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RAPID FIRE BATTERY GUN.
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RAPID-FIRE BATTERY-GUN.

1,283,28.


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To all whom it may concern:

Be it known that I, JOSEPH H. GERNER, a citizen of the United States, residing at Lowville, in the county of Lewis and State of New York, have invented certain new and useful Improvements in Rapid-Fire Battery-Guns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in rapid fire battery guns and comprises essentially the provision of an ordnance apparatus of this nature, so arranged as to deliver fire through a number of barrels arranged in tiers, comprising a battery which may be fired separately or collectively.

The invention comprises a simple and efficient apparatus of this nature having various details of construction, combinations and arrangements of parts, which will be hereinafter fully described, shown in the accompanying drawings, and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings which, with the letters of reference marked thereon, form a part of this specification, and in which:

Figure 1 is a side elevation of my improved battery gun.

Fig. 2 is a central longitudinal sectional view through the gun.

Fig. 3 is an elevation of the breech of the gun.

Fig. 4 is a muzzle elevation.

Fig. 5 is a top view of the breech of the gun, parts being broken away, and

Fig. 6 is a side elevation of a device for cleaning the barrels.

Reference now being had to the details of the drawings by numerals:

I designates a cylindrical outlined casing having a sight groove 1' formed transversely in its upper portion and said casing is provided with a recess 2 formed transversely therein for the reception of the clips or shell conveyors 13. Said casing is provided with tiers of apertures 3 in the front wall of the recess therein, the walls of said apertures being threaded for the reception of the ends of the barrels 4. The outer ends of said barrels having flanges 8 and are supported in apertures in the outer end of the water containing cooling jacket 6, which latter has its inner end seated in a circular outlined recess 7 formed in the forward face of the casting 1. Said water jacket is provided with a suitable filling opening 10, through which water may be introduced, and an exit opening 11, each controlled by a threaded plug, and 9 designates a sight upon the upper forward portion of the jacket.

Upon reference to Fig. 4 of the drawings it will be noted that the said casting is provided with two laterally extending arms 12, parallel to each other and which are recessed at their inner edges, as indicated by numeral 12'. The marginal edges of said recess 12' are flush with the upper and lower faces of the recess 12 formed in the casting. The shell carriers are made up of a plurality of clips 13 having web-portions 14 and 15 intermediate the same, and each clip is provided with shell chambers 16, the number corresponding to the number of barrels 4, and each of which chambers, when the clip is in a firing position, is in registration with a barrel, before it would be possible for the gun to be fired. Plates 18 have circumferential flanges 19', which fit over a recessed portion about the circumference of each clip, and each plate is provided with rows of apertures 20, which are in registration with the chambers of the clips, and the inner faces of said plates are adapted to bear against the outer ends of the shells to hold the same in the chambers provided for their reception. Said casting 1 is provided with a series of apertures 21 leading from the recess 2 through the rear wall of the casting and adapted to receive the firing pins 21', each of which has a head 22, there being a firing pin for each chamber. A rebounding disk or plate 23 is provided with apertures 24, which receive the outer portions of the firing pins and against which the heads of the pins are adapted to contact. Leaf springs 25 are fastened at their corresponding ends to the rebound plate and their other ends are secured to the inner face of the casting 1. The ends which are fastened to the rebound plate are allowed a slight play, through the medium of screws 23', which pass through elongated slots in the ends of the springs.
Rods 26 have their forward ends threaded and engage apertures in the rear face of the casting 1 and also counter-sunk nut 27 in the wall of the recess 2. Said rods pass through apertures in the rebound plate and support the same and also pass through registering apertures in the hammer 34, which latter is provided with a series of recesses 34' in its front flat surface, which recesses 34' are adapted to receive the several heads 32 of the firing pins and which serve to prevent the heads being flattened or distorted when the gun is fired. Said hammer is provided with lugs 33 spaced apart and which are slotted as at 32, for the reception of the pivotal pin 31, which is carried by the firing lever 30. The said lever 30 is pivotally mounted upon the pin 29, carried in the forked end of the integral arm 28, which projects rearwardly from the lower portion of the casting. Said rods 26 have collars 35 held in different adjustable positions thereon, through the medium of the thumb screws 36, against which the hammer 34 is adapted to contact to limit its throw.

Upon reference to Fig. 3 of the drawings, it will be noted that the under edge of each clip or shell carrier has a V-shaped notch 37, which is formed in the vertical center of the clip, and 38 designates a pin mounted in a hole 38' in the bottom of the recess 3, and 39 is a spring mounted in said hole 38', bearing yieldingly against the bottom of the pin and tending to hold the upper end of the pin, which is tapering, in the notch 37 of the clip to center the latter, before it would be possible to fire the gun. A rod 41 is pivotally connected through the medium of the pin 43 with the firing lever 30, and has a longitudinal movement in a hole 42 formed transversely in the casting 1 and intersecting the hole 38', and the free end of said rod 41 has a shoulder 41' formed on the upper edge thereof. Said pin 38 has a transverse aperture 40 formed therein and which, when in registration with the aperture 42, will permit the rod 41 to pass therethrough and which is necessary before the gun can be fired.

In operation, the shells are inserted in the several clips and the latter placed in the recesses formed in the adjacent edges of the arms 12, shown in Fig. 3 of the drawings, and by moving the clips laterally the first one of the series when it comes in proper position so that the chambers therein will be in line with the barrels and the firing pins, the spring pressed pin 38 will be thrown up into the notch 37, thus insuring the centering of the clip. When the pin 38 is in its engaging relation with the notch 37, the aperture 40 in said pin will be in registration with the hole 42, which will permit the shouldered end of the bar 41 to pass through the pin and in which position the shouldered part will be in front of the latter. The gun may then be fired by the operator swinging the firing lever 30 forward, bringing the hammer into engagement with the heads of the firing pins and further forward movement of the lever will cause the rebound plate 28 to be moved forward and the pins will be driven through the apertures of the plates 18 and against the shells, the battery of shells being fired simultaneously. After the gun has been fired by throwing the hammer forward, and pressure is released from the handle, the springs 25 will throw the rebound plate slightly backward carrying with it the firing pins, this movement being slight, merely sufficient to permit the firing pins to withdraw from the priming caps of the cartridges. This initial backward movement of the lever will cause the bar 41 to move only a very slight distance, preferably $frac{1}{4}$ of an inch, owing to the said bar 41 being pivotally connected to the lever near its pivotal point. This outer movement of the bar 41 will not be sufficient to prevent the free downward movement of the centering pin 38 so that the clips may be moved freely in one direction or the other, the movement of the clips being permitted as the inclined edges of the centering notches 37 come in contact with the inclined portions of the pin 38 at its upper end. When, however, the lever and hammer are thrown back to cocked or firing position, as shown in Fig. 2, the inner end of the bar 41 will prevent the pin 38 from moving downward, and will consequently lock the clip, thereby holding the cartridges in true alinement with the respective barrels until fired or uncocked. It will be noted, however, that it will be necessary for the clip to be properly centered, which will permit the pin 38 to engage the notch 37, before the firing lever may be swung upon its pivot in the act of retracting the hammer to fire the shells in the second clip. In the event of the pin not engaging the notch 37, the shouldered portion 41' of the bar 41 would come in contact with the pin about the marginal edges of the aperture therein and prevent the outer swinging movement of the firing lever. This, however, would be obviated, as before stated, when the pin is at its highest limit and in engagement with the notch 37, which will permit a longitudinal movement to the bar 41. Through the medium of the collars 33, which are held in adjusted positions through the medium of the screws 36, the limit of the outer throw of the hammer may be regulated. In Fig. 6 of the drawings is shown a member 49, having a handle 50 at one end which is provided with a series of rods 48 guided in apertures 47 in the flanged disk 46. The latter is adapted to fit over the muzzle end of the gun, while the rods
45 are permitted to be inserted through the various barrels for the purpose of ejecting the cartridges or cleaning the barrels.

In arranging the barrels, it will be noted that the outer tiers are provided for a diverging fire, being at slight inclinations, whereas the barrels in the center series are substantially parallel, although it will be understood that the arrangement of the barrels may be varied without in any way departing from the spirit of the invention.

What I claim to be new is:

1. A battery gun, comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, spring pressed means for centering the clip, a rebound plate, firing pins mounted in registering apertures in said plate and casting, a firing lever, and a hammer connected thereto.

2. A battery gun, comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, spring pressed means for centering the clip, a rebound plate, firing pins mounted in registering apertures in said plate and casting, a firing lever, a hammer connected thereto, and means for supporting and guiding said hammer.

3. A battery gun, comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, means for centering the clip, a rebound plate, firing pins mounted in registering apertures in said plate and casting, a firing lever, and a hammer connected thereto, guide rods secured to the casting and passing through apertures in said plate and hammer, and means for limiting the outer movement of said hammer.

4. A battery gun, comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, a spring pressed pin mounted in the casting and adapted to hold the clip in a central position, a yielding rebound plate mounted upon the casting and provided with a series of apertures, firing pins mounted in registering apertures in said plate and casting, a hammer and supporting guide rods for the same, and a firing lever pivoted to the hammer.

5. A battery gun comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, a spring pressed pin mounted in the casting and adapted to hold the clip in a central position, a yielding rebound plate mounted upon the casting and provided with a series of apertures, firing pins mounted in registering apertures in said plate and casting, a hammer and supporting guide rods for the same, and a firing lever pivoted to the hammer.

6. A battery gun comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, a spring pressed pin mounted in the casting and adapted to hold the clip in a central position, a rebound plate having a series of apertures therein in registration with apertures in said casting, springs secured to the latter and having pivotal slotted connection with said plate, guide rods secured to the casting and passing through apertures in said plate, a pivotal firing lever, and a hammer connected to said lever and having apertures for the reception of said rods.

7. A battery gun comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, a spring pressed pin mounted in the casting and adapted to hold the clip in a central position, a rebound plate having a series of apertures therein in registration with apertures in said casting, springs secured to the latter and having pivotal slotted connection with said plate, guide rods secured to the casting and passing through apertures in said plate, a pivotal firing lever, and a hammer connected to said lever and having apertures for the reception of said rods.
connection with said plate, guide rods secured to the casting and passing through apertures in said plate, said casting having a rearwardly extending integral arm, a firing lever pivoted thereto, and a hammer pivoted to said lever supported and guided by said rods.

8. A battery gun comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, a sliding shell carrying clip movable within the recess of the casting, a spring pressed pin mounted in the casting and adapted to hold the clip in a central position, a yielding rebound plate mounted upon the casting and provided with a series of apertures, firing pins mounted in registering apertures in said plate and casting and having heads at their outer ends, a hammer and supporting guide rods for the same, a pivoted firing lever connected to said hammer, the forward face of the hammer being flat and provided with recesses to receive the heads of the firing pins.

9. A battery gun comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, sliding shell carrying clips movable within the recess of the casting, flanged plates fitted over the rear faces of the clips and having apertures in registration with the chambered portions of the clips, the rear wall of said recess being provided with a series of apertures, a rebound plate supported by the casting and having apertures in registration with said apertures in the rear of the casting, firing pins mounted in the registering apertures of the rebound plate and rear wall of the casting and movable through the apertures in said flanged plates, a spring pressed pin for engagement with a notch in a clip to center the same, a pivotal firing lever, a hammer carried thereby, and means actuated by the lever for locking the gun against being fired when said pin is out of engagement with the notch in a clip.

11. A battery gun comprising a casting with a recess therein, the front wall of the latter being provided with a series of apertures, a water jacket secured to said casting and having its forward end apertured, barrels extending through the apertured end of said jacket and fastened in the apertures of said casting, sliding shell carrying clips movable within the recess of the casting, flanged plates fitted over the rear faces of the clips, each clip having a notch in the under edge thereof and said flanged plates having apertures in registration with the chambered portions of the clips, the rear wall of said recess being provided with a series of apertures, a rebound plate supported by the casting and having apertures in registration with said apertures in the rear of the casting, firing pins mounted in the registering apertures of the rebound plate and rear wall of the casting and movable through the apertures in said flanged plates, a spring pressed pin for engagement with a notch in a clip to center the same, a pivotal firing lever, a hammer carried thereby, a bar pivoted at one end to said lever, said casting being provided with a transverse hole in which said bar has a longitudinal movement intersecting a hole in which said pin is mounted, the latter being provided with a transverse aperture for the reception of said bar, the upper edge of the bar being shouldered near its free end.

12. A battery gun comprising a casting with a sight groove in the upper portion thereof and provided with a recess the front wall of which has a series of apertures, the walls of which are threaded, a water jacket fitted at its rear end to said casting and having its front end apertured, barrels passing through the apertures in the front of the jacket and engaging said threaded apertures of the casting, the outer ends of the barrels having flanges bearing against the end of the jacket, shell clips movable in suitable guide ways in the casting and said recess and provided with shell chambers, means for centering said clips, a rebound plate mounted upon the casting and provided with apertures which are in registration with apertures formed in the rear wall of the recess, firing pins mounted in the apertures of the
rebound plate and in the apertures in the rear wall of the recess, a pivotal firing lever, a hammer pivoted to the lever, and guide rods for supporting the hammer.

13. A battery gun comprising a casting having a recess therein with threaded apertures in the front wall of the recess, a water jacket fitted at its rear end to said casting and its forward end provided with a series of apertures, barrels supported at their outer ends in the apertures in said jacket and their inner threaded ends engaging the apertures in said casting, the latter being provided with laterally extending arms recessed upon their adjacent edges, clips with web portions connecting the same and movable within said recesses of said arms and the recess in the casting, said clips provided with a series of chambers, means for centering the clips with relation to said barrels, an apertured rebound plate, firing pins mounted in said rebound plate and in the rear wall of the said recess, a pivotal firing lever, a hammer pivoted to said lever, and guide rods secured to the casting and passing through registering apertures in said plate and hammer.

14. A battery gun comprising a casting having a recess therein with threaded apertures in the front wall of the recess, a water jacket fitted at its rear end to said casting and its forward end provided with a series of apertures, barrels supported at their outer ends in the apertures in said jacket and their inner threaded ends engaging the apertures in said casting, the latter being provided with laterally extending arms recessed upon their adjacent edges, clips with web portions connecting the same and movable within said recesses of said arms and the recess in the casting, said clips provided with a series of chambers, means for centering the clips with relation to said barrels, an apertured rebound plate, firing pins mounted in said rebound plate and in the rear wall of the said recess, a pivotal firing lever, a hammer pivoted to said lever, and guide rods secured to the casting and passing through registering apertures in said plate and hammer.

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

JOSEPH H. GERNER.

Witnesses:

Le Roy W. Arthur,
Fay L. Parker.