E. K. ROOT.

SHOT METALLIC CARTRIDGE.

No. 38,414. Patented May 5, 1863.

Fig. 2.

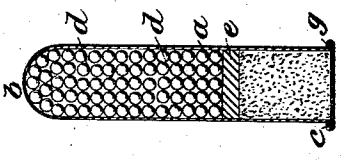


Fig. 1.

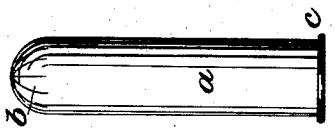
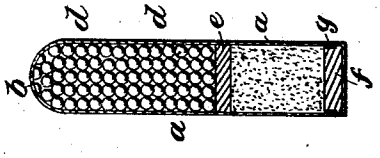


Fig. 3.



Witnesses:

Geo. H. Sill

Wm. Willcox Dwight

Inventor:

E. K. Root

UNITED STATES PATENT OFFICE.

E. K. ROOT, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN SHOT METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 38,414, dated May 5, 1863.

To all whom it may concern:

Be it known that I, E. K. ROOT, of Hartford City, of the county of Hartford, in the State of Connecticut, have invented certain new and useful Improvements in that Kind of Cartridge known as Fixed Ammunition; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to a new kind of fixed ammunition, having for its object the use of shot, or several small balls, for a single charge, as distinguished from a charge employing a bullet or single ball; and my invention consists in the employment of a charge of powder, a charge of shot, or of several balls, and a suitable primer or quantity of fulminate, in combination with a case or shell inclosing them, substantially as hereinafter described.

To enable those skilled in the art to make and use my invention, I will proceed to describe it more fully, referring by letters to the accompanying drawing, making part of this application, and in which—

Figure 1 is an elevation of one of my improved shot-cartridges or fixed-ammunition charges. Fig. 2 is a longitudinal section through the center of the same; and Fig. 3 is a similar section, showing a modification of my invention, which will be presently explained.

In the several figures the same letter indicates the same part of the apparatus.

a is a metallic case or shell, which may be made of any desired shape and size, and which contains the powder, shot, and fulminate or priming. The rear end or base of this case *a* may be made with an annular flange, in the ordinary manner of forming the base of the metallic cartridge-case now in use, *c*, as shown at Figs. 1 and 2; and the fulminate or percussion-powder arranged within said flange in the known manner, as shown at Fig. 2. Or the rear end of said case *a* may be made without any flange, so as to be loaded through the muzzle of a gun, as shown at Fig. 3, where the fulminate shown is arranged on the periphery of a disk, *f*. Or the case *a* may be made to inclose the fulminate in any other manner desired. A suitable charge of powder is put into the case *a*, as illustrated by Figs. 2 and 3, on which may be placed a wad, *e*, composed of a disk of felt, or any other material of any required thickness, next to which is placed the charge of shot seen at *d*, Figs. 2 and 3, over which the end of case *a* is closed, by being cut in points or sector-like teeth around its edge, and the said points then bent over and together, to form the surface of a hemisphere, as clearly illustrated at Fig. 1, at *b*; but it will be understood that the forward end of the case *a*, in lieu of being made hemispherical, as just described, may be made in any other form to inclose the charge of shot or series of balls *d*.

The method of arranging the fulminate shown at Fig. 3 differs from the arrangement shown in the other figures in this respect, that the fulminate, when arranged as in Fig. 3, is exploded by a blow given at about right angles to the axis of the cylindrical case *a*, while that arranged as shown in Fig. 2 is exploded by a blow given in a direction nearly parallel to the axis of the case *a*. But this method of arranging the primer is made the subject of a separate application for Letters Patent by me, where it will be found fully described.

I wish it to be understood that in carrying out my invention various modifications may be adopted in the form of the case or shell *a*; that various material may be employed to make it; and that any desired quantities and kinds of powder and balls may be used.

I am aware that previous to my invention cartridges have been made and fixed ammunition in which the fulminate and charge of powder were inclosed or arranged in a case in a manner similar to that shown in this application; but in such instances the forward end of the case or shell containing the fulminate and charge of powder was attached to a bullet or ball, and the whole differed from my invention, and was not adapted to the purpose for which my invention is intended.

I am also aware that a shot-cartridge has been made consisting of a metallic or other case containing only the charge of shot, and to be used with a separate charge of powder and primer; but such a cartridge is not properly fixed ammunition, and is very different from my fixed ammunition for shot.

I am also aware that shot-cartridges have been made, as shown in the English patent of Restell, February 8, 1856, in which the powder, fulminate, and small balls are arranged within a case having in it a central stud or shank running its whole length, and on which is a button or disk which closes the forward end of the case and holds in the balls. I do not wish to be understood as claiming any such combination as this.

Having fully explained the nature of my invention, and so described it, in connection with the accompanying drawing, that any one skilled in the art can make and use the same, what I claim as new, and desire to secure by Letters Patent, is—

The combination of a charge of powder, a charge of shot, and the fulminate, with a case or shell surrounding or inclosing them, constructed substantially in the manner described, for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 24th day of January, 1863.

E. K. ROOT. [L. S.]

In presence of—
GEORGE G. SILL,
WM. W. MCFARLAND.