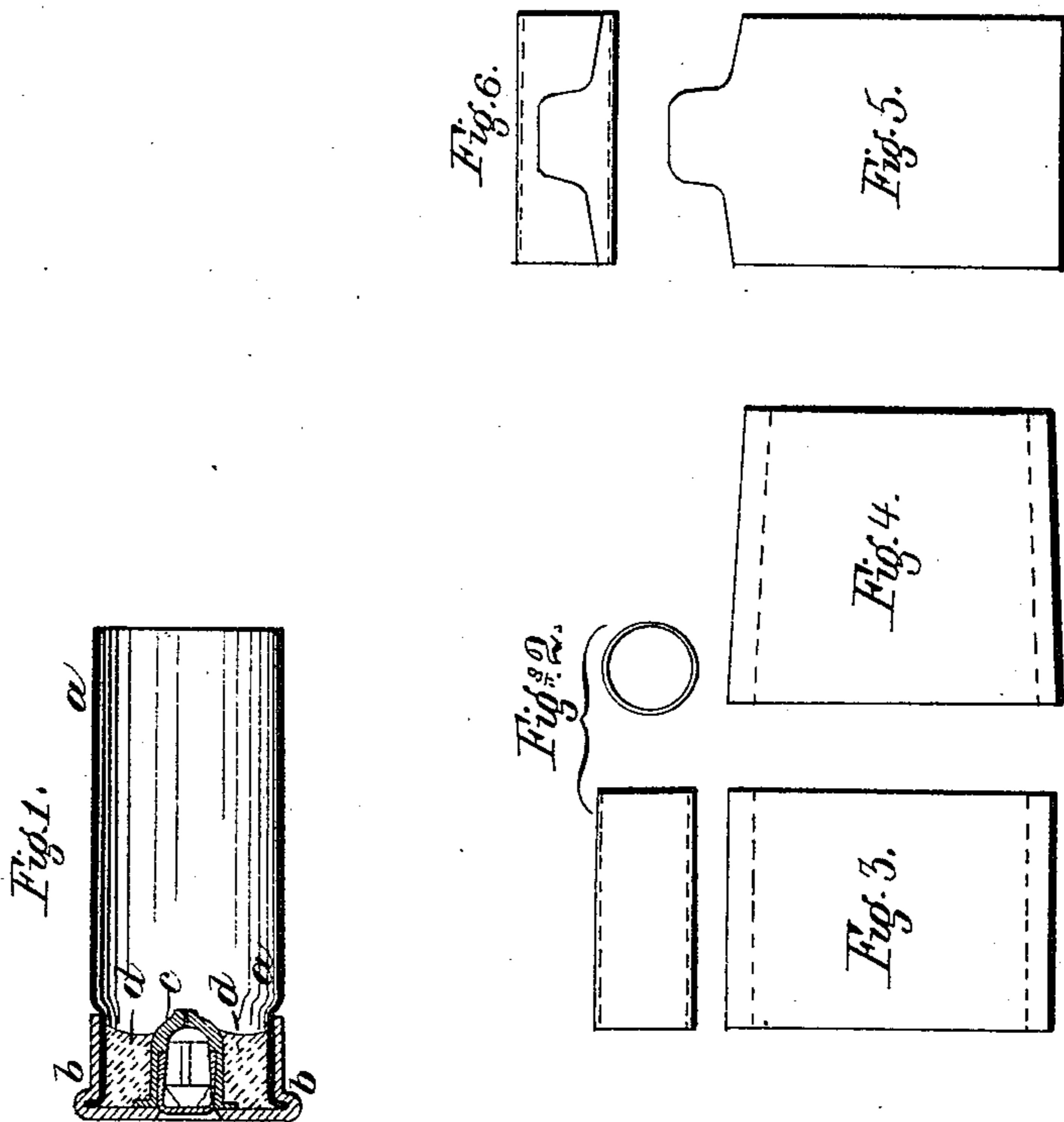


G. H. DAW.

Cartridge.

No. 89,563.

Patented May 4, 1869.



Witness
Samuel Stevens,
William Chapman.

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UNITED STATES PATENT OFFICE.

GEORGE H. DAW, OF LONDON, ENGLAND.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 89,563, dated May 4, 1869.

To all whom it may concern :

Be it known that I, GEORGE HENRY DAW, of Threadneedle street, in the city of London, England, a subject of the Queen of Great Britain, have invented or discovered new and useful Improvements in the Construction of Cartridges for Breech-Loading Fire-Arms; and I, the said GEORGE HENRY DAW, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof—that is to say :

This invention has for its object improvements in the construction of cartridges for breech-loading fire-arms. Cartridges for breech-loading fire-arms have heretofore, in some cases, been made with the case which is to contain the powder formed of a tube of metal. The tube has either been a drawn tube, or it has been a tube or hollow roll formed by winding sheet metal around a mandrel. Such metal tubes have also, at one of their ends, been combined with a base, (mainly composed of paper or pulp, and formed by the process known as Daw's process,) carrying in its center a percussion arrangement for igniting the powder. According to my invention, I construct the case of the cartridge of a metal tube formed from a strip of thin rolled sheet metal bent over a mandrel, and having its overlapping edges soldered together, so as to form a perfect tubular body, which is combined with a cup-base or capsule holding the percussion arrangement, and with a wad of paper-pulp at the base, so that the thin tubular body is closed at one end by a strong base, (composed of the capsule and paper wad,) and at the other by the projectile. This mode of constructing the cartridge enables the body to be constructed of very thin metal, while the base is exceedingly strong; hence much less metal may be employed in forming the case than heretofore. The empty cases are also very readily extracted from the chamber of the barrel after the cartridge has been exploded.

The tubes are of conical or cylindrical form, or conical and cylindrical combined. The tubes or cases of other descriptions of metallic cartridges may also be constructed in a similar way to that above described.

Having thus described the nature of my

invention, I will proceed to describe more fully the manner of performing the same.

Figure 1 shows a longitudinal section of a cartridge, with the case which is to contain the powder formed from thin sheet metal, soldered up at its edges to form a tube, *a*, as above described. One end of this tube *a*, forming the powder-case, is shown to be combined with a base formed by the process known as Daw's process, and carrying a percussion arrangement for igniting the powder. *b* is the base-cup or capsule, into which the tube *a* is set. *c* is the "hat-cap," or chamber to contain the percussion-cap and anvil, and *d* is a wad of paper-pulp forced in under a heavy pressure while the cartridge-case is inclosed in a strong case or mold. It renders the base of the cartridge solid, and connects the parts *a*, *b*, and *c* firmly together.

At Fig. 2 is shown separately a side and end view of a tube formed by soldering up into a tube a strip of thin rolled sheet metal. The strip of metal from which such a tube is formed is shown separately at Fig. 3.

If it be desired to make the tube which is to form the powder-case of a taper form, then the shape into which the sheet metal is cut is varied accordingly. Thus, Fig. 4 shows a strip of metal suitable for making a taper tube. When the sheet metal has been cut into pieces each suitable for forming a tube, the edges which are to be connected together are coated with solder, the solder at one edge being applied on one side of the sheet, while at the opposite edge it is applied on the opposite side of the sheet, so that when the sheet is lapped around a mandrel the surfaces coated with solder may overlap and come in contact with one another. The coated edges are then caused to unite by passing a heated iron along the joint, and the strip of sheet metal is thus formed up into a tube. When forming cylindrical tubes a long strip of metal may be coated along its edges with solder, and afterward cut up into lengths of the dimensions required for forming a tube.

It is not essential that the tubular powder-cases should be soldered up from end to end. Thus, as is represented at Fig. 5, the strip of metal may be cut with a projecting flap. It is rolled up into a tube, as is shown at Fig. 6, and the flap only is secured by solder.

In making up a cartridge from a tube formed as above described, one end of the tube is combined with a base, and afterward the tube forming the powder-case has placed into it the requisite quantity of powder, and the mouth of the case is then closed up by the projectile.

A portion of the rear end of the projectile, by preference, is inserted into the tube and held there, either by bending in or indenting the tube into grooves in the projectile, or by cementing the bullet into the case with wax or other lubricating material.

Having thus described the nature of my invention, and the manner of performing the

same, I would have it understood that what I claim is—

The construction of the cartridge-case with a tubular body composed of a strip of thin sheet metal soldered at its overlapping edges, and combined with a base-cup containing the percussion arrangement and a wad or filling of paper-pulp, as hereinbefore set forth.

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