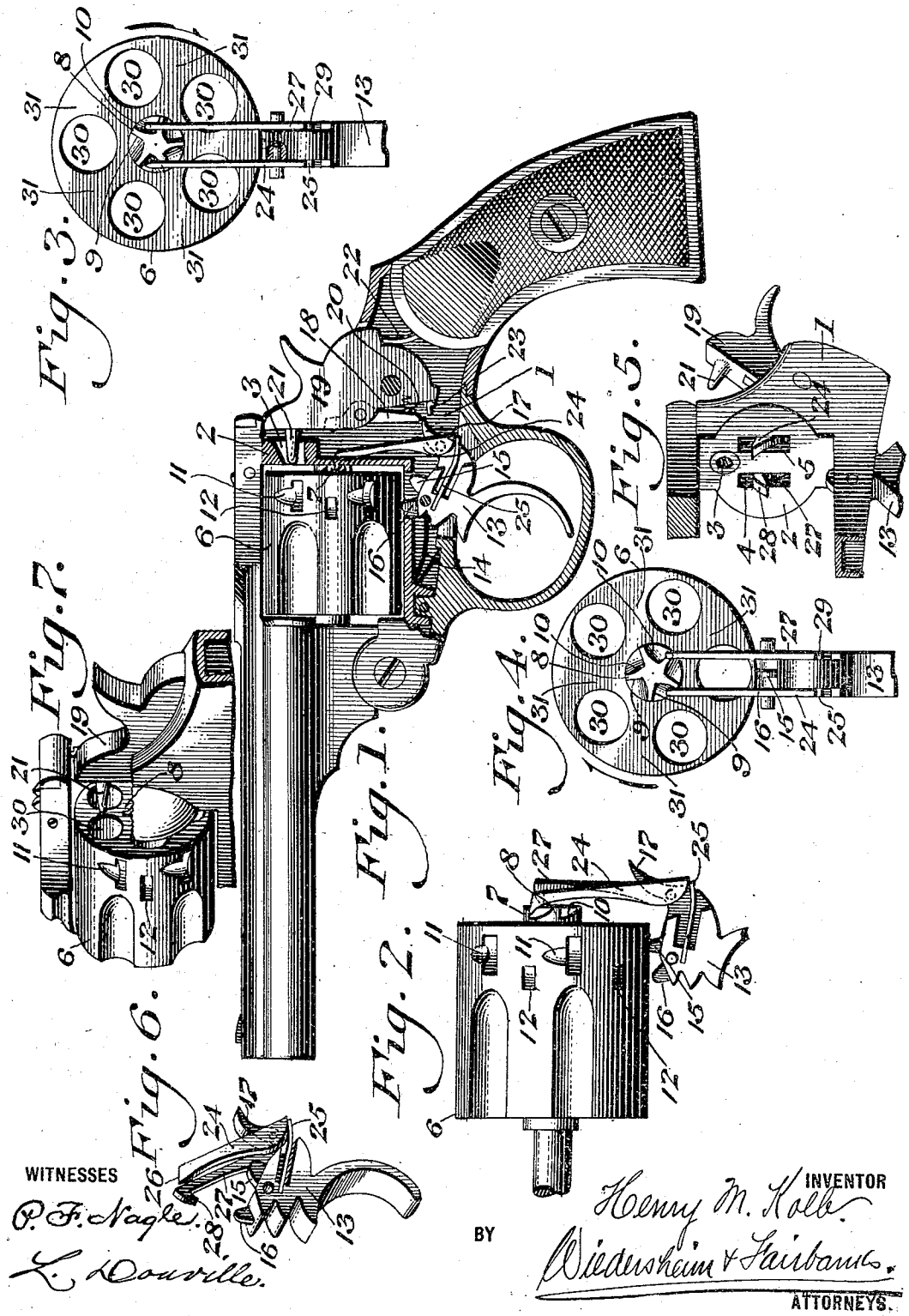
H. M. KOLB.

FIREARM.

APPLICATION FILED FEB. 28, 1910.

959,229. Patented May 24, 1910.



WITNESSES

P. F. Nagle.

L. Dowville.

INVENTOR

Henry M. Kolb.

BY Wiedersheim & Fairbanks.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY M. KOLB, OF PHILADELPHIA, PENNSYLVANIA.

FIREARM.

959,229. Specification of Letters Patent. Patented May 24, 1910.

Application filed February 28, 1910. Serial No. 546,329.

To all whom it may concern:

Be it known that I, HENRY M. KOLB, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Firearm, of which the following is a specification.

My invention relates to a new and useful fire arm and consists in mounting the cylinder whereby the same is normally positioned to present an intervening wall of adjacent cartridge chambers in said cylinder in line with the firing pin.

It further consists in providing means for controlling the cylinder whereby a cartridge chamber is placed in line with the firing pin when it is desired to discharge the fire arm, and an intervening wall of adjacent chambers, is placed in line with the firing pin thereafter.

It further consists in providing a safety for a fire arm by actuating the cylinder to place a cartridge in a position in line with the firing pin when it is desired to discharge the cartridge and to thereafter actuate the cylinder to place a wall between adjacent chambers in line with the firing pin, whereby accidental discharge of the fire arm is prevented.

It further consists of a plurality of pawls actuated by the trigger, one of said pawls adapted to impart movement to the cylinder, as the trigger is pulled rearwardly, in order to place a cartridge chamber in line with the firing pin opening and the second pawl being adapted to impart a further movement to the cylinder as the trigger moves forwardly, in order to locate one of the walls, which is between two adjacent cylinder chambers in line with the firing pin opening.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a partial side elevation and partial sectional view of a fire arm embodying my invention. Fig. 2 represents a side elevation, on an enlarged scale, of the cylinder and the actuating pawls thereof and a portion of the trigger, all in detached position. Fig. 3 represents a rear view of the parts shown in Fig. 2, it being understood that one of the cartridge chambers is in line with the firing chamber. Fig. 4 represents an elevation of the parts seen in Fig. 3 with the actuating pawls in lowered position and with the cylinder in safety position, that is, with one of the walls between two of the cartridge chambers in line with the firing pin opening, the parts being in the same position, as seen in Fig. 1. Fig. 5 represents a broken perspective view of a portion of the frame of the fire arm showing the two openings, in the rear wall of the frame, for the pawls. Fig. 6 represents a perspective view of the trigger and the two pawls carried thereby. Fig. 7 represents a rear perspective view of the cylinder with the trigger in position and a portion of the frame broken away.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings: I have found in practice, that even with the locks and catches now used upon fire arms that the same are sometimes accidentally discharged and my invention is designed to provide a fire arm in which a wall of the cylinder is normally in line with the firing pin and in which the cartridge is not brought into line with the firing pin until the trigger is actuated for firing the arm.

In the drawings I have shown a construction which will operate successfully in practice but it will be evident that the arrangement of the parts may be varied, changes may be made in the construction and other instrumentalities may be employed, which will come within the scope of my invention and I do not, therefore, desire to be limited in every instance to the exact form as herein shown and described, but desire to make such changes as may be necessary.

I further desire it understood that while I have shown my invention as applied to one form of revolver that the same is applicable to any double acting construction wherein a rotary cylinder is employed and any suitable form of hammer, firing pin and trigger mechanism may be employed, as may be desired.

1 designates the frame of a fire arm, in the present instance, a revolver, in the rear wall 2 of which, is provided the firing pin opening 3 and the slots or openings 4 and 5 at suitable points.

6 designates a cylinder which is rotatably mounted on the frame 1 and which is provided with a ratchet 7 having teeth 8, one side 9 of each of which is right-lined or straight, the opposite side 10 of each tooth being preferably beveled or inclined, as best understood from Figs. 3 and 4.

11 designates series of openings or recesses at suitable intervals around the face or circumference of the cylinder and 12 designates a second series thereof.

13 designates a trigger which is pivotally mounted in the frame 1 and which is provided with a spring 14 for properly actuating the same, said trigger being provided with the lug or projection 15 which is adapted at the proper time, to enter one of the recesses 11 in the cylinder 6 and said trigger also being provided with the lug or projection 16 which is adapted to enter one of the other series of recesses 12 at the proper time, it being understood that the said lugs are adapted to lock said cylinder against rotation, one when the fire arm is not being fired and the other when the cartridge is in line with the firing pin. In the present instance, the trigger is provided with a rearwardly extending sear 17 the end of which is adapted when the trigger is in its forward position, to be seated beneath and in engagement with the end of a pawl or dog 18 pivotally carried by a hammer 19, said dog having a spring 20 bearing thereagainst, in order, after the fire arm has been discharged, to permit the sear 17 to ride down upon said dog 18, compressing the spring 20 in order that the sear 17 may be returned to a position beneath the end of the dog ready for the next operation. The hammer 19 is provided with a firing pin 21 in the present instance which is adapted to pass through the opening 3 in the rear wall 2 of the frame 1, in order to contact with the cartridge, it being understood that any form of hammer and firing pin may be employed.

22 designates the hammer spring which is adapted to operate the hammer.

23 designates a lug or projection on the hammer which is adapted to be engaged by the sear 17 of the trigger 13 when the hammer 19 is cocked by hand.

24 designates a dog or pawl pivotally carried by the trigger 13, in the present instance, said pawl 24 being mounted on the sear 17 and 25 designates a spring bearing against said pawl tending to throw the end 26 thereof forwardly.

27 designates a second pawl provided with a hook 28, said pawl 27 being carried by the trigger 13, the same being, in the present instance, pivotally connected with the sear 17 and in suitable position with respect to the pawl 24 in order that the pawls will operate at the proper time with respect to each other.

29 designates a spring bearing upon a suitable portion of the pawl 27 in order to tend to throw the upper or free end of the same forwardly, it being understood that the said pawls 24 and 27 are suitably positioned in order that they will project through the openings 4 and 5 in the rear wall 2 of the frame 1, in order that at the proper time the pawls will engage with the teeth of the ratchet 8 carried by the cylinder 6, it of course being understood that the said cylinder is properly positioned with respect to the frame in order that the ratchet is suitably located adjacent the openings 4 and 5 and also in order that the cartridge openings or chambers 30 in the cylinder, will at the proper time, be successively placed in line with the firing pin opening 3 in order that the cartridges contained in the chambers will be in position to be struck by the firing pin 21.

It will be noted that the cartridge chambers 30 extend through a cylinder 6 at suitable intervals and between the same are the intervening walls 31 and that normally the cylinder is positioned in order that one of the walls 31 between the adjacent cartridge chambers 30 will be in line with the firing pin opening 3, that is, in line with the firing pin 21, in order to present a wall thereto against which the firing pin can strike without any injury or any danger of firing a cartridge as is now the case where cylinders are normally positioned with a cartridge chamber in line with the firing pin.

The operation of the device will be apparent. The parts being in the position seen in Figs. 1 and 4, it will be understood that the sear 17 is in engagement with the lower end of the dog 18 and that the pawls 24 and 27 extending through the openings 4 and 5 are in the position substantially as seen in Fig. 4, both of the same being in their lowermost position. As the trigger 13 is pulled rearwardly, the hammer 19 is elevated or thrown back until the sear 17 in its movement is released from engagement with the dog 18, immediately upon which the hammer 19 carrying with it in the present instance, the firing pin 21, is thrown forward in order to strike the cartridge. As the trigger 13 moves rearwardly to cock the hammer the sear 17 is elevated. This carries up with it both of the pawls 24 and 27. As the end of the pawl 27 contacts with the inclined face 10 of one of the teeth 8 of the ratchet 7, it will be seen that this pawl rides over the tooth but that the pawl 24 will contact with the straight edge 9 of one of the teeth 8 which is in line therewith and will rotate the cylinder 6 in the direction indicated by the arrow, Fig. 4, until the uppermost chamber 30 to the left of the center of the cylinder will be moved into line with the firing pin opening 3 in order to present the cartridge therein to the firing pin 21, as the hammer 19 is raised and moves forwardly to the striking position as previously described, the position of the parts being seen in Fig. 3. When the trigger is released and moves to its forward position, the sear 17 rides on the dog 18, compressing the spring 20, allowing the sear 17 to return to its lowermost po-

sition and passing the end of the dog 18 which latter is then forced out by the spring in order to be again engaged by the sear 17. It will be understood that as the trigger 13 moves forwardly, the sear 17 is lowered and as the end of the pawl 27 has passed over one tooth 8, it will be seen that the hook 28 is upon the side thereof to engage with this tooth, as seen in Fig. 3, rotating the cylinder in the direction indicated by the arrow in said figure until the next wall 31 between two of the cartridge chambers 30 is in line with the firing pin opening 3 when the rotation ceases. It will be understood further, that at this time the lug 16 enters one of the openings 12 in the cylinder 6 and thus locks the same when the fire arm is not in use, it being noticed more particularly from Fig. 2 that when the trigger is pulled to its rearmost position, that the lug 16 is removed from its engagement with the recesses 12 and the lug 15 is elevated to enter one of the recesses 11 in order to lock the cylinder 6 against rotation during the act of firing.

From the above it will be seen that I have provided a safety for a fire arm by always placing and locking a wall of the cylinder in the path of movement or in line with the firing pin until the parts are properly actuated to discharge the cartridge, at which time the cylinder is properly rotated or moved in order to place one of the cartridge chambers in line with the firing pin. It will be noted that one pawl pushes upwardly to rotate the cylinder one-half of the distance of its movement while the other pawl pulls downwardly to move the cylinder the other half of its movement in order to place a cartridge chamber in line with the firing pin and to move the cylinder from one wall between two adjacent cartridge chambers to the next intervening wall 31 between two chambers 30.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a fire arm, a firing pin and a cylinder having a plurality of cartridge chambers with intervening walls, said pin and cylinder being so disposed that an intervening wall of adjacent chambers and the end of the pin are normally in alinement and opposed, a trigger, separate means actuated by the trigger, one for rotating the cylinder to place a cartridge chamber in line with the firing pin and the other for further rotating the cylinder to place a wall in line with said pin, and separate means actuated by the trigger, one for locking the cylinder during the act of firing and the other for locking the cylinder when a wall is in line with the firing pin.

2. In a fire arm, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls, said pin and cylinder being so disposed that an intervening wall of adjacent chambers and the end of the pin are normally in alinement, means for rotating the cylinder to place a cartridge chamber in line with said pin during the act of firing, means for further rotating the same to again place an intervening wall in alinement with said pin after firing and separate means for locking said cylinder during the act of firing and when an intervening wall is in line with said pin.

3. In a fire arm, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls, said pin and cylinder being so disposed that an intervening wall of adjacent chambers and the end of the pin are normally in alinement, means for rotating the cylinder to place a cartridge chamber in line with said pin and for further rotating the same to again place an intervening wall in alinement with said pin, a trigger, means actuated with the trigger for locking the cylinder during the act of firing and means actuated by the trigger for locking said cylinder when an intervening wall is in line with said firing pin.

4. In a fire arm, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls, a trigger, and separate means pivotally mounted on the trigger for rotating the cylinder to place a cartridge chamber in line with said pin when the pin is actuated to discharge a cartridge, and thereafter to place an intervening wall, between two adjacent cartridge chambers, in line with the firing pin.

5. In a fire arm, a trigger, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls, and adapted to normally present a wall, between two adjacent chambers, in line with the firing pin, means controlled by the trigger, engaging with the cylinder on one side of its support for rotating the cylinder to place a cartridge chamber in line with the firing pin, until the cartridge is fired, and means engaging with the cylinder on the other side of its support for further rotating the cylinder to place one of said intervening walls in line with the firing pin.

6. In a fire arm, a trigger, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls and adapted to normally present a wall between two adjacent chambers in line with the firing pin, and separate pawls pivotally mounted on the trigger, one of which is adapted to engage with the cylinder and rotate the same to place a cartridge chamber in line with the firing pin and the other of which is adapted to engage with the cylinder and rotate the same to place one of said intervening walls in the line with the firing pin.

7. In a fire arm, a trigger, a firing pin, a cylinder having a plurality of cartridge

chambers with intervening walls and adapted to normally present a wall between two adjacent chambers in line with the firing pin, pawls controlled by the trigger, one of which is adapted to engage with the cylinder and rotate the same to place a cartridge chamber in line with the firing pin and the other of which is adapted to engage with the cylinder and rotate the same to place one of said intervening walls in line with the firing pin, means for locking the cylinder during the act of firing and means for locking the cylinder when a wall is in line with the firing pin.

8. In a fire arm, a trigger, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls and normally presenting one of said walls to the firing pin, and separate means pivotally mounted adapted by movement of the trigger, in one direction, to rotate the cylinder to place a cartridge chamber in line with the firing pin and adapted on movement of the trigger, in the opposite direction, to rotate the cylinder to present the next intervening wall to the firing pin.

9. In a fire arm, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls, a wall being normally in line with said firing pin, and means for first rotating said cylinder to bring a cartridge chamber in line with the firing pin when the latter is actuated for firing the cartridge, means for locking the cylinder during the act of firing, means for thereafter further rotating the cylinder to bring one of the said walls in line with the firing pin and means for locking the cylinder when a wall is in line with the firing pin.

10. In a fire arm, a firing pin, a cylinder having a plurality of cartridge chambers with intervening walls, a wall being normally in line with said firing pin, separate pivotally mounted means for rotating said cylinder to bring a cartridge chamber in line with the firing pin when the latter is actuated and for further rotating the cylinder to bring the next intervening wall in line with the firing pin, and separate means for locking said cylinder when a cartridge chamber is in line with the firing pin and when a wall is in line with the firing pin.

11. In a fire arm, a firing pin, a trigger, a cylinder having a plurality of cartridge chambers with intervening walls, means for rotating said cylinder to place a cartridge chamber in line with the firing pin during the firing and for rotating the cylinder thereafter to place one of the walls in line with said firing pin, means carried on the trigger for locking said cylinder during the act of firing and means carried on the trigger for locking the cylinder when a wall is in line with the firing pin.

12. In a fire arm, a firing pin, a cylinder rotatably mounted having a plurality of cartridge chambers with intervening walls, a trigger, a pawl pivotally mounted on said trigger to rotate said cylinder to place one of the cartridge chambers in line with the firing pin whereby the cartridge in said chamber may be discharged, and a second pawl pivotally mounted on said trigger adapted to engage with the cylinder for rotating the same thereafter, for placing an intervening wall in line with the firing pin.

13. In a fire arm, a firing pin, a cylinder rotatably mounted having a plurality of cartridge chambers with intervening walls and adapted to normally present a wall between two adjacent chambers in line with the firing pin, a trigger, a pawl pivotally mounted on said trigger, and adapted to rotate said cylinder to place one of the cartridge chambers in line with the firing pin, a second pawl pivotally mounted on said trigger and adapted to engage with the cylinder for rotating the same after the firing for placing an intervening wall in line with the firing pin, and springs for said pawls for holding the same in proper position.

14. In a fire arm, a firing pin, a trigger adapted to suitably actuate said firing pin, a cylinder rotatably mounted having a plurality of cartridge chambers with intervening walls, a pawl pivotally mounted on said trigger and adapted to be elevated when the trigger is moved rearwardly to push on the cylinder to rotate the same a suitable distance to place a cartridge chamber in line with the firing pin, and a second pawl adapted to pull down on the cylinder and to move downwardly as the trigger moves forwardly, in order to rotate said cylinder to place a wall in line with the firing pin.

15. In a fire arm, a firing pin, a trigger adapted to suitably actuate said firing pin, a cylinder rotatably mounted having a plurality of cartridge chambers, with intervening walls, a pawl carried by said trigger and adapted to be elevated when the trigger is moved rearwardly to rotate the cylinder a suitable distance to place one of the cartridge chambers in line with the firing pin, a second pawl adapted to engage with the cylinder and to move downwardly as the trigger moves forwardly in order to engage with the cylinder to place one of the walls in line with the firing pin, means carried by said trigger for locking the cylinder during the act of firing and means carried by the trigger for locking the cylinder when one of the walls is in line with the firing pin.

16. In a fire arm, a firing pin, a trigger adapted to suitably actuate said firing pin, a cylinder rotatably mounted having a plurality of cartridge chambers with intervening walls, and adapted to normally present a wall between two adjacent chambers in line with the firing pin, a ratchet on said cylin-

der, a pawl carried by said trigger and adapted to engage with a tooth of the ratchet on one side of its support to rotate the cylinder, a suitable distance to place one of the cartridge chambers in line with the firing pin, and a second pawl adapted to engage with a tooth of the ratchet on the opposite side of its support and to rotate the cylinder a sufficient distance to place one of the walls in line with the firing pin.

17. In a fire arm, a firing pin, a trigger adapted to suitably actuate said firing pin, a cylinder rotatably mounted having a plurality of cartridge chambers with intervening walls, and adapted to normally present a wall between two adjacent chambers in line with the firing pin, a ratchet on said cylinder, a pawl carried by said trigger and adapted to engage with a tooth of the ratchet on one side of its support to rotate the cylinder a suitable distance to place one of the cartridge chambers in line with the firing pin, a second pawl adapted to engage with a tooth of the ratchet on the opposite side of its support and to rotate the cylinder a sufficient distance to place one of the walls in line with the firing pin, and means carried by the trigger for locking the cylinder during the act of firing and when one of the walls is in line with the firing pin.

HENRY M. KOLB.

Witnesses:
C. D. McVAY,
M. E. RINKENBACH.