L. A. KERWIN.

MAGAZINE PEA SHOOTER.

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1,209,974.

Patented Dec. 26, 1916.

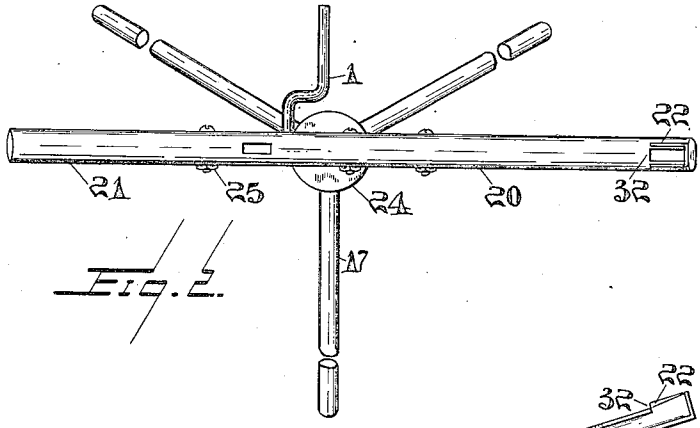


Fig. 2.

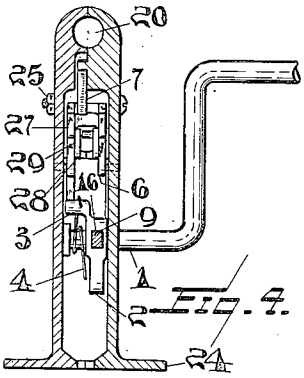


Fig. 4.

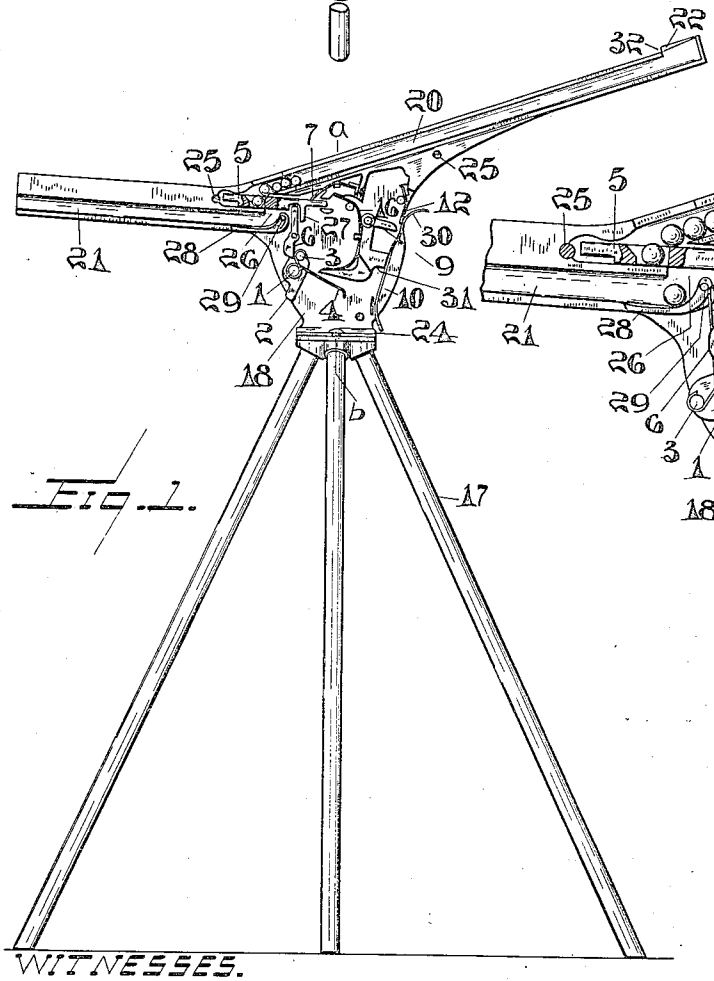


Fig. 1.

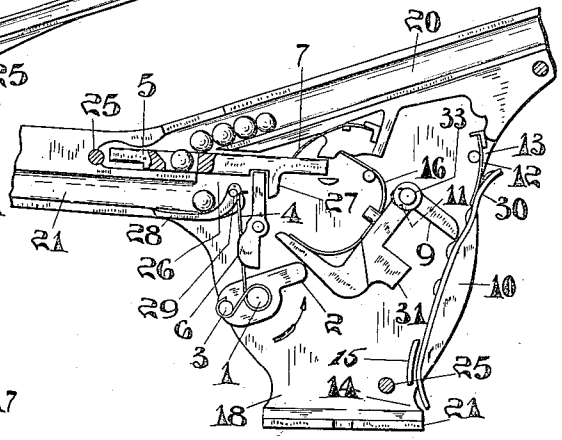


Fig. 3.

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MAGAZINE PEA-SHOOTER.

1,209,974. Specification of Letters Patent. Patented Dec. 26, 1916.

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To all whom it may concern:

Be it known that I, LOUIS A. KERWIN, of the city of Toronto, in the county of York, and Province of Ontario, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Magazine Pea-Shooters, of which the following is a specification.

My object is to devise a mechanically operated pea shooter provided with means for automatically feeding peas to the breech of the barrel and with means for discharging caps simultaneously with the discharge of the peas.

I attain my object by means of the constructions hereinafter more specifically described and illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of my pea shooter partly broken away; Fig. 2 a plan view of the same; Fig. 3 a side elevation of part of the same on a larger scale; and Fig. 4 a cross section on the line *a*—*b* in Fig. 1 on a larger scale.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

The device includes a tripod, a casing mounted to rotate on the tripod and having a barrel and magazine connected therewith, and mechanism contained within the casing and operated by a crank handle for feeding peas from the magazine to the barrel, for ejecting the same from the barrel, and for simultaneously therewith exploding caps.

Referring particularly to Figs. 1 and 2, 17 is the tripod on which the casing 24 is mounted to turn in a horizontal plane. The casing is preferably formed in halves as shown, and the parts have integral therewith the barrel 21 and magazine 20. These parts are also preferably formed in halves as shown. The parts are connected by means of bolts 25. The magazine, it will be seen, is inclined rearwardly and upwardly from above the rear end of the barrel, the opening at the lower end of the magazine being just forward of the opening 26 in the upper side of the rear end of the barrel through which peas are fed into the barrel.

Between the barrel and the magazine a slide or pea carrier 5 is fitted. This slide has a hole formed therein to receive peas from the magazine one at a time. The slide is provided with the depending projection 27 whereby it may be operating as hereinafter described. A spring 7 suitably connected to the casing engages the slide as shown and tends to maintain it in the position shown in the drawings. When in its forward position the slide will receive a pea from the magazine, which, when the slide is drawn rearwardly will drop through the opening 26 into the barrel ready for ejection. It will be noted that the rearward edge of the lower opening of the magazine and the forward edge of the hole in the slide are beveled. This facilitates the separation of the peas to prevent more than one jamming in the opening in the slide.

Through the rear end of the barrel a slot 28 is formed through which the spring ejecting arm 4 may operate. This spring ejecting arm is suitably connected with the shaft of the crank handle 1. This spring arm is so proportioned that when the crank handle is rotated in the direction indicated by arrow, the end of the arm will strike against the abutment 29, but as the revolution of the crank shaft is continued, it will gradually bend past said abutment and on release will forcibly strike any pea within the end of the barrel and eject the same therefrom. The shaft of the crank arm also carries a wiper 3, which is adapted to engage the tail of the lever 6. This lever is yoke-shaped as shown, the parts being pivoted in the opposite sides of the casing. Between the parts of the lever the spring arm 4 is adapted to operate. The upper end of this yoke-shaped lever engages the projection 27 on the slide 5. The wiper 3 is so positioned relative to the spring arm 4 that the slide 5 is first operated to feed a pea into the barrel, and immediately thereafter the spring arm caused to eject the same.

It is my object to explode a cap simultaneously with the ejection of the pea, and as the ejection of peas is effected as rapidly as the crank handle can be rotated, I employ a ribbon 30 with explosive caps formed in or on the same at regular intervals. This ribbon or strip is adapted to pass around the anvil 10 at the rear end of the casing. For feeding and exploding the caps I provide the pivoted bent lever 9, the lower end of which lies in the path of the wiper 2 secured to the shaft of the crank handle. The wiper 2 and the end of the lever 9 are in a different plane to the wiper 3 and the end of the lever 6, so that each wiper actuates its own lever and none other. The

upper end of the lever has the projection 9 formed thereon, which coöperates with the surface of the upper part of the anvil to engage and move the ribbon 30 around the anvil. The lower part of the lever is provided with the hammer 31 adapted to strike and explode the cap as it is brought to the proper position. In Fig. 3 the strip has been fed and the hammer is ready to be released to strike a cap, and this release occurs at or about the same time that the spring arm 4 releases itself from the abutment 29. A bent spring 16 connected with the casing and with the lever 9 provides the power to return the lever to its normal position and to cause the hammer to strike the cap with sufficient force.

It will be noticed that the ends of the pivot 33 of the bent lever 9 work in oval holes 11 in the sides of the casing, the major axes of the holes lying substantially parallel to the barrel. The result of this arrangement is that when first the bent lever is locked by the wiper 2, it rocks on the spring and the pivot moves to the rearward ends of the holes, which allows the cap feeding projection to come in contact with the ribbon 30. When the bent lever is released by the wiper 2 it rocks on the spring and the pivot moves to the opposite ends of the holes 11, releasing the cap feeding projection from the strip or ribbon 30 so that the projection 9 does not move the ribbon 30 back with it.

The casing is provided with the opening 13 for the introduction of the ribbon 30, and the opening 14 for the discharge of exploded caps. A wing 15 is also provided to guide the exploded strip to the outlet 14. A spring brake 12 is provided adjacent the opening 13 and adapted to press the ribbon 30 against the anvil so that it moves only as actuated by the lever 9. An opening 18 is also formed in the casing below the lower end of the barrel 21 which serves for the exit of any peas broken within the apparatus.

At the breech end of the magazine a slotted opening is formed between the walls 22, the slot being of sufficient width to admit only peas of the proper size. Oversized peas will roll out through the opening 32 at the forward end of the walls 22. By this arrangement I prevent the jamming of the apparatus through the introduction of oversized peas.

From the above description it will be seen that I have devised simple means for the production of a rapid fire of peas accompanied by detonations so that the apparatus in action resembles the operation of a machine gun.

It will be understood throughout the specification the use of the term "pea" includes not only ordinary peas, but any pellets of suitable size and character for handling in the same manner as the peas.

What I claim as my invention is:—

1. In a pea shooter, the combination of a barrel having a slot in its rear end and an opening in the upper side adjacent the rear end for the admission of a pea; a magazine with its rear end over the breech of the barrel; a slide adapted when reciprocated to admit peas one by one to said barrel through the opening therein; a crank handle; means whereby the crank handle actuates said slide in one direction; a spring tending to move the slide in the opposite direction; a spring arm connected with said crank handle to rotate therewith; and an abutment behind the slot in the end of the barrel adapted to engage the end of the spring arm and past which said end may be forced by the continued movement of the arm to pass through the slot in the end of the barrel.

2. In a pea shooter, the combination of a barrel having a slot in its rear end and an opening in the upper side adjacent the rear end for the admission of a pea; a magazine with its rear end over the breech of the barrel; a slide adapted when reciprocated to admit peas one by one to said barrel through the opening therein; a crank handle; a lever of the first order; a projection on the slide engageable by said lever to retract the slide; a spring tending to return said slide to its normal position; a projection on the crank handle adapted to rock the other end of said lever and pass by; a spring arm connected to said crank handle to rotate therewith; and an abutment behind the slot in the end of the barrel adapted to engage the end of the spring arm and past which said end may be forced by the continued movement of the arm to pass through the slot in the end of the barrel.

3. In a pea shooter, the combination of a barrel having a slot in its rear end and an opening in the upper side adjacent the rear end for the admission of a pea; a magazine with its rear end over the breech of the barrel; a slide adapted when reciprocated to admit peas one by one to said barrel through the opening therein; a crank handle; a yoke-shaped lever of the first order; a projection on the slide engageable by said lever to retract the slide; a spring tending to return said slide to its normal position; a projection on the crank handle adapted to rock the other end of said lever and pass by; a spring arm connected with said crank handle to rotate therewith and pass between the parts of the yoke-shaped lever; and an abutment behind the slot in the end of the barrel adapted to engage the end of the spring arm and past which said end may be forced by the continued movement of the arm to pass through the slot in the end of the barrel.

4. In a pea shooter, the combination of a barrel having an opening in the upper side adjacent the rear end; an upwardly and rearwardly inclined tubular magazine having the opening of its lower end just in front of the opening into the barrel; a slide adapted to reciprocate between said openings and provided with a hole of sufficient size to receive a pea, the forward side of the hole in the slide and the rearward side of the said opening of the magazine being beveled; and means actuated by a crank handle for reciprocating said slide.

5. In a pea shooter, the combination of a barrel having a slot in its rear end and an opening in the upper side adjacent the rear end for the admission of a pea; means for automatically feeding peas thereto including a rocking lever; cap-feeding and exploding means including a rocking lever; a crank handle; wipers actuated by said crank handle adapted respectively to actuate said levers, said wipers and the lever ends engaged thereby lying in different planes so that each wiper actuates its proper lever and no other; a spring arm connected with said crank handle to rotate therewith; and an abutment behind the slot in the end of the barrel adapted to engage the end of the spring and past which said end may be forced by the continued movement of the arm to pass through the slot in the end of the barrel.

6. In a pea shooter, the combination of a barrel having a slot in its rear end and an opening in the upper side adjacent the rear end for the admission of a pea; means for automatically feeding peas thereto including a yoke-shaped rocking lever; cap-feeding and exploding means including a rocking lever; a crank handle; wipers actuated by said crank handle adapted to respectively actuate said levers, said wipers and the lever end engaged thereby lying in different planes so that each wiper actuates its proper lever and no other; a spring arm connected with said crank handle to rotate therewith; and an abutment behind the slot in the end of the barrel adapted to engage the end of the spring and past which said end may be forced by the continued movement of the arm to pass through the slot in the end of the barrel, said spring arm also being adapted to pass between the parts of the yoke-shaped lever.

7. In a pea shooter, the combination of a barrel; means for ejecting peas therefrom; rockable cap feeding and exploding means comprising a pivoted bent lever, an anvil, the lever being formed with a projection adapted to coöperate with the anvil to feed forward a strip of caps and a hammer forward of said projection, and a spring tending to throw the hammer against the anvil; a crank handle and means whereby the rotation of the handle actuates the pea ejecting mechanism and rocks and releases the aforesaid bent lever.

8. In a pea shooter, the combination of a barrel; means for ejecting peas therefrom; rockable cap feeding and exploding means comprising an anvil, a bent lever provided with a pivot, a bearing for the pivot permitting a slight motion of the pivot to and from the anvil, the lever being formed with a projection adapted to coöperate with the anvil to feed forward a strip of caps and a hammer forward of said projection, and a spring tending to throw the hammer against the anvil; a crank handle and means whereby the rotation of the handle actuates the pea ejecting mechanism and rocks and releases the aforesaid bent lever.

9. In a pea shooter, the combination of a barrel; means for ejecting peas therefrom; rockable cap feeding and exploding means comprising an anvil, a bent lever provided with a pivot, a bearing for the pivot permitting a slight motion of the pivot to and from the anvil, the lever being formed with a projection adapted to coöperate with the anvil to feed forward a strip of caps and a hammer forward of said projection, and a spring tending to throw the hammer against the anvil, and a spring brake coöperating with the anvil behind the said projection to prevent backward movement of the strip; a crank handle and means whereby the rotation of the handle actuates the pea ejecting mechanism and rocks and releases the aforesaid bent lever.

10. In a pea shooter, the combination of a barrel; means for ejecting peas therefrom; rockable cap feeding and exploding means comprising an anvil, a bent lever provided with a pivot, a bearing for the pivot permitting a slight motion of the pivot to and from the anvil, the lever being formed with a projection adapted to coöperate with the anvil to feed forward a strip of caps and a hammer forward of said projection, and a spring tending to throw the hammer against the anvil, and means adjacent said projection to prevent backward movement of the cap strip; a crank handle and means whereby the rotation of the handle actuates the pea ejecting mechanism and rocks and releases the aforesaid bent lever.

Signed at Pittsburgh, Pa., this 15th day of May, 1916.

LOUIS A. KERWIN.

Witnesses:
JOHN L. KOCHENDERFER,
EMMA LEA MONTGOMERY.