

(No Model.)

A. J. EMLAW.
MAGAZINE SPRING GUN.

No. 429,106.

Patented May 27, 1890.

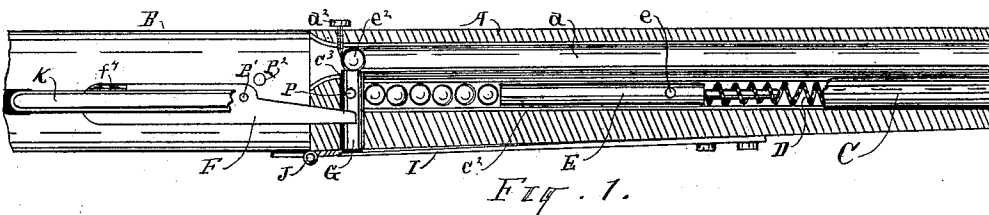


FIG. 1.

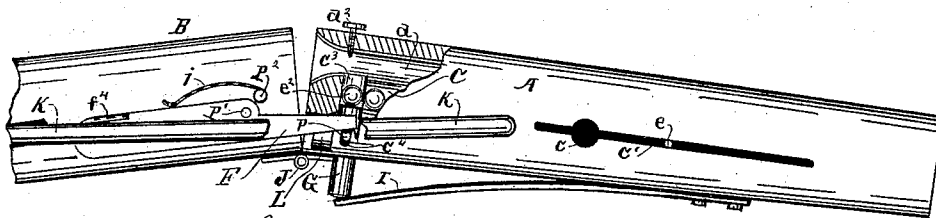


FIG. 2.

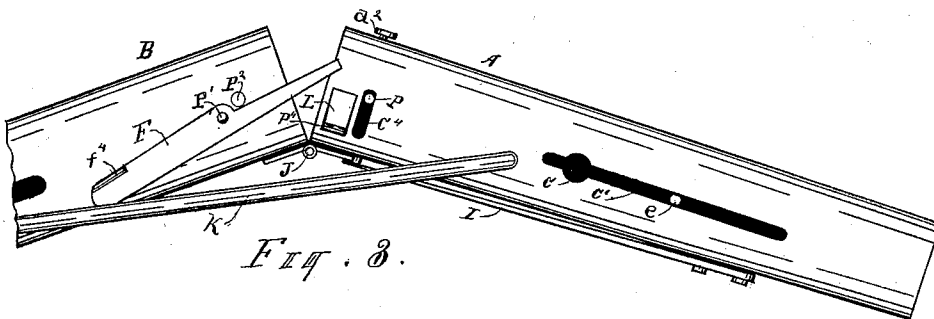


FIG. 3.

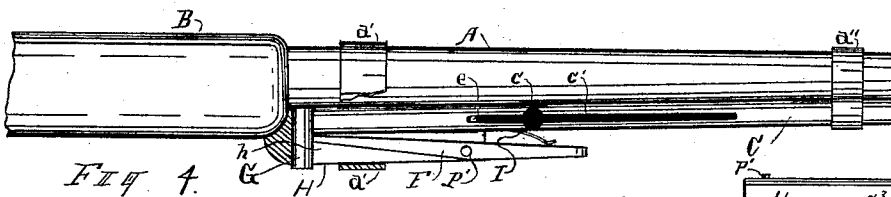


FIG. 4.

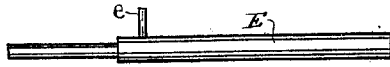


FIG. 5.

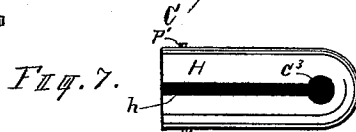


FIG. 7.

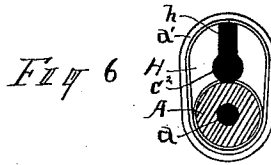


FIG. 6.

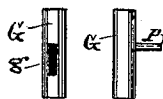


FIG. 8.

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ANDREW J. EMLAW, OF GRAND HAVEN, MICHIGAN.

MAGAZINE SPRING-GUN.

SPECIFICATION forming part of Letters Patent No. 429,106, dated May 27, 1890.

Application filed December 28, 1889. Serial No. 335,241. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. EMLAW, a citizen of the United States, residing at Grand Haven, in the county of Ottawa and State of Michigan, have invented a new and useful Improvement in Air-Guns, of which the following is a specification.

My invention relates to an improvement in target air-guns; and its objects are, first, to facilitate the loading of shot into the barrel of the gun; second, to prevent the shot from falling out of the barrel when loading, and, third, to facilitate the entrance of air from the air-chamber into the barrel back of the shot. I attain these results by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a wooden barrel and a portion of its breech with my improvements in place. Fig. 2 is a side view of the same, showing the lever and incline for transferring the shot, an aperture for introducing the shot, and slots for working the slides. Fig. 3 shows the manner of operating the lever and counter-slide upon wooden air-guns. Fig. 4 is a barrel and a portion of the air-chambers of a metallic air-gun with my appliance attached. Fig. 5 is a side view of the slide which I make use of for forcing the shot toward the breech of the gun. Fig. 6 is an end view of a block that I make use of to attach my appliance to metal air-guns and an end section of a gun-barrel with a band for securing the two together. Fig. 7 is a plan of the same, and Fig. 8 is a plan of the counter-slide that carries the shot from the magazine up to and into the barrel of the gun.

Similar letters refer to similar parts throughout these several views.

A is a gun-barrel.

B is the portion of the breech of the gun that contains the air-chamber.

C is a magazine for storing shot.

D is a spiral spring for forcing the shot toward the breech of the gun.

E is a slide that is acted upon by the spring for forcing the shot toward the breech of the gun.

F is a lever for working a counter-slide that

throws the shot from the magazine into the gun-barrel.

G is the counter-slide.

H is a block or support that I use for attaching my device to metallic guns. 55

I is a spring for working the lever F.

J is a hinge used upon wooden-barreled air-guns, and K is a charging-rod.

To attach my device to a wooden-barrel air-gun, I drill or bore a hole c^2 from the breech of the barrel below and parallel with the bore or passage-way a for the magazine C, in which the shot is to be stored. I then form a slot c' in the side of the magazine and through the barrel for the passage of the handle e of the slide and an enlarged aperture c in the slot to insert the shot into the magazine. To insure a smooth surface in the magazine, I insert a brass tube C into the hole c^2 , of a proper size to allow the shot to move freely. 70.

For forcing the shot toward the breech of the gun I insert into the magazine a coiled spring D and a slide E, which latter is provided with a handle e , arranged to extend through and work freely in the slot c' , for the purpose of drawing the slide back for inserting the shot. 75

To throw the shot from the magazine to the bore of the gun-barrel, I drill a hole c^3 through the back end of the barrel across and at right angles with the end of the magazine and into the passage-way a of the barrel in such a position that a shot may be conducted from the magazine through this opening into the bore a of the barrel. I then make a counter-slide G, having a mortise g , for the reception of the end of the lever F, which is intended to work freely in the hole c^3 . 85

For manipulating the counter-slide G, I make a lever F, which upon wooden guns is attached to the breech in such a position that the projection f^4 at its back end will rest upon the charging-rod K, and the free end will project forward to engage with the pin P on the counter-slide to throw the slide, the lever being so pivoted that when the barrel is thrown down, as in Fig. 3, for loading, the front end of the lever will be thrown up to position above the pin P, and when the barrel is again brought to place the charging-rod K will press upon the projection f^4 on the lever and, turn- 100

ing the lever upon the pivot P' , throw the front end down upon the pin and carry the counter-slide down to the proper position for receiving a shot from the magazine, when the
 5 end of the lever, coming in contact with the incline L on the side of the barrel, is carried to one side far enough to allow the pin P to slip by it and the counter-slide to fly to place. This lever may be made with the back end
 10 enough heavier than the free end so that it will drop to position when the charging-rod is thrown down, or it may be provided with a spring i , Fig. 2, and to prevent it from carrying around too far either way I provide a
 15 stop P'' at the base of the incline L , and a similar pin or stop P^2 on the breech of the gun.

In applying the slide G , that throws the shot from the magazine into the barrel, upon
 20 wooden guns I bore a hole c^3 through one side of the barrel at right angles with and across the end of the magazine, of a proper size to receive the counter-slide, and make a narrow slot or mortise c^4 in the side of the
 25 barrel for the passage of the pin P on the side of the slide, and to throw the slide up to place I attach the spring I to the bottom of the barrel with the free end bearing upon the lower
 30 end of the slide. The slide is in this case provided with an arm or pin P , of sufficient length to reach through, to, and a short distance beyond the surface of the barrel to engage with the lever F for throwing the slide
 35 down to position to receive a shot from the magazine, the slide being of a proper length so that when the spring I is in position parallel and flush with the surface of the barrel
 40 the upper end of the slide will be just flush with the lower surface of the bore of the rifle, so as to hold a shot in position and free for the action of the expanding air from the air-chamber.

On the outside of the gun-barrel I form a slight incline L , its thickest end being thick
 45 enough to carry the end of the lever over the pin P and allow the counter-slide to be thrown to place.

With wooden air-guns the barrel is usually pivoted to the breech by means of a hinge J ,
 50 upon which it is swung down for the purpose of charging the air-chamber and "cocking" the gun or carrying the piston to position for charging the air-chamber.

To prevent the shot from falling out of the
 55 back end of the barrel when being thrown to place by the lever and the counter-slide, I diminish the size of the bore back of the slot by inserting a small screw a^2 , having a sharp point that projects a short distance into the
 60 bore of the barrel, or by any other convenient means.

For the purpose of utilizing as much of the elastic force of the air as possible for expelling the shot I make the extreme end of
 65 the bore next to the air-chamber concaved or funnel-shaped, as shown in Fig. 1, so that the

air will not have a square shoulder to meet when entering the bore of the gun.

When applying my device to a metallic-barreled air-gun or other air-guns having the
 70 barrel rigidly attached to the breech, I find it necessary to change the form of my lever and the manner of attaching it, and for this purpose I construct a block H , arranged to fit upon the under side of the gun-barrel and
 75 provided with a slot h for the reception of the lever, a hole c^2 for the reception of the magazine, and a hole c^3 for the reception of the counter-slide. I pivot the lever to the
 80 block at P' and secure all in place upon the barrel by means of metallic bands $a' a''$, or by any other suitable device. When using this block and lever, I make a mortise g through
 85 my counter-slide for the reception of the lever and dispense with the pin P and pivot the lever to the front end of the block in the slot h , in position so that one end will pass through the mortise in the slide and the other
 90 end will project beyond the end of the block, so that it may be worked by hand, and to hold the lever in position I insert a spring I , of any desired form, in position to act upon
 95 the back end of the lever and throw the slide up to position at the surface of the bore of the gun. The magazine-tube C is inserted into the hole c^2 in the block, and is provided
 100 with a slot for the working of the pin e on the slide, and with an aperture for the reception of shot, the same as the magazine in use upon wooden guns.

To use my appliance when attached to air-guns, draw the slide E back by means of the
 105 pin e until the end passes the aperture c ; then drop the shot into the aperture and let the slide be forced against them by the spring D . Work the lever F (upon wooden guns by means of the charging-rod K with the working of the barrel, and upon guns having rigidly-attached barrels by hand by pressing
 110 upon the end of the lever) sufficiently to carry the counter-slide G from the lower side of the magazine to the bore of the barrel, so that a shot will be carried from the magazine into the barrel at each stroke of the lever.

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

1. The combination, with an air-gun having a barrel, a breech, and charging-rods, the
 120 barrel being arranged to break down from the breech for charging the air-chamber, of a magazine parallel with the barrel, provided with a slide, a spring, a slot, and an aperture, a counter-slide provided with a pin that projects out through a slot in the side of the barrel, a lever pivoted to the breech in position
 125 for one end to act upon the pin P and the other end in the path of charging-lever, and a spring secured to the barrel so as to act upon the counter-slide, substantially as specified.
2. The combination, with an air-gun hav-

ing a barrel and breech, a magazine having
a spring, a slide, a slot, and an aperture, and
a charging-rod, of a counter-slide provided
with a pin projecting out beyond the surface
5 of the barrel, a slot in the side of the barrel,
a lever pivoted to the breech with one end
in position to act upon the pin P and the
other end in the path of the charging-rod, a
slot, an incline, and a spring, substantially
10 as set forth.

3. The combination, with an air-gun hav-
ing a barrel and breech, of a magazine se-
cured to and parallel with the barrel, a slide,
a spiral spring, a slot, and an aperture in
15 said magazine, the slide having a pin extend-
ing out through the slot, an aperture at right
angles with the barrel and magazine connect-
ing the two, a slot from said aperture through
the side of the barrel, a counter-slide fitted to
20 work in said aperture and having a pin pro-
jecting out through the slot, a lever for draw-
ing the slide down from the magazine, and a
spring for throwing it up to position, sub-
stantially as and for the purpose set forth.

4. The combination, with an air-gun, of a 25
magazine, a spring and slide in the magazine,
a slot and an aperture in the side of the maga-
zine, a hole through the barrel at right angles
with the magazine for the reception of a
counter-slide, a counter-slide for conveying 30
shot from the magazine to the barrel, a lever
for manipulating the counter-slide, a spring
for throwing the counter-slide to place, a pin
on the counter-slide to engage with the lever
for manipulating the counter-slide, an incline 35
to act upon the free end of the lever to free
the counter-slide, a stop to prevent the lever
from carrying too far, a spring for throwing
the counter-slide to place, and a screw for
preventing the shot from dropping out, sub- 40
stantially as and for the purpose set forth.

ANDREW J. EMLAW.

In presence of—
I. J. CILLEY,
S. H. BOYCE.