Feb. 15, 1938. R. J. RICKENBACHER 2,108,269

TOY PISTOL

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Fig. 1.

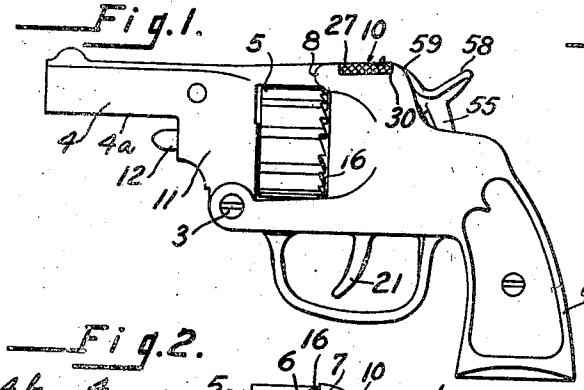


Fig. 5.

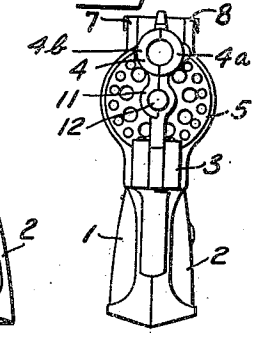


Fig. 6.

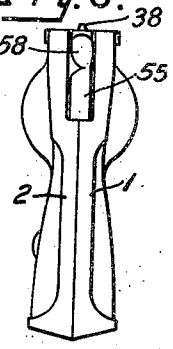


Fig. 2.

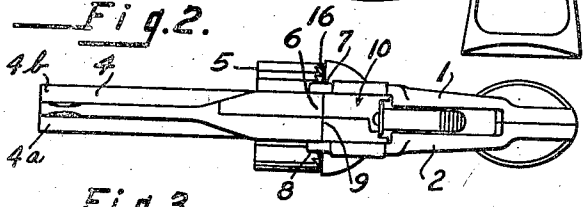


Fig. 3.

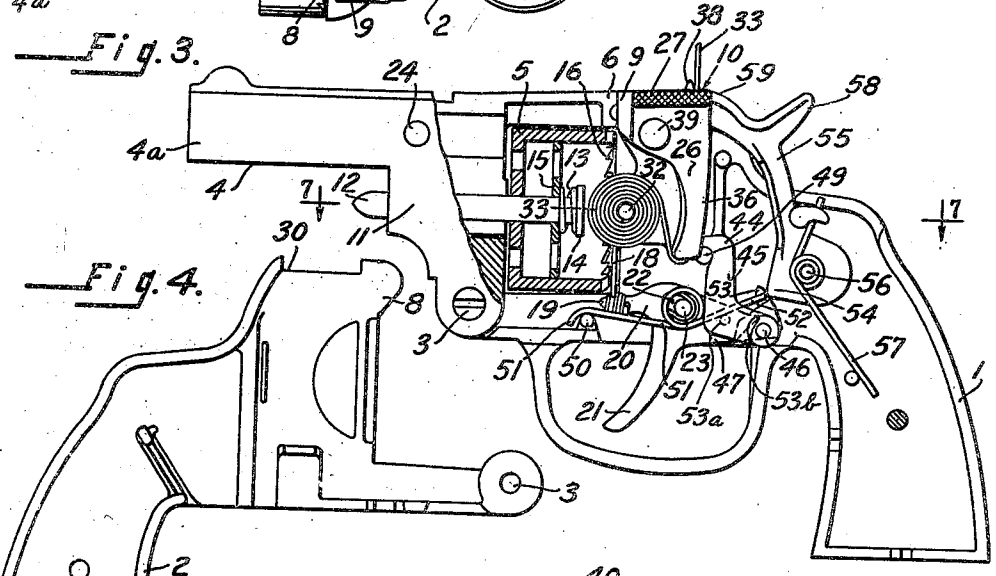


Fig. 4.

Fig. 7.

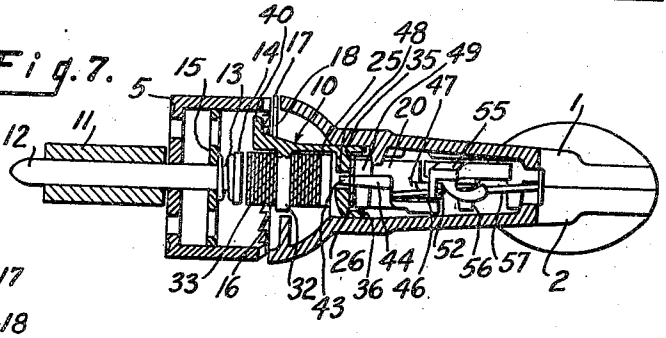
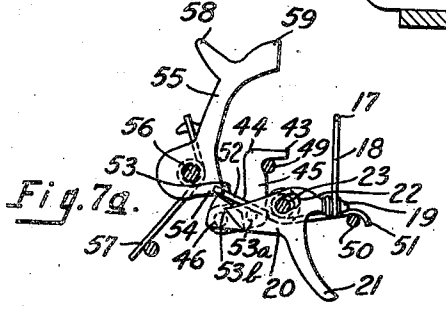


Fig. 7a.



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Fig. 8.

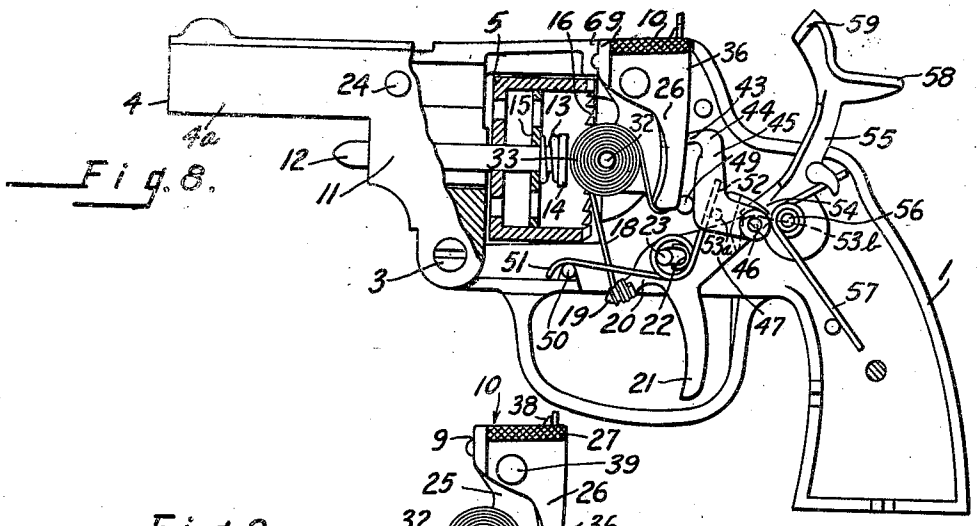


Fig. 9.

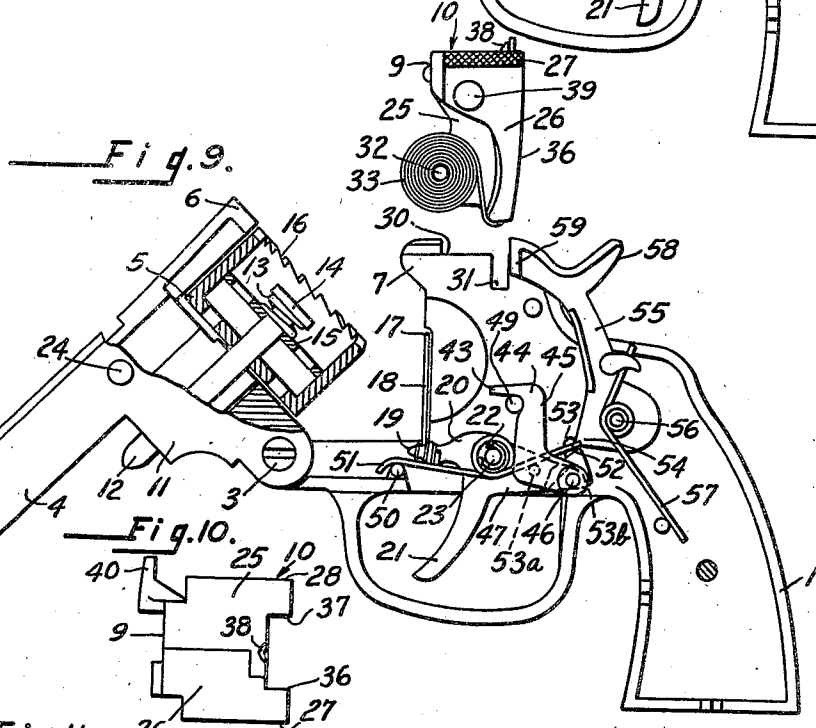


Fig. 10.

Fig. 11.

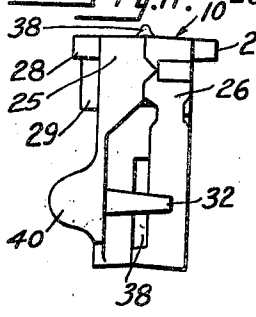


Fig. 12.

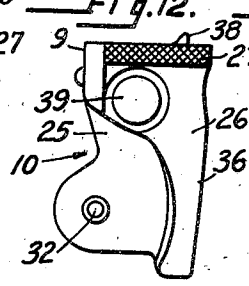


Fig. 13.

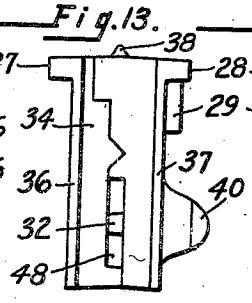
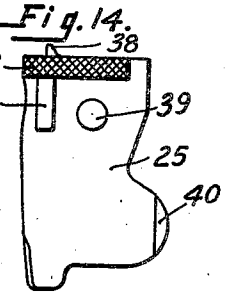


Fig. 14.



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Patented Feb. 15, 1938 2,108,269

UNITED STATES PATENT OFFICE

2,108,269

TOY PISTOL

Robert J. Rickenbacher, Columbus, Ohio, assignor to The Kilgore Mfg. Company, Westerville, Ohio, a corporation of Ohio

Application July 20, 1935, Serial No. 32,340

25 Claims. (Cl. 42—57)

My invention relates to toy pistols and in particular to a toy pistol in which the ammunition carrier is slidably and detachably mounted and demounted in the pistol.

It is an object to provide a readily removable carrier for the ammunition strip.

It is a further object to provide such a carrier in such relationship that when it is in its operative, loaded position, the ammunition strip may be fed by the action of the other parts of the toy pistol.

It is a further object to provide the combination in a toy pistol of a visibly rotating cylinder rotated by each movement of the trigger and at the same time provide means for feeding an ammunition strip rotatably and slidably carried by the detachable ammunition strip carrier.

It is a further object of the invention to provide a perforated ammunition strip detachably carried on the removable and slidable ammunition support, and means actuated by the trigger of the pistol for engaging in the apertures in said strip for feeding the strip step by step in order that the ammunition spots between the apertures may be successively fired by the hammer engaging the ammunition spots, which hammer is actuated by the trigger.

It is an object of my invention to provide a removable ammunition carried adapted to guide an ammunition strip and to form a firing anvil therefor.

It is an object to provide the combination of a visibly rotating cylinder, means actuated by a trigger for rotating said cylinder, a hammer actuated by said trigger and an ammunition tape feeding means actuated by said trigger, said parts being so arranged that upon pulling of the trigger, the hammer will be cocked, the cylinder rotated, the strip of ammunition fed into firing position, and then the hammer will be tripped for firing of the ammunition so that there can be continued firing of successive spots of ammunition by continued actuations of the trigger, accompanied by continuous step by step movements of the cylinder.

It is a further object to provide a pistol so arranged that the breaking of the pistol and the movement on the breaking pivot of the barrel and the rotating cylinder will permit the withdrawal of the slidably inserted ammunition carrier for renewal of the ammunition strip.

Referring to the drawings in detail, Figure 1 is a side elevation.

Figure 2 is a top plan view.

Figure 3 is a side elevation with one side of the pistol partially broken away and with the rotating cylinder in section.

Figure 4 is the inside of the half of the pistol that has been removed from Figure 3.

Figure 5 is a front elevation of the pistol.

Figure 6 is a rear elevation.

Figure 7 is a section on the line 7—7 of Figure 3.

Figure 7*a* is a view of the trigger ammunition feeding finger and hammer on the right hand side illustrating the mechanism from that side shown in Figures 1 to 9.

Figure 8 is a view similar to Figure 3 showing the parts in firing position.

Figure 9 is a similar view showing the ammunition carrier withdrawn and the pistol broken.

Figure 10 is a top plan view of the ammunition strip carrier.

Figure 11 is a front elevation thereof.

Figure 12 is a side elevation thereof with the ammunition strip removed.

Figure 13 is a rear elevation thereof.

Figure 14 is an elevation thereof from the opposite side from that in Figure 12, that is, from the right hand side.

Referring to the drawings in detail, the pistol shown in the several figures is composed of a right hand half and left hand half 1 and 2 respectively. In Figures 1 to 14 the pistol is provided with a third part pivoted at 3 consisting of the barrel 4 and the rotating cylinder 5. The end of the barrel at 6 abuts between the ears 7 and 8 with the face 9 of the ammunition carrier generally designated 10. This pivoted portion below the barrel at 11 carries a pin 12 that acts as the axle for the rotating drum 5. A coil spring 13 between the head 14 of the pin 12 and the face of the partition 15 in the drum 5 serves to hold the drum from rotating too fast and beyond a single step at a time. The inner face of this drum is provided with a series of ratchet teeth 16 which are engaged by the end 17 of a spring actuating finger 18 that is mounted at 19 upon the finger 20 on the trigger 21. This trigger is loosely mounted by a slot 22 on a cross-pin 23 mounted on the frame of the pistol.

The barrel itself is formed of two pieces 4*a* and 4*b* held together by the screw or bolt 24.

Slidable ammunition carrier

The ammunition carrier shown in detail in Figures 11 to 14 consists of a pair of members designated 25 and 26. Upon either side of the upper ends are knurled flanges 27 and 28 which are grasped in order to insert or withdraw the carrier. These knurled portions fit within side notches 30

in the pistol side walls. The right hand side of the carrier is provided with a rib 29 fitting in a slot 31.

The side 25 is provided with a tapered pin 32 on which is mounted the ammunition strip 33 that is laid downwardly beneath the back walls 34 and 35 and thence up over those walls between the ribs 36 and 37 in a groove formed by the ribs. This groove forms an anvil for receiving the face of the hammer. 38 is a cap locator carried on top of the detachable ammunition carrier. The two halves are held together by the bolt or screw 39.

The side 25 is provided with a lip 40 for the purpose of preventing the spring actuator 18 from moving too far forwardly.

Ammunition feeding mechanism

The ammunition is perforated at 41 between the ammunition spots 42 on the strip 33. The nose 43 of the feeding finger 44 is inserted in the aperture 41 step by step. This feeding finger 44 is mounted on a bell-crank 45 pivoted at 46 on the rear end 47 of the trigger 21. Upon moving the trigger backwardly, the nose 44 is elevated through the slot 48 between the halves 25 and 26 in the rear walls 34 and 35 of the ammunition carrier to move the strip upwardly one step. It is limited in its return movement by the pin 49 carried on the side wall of the pistol and located near the bottom of the ammunition carrier. A spring rests at one end on the abutment 50, the spring being designated 51, and the other end 52 engages the pin 53 and rests on the pin 53*a* on the bell-crank feeder 45. The spring is coiled about the pivot pin 23.

The rear end of the arm 47 of the trigger 21 is provided with a shoulder 53*b* which engages the nose 54 of the hammer 55 which is pivoted at 56 and actuated forwardly by the spring 57. This hammer is provided with a finger piece 58 and a firing face or head 59. When the trigger 21 is actuated, the pin 53 engaging the nose 54 elevates the firing hammer to the position shown in Figure 8, at which time the trigger has moved by reason of its slot 22 on the pin 23 so that the pin is in the forward end of the slot. This permits the rear end of the trigger to slip by the hammer, whereupon the firing action takes place, and in the meantime the feeding pin finger 44 has been moved backwardly out of the aperture 42 in the strip so that it can descend for a new engagement with a new aperture 42. This has been accomplished by the pressure of the spring 52 on the pin 53*a*.

It will be understood that it is desired to comprehend within this invention such modifications as may be necessary to adapt it to varying conditions and uses.

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

1. In a toy pistol, the combination of a removable ammunition carrier having an anvil, a pistol with a barrel for supporting said carrier, means for firing the ammunition in said carrier, means for feeding the ammunition step by step to be so fired, a revolving cylinder mounted adjacent said barrel with its axis parallel thereto to simulate the cartridge-holding cylinder of a revolver, and means for moving said cylinder step by step with the movement of the ammunition on the carrier.

2. In a toy pistol, the combination of a frame with a barrel, a revolving cylinder adjacent said barrel with its axis parallel thereto to simulate the cartridge-holding cylinder of a revolver, a trigger, a hammer, an ammunition feeding means, and a removable ammunition carrier having an anvil carrying an ammunition strip engaged by said ammunition feeding means, said parts being so arranged that upon the actuation of the trigger, the cylinder will be rotated, the hammer cocked and lowered into firing position and the ammunition fed one step to present ammunition to be so fired.

3. In a toy pistol, the combination of a frame, a revolving cylinder, a trigger, a hammer, an ammunition feeding means, and a removable ammunition carrier adapted to support and guide an ammunition strip into engagement by said ammunition feeding means, said parts being so arranged that upon the actuation of the trigger, the cylinder will be rotated, the hammer cocked and lowered into firing position and the ammunition fed one step to present ammunition to be so fired, said ammunition carrier being so arranged in said pistol that it serves as the anvil for supporting the ammunition strip and receiving the impact of the hammer during firing.

4. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, and means on said trigger for engaging, lifting and releasing said hammer.

5. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, means on said trigger for engaging, lifting and releasing said hammer, and yielding means for actuating said trigger and the ammunition feeding pawl.

6. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, means on said trigger for engaging, lifting and releasing said hammer, yielding means for actuating said trigger and the ammunition feeding pawl, and yielding means for actuating said hammer.

7. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, means on said trigger for engaging, lifting and releasing said hammer, yielding means for actuating said trigger and the ammunition feeding pawl, yielding means for actuating said hammer, and means to yieldingly resist the rotation of said cylinder to prevent it moving more than one step at a time.

8. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, and means on said trigger for engaging, lifting and releasing said hammer.

9. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, means on said trigger for engaging, lifting and releasing said hammer, and yielding means for actuating said trigger and the ammunition feeding pawl.

10. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, means on said trigger for engaging, lifting and releasing said hammer, yielding means for actuating said trigger and the ammunition feeding pawl, and yielding means for actuating said hammer.

11. In a toy pistol, the combination of a frame, a rotating cylinder, a trigger carrying a pawl engaging a ratchet on said cylinder for actuating the cylinder, a removable ammunition carrier having an anvil adapted to support and guide a perforated ammunition strip from a roll mounted thereon, a second pawl mounted on said trigger for engaging the perforations in said strip, a hammer, means on said trigger for engaging, lifting and releasing said hammer, yielding means for actuating said trigger and the ammunition feeding pawl, yielding means for actuating said hammer, and means to yieldingly resist the rotation of said cylinder to prevent it moving more than one step at a time.

12. In a toy pistol, the combination of a rotatable cylinder having ratchet teeth projecting outwardly from the rearward edge thereof, a loosely pivoted trigger mounted on said pistol, a pawl on said trigger for engaging the teeth on said cylinder, a removable ammunition carrier adapted to support and guide a strip from a roll of ammunition, means on said carrier for engaging said pawl to align it, a hammer adapted to engage said ammunition carrier as an anvil actuated by said trigger, and yielding means for moving said hammer.

13. In a toy pistol, the combination of a rotatable cylinder having ratchet teeth projecting outwardly from the rearward edge thereof, a loosely pivoted trigger mounted on said pistol, a pawl on said trigger for engaging the teeth on said cylinder, a removable ammunition carrier adapted to support and guide a strip from a roll of ammunition, means on said carrier for engaging said pawl to align it, a hammer adapted to engage said ammunition carrier as an anvil actuated by said trigger, yielding means for moving said hammer, an ammunition feeding means mounted on said trigger adapted to engage said ammunition and feed it in synchronism with the rotation of said cylinder and the actuation of said hammer, and a common yielding means for said trigger and ammunition feeding means.

14. In combination in a toy pistol, of a frame, a rotatable cylinder having ratchet teeth projecting outwardly from the rearward edge thereof, a pawl engaging said teeth, a pivoted trigger for supporting said pawl and actuating it, an oppositely disposed ammunition feeding pawl mounted on said trigger, a common yielding means engaging said trigger and said ammunition feeding pawl, a removable strip ammunition carrier adapted to support a roll of ammunition strip and to guide it into firing position, said carrier having a port therein and said strip having apertures for engagement by said ammunition feeding pawl, and a hammer actuated by said trigger whereby the actuation of the trigger will rotate the cylinder, feed the ammunition strip, and thereafter withdraw the pawl to reinsert it in another aperture, and cock the hammer and permit its movement into firing position.

15. In a toy pistol, a removable ammunition strip carrier insertable in the top of the pistol, a trigger, a hammer actuated thereby for firing the ammunition on the carrier as an anvil, a rotatable cylinder in said pistol, and means actuated by the trigger for synchronizing the movement of the cylinder with the movement of the hammer.

16. In a toy pistol, a removable ammunition strip carrier insertable in the top of the pistol, a trigger, a hammer actuated thereby for firing the ammunition on the carrier as an anvil, a rotatable cylinder in said pistol, means actuated by the trigger for synchronizing the movement of the cylinder with the movement of the hammer, and means actuated by the trigger for feeding said ammunition on the carrier.

17. In combination in a toy pistol, a frame comprising a butt, trigger guard and firing mechanism enclosure, a pivoted barrel and rotatable cylinder carried thereby pivoted on said frame, and a slidable, removable ammunition carrier insertable between the rear end of the pivoted barrel and the frame and adapted to be locked therein upon the closing of the pistol.

18. In combination, in a toy pistol, a frame, a barrel portion pivoted thereon and an ammunition carrier, said frame having a wall portion forming a chamber facing said barrel portion, said wall portion having an opening in the upper portion thereof communicating with said chamber to receive said ammunition carrier, and cooperating means on said barrel portion and said frame whereby said ammunition carrier may be locked in position by moving said barrel portion into close position with respect to said frame, a trigger and hammer on said frame, a rotatable cylinder associated with said barrel portion, and means on the trigger for actuating said cylinder in synchronism with the actuation of said hammer.

19. In combination, in a toy pistol, a frame, a barrel portion pivoted thereon and an ammunition carrier, said frame having a wall portion forming a chamber facing said barrel portion, said wall portion having an opening in the upper portion thereof communicating with said chamber to receive said ammunition carrier, and cooperating means on said barrel portion and said frame whereby said ammunition carrier may be locked in position by moving said barrel portion into close position with respect to said frame, a trigger and hammer on said frame, a rotatable

cylinder associated with said barrel portion, means on the trigger for actuating said cylinder in synchronism with the actuation of said hammer, and means on said trigger for feeding an ammunition strip on said carrier in synchronism with the movement of the hammer and the cylinder.

20. In combination, in a toy pistol, a frame, a barrel portion pivoted thereon and an ammunition carrier, said frame having a wall portion forming a chamber facing said barrel portion, said wall portion having an opening in the upper portion thereof communicating with said chamber to receive said ammunition carrier, and cooperating means on said barrel portion and said frame whereby said ammunition carrier may be locked in position by moving said barrel portion into close position with respect to said frame, a trigger and hammer on said frame, a rotatable cylinder associated with said barrel portion, means on the trigger for actuating said cylinder in synchronism with the actuation of said hammer, means on said trigger for feeding an ammunition strip on said carrier in synchronism with the movement of the hammer and the cylinder, and means on said ammunition carrier for aligning and positioning said ammunition carrier with respect to the barrel and the hammer.

21. A new article of manufacture for use in a toy pistol comprising a carrier for strip ammunition consisting of a support for a roll of ammunition and a shouldered guideway for guiding the strip of ammunition, said carrier having a portion adapted to serve as an anvil for exploding said ammunition thereagainst.

22. A new article of manufacture for use in a toy pistol comprising a carrier for strip ammunition consisting of a support for a roll of ammunition and a shouldered guideway for guiding the strip of ammunition, said carrier having a portion adapted to serve as an anvil for exploding said ammunition thereagainst, and laterally extending finger pieces on either side of said carrier to facilitate its extraction and insertion in a toy pistol.

23. A new article of manufacture for use in a toy pistol comprising a carrier for strip ammunition consisting of a support for a roll of ammunition and a shouldered guideway for guiding the strip of ammunition, said carrier having a portion adapted to serve as an anvil for exploding said ammunition thereagainst, laterally extending finger pieces on either side of said carrier to facilitate its extraction and insertion in a toy pistol, and means formed by said carrier to provide a guideway for an ammunition feeding member insertable through the ammunition strip at intervals.

24. A new article of manufacture for use in a toy pistol comprising a detachable slidable strip ammunition carrier having a means for supporting a strip of ammunition pivotally on one side, and means for guiding and supporting the strip to be fired around one edge of the carrier and along the other side whereby to provide a barrier between the unfired ammunition strip and the portion of the strip being fired.

25. In combination, in a toy pistol, a frame, a barrel portion pivoted thereon and an ammunition carrier, said frame having a wall portion forming a chamber facing said barrel portion, said wall portion having an opening in the upper portion thereof communicating with said chamber to receive said ammunition carrier, and cooperating means on said barrel portion and said frame whereby said ammunition carrier may be locked in position by moving said barrel portion into close position with respect to said frame.

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