

J. A. PACKARD.
PNEUMATIC GUN.
APPLICATION FILED JAN. 21, 1911.

1,065,546.

Patented June 24, 1913.

2 SHEETS—SHEET 1.

Fig. 3.

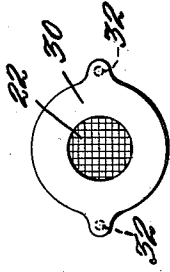


Fig. 1.

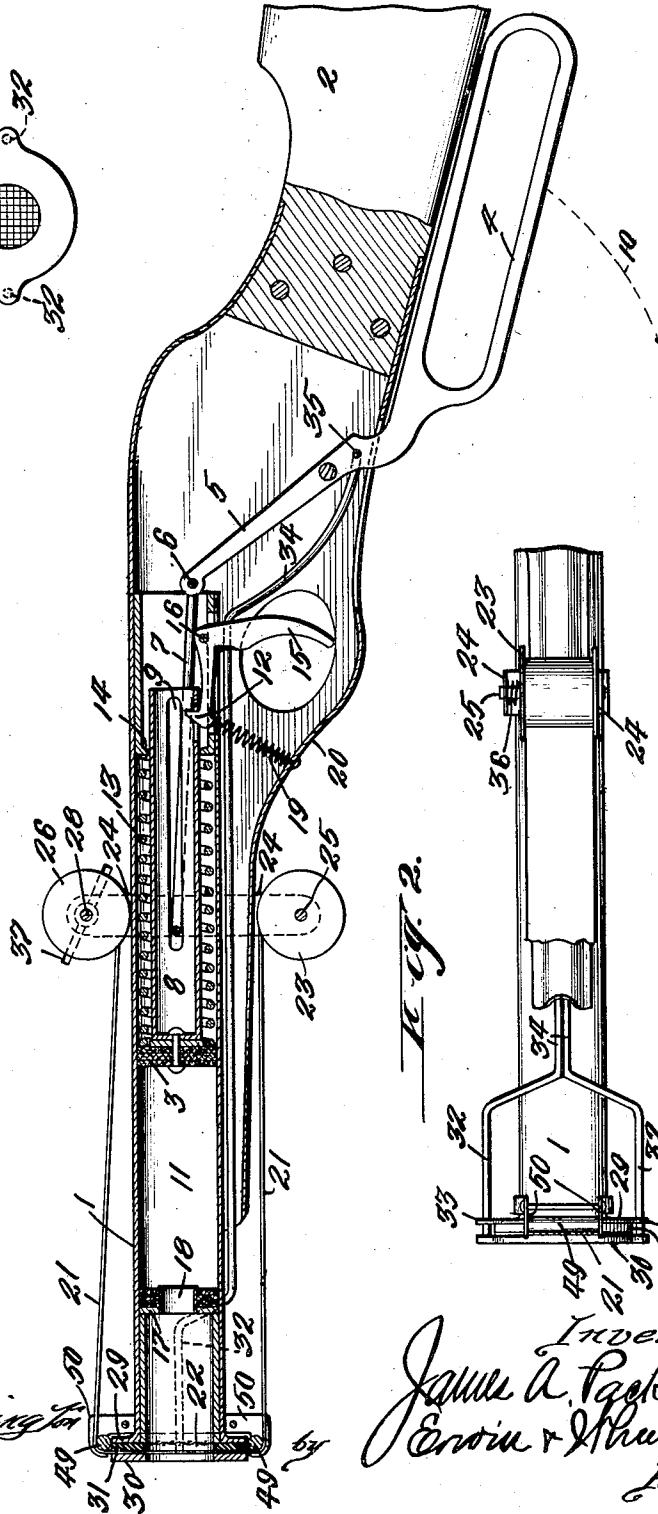
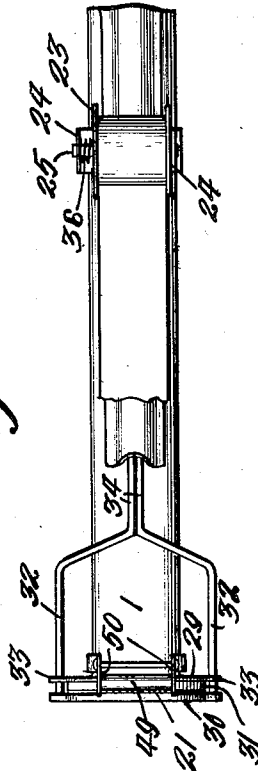


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

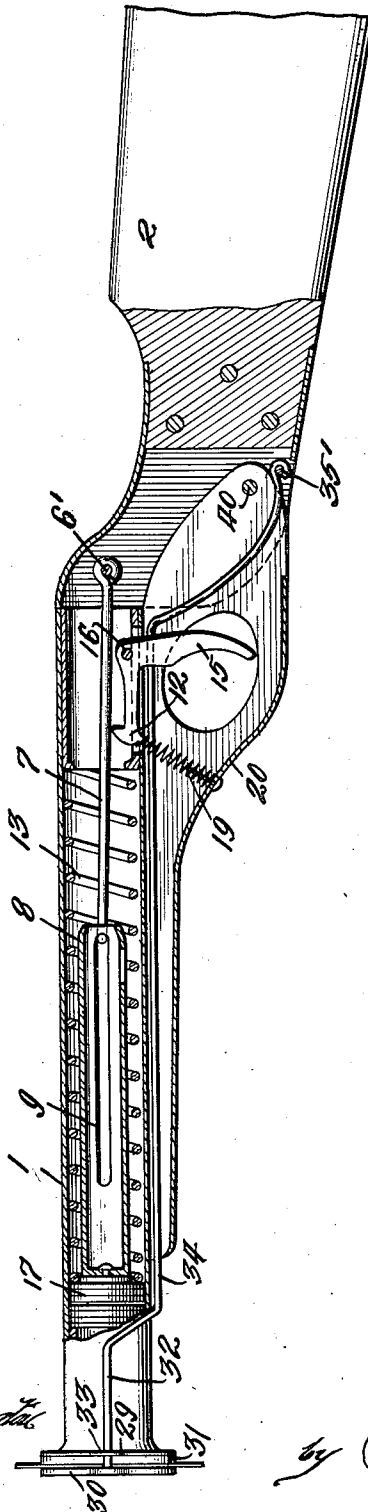
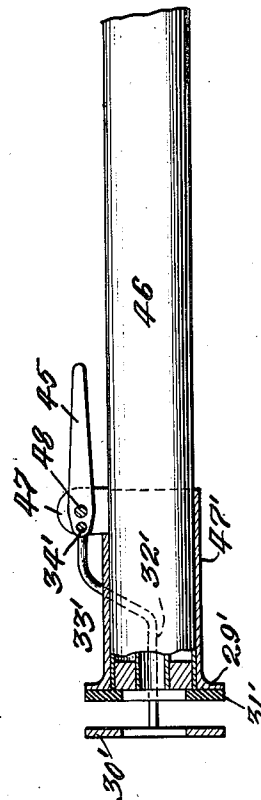


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES A. PACKARD, OF MILWAUKEE, WISCONSIN.

PNEUMATIC GUN.

1,065,546.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed January 21, 1911. Serial No. 603,820.

To all whom it may concern:

Be it known that I, JAMES A. PACKARD, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Pneumatic Guns, of which the following is a specification.

It is a well known fact that a large number of severe accidents have been caused by the use of the ordinary pneumatic gun, owing to the fact that as heretofore constructed, they are adapted to and have been used for projecting bird shot, gravel, etc., by which such accidents have been caused.

The object of my present invention is therefore to provide a pneumatic pop gun or pistol, which is adapted, when discharged, to produce a loud report resembling that of ordinary fire arms, but with which it is impossible to discharge a projectile.

My invention is further explained by reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal section of the preferred form thereof. Fig. 2 is a bottom view of the front portion of the barrel of a gun. Fig. 3 is an end view. Fig. 4 is a side view, part in section, of a modified form of gun, the stock and barrel of which are pivotally connected together in such a manner as to be turned at right angles to each other for the purpose of operating the piston and other cooperative parts, and Fig. 5 is a device which is adapted to be used in connection with an ordinary pneumatic gun or pistol for producing an explosive sound.

Like parts are identified by the same reference characters throughout the several views.

In the preferred form, the barrel 1 and stock 2 of the gun are rigidly connected together and the piston 3 is adapted to be operated by a lever 4, which lever 4 is connected with said piston through an arm 5, pivotal connections 6, link 7, and tubular member 8. The tubular member 8 is provided with a longitudinal slot 9 for the reception of the front end of the link 7. It will be understood that preparatory to operating the gun, the lever 4 is thrown forwardly in the direction indicated by the dotted line 10, whereby the piston 3 is drawn rearwardly or toward the stock of the gun, when the chamber 11 is filled with air. As the piston is drawn rearwardly, it is engaged by the catch 12, whereby it is re-

tained in its rearward position, preparatory to being released.

13 is a spiral spring, which is interposed between the piston 3 and the inward projecting flanges 14, whereby as the piston is drawn rearwardly, said spring is compressed and put under tension preparatory to forcing the piston forward as soon as the latter is released from the catch 12. The catch 12 is rigidly connected with the trigger 15, by which it is disengaged from the piston by drawing rearwardly thereon, said trigger and catch forming a bell crank lever, which is pivotally supported from the barrel of the gun at its respective sides on the pin 16.

17 is a stationary partition, which is provided with a central aperture, 18, for the passage of air, said partition serving the two fold purpose of stopping the piston at the limit of its forward movement and also for confining the escaping air to said central aperture.

19 is a spiral spring, which is interposed between an inclosing wall 20 of the stock and the rear side of the catch 12, whereby said catch is forced upwardly into the position shown by the recoil of said spring in position to automatically engage the front side of said piston as the same is drawn back, preparatory to discharging the gun.

The invention as thus far described, is in the main substantially like that of the ordinary pneumatic gun, and my improvements pertain more especially to the device for holding a strip of paper 21 in front of the nozzle of the barrel of the gun or pistol, whereby the air is caused to escape with explosive force through said paper, while it at the same time is adapted to tear a round aperture in the paper, which is thus held. My present invention also pertains further to the use of the screen 22, located at the extreme front end of the barrel, whereby it becomes impossible to insert shot or other projectiles in the gun, preparatory to discharging the same, together with the mechanism for holding said paper and for automatically operating the clamps by which the paper is held.

For convenience of operation, I preferably support a long strip of paper 21 upon a spool 23, and said spool 23 is revolubly supported from the barrel 1 by a pair of brackets 24, 24, and shaft 25, while the opposite end of said strip of paper is preferably connected with the spool 26 upon the opposite

side of the barrel, and said spool 26 is revolvably supported from the barrel 1 by the brackets 24 and spool supporting shafts 28. Thus it will be understood that when one perforation has been produced in the paper, the strip of paper is drawn forwardly by turning the spool 26 a partial revolution, whereby a non-perforated portion of the paper is brought in front of the barrel preparatory to being again acted upon. The barrel 1 is provided at its front end with a stationary collar 29 and a slidable collar 30, while a washer formed of rubber or other elastic material 31 is interposed between said collars and serves as a packing, whereby as said collars are drawn forwardly together against the respective sides of said strip of paper, a practical air tight joint is formed against said paper, whereby the air is prevented from escaping and is compelled as it is forced forward, to pass through the paper with an explosive force, whereby the desired concussion is produced.

The collar 29 is formed integrally with or rigidly affixed to the front end of the barrel, while the collar 30 is slidably supported in front of the barrel from the arms 32, 32, and said arms are supported and guided at their front ends by the radial brackets 33, 33. The arms 32 are connected with an operating lever, through a link 34 and pivotal member 35, whereby as said arm 4 is drawn forwardly in the act of drawing back the piston, said slidable collar 30 is moved forwardly a slight distance from the stationary collar 29, preparatory to inserting the strip of paper between said collars. When, however, said lever 4 is drawn back to its rearward position, as indicated in Fig. 1, said collar 30 is drawn rearwardly, and the strip of paper 21 is securely clamped between said collar and the elastic packing 31, preparatory to being torn asunder by the explosive force of the escaping air.

36 is a spiral spring, which is interposed between one end of the spool 23 and the supporting member 24 and serves as a frictional bearing to prevent the spools from being accidentally turned.

37 is an operating arm, which is rigidly connected to one end of the shaft 28 for the purpose of revolving the spool 26 as the strip of paper is drawn forwardly in front of the discharge end of the barrel.

In the modified form shown in Fig. 4, the piston 17 is connected with the stock 2 of the gun by the pivotal bolt 6', link 7 and tubular member 8, the rear end of said tubular member 8 being provided with a longitudinal slot 9 for the reception of the front end of said link, and said operating lever 4 and arm 5 shown in Fig. 1, are dispensed with. It will be understood that by the device shown in Fig. 4, the barrel 1 of the

gun is pivotally connected with the stock 2 by the pivotal bolt 40, whereby when desirous to operate the piston, as previously described, the stock 2 is turned on said pivotal bolt 40 at nearly right angles to said barrel, whereby the piston 17 will be drawn back and engaged by the retaining hook 12 as previously described. It will be understood that the retaining hook 12 is supported from the sides of the barrel by the pins 16 and that said hook is retained in the position shown in Fig. 4, preparatory to engaging the piston as it is drawn rearwardly by the recoil of the spiral spring 19, said spring 19 being interposed between the rear side of said catch 12 and the wall 20, whereby said catch will be automatically caused to engage the piston as soon as it is drawn back by the action of the stock, and whereby said piston will be disengaged from said catch by drawing rearwardly upon the trigger 15, which trigger 15 is formed integrally with the catch. The clamping member 30 shown in Fig. 2, is slidably supported from the front end of the barrel 1 in substantially the same manner as shown in Fig. 1 and as previously described, by the arms 32 and bracket 33, and said arms 32 are connected at their rear ends with the stock 2 through the link 34 and pivotal pin 35', whereby as the stock is drawn down at right angles to the barrel, said slidable disk 30 will be moved forwardly preparatory to inserting the strip of paper 21, and whereby as said stock 2 is drawn back to its normal position, as shown in Fig. 2, said strip of paper will be again clamped between the slidable collar 30 and the elastic packing 31, as previously described.

By the modified form shown in Fig. 5, the movable collar 30' is slidably supported from the arms 32' in front of the stationary collar 29', and the strip of paper is adapted to be clamped between said movable collar 30' and the annular packing 31' through the action of the operating lever 45, said lever 45 being pivotally supported from the barrel 46 by the radial lugs 47, tubular member 47' and pivotal bolt 48, while the short arm of said lever 45 is connected with said arms 32' by the central member 33' and pivotal bolt 34'. It will be understood that the device shown in Fig. 5 is adapted to be attached to any of the various styles of pneumatic guns or pistols heretofore made, and that the barrel 46 is therefore of ordinary construction.

In operating the device shown in Fig. 5, a strip of paper is manually placed between the slidable collar 30' and the annular packing 31', when said slidable collar 30' is drawn rearwardly against the front side of the paper by throwing the rear end of the lever 45 forwardly, whereby said paper is securely clamped in place and thus secured

until the gun has been discharged. When the gun has been discharged, the torn paper is released by bringing the lever 45 back to its normal position, shown in Fig. 5, preparatory to inserting another piece of paper.

49, 49 are anti-friction bearings, over and upon which the strip of paper 21 is adapted to pass as it is drawn from the spool 23 to the spool 26, and 50, 50, are guiding flanges located at a slight distance from said anti-friction bearings 49 and cooperate with said bearings in guiding the paper between the opposing surfaces of the clamping collars.

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

In a device of the described class, the combination of a gun barrel, a gun stock rigidly

affixed to said barrel, means for clamping a piece of paper over and against the mouth of said barrel, a piston located in said barrel, a piston rod pivotally connected at one end to said piston, a lever pivotally connected with the opposite end of said rod, and additional means connected with said lever for simultaneously operating said paper clamping device as said piston is operated, whereby as said lever is moved in one direction, said clamping device will be opened for the reception of paper, and when moved in the opposite direction, said clamping device will be closed against the paper.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES A. PACKARD.

Witnesses:

JAS. B. ERWIN,

CHAS. M. JOHNSON.