

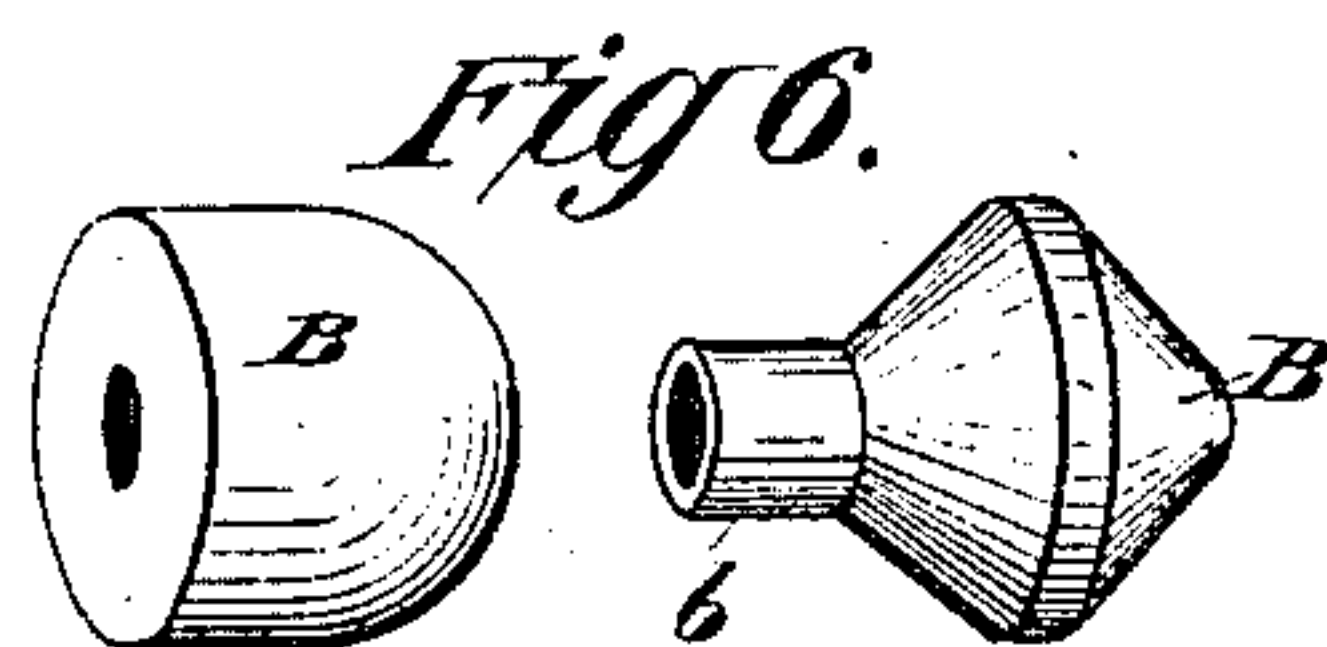
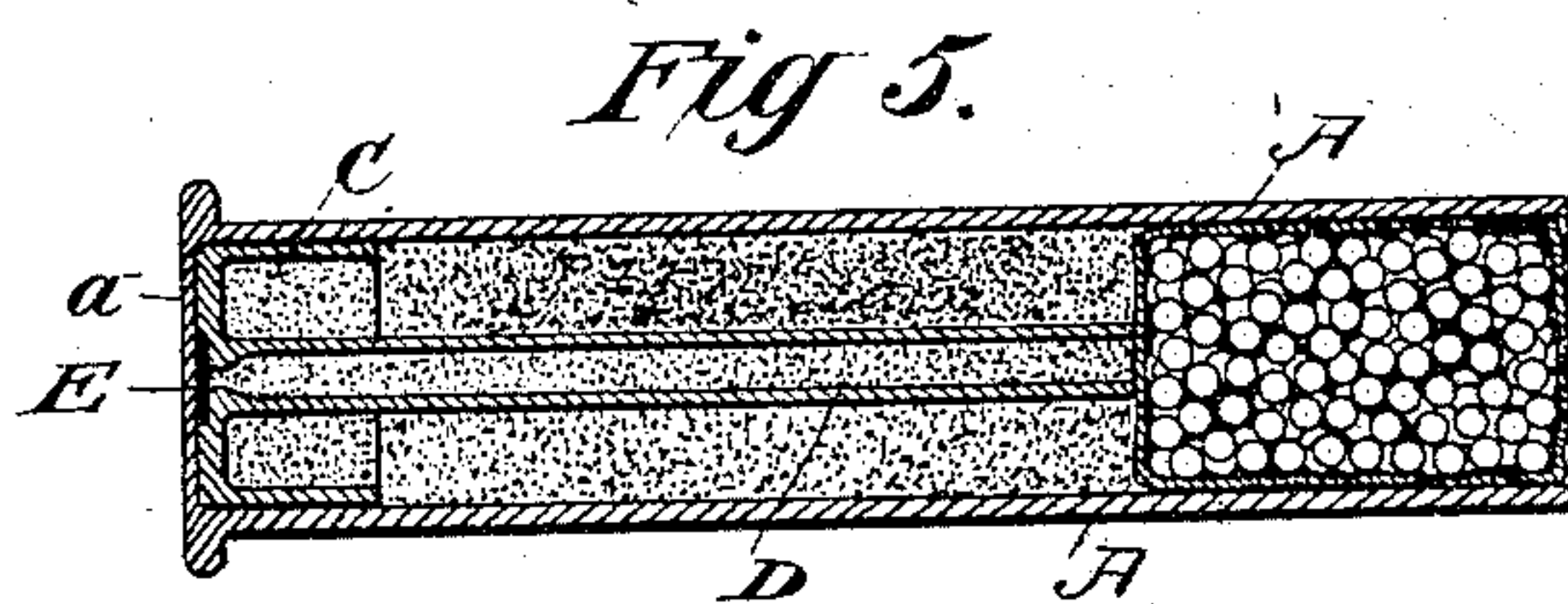
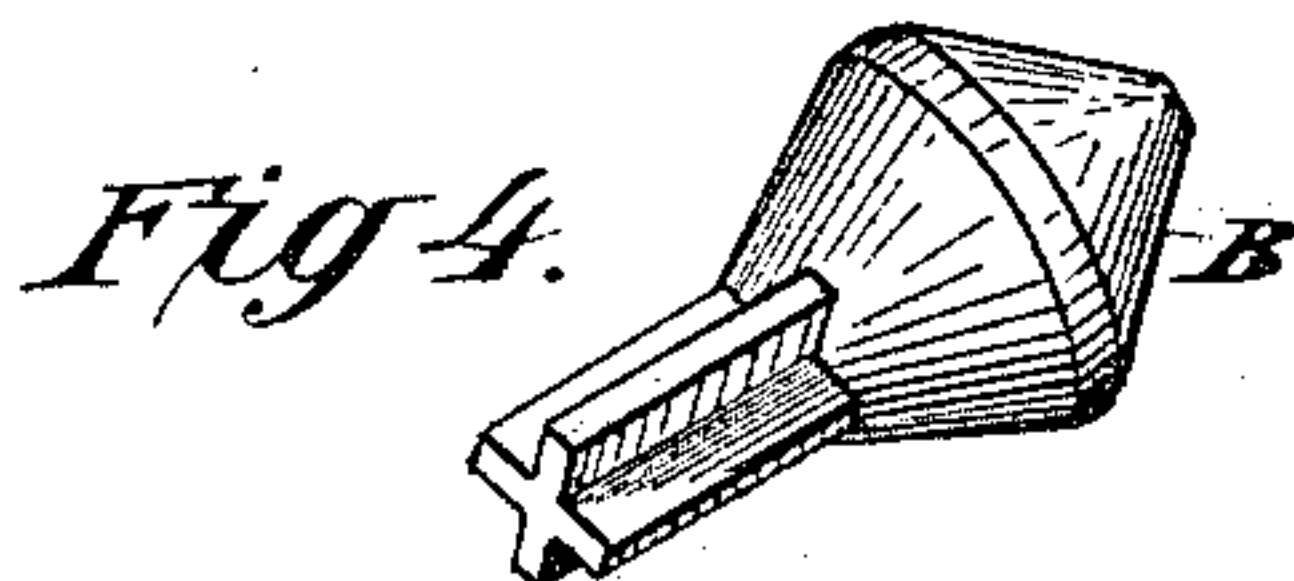
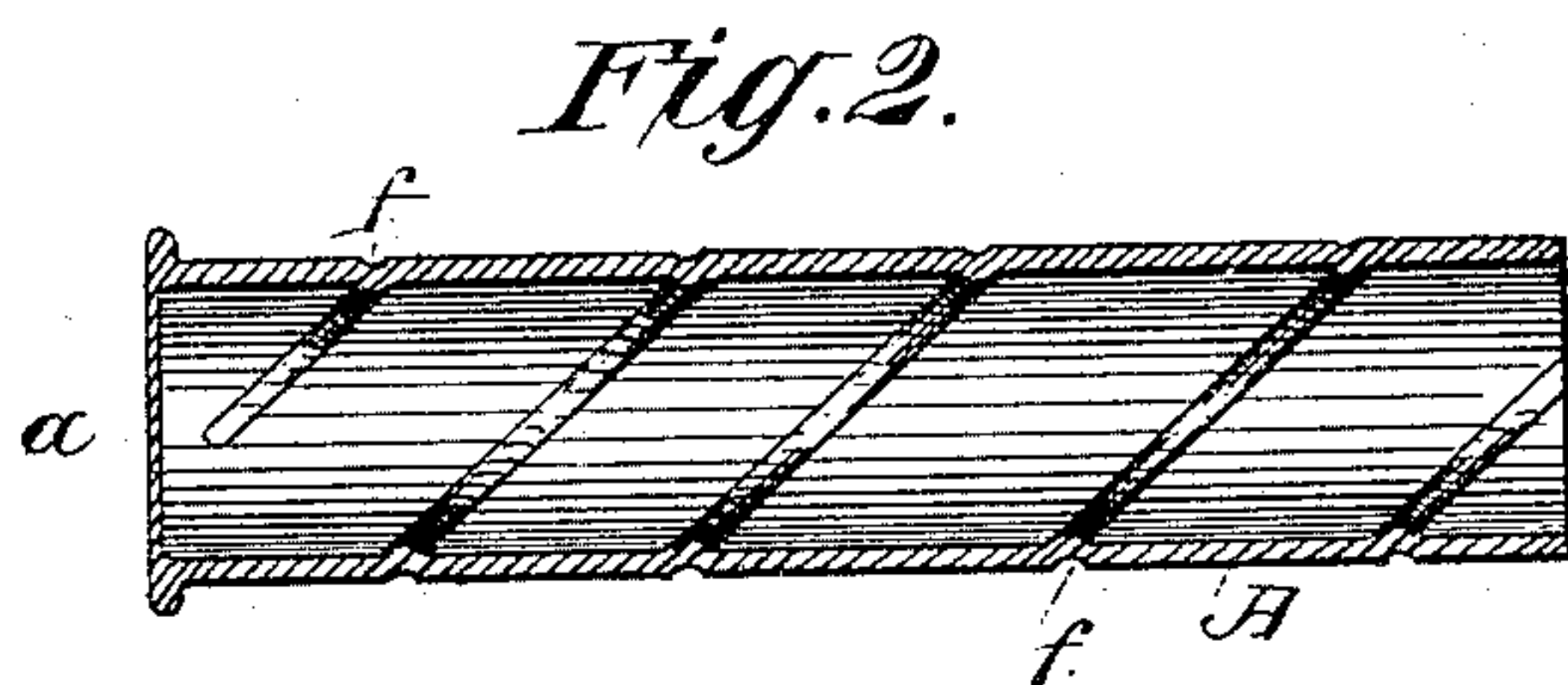
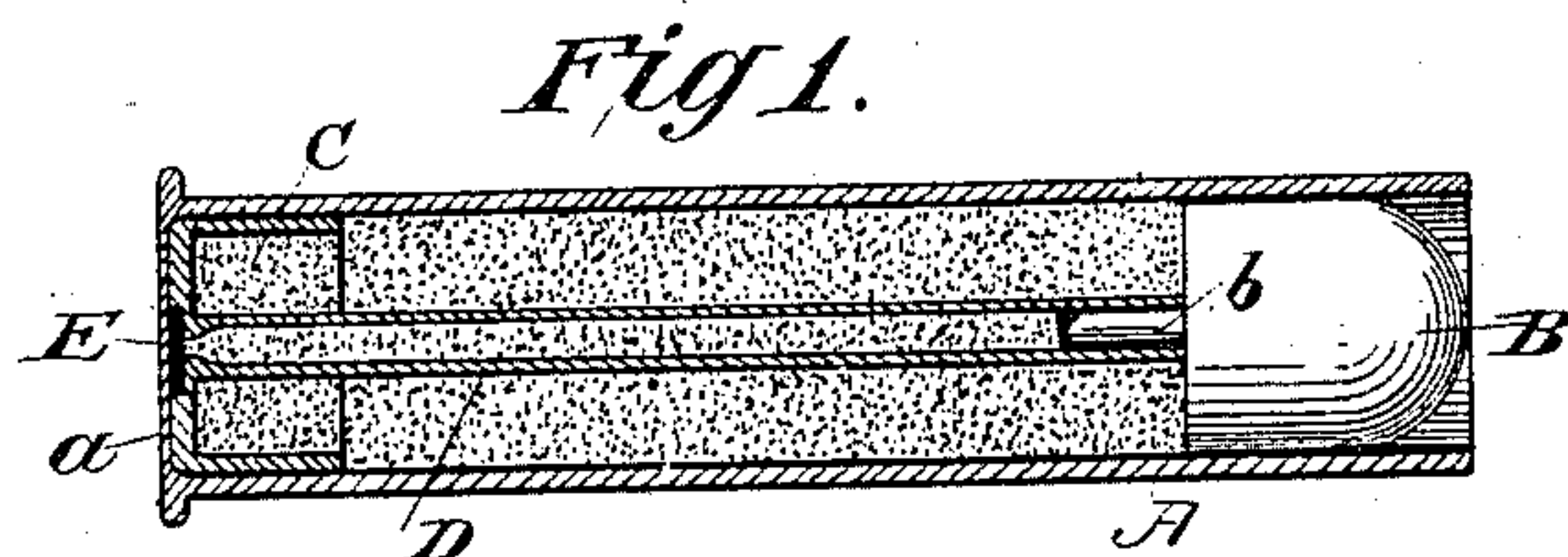
(No Model.)

J. H. McLEAN.

CARTRIDGE.

No. 282,550.

Patented Aug. 7, 1883.



Attest:
L. M. Hopkins.
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Inventor:
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UNITED STATES PATENT OFFICE.

JAMES HENRY McLEAN, OF ST. LOUIS, MISSOURI.

CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 282,550, dated August 7, 1883.

Application filed May 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES HENRY McLEAN, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented
5 Improvements in Cartridges, of which the following is a specification.

My improved cartridge is provided with a case of paper, thin metal, or other suitable material in cylindrical form, with an open front,
10 and a closed back. Within this case I insert a saucer-shaped cup having a peripheral flange to fit within the case, and employed to center and support an axial tube which extends forward to the base of the bullet, and is cen-
15 tered thereon, said bullet having a solid tail, to be inserted into the tube, or a hollow tail or a cavity in the bullet itself, into which the tube may be inserted. The case is the full length of the cartridge—that is to say, it extends forward as far as the front of the ball.
20 The primer is placed between the open rear end of the axial tube and the interior of the imperforate back or base of the case, and is ignited by the stroke of the firing-pin against
25 the outside of the case.

My improved cartridge is illustrated in the accompanying drawings, in which—

Figure 1 is a central longitudinal section thereof, the bullet being shown in elevation.
30 Fig. 2 is a longitudinal section of the case or shell. Fig. 3 is a longitudinal section of the combined tube and centering-cup. Fig. 4 is a perspective view of the bullet. Fig. 5 is a section of a shot-cartridge. Fig. 6 is a view
35 of two bullets, one with a hollow tail and the other with a hollow in its base to receive the end of the tube.

The outer case, A, may be made of paper, thin metal, or other suitable material, with an
40 open front and a closed and imperforate base, *a*. Inserted in the shell or case from the front is a cup, C, the sides whereof fit within the interior of the case, and serve to center and secure the rear end of the central tube, D, the
45 front end of which receives the central tail, *b*, of the bullet B. The case A is made of sufficient length to extend to the front of the bullet B, so that the shell after discharge of the bullet will be of the same length as the loaded
50 cartridge. This enables me to use the empty

shell as a gage in feeding the cartridges into the gun, or the breech-slide thereof, from suitable magazines, as I have described in certain applications for patents on improvements in breech-loading and magazine fire-arms.

In constructing my cartridge the connected
55 cup C and tube D are inserted within the case A, with a primer, E, of any preferred form, in position beneath the end of the tube, and between it and the interior of base *a*. The cup
60 and tube may be made in one piece, or may be separate and secured together by fitting the end of the tube within or on the outside of a central collar on the cup. The primer E may be of disk form and set in a cavity, as shown,
65 or may be of cap form and be fitted on a nipple on the rear extremity of the tube D. The tube D and the case A around it are both filled with powder, and the tail *b* of the bullet fitted within the end of the tube; or, as shown
70 in Fig. 6, the tail of the ball or the base of the ball itself may be made hollow to receive the end of the tube. When the tail of the ball is made solid, I prefer to give it the form (in section) of a St. Andrew's cross, as illustrated in
75 Fig. 4, which is highly advantageous in improving its range and accuracy in flight. The stroke of the firing-pin, being delivered on the center of the base *a*, acts through the thin material of the case on the primer E within, which
80 is seated on the end of the tube D, while the latter is seated against the base of the ball B, so as to provide a rigid and efficient anvil to support the primer under the blow and insure its ignition. The tube may be without perfo-
85 rations, so that the powder within it will be first burned and the main body of powder will then be ignited from the front; or the tube may be perforated, so as to ignite the entire body
90 as promptly as possible.

My improved cartridge may be made either with or without a flanged base, as preferred.

The invention is applicable alike to military and sporting guns, and may be applied to a shot-cartridge, as I have illustrated in Fig. 5.
95 Especially for cannon it is found desirable to form the case with spiral or other ribs, as illustrated at *f* in Fig. 2, which afford a cushion in the first explosion of the charge, and hence avoid violence to the gun. After the cartridge
100

has been fired, the connected tube and saucer D C can be taken out of the case or shell A, reprimed, and put back, and the cartridge reloaded a number of times. The facility thus
5 afforded for reloading the copper shell is a great feature of utility in my cartridge, both for military and sporting purposes.

I am aware that heretofore centering-rods have been employed in the construction of cer-
10 tain classes of cartridges, and that such devices have been combined with a "tailed" bullet, and, furthermore, that removable cups have heretofore been used in the construction of cartridges; hence,

15 Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a cartridge for fire-arms, ordnance, &c., the hollow shell A, open at its front end and
20 closed at its rear end, in combination with the

cup C, fitting closely at its sides within the shell A, and provided with a central aperture, the tube D, secured at its rear end to the front face of the cup around its aperture, and the ball or shot case B, removably attached at its rear
25 face to the front end of the tube D, the said cup serving through the medium of its sides to keep the tube in true alignment, substantially as and for the purposes set forth.

2. The combination, with the hollow shell A, 30 of the separate cup C, the primer E, and the tube D, attached centrally to the said cup, as shown and described, said cup being arranged to be removed for repriming the cartridge, as set forth.

JAMES HENRY McLEAN.

Witnesses:

CHAS. H. BALLMAN,
JAS. MILLAN.