July 16, 1946. B. F. COLEMAN 2,404,277

MULTIBARREL MACHINE GUN

Filed Oct. 11, 1943 6 Sheets-Sheet 1

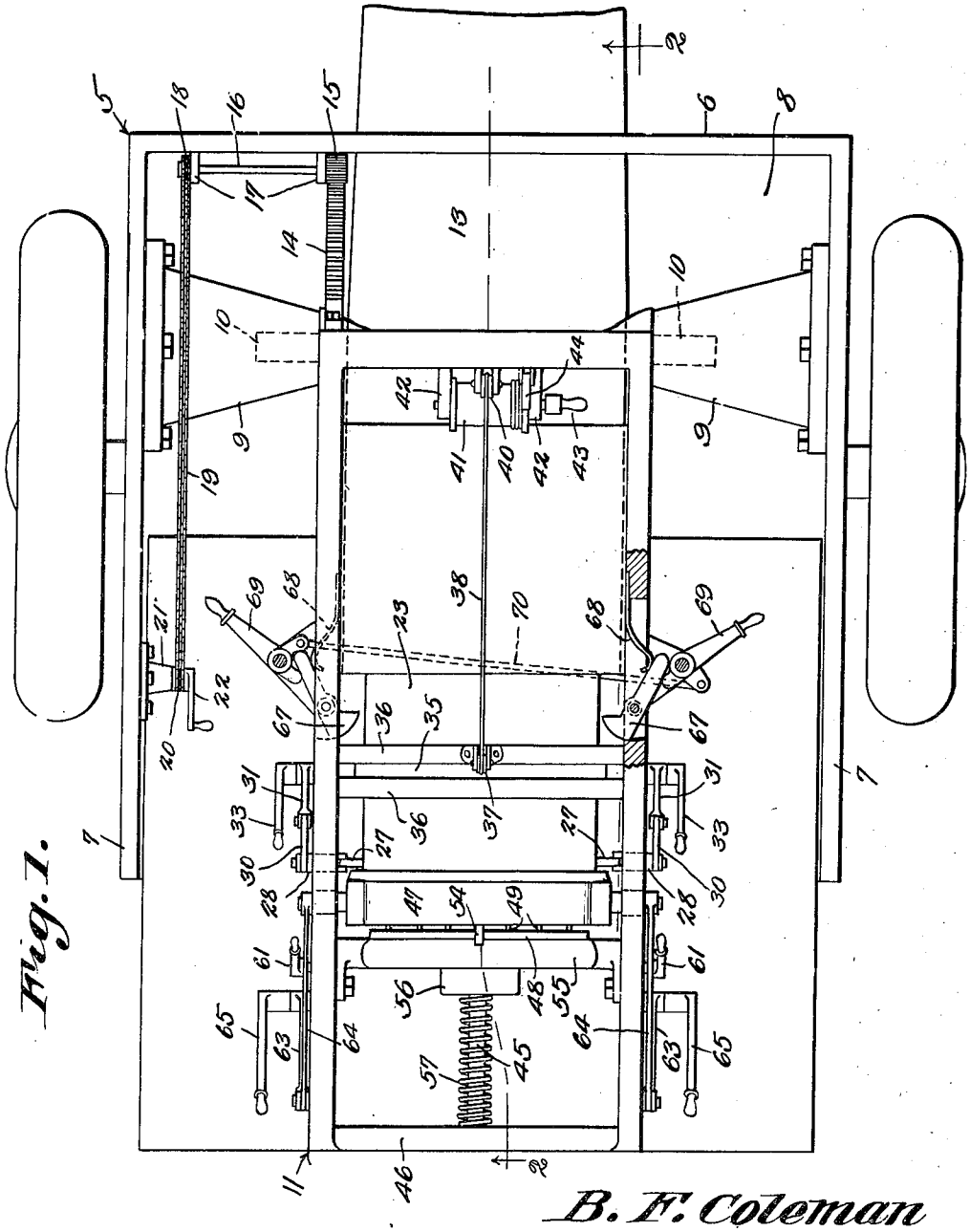


Fig. 1.

B. F. Coleman

INVENTOR.

BY A. Swan & Co.

July 16, 1946. B. F. COLEMAN 2,404,277

MULTIBARREL MACHINE GUN

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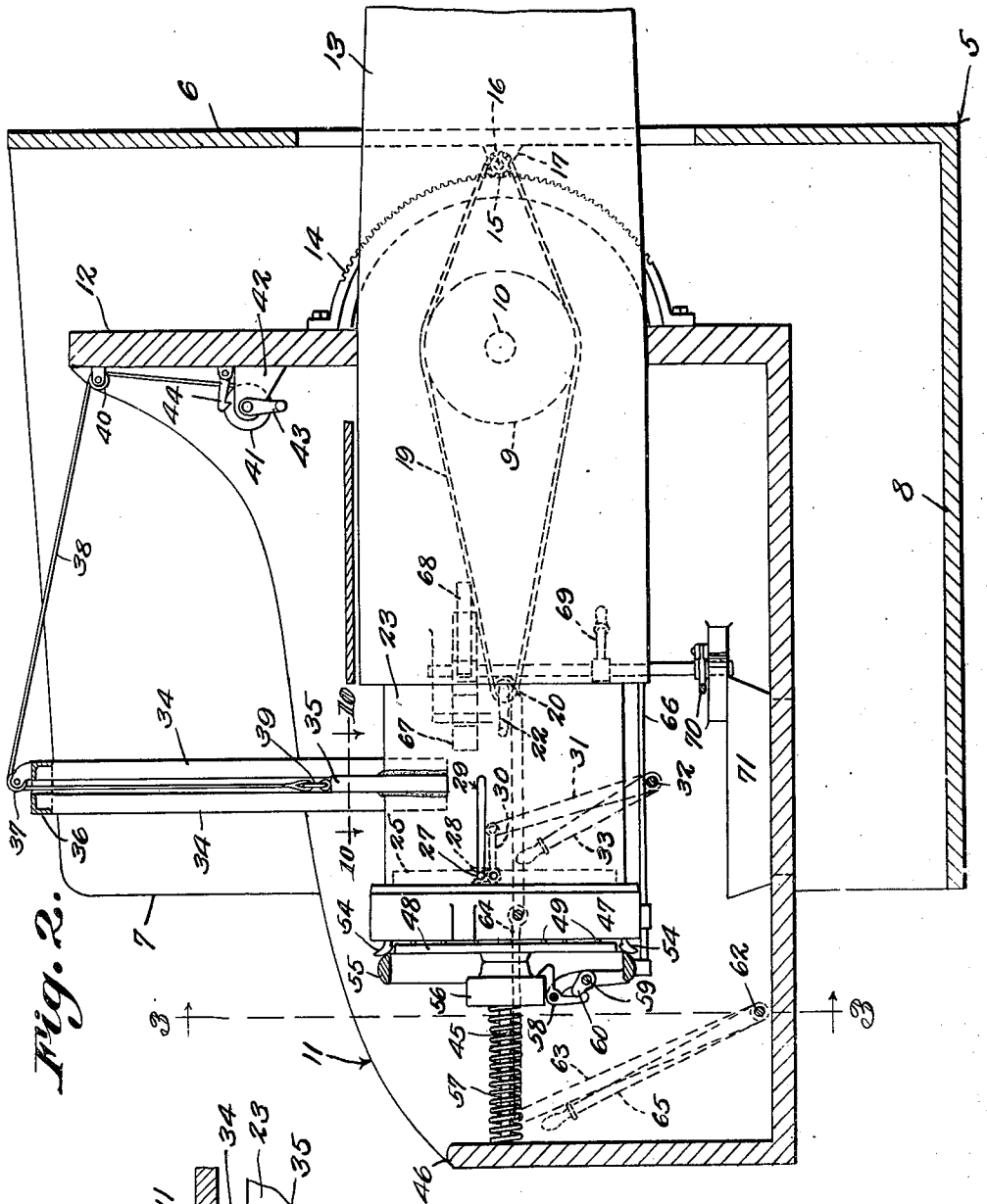


Fig. 2.

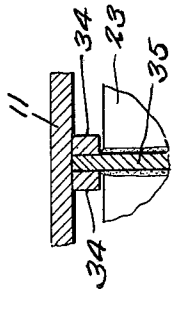


Fig. 10.

B. F. Coleman

INVENTOR.

BY C. A. Snow & Co.

July 16, 1946. B. F. COLEMAN 2,404,277

MULTIBARREL MACHINE GUN

Filed Oct. 11, 1943 6 Sheets-Sheet 3

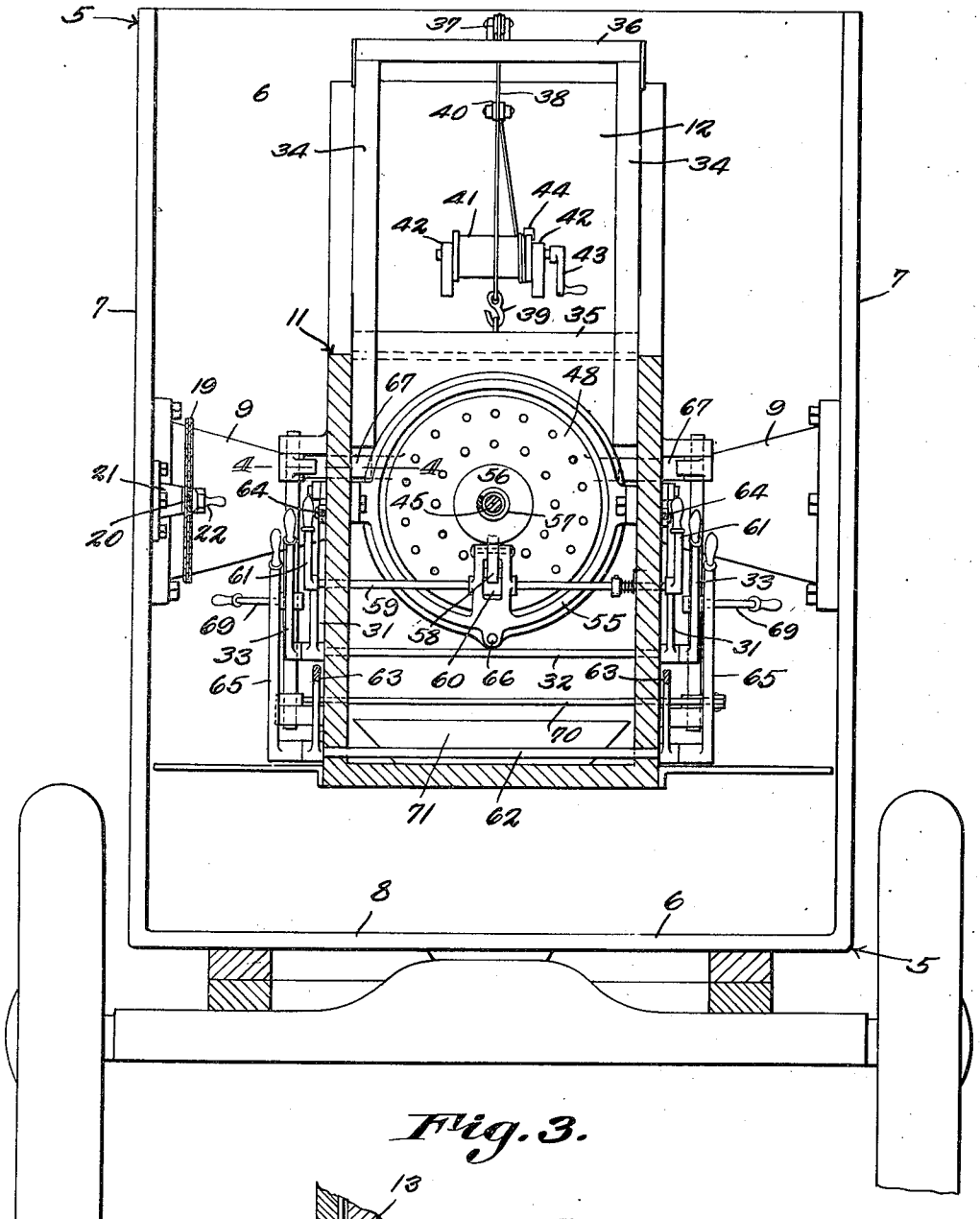


Fig. 3.

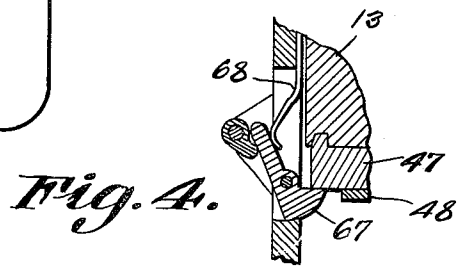


Fig. 4.

B. F. Coleman
INVENTOR.
BY C. A. Snow & Co.

July 16, 1946. B. F. COLEMAN 2,404,277

MULTIBARREL MACHINE GUN

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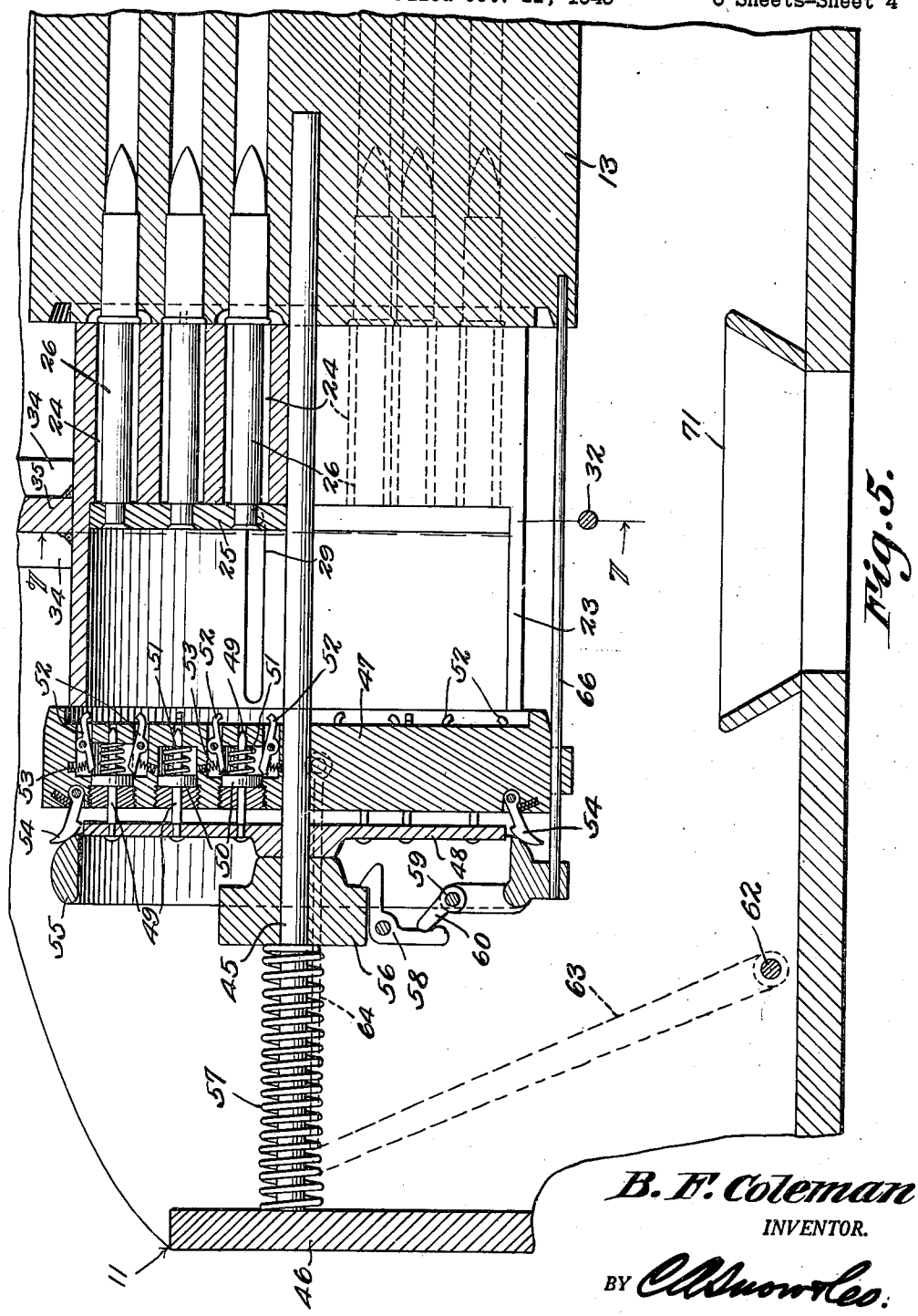


Fig. 5.

B. F. Coleman
INVENTOR.

BY C. L. Bowles.

July 16, 1946. B. F. COLEMAN 2,404,277

MULTIBARREL MACHINE GUN

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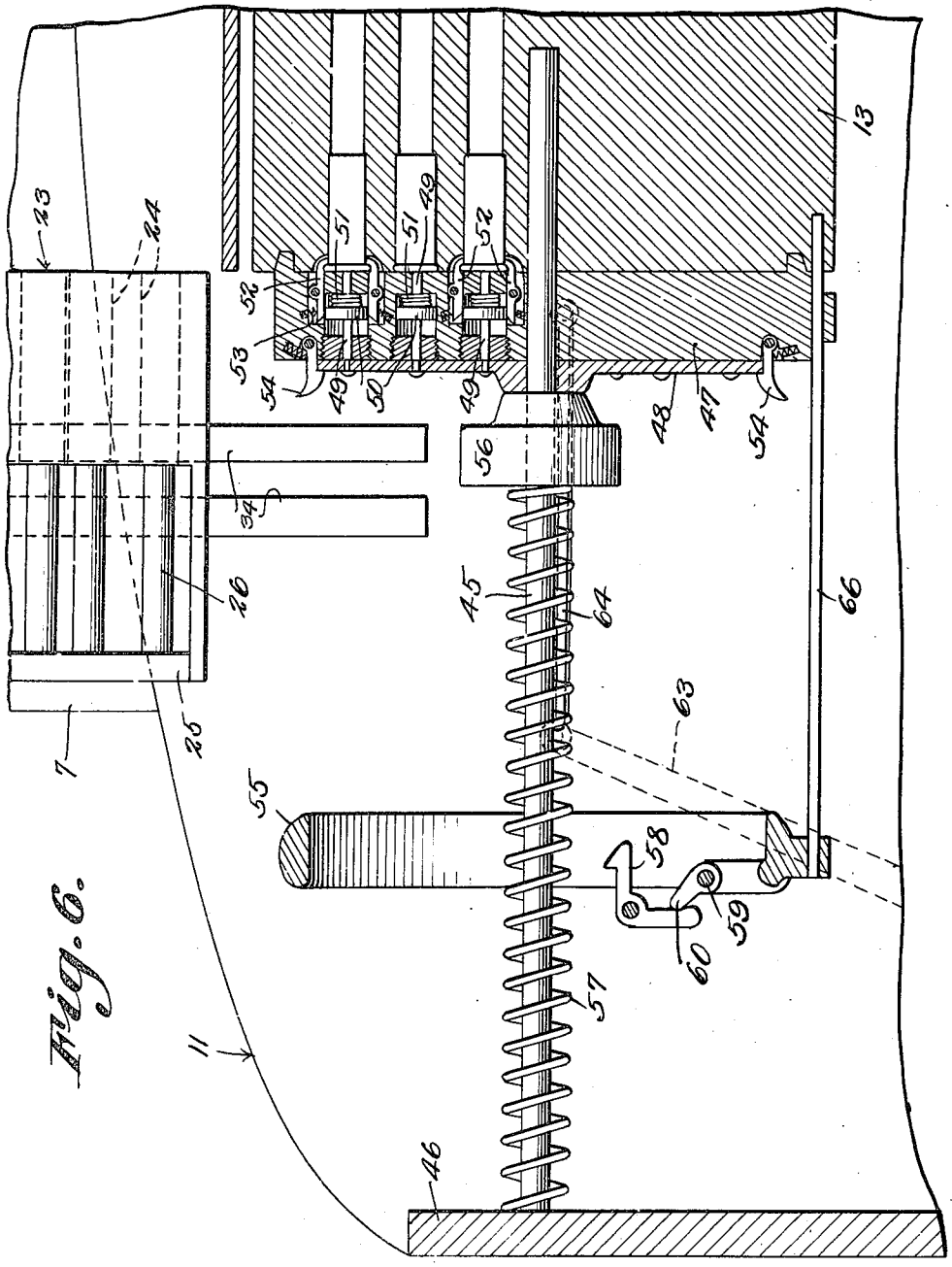


Fig. 6.

B. F. Coleman INVENTOR.

BY C. A. Snow & Co.

July 16, 1946. B. F. COLEMAN 2,404,277

MULTIBARREL MACHINE GUN

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Fig. 7.

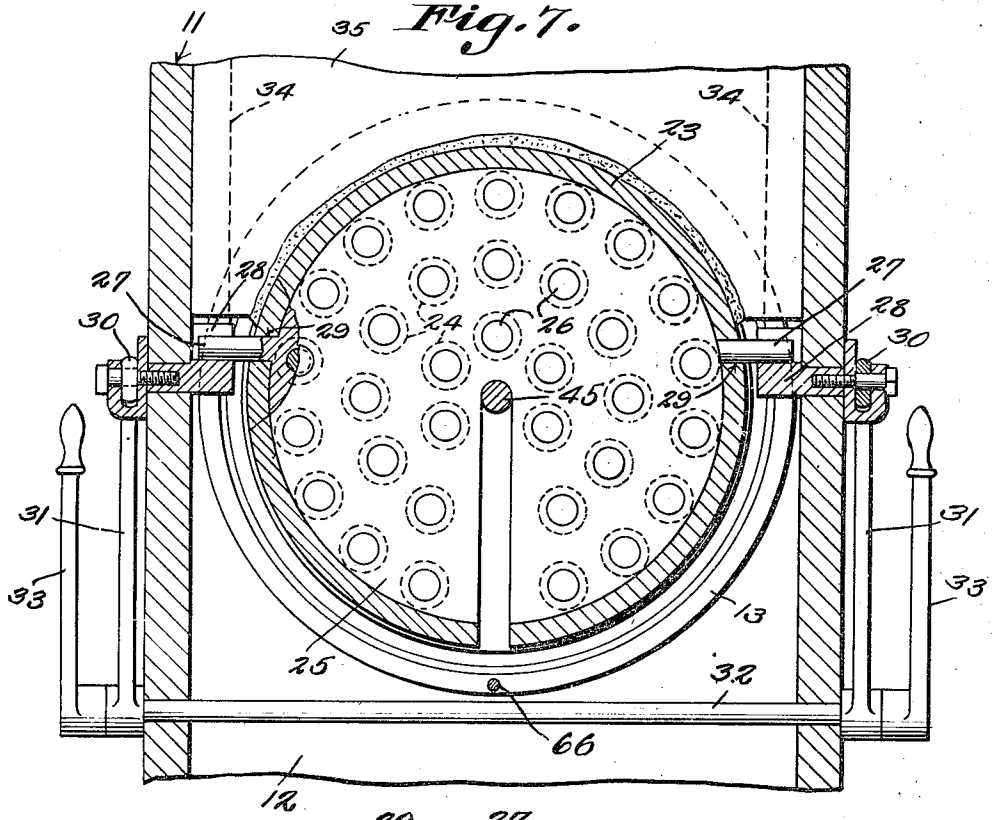


Fig. 8.

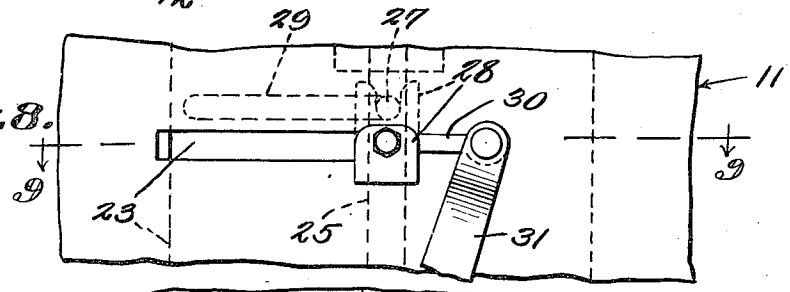
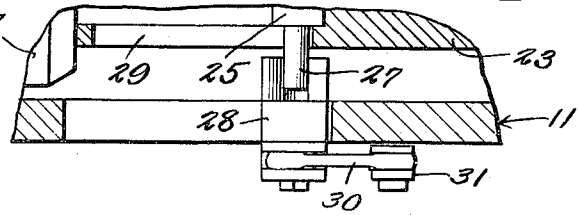


Fig. 9.



B. F. Coleman INVENTOR.

BY Albert Co.

Patented July 16, 1946 2,404,277

UNITED STATES PATENT OFFICE

2,404,277

MULTIBARREL MACHINE GUN

Benjamin Frank Coleman, Prentiss, Miss.

Application October 11, 1943, Serial No. 505,831

2 Claims. (Cl. 89—1)

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This invention relates to machine guns, and more particularly to machine guns of the multibarrel type.

An important object of the invention is to provide a machine gun of this character, embodying adjusting means, for controlling the movements of the barrels of the gun, so that the gun may be readily and accurately aimed by the gunner in charge of firing the gun.

Another object of the invention is to provide a sliding breech-block embodying a hammer pin plate and an extractor disk operable simultaneously, so that the fired shells may be readily extracted by the extractor disk, upon the return movement of the breech-block preparatory to reloading the gun.

Still another object of the invention is the provision of means for automatically opening the shell extractor fingers, forming a part of the breech-block, releasing the shells for deposit in a receptacle, disposed directly under the breech-block.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings

Figure 1 is a plan view of a multibarrel machine gun, constructed in accordance with the invention.

Figure 2 is a sectional view taken approximately on the line 2—2 of Figure 1.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

Figure 4 is a sectional view taken on line 4—4 of Figure 3.

Figure 5 is a longitudinal sectional view through the gun.

Figure 6 is a sectional view through the gun illustrating the position of the breech-block, immediately after firing.

Figure 7 is a sectional view taken on line 7—7 of Figure 5.

Figure 8 is a fragmental elevational view illustrating the bearings for the magazine.

Figure 9 is a sectional view taken on line 9—9 of Figure 8.

Figure 10 is a sectional view taken on line 10—10 of Figure 2.

Referring to the drawings in detail, the gun

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carriage is indicated generally by the reference character 5 and includes a front wall 6, side walls 7 and a bottom 8.

Secured to the side walls 7 and extending inwardly therefrom, are bearing members 9 in which the ends of the shaft 10 are mounted. The shaft 10 provides a support for the gun-mount indicated generally by the reference character 11 which is also box-like in formation and includes a front wall 12, which is formed with an opening through which the gun barrel 13 extends. The gun barrel 13 is of substantially large diameter, and is provided with a plurality of concentric longitudinal bores, as clearly shown by Figure 5 of the drawings, the bores constituting the individual barrels, in which the cartridges or shells explode on being fired.

As shown by Figure 2 of the drawings the forward end of the gun barrel 13, extends through an enlarged opening in the front wall 6 of the gun carriage, the opening in the front wall being sufficiently large to permit the gun barrel 13 to be tilted to aim the gun.

Mounted on the front wall of the gun-mount, is an arcuate-shaped rack bar 14 that meshes with the pinion 15 carried at one end of the shaft 16, the shaft being mounted in the bearings 17 at the forward end of the gun-mount. A pinion 18 is mounted on one end of the shaft 16 so that rotary movement of the pinion 18 will result in a rotary movement of the shaft 16 and pinion 15 mounted thereon, to move the rack bar 14 and consequently raise and lower the gun-mount. The reference character 19 designates a chain that moves over the pinion 18. The chain also moves over the pinion 20 mounted on a shaft that in turn operates in the bearing 21, the pinion 20 being operated by the crank handle 22.

The reference character 23 designates the vertically movable magazine, which is cylindrical in formation, and of a diameter slightly less than the diameter of the gun barrel, so that the magazine may be properly positioned with respect to the gun barrel, to load the bores of the barrel.

The magazine is provided with a plurality of bores 24 that receive the shells, the bores being arranged so that when the magazine is in its lowermost position to load the gun, the bores of the magazine will register with the bores of the gun barrel. Operating within the magazine, is a sliding disk 25, which is of a diameter to closely fit within the magazine. Plungers 26 extend forwardly from the disk 25, and are so located that they will extend into the bores of the magazine,

as clearly shown by Figure 5 of the drawings. Pinions indicated at 27 extend from opposite sides of the disk 25, and rest in the bearings 28, the bearings having their upper sides open, to allow the pintles 27 to move vertically into the bearings. The elongated openings 29 are formed in opposite sides of the magazine 23, and accommodate the pintles 27, whereby the disk 25 may be moved longitudinally of the magazine, for loading purposes. The bearings 28 are supported in elongated openings formed in the side walls of the gun-mount 11, and are so arranged that they will move freely throughout the length of the openings. The elongated openings are horizontally disposed, so that upon movement of the bearings 28 through the openings, the disk 25 will be moved towards and away from the loading end of the gun barrel, to accomplish the loading of the gun.

Links 30 connect with the bearings 28 at opposite sides of the gun-mount, the links 30 being pivotally connected with the rods 31 that are secured to the horizontal shaft 32, the shaft 32 being supplied with hand levers 33 at its ends, whereby the shaft may be rotated to adjust these bearings 28. Disposed within the gun-mount, are vertical guides 34 that accommodate the flange 35 that is secured to the magazine. Due to this construction, it will be seen that vertical movement of the magazine to and from its loading position, will be insured.

A support indicated at 36 extends across the top of the gun-mount, and provides a support for the pulley 37, over which the cable 38 operates, the cable 38 having one end thereof secured to the magazine, as at 39. The cable 38 also operates over the pulley 40 mounted in a bracket secured to the front wall of the gun-mount from where the cable extends downwardly and is wound on the drum 41 mounted in the brackets 42. A crank handle 43 is provided on the shaft of the drum 41 whereby the cable may be wound on the drum or paid off. A latch indicated at 44 is provided for holding the drum in various positions, and to prevent the drum from unwinding the cable, under the weight of the magazine, when the magazine has been elevated.

The reference character 45 designates a supporting rod which extends from the rear wall 46 of the gun-mount, the forward end of the supporting rod being extended into an opening formed in the gun barrel, as clearly shown by Figure 5 of the drawings. Mounted on the supporting rod 45, is the breech-block 47 that includes a movable disk 48 to which the firing pins 49 are secured. These firing pins are supplied with disks 50 that move in enlarged openings, formed in the breech-block proper, the disks providing stops for the outer ends of the coiled springs 51, which are shown as positioned on the firing pins with their outer ends engaging the inner ends of the openings in which the disks 50 move.

Associated with the disks 50, are pivoted extractor arms 52 that have their forward curved ends so arranged that they will engage under the heads of shells, to remove the shells, when the breech-block is moved rearwardly, after the firing of the shells. The disks 50 are so arranged with respect to the inner ends of the arms 52, that when the disks move into engagement with the rearward ends of the arms 52, the forward ends of the arms will be swung inwardly towards each other to grip the shells. Coiled springs 53 bear against the rearward ends

of the arms 52, normally urging the forward ends of the arms 52, away from each other.

When the disk 48 moves forwardly in firing the shells, latch members 54 move over the edge of the disk 48, temporarily holding the disk in contact with the main portion of the breech-block. These latch members 54 have curved outer surfaces adapted to be engaged by the curved edge of the latch-actuating ring 55, to move the latch members out of contact with the disk 48. When the disk 48 has been released, the springs 51 will act to move the disk and firing pins, to the position as shown by Figure 5 of the drawings.

The hammer, which is indicated by the reference character 56 is mounted for sliding movement, longitudinally of the supporting rod 45, and is urged forwardly, by the action of the heavy coiled spring 57, which is also mounted on the supporting shaft 45, one end of the coiled spring resting against the rear wall 46 of the gun-mount. A pivoted latch member 58 is carried by the latch-actuating ring 55 and is adapted to engage the hammer 56, holding the hammer in its set position. A shaft 59 is also mounted on the latch-actuating ring and is provided with a finger 60 adapted to engage the tail-piece of the pivoted latch 58, to tilt the latch 58 and disengage the latch 58 and hammer 56, releasing the hammer. A hand lever 61 is mounted on each end of the shaft 59 so that the shaft 59 may be operated from either side of the gun-mount.

The breech-block is actuated by the shaft 62, which is mounted in suitable bearings formed in the walls of the gun-mount. Arms 63 connect with opposite ends of the shaft 62, and have pivotal connection with the rods 64 that extend forwardly. These rods 64 have pivotal connection with the breech-block, as clearly shown by the drawings. Thus it will be seen that by operating the hand levers 65 mounted on the ends of the shaft 62, the breech-block may be moved towards or away from the gun barrel. The rod 66 connects with the latch-actuating ring 55, and extends into the inner end of the gun barrel, as shown by Figure 5. This rod 66 also extends through a bore, formed in the lower portion of the breech-block 47, whereby the breech-block is prevented from rotating, while it is being moved towards or away from the gun barrel.

Openings are formed in opposite sides of the gun-mount, and accommodate pivoted latch members 67, which latch members have their inner ends urged towards the breech-block, by means of the springs 68 that bear against the outer ends of the latch members. Hand levers 69 are mounted adjacent to the latch members 67, and have lugs thereon adapted to engage the latch members to move the latch members to positions, out of contact with the breech-block, when it is desired to return the breech-block to a position to permit the loading of the gun. A rod indicated at 70 connects the hand levers 69 so that operation of one hand lever, results in a relative movement of the hand lever at the opposite side of the gun-mount.

In the operation of the gun, the magazine, which has been moved to a position as shown by Figure 6 of the drawings, is filled with shells to be placed in the gun barrel. The hand levers 65 are now operated to move the breech-block rearwardly, to the position shown by Figure 5.

The magazine is now lowered into the position as shown by Figure 5, and the hand lever 33 at one side of the gun-mount, is operated to move

the disks 25 and plungers 26, forwardly, forcing the shells into the bores of the barrel.

The magazine is now elevated to a position above the gun-mount. By operating the levers 65, the breech-block is now moved to a position wherein the firing pins will be disposed directly opposite to the caps of the shells which have been placed in the bores of the barrel.

Either of the hand levers 61 may now be operated to release the pivoted latch 58 which allows the hammer 56 to be shot forwardly, into engagement with the disk 43, resulting in the firing pins being suddenly moved forwardly to fire the cap and consequently force the bullets of the shells, through the bores of the gun.

When the breech-block is returned to the position as shown by Figure 5 of the drawings, the shells which have been extracted by the pivoted ejector arms 52, will be deposited in the opening 71 in the bottom of the gun-mount. The gun is now ready for reloading.

What is claimed is:

1. In a machine gun, a barrel having a plurality of longitudinal bores, a sliding breech block mounted at one end of the gun barrel, a vertically movable magazine having a plurality of shell receiving bores, operating between the barrel and breech block, said magazine being constructed and arranged to move to a position above the gun barrel and adapted to deliver shells to be fired to positions opposite to the bores of the barrel, when lowered, plungers slidably mounted within the magazine and adapted to force shells from the magazine into the bores of the gun barrel, firing pins operating in the breech block, and means operating the firing pins whereby said shells are fired simultaneously.

2. In a machine gun, a barrel having a plurality of bores, a vertically moving shell magazine operating adjacent to the breech end of the barrel and having bores adapted to be loaded with shells to be fired, means for moving said magazine to a position wherein the bores of the magazine and barrel align, a disk movable within the magazine, plungers mounted on the disk, means for moving the disk whereby the plungers force shells from the magazine into the bores of the barrel, a breech block mounted for horizontal sliding movement adjacent to the magazine, firing pins mounted on the breech block and adapted to fire shells held in the bores of the barrel, and means for operating said firing pins, exploding the shells simultaneously.

BENJAMIN FRANK COLEMAN.