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3,465,744

TOY DOUBLE-BARRELED SHOTGUN

Filed Jan. 3, 1967

2 Sheets-Sheet 1

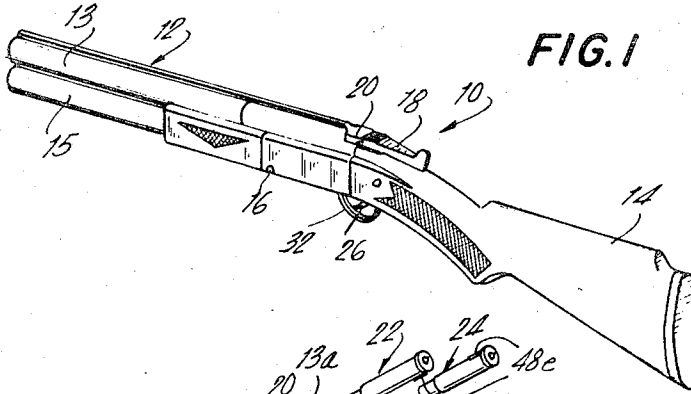


FIG. 1

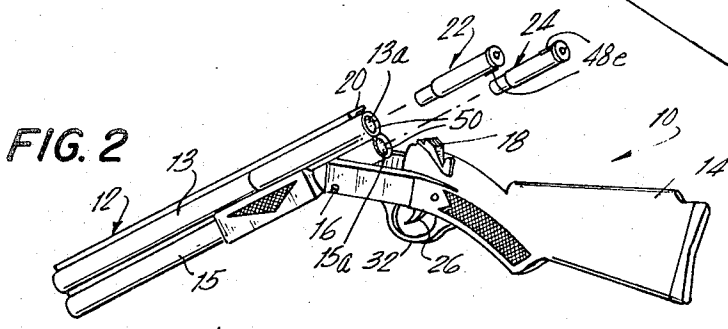


FIG. 2

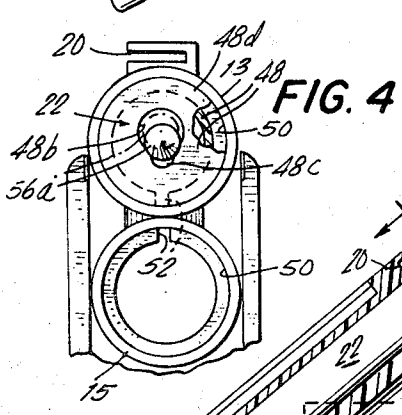


FIG. 4

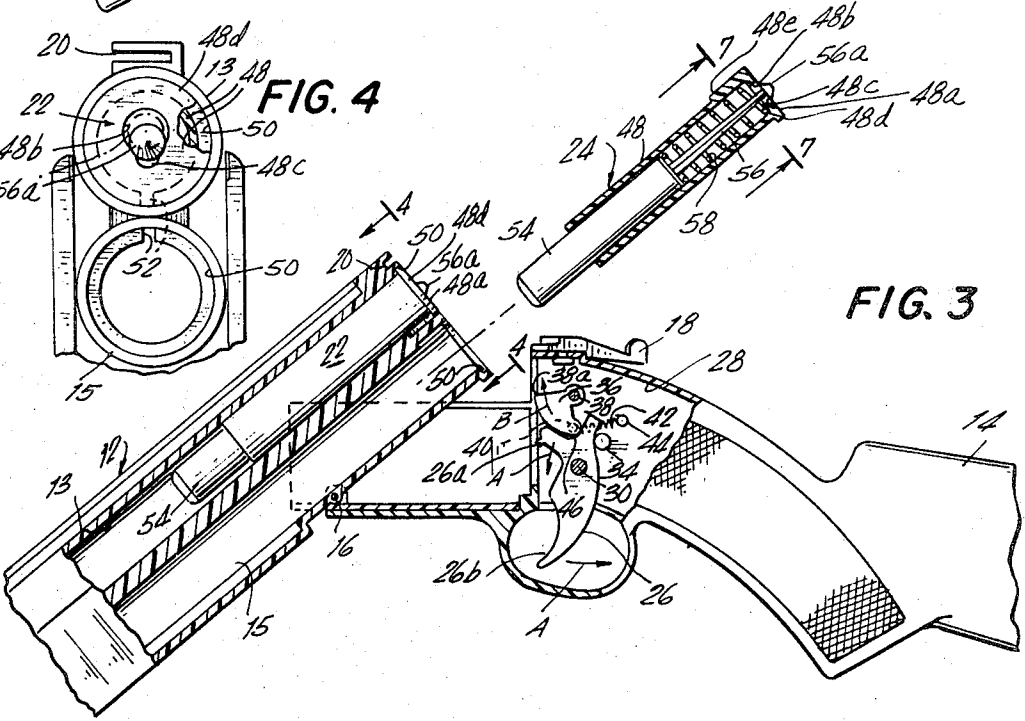


FIG. 3

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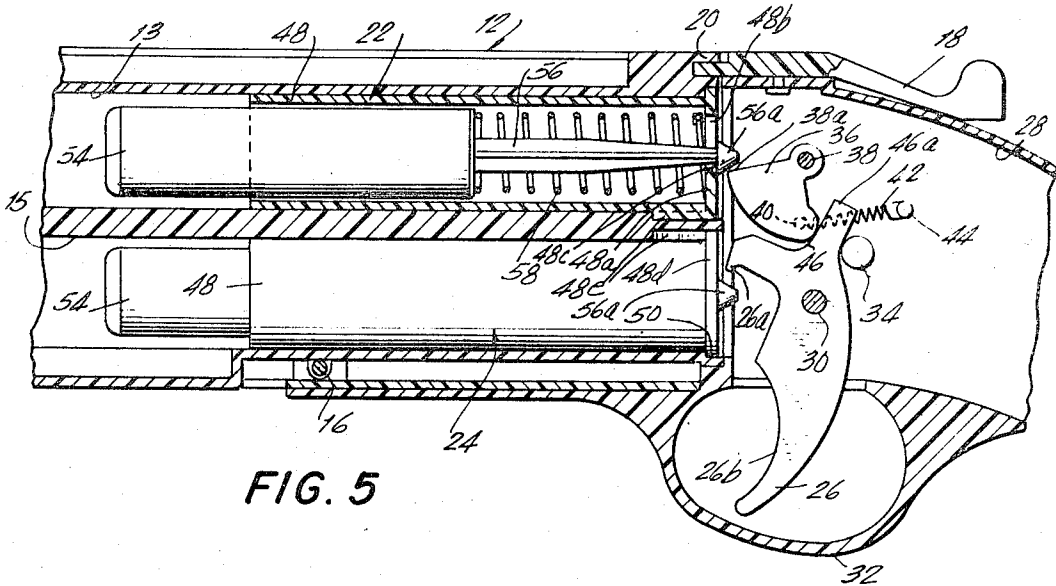


FIG. 5

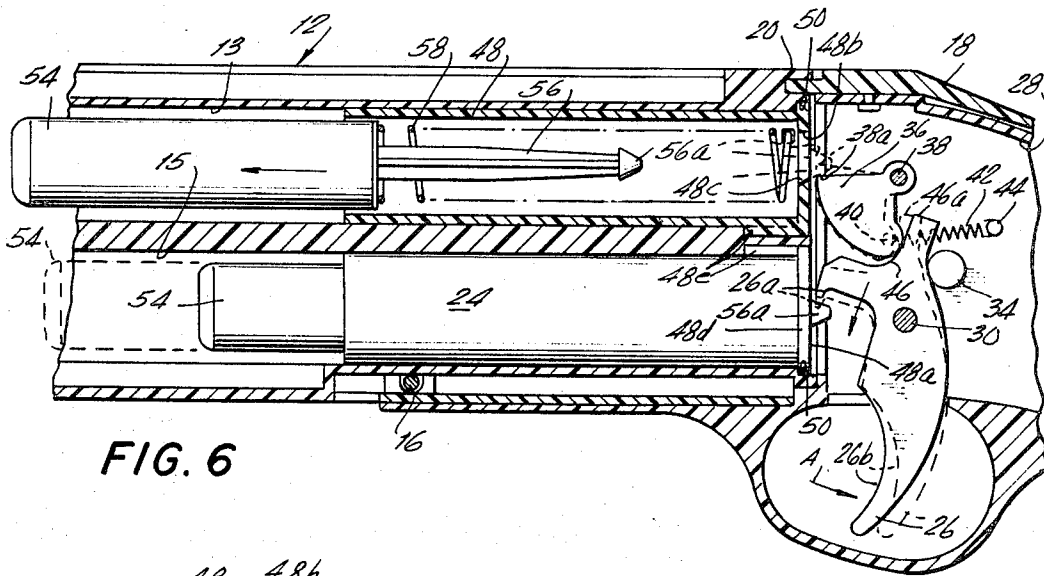


FIG. 6

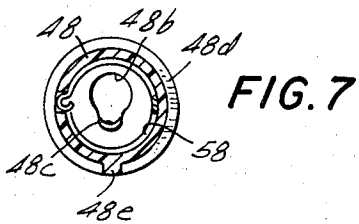


FIG. 7

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TOY DOUBLE-BARRELED SHOTGUN

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6 Claims

ABSTRACT OF THE DISCLOSURE

A toy double-barreled shotgun and cooperating spring loaded cartridges are constructed to permit the cartridges to be loaded into the rear opening of each shotgun barrel and to be released sequentially by one continuous stroke of the shotgun trigger. Each of the cartridges includes a projectile having a latching member extending through the rear wall of the cartridge. A member is moved by the trigger during a portion of its operating stroke releases the latching member of one projectile and a projection on the trigger releases the latching member of the other projectile during another portion of the trigger operating stroke.

The present invention relates generally to toy guns and more particularly to a double-barreled shotgun and a cartridge of the shotgun which enables the successive discharge of projectiles from the shotgun.

The play value of a toy gun is related to the extent to which it simulates an actual weapon, not only in appearance but also in operation. Thus, a toy gun which actually fires a projectile is highly desirable. In the case of a double-barreled shotgun, since a projectile is fired from each barrel the potential play value is considerable. However, to the extent that this toy gun must accommodate two projectiles and also operate to efficiently discharge both these projectiles, the construction and mode of operation of the gun is more complicated and costly than is usually the case. This undoubtedly is the reason why a double-barreled shotgun is not as popular as other types of toy guns.

Broadly, it is an object of the present invention to provide a toy shotgun overcoming the foregoing and other design obstacles of the prior art and which also is capable of being economically mass produced. Specifically, it is an object to provide a toy shotgun which operates with a double barrel and which has a simplified construction and mode of operation which is not comparatively more complicated than that of a single-barrel shotgun. Another object is to provide a spring-loaded cartridge to be used with the shotgun and which is effective to cause a projectile to be discharged therefrom and which thus contributes to simplifying the construction and mode of operation of the shotgun.

An exemplary embodiment of a shotgun demonstrating objects and advantages of the present invention includes a usual stock and a double-barreled construction pivoted to the stock and adapted to be placed in an open position exposing the rear openings of the barrels and thereby facilitating the loading of toy cartridges into the barrels. Thereafter, the double-barreled construction and stock are locked together and the loaded cartridges acted upon by a trigger mechanism which causes the successive discharge of projectiles from the cartridges. The trigger mechanism includes both a pivotally movable trigger and also a member actuated through pivotal movement by the trigger. The member is effective to cause the discharge of the cartridge which is in position within the upper barrel during an initial segment of the movement of the trigger, while the trigger per se causes discharge of the other cartridge in position within the lower barrel during the terminal portion of its movement.

An exemplary embodiment of a toy shotgun cartridge demonstrating objects and advantages of the present invention and which is intended for use with the shotgun is of the type having a spring-loaded projectile. The projectile is adapted to be initially latched to an end wall of the cartridge housing and, when unlatched therefrom, is urged through movement by a compression spring. Thus, the cartridge contains the means for propelling the projectile and to this extent contributes to the simplified construction and mode of operation of the shotgun.

The above brief description, as well as further objects, features and advantages of the present invention, will be more fully appreciated by reference to the following detailed description of a presently preferred but, nonetheless, illustrative embodiment in accordance with the present invention, when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a perspective view of a toy shotgun according to the present invention;

FIG. 2 is a further perspective view illustrating the manner of loading toy cartridges in the shotgun;

FIG. 3 is a partial elevational view, on an enlarged scale and in section, illustrating structural details of the trigger mechanism of the shotgun;

FIG. 4 is an elevational view, taken in section on line 4—4 of FIG. 3, illustrating structural details of a toy cartridge and of the operative position thereof in the shotgun;

FIG. 5 is an enlarged sectional view illustrating further aspects of the operative position of the toy cartridge within the shotgun;

FIG. 6 is a view similar to FIG. 5 in which various positions of movement of the trigger mechanism are illustrated in full line and phantom line perspective; and

FIG. 7 is an enlarged elevational view, in section, taken on line 7—7 of FIG. 3, illustrating still further structural details of the toy cartridge which is used in the shotgun.

Reference is now made to the drawings wherein there is shown a toy shotgun, generally designated 10, demonstrating features and objects of the present invention. The body of the shotgun includes a front barrel construction 12, consisting of two shotgun barrels 13 and 15 mounted one on top of the other, and a shotgun stock 14 pivoted at 16 to the barrel structure 12. Pivotaly mounted on the shotgun stock 14 is a locking lever 18 which cooperates with a locking lug 20 to lock the barrel construction 12 and stock 14 together in an aligned relationship with each other as illustrated in FIG. 1. When the lever 18 is unlocked from the lug 20, however, the construction 12 is pivotal about the pivot 16 thereby making the rear openings 13a, 15a of the barrels accessible for loading of toy shotgun cartridges 22 and 24 in the barrels 13, 15, as illustrated in FIG. 2. Thereafter, the shotgun 10 is placed in the locked condition of FIG. 1 and, in accordance with the present invention, operation or squeezing of the trigger 26 causes successive discharging of the projectile elements of the cartridges 22 and 24 from the barrels 13, 15.

The operation of the trigger 26 can be best understood from a consideration of FIGS. 3-6 to which attention is now specifically directed. The forward end of the shotgun stock 14 is formed with a chamber 28. The trigger 26 is housed in the chamber 28 with the upper portion mounted on a pivot pin 30 and the lower portion extending therefrom into an accessible position within a guard 32. A usual finger grip surface 26b is provided on the trigger lower portion. FIG. 3 illustrates the cocked position of the trigger 26 in which it is seated against a stop pin 34 and is pivotal in a counterclockwise direction through a cartridge or projectile-discharging stroke A.

In abutment with the upper portion of the trigger 26 is a cartridge or projectile-discharging member 36 which

is mounted for pivotal movement on the pivot 38. A pin 40 is attached to a lower leg of the member 36 and is engaged with one end of a return spring 42 which is connected at its other end to a stationary pin 44. In this manner, the member 36 is biased by the urgency of the spring 42 into the starting position thereof illustrated in FIG. 3 and is pivotal about the pivot 38 in a clockwise direction through a cartridge or projectile-discharging stroke B, all as will be explained in detail subsequently. In this normal starting position of the member 36 and in the cocked position of the trigger 26, both positions resulting under the urgency of the return spring 42, there is a cooperating cam surface 46 on the member 36 and cam projection 46a and on the trigger 26 in contact with each other. Spaced from the cam surface 46, the member 36 has a cartridge-striking edge 38a, and the trigger 26 has a comparable structural feature in the form of a cartridge-striking projection 26a. Movement of the edge 38a through clockwise movement is effective to produce discharge of the projectile of the upper toy cartridge 22, while movement of the projection 26a through counterclockwise movement A is effective to produce discharge of the projectile of the cartridge 24 loaded in the lower barrel 15. This will be better understood from a comparison of FIGS. 5 and 6.

Prior to making this comparison, however, it is best that an understanding be had of the construction of the cartridges 22, 24 which render them suitable for use in the shotgun 10. The construction of each of the cartridges 22, 24 is identical and, as best shown in FIGS. 3-7, includes a cylindrical cartridge housing 48 having an end wall 48a thereon. As best shown in FIG. 4, the end wall 48a includes a large and a small opening 48b and 48c, respectively. Each end wall 48a additionally includes a radial flange 48d which, in practice, is accommodated in a seat formed by a counterbore 50 in each of the barrel openings 13a, 15a. Each cartridge housing 48 also has a positioning lug 48e which must be accommodated in a slot 52 formed in the wall bounding the barrel openings 13a, 15a. Thus, each of the cartridges 22 and 24, to be properly inserted and fully seated in the barrel openings 13a and 15a, must be rotated so that the positioning lug 48e aligns with and fits into the slot 52. The slots 52 are located in that area of the barrels 13 and 15 so that the cartridge which is positioned in the upper barrel 13 is oriented such that the larger end wall opening 48b is uppermost and the orientation of the cartridge which is positioned in the lower barrel 15 is such that this larger end wall opening has a reverse position and is below the smaller or constricted opening 48c. The significance of this will soon be apparent.

The construction of each of the cartridges 22, 24 is completed with a projectile member 54 which is adapted to be slidably disposed in the cylindrical housing 48. A latching member 56 extends from one side of the body of each projectile 54 and has a head 56a thereon which is smaller than the large opening 48b so it can be inserted through this opening but which is larger than the smaller opening 48c so that it is adapted to be selectively latched to the portion of the end wall bounding the opening 48c. The latched position of the projectile 54 is illustrated in FIGS. 3, 4.

Operatively interposed between the projectile 54 and the end wall 48a is a compression spring 58 which is effective to force the projectile 54 from the housing 48 when the latching member 56 is unlatched from the end wall 48a.

Reference is now made to FIGS. 5, 6 which illustrate the manner in which the cartridge projectiles 54 are successively unlatched by the trigger mechanism 26, 36, resulting in the projectiles 54 being fired or discharged through the shotgun barrels 13 and 15. The trigger 26, as previously indicated, is maintained in its cocked position by the spring 42. During the initial portion of the cartridge-discharging stroke A of the trigger 26, a pro-

jection 46a on the upper end of the trigger cams the member 36 through clockwise movement about the pivot 38. This results in the edge 36a making contact with the head 56a of the cartridge 22 in position within the upper barrel 13. Continued movement of the trigger 26 and thus of the member 36 results in the head 56a being moved into the large end wall opening 48b and this, in an obvious manner, results in an unlatching of the projectile 54 of the cartridge 22. With the projectile 54 free of the end wall 48a, the spring 58 is effective in forcing the projectile 54 from the cartridge 22 and thus from the upper shotgun barrel 13.

As clearly shown in FIG. 6, continued movement of the trigger 26 during the terminal portion of cartridge-discharging stroke results in the projection 26a coming in contact with the head 56a of the cartridge 24 in position within the lower shotgun barrel 15. In the case of the cartridge 24, the interfitting of the positioning lug 48d with the barrel slot 52 produces a rotative position of this cartridge in which the large end wall opening 48b is below the smaller opening 48d. Thus, movement of the projection 26a in a counterclockwise direction is effective in forcing the head 56a in alignment with the large opening 48b which results in unlatching of the cartridge projectile 54.

From the foregoing description it should be appreciated that the operation of the trigger mechanism 26, 36 of the shotgun 10 results in sequential or successive discharging of the projectiles 54 of the cartridges 22 and 24, the projectile of the cartridge 22 in the upper barrel 13 being discharged during the initial portion of the cartridge-discharging stroke A and the projectile of the cartridge 24 in the lower barrel 15 being discharged during the terminal portion of the stroke of the trigger. Thereafter, the trigger 26 and the member 36 are urged into their respective starting positions by the return spring 42. Additionally, it is contemplated that the locking mechanism 18, 20 will be unlocked, the barrel construction 12 pivoted into the open position illustrated in FIG. 2 and the cartridge housings 48, which remain in the barrels 13 and 15, removed for reloading of the projectiles 54 therein. The loaded cartridges 22, 24 are then placed back into the barrels 13, 15 for repeated use in the manner just described.

To facilitate the loading of each of the projectiles 54 into their respective cartridge housings 48, the latching member head 56a has a conical shape which is effective to provide a camming action for the member during loading. That is, and as may best be understood from a consideration of FIGS. 4-6, the normal position of the elongated latching member 56 is such that its longitudinal head 56a be moved over the end wall bounding the large opening 48b so that during loading of the projectile 54 within the cartridge housing 48 it is necessary that the head 56a be moved over the end wall bounding the large opening 48b. This is achieved by the conical surface of the head 56a which, when it contacts the end wall surface bounding the large opening 48b, results in the latching member 56 being cammed laterally and the head 56a being moved into the large opening 48b and projected therethrough. Thereafter, the latching member 56 moves or snaps back into its normal position which results in this member moving at least partially into the end wall small opening 48c. Thus the head 56a which is of a larger diameter than the opening 48c, engages the end wall which bounds the opening 48c and the projectile 54 is effectively placed in its latched position to the end wall.

A latitude of modification, change and substitution is intended in the foregoing disclosure and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

What is claimed is:

1. In combination, a toy shotgun and a toy cartridge, said toy shotgun being adapted to selectively discharge two toy projectiles and comprising a body having a pair of shotgun barrels formed therein, a movable trigger on said body having a cocked position and adapted to be moved from said cocked position through a projectile-discharging stroke incident to causing the discharge of said projectiles from said shotgun barrels, a projectile-discharging member operatively associated with said trigger such that said member is actuated through the movement by said trigger during a portion of said projectile-discharging stroke causing the discharge of one of said projectiles, and projectile-discharging means on said trigger adapted to cause the discharge of the other of said projectiles during the other portion of the projectile-discharging stroke of said trigger, said toy cartridge being adapted to be used with said toy shotgun and comprising a hollow cartridge housing having an end wall thereon, a projectile slidably disposed in said cartridge housing and having a latching member extending therefrom adapted to be selectively engaged with said end wall, a spring operatively interposed between said projectile and said end wall and effective to urge said projectile through movement from said cartridge housing, said cartridge having an operative position in each of the shotgun barrels of said shotgun such that unlatching of said latching member occurs during the projectile-discharging stroke of the trigger of said shotgun.

2. A toy cartridge as claimed in claim 1 wherein said cartridge housing and each shotgun barrel has cooperating interfitting means thereon for providing a prescribed operative position of said cartridge within each shotgun barrel.

3. A toy shotgun adapted to selectively discharge two toy cartridges comprising a body having a first and second shotgun barrel formed therein and arranged one above the other, a pivotally mounted trigger on said body having a cocked position and adapted to be moved from said cocked position through a cartridge-discharging stroke incident to causing the discharge of said cartridges within said shotgun barrels, a cartridge-discharging member mounted for pivotal movement on said body such that said member is actuated through movement from a starting position through a cartridge-discharging stroke by movement of said trigger during a portion of said cartridge-discharging stroke and is effective to cause discharge of one of said cartridges, a return spring operatively arranged for biasing said cartridge-discharge member back into its starting position thereof and also said trigger into its cocked position, cartridge-discharging means on said trigger adapted to cause the discharge of the other said cartridges during the other portion of said cartridge-discharging stroke of said trigger, and each of said cartridges comprising a hollow cartridge housing having an end wall thereon, a projectile slidably disposed in said cartridge housing and having a latching member extending therefrom adapted to be selectively engaged with said end wall, a spring operatively interposed between said projectile and said end wall and effective to urge said projectile through movement from said cartridge housing, each of said cartridges having an operative position in each of the shotgun barrels such that un-

latching of said latching member occurs during the cartridge-discharging strokes of said cartridge-discharging member and trigger.

4. A toy shotgun as claimed in claim 3 wherein each cartridge housing and each shotgun barrel has cooperating interfitting means thereon for providing a prescribed operative position of said cartridges within each shotgun barrel such that said cartridge in said upper shotgun barrel is arranged for the unlatching of the projectile thereof incident to clockwise pivotal movement of said cartridge-discharging member and said cartridge in said lower shotgun barrel is arranged for the unlatching of the projectile thereof incident to counterclockwise movement of said trigger.

5. A toy shotgun cartridge comprising a hollow cartridge housing having an end wall thereon, a projectile slidably disposed in said cartridge housing, a spring having an operative position interposed between said projectile and said end wall and cooperating latching means on said projectile and on said end wall for selectively engaging said projectile to said end wall at a position within said cartridge housing causing compression of said spring whereby said spring is effective to urge said projectile through movement upon the unlatching of said projectile from said end wall, wherein said latching means on said cartridge end wall includes connected openings therein of relatively large and small extents and said latching means on said projectile includes a latching member operatively arranged thereon so as to be projected axially through said end wall large opening and laterally into said end wall small opening whereby latching member is engaged by said cartridge end wall bounding said small opening.

6. A toy shotgun cartridge as claimed in claim 5 wherein said latching member on said projectile is of an elongated shape arranged with its longitudinal axis in only partial alignment with said end wall large opening and including a head on the free end thereof having a cam surface effective to cam said head over the end wall bounding said large opening whereby said latching member thereafter moves laterally into said end wall small opening and said head engages said cartridge end wall bounding said small opening.

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124—31, 41; 273—106