

E. G. ALLEN.

Cartridge.

No. 41,590.

Patented Feb. 16, 1864.

Fig. 1.

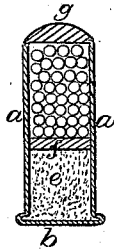


Fig. 2.

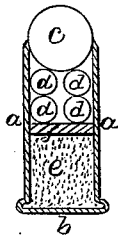
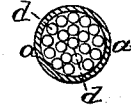


Fig. 3.



Fig. 4.



Witnesses.  
Helden Metzger  
Charles Lewis

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# UNITED STATES PATENT OFFICE.

ENOS G. ALLEN, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN METALLIC CARTRIDGES.

*Specification forming part of Letters Patent No. 41,590, dated February 16, 1864.*

*To all whom it may concern:*

Be it known that I, E. G. ALLEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Metallic-Case Shot or Cartridges; and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, whereby my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The present invention relates to that class of projectiles for small-arms called fixed ammunition or cartridges, which contain in one and the same case the charge of powder, the ball, and the fulminating-powder with its cap. To increase the destructive effect of the projectile, and yet admit of its being practically used in breech-loading fire-arms, is the principal object of my improvements, which consist in forming a metallic flanged cartridge-case closed at its outer end by a ball or head-cap of suitable diameter, and containing buck or other small shot, together with a charge of powder, the fulminating compound being held in the flange, substantially as hereinafter shown and described.

It will be evident that the destructive effects of such a combination of projectiles will be much greater than in ordinary fixed ammunition, in which a single ball only is used, or in which the several devices above referred to are combined in a different manner from that hereinbefore set forth.

In the construction of my new cartridge I found that the escape of gas, evolved by the ignition of the powder about the small shot or through the interstices of the same would prevent their being driven out of their cylinder-case, and against the ball or cap at the head with the desired force. To counteract this danger I insert between the charge of powder and the small shot, so as to support the latter, a packing or wad fitting closely in the cylinder-case, and acting within the bore of the same, when the cartridge is discharged like a piston-head in an air-tight cylinder, thereby preventing the escape of the gases by it, and

causing the full force of the powder to act upon the small shot and the ball.

In shot-cartridges heretofore constructed the fulminate was so placed or located as to require the tearing or breaking of the case, whereby an escape of gas was produced which rendered them inapplicable to breech-loading fire-arms in which the packing is produced by the said case. To obviate this I combine with the general arrangement of powder, ball, and wad, a case the hollow flange of which contains the fulminate, and which is exploded by the hammer by compressing the said flange.

In the accompanying drawings a cartridge constructed in accordance with my improvements is represented, and of which Figures 1 and 2 are central longitudinal vertical sections, and Figs. 3 and 4 horizontal sections.

*a a* in the drawings represent the cylinder-case, formed at its rear end into a cap, *b*, that contains the fulminating-powder. At the other end of the cylinder-case *a a* is inserted a ball, *c*. In order to more securely hold the ball, and also to allow the cartridge to enter the barrel of the arm without obstruction, the top edge of the cylinder-case *a a* is rounded, as shown. Immediately under the ball *c* are placed the small shot *d d*, &c., of such size and number as may be desired, or as the size of the cartridge will permit. Between the small shot *d d*, &c., and supporting the same and the charge of powder *e e*, is tightly fitted a packing or wad, *f*, of the proper diameter to fit closely the bore of the cylinder-case *a a*. When the charge of powder *e e* is ignited from the fulminating-powder by percussion, as usual, the packing or wad *f* will prevent the escape of gases between it and the cylinder-case *a a*, and will be driven out with the full force of the powder against the small shot and the larger projectile *c*.

In Fig. 1 a cartridge constructed according to my improvements is represented, designed for sporting purposes. In lieu of a ball at the top of the case *a a*, I insert a cap or plug, *g*, made of wood, pasteboard, or other suitable material, the arrangement of the small shot, wad, or padding, charge of powder, &c., being the same as described in the first instance.

I do not claim the metallic cartridge commonly known and now in use; but

What I do claim is—

Forming a metallic flanged cartridge-case, imperforate and charged with the fulminate at its flanged end, and at its outer end swaged over the equator of the ball, or head-cap, so as to hold it close, and tapering, so as to give certainty to the entry of this end into the barrel without obstruction, and secure a close fit to the chamber, to prevent the escape of the gases therein, the said cartridge-case containing buck or other shot in its anterior portion, and

powder in its posterior, the two to be separated by a wad of sufficient capacity, and fitting with sufficient accuracy to prevent the escape of the explosive gas among the shot, all arranged precisely and specifically as described in the specification and drawing.

E. G. ALLEN.

Witnesses:

SELDEN HETZEL,  
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