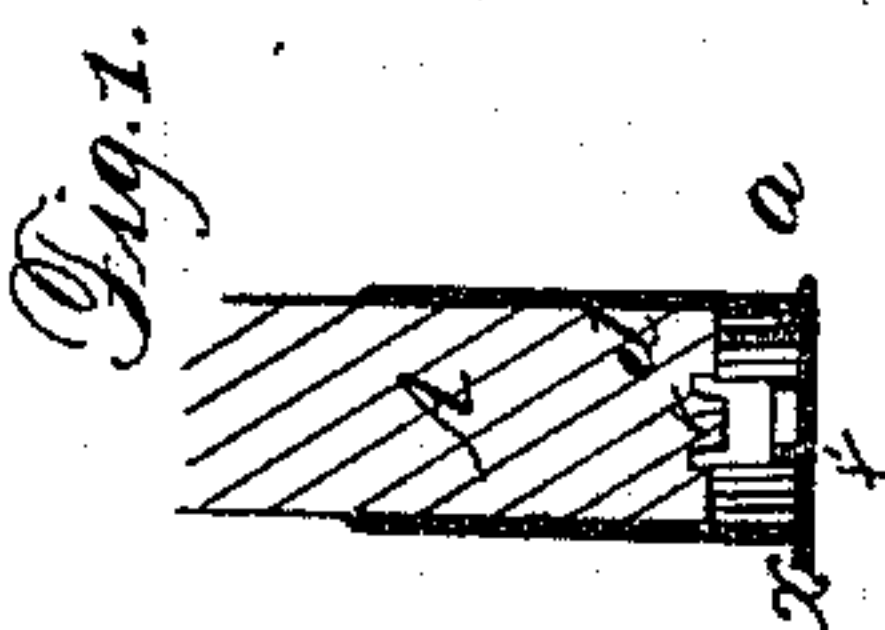
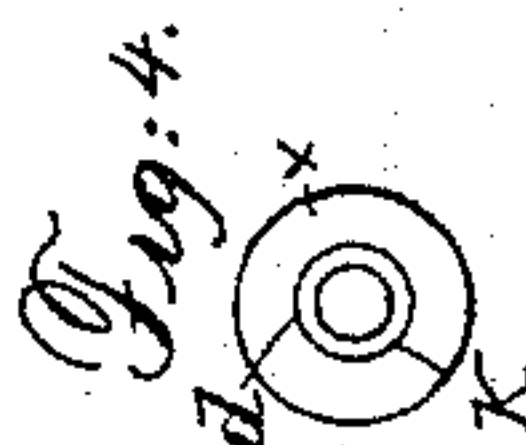
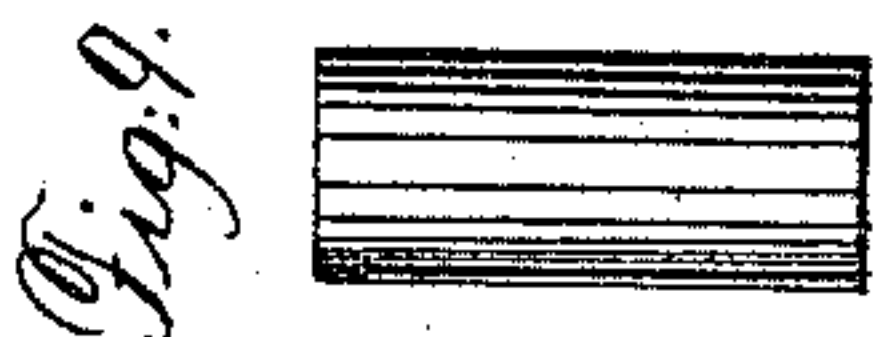
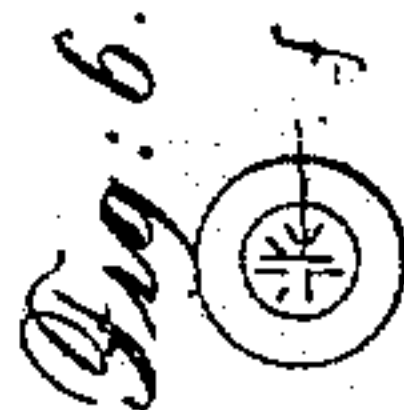
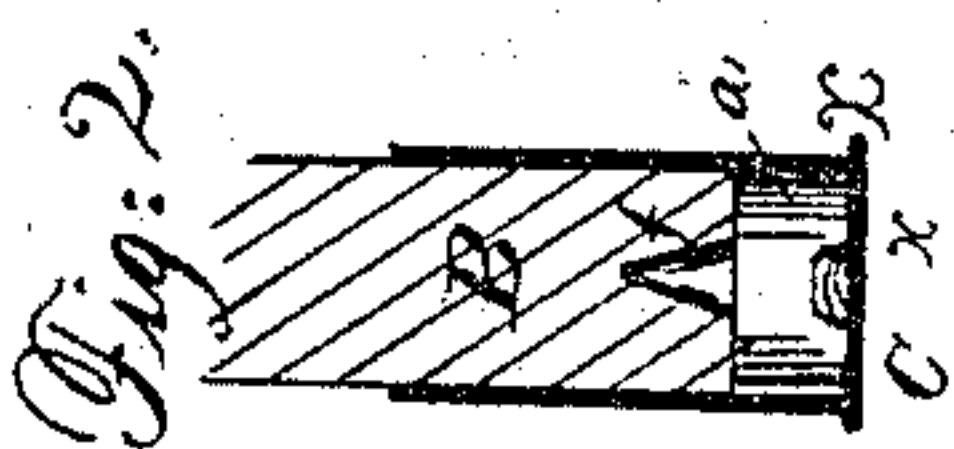
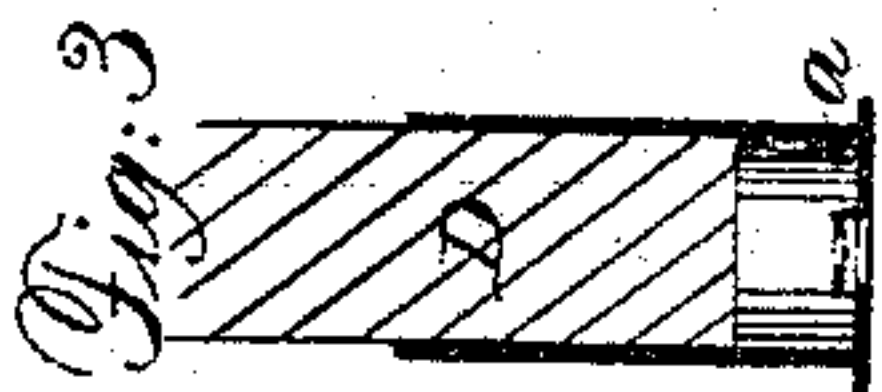


D. SMITH.

Cartridge.

No. 65,774.

Patented June 11, 1867.



Inventor

Dexter Smith
by his attys
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Witnesses
C. B. Newell
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United States Patent Office.

DEXTER SMITH, OF SPRINGFIELD, MASSACHUSETTS.

Letters Patent No. 65,774, dated June 11, 1867.

IMPROVEMENT IN PRIMING METALLIC CARTRIDGES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, DEXTER SMITH, of Springfield, Hampden county, Commonwealth of Massachusetts, have invented certain new and useful improvements in "Centre-Fire Cartridges;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In the drawings—

Figures 1, 2, and 3 are different sectional views of my cartridge in the processes of forming my improvements, and of the tools used in the operations.

Figures 4, 5, 6, 7, and 8, different views of the same; and
Figure 10 contains different forms of one of the parts; and
Figure 9 is a section of the plain shell.

My invention consists in a new and improved method of forming centre-fire cartridges.

In my cartridge, the head of the shell receiving the fulminate is formed as shown in figs. 1 and 7 of the drawings, in which a small flange, *a*, projects inwards from the head, forming a small circle around the centre of the same, and a cavity within for the reception and containing of the fulminate. This cavity, *x*, inside of the circle of the flange *a*, is sunk below the plane of the outside of the flange, so that the metal is thinner at the bottom of the cavity than elsewhere in the head. The head of the shell being thus formed, a layer of fulminate is placed in the chamber *x*, resting upon the bottom of the same. Upon this layer of fulminate is then placed a small circular disk, *C*, fitting the bore of the chamber. The top edge of the flange *a* is then crowded around inwardly over the circumference of the disk, and is then flattened down so as to securely and neatly hold the disk and fulminate in place. Different forms of disks may be used, as will hereafter be explained.

In fig. 1 is shown a sectional view of a cartridge formed in the manner of my invention, and also of the tool used in so forming it. This tool consists of a solid piece, *A*, cylindrical in form, and having in its bottom face a circular cavity, *d*, corresponding in depth and width with the flange it is required to form, leaving a centre projection, *K*, which projects beyond the face of the piece sufficiently to give the required thinness to the metal at the bottom of the cavity *x*. The operation of forming the flange *a* and cavity *x* is completed at one operation of the die upon the plain head of the cartridge-shell, the soft metal being easily crowded up into the cavity *d*, and away from the centre of the head, leaving the same in the shape shown in figs. 1 and 7. After this done, and the fulminate and disk placed in the chamber *x*, as already described, it is operated upon by the tool shown in fig. 2, which consists of a cylindrical piece, *B*, having a conical-shaped cavity, *f*, which, as the piece *B* descends, crowds the top edge of the flange *a* in around the disk, leaving the shell in the form shown by fig. 2. The next operation is to flatten the top of the flange down as shown in fig. 8, which is accomplished by the tool shown in that figure, consisting of a cylindrical piece, *d*, with a plain face which presses down the top of the flange *a*, leaving the disk neatly and firmly held in. In fig. 10 of the drawings, several different forms of disks, *p*, *q*, and *r*, are shown, the one, *p*, consisting of a flat circular steel piece having a hole through the centre for the fire to communicate to the powder through, and being countersunk around this hole on the upper or outside surface, leaving the side next the fulminate flat. The disk *q* is a concavo-convex copper plate with a hole in the centre, and which is placed with its concave side next to the fulminate. The disk *r* is a flat disk of steel having no hole in the centre, but having at its edges small portions cut away from the circumference, which serve the purpose of a hole in the centre. In this manner I form a sure and well-protected centre-fire in the head of the cartridge, the operations of forming the same being easily performed, and the fulminate firmly held in place, and consequently more sure of fire. The flange *X*, around the head of the shell, may also be formed in the same operation of the punch that strikes up the small flange in the inside. In fig. 9 is shown the plain shell as it is before the flange *X* is formed upon it. As the piece *A* descends inside the shell it spreads the stock around the outside circumference of the head in the form shown at *x* in fig. 1.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A centre-fire cartridge in which the anvil is attached to the interior of the head of the cartridge-shell by means of the flange *a* formed on the inside surface of the same, substantially as described.

DEXTER SMITH.

Witnesses:

C. B. NEWELL,
JOHN JONES.