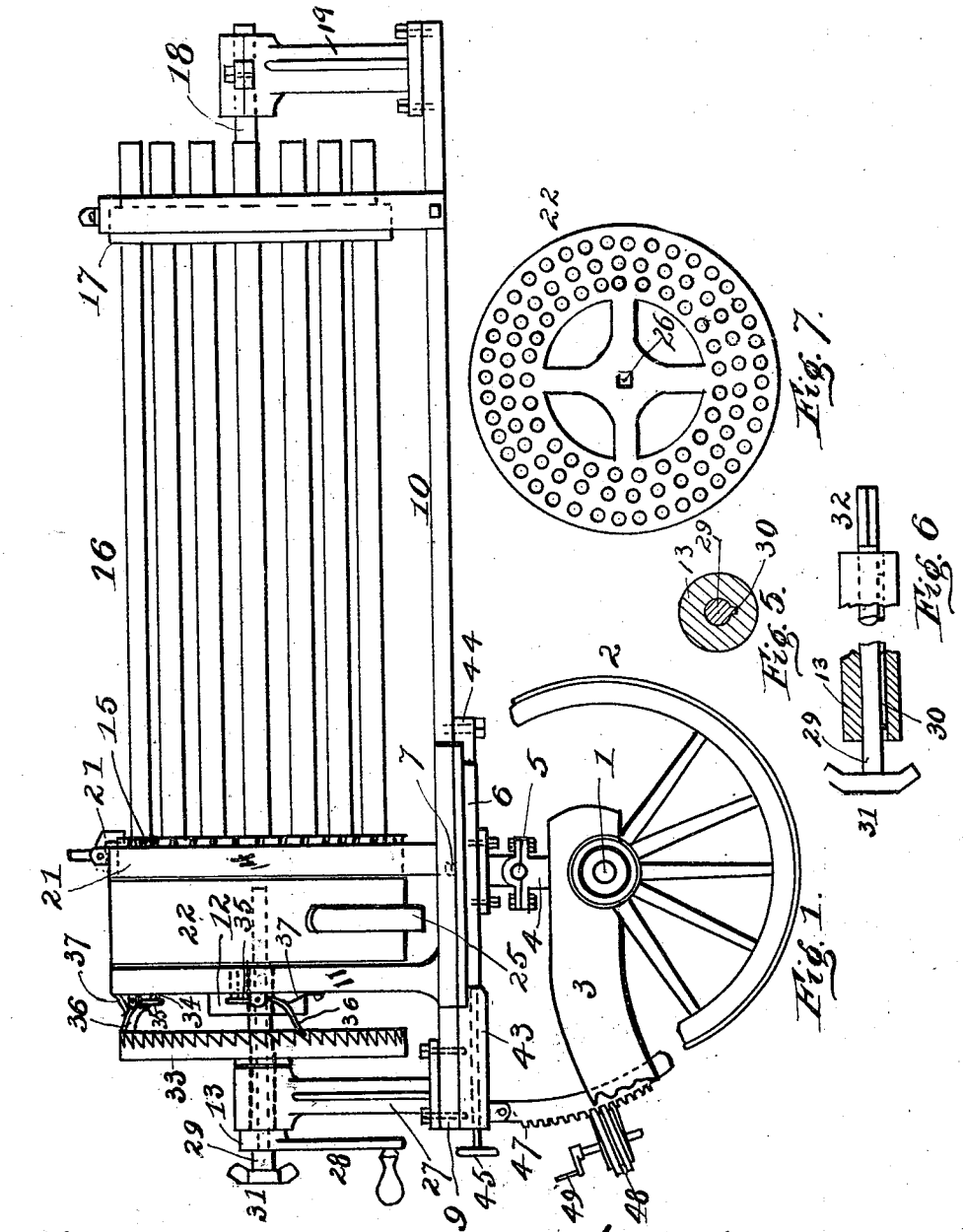
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MACHINE GUN.

(Application filed Aug. 31, 1899.)

(No Model.) 2 Sheets—Sheet 1.



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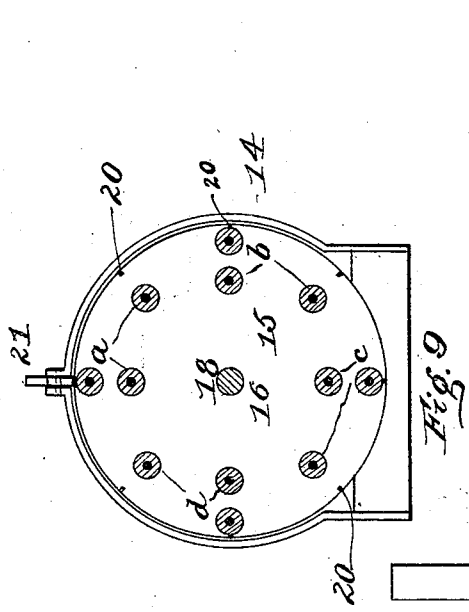


Fig. 9

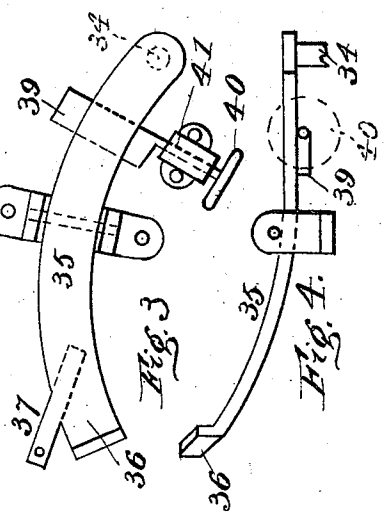


Fig. 3. Fig. 4.

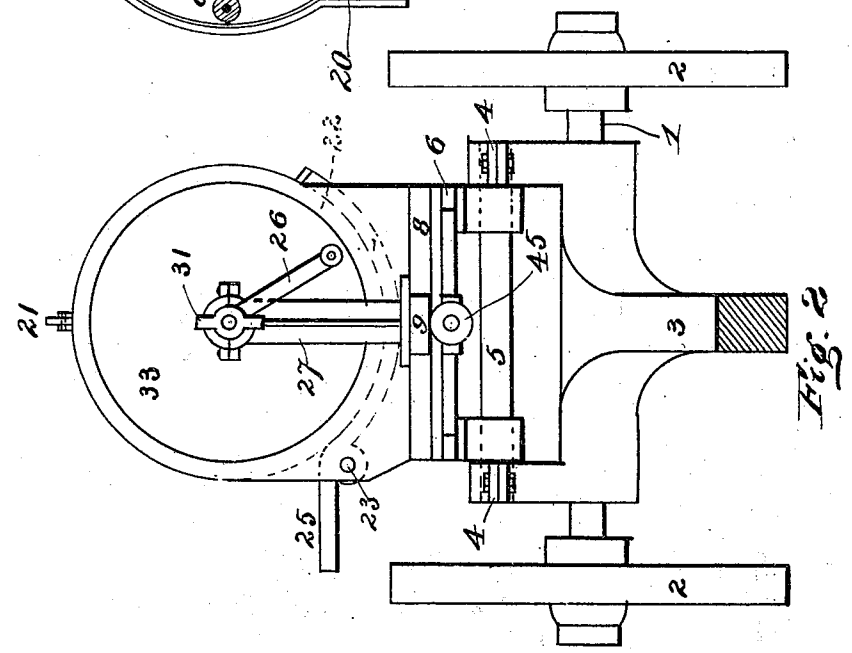


Fig. 2

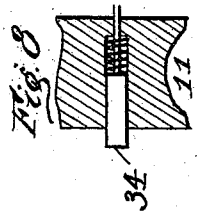


Fig. 8

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UNITED STATES PATENT OFFICE.

EDMOND W. JETER, OF ATLANTA, GEORGIA, ASSIGNOR OF TWO-THIRDS TO B. M. BLACKBURN, J. H. SPILMAN, AND M. L. BICKART, OF SAME PLACE.

MACHINE-GUN.

SPECIFICATION forming part of Letters Patent No. 664,952, dated January 1, 1901.

Application filed August 31, 1899. Serial No. 729,137. (No model.)

To all whom it may concern:

Be it known that I, EDMOND W. JETER, a citizen of the United States of America, and a resident of Atlanta, in the county of Fulton and State of Georgia, have made a certain new and useful Improvement in Machine-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 appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The object of this invention is to simplify the construction of devices of this class and to render them more rapid in their operation by quickening the action thereof and so constructing the same as to obviate the delays caused by heating of the barrels under rapid service.

The invention is illustrated in the accompanying drawings as follows:

Figure 1 is a side elevation of the gun ready for firing. Fig. 2 is a rear elevation thereof. Fig. 3 is a face view of the firing-hammer, and Fig. 4 is an edge view thereof. Fig. 5 is a cross-section of the shaft of the device, and Fig. 6 is a longitudinal section thereof, showing the telescopic action. Fig. 7 is a face view of the cylinder. Fig. 8 is a detail of the firing-pin, showing a sectional view of the back plate. Fig. 9 is a cross-section of the barrels, showing the front plate thereof in back elevation.

In the figures like reference-marks indicate corresponding parts in all the views.

1 is the axle, and 2 the wheels, 3 being the stock, all of which may be of any desired form, or they might be replaced by a swivel of suitable form—such, for instance, as a field-mount, as shown, or a carriage or column—as would be most convenient on board ship or in land fortifications.

In the construction shown there are on each end of the axle 1 pillow-blocks 4, elevated, if desired, above the upper or forward end of the stock and carrying on suitable trunnions 5 the circle 6, which consists of a circular plate of the desired thickness, having an annular flange around its edge, at or near the upper side thereof, and a pivoting-pin 7, (shown by broken lines in Fig. 1,) whereon the gun proper is pivoted in its horizontal movements. On the top of this circle 6 is another plate 8 in diameter about the same size as the diameter of the circle, and arms 9 and 10 project fore and aft from said plate 8. On the upper side of the plate 8 is the back plate 11, which is, more properly speaking, the "breech-block" of the gun. This plate 11 carries on its back side a lug 12, which is perforated for the passage of the shaft 13, as is also the said plate. Also secured to the plate 8 is another upwardly-projecting element 14, which is made in the form of a pillow-block, its central aperture being sufficiently large to carry the back plate 15 of the barrels 16, which fits and is adapted to freely revolve in said pillow-block as a bearing. The barrels 16 are also secured at their front ends to a circular plate or wheel 17, which, together with the plate 15, is mounted revolubly on the shaft 18, secured to the standard 19, secured to and projecting upwardly from the front end of the arm 10. The barrels when the number shown in Fig. 9 is used are arranged as there shown and as indicated in said figure, being marked *a*, *b*, *c*, and *d*, the barrels of each set being marked with a corresponding letter and being brought into play in sets, as hereinafter specified. Where a greater or less number of barrels is used, the arrangement would be different; but the result would be the same, three barrels being deemed sufficient to have in use at a time, the greater number of barrels in the gun merely lessening the frequency of the use of each set. Notches 20 are cut in the plate 15, and a lever 21 throws into the desired one of these notches when the barrels are properly set to register with the desired one of the chambers in the cylinder—that is, the one of said chambers which is opposite the firing-pin—and this also applies when two or three barrels are to be used. This lever 21 is notched on its upper side and forms when depressed into locking position one point of the sights of the gun.

Between the upwardly-projecting plates 11 and 14 is set the cylinder 22, which is provided with a multiplicity of circular rows or series of chambers concentrically arranged, as shown in Fig. 7. Obviously there may be

as many series of these chamber series as desired, and a commensurate number of barrels will be used therewith, and there may be as many chambers in each series as may be desired or for which there is room in said cylinder. Pivoted on a pin 23, secured to the plates 11 and 14, either or both, is a lever 25, the inner end of which is concaved or curved to the circumference of the cylinder and rests thereunder, and the outer end is conveniently provided with a handhold for moving the said lever upon its pivotal point and raising thereby the said cylinder into such a position that it will roll out of its working position and be easily handled by one of the men handling the gun. The cylinder 22 is provided with a central hole 26, which is preferably square, as shown. The shaft 13 revolves freely in a bearing 27, secured to the arm 9, its inner end being passed just through the plate 11. A crank 28 serves to turn said shaft. This shaft is hollow, with a key-seat in its interior wall, and through the hole therein passes the plunger or lock-pin 29, which is provided with a spline 30 and slides longitudinally in and of said shaft, its inner end being squared at 32 to fit the aperture in the center of the cylinder and its outer end being provided with a knob 31, affording a convenient handhold for the operator in withdrawing said pin. On the shaft 13, between the plate 11 and the bearing 27, is a wheel 33, which is provided on its side with ratchet-teeth extending radially from center to circumference and being provided, as common, with ratchet-teeth with an inclined and an axial side. These teeth are of the same number as there are chambers in the series thereof in the cylinder having the largest number of chambers, as the said teeth each operate a hammer by cocking and releasing same. Passing through and suitably set in the plate 11 are firing-pins 34 of any of the well-known forms of construction, and mounted over the same are hammers 35 in the form of a curved lever, the tail 36 thereof being extended into the plane of the ratchet-teeth on the wheel 33. A spring 37 serves to press the hammer against the back end of the firing-pin. These hammers and firing-pins are set in the plate and secured thereto in such a position as to be exactly opposite the barrels which it is desired to use when said barrels are in firing position and there locked, as hereinbefore described.

39 is a block, of which there is one under each hammer and which when turned so as to stand upright under same will prevent the hammer from engaging the teeth of the dentated wheel and so prevent the action of that hammer upon the corresponding firing-pin. This block is mounted on the end of a short shaft 40, revolubly mounted in a lug 41 and manipulated by means of a crank or hand-wheel 42, secured to its outer end, all of which is shown in Figs. 3 and 4.

Secured to the under side of the arms 9 and 10 are blocks 43 and 44, respectively, the former of which is stationary thereon, the latter being revoluble in a horizontal plane, whereby it may be caused to engage and disengage the flange on the circle 6. The block 43 also engages the said flange, and a screw 45, passing through said block and being provided with a hand-wheel or crank 46, bears on the edge of the said circle 6 and so locks the circles 6 and 8 in any position. This provides for securing the gun in any horizontal adjustment.

The elevating mechanism consists of a toothed segment 47, pivoted to the under side of the block 43 and passing downwardly therefrom, its lower end being guided, if desired, in a suitable guide set in the stock of the gun. A worm-gear 48 engages the said segment and by its revolution by means of the crank 49 actuates the said segment in its movements upwardly and downwardly. With this construction of elevating mechanism only the relatively small directing movements of the gun are accomplished by swinging same on the swiveled plate 6, the greater directing movement being made by moving the entire carriage by the trail, as usual in field-pieces.

The operation of this device is as follows: The three barrels which it is desired to use are turned into position opposite the chambers in the cylinder registering with the firing-pins and locked by allowing the locking-lever to fall into position engaging one of the notches in the back plate of said barrels, and a loaded cylinder is dropped into place, resting its lower side on the upper side of the lever 25. The pin 29 is pressed into place with its squared portion 32 entering the correlatively-shaped hole in the cylinder, and thereby pivoting same and connecting same operatively with the shaft 13, which is operated by the crank thereon, the revolution of said shaft also causing the revolution of the dentated wheel 33 and tripping the hammers, the inclined sides of the teeth thereon contacting with the tails of the hammers, retracting them and allowing them to fall in obedience to the action of their springs as soon as said tails have passed off of the inclined faces of the teeth. It will thus be seen that one revolution of the shaft 13 will fire a complete cylinder, which experience shows may conveniently contain one hundred and twenty cartridges, although more or less might be used. It will be supposed that the set *a* of barrels has been thus used until they are heated to an objectionable degree. By reference to Fig. 9 it will be seen that a quarter-revolution of the barrels on their axes will present the set *b* in apposition to the proper chambers of the cylinder, and they may be used, allowing the set *a* to cool. It is thus seen that there will be no delays whatever due to the heating of the barrels and that these barrels are the only parts of the gun which are liable to heat. When one cylinder is fired, man No. 2 will depress the outer end of the lever 25, raising the empty cylinder, which will roll down the lever and

be caught by him, after which the lever will fall to its normal position as he removes the cylinder, and man No. 3 will place a loaded cylinder in place, the gunner opening the locking-pin 29, withdrawing it for the removal of the cylinder, and pressing it in after the replacing thereof.

Having now particularly described and ascertained the nature of said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a machine-gun, a cylinder and a hammer and a multiplicity of barrels mounted on and revoluble around a common center, a notched plate carrying one end of said barrels, and a lever stationarily pivoted, notched on its upper end to form a sight and adapted when depressed to engage one of said notches.

2. In a machine-gun, a barrel, a cylinder and means for pivoting said cylinder so as to be revoluble with its chambers successively registering with said barrel, and means for lifting said cylinder consisting of a curved lever pivoted near said cylinder and lying transversely of and below same, in such manner that when elevated its curve is concentric with said cylinder.

3. In a machine-gun, a barrel and a cylinder, a hammer adapted to fire the loaded chambers of said cylinder, a hollow shaft mounted concentrically of said cylinder and carrying a cam adapted to retract said hammer, and a pin sliding in said shaft and revoluble therewith, its end adapted to enter and engage said cylinder, substantially as and for the purpose specified.

4. In a machine-gun, a series of barrels and a cylinder in apposition thereto, a breech-plate back of said cylinder and a hammer mounted thereon consisting of a spring-pressed lever, means for cocking and releasing said hammer and a block lying under said hammer thinner and wider than the space between said hammer and the breech-plate and adapted to be turned up and form a motion-limiting stop for said hammer, substantially as and for the purpose specified.

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

EDMOND W. JETER.

Witnesses:
ALBERT P. WOOD,
L. B. DAILEY.