No. 798,411. PATENTED AUG. 29, 1905.

M. B. HOLSTEIN.

SOUNDING TOY.

APPLICATION FILED MAR. 1, 1905.

Fig. 1.

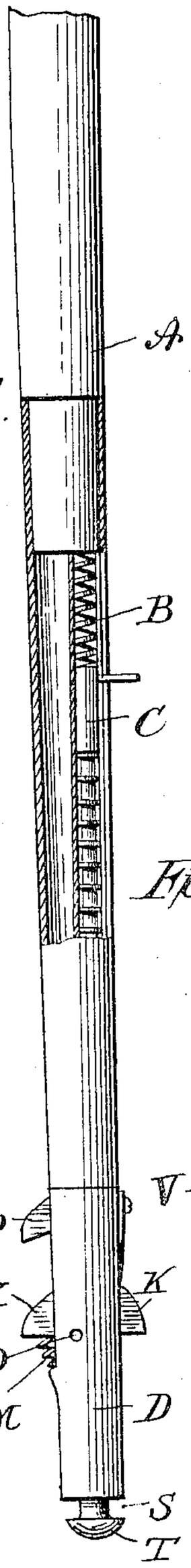


Fig. 2.

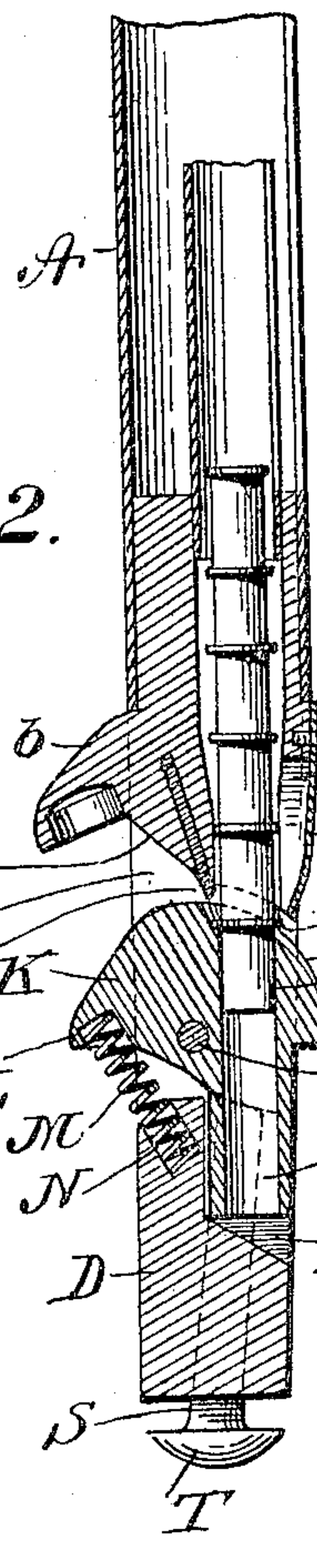


Fig. 3.

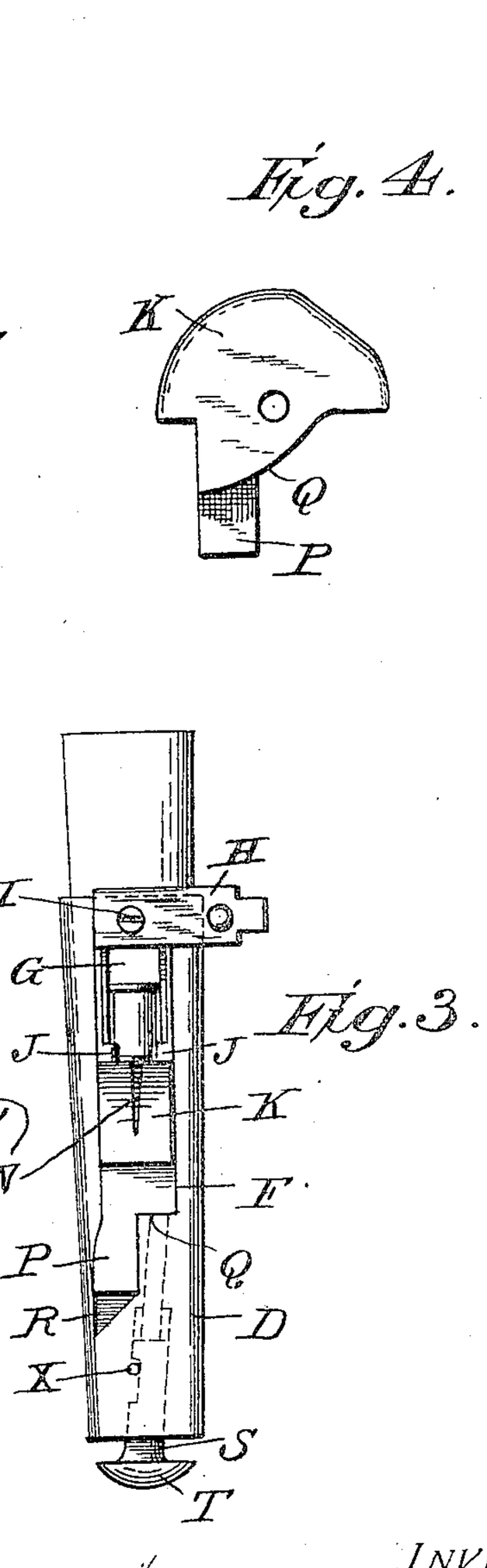


Fig. 4.

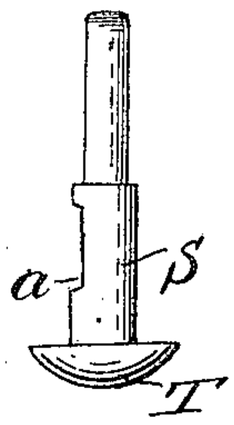


Fig. 5.




WITNESSES:

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INVENTOR

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# UNITED STATES PATENT OFFICE.

MICHAEL B. HOLSTEIN, OF RICHLAND, PENNSYLVANIA.

## SOUNDING TOY.

No. 798,411. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed March 1, 1905. Serial No. 247,859.

*To all whom it may concern:*

Be it known that I, MICHAEL B. HOLSTEIN, a citizen of the United States of America, residing at Richland, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Sounding Toys, of which the following is a specification.

This invention relates to games and toys, and particularly to a class thereunder known as "sounding toys."

An object of this invention is to provide novel means for delivering blank cartridges successively to a firing mechanism, causing the explosion or discharge of the cartridges and automatically ejecting the shell, the initial movement of the firing mechanism serving to cause the discharge of the load and the ejection of the shell.

A further object of this invention is to provide novel means for permitting the rapid impact of the plunger for actuating the firing mechanism and in the provision of novel means for permitting the escape of the charge at the time of the explosion.

It is the purpose of this invention to utilize a hollow staff or cane or any other tube, and in the use of the term "staff" it will be understood that we embrace within this term any sheet-metal or cast-iron tube or wooden staff or stick provided with a bore or any other device capable of containing a plurality of shells or cartridges containing an explosive to be fed to the discharging mechanism, and in connection with such staff I employ a device for exerting pressure on the shells or cartridges for the purpose of projecting them toward the firing mechanism, which firing mechanism is preferably carried by the staff and adapted to fire the charges by repeated strokes of the firing mechanism or parts of the firing mechanism against a solid or fixed object.

Finally, an object of this invention is to provide a cartridge-exploder of the character noted which will possess advantages in points of efficiency, strength, and durability, proving at the same time comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming part of this specification, wherein like characters denote corresponding parts in the several views, in which—

Figure 1 is a view in side elevation, partly in section, of the staff and head. Fig. 2 is a longitudinal sectional view of the head. Fig. 3 is a front elevation of the head. Fig. 4 is a detail of the breech. Fig. 5 is a detail of the operating-pin.

In these drawings, A denotes the staff, which, as heretofore stated, may be of any preferred construction having a hollow portion to form a way in which the cartridges are placed and in which they travel toward the head, the said cartridges being normally projected toward the head through the medium of the spring B and the follower C, against which one end of the spring bears.

The head D is of metal, preferably cast in a single piece and having a longitudinally-disposed opening E alining with the bore of the staff and into which the cartridges are caused to travel. The head is provided with a transversely-disposed opening F, which intersects the opening E, and the wall of the head is cut away at the point G to permit communication with the opening E, whereby the cartridges are fed to the magazine or staff. This cut-away portion G has a guard H, which is pivotally connected to the head through the medium of the screw I, the said screw passing through the guard and being threaded in the head, or, if desired, a rivet may be substituted for the screw. The guard is sufficiently rigid to have a spring action in order that it may bear against the wall of the head and cause the said guard to retain its normal position, closing the opening for the purpose of preventing displacement of the cartridges. As a further means for preventing transverse movement of the cartridges I provide two lugs J, which project from the sides of the opening and serve to engage the cartridge.

Pivoted in the transverse opening is a block K, which may be termed a "breech," which has an opening or hole normally alining with the longitudinally-disposed opening E of the head, and this opening is of the proper size to receive the cartridge, it being understood that the flange of the cartridge shall lie against the outer surface of the breech. The breech is provided with a recess L, in which an end of the spring M is seated, and the head has a recess N, in which the opposite end of

the spring is embedded, and the spring is of such construction as to exert a pressure on the breech for holding it in the normal position. (Shown in Fig. 2.) The pivotal pin O extends through the sides of the head and through the breech, and said breech is swingingly mounted, as stated, on the pivotal pin. The pin is in the form of a screw, so that it may be applied and removed. The breech is further provided with an extension or barrel P, which has a bore alining with the cartridge-receiving opening heretofore described, and this barrel is designed for the purpose of conducting the charge after it has been exploded and permitting it to escape without coming in contact with any part of the operating mechanism. It is observed that the barrel-opening is to one side of the center of the breech and that a shoulder Q is formed at one side of the barrel. The barrel lies normally in a recess R of the head, in which position there is no danger of an explosion of the shell; but when the breech is swung on its pivot the muzzle of the barrel is swung out of the recess into the position to permit the discharge of the load in the manner heretofore mentioned. In order to oscillate the breech against the action of the spring M, I provide a plunger S, which has a shank slidable through the outer end of the head, the end of the said plunger engaging the shoulder Q and serving to swing the breech on its pivot. The plunger is provided with a head T of any ordinary design, and this head is adapted to contact with a hard fixed object, such as a pavement or the like, and when forced into contact with such a fixed object the said breech is swung on its pivot. The transverse opening is so formed as to produce an end wall U, which is beveled, and preferably formed integral with the said wall is a firing-pin V, although, if desired, a hole may be drilled and the firing-pin inserted; but this being a detail of construction I reserve the right to produce this pin in any desired manner. It is only necessary that the pin shall project sufficiently to obstruct the free passage of the flange of the cartridge which is to be carried by the breech, and it is preferably wedge-shaped, so that it will have a somewhat cutting action on the flange of the shell It is observed that the outer surface of the breech is provided with a channel W, which permits said breech to travel past the firing-pin without causing the firing-pin to engage the breech. The plunger is retained in the head by a cross-pin X, which lies in a recess *a*, formed in the shank of the plunger, the said cross-pin serving to limit the outward movement of the plunger to prevent accidental displacement.

In the operation of this device the cartridges are applied through the cut-away portion of the head, or, if desired, the opening for charging the magazine may be placed at any desired position, and the said cartridges after being inserted in the magazine are caused to travel toward the head through the medium of the spring and follower heretofore described. It is understood that the forward cartridge will be forced into the said form in the breech, with the flange of the shell lying on the outer surface of the said breech. Upon striking the head of the plunger against a hard object the said plunger is driven inward, which movement causes said breech to swing on its pivot against the pressure of the spring. As the breech oscillates on its pivot the flange of the shell or the firing-rim of the shell is caused to travel past the firing-pin, and the firing-pin will be partially embedded in the firing-rim as the cartridge passes over it. The travel of the breech is so rapid as to cause the same effect as an impact, and therefore the firing-pin serves to discharge the cartridge, and the relation of parts is such that at the time the cartridge is discharged or exploded the barrel will be free to discharge the load, and at the same time the flange of the cartridge will be beyond the firing-pin, thus releasing the shell of the cartridge and permitting it to fly out of the seat in the breech, freeing the opening, so that on the return of the breech to its normal position a new cartridge may be forced into place, so that the operation may be repeated again and again. The rapidity with which this loading and automatic unloading is effected is determined wholly by the operator, who may discharge a series of cartridges in an incredibly short time. In order to arrest discharged shells, so that they may not do damage, a buffer *b* is formed integral with or attached to the head at the outer end of the beveled portion of the transversely-disposed opening, so that as the shells are discharged from the breech they strike the buffer and are arrested, the said shells being caused to fall to the ground, where they do no damage.

In case cartridges of larger caliber than twenty-two are used the parts ought to be correspondingly strengthened; but as that is a matter of proportion and does not enter into the invention it will be understood that we reserve the right to change the proportions and details of construction for successfully carrying the invention into practice.

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

1. In a device of the character described, a suitable magazine, an oscillating breech, means for feeding the cartridges to the breech, a firing-pin with which the breech coacts, and a plunger for oscillating said breech.

2. In a device of the character described, a suitable magazine, a breech adapted to receive the cartridges, means for feeding the cartridges to the breech, means for oscillating the breech, and a firing-pin in conjunction with which the breech operates to fire the cartridges.

3. In a device of the character described, a suitable magazine, an oscillating breech adapted to receive the cartridges, means for feeding the cartridges to the breech, a firing-pin with which the breech coacts, and means for permitting the discharge of the shell after the cartridge is fired.

4. In a device of the character described, a suitable magazine, a head thereon adapted to receive cartridges from the magazine, means for forcing the cartridges toward the head, a breech having a hole for receiving cartridges, means for oscillating the breech normally in alinement with the magazine, a stationary firing-pin with which the breech coacts, said firing-pin being knife-like in cross-section and a buffer against which the shells are ejected.

5. In a device of the character described, a magazine adapted to contain cartridges, means for projecting the cartridges, a head having an opening alining with the magazine, through which cartridges are forced, a breech having an opening normally alining with the magazine, a pivot on which the breech is oscillated, a plunger for oscillating the breech, a buffer formed integral with the head, against which the shells are thrown when ejected.

6. In a device of the character described, a suitable magazine, means for projecting the contents of the magazine, a head having an opening alining with the magazine, a breech swingingly mounted in the head adapted to receive cartridges from the magazine, a barrel on the breech, a stationary firing-pin projecting from the head and adapted to coact with the breech, the said breech having a channel to permit the movement of the breech without contacting with the firing-pin, the cartridge-seat of the breech being in such relation as to permit the automatic ejection of the shell by the force of the explosion and a buffer against which the shell is thrown, as and for the purpose described.

In testimony whereof I affix my signature, in the presence of two witnesses, this 28th day of February, 1905.

MICHAEL B. HOLSTEIN.

Witnesses:

FRANK S. APPLEMAN,

GEO. M. COPENHAVER.