March 18, 1930. W. A. TRATSCH 1,750,945

TARGET FOR AMUSEMENT DEVICES

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Fig. 1.

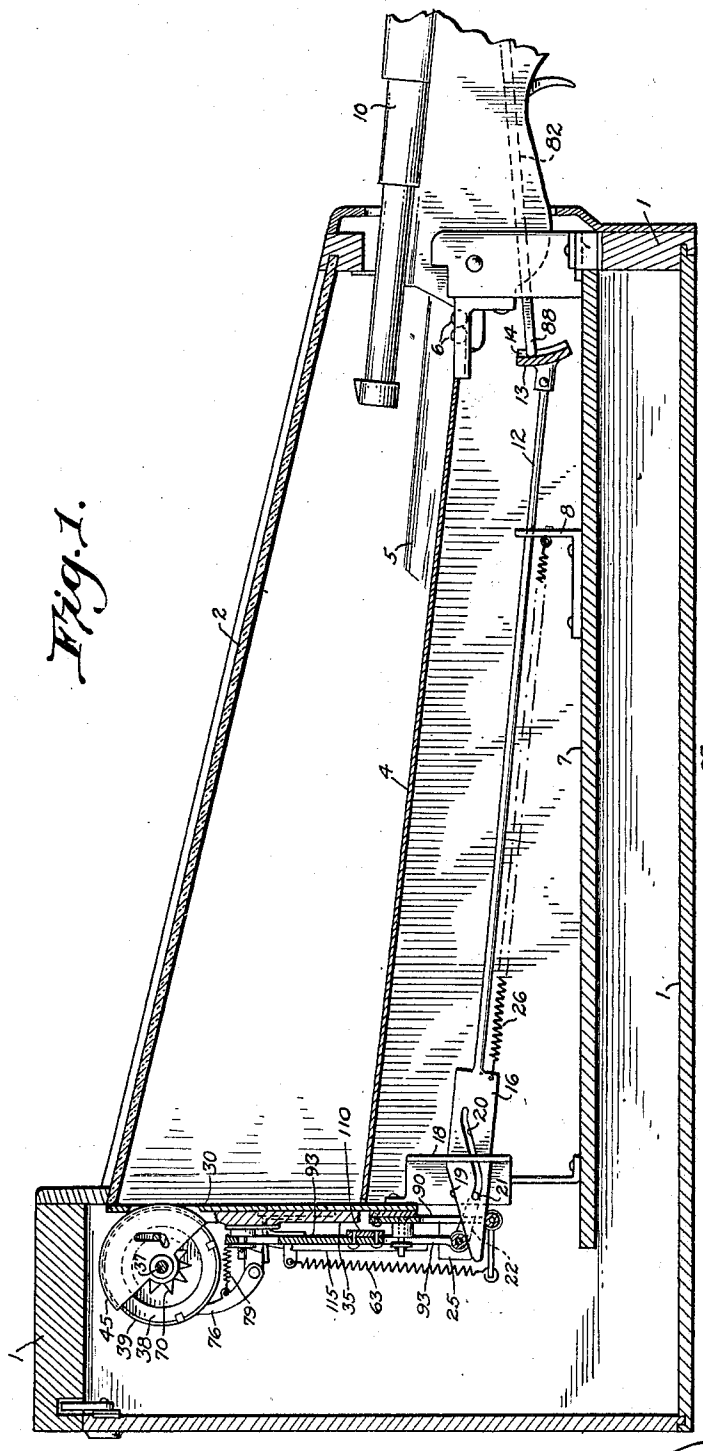
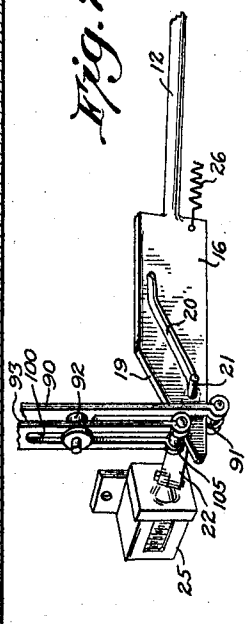


Fig. 2.



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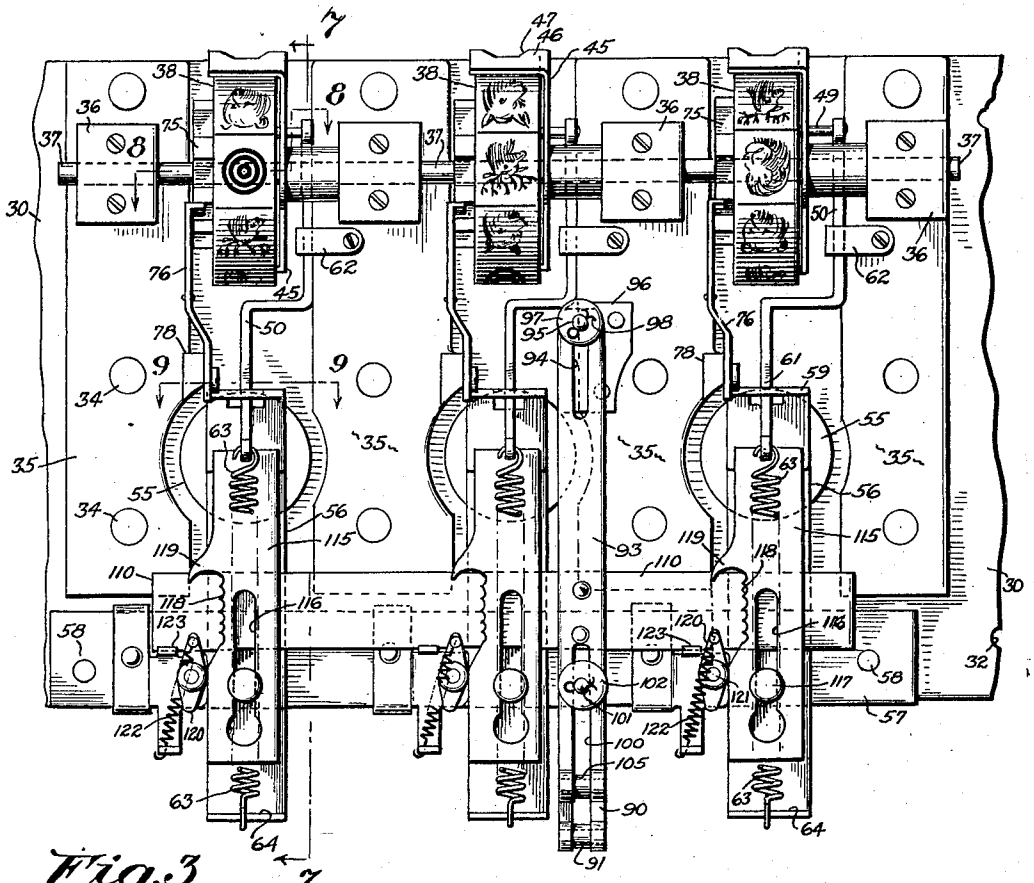


Fig. 3.

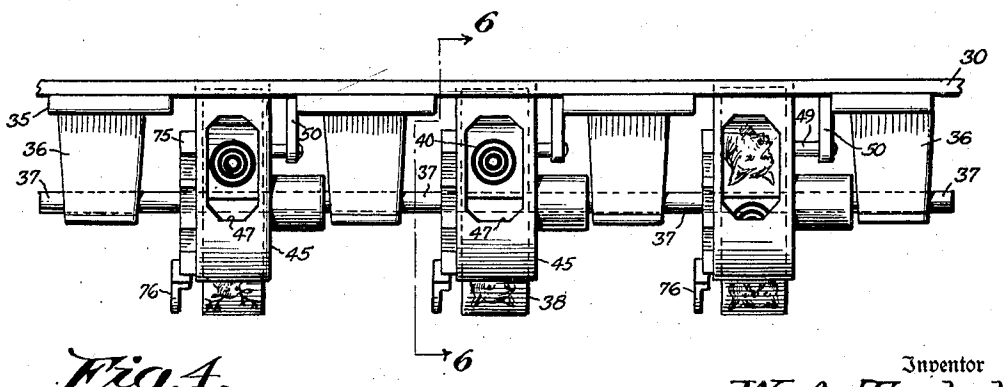


Fig. 4.

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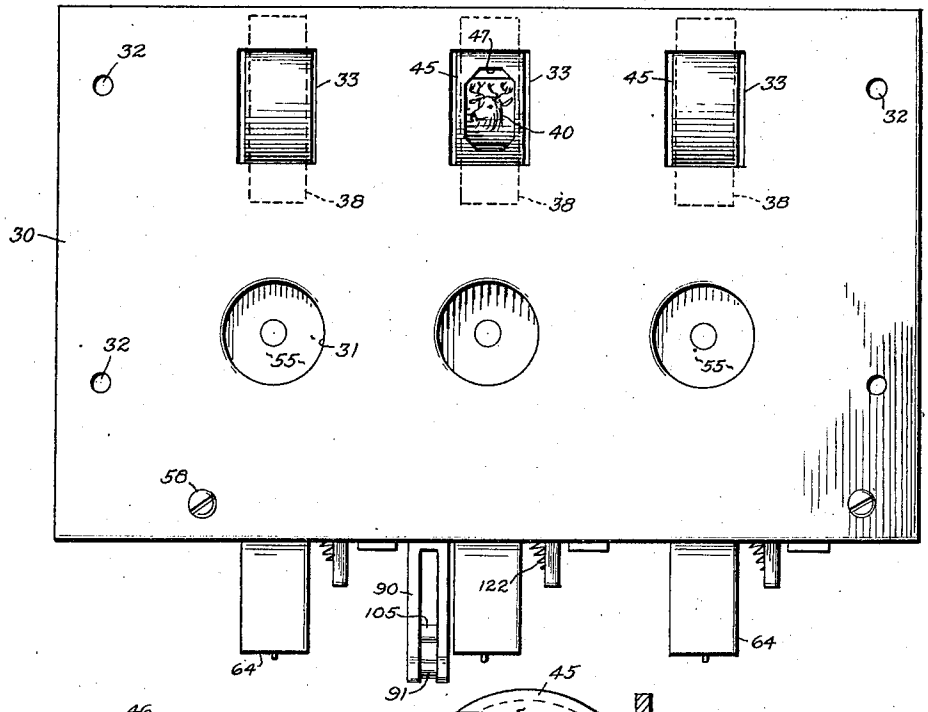
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TARGET FOR AMUSEMENT DEVICES

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Fig. 5.



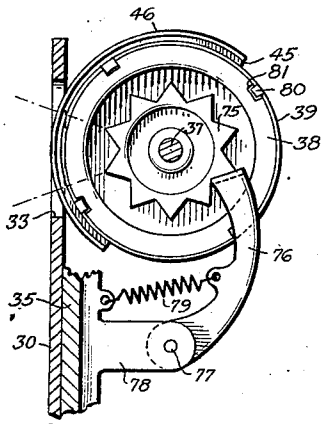


Fig. 6.

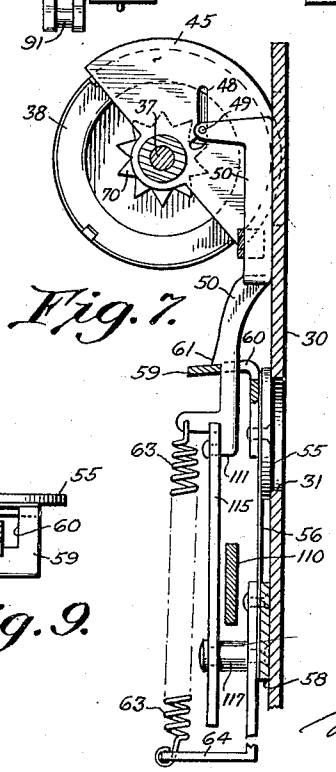


Fig. 7.

Fig. 9.

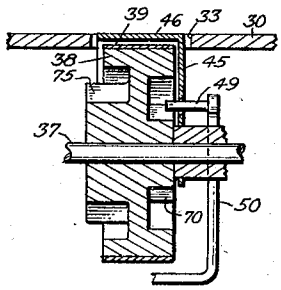


Fig. 8.

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TARGET FOR AMUSEMENT DEVICES

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Fig. 10.

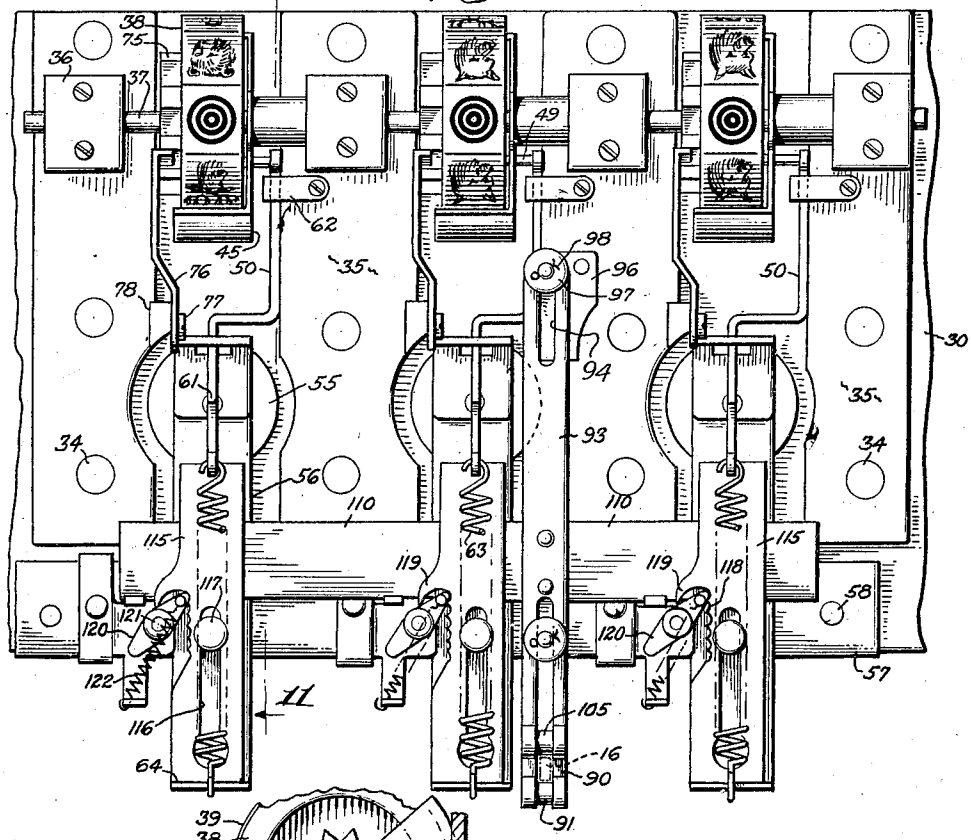


Fig. 12.

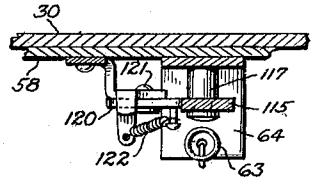
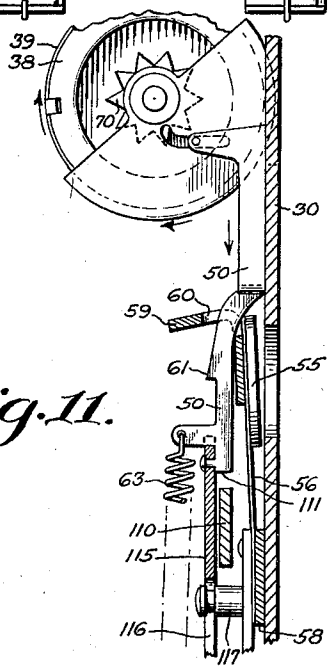


Fig. 11.



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UNITED STATES PATENT OFFICE

WALTER A. TRATSCH, OF CHICAGO, ILLINOIS

TARGET FOR AMUSEMENT DEVICES

Application filed February 23, 1928. Serial No. 256,352.

This invention relates to a target for amusement devices and has for its object to provide a mechanism attractive in appearance, simple in operation, and more efficient in use than those heretofore proposed.

With these and other objects in view the invention consists in the novel details of construction and combinations of parts as will be more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification in which like numerals designate like parts in all the views,—

Fig. 1 is a longitudinal sectional view taken vertically through an amusement device to which this invention has been applied;

Fig. 2 is a perspective view of a detail of the actuating rod employed to set the targets as well as to actuate a register for counting mechanism;

Fig. 3 is a rear elevational view of the target structure forming the subject matter of this application;

Fig. 4 is a top plan view of the parts shown in Fig. 3;

Fig. 5 is a front elevational view of the target structure shown in Fig. 3;

Fig. 6 is a transverse sectional view taken as on the line 6—6 of Fig. 4 and looking in the direction of the arrows;

Fig. 7 is a transverse sectional view taken as on the line 7—7 of Fig. 3 and looking in the direction of the arrows;

Fig. 8 is a horizontal sectional view taken as on the line 8—8 of Fig. 3 and looking in the direction of the arrows;

Fig. 9 is a detail plan view of one of the target members as it would be seen on the line 9—9 of Fig. 3 and looking in the direction of the arrows;

Fig. 10 is a view similar to Fig. 3 but with the parts in different positions;

Fig. 11 is a transverse sectional detail taken as on the line 11—11 of Fig. 10 and looking in the direction of the arrows; and

Fig. 12 is a horizontal sectional view taken adjacent one of the full-stroke compelling dogs to show the mounting thereof.

In order that this invention may be the better understood it is said that there was issued to Walter A. Tratsch the United States Letters Patents No. 1,551,858, dated September 1, 1925 entitled "Amusement device" and No. 1,656,306 dated January 17, 1928 entitled "Amusement device", in which there was disclosed a coin controlled pistol and a mechanism operated thereby having associated therewith a target toward which balls could be fired by said pistol. In the later patent it was shown that the balls were adapted to hit one or more targets which, upon being struck, would release indicating means. This invention is directed to an improved target structure for the same or similar device shown in said last mentioned patent and to this end similar reference numerals will designate parts similar to or exactly the same as the parts described in said patent.

This target is for use in a miniature shooting gallery substantially a duplicate of that disclosed in the later patent and comprising a cabinet 1 having a glass top 2 disposed above an inclined floor 4 provided with a groove 5 over which the balls may be fired and returned to the pistol 10 through said groove to loading position as indicated at 6 from which the balls will enter the pistol and be recharged into the barrel thereof for subsequent firing. The pistol disclosed in said patents is provided with a coin receiving slot, an operating slide adapted to force a coin of requisite size past a locking lever whereby the actuating parts of the pistol will be placed in operative position so that balls can be successively fired from the pistol toward the targets. With particular reference to Figs. 3 and 7 of the earlier patent and the specification thereof it will be observed that the actuating slide 70 of said pistol is provided with a pin 81 rigid therewith and connected to one end of a lever 82 adapted to actuate, on the full stroke thereof, the counting mechanism generally indicated by the numeral 83.

In the drawings accompanying this specification there is shown a pistol 10 substantially a duplicate in all its parts of the pistol

disclosed in said patents and universally mounted just as was the patented pistol, and a cabinet 1 of substantially the same general construction as the cabinet disclosed heretofore. The actuating lever 82 used in connection with this invention is substantially a duplicate of the same actuating lever heretofore disclosed, one end 88 thereof extending out of the pistol. Beneath the inclined floor 4 there is provided a false bottom 7 which is also below the end of the actuating lever 82, and to this false bottom is secured a suitable guide bracket 8 through which passes an actuating rod 12 having secured thereto at the pistol end a casting 13 provided with a concave spherical surface 14 with which the end of the actuating lever 82 of the pistol coacts, the spherical surface 14 being provided on account of the universal mounting of the pistol, all as will be readily understood. Thus it will be seen that when the actuating slide (not shown in the drawings, but with which the pistol is provided) is actuated, the lever 82 will be moved forwardly and the end 88 thereof, bearing against the surface 14 of the casting 13, will likewise move the latter forward or away from the pistol.

The other end of the actuating rod 12 is provided with a vertical plate 16 adapted to move in a slot in a guide bracket 18 secured to the cabinet in any suitable manner. The upper and extreme end portion of the plate 16 is provided with a bevelled surface 19 for a purpose presently to be disclosed, and said plate is further provided with a diagonal slot 20 adapted to receive a pin 21 carried by a crank 22 adapted to actuate a counter mechanism generally indicated by the numeral 25 and of any well known type. Thus it will be seen that when the rod 12 is moved to the left as seen in Fig. 1 of the drawings of this application the slot 20 of the plate 16 will actuate the counter mechanism and the bevelled surface 19 will cause a setting of the targets in a manner presently to be disclosed. To insure the return of the actuating rod 12 there is provided a helical spring 26 one end of which is secured to the guide bracket 8 and the other end of which is fastened to the plate 16 to pull the latter backwardly or to the right as seen in Fig. 1 when permitted to do so by the position of the actuating lever 82 of the pistol 10.

The guide bracket 18 preferably is secured to and depends from a plate 30 provided with a plurality of apertures 31 one for each target of which there may be as many as desired, three being shown in the drawings. The plate 30 is rigidly secured to the cabinet 1 by any suitable means such as screws or bolts passing through the holes 32 provided therefor. Above each target aperture 31 is an aperture 33 through which may be seen, by the operator of the device, an indicator which is adapted to stop in registry with its window or aperture 33 when the target therebelow has been hit by a fired ball.

Secured to the back side of the target plate 30 as by the rivets 34 are a plurality of castings 35 having associated at the upper end of each a journal box 36 for receiving a shaft 37 passing through all of said journals and upon which is loosely mounted a plurality of indicator wheels 38 one for each target, and upon the periphery of each of which is secured a strip 39 on which is printed or otherwise impressed various characters 40 which will rotatably register with each indicator opening 33.

Each wheel 38 has associated therewith a hood or shutter 45 also mounted on the shaft 37 and provided with a circular flange portion 46 in which is provided a substantially rectangular opening 47 of sufficient size to permit one of the characters 40 of the indicator wheel to be viewed therethrough. The side of the shutter 45 is provided with a slot 48 adapted to receive a pin 49 of a tripping slide 50, presently to be described, so that said shutter may be rotated about the shaft 37 when the targets are being set to present an imperforate portion of the circular flange 46 of said shutter to view through the indicator opening 33 in the plate 30 as shown in the outer positions of Fig. 5 as contradistinguished from the position of said shutter appearing in the center of said figure. In other words, when the targets are set it will be impossible to see any of the characters 40 of the indicator wheels but, when a target is struck the shutter of the indicator wheel associated with that target will be released and said shutter will rotate about the shaft 37 until the opening 47 therein comes in registry with the indicator opening 33 in the plate 30 to permit a view therethrough of the particular character 40 appearing when the indicator wheel comes to rest, as will presently be described.

Each target comprises a disk 55 rigidly secured to the upper end of a piece of thin spring steel 56, the lower end of which is rigidly secured to a holding bar 57 in turn secured to the plate 30 as by the screws 58. Each disk 55 is slightly larger in diameter than the target opening 31 in the plate 30 with which it registers and adapted to rest against said plate when in normal position, but when the disk 55 is struck by a ball fired from the pistol 10 the force of the impact will cause the disk to move away from the plate 30 against the tension of the spring plate 56 but to again become seated against the plate 30 after releasing the indicating means. On the back of each disk 55 and at the upper extremity thereof there is secured an angle 59 the extending portion of which is provided with an aperture 60 through which extends the lower portion of the tripping slide 50. In other words, said slide is held in raised po-

sition, see Figs. 7 and 9, by virtue of a tooth 61 formed thereon engaging one of the edges of the aperture 60 of the target angle 59, but when the target is struck and moves away from the plate 30, the angle 59 will move therewith thus disengaging the tooth 61 and permitting the slide 50 to move downwardly, through the guide 62 carried by a casting 35, under action of the spring 63 one end of which is secured to said slide and the other end of which is secured to a foot 64 formed as an extension of the holding bar 57 rigid with the plate 30. From the above mentioned figures it will be readily seen that, when the slide 50 thus moves downwardly, the pin 49 at the upper end thereof by its engagement with the slot 48 of the shutter 45 will cause a turning of the latter from the position shown in Fig. 7 to the position shown in Fig. 11 at which time the opening of the shutter will be in registry with the indicator opening in the plate 30.

Each indicator wheel 38 is provided on one side with a small star-wheel 70 the points of which are adapted to be contacted by the pin 49 of the tripping slide 50 so that upon the upward or downward movement of said slide the wheel will be rotated on its shaft. A very quick sharp blow is given by the pin 49 to the star-wheel 70 when the slide 50 is released under spring tension from its elevated position upon the striking of its associated target and this blow is sufficient to cause a decided spinning of the indicator wheel 38. There is a plurality of characters 40 on the periphery of each indicator wheel and therefore it will be readily seen that any one of these characters may finally come into view through the openings 33 and 47 when the wheel comes to rest. These characters 40 may be in the same sequence on all of the indicator wheels, or the sequence may be varied to provide dissimilar showings upon equal rotations of two or more wheels.

The other side of the indicator wheel is likewise provided with a star-wheel 75 the teeth or points of which are adapted to be engaged by a detent 76 pivoted as at 77 to a bracket 78 carried by an adjacent shaft-supporting casting 35 said detent being controlled by a light spring 79 to press the same against the star-wheel. This detent is to serve as a brake to cause the indicator wheel to come to rest within a short period of time after it is spun as above described, the detent being so disposed that it will have equal effect regardless of the direction of rotation of the indicator wheel. The number of teeth in the star-wheel 75 and the total number of characters on the periphery of the associated indicator wheel are made equal, and the detent 76 is further so positioned as to hold the indicator wheel stationary with one of the characters in registry with the target plate opening 33. In Fig. 6 this relationship is indicated by the dash lines 79.

The strip 39 of characters may be secured to the indicator wheel in any suitable manner, as for example by providing along the lateral edge of the strip a plurality of tabs 80 which may be bent into a recess or pocket 81 provided therefor in the edge of the indicator wheel. Preferably the strip 39 is of metal with the characters 40 lithographed thereon, and by the above securement a ready change of strips may be effected.

The means for "setting" the targets will now be described. Substantially centrally disposed of the target plate 30 and on the rear side thereof there is rigidly secured a depending forked member 90 carrying between the extremities of the forks a roller 91 on which the under side of the slide 16 of the actuating rod 12 may rollingly contact. Superposed on the member 90 and spaced therefrom as by a washer 92 (see Fig. 2) there is a slidable member 93 having at its upper end a longitudinally disposed slot 94 to receive a pin 95 carried by a bracket 96 on one of the shaft-supporting castings 35, the member 93 being prevented from leaving said pin by the provision of any suitable locking means such as a washer 97 and cotter-pin 98, as will be readily understood from Fig. 3. The lower end of the slide 93 is bifurcated or forked to provide a runway 100 for a guiding pin 101, rigid with the holding bar 57 of the target plate, said pin provided with a washer 102 and cotter-pin for preventing the slide 93 becoming disengaged therefrom. Between the extremities of the forks of this slide there is provided a roller 105 which is adapted to contact with the bevelled surface 19 of the above mentioned operating slide 16, so that when the latter is moved to the left as seen in Fig. 1 the slide 93 will be moved upwardly.

The slide 93 has rigidly secured thereto a horizontal cross-bar 110 extending laterally from said slide a sufficient distance to reset all of the targets of the device. When the slide 93 is moved upwardly, the cross-bar 110 will come in contact with the lower extremity 111 of each shutter slide 50, and the continued upward movement of said cross-bar will cause each slide 50 to travel upwardly until the tooth 61 carried thereby will come to rest on the angle 59 of its associated target, or in other words, come to the position shown in Fig. 7. This will permit all of the target disks 55 to become "set" or seated against the target plate 30, as shown in said figure, ready to be struck by a ball fired from the pistol. When a target disk is so struck, the blow thereof will flex the target spring 56 causing the angle 59 associated with that target to move away from the target plate 30 a distance sufficient to allow the disengagement therewith of the tooth 61 of the shutter slide,

whereupon said slide will move downwardly, under action of its spring 63, causing a rotation of the indicator wheel and a movement of the associated shutter into position where the characters on the wheel will be visible to the operator of the device through the opening in said shutter.

As previously stated when the actuating rod 12 has completed its function of setting the targets, said rod will return to the position in which it is shown in Fig. 1 and when this occurs the slide 93 and its cross-bar 110 will be free to move downwardly to their lower most positions.

Riveted or otherwise securely fastened to the lower extremity of the shutter actuating slide 50 is a guide plate extension 115 provided with an elongated slot 116 through which extends a headed pin 117 rigid with the holding bar 57. Thus it will be seen that the guide 62 and the pin 117 constitute members to control the directional movement of the shutter slide or in other words, to insure reciprocations thereof. It is to be observed that this extension 115 has a pocket provided with a plurality of serrations 118 in an edge portion thereof as well as with an outwardly extending hook 119 at the end of said pocket. Said hook and serrations are adapted to coact with a pawl 120, freely pivoted as at 121 to a bracket rigid with the holding bar 57, said pawl controlled by a spring 122 and a stop 123. The purpose of the pawl and serrations is to provide a full-stroke compelling action on the shutter slide as will be readily understood. The stop 123 is positioned to cause the spring 122 to lie on one side of the pawl pivot 121, and the hook 119 is provided to engage the end of the pawl and move the same about its pivot to cause the said spring to flop to the other side of said pivot whereupon the end of the pawl will be maintained in engagement with the serrations 118. Stated in other words, when the targets are set, each shutter operating slide will be in the position shown in Fig. 3, with the pawl 120 moved out of active engagement with the serrations 118 by the end wall of the pocket in the guide plate 115. In Fig. 10 the position of parts is illustrated after all the targets have been struck by fired balls and from this figure it will readily be seen that each shutter slide has been released by movement of its target angle and caused to slide downwardly, the hook 119 associated therewith also moving downwardly to engage and turn its pawl 120 to force the end of said pawl into engagement with the serrations 118. When the cross-bar 110 is next moved upwardly to "set" the targets the shutter actuating slides 50 will be moved upwardly whereupon each pawl will ride successively over the serrations 118 until the targets have been set. The chief effect of this full-stroke compelling action is to relieve a back pressure on the main actuating rod 12. In other words, the rod 12 may be actuated by a succession of jabbing motions and with each of said motions the shutter slides 50 will be moved by a well understood step-by-step action, the return of any one slide being provented by the serrations 118 thereof being engaged by an associated pawl.

From the foregoing it will be obvious that this invention makes possible an amusement device having in combination means for successively firing a predetermined number of balls which is the pistol 10, together with a plurality of targets 55 toward which said balls may be fired, a reciprocable means for visibly indicating the targets hit by said balls which are the indicator wheels 38 having associated therewith the shutters 45, the visibility of the targets being made possible through the apertures of the target wall and the shutter. The rotating shutter is supported by its associated target in latched relation and adapted to be dropped when the target is struck or in other words, when the target angle 59 is moved from under the tooth 61 of the reciprocable shutter slide 50. There is also to be observed the target setting mechanism which is common to all of the targets and comprises the vertically disposed slide 93 and the cross-bar 110.

It is obvious that those skilled in the art may vary the details of construction as well as arrangements of parts without departing from the spirit of the invention and it is therefore not desired to be limited to the above disclosure except as required by the claims.

What is claimed is:—

1. In an amusement device of the character described the combination of means for firing balls; a target provided with a latch toward which said balls may be fired; rotatable means for visibly indicating when the target is hit; and a slide released by said latch for actuating the indicating means.

2. In an amusement device of the character described the combination of means for firing balls; a plurality of targets toward which said balls may be fired; rotatable means for visibly indicating the targets hit by said balls; slidable spring controlled means for actuating the indicating means; and reciprocating means for simultaneously setting said targets.

3. In an amusement device of the character described the combination of means for firing balls; a plurality of targets toward which said balls may be fired; rotatable means for visibly indicating the targets hit by said balls; and reciprocating means for simultaneously setting said targets and said indicating means.

4. In an amusement device of the character described the combination of means for firing balls; a plurality of targets toward

which said balls may be fired; rotatable means for visibly indicating the targets hit by said balls; and common reciprocating means for simultaneously setting said targets and said indicating means.

5. In an amusement device of the character described the combination of means for firing balls; a plurality of targets toward which said balls may be fired; rotatable means for visibly indicating the targets hit by said balls; and common reciprocating means coacting with said first named means for simultaneously setting said targets and said indicating means.

6. In a device of the character described the combination of means to fire balls; a target toward which said balls may be fired; and means including a wheel, provided with a plurality of differing characters, and a shutter rotatable with said wheel for variably indicating when the target is hit.

7. In a device of the character described the combination of means to fire balls; a target toward which said balls may be fired; and means for variably indicating when the target is hit said means including a wheel, provided with differing characters, and a shutter rotatable with said wheel, said wheel and shutter adapted to be rotated by the actuation of said target.

8. In a device of the character described the combination of means to fire balls; a target toward which said balls may be fired; and means for variably indicating when the target is hit said means including a wheel provided with differing characters and a shutter coacting therewith both adapted to be rotated by the actuation of a spring controlled slide latched and released by said target.

9. In a device of the character described the combination of means to fire balls; target members rigidly supported at one end toward which said balls may be fired; means for variably indicating the targets hit; a slide controlling the indicating means; and a shutter interposed between said slide and said indicating means.

10. In a device of the character described the combination of means to fire balls; target members rigidly supported at one end but free to move at the other end and toward which said balls may be fired; means for variably indicating visibly the targets hit; and a slide coacting with the free ends of said members for actuating the indicating means.

11. In an amusement device of the character described the combination of means for firing balls; a plurality of targets toward which said balls may be fired; and rotatable means for visibly indicating each target hit by a ball said means actuated by a slide normally elevated by a target but adapted to drop under the action of a control spring when said target is moved from thereunder upon being hit.

12. A device of the character described comprising a target member; means for indicating when the target is hit; control means for said indicating means adapted to latchingly coact with said target member; and reciprocating means for latching said control means after said target has been hit.

13. A device of the character described comprising a plate, a target member flexibly secured at one end to said plate; means for indicating through said plate when the target is hit; control means for said indicating means adapted to latchingly coact with said target member; said control means including a shutter disposed between said indicating means and said plate; and reciprocating means for latching said control means after said target has been hit.

14. A device of the character described comprising a plate with an aperture therein; a target member flexibly secured at one end to said plate; means for indicating through the aperture of said plate when the target is hit; control means for said indicating means adapted to latchingly coact with said target member said control means including a shutter disposed between said indicating means and said plate said shutter provided with an aperture adapted to register with the plate aperture; and reciprocating means for latching said control means after said target has been hit whereby said indicating means is made invisible by the moving of said apertures out of registry.

In testimony whereof I affix my signature.

WALTER A. TRATSCH.