Nov. 2, 1937. W. F. SKINNER 2,098,068

TOY CARTRIDGE

Filed June 4, 1936

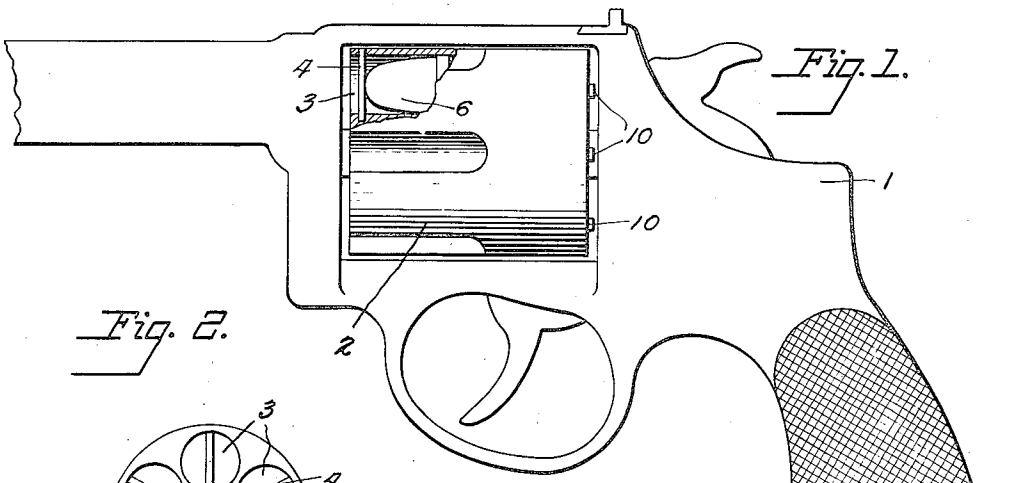



Fig. 1.

Fig. 2.

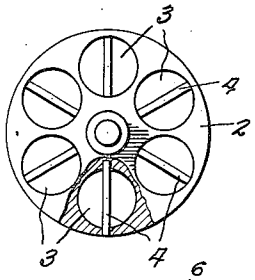



Fig. 3.

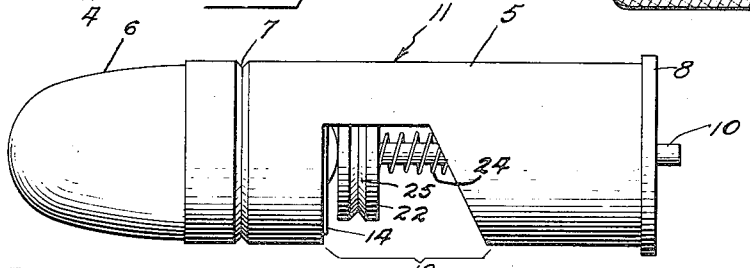



Fig. 4.

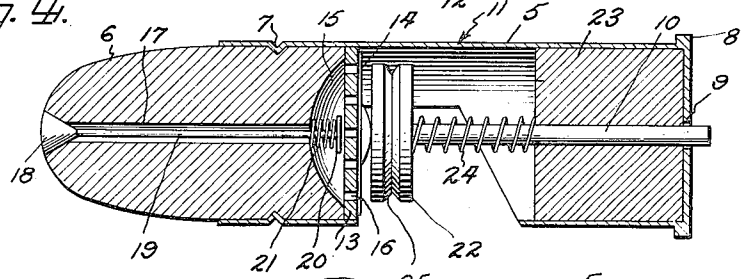
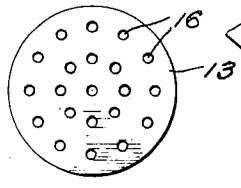
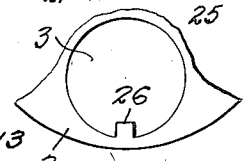



Fig. 5.



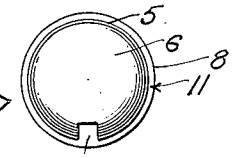




Fig. 6.

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2,098,068

## TOY CARTRIDGE

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Application June 4, 1936, Serial No. 83,559

5 Claims. (Cl. 102—12)

This invention relates to toy pistols and ammunition therefor.

The pistol may be of the single shot type or constructed as a revolver. It may in fact be an actual revolver with a magazine chamber preferbly "spiked" to prevent the adventurous use therein of an actual cartridge.

The ammunition is an ordinary paper cap.

The principal object of the invention is the provision of a removable cartridge which might logically be called an adapter since it adapts an actual revolver to the firing of paper caps.

More particularly, the object of the invention is to provide a toy cartridge simulating an actual cartridge excepting that no part of it issues as a missile from the gun, said cartridge having firing mechanism cooperating with the hammer of the gun for exploding the cap, and having an anterior bore communicating with the gun barrel on the one hand and with the region of the explosion on the other, for letting out the noise.

Other and more specific objects of the invention will appear as the following description of the preferred embodiment thereof proceeds.

In the drawing which accompanies and forms a part of the following specification and throughout the several figures of which the same characters of reference have been employed to designate identical parts—

Figure 1 is a side elevation of a revolver adapted to the present invention;

Figure 2 is an end view partly in section of the magazine;

Figure 3 is a side elevation of the toy cartridge;

Figure 4 is a side sectional view of the cartridge;

Figure 5 is an end view of the anvil plate;

Figure 6 is an elevational view through the magazine chamber and cartridge in a slightly modified form of the invention showing complementary inter-fitting means.

Referring now in detail to the several figures, the numeral 1 represents a revolver having the conventional magazine 2 for the cartridge chambers 3. Figure 1 depicts an actual revolver which has been made safe for its converted purpose as a toy by fixing a pin 4 across each of the cartridge chambers, said pin forming obstructions making the chambers too short to receive an actual cartridge. Where it is attempted to load actual cartridges into the magazine the butt ends of the cartridges will project preventing closing the magazine and rendering the gun inoperative. Since the invention contemplates the provision of a toy cartridge simulating an actual cartridge it follows that the toy pistol itself may be constructed like any actual pistol capable of receiving a conventional cartridge.

Referring now to the toy cartridge 11 illustrated in Figures 3, 4, and 5, it comprises a shell 5 and a nose 6 simulating a bullet the shell being crimped around the nose 6 as at 7 in the manner of an ordinary cartridge. The base of the shell has a rim 8 with a hole 9 in the center through which a hammer stem 10 extends adapted to be struck by the firing pin of the revolver. The toy cartridge 11 is constructed to receive an ordinary circular paper cap and with this end in view the shell 5 is cut away as at 12 giving easy access to the interior. Within the shell is an anvil plate 13 resting against the nose 6 and forming a ridged abutment for the paper cap 14. Back of the anvil plate 13 the nose is cut away forming a gas chamber 15 and the anvil plate is formed with a plurality of perforations 16 communicating with the gas chamber so that when cap 14 is exploded the compressed gases of the explosion pass through the perforations 16 and into the gas chamber 15. The nose portion 6 is provided with an axial bore 17 communicating with the gas chamber and with atmosphere at the outer end of the cartridge. A valve 18 normally closes the outer end of the bore 17. Said valve has a stem 19 extending through the said bore and having a head 20 on its inner end in close proximity to the perforated anvil plate 13. A light spring 21 between the head 20 of the nose portion 6 normally biases the valve 18 to a closed position. The impact resulting from the explosion of the cap suddenly strikes upon the head 20 opening the valve and letting out the noise. Within the shell 5 is a hammer 22 secured to the inner end of the hammer stem 10. Said stem passes through a guide block 23 in the base portion of the shell and projects slightly beyond the shell. A light spring 24 normally urges the hammer into contact with the anvil plate or into engagement with the cap if the latter happens to be in place. The hammer is provided with an annular peripheral channel 25 affording means in which to engage the fingernail for the purpose of pulling the hammer back to get out the exploded cap and to replace it with a fresh one.

The entire length of the toy cartridge is preferably shorter than that of an actual cartridge so that the toy cartridge will fit a revolver or other gun the magazine chambers of which have been so modified as to make them too short to receive a real cartridge.

In operation the magazine is loaded with toy cartridges each of which has had a cap inserted between the hammer and anvil plate. Upon pulling the trigger the magazine will turn until one of the chambers is in line with the barrel and with the firing pin. Upon pulling the trigger the firing pin (not shown) will strike the hammer stem 10 transmitting an impact blow to the cap 14 exploding same. The compressed gas of the explosion will enter the chamber 15 and at the same time the valve 18 will be forced open and the explosion products permitted freely to discharge themselves with the accompanying noise. After the entire round of ammunition has been shot the cartridges may be ejected in the manner provided for in revolvers or in any other way. For reloading, the hammer is pushed back, the spent cap shaken or picked out and a fresh cap inserted.

In that form of the invention shown in Figure 6 the toy cartridge and the chambers in the magazine of the revolver are formed with inter-fitting parts consisting of a tongue 26 in the wall of the magazine chamber and a complementary groove 27 extending longitudinally of the cartridge. This construction adapts the pistol solely to the toy cartridge especially made therefor and prevents the dangerous use of the pistol with an ordinary round cartridge which cannot be inserted in view of the presence of the tongue.

It will be understood that this is a superior toy to ordinary cap pistols inasmuch as the child plays with cartridges which in appearance and other superficial characteristics are like real cartridges, and that the gun operates like an actual weapon. The fact that the explosion of the cap takes place in the magazine chamber assures that particles from the explosion will not fly promiscuously, making the pistol absolutely safe as a toy.

While I have in the above description disclosed what I believe to be a preferred and practical embodiment of the invention it will be understood to those skilled in the art that the details of construction as shown and described and the particular arrangement of parts is by way of example and not to be construed as limiting the scope of the invention as defined in the appended claims.

What I claim as my invention is:

1. Toy cartridge for pistols, comprising a shell, a hammer within said shell having a stem extending through one end thereof adapted to cooperate with the firing mechanism of a pistol, means normally occluding the opposite end of said shell including a valve closed bore, a cap receiving plate within said shell adjacent said hammer and perforated so as to communicate with said bore forming with said hammer a space for receiving the cap, said shell being open laterally at an intermediate point to give access to said cap receiving space for removing a spent cap and replacing with a fresh one.

2. Toy cartridge, comprising a shell having a bullet shaped nose at one end, a hammer having a stem projecting through an aperture at the opposite end of said shell, an anvil plate within said shell in juxtaposition to said hammer and defining therewith a cap receiving space, a spring associated with said hammer for normally biasing the latter against said anvil plate or an intervening cap, a gas chamber in said nose portion communicating by way of an axial bore in said nose portion with atmosphere, said anvil plate being perforated to admit the explosion products from said cap to said gas chamber, said shell being open laterally giving access to the cap receiving space for inserting or removing the cap.

3. Toy cartridge as claimed in claim 2 including a spring closed check valve normally closing the bore in said nose portion and opened by explosion pressure in said gas chamber for releasing the gases and thereby producing a noise.

4. Toy cartridge as claimed in claim 2, the hammer having a groove engageable by the fingernail for retracting said hammer sufficiently to permit the withdrawal or insertion of a cap.

5. Toy cartridge for pistols comprising a shell, a bore extending axially through said shell, said shell having an intermediate chamber intersected by said bore and opening in the side of said shell to give access thereto for removing a spent cap and replacing a fresh one, a perforated anvil plate within said intermediate chamber, a hammer cooperating with said anvil plate, a stem for said hammer extending through said bore and exposed at one end of said shell, a spring surrounding said hammer stem biasing said hammer against said anvil plate for clampably holding a toy cap in position, the exposed end of said hammer stem being adapted to be struck by the firing pin of a pistol.

WILLIAM FRANK SKINNER.