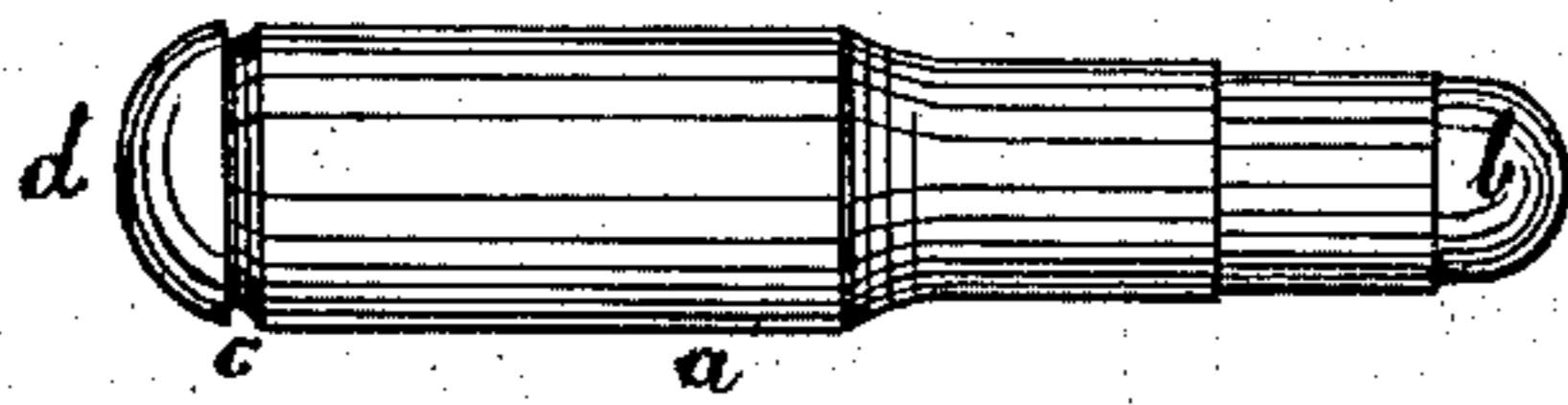


**B. BURTON.**  
**Metallic Cartridges.**

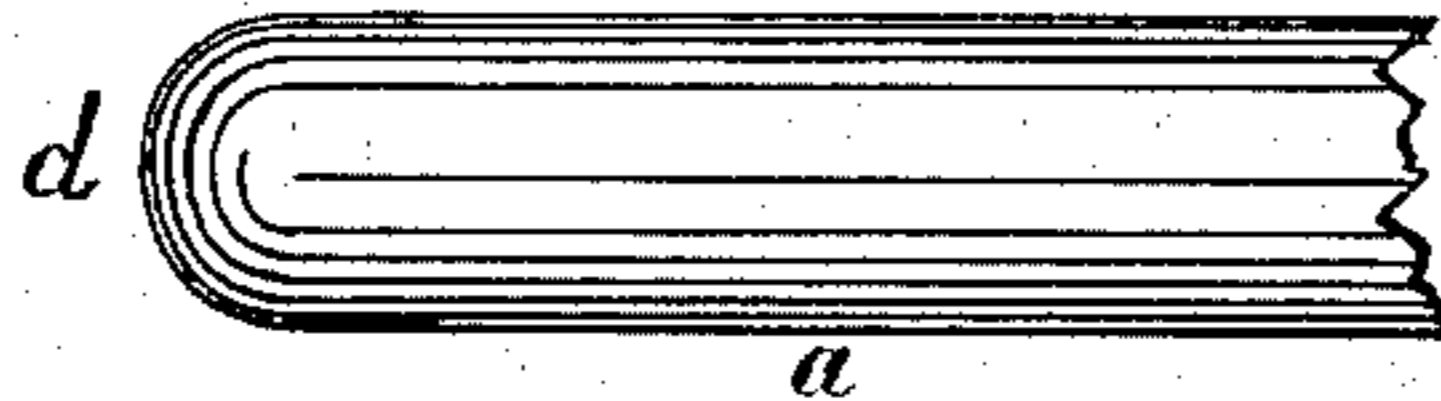
No. 136,130.

Patented Feb. 25, 1873.

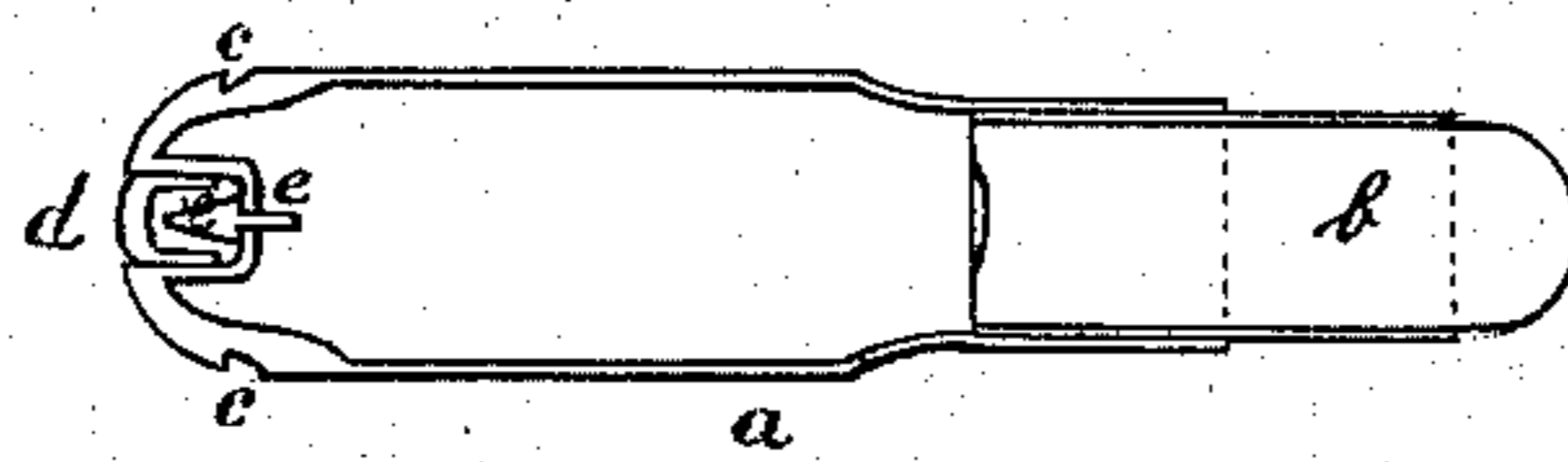
*Fig I.*



*Fig II.*



*Fig III.*



*Witnesses.*

*Edw Clarkson*  
*J. P. Murphy*

*Inventor.*

*Bethel Burton*  
*per Brewster & Bell*  
*Attys*

# UNITED STATES PATENT OFFICE.

BETHEL BURTON, OF BROOKLYN, NEW YORK, ASSIGNOR TO W. G. BURTON,  
OF SAME PLACE.

## IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 136,130, dated February 25, 1873.

*To all whom it may concern:*

Be it known that I, BETHEL BURTON, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Cartridge-Shells; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed specification and to the figures and letters of reference marked thereon, and in which—

Figure I is a view of my cartridge prepared for use. Fig. II is a view of the shell as it appears, when drawn, before cut to length or cannellured. Fig. III is a section of the shell charged and primed with the bullet in its place.

As cartridges are now generally made from sheet metal, with a projecting flange and flat base, powerful machinery is required to upset and form the head, and, at the same time, the fiber of the metal, which runs in a general longitudinal direction of the case, is either obliterated or broken, and thereby weakened just at the fold of the flange, and where the greatest strength is required, as that is the only part of a cartridge which is wholly unsupported by the walls or breech of a gun when the same is in place. The projecting flange is also an objection when the cartridge is to be used in a magazine-gun, as it requires a tube of a diameter greater than that of the greatest diameter of the cartridge; and, beside that, the cartridges do not lie in a true line with each other, and have a tendency to rattle in the tube. The square end is objected to on the ground that if, by chance, there be a cartridge slightly shorter than the proper length it allows the next to project into the carrier-guide and over the carrier, and its square head prevents the carrier from moving up as required, when a round-headed cartridge would be pushed back into the magazine and the carrier operate equally as well.

The object of my invention is to obviate the above defects and difficulties; and to this end it consists in a cartridge drawn from a single piece of sheet metal having the fibers of the metal in a general longitudinal direction, grad-

ually bent at and forming a rounded or spherical base, so that the fiber is neither broken or destroyed, and having a cannellure cut or made just in front of the rounded base for the extractor to catch behind to withdraw it from a breech-loading gun, and having a shoulder produced by the usual necking, which limits the extent to which it can be inserted into the gun.

Referring to the accompanying drawing, *a* is the shell; *b*, the bullet; *c*, the cannellure; *d*, the base or dome of the cartridge; and *e*, the primer.

The shell, as represented in Fig. II, is drawn from a blank in the usual way. It is then placed on a spindle revolving rapidly. On the same machine there are two cutters which move simultaneously, one of which cuts off the cartridge to length and the other cuts the cannellure the form required. When done the cutters withdraw and the shell is thrown off the spindle.

This operation is repeated as rapidly as one person can place the cartridges on the spindle; or they may be fed to the spindle from a hopper; whereas in making cartridges with a head or flange several machines are necessary to accomplish what I do with one.

The cartridge may be primed in the manner seen in Fig. III, or in any other desirable way.

By forming the base of the cartridge to that of a hemisphere I overcome the difficulty experienced with cartridges having a rim or flat base.

In the manufacture of these flat-based cartridges the greatest care is necessary to insure their being of equal length. Otherwise, when used in a magazine-gun, should one be too short, it allows the following cartridge to protrude from the magazine and prevent the carrier from raising by reason of the flat base. With the dome-shaped base of my cartridge, however, should it protrude by reason of a short cartridge, the carrier, in coming up, slides up along the arc, shoving back the cartridge into the magazine.

I do not confine myself to the particular shape of a hemisphere, or even to the frustum

of a cone, which would answer as well, but to such curve-shaped end as will allow the carrier to slide along the arc and cause the carrier to rise.

I claim as my invention—

The improved cartridge-case herein described, drawn from sheet metal having its fibers in a general longitudinal direction, grad-

ually bent and rounded at the base, and having a cannellure and shoulder, substantially as and for the purposes set forth.

BETHEL BURTON.

Witnesses:

E. W. CLARKSON,  
T. P. MURPHY.