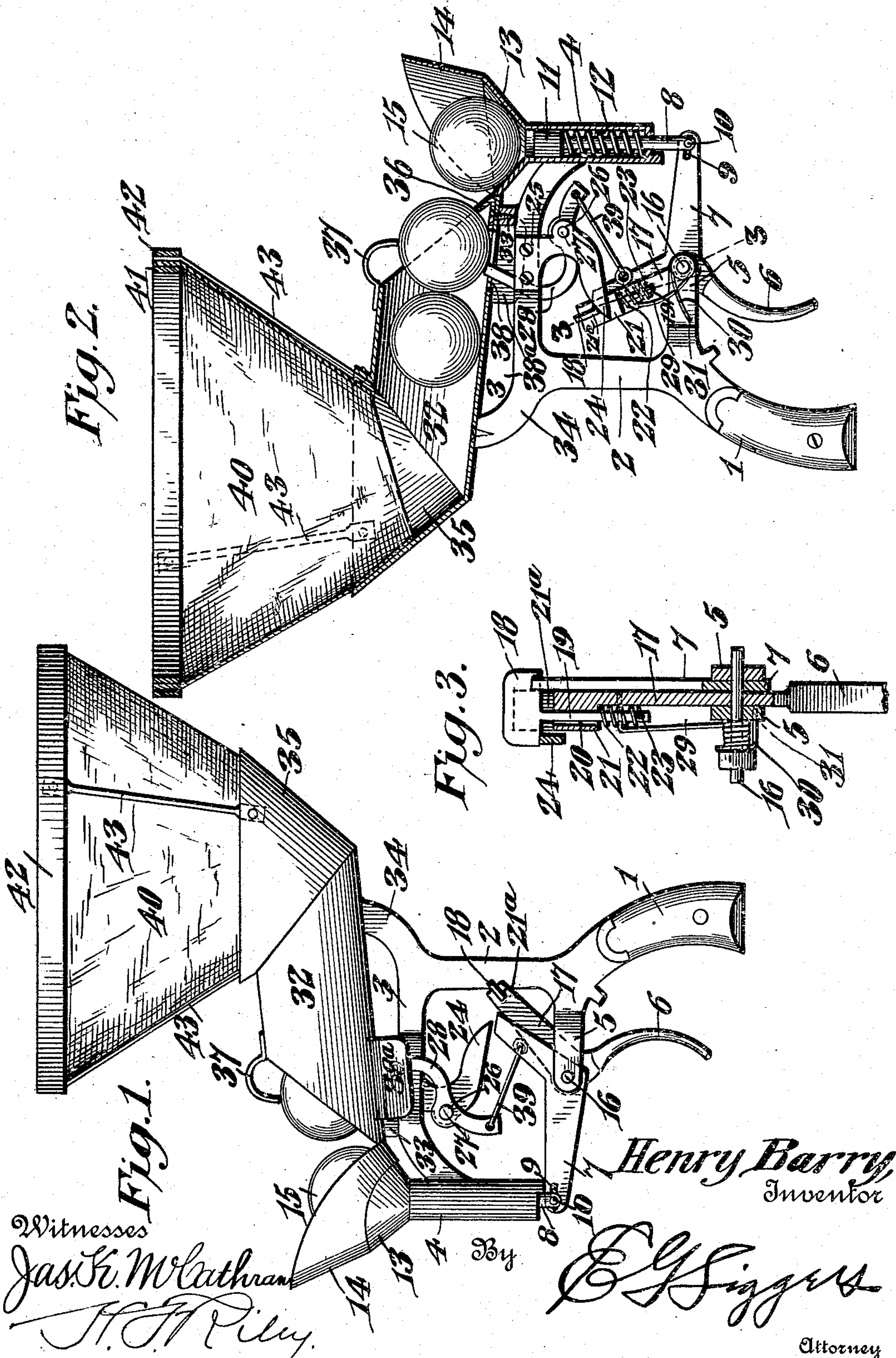


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TOY.

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UNITED STATES PATENT OFFICE.

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TOY.

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To all whom it may concern:

Be it known that I, HENRY BARRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Toy, of which the following is a specification.

The invention relates to improvements in toys.

The object of the present invention is to improve the construction of toys, and to provide a simple and comparatively inexpensive juggling device, adapted to fire a plurality of balls into the air in rapid succession, and capable of enabling the same to be easily caught and recharged.

Another object of the invention is to provide means for preventing the balls from rebounding from the device when caught therein.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a juggling device, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same, the trigger being thrown forward nearly to the point where the plunger lever is tripped. Fig. 3 is a transverse sectional view, taken substantially on the line 3—3 of Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

The toy is provided with a frame having a pistol grip 1 at the bottom and composed of an upwardly extending rear portion or post 2, a forwardly extending top portion 3 and a front vertical barrel 4. The frame is also provided at the upper end of the handle with a forwardly extending bifurcated arm 5, in the slot or opening of which is pivoted a trigger 6, and a plunger lever 7. The plunger lever, which is of bell crank form, consists of an upwardly extending rearwardly inclined arm, and a forwardly extending arm, which is pivoted at its front or outer end to the lower terminal of a vertical movable spring actuated plunger 8. The front

or outer end of the lever 7 is provided with a slot 9, receiving the pivot 10 of the lower end of the plunger and permitting the necessary play of the parts incident to the oscillation of the lever. The plunger, which is provided at its upper end with a head 11, is actuated by a coiled spring 12, disposed on the plunger and interposed between the lower face of the head 11 and the lower end of the barrel 4, which is provided at its lower end with a perforation for the passage of the plunger.

The upper end of the vertical barrel carries a cup-shaped holder 13, having a conical lower portion and provided at the upper portion with a substantially annular flange 14, set at an inclination and tapered rearwardly, as shown, to provide a flared upper portion or wall for retaining a ball in the holder; and also for enabling the ball when discharged to readily clear the sides of the holder. The ball is fired from the holder by the spring actuated plunger, which is drawn downward by the trigger and automatically tripped. The spring, which is compressed by the downward movement of the plunger, throws the latter upward with sufficient force to discharge the ball 15 into the air a considerable distance, and the spring may be varied in size and strength to project the balls the desired distance into the air.

The lever 7 is mounted on a transverse pin 16, which also pivots the trigger 6 to the forwardly extending arm 5. The trigger, which depends from the forwardly projecting arm of the frame, is provided with an upwardly extending arm or portion 17, carrying a spring actuated catch 18, consisting of a transversely disposed head and a stem 19, slidably mounted in a bore or opening 20 of an enlarged portion 21 of the arm 17 of the trigger. The stem of the catch extends below the enlargement 21 and receives a coiled spring 22, interposed between the lower end of the enlargement and a pin 23, which pierces the lower end of the stem. The coiled spring 22 operates to draw the catch downward or inward for maintaining the head in position for engaging and actuating the upwardly extending arm of the plunger lever 7. The head 18 of the catch operates in a slot 21^a of the upper end of the arm 17 of the trigger, and it projects from each side of the arm of the trigger. One of the projecting portions engages the plunger lever, and the other projecting portion is en-

gaged by a cam 24 having a cam edge, arranged eccentrically with relation to the arc of movement of the catch, and adapted when the arm of the trigger is thrown forward to move the catch outward and automatically trip the spring actuated plunger. The cam slides the catch outward, and disengages the same from the plunger lever, which permits the spring 12 to throw the plunger upward for discharging a ball from the device. The cam 24 consists of a plate or member having an upper attaching portion 25, secured by screws or other suitable fastening devices to the top portion of the frame and depending therefrom. The top portion of the frame is provided with a lateral enlargement or boss to which the cam is secured, and the latter is also provided with a bearing 26 for the reception of a pivot 27, which secures a feeding device 28 to the cam. The trigger is automatically returned to its initial position by means of a spring 29, composed of two sides and a connecting spring coil. The coil is mounted on the pivot 16, and one of the sides of the spring has its end 30 bent laterally and fitted in a perforation 31 of the forwardly extending arm 5, while the other side of the spring is secured to the upwardly extending arm of the trigger.

The balls are delivered into the holder from an inclined tubular magazine 32, mounted on the frame, which is provided with a front vertical lug 33, and an upwardly and rearwardly extending arm 34 for supporting the magazine. The bottom of the magazine is secured by screws, or other suitable fastening devices to the front lug 33 and the rear arm 34, and it is provided with an upper flaring or funnel-shaped rear end 35. The front end of the magazine is cut off at an angle to form an outlet and is equipped with a lower fixed stop 36 and an upper resilient stop 37, consisting of a hook-shaped spring secured to the front end of the magazine at the top thereof and extending downward in advance of the magazine in position for engaging a ball at the top thereof. The stops prevent the balls from leaving the magazine until positively fed therefrom by the feeding device 28. The feeding device 28 consists of a lever fulcrumed at an intermediate point by the said pivot 27 and having an upper arm, projecting through a slot 38 of the bottom of the magazine and arranged to engage the front ball at the bottom thereof. The magazine is equipped at one side of the slot or opening 38 with a depending flange 38^a, and the lower arm of the feed lever is connected by a link 39 with the upwardly extending arm of the trigger, and when the trigger is operated, the lower arm of the feeding device is thrown forward and the upper arm of the feeding device is drawn downwardly and rearwardly, whereby when the trigger is returned to its initial position after a ball has

been discharged from the holder, the front ball in the magazine will be fed into the holder by the said feeding lever. The upper arm of the feeding lever has an inclined upper portion and a curved lower portion, and the depending arm of the feeding lever is also curved. The link 39 extends rearwardly and downwardly from the feeding lever and is provided with terminal eyes, linked into a perforation of the feeding lever and into an eye of the upwardly extending arm of the trigger.

The toy is equipped with a funnel-shaped hopper 40, constructed of canvas, or other suitable fabric and having its lower end loosely arranged within the flared or funnel-shaped portion of the magazine to prevent the balls from rebounding when caught by the device. The flexible hopper is supported at the top by a rim, composed of inner and outer rings 41 and 42, secured to the upper ends of the inclined supporting rods 43, having their lower ends attached to the funnel-shaped upper portion of the magazine. The upper edge of the fabric is fitted between and suitably secured to the inner or outer rings, which may be constructed of wood, or any other suitable material.

With a little practice the balls, which may be rapidly discharged from the device, may be accurately caught in the hopper.

The toy is not only adapted to afford amusement to young and old, but will also operate to train the eye and the hand in catching the returning balls.

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

1. A toy of the class described comprising a frame having a handle at the bottom, a tubular magazine fixed to and extending along the top of the frame, a relatively large ball catching hopper mounted upon the rear end of the magazine and located above the handle, a fixed holder arranged at the front end of the frame in advance of the magazine to receive the balls from the same, and firing mechanism including a plunger arranged to strike a ball contained in the holder, and a trigger located adjacent to the handle.

2. A toy of the class described including a hopper, a magazine provided with retaining means, firing mechanism arranged to receive the balls from the magazine and provided with a trigger, and feeding mechanism separate from the retaining means and operated by the firing mechanism for forcing the balls past the retaining means.

3. A toy of the class described including a hopper, a handle located directly below the hopper, a magazine provided with retaining means, firing mechanism arranged to receive the balls from the magazine and provided with a trigger located in advance of the handle, and feeding means separate from the re-

taining means and operated by the firing mechanism for forcing the balls past the retaining means.

4. A toy of the class described including a hopper, a magazine extending from the hopper and having an outlet, retaining means comprising a resilient stop extending partially across the outlet, firing mechanism arranged to receive the balls from the magazine, and a feeding device operated by the firing mechanism for positively feeding the balls from the magazine to the firing mechanism.

5. A toy of the class described including a hopper, an inclined tubular magazine extending from the hopper and provided with an outlet, a fixed stop at the bottom of the outlet, and a resilient stop at the top of the outlet, firing mechanism arranged to receive the balls from the magazine, and a feeding device operated by the firing mechanism and arranged to positively feed the balls from the magazine to the said firing mechanism.

6. A toy of the class described including a magazine, a fabric hopper having its lower portion loosely arranged in the magazine to prevent the balls from rebounding, and firing mechanism arranged to receive the balls from the magazine.

7. A toy of the class described comprising a magazine, a hopper including a conical fabric body portion having its lower end loosely arranged in the magazine to prevent the balls from rebounding, and firing mechanism arranged to receive the balls from the magazine.

8. A toy of the class described comprising a magazine, a hopper including a conical fabric body portion, inner and outer rings secured to the upper edge of the hopper, and supporting rods mounted on the magazine and connected with the upper portion, and firing mechanism arranged to receive the balls from the magazine.

9. A toy of the class described comprising a magazine provided at the bottom with an opening, yieldable means for retaining the balls in the magazine, firing mechanism, and a feeding lever connected with the firing mechanism and arranged to force the balls past the said retaining means.

10. A toy of the class described including an inclined tubular magazine provided at the bottom with an opening and having upper and lower retaining means extending partially across the said opening, firing mechanism provided with a holder arranged to receive the balls from the magazine, and a feeding lever extending through the opening of the bottom of the magazine and connected with and operated by the firing mechanism.

11. A toy of the class described comprising a frame provided with a fixed vertical barrel, a rigid holder arranged at the upper end of the barrel, a spring actuated plunger operat-

ing in the barrel and movable downwardly away from the holder and operable through the bottom thereof, and adapted when released to project a ball from the said holder, a trigger, connections between the trigger and the plunger for retracting the same, and means for automatically releasing the plunger at the limit of its downward movement.

12. A toy of the class described comprising a vertically movable spring actuated plunger for projecting balls into the air, a lever connected with the plunger, a trigger having means for engaging and actuating the lever, and means for tripping the said means to release the plunger.

13. A toy of the class described including a spring actuated plunger, a lever connected with the plunger, a trigger provided with a movable device arranged to engage the lever for retracting the plunger, and relatively fixed means arranged in the path of the said movable device for releasing the lever.

14. A toy of the class described including a spring actuated plunger, a lever connected with the plunger, a trigger provided with a movable device arranged to engage and actuate the lever, and a cam arranged in the path of the movable device and adapted to disengage the same from the lever to release the latter.

15. A toy of the class described including a spring actuated plunger, a lever connected with the plunger, a trigger, a spring actuated catch carried by the trigger and projecting from opposite sides of the same, one of the projecting portions of the catch being arranged to engage the lever, and a cam arranged in the path of the other projecting catch to release the lever.

16. A toy of the class described including a spring actuated plunger, a lever connected with the plunger, a trigger having means for engaging the lever, means for releasing the lever, and a spring connected with the trigger for returning the same to its initial position.

17. A toy of the class described including a spring actuated plunger, a magazine, a lever connected with the plunger, a trigger having means for engaging and actuating the lever, means for releasing the lever, and a feeding lever connected with the trigger and operating in the magazine for feeding the balls therefrom.

18. A toy of the class described including a magazine having yieldable retaining means for confining the balls therein, a spring actuated plunger for discharging the balls into the air, a trigger, connections between the trigger and the plunger for retracting and releasing the said plunger, and a feeding lever for forcing the balls past the retaining means, said lever being connected with the trigger and operating in the magazine.

19. A toy of the class described including a frame provided at the back with a pistol

grip and having a vertical barrel located in advance of the pistol grip, a magazine mounted upon the frame, a hopper supported by the magazine, a spring actuated plunger operating in the barrel, a holder arranged at the top of the barrel in position to receive the balls from the magazine, a trigger, connections between the trigger and the plunger for retracting and releasing the same, and a feeding device connected with and operated by the trigger.

20. A toy of the class described including a frame provided at the lower portion with a handle and having a vertical front lug, said frame being also provided in rear of the lug with an upwardly extending arm, a magazine secured to the lug and to the arm, a hopper supported by the magazine, and firing mechanism arranged to receive the balls from the magazine.

21. A toy of the class described including a hopper having flexible walls and arranged to catch the balls, a handle located directly beneath the hopper, and firing mechanism for projecting the balls into the air.

22. A toy of the class described including a magazine open at its rear end and provided at its front end with retaining means, a flexible hopper connected with the rear end of the magazine, a handle located below the hopper, firing mechanism for projecting the

balls into the air, and feeding means operated by the firing mechanism for positively forcing the balls past the said retaining means.

23. A toy of the class described including an inclined magazine, a hopper located above the rear end of the magazine for catching the balls and having flexible walls connected with the said magazine, a handle located below the hopper, and firing mechanism for discharging the balls into the air, said firing mechanism having a trigger arranged in advance of the handle.

24. A toy of the class described including a magazine, a fixed holder arranged in front of the magazine and having a bottom forming a support for a ball and provided with an opening, a spring actuated plunger operating through the opening of the bottom of the holder for projecting the balls into the air, and means for setting and releasing the plunger, said plunger when set being located below the bottom of the holder in spaced relation with a ball supported by the same.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY BARRY.

Witnesses:

HARRY A. FLECK,
J. HUGH McDONOUGH.