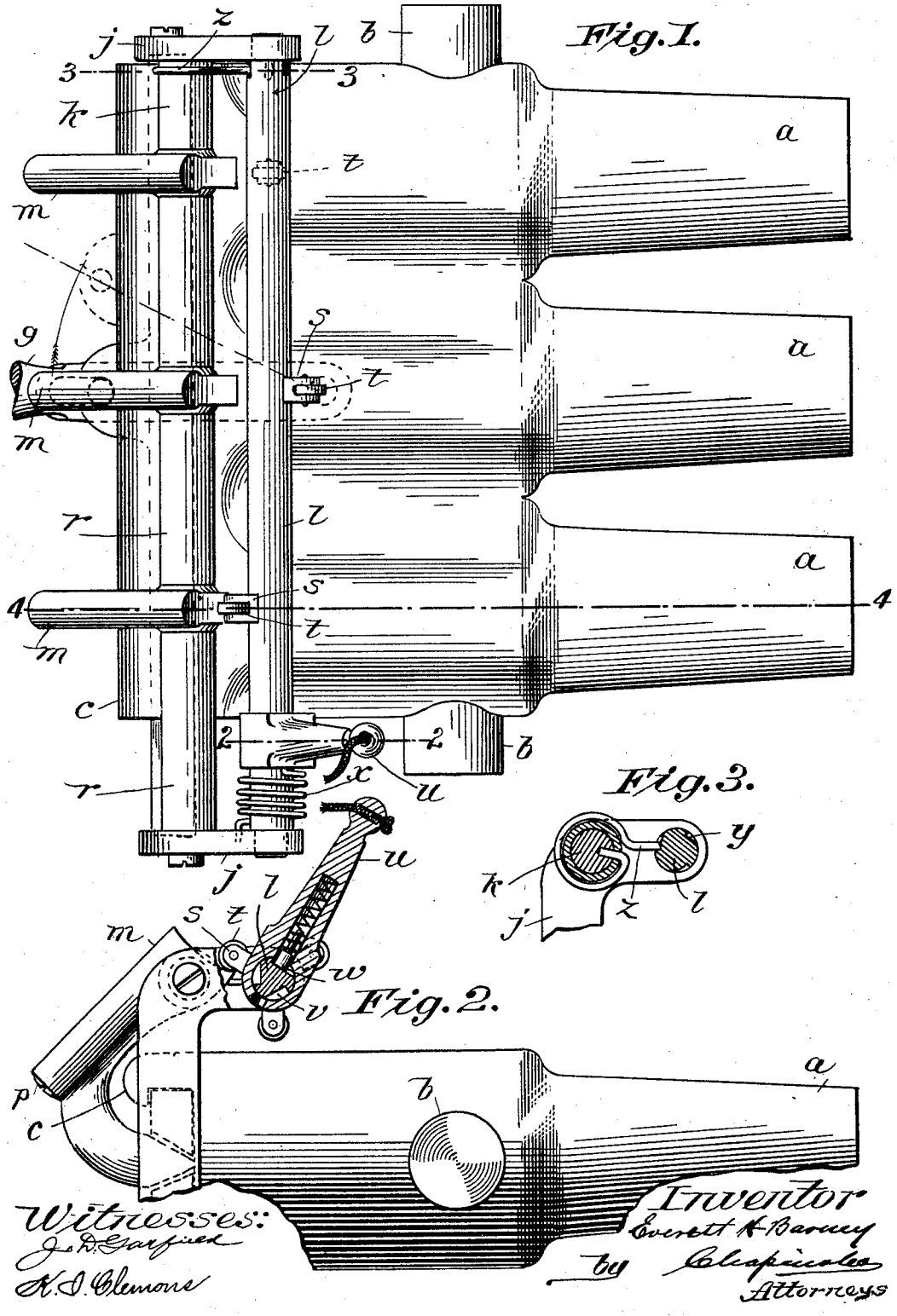
No. 684,627. Patented Oct. 15, 1901.

E. H. BARNEY.

SALUTING GUN.

(Application filed Mar. 14, 1901.)

(No Model.) 2 Sheets—Sheet 1.



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 684,627. Patented Oct. 15, 1901.

E. H. BARNEY.

SALUTING GUN.

(Application filed Mar. 14, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 4.

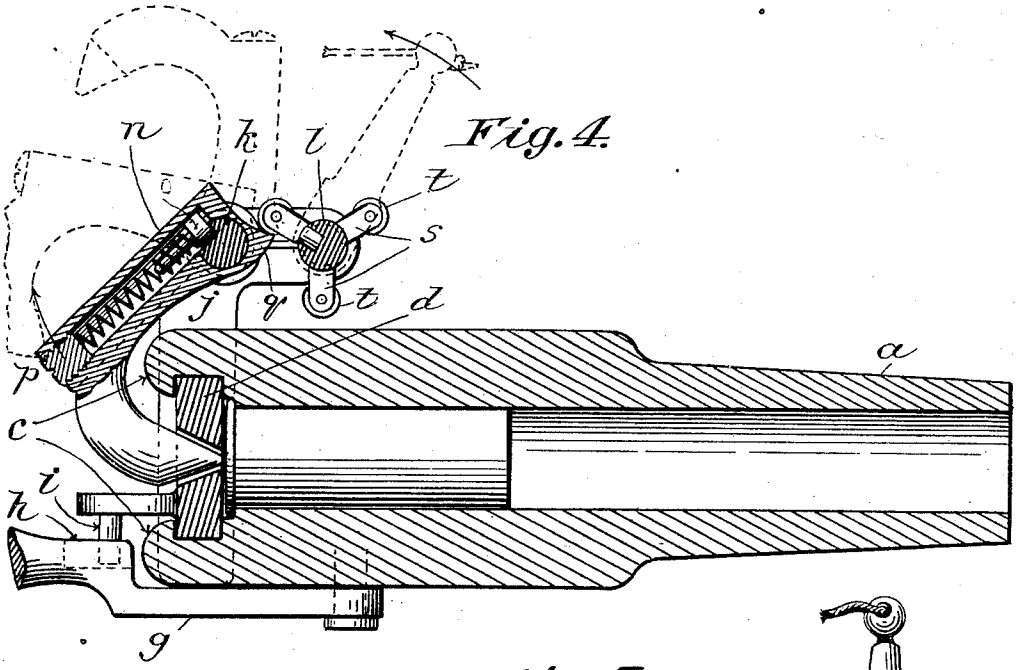
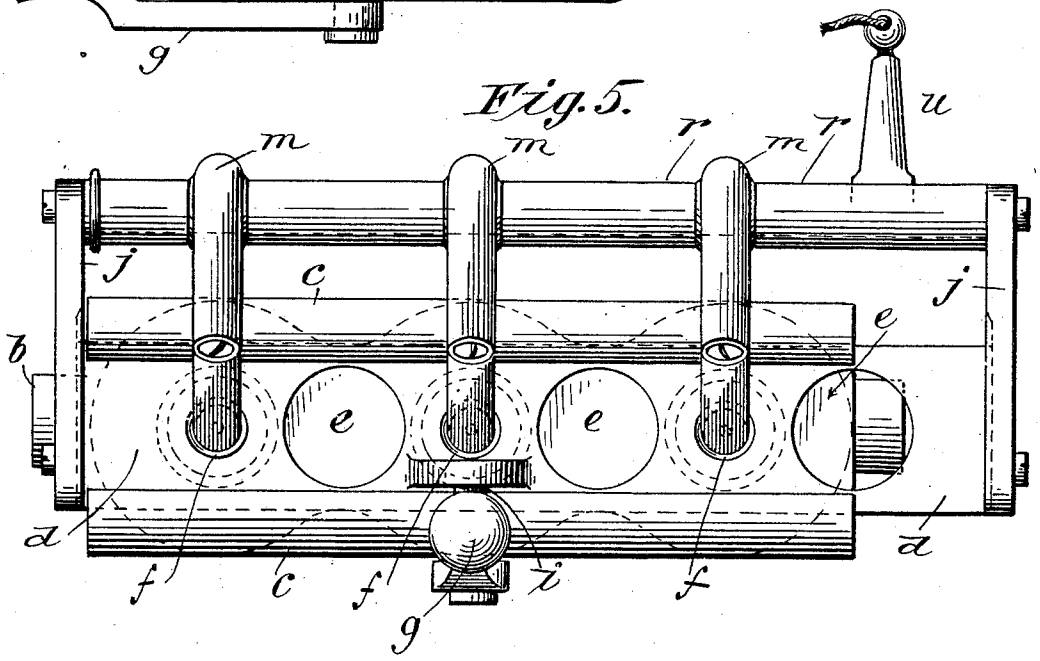


Fig. 5.



Witnesses:
J. L. Garfield
K. D. Clemons

Inventor:
Everett H. Barney
by Chapin & Co
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EVERETT H. BARNEY, OF SPRINGFIELD, MASSACHUSETTS.

SALUTING-GUN.

SPECIFICATION forming part of Letters Patent No. 684,627, dated October 15, 1901.

Application filed March 14, 1901. Serial No. 51,137. (No model.)

To all whom it may concern:

Be it known that I, EVERETT H. BARNEY, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Saluting-Guns, of which the following is a specification.

This invention relates to firearms, and particularly to that class adapted to signaling and saluting purposes, the object of the invention being the construction of a piece comprising a plurality of barrels and means for firing them singly in a certain order or in unison, a further object of the invention being the provision of one breech-block for a plurality of barrels and of firing mechanism carried on said breech-block and movable therewith.

In the drawings forming part of this specification, Figure 1 is a top plan view of an arm of the class described embodying my invention. Fig. 2 is a sectional view through the operating-lever of the firing mechanism, taken on line 2 2, Fig. 1. Fig. 3 is a sectional view through a portion of the firing mechanism on line 3 3, Fig. 1. Fig. 4 is a longitudinal section through one of the barrels of the arm and the firing mechanism on line 4 4, Fig. 1, certain parts being left in full lines. Fig. 5 is a rear elevation of the construction shown in Fig. 1.

In carrying my invention into practice I construct a plurality of barrels (indicated by *a*) by casting them in one piece, said barrels being preferably united at their breech ends only, as shown. Said united barrels are provided with suitable trunnions *b*, on which they are supported in any convenient carriage. (Not shown in the drawings.) The rear ends of said barrels are provided with two overhanging ribs *c*, (shown distinctly in Figs. 4 and 5,) which ribs have channels cut therein to receive a breech-block *d*, which is in the form of a plate, substantially as long as the over-all width of the breech ends of the barrels. This breech-block *b* is adapted to slide freely in the channels in said ribs *c* across the breech ends of the barrels and in contact therewith and is provided with loading-apertures *e* and firing-apertures *f*. Endwise motion is given to the breech-block *d* by means of a lever *g*, pivotally connected by its forward end to the under side of one of the barrels and having a groove *h* therein, with which a pin *i* on the breech-block *d* engages, whereby lateral movements of said lever will impart endwise movements to said breech-block. On each end of said breech-block *d* are two vertical arms *j*, which support the firing mechanism and which incidentally constitute stops for limiting the endwise movement of the breech-block *d*. The loading-apertures *e* and the firing-apertures *f* are so spaced in the breech-block that when the latter is moved in one direction to the limit of its movement the firing-apertures *f*, for example, will be brought into axial alinement with the bore of the barrels *a*, and when the breech-block is moved in the opposite direction up to its limit of movement the loading-apertures *e* will be in axial alinement with the barrels.

The firing mechanism, as stated above, is carried on the arms *j* as follows: Two shafts extend transversely of the barrels *a*, supported at their opposite ends in said arms *j*, and are indicated by *k* and *l*, respectively. *k* carries the hammers *m*, and *l* the hammer-tripping mechanism. The hammers *m* consist of a hook-shaped member rotatably hung on the shaft *k* and which for a portion of its length extending from the shaft outward is of cylindrical form and is bored out, as shown in Fig. 4, to receive a spring *n*, which bore intercepts, at its lower end, the shaft *k*. In the latter a notch is cut extending lengthwise of the shaft and constituting a shoulder, against which a plunger *o* abuts, which plunger is held thereagainst by said spring, the outer end of the bore containing the spring being closed by a screw-plug *p*. From the opposite side of the shaft *k* to that against which said plunger *o* bears the hammer is provided with a rearwardly-projecting extension *q*. The free end of the hammer is formed in the shape of a hook, as stated, and the end thereof tapered to a point, which, passing through the firing-aperture *f*, similarly tapered, projects sufficiently beyond the inner face of the breech-block to reach the primer of a cartridge-shell within the bore of the gun. Each of the hammers *m* is secured in proper position on the shaft *k* between the ends of tubular sections *r* on the shaft, located each side of it and fitted in closely between the arms *j*.

It is obvious from the above description that if one of the hammers be swung on the shaft *k* from the position shown in full lines in the drawings to the position shown in dotted lines in Fig. 4 and then released the action of the spring *n* will drive said hammer downward against the primer in the cartridge and explode it. It is seen that by swinging the hammer upward, the shaft, as stated, being stationary, the plunger *o* will be prevented from moving by its engagement with the shaft. Hence the spring *n*, confined between the head of the plunger and the screw-plug *p*, will be compressed, and its reaction will of course drive the hammer down. Means for raising the hammers either simultaneously or in whatever order may be desired are provided by securing to the shaft *l*, which is rotatable in its bearings in the arms *j*, the studs *s*, having in their outer ends the rolls *t*, which studs are secured to the shaft *l* in line with the axis of the bore in the hammers *m*. In the drawings these studs *s* have been shown as located on thirds of a circle around the shaft *l*. On one end of the latter, as shown in Figs. 1 and 2, is an arm *u*, fitted rotatably over the end of the shaft *l*, the latter on that part thereof covered by the hub of the arm *u* being provided with three shoulders, constituting, practically, ratchet teeth *v*, which are engaged by a pawl *w*, consisting of a plunger located within the arm *u* and spring-pressed against said ratchet-teeth, the latter being of such shape that when the arm *u* is swung in one direction it will rotate the shaft *l*, and when the arm is released a spring *x*, (shown in Fig. 1,) engaging the hub of the arm *u*, will throw the latter back again to pick up another of the ratchet-teeth. Thus if the studs *s* are located as shown in the drawings three successive movements of the arm *u* will operate the three hammers in succession at intervals. The arm *u* may be operated by a lanyard or by any other means. On the end of the shaft *l* opposite to that on which the arm *u* is located three depressions *y* are made therein, having shoulders corresponding to the square edges of the ratchet-teeth *v* and with which the end of a spring secured to the shaft *k* engages, which acts as a sort of a spring-stop for the shaft *l*, to the end that the latter may not be rotated backward after having been operatively rotated to fire one of the barrels by the arm *u*, as described. It is obvious that by changing the location one relative to the other of the studs *s* the relative time of firing each of the three barrels may be varied. If desired, the studs *s* may be adjustably clamped to the shaft *l*; but ordinarily in devices of this character the construction is designed to fire in a certain order, which does not vary.

It will be observed that as the lever *g* is swung to bring either the loading or the firing apertures opposite the open breech of the barrel the hammers will move therewith and that therefore should one of the hammers be accidentally operated by the arm *u* it could not strike the primer of the cartridge unless the head of the latter were entirely covered by the solid portion of the breech-block between the loading-apertures *e*. In this class of arm no ejector is used; but after firing the breech-block *d* is slid to the left to bring the loading-apertures opposite the gun-bores and a short ramrod is employed to push the shells out of the arm. After reloading the breech-block is slid to the right again, when the piece is ready for firing. The firing position is shown in Fig. 5. It is obvious that if one of the hammers be swung upward far enough to carry the plunger *o* up over the edge of the notch in the edge of the shaft *k*, with which it engages, then the plunger, riding on the surface of the shaft *k*, is in a position which does not permit the reaction of the spring *n* to force the hammer down to fire the gun. This permits the hammers to be thrown up into a position of safety, if desired, as shown in Fig. 4.

While in this specification I have described specific constructions of hammers and means for operating the same and specific devices for removing the breech-block *d*, I do not wish to be understood as confining myself to these particular constructions, which might be varied more or less without departing from the spirit of the invention. The breech-block *d*, for example, might be moved with a rack and pinion and the hammers *m* might be provided with springs wound around the shaft *k*; but such variations, as stated, would come clearly within the scope of the invention, which consists, essentially, of a plurality of barrels and in means for firing them at will, one at a time, at varying intervals, or all together, if desired.

While a gun having three barrels has been shown and described, it is obvious that the number may be varied, if desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a gun of the class described, a barrel, a breech-block movable transversely of the axis of the barrel, separate firing and loading apertures in said block, a hammer, and a firing mechanism separate from the breech-block, supports at the ends of the latter for said hammer and firing mechanism, whereby they may move as one piece with the latter in operative position relative to the firing-aperture, and means to cock and release said hammer, substantially as described.

2. In a saluting-gun, a plurality of barrels cast in one piece, a breech-block slidable transversely of the barrels, ribs integral with said barrels for supporting said block; separate firing and loading apertures in said block, a hammer for each barrel separate from the breech-block, supports at the ends of the latter for said hammers, the latter being located vertically relative to the firing-apertures, stops on the breech-block for limiting its trans-

verse movements, a spring for each hammer, means for moving said block to bring either the firing or the loading aperture in axial alinement with the barrel, and a firing mechanism whereby each of said hammers may be swung to compress its spring, and released to effect the firing of the barrel, substantially as described.

3. In a breech-loading gun, a barrel, a transversely-movable breech-block therefor having a loading and a firing aperture therein, vertical supports on each end of the block constituting stops for limiting the transverse movements of the latter, a rod in said supports, a hammer on said rod vertically located relative to said firing-aperture, a second rotatable rod supported on said breech-block, the latter and said rods being movable as one piece; an arm on said second rod for engagement with the hammer, near the axis thereof, and means for rotating said second rod, substantially as described.

4. A gun comprising a plurality of barrels, a single transversely-movable breech-block therefor having loading and firing apertures therein, a hammer-carrying rod parallel with said breech-block, supports on the latter for said rod, a hammer for each barrel supported on said rod, vertically relative to said firing-apertures, a second rotatable rod supported on the ends of the breech-block in substantial parallelism with the hammer-carrying rod, projections on said second rod for tripping the hammers, and means for rotating said second rod with a step-by-step movement in one direction, substantially as described.

EVERETT H. BARNEY.

Witnesses:
WM. H. CHAPIN,
K. I. CLEMONS.