F. E. SCHULTZE.
Machine-Gun.

No. 208,204. Patented Sept. 17, 1878.

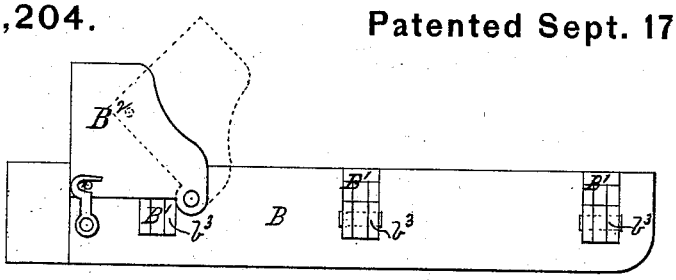

Fig. 1

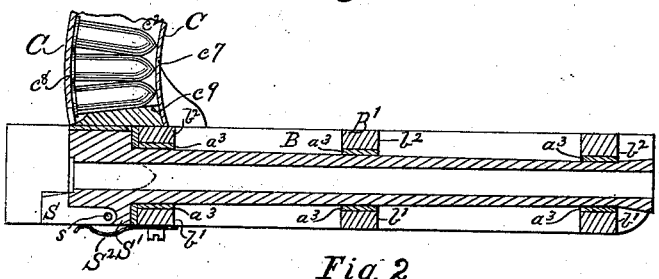

Fig. 2

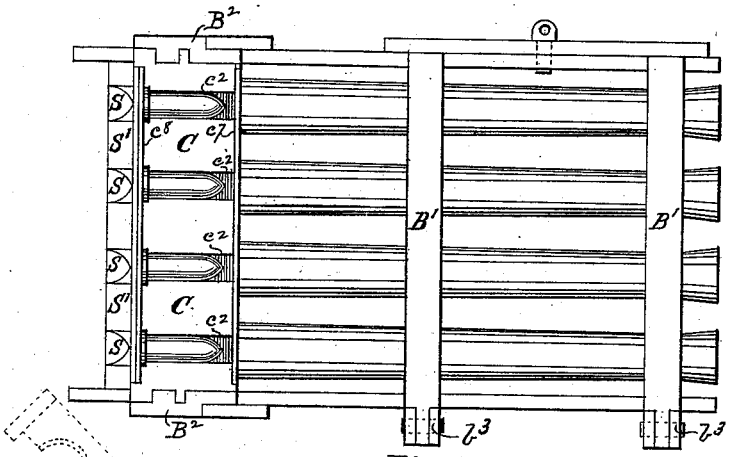

Fig. 3

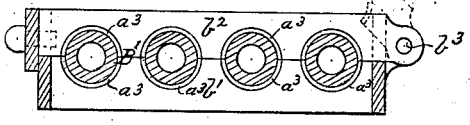

Fig. 4

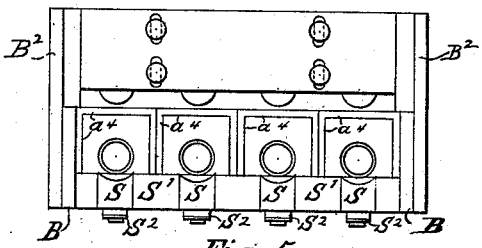

Fig. 5

Witnesses.
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Inventor.
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By his attorney
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UNITED STATES PATENT OFFICE.

FREDERICK E. SCHULTZE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO FRANCIS ED. MEYER, OF SAME PLACE.

IMPROVEMENT IN MACHINE-GUNS.

Specification forming part of Letters Patent No. **208,204**, dated September 17, 1878; application filed June 17, 1878.

To all whom it may concern:

Be it known that I, FREDERICK E. SCHULTZE, of the city, county, and State of New York, have made certain new and useful Improvements in Machine-Guns, of which the following is a specification:

This invention has for its object the construction of the frame that holds the guns in such a manner that it may be opened almost momentarily for the purpose of removing a defective or injured gun and replacing it with another, and isolating the guns from each other and from the retaining-frame by some substance that shall be a non-conductor of heat, and also the construction of the magazine and cartridge-rest so that the cartridges must feed down regularly and uniformly to the guns without any of them getting jammed in the ways and permitting unspent cartridges to pass below the loading-rest, as well as the spent cases.

The invention will be readily understood by reference to the accompanying drawings, of which—

Figure 1 is a side elevation of the gun-frame, showing in dotted lines the magazine-standard on the front side tipped over so as to separate the gun-frame for the purpose of removing the guns. Fig. 2 is a longitudinal sectional elevation of the gun-frame, guns, magazine, and cartridge-rest. (The carriage and limber are not shown in the drawings, as they are not particularly connected with the subject-matter of the present invention.) Fig. 3 is a general plan of the parts shown in Fig. 2. Fig. 4 is a transverse sectional elevation taken through the central transverse beam of the gun-frame. Fig. 5 is a rear elevation of the breeches of the gun-barrels.

The frame B B^1, in which the guns A are secured, has its transverse beams B^1 divided into two parts, b^1 and b^2, the lower part, b^1, being fixed to the side beams B, and the top part, b^2, hinged to b^1 by the hinge b^3, so that the said top parts may be turned up, as shown in Fig. 4 by the dotted lines, for the purpose of releasing the guns from the retaining-frame B B^1 in case any of the guns, for any cause, is required to be removed. This will enable a disabled gun to be taken out and replaced by a new gun in a very few seconds, even in action. The free ends of the pieces b^2 will be suitably secured to the lower or fixed part of the frame by means of bolts, locks, or other appropriate devices, so as to hold all of the parts firmly together when in use. The standards B^2, which support the magazine, will be hinged to the side beams B, so they may be turned over, as shown by the dotted lines of Fig. 1, for the purpose of placing them out of the way when the pieces b^2 are to be raised up to release the guns, as above explained.

In order to keep the guns as cool as possible during action and to prevent their heating the retaining-frame, each barrel is isolated by means of a packing, a^3, placed around each barrel and between it and the holding-beams B^1, and by packing-pieces a^4 placed between the breeches of the guns. These packing-pieces a^3 a^4 are to be made of some substance which will be a non-conductor of heat—such, for instance, as wood or asbestus; but the last-named material will probably be the best suited for the purpose.

The magazine C, which contains the cartridges previous to their being placed in the guns, will have its compartments c^2 constructed with their front and back faces segmental and concentric, as shown in Fig. 2. This is for the purpose of accommodating the formation of the cartridges and permitting them to slide down in the compartments c^2 without jamming whenever a cartridge is drawn from the bottom of the magazine to be placed in the gun. The front face, c^7, will be convex, and the rear face, c^8, will be concave, and the curves which they respectively form would be drawn from a center which would be obtained by the intersection of two straight lines, touching the front end and base of the cartridge on its top and bottom sides. The bottom or floor c^9 of the magazine-chamber will be sloping at an angle which would form a radial line to the curves c^7 and c^8, and this sloping bottom, on which the cartridges lie just before being drawn from the magazine, will greatly facilitate their withdrawal from the magazine.

It is proposed to use the battery herein described in connection with certain mechanism invented by me and on which Letters

Patent have already been allowed; but as said mechanism is not particularly essential to the subject-matter of this invention, it will not be herein particularly described. In general terms, however, it may be said that the cartridges are to be taken from the magazine by the requisite mechanism and inserted in the bore of the guns, and, after the cartridges shall have been fired off, withdraw the spent shells of the cartridges from the bores of the guns, and allow the next cartridge that is forced down to its seat in the line of the gun-bore to press down and out of the way the old or spent shell of the preceding cartridge.

It occasionally happens that some one cartridge is not fired off by reason of some imperfection, and whenever that is the case the unexploded cartridge-shell, with the ball still in it, would be withdrawn from the gun at the same time as the exploded shells were withdrawn, and the ball, still fixed in the cartridge-shell, would, unless provision was made to prevent it, strike the stop-block S and prevent the cartridge from being thrown down and out of the way, and consequently the unexploded cartridge would remain in the way of the next one and would interfere with the working of the battery. To prevent this the stop-blocks S are pivoted at *s* to the breech-bar S^1, and are habitually held up by the springs S^2 with sufficient force to hold and guide the cartridges to their proper entrance to the bores of the guns, but still with such a yielding force as to permit them to be pressed down by the action of the rammers in attempting to force down an unexpended cartridge.

The cartridges may be packed in tin cases at the time they are manufactured, so as to permit these tin cases to be set directly into the ammunition-chest or the gun-magazine.

Having described my invention, I claim—

1. The packings a^3 and a^4, constructed of some non-heat-conducting material, in combination with the guns A and the hinged beams B^1 and their fastening devices, for the purpose of securing the guns in their frame B B^1 in such a manner as to prevent one gun from heating another or the said hinged fixing-frame B B^1, as and for the purpose set forth.

2. The stop-blocks S, hinged or pivoted at *s* to the breech-block S^1, and supported yieldingly on the springs S^2 for the purpose of allowing unspent cartridges being forced down by displacing or lowering the said stop-block S, as and for the purpose set forth.

FREDERICK E. SCHULTZE.

Witnesses:
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