

W. B. UDART.
GUN MOUNT.

APPLICATION FILED OCT. 21, 1918.

1,367,641.

Patented Feb. 8, 1921.

3 SHEETS—SHEET 1.

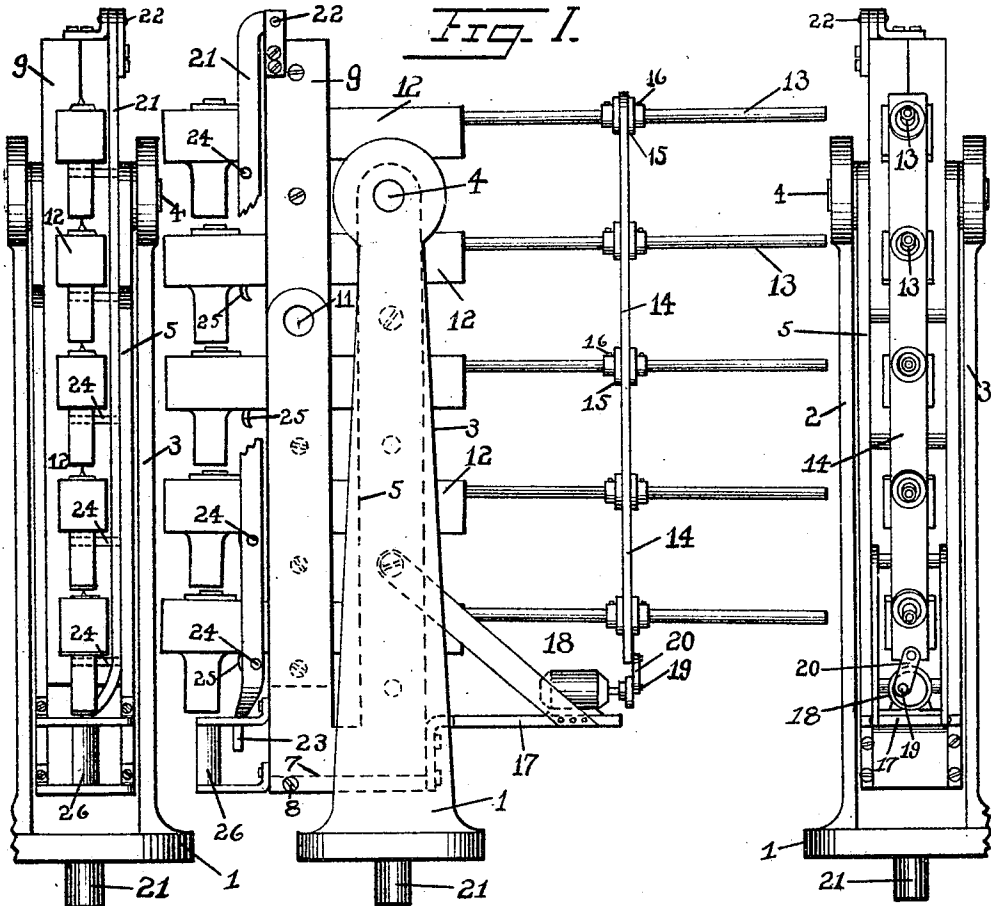


Fig. 2.

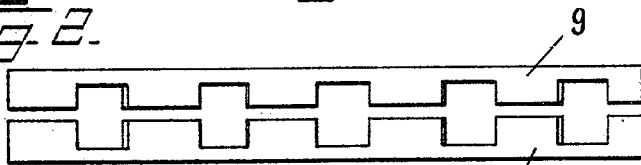


Fig. 4.

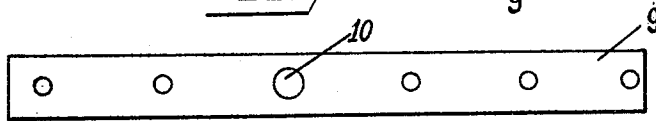


Fig. 5.

Fig. 3.

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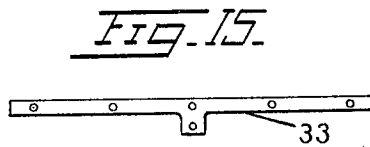
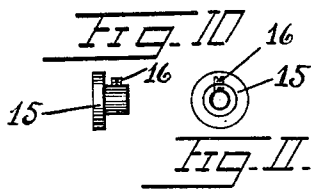
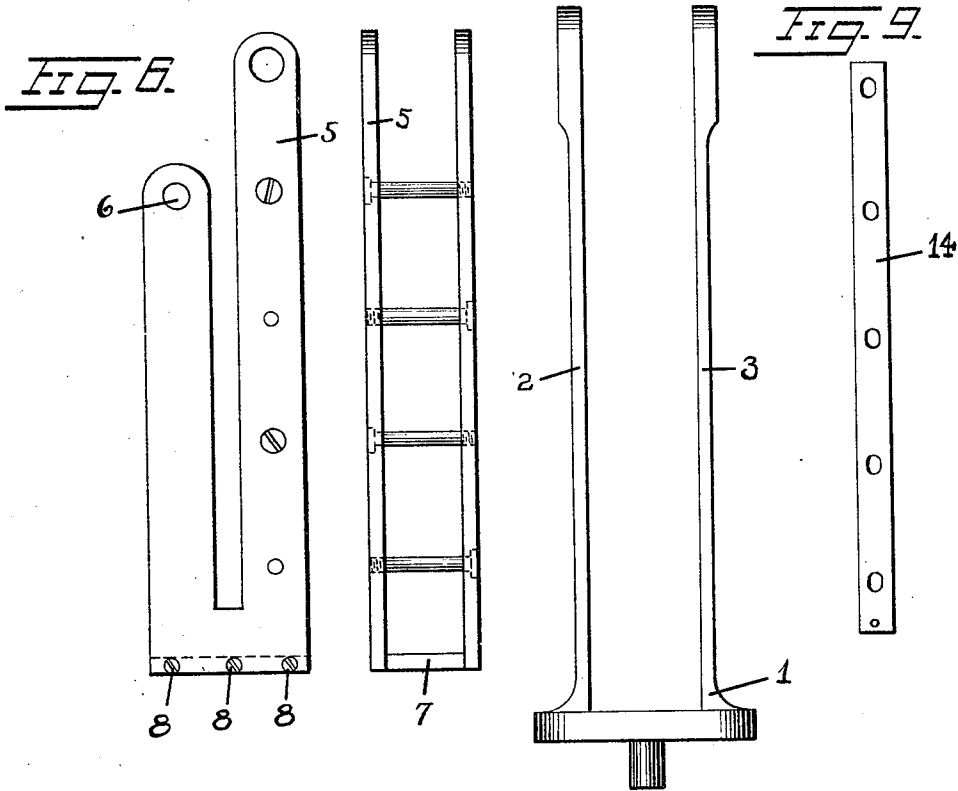
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3 SHEETS—SHEET 2.

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Fig. 7 Fig. 8



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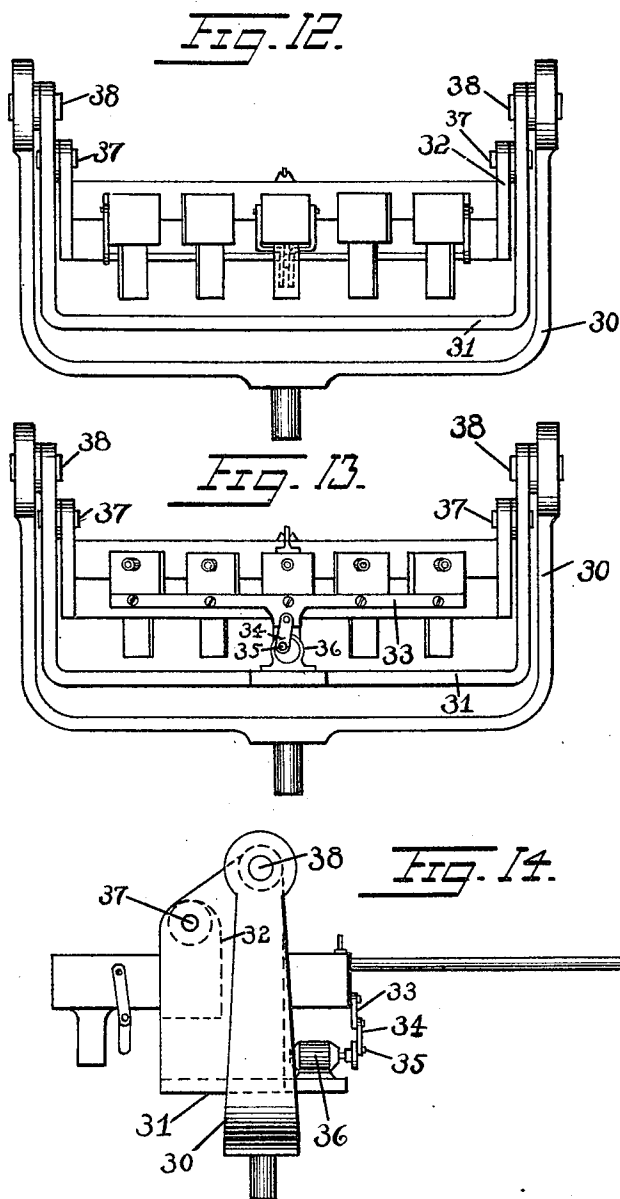
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UNITED STATES PATENT OFFICE.

WILLIAM B. UDART, OF ROCHESTER, NEW YORK.

GUN-MOUNT.

1,367,641.

Specification of Letters Patent.

Patented Feb. 8, 1921.

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To all whom it may concern:

Be it known that I, WILLIAM B. UDART, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Gun-Mounts, of which the following is a specification.

The object of this invention is to provide an improved form of mount for rapid fire guns, several of which are mounted in a battery for simultaneous operation with a single control therefor.

Another object of the invention is to provide for mechanical oscillation of the gun barrels collectively through a slight arc and a manual swinging of the gun barrels up or down, or to the right or left, or a combination of these, as may be desired.

These and other objects of the invention will be illustrated in the drawings and described in the specification.

In the drawings:

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

Fig. 2 is a rear elevation of the gun mount.

Fig. 3 is a front elevation of the gun mount.

Fig. 4 is a detail view of the clamp which supports the rear of the gun barrels.

Fig. 5 is a side elevation of the clamp shown in Fig. 4.

Fig. 6 is a side elevation of one of the cradle members.

Fig. 7 is an end elevation of the cradle.

Fig. 8 is a rear elevation of the pedestal.

Fig. 9 is a front elevation of the forward support of the gun barrels.

Figs. 10 and 11 are side and end elevations of the clamps for holding the gun barrels in place.

Fig. 12 is a rear view of a modified form of the gun mount in which the gun barrels are placed in a horizontal row instead of a vertical column.

Fig. 13 is a front view of the gun mount shown in Fig. 12.

Fig. 14 is a side elevation of the gun mount shown in Fig. 12.

Fig. 15 is a detail view of the cross bar for supporting the gun barrels in the form shown in Fig. 12.

Fig. 16 is a top plan view of the bar shown in Fig. 15.

In the drawings, like reference numerals indicate like parts.

In the drawings, reference numeral 1 indicates the pedestal on which the cradle and gun barrels are mounted, on which are provided the two uprights 2 and 3. At the top are provided the bearings 4, from which are swung the side plates 5 forming part of the cradle. These side plates are provided with the bearings 6 near the top thereof and are connected at the bottom by a plate 7 fastened thereto by the screws 8, 8, 8. Mounted in the bearings 6 are the plates 9 which are fastened together and make a clamp between which are held the gun barrels. These plates are two in number and are shown in rear elevation in Fig. 4 and in side elevation in Figs. 1 and 5. These plates are provided with a bearing 10 with which engages the pin 11 that extends between the bearings 6, 6 in the plates 5.

The breech of the gun barrel is indicated at 12, 12, the barrels themselves being indicated at 13. The forward part of the barrels pass through openings in the plate 14. On the barrels are placed the flanged sleeves 15, one on each side of the plate 14, the flanges bearing against the plate and the sleeves engaging with the barrels. The sleeves are provided with the set screws 16 by which they are clamped in place on the gun barrels on opposite sides of the plate 14, fixing the position of the plate 14 with relation thereto.

On the bottom of the cradle is a bracket 17 on which is provided a motor 18, on the shaft of which is provided a crank 19 connected by a link 20 to the plate 14. The rotation of the armature of the motor causes the plate 14 to move up and down rapidly, making about sixty complete oscillations a minute.

The breech ends of the gun barrels are clamped in the sockets between the plates 9, forming a clamp, which clamp swings on the pin 11 as the plate 14 moves up and down.

The gun barrels 13 are not placed parallel to each other but are placed slightly divergent or radial to the common center which may be located several hundred feet behind the gun mount in line with the middle barrel of the battery, the divergence being sufficient to give a spread to the bullets fired simultaneously from the barrels of about 110

18 ft. at a distance of a thousand feet from the muzzles of the guns, the gun barrels being placed in the frame about 12 inches between centers or just sufficiently spaced apart to give good clearance between the handles of consecutive gun barrels.

The gun barrels are fired automatically and simultaneously in any desired way. The mechanism by which this can be done may be of any of the well-known types and constitutes no part of my invention.

As is indicated by the crank 19 and link 20, the gun barrels are oscillated through a very small arc, the gun and oscillating mechanism being designed so that each gun barrel will shoot five shots while the gun barrels are swinging up and five shots while the gun barrels are swinging down, or any other desired number. If the outside bullets of the first volley are 18 ft. apart at a thousand feet from the muzzles of the guns, the five bullets of the volley will then be spaced $4\frac{1}{2}$ ft. between centers. The oscillation of the gun barrels will cause the next four bullets from each gun barrel to fill in this space of $4\frac{1}{2}$ ft. or 54 inches at intervals of about 11 inches at 1,000 ft. from the muzzle of the gun barrel, so that in five successive volleys, 25 bullets will be fired spread out over a width of about 22 ft., the bullets traversing the intervening space at approximate intervals of about 11 inches between centers. In this way the second bullet from the first barrel will pass about 11 inches below the first bullet of that barrel and the third bullet from the first barrel will pass 22 inches below the first bullet, the fourth bullet will pass 33 inches below the first bullet, and the fifth bullet will pass 44 inches below the first bullet, or about 11 inches above the bullet of the first volley from the second barrel. Thereafter, the gun barrels will swing back in the opposite direction until five volleys have been fired after which they will again swing in the first direction, repeating this operation indefinitely.

The angle of oscillation must be substantially the same as the angle of divergence between two adjacent gun barrels to secure this distribution of the shots.

It will also be understood that while the gun barrels are oscillated around the center 11 by the motor 18 mechanically, the gun barrels may be also swung or moved up or down by the operator manually around the center 4 and may be swung to the right or left around the pivot 21 in the pedestal. Each gun barrel will shoot about 600 shots a minute so that in a half second five volleys would be fired that would cover a space about 22 ft. wide at a thousand feet with bullets spaced therein about 11 inches between centers over the whole distance. In this way a very uniform distribution of the

bullets over a considerable width will be secured, which will compensate to a considerable extent for the inaccuracy of the operator in aiming and will produce effective results.

In Fig. 12 I have shown a pedestal 30 in which is mounted a cradle 31 in which swings a frame 32 in which are supported the five gun barrels, the barrels being mounted therein in a horizontal row in substantially the same manner as is shown in vertical arrangement in Fig. 1. The barrels are connected by the bar 33 which is oscillated up and down by the link 34 driven by the crank 35 from the motor 36. The frame 32 swings on the center 37 in the cradle 31, which in turn swings on the center 38 in the pedestal 30. The cradle 31 can be moved manually to swing the guns up or down and the pedestal 30 can be turned to the right or left so that the operator can thereby train the guns in any desired direction.

As shown in Fig. 13, the oscillation of the gun barrels is up and down which will cause the bullets to be sprayed in five parallel columns instead of a single continuous row. The angular mechanical movement of the barrels in this case may be increased to secure desired variations in the distribution of the bullets.

A firing control is shown in Fig. 1, which consists of a bar 21 pivoted at 22, having a handle 23 on the bottom thereof. This bar is provided with pins 24 suitably placed for engagement with the triggers 25 as the bar swings rearwardly. A hand rest 26 is shown which may be grasped by the hand, one or more fingers engaging the handle 23 by which the bar 21 may be swung backward into engagement with the triggers. With the bar held in firing position, guns will repeat automatically, any suitable device being used, if necessary, to secure the firing of the guns simultaneously.

I claim:

1. A gun mount having a gun barrel mounted therein, means on said mount for oscillating said gun barrel mechanically and independent of the operator through a small fixed arc at a high rate of speed permitting a small number of shots to be fired at equal intervals in quick succession in each oscillation, and supplemental means for oscillating said barrel manually and more slowly through a larger arc and independently of and simultaneously with the mechanical oscillation thereof.

2. A gun mount having a U-shaped pedestal, a cradle mounted to swing in said pedestal, a frame having a gun barrel mounted to swing in said cradle, mechanism carried on the cradle for mechanically oscillating the gun barrel through a small arc at a high rate of speed independent of the operator,

permitting a small number of shots to be fired at equal intervals in quick succession in each oscillation, said cradle mechanism and barrel being capable of swinging through a larger arc without interfering with the mechanical operation of the gun barrel.

3. A gun mount having a U-shaped pedestal, a cradle mounted to swing in said pedestal, said pedestal being mounted to turn with the cradle, a frame having a gun barrel mounted to swing in said cradle, mechanism carried on the cradle for mechanically oscillating the gun barrel through a small arc at a high rate of speed independent of the operator, permitting a small number of shots to be fired at equal intervals in quick succession in each oscillation, said cradle mechanism and barrel being capable of swinging through a larger arc without in-

terfering with the mechanical operation of the gun barrel.

4. A gun mount having a series of gun barrels mounted to swing therein, a perforated link connecting said barrels together near the forward end thereof, said gun barrels passing through openings in the link, sleeves on each of said gun barrels on each side of said link, said sleeves being clamped to the gun barrels and against the link, a crank below said link and connected thereto by a connecting rod through which the gun barrels are oscillated in unison on the rotation of the crank.

In testimony whereof I affix my signature in the presence of a witness.

WILLIAM B. UDART.

Witness:

ETHLOINE S. GREENMAN.