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COMPLETE SPECIFICATION.

Improvements in Coin-freed and other Mechanical Shooting Ranges.

I, WILLIAM HENRY ELL, of, 14 Camden Grove North, Peckham, London, S.E. (Gentleman), do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 5 This invention relates to improvements in coin freed and other mechanical shooting ranges of the type described in the Specification of former Letters Patent No. 20838, A.D. 1901, wherein a shooting range is described with mechanism for delivering a ticket or tally, when a ball is fired through the central opening or perforation of a target, forming the bull's-eye.
- 10 Now the objects of the present invention are to provide an improved form of coin release mechanism, and means whereby the coil may be returned when a ball is fired through the bull's-eye, instead of arranging for the delivery of a ticket or tally, to provide improved forms of mechanism whereby the balls, after having been fired, may be returned to the pistol when a fresh coin is inserted, and
- 15 to provide means for facilitating the loading of the balls into the pistol, one at a time.

In order that this invention may be fully understood, it will now be described with reference to the accompanying drawings, which illustrate only, the new improved or modified parts, and reference is made to the specification and drawings of the said former patent hereinbefore referred to, for such of the parts as may be mentioned in the present specification but are not illustrated in the accompanying drawings, in which:—

Fig. 1 is a back view of the case enclosing the machine, shewing in elevation the general mechanism and arrangement of the parts forming the coin release and return mechanism and the mechanism for obtaining the balls according to one arrangement.

Fig. 2 is a view shewing the position of some of the essential parts when the mechanism is being operated for obtaining the balls.

Fig. 3 is a cross section taken through the vertical tube containing the balls, hereinafter referred to,

Fig. 4 is a detail hereinafter referred to.

Fig. 5 (Sheet 2) is a side elevation partially in section of an alternative arrangement for delivering the balls when a coin is inserted in the machine.

Fig. 6 (Sheet 3) is an elevation, partially in section, of an alternative arrangement whereby the balls may be obtained,

Fig. 7 being a detail thereof, hereinafter referred to,

Fig. 8 is an elevation of a further modified arrangement whereby the balls may be obtained, and

Fig. 9 is a cross section thereof.

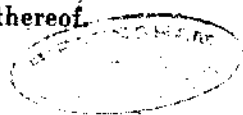
40 Figs. 10 & 11 are side elevations of a modified form of the mechanism shewn in Figs. 8 & 9, with the parts in the first & second positions respectively, and,

Fig. 12 is a cross section through the wheel or disc hereinafter referred to.

Fig. 13 is an elevation of the mechanism for delivering the balls to the pistol, one at a time and

45 Fig. 14 is a view at right angles to Fig. 10, of a part thereof.

[Price 8d.]



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In carrying this invention into practical effect, the whole of the mechanism is arranged within a suitable case *a*, furnished with a vertical partition *a*¹, at the back of which the essential parts of the mechanism are arranged, while the front part of the case is formed with a sloping platform *a*², over which a suitable pistol *a*³ is mounted, at one end of the case, a part of the said pistol projecting therefrom, as shewn at Fig. 1, while at the other end of the case *a*⁴ (Fig. 3), a suitable perforated target is arranged, as will be understood by reference to the aforesaid former patent.

The mechanism for obtaining the balls is operated by means of a horizontally sliding rod *b*, one end of which projects through one end of the case (Fig. 1), 10 and this rod is normally locked by the pawl *b*¹ bearing against the step or shoulder *b*², and is only released when a coin is inserted in the machine.

In order that the invention may be clearly understood the coin release and return mechanism will be first described, then the mechanism for obtaining the balls and the various modifications thereof and finally the mechanism for 15 loading the balls into the pistol so as to ensure their passing therein, one at a time.

Referring more particularly to Fig. 1 and 2 of the accompanying drawings, the coin shoot is formed in two parts, *c*, *c*¹ and communicates with a slot *c*² formed in the side of the case, and when a coin is inserted, it passes through 20 the said shoot, into a pocket *c*³, mounted on the draw-rod *b*, beneath the open bottom of which the arm or extension *b*³ of the pawl *b*¹, projects, so that the weight of the coin raises the pawl *b*¹ and the coin is then supported within the pocket *c*³, by bearing against the inwardly bent extremity of the arm *b*³, and the left hand side of the pocket *c*³, and the draw-rod *b* can then be pulled 25 out for obtaining the balls, as hereinafter described. The rod *b* is furnished with a vertical arm *d* formed with or carrying two horizontal arms *d*¹, *d*² designed, when the rod *b* is drawn out, to travel under the coin shoot *d*³, and a sleeve *d*⁴ respectively, the latter being open at the bottom and the left hand side. 30

After the coin has been inserted, and is supported in the pocket *c*³, as above described, the rod *b* may be drawn out for obtaining the balls, and as this movement is effected, the pocket *c*³ containing the coin, is carried away from the extremity of the arm *b*³, serving to support it, and the coin falls through 35 the coin shoot *d*³, where it is supported by the arm *d*¹ which is simultaneously brought forward, and the coin remains in this position while the rod *b* is fully drawn out and returned to its normal position when, the supporting arm *d*¹ having moved back, it drops into the sleeve *d*⁴ and is supported by the right angled extremity *d*⁵ of the arm *d*², and the inwardly bent extremity *e*¹ of a plate *e*, pivoted as at *e*², where it rests until a ball is fired through the bull's-eye, when it is returned, or until a fresh coin is inserted, when it falls into 40 the case of the machine or into any suitably arranged receptacle.

In order that the coin may be returned when a ball is fired through the bull's-eye, the supporting plate *e* is pivoted to a rod *f*, as at *f*¹, where it is retained in an approximately horizontal position by reason of the said rod 45 being retained in the position shewn in Fig. 1 by the catch *g*, against the resistance of the spring *g*¹. When a ball is fired through the bull's-eye of the target, it passes down the tubular passage *g*² on to the extremity of the arm *g*³ of the catch *g*, thereby raising the said catch and allowing the rod *f* to be drawn forward, which has the effect of turning or lifting the retaining plate *e*, 50 which allows the coin to fall through the shoot *h*, when it is delivered into the coin retainer *h*¹, outside the machine. The ball then passes through the opening *i* in the tube *g*², on to the sloping platform *a*² in the front of the case, and the retaining plate *e* is returned to its normal position as shewn in Fig. 1, when the machine is again operated, by the extremity of the arm *d*¹ bearing 55 against the inclined edge *e*³, so forcing it down to a horizontal position and pressing the rod back until the notch or indent *g*⁴ is again engaged by the

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catch g , while in the event of no ball being fired through the bull's-eye, when the machine is again operated and the draw rod b pulled forward, the arm d^2 , on the right angled extremity d^3 of which the coin is partially supported, is caused to travel forward such a distance that the coin falls over the right hand side thereof into the case of the machine or into any conveniently arranged receptacle.

In order to prevent the machine being fraudulently operated by a coin secured to a wire, string or thin strip of metal, a U-shaped strip j is pivoted at the side of the coin shoot c^1 , and has a short right angled arm j^1 (Fig. 4) connected by a connecting rod j^2 with the arm b^3 . When a coin is inserted in the ordinary way, the coin falling on the extremity of the arm b^3 causes the U-shaped strip j to turn under the open extremity of the coin shoot c^1 and bear against the back of the partition a^1 , but where the coin is secured to an attachment, the U-shaped strip j is prevented from turning under to its fullest extent, and as it is connected by the arm j^2 to the arm b^3 , the latter is not sufficiently depressed to release the pawl b^1 from the stop or shoulder b^2 , and the machine cannot be operated.

In order to obtain the balls, and according to the arrangement shewn in Figs. 1 to 3, the platform a^2 in the front of the machine, slopes at each side towards a central sloping channel a^3 (Figs. 1 & 2), and behind the partition a^1 a vertical tube k is arranged, provided with an opening k^3 , communicating with the channel a^3 . The vertical tube k contains a plunger k^3 (Fig. 3) to which is pivoted the lower extremity of a connecting rod k^2 , by means of a screw k^4 , passing through a vertical slot k^1 , and the upper extremity of the arm k^2 is pivoted as at m^1 to one end of a triangular plate m , while to the other extremity of the said plate, the end of the draw rod b is pivoted as at m^2 , and the plate m is pivotted as at m^3 and turns or operates after the manner of a bell crank.

The balls, which are placed upon the platform a^2 , pass down the channel a^3 and through the opening or perforation k^3 , into the tube k , resting one above the other on the top of the plunger k^3 , and when the pawl b^1 is lifted by a coin being inserted in the machine, and the rod b drawn forward, the plate m is turned, thereby raising the connecting rod k^2 and lifting the plunger k^3 , so that the balls are forced upwards.

The extremity l^1 of a spring l , projects through an opening in the side of the tube k and the balls are forced by the plunger, past this spring, one at a time, the space above this spring and the top of the tube k being sufficient to contain the charge which is to be delivered to the operator, and assuming a charge to be in this position, when the coin is inserted, a reserve charge in the channel a^3 , will have passed into the tube k and will, as the plunger is raised, displace the balls supported above the spring l , causing the upper balls to pass into the tube o leading to the pistol, where they may be manipulated one at a time as hereinafter described, and in this manner the charge of balls supported above the spring and which are intended to be next used, are displaced by the reserve charge when the machine is manipulated, and any number of spare balls may be placed upon the platform a^2 to pass into the tube w , when there is space within the said tube to receive them.

The spring l is arranged at such a height as to support the required number of balls forming the full charge, say six, and as it has been found that an extra ball, or possibly two, may be caused to pass into the tube o , by quickly operating the machine or jerking it, a pivoted "cut-off" n is arranged at the mouth of the tube o , which is closed at its extremity with the exception of a small slot formed therein, through which the end of the "cut-off" may enter and an arm n^1 is carried by the plate n in such a position, that when the latter has turned a sufficient distance to raise the plunger, the required height for passing forward six balls, the arm n^1 comes into contact with the cut off n and

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presses its extremity through the aforesaid slot in the tube *o* and prevents further balls from passing out of the tube *k* (Fig. 2).

In the modified form shewn in Fig. 5, the balls are passed through a horizontal curved tube *p*, leading at its upper extremity *p*¹ to the passage *p*² leading to the pistol, while in its lower extremity *p*³ an opening or perforation *p*⁴ is formed communicating with the sloping channel *a*⁵ of the platform *a*³. Springs *q*, *q*¹ secured to the partition *a*¹, project into the tube *p* at its highest and lowest points respectively, and between these springs a number of balls *r* are supported. A piston *s* fits into the extremity *p*³ of the tube *p*, and is normally retained at such a distance from the spring *q*¹ as to allow of a full charge of balls, say six, passing through a perforation *p*⁴ into the tube and occupying the space between the spring *q*¹ and the plunger *s*. The outer extremity of the plunger *s* is pivoted to the lower extremity of an arm *s*¹, which in turn is pivoted to the back of the partition as at *s*², and this arm is further connected with the extremity of the draw rod *b*.

The operation is as follows:—When the rod *b* is drawn forward, as hereinbefore described, the arm *s*¹ is turned and the plunger *s* propelled along the end *p*³ of the tube *p*, until the whole of the six balls between the spring *q*¹ and the plunger *s*, are forced past the said spring *q*¹, thereby forcing a corresponding number of balls past the spring *q*, which run down the passages *p*¹, *p*² to the pistol, and when the piston is returned to its normal position, a reserve charge passes from the platform, down the channel *a*⁵, into the extremity *p*³ of the tube *p*, and are propelled forward when the machine is again operated. The spring *s*³ may be arranged to assist in returning the parts to their normal positions.

In the arrangement shewn at Fig. 6, an arm or lever *t*, which is provided with a groove or channel on its upper edge, is pivoted as at *t*¹ to the back of the partition *a*¹, which is shewn partially broken away at the left hand side of the figure, and to the forward extremity of the lever *t*, a curved plate *t*² is secured, normally covering an opening *t*³ in the partition *a*¹ and against which the charge of balls rests or bears.

To obtain the balls, it is necessary to turn the arm or lever *t* until its upper edge is below the opening *t*³, when the balls pass therethrough on to the arm or lever, so that when the latter is again raised, by the spring *t*⁴, the balls run down the said arm or lever, which is then in an inclined position, and pass through a suitable passage or passages to the pistol. To the lever *t*, an arm *u* is secured which in turn is connected to a slide *u*¹, normally prevented from moving, by ratchet teeth *u*² formed on the lower edge of a pivoted arm *w*³ engaging a stop *u*⁴ formed on the slide *u*¹. When the coin is inserted in the coin shoot *v*, it passes along the guiding piece *v*¹ and drops into the end *w*⁵ of the slide *u*¹, which is slotted for this purpose, and is supported on a plate *v*³. Upon the slide *u*¹ being drawn forward, the coin bearing against the rounded extremity *w*⁶ of the arm *w*³, raises the latter out of engagement with the stop *u*⁴, as indicated in dotted lines, thereby freeing the said slide and allowing it to be drawn out to its full extent, which has the effect of turning or depressing the arm or lever *t*, and so allows the balls to be obtained, at the same time the coin is carried by the slide, away from the plate *v*³, and falls into the case or into a suitably arranged receptacle, the spring *t*⁴ returning the parts to their normal position as hereinbefore described.

In the arrangement shewn in Figs. 8 & 9, a circular disc *w* carries inclined cups *w*¹ and is pivoted to the back of the partition *a*¹. The balls on the inclined platform pass through a conveniently arranged opening into the cup which at the time is lowest, and then by partially rotating the disc *w*, one of the cups *w*¹ is brought over the opening *w*² through which the balls are discharged and conveyed to the pistol.

The disc *w*¹ is rotated by drawing out the rod *w*³, which is pivoted to an

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arm w^4 , capable of turning, and which carries a pawl w^5 engaging a ratchet disc w^6 , secured to the disc w .

In order to prevent the disc w being sufficiently turned to obtain the balls, until a coin has been inserted, a pivotted plate x is formed with an arm x^1 , projecting partially beneath the coin shoot x^2 and the said plate x is formed with an arm x^3 , which is normally retained by the weight x^4 , in such a position as to prevent the inclined strips x^5 passing. When a coin is inserted in the coin shoot x^2 , it falls on the arm x^1 and turns the plate x sufficiently to allow of the nearest inclined plate x^5 passing the arm x^3 and so allows the disc w to be turned, the said inclined plate x^5 , in passing, forcing back the arm x^3 , so as to turn the arm x^1 sufficiently to allow of the coin falling through the shoot, when the plate x is returned to its normal position by the weight x^4 .

The form shewn in Figs. 10 to 12 is a modification of the ball obtaining mechanism shewn in Figs. 8 & 9, the principle being the same in both cases. In this arrangement, a wheel or disc 1, is pivotted to the back of the partition a^1 and is formed with pockets or recesses 2, 2, at diametrically opposite points. The balls pass through the opening 25 in the partition a^1 into the lower cup (Fig. 12) and are discharged through the opening 26, when the disc or wheel, 1, is revolved, and are conveyed to the pistol. The wheel or disc, 1, is revolved by means of a draw rod 3, secured to one extremity of a bell crank lever 4, the outer extremity of which is connected by a chain 5 to a drum or pulley 6, so that when the draw rod 3 is pulled out, the lever 4 is turned thereby causing the drum or pulley 6 and the wheel or disc 1, to turn one half of a revolution. A second chain or connection 16 is likewise secured at one extremity to the drum or pulley 6, and at the other extremity to a spring 17, in such a manner that the connection 16 is wound on the drum or pulley 6, when the wheel or disc 1 is operated, and returns the drum or pulley 6 to its normal position, when the draw rod 3 is released. The drum or pulley 6 is loosely mounted on the spindle 21 and carries a pawl 22 which engages with ratchet teeth 23 formed on or secured to the wheel or disc 1, so as to operate the said wheel or disc in one direction only.

The wheel or disc 1 is normally prevented from revolving in the forward direction, by means of the pivotted catch or arm 8, engaging one of the stops 7, movement in the opposite direction being prevented by means of the pivotted arm 18, formed with a catch or stop 19, engaging the opposite side of the stop 7, and this arm 18 is pivotted parallel with and may be on the same centre, as the pivotted catch or arm 8.

The draw bar 3 is furnished with a slot 12 beneath which a sliding plate 11, furnished with a slot 13, is arranged, the said plate engaging one arm of the bell crank lever 9, the other arm of which engages a right angled extension 10 of the catch or arm 8, in such a manner that when the bell crank 9 is turned, the catch or arm 8 is lifted and the wheel or disc 1 is free to turn in the forward direction and after completing a half revolution, strikes against the inclined edge of the catch or stop 19 and is again locked in position.

When a coin is inserted in the machine, it falls between the slots 12 and 13 and is supported against the plate 14, thereby forming a connection between the draw bar 3 and the sliding plate 11, which are both drawn forward together when the draw-bar 3 is operated; this has the effect of turning the bell cranks 9 and 4, which respectively raise the catch or arm 8 and revolve the wheel or disc 1, the coin, as the draw bar 3 is drawn forward, being forced through the slots by the inclined plate 15, so as to fall into a suitable receptacle and so break the connection between the draw bar 3 and the sliding plate 11, a spring 20 serving to return the sliding plate 11 to its normal position.

In Figs. 13 & 14, Sheet 2, is illustrated an arrangement whereby the balls are prevented from passing more than one at a time to the pistol, so as to facilitate loading, and for this purpose a sliding plate y is furnished with two pins y^1 , y^2 , projecting into the tubular passage y^3 , conveying the balls to the

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pistol. A plate y^4 , pivotted as at y^5 , bears against the lower extremity of the plate y and the two plates are kept in close contact by springs y^6 , y^7 respectively. On the plate y^4 a catch or stop z is formed, while the barrel of the pistol carries a pin or stud z^1 .

The balls are obtained by turning the pistol in the direction of the arrow, ⁵ until the opening z^2 , in the spherical body z^3 , is beneath the extremity of the tubular passage y^3 , when the ball drops through into the pistol and, as the pistol is turned, the pin or stud z^1 , coming into contact with a catch or stop z , turns the plate y^4 , thereby raising the plate y , allowing a ball to pass the pin y^1 , which is then supported against the pin y^2 , and when the pistol has been fully ¹⁰ turned, the pin or stud z^1 slips over the catch or stop z , allowing the plates y , y^4 to be returned to their normal positions and the ball supported by the pin y^3 passes down into the pistol and the pin y^1 prevents further balls passing, until the pistol has been returned into position for firing and again turned towards the tubular passage y^3 , when a second ball is obtained in a similar manner. ¹⁵ When the pistol is returned to its normal position for firing, the pin or stud z^1 , coming into contact with the opposite side of the catch or stop z , operates the plate y^4 in the opposite direction, that is to say the said plate is merely forced down against the resistance of the spring y^6 and the plate y is not raised.

The various alternative forms of mechanism whereby the balls are obtained, ²⁰ are primarily intended for use in connection with coin freed machines, but where such machines are intended for home use, the coin freed mechanism may be dispensed with and the mechanism for obtaining the balls may be employed alone and operated by means of a simple draw bar.

Having now particularly described and ascertained the nature of my said ²⁵ invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An improved coin-freed mechanical shooting range, comprising the combination and arrangement of parts, all operating; substantially as described and shewn with reference to Figs. 1 to 4 of the accompanying drawings and ³⁰ for the purposes specified.

2. Improved coin release and return mechanism, comprising a shoot such as c , c^1 , a draw bar such as b carrying a pocket such as c^3 , a locking pawl such as b^1 engaging a stop or shoulder on the draw bar and having an arm or extension such as b^3 projecting under the coin shoot, two horizontal arms such ³⁵ as d^1 , d^2 , connected with the draw bar, a coin shoot such as d^3 , a sleeve such as d^4 and a pivotted supporting plate such as e ; the whole arranged and operating, substantially as described and shewn with reference to the accompanying drawings and for the purposes specified.

3. The combination with the mechanism claimed in Claim 2, of a U-shaped ⁴⁰ strip such as j , pivotted so as to operate under the coin shoot and connected with the arm b^3 so as to turn under the coin shoot, when the latter is depressed; substantially as and for the purposes specified.

4. The combination with the mechanism claimed in Claim 2, of a rod such as f , pivotted to the plate e , a pivotted catch such as g normally retaining the ⁴⁵ rod f in a forward position against the resistance of a spring such as g^1 and having an arm such as g^3 projecting under a tubular passage such as g^2 leading from the central opening or bull's-eye of the target, with an opening or passage through which the balls may be returned to the front of the machine; the whole arranged and operating, substantially as described and shewn with refer- ⁵⁰ ence to the accompanying drawings, and for the purposes specified.

5. In mechanical shooting ranges, mechanism for obtaining the balls, comprising a vertical tube containing a plunger, formed with an opening towards its upper part wherein balls may enter, a spring projecting through the side ⁵⁵ of the said tube and designed to support any required number of balls, means for raising the plunger when the draw rod is operated, comprising a pivotted

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- plate operating after the manner of a bell crank, secured at one extremity to the said plate and at the other extremity to a connecting rod connected with the aforesaid piston, through a vertical slot in the tube and an automatic cut off comprising a pivotted arm and a projecting arm carried by the aforesaid plate, designed to come into contact with the aforesaid pivotted arm so as to force it into the aforesaid vertical tube at any predetermined point, to prevent further balls passing to the passage leading to the pistol; the whole arranged and operating, substantially as described and shewn with reference to the accompanying drawings and for the purposes specified.
6. In mechanical shooting ranges, mechanism for obtaining the balls, comprising a curved horizontal tube leading at its upper extremity to a passage conveying the balls to the pistol, springs projecting into the said tube at its upper and lower points, between which balls are supported filling the space between the two springs, a sliding piston entering the lower extremity of the tube, an opening or perforation formed at the lower extremity of the tube through which balls may pass into the space between the lower spring and the inner extremity of the piston, and means for propelling the piston forward when the draw bar is operated, comprising a linged or pivotted arm connected with the draw bar and pivotally connected with the aforesaid piston; the whole arranged and operating, substantially as described and shewn with more particular reference to Fig. 5 of the accompanying drawings and for the purposes specified.
7. In a shooting range, mechanism whereby the balls may be obtained, comprising an arm or lever pivotted at one extremity and formed with a groove or channel on its upper edge, a plate carried by the said arm or lever, normally covering an opening and against which the balls rest, and means for depressing the said arm or lever for obtaining the balls; substantially as described and shewn with more particular reference to Figs. 6 & 7 of the accompanying drawings.
8. The combination with the ball mechanism claimed in Claim 7, of the coin release and operating mechanism, comprising a downwardly extending arm connected with the pivotted arm or lever, a sliding plate engaged thereby, formed with a slot wherein the coin enters, a plate to support the coin and a pivotted arm having a rounded forward extremity and teeth formed on its lower edge, normally engaging a stop on the aforesaid sliding plate, so as to prevent it being withdrawn and a suitable spring or springs for returning the parts to their normal positions; the whole arranged and operating substantially as described and shewn with more particular reference to Figs. 6 & 7 of the accompanying drawings.
9. In shooting ranges, mechanism whereby the balls may be obtained, comprising a pivotted plate or disc formed with cups, pockets or recesses, normally closed by bearing against the surface to which the plate or disc is pivotted, openings or perforations formed in the covering surface through which the balls may enter the lower cup or cups and be delivered from the upper cup or cups and means for revolving the plate or disc; substantially as set forth.
10. In shooting ranges, mechanism whereby the balls may be obtained, comprising a pivotted disc carrying a series of inclined cups, normally closed by bearing against the surface to which the aforesaid disc is pivotted, openings or perforations through which balls may enter the lower cups and be delivered from the upper cups respectively, a draw rod revolving the said disc through the medium of suitable ratchet mechanism, a pivotted plate having an arm projecting under the coin shoot, a second arm normally carried in such a position as to engage one of a series of inclined plates for preventing the disc being turned, and a weighted arm for returning the plate and the arms carried thereby to their normal positions; the whole arranged and operating, substantially as described and shewn with more particular reference to Figs. 8 & 9 of the accompanying drawings, and for the purposes specified.

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11. In a shooting range, mechanism whereby the balls may be obtained, comprising a pivotted wheel or disc, formed with depressions or recesses normally closed by the surface to which the wheel or disc is pivotted, openings or perforations formed in the surface, admitting balls to the lower depressions or recesses and allowing of their passing out from the upper depression or recess, a pulley or drum mounted loosely on a spindle, a pawl secured thereto, and a ratchet wheel engaged thereby secured to the wheel or disc, a pivotted bell crank lever, connected at one extremity by a flexible connection, to the drum or pulley, and at the other extremity to a sliding draw bar furnished with a slot, a pivotted catch or arm designed to engage stops on the wheel or disc, a bell crank lever connected with the aforesaid catch or stop, a sliding plate connected with the aforesaid bell crank lever, furnished with a slot, coinciding with the slot in the draw bar, a plate for supporting a coin within the slots in the draw bar, and the aforesaid sliding plate, an inclined plate for forcing the coin through the slots when the draw bar is operated, a pivotted arm furnished with an inclined catch or stop engaging one of the aforesaid stops on the wheel or disc, and suitably arranged springs for returning the parts to their normal positions; all arranged and operating, substantially as described and shewn with reference to Figs. 10 to 12 of the accompanying drawings.

12. In a shooting range, mechanism for facilitating the loading of the balls into the pistol, one at a time, comprising a sliding plate furnished with upper and lower pins projecting into the extremity of the passage conveying the balls to the pistol, a pivotted plate bearing against the lower edge of the aforesaid sliding plate; with suitably arranged springs for keeping them in contact, a catch or stop formed on the upper edge of the pivotted plate and a pin or stud projecting from the barrel of the pistol, designed to come into contact with the catch or stop when the pistol is turned, for loading; the whole arranged and operating, substantially as described and shewn with more particular reference to Figs. 13 and 14 of the accompanying drawings and for the purposes specified.

Dated this 22nd day of February 1904.

CASELL & Co.,
Crown Chambers, 9 Regent Street, London, S.W.
Agents for the Applicant.

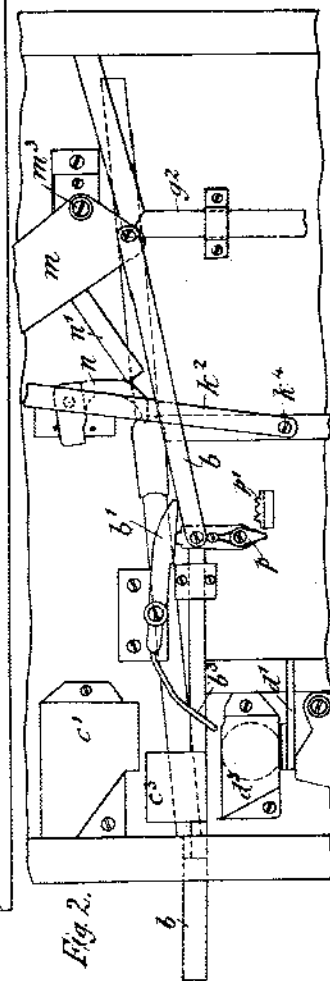
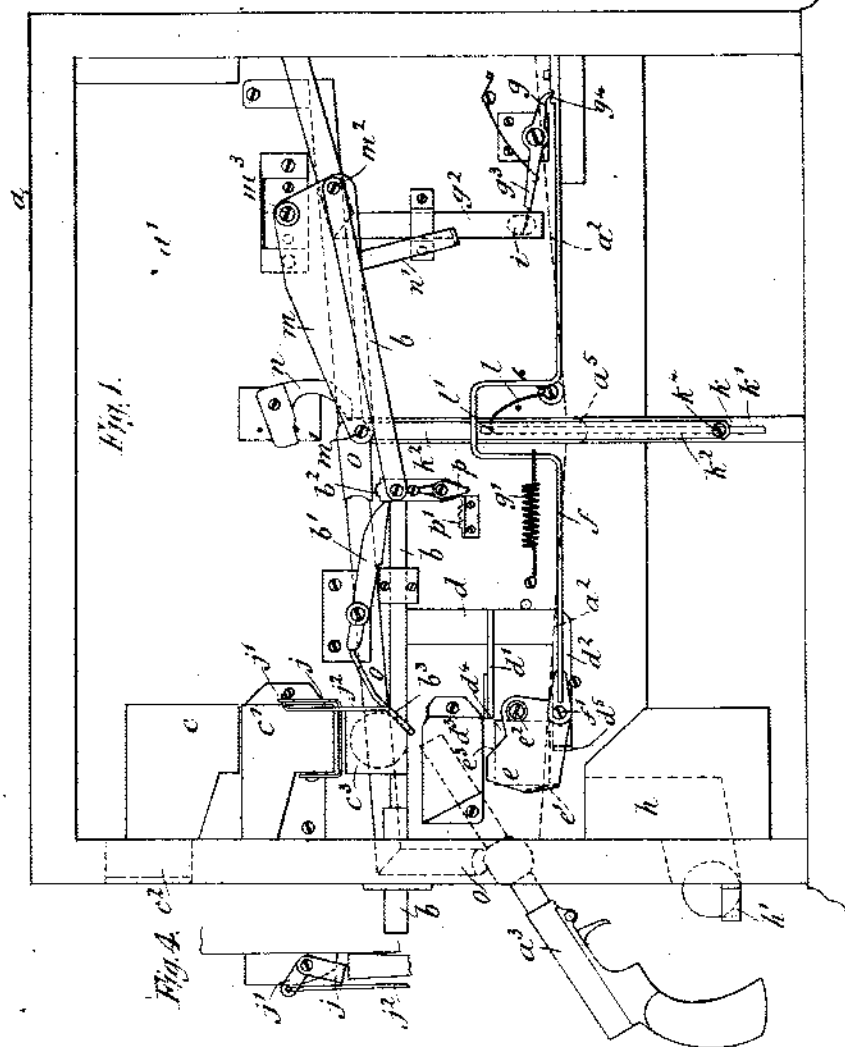
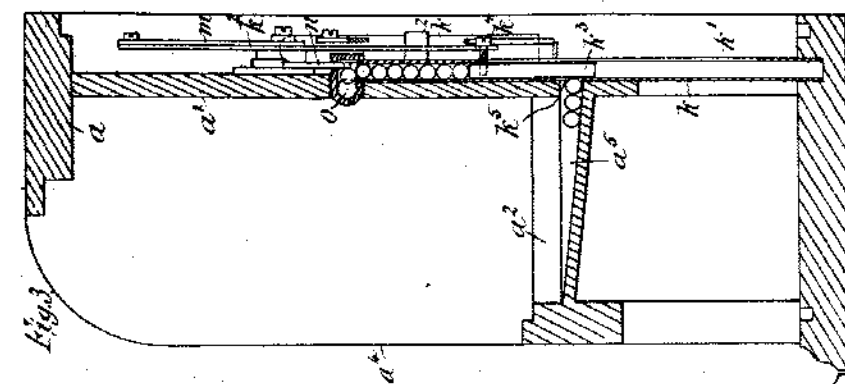


Fig. 7.

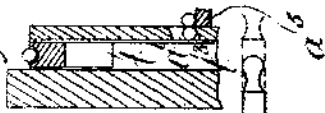


Fig. 6.

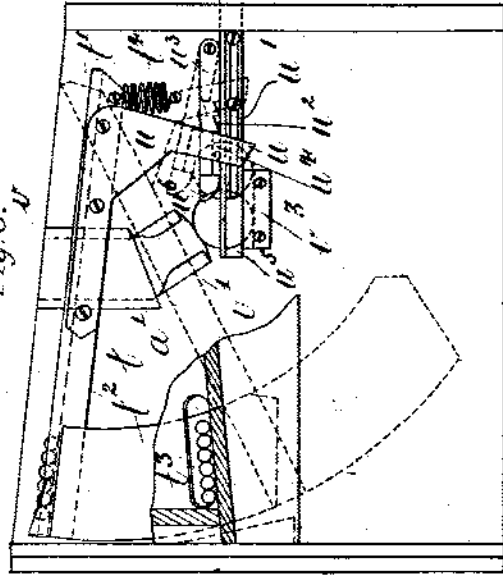


Fig. 9.

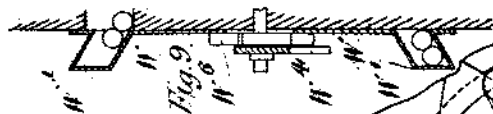


Fig. 8.

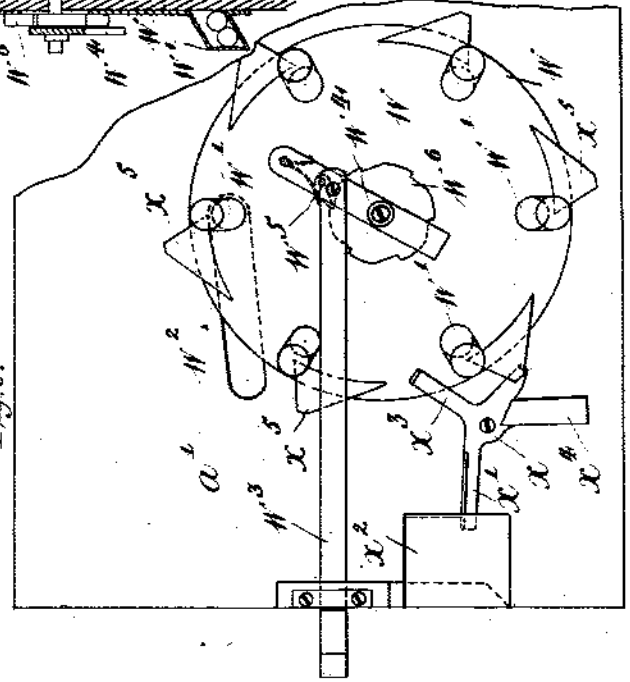


Fig. 5.

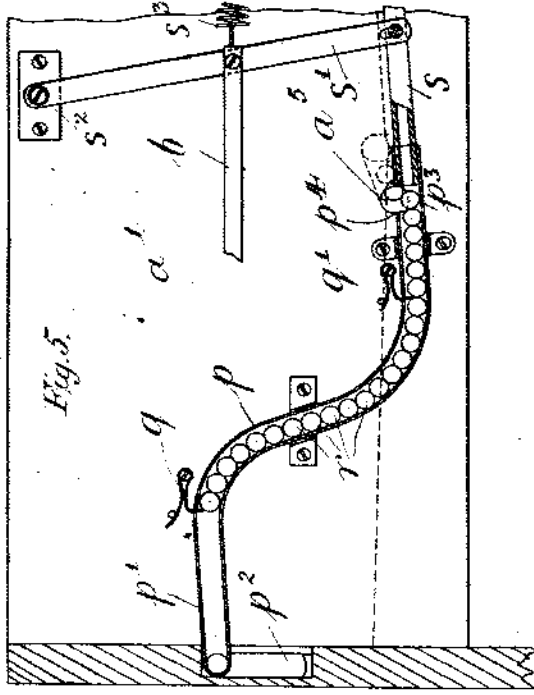


Fig. 14.

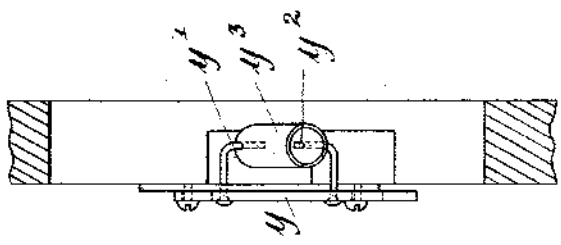
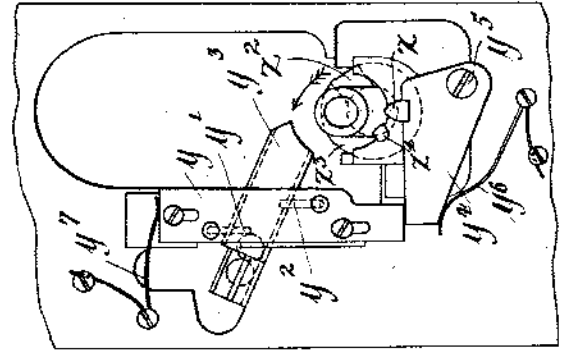


Fig. 13.



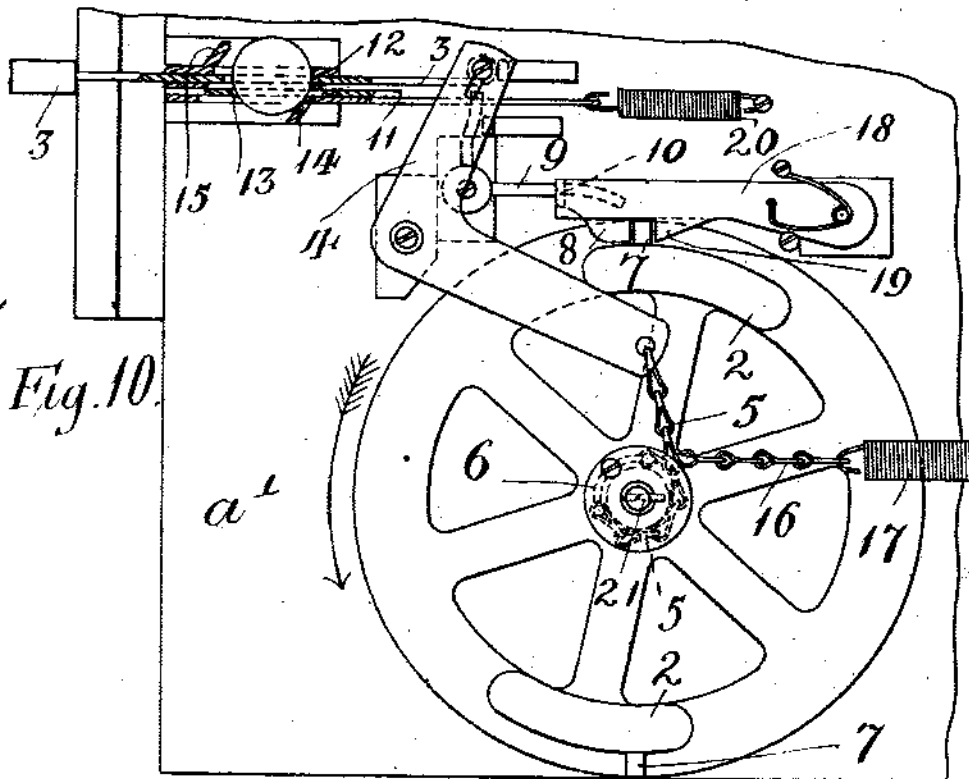
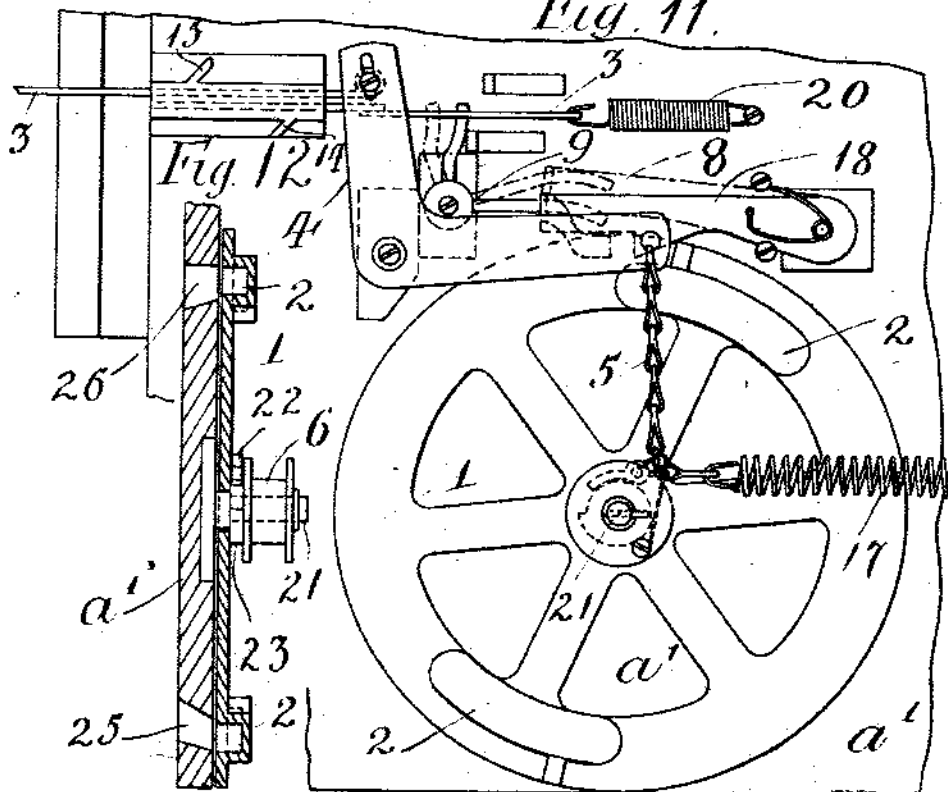


Fig. 11.



[This Drawing is a reproduction of the Original on a reduced scale.]