BUCKEL & DORSCH.

Cartridge.

No. 15,369. Patented July 22, 1856.

Fig: 1.

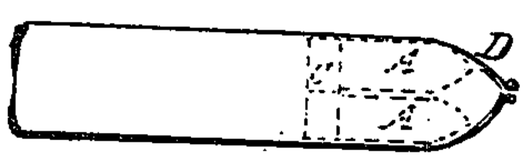


Fig: 2.

Fig: 3.

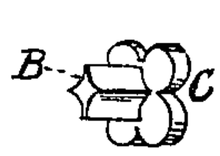


Fig: 5.

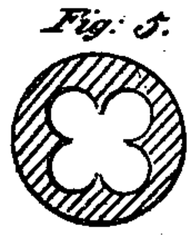
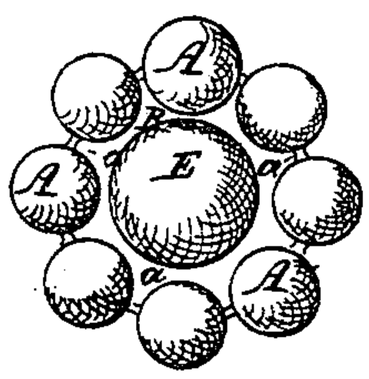


Fig: 4.



UNITED STATES PATENT OFFICE.

GEORGE BUCKEL AND EDWARD DORSCH, OF MONROE, MICHIGAN.

IMPROVEMENT IN FIXED CARTRIDGES.

Specification forming part of Letters Patent No. 15,369, *dated July* 22, 1856.

To all whom it may concern:

Be it known that we, GEORGE BUCKEL and EDWARD DORSCH, M. D., of Monroe, in the county of Monroe and State of Michigan, have invented a new and useful Improvement in Ball-Cartridges; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a side view of a cartridge containing four balls, adapted for small-arms for hunting or military purposes. Fig. 2 is a front view of the same, with the paper case removed from the points of the balls to expose them. Fig. 3 is a perspective view of the base-piece which separates the balls from the powder, combined with the partition-piece which separates the balls from each other. Fig. 4 is a front view of a cartridge containing one large central ball, and four smaller balls surrounding it, intended for cannon, or for guns of a caliber between small-arms and ordnance, to be used as wall-guns. In this view the front part of the case of the cartridge is removed to show the construction of the interior. Fig. 5 exhibits the form of the transverse section of the barrel from which the cartridge shown in Figs. 1 and 2 is to be projected.

Similar letters of reference indicate corresponding parts wherever they occur in the several figures.

This invention relates to cartridges for firearms whose bore is entirely formed of a number of circular grooves. It consists in the arrangement side by side, with their axes in the same circle, of several balls of cylindro-conoidal or other partly cylindrical form, of a size to fit the grooves of the bore, the number of said balls being equal to the number of grooves in the bore, so that every groove may have a separate ball. It also consists in the separation of the several balls by a partition-piece, of paper or other material, of the construction hereinafter described, for the purpose of preventing their union by fusion when the charge explodes, which, without the partition-piece, would sometimes occur when lead balls were used.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A A A A, Figs. 1 and 2, represent four cylindro-conoidal balls of equal length and diameter, arranged side by side, with their bases in the same plane. B is the partition-piece which separates them in the cartridge. This partition-piece may be formed of paper, leather, felt, or some material of a slightly-yielding character, and is intended to be of a length equal to the cylindrical portions of the several balls, and of a form in its transverse section whose general character is that of a cross, so as to form a partition between every ball and its neighbor on each side, and also to fill, or nearly fill, the central space between the balls. C is a base-piece to separate the butt-ends of the balls from the powder. This base-piece is made of a form to fit or correspond with the grooved bore of the gun shown in Fig. 5, from which the cartridge is to be projected. It may be of the same material as, and united with the rear end of partition-piece B by some adhesive material, or by other means, or may be placed separately in the cartridge. D is the case of the cartridge, which may be made of paper or other thin fabric, and is long enough to contain the necessary charge, and to envelop the balls entirely, as shown in Fig. 1, or only extend as far as the front termination of the cylindrical portion of the ball, (but the former length is preferable;) and it is united to the sides of the base-piece C by glue, or some adhesive material, which causes it to assume the same form transversely as the bore of the gun.

When a ball-cartridge constructed as above specified is fired from a gun of straight bore, it is found that the balls will scatter very slightly—that is to say, they will be confined within a circle of about two feet six inches in diameter when projected to the distance of three hundred paces, thus being very destructive. By giving the grooves a twist, the balls will scatter less. It is intended that the gun shall be sighted accurately for one of the grooves, that one ball may strike the mark at which aim might be taken. The balls are all carried about the same distance.

If the piece employed to project the cartridge contain more than four or five grooves,

a sufficient space will be left in the center of the circle formed by the number of balls, A A, required to fill all the grooves to contain a central ball, E, as shown in Fig. 4. This ball may be, when the central space is large enough, of greater diameter than the other balls. The partition-piece B of the cartridge, with the central ball, will be in the form of a ring, with a number of radiating pieces, *a a*, to separate the several balls A A. The central larger ball may be somewhat longer than the others, so that its point stands in advance of the points of the others in the cartridge; but its butt should generally stand in the same plane with the butts of the other balls, for the sake of fitting to the base-piece. In other respects the cartridge shown in Fig. 4 corresponds with that shown in Figs. 1, 2, and 3.

We do not claim, broadly, the use of two or more balls, or a ball and shot in the same cartridge; but

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The arrangement side by side, in the same cartridge, and with their axes in the same circle, of a number of balls of cylindro-conoidal or other partly cylindrical form, said balls being of a size to fit each to a separate groove of a circular-grooved barrel, such as is herein described.

2. The employment of a single partition-piece, B, to separate each and all of the balls, substantially as herein described, for the prevention of their union by fusion when the charge explodes.

GEORGE BUCKEL.
EDWARD DORSCH.

Witnesses:
S. H. WALES,
JAMES F. BUCKLEY.