatable between locked firing position and unlocked retractable position and a firing pin reciprocable in said bolt and spring pressed forwardly to firing position, safety mechanism comprising a sleeve non-rotatably mounted on said fire arm around the rear of said bolt and said firing pin, a safety pin mounted in said sleeve in transversely extending relation to said firing pin and projectable into engagement with a shoulder on said firing pin in the safe positions of the pins, an actuating shaft rotatably mounted in said sleeve in transversely extending intersecting relation to the path of said safety pin and in off-set relation to the axis of said bolt, said shaft having a first portion cut away to permit retraction of said safety pin to firing position and a second portion engageable in a rotated safe position with the outer end of said safety pin to advance the safety pin into safe position, and a finger piece on said shaft to rotate the same.

11. In a fire arm having a bolt rotatable between locked firing position and unlocked retractable position and a firing pin reciprocable in said bolt and spring pressed forwardly to firing position, safety mechanism comprising a sleeve non-rotatably mounted on said fire arm around the rear of said bolt and said firing pin, a safety pin mounted in said sleeve in transversely extending relation to said firing pin and projectable into engagement with a shoulder on said firing pin in the safe positions of the pins, an actuating shaft rotatably mounted in said sleeve in transversely extending intersecting relation to the path of said safety pin and in off-set relation to the axis of said bolt, said shaft having a first portion cut away to permit retraction of said safety pin to firing position and a second portion engageable in a rotated safe position with the outer end of said safety pin to advance the safety pin into safe position, and a finger piece on said shaft to rotate the same, said fire arm having a bolt lock member, said bolt lock member being blocked from engagement with said bolt by said shaft in the firing position of the shaft and said finger piece.

12. In a fire arm having a bolt rotatable between locked firing position and unlocked retractable position and a firing pin reciprocable in said bolt and spring pressed forwardly to firing position, safety mechanism comprising a sleeve non-rotatably mounted on said fire arm around the rear of said bolt and said firing pin, a safety pin mounted in said sleeve and projectable into engagement with a shoulder on said firing pin in the safe positions of the pins, an actuating shaft rotatably mounted in said sleeve in transversely extending intersecting relation to the path of said safety pin and in off-set relation to the axis of said bolt, said shaft having a first radially recessed portion to permit retraction of said safety pin to firing position and a second intermediate flatted portion engageable in an intermediate rotated safe position with the outer end of said safety pin to advance the safety pin into safe position, said shaft having a third portion engageable with said safety pin in a further rotated double safe position of the shaft to hold said safety pin in safe position, and a finger piece on said shaft to rotate the same.

13. A safety attachment for a fire arm of the Mauser type having a bolt slidably and rotatably mounted in a receiver and a firing pin reciprocably mounted within the bolt with a bolt sleeve positioned along the rear of the bolt and non-rotatably engaged with the receiver, said safety attachment comprising a block adapted to be fixedly secured to the side of said bolt sleeve, a safety locking pin adapted to extend through the side of said sleeve and having its outer end received in a transverse bore in said block, an upright bore in said block intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said safety pin, a retaining screw threaded in said block and engaged in a groove in said shaft, said shaft having a radially recessed portion permitting retraction of said safety pin from the inside of said sleeve and a flatted portion and further rotated double lock portion engageable with the end of said safety pin in the safe position of said shaft to project said safety pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, and an arm secured to the top of said shaft and projecting laterally to a downturned finger piece at the side of said block.

14. A safety attachment for a fire arm of the Mauser type having a bolt slidably and rotatably mounted in a receiver and a firing pin reciprocably mounted within the bolt with a bolt sleeve positioned along the rear of the bolt and non-rotatably engaged with the receiver, said safety attachment comprising a block adapted to be

fixedly secured to the side of said bolt sleeve, a safety locking pin adapted to extend through the side of said sleeve and having its outer end received in a transverse bore in said block, an upright bore in said block intersecting said transverse bore, a shaft journaled in said upright bore and engageable with the outer end of said safety pin, said shaft having a radially recessed portion permitting retraction of said safety pin from the inside of said sleeve and an intermediate portion and further rotated double lock portion engageable with the end of said safety pin in the safe position of said shaft to project said safety pin into said sleeve, said firing pin having a safety groove the end of which is engaged with said safety pin in the safe position of the pins, and an arm secured to said shaft and projecting laterally to a finger piece at the side of said block.

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