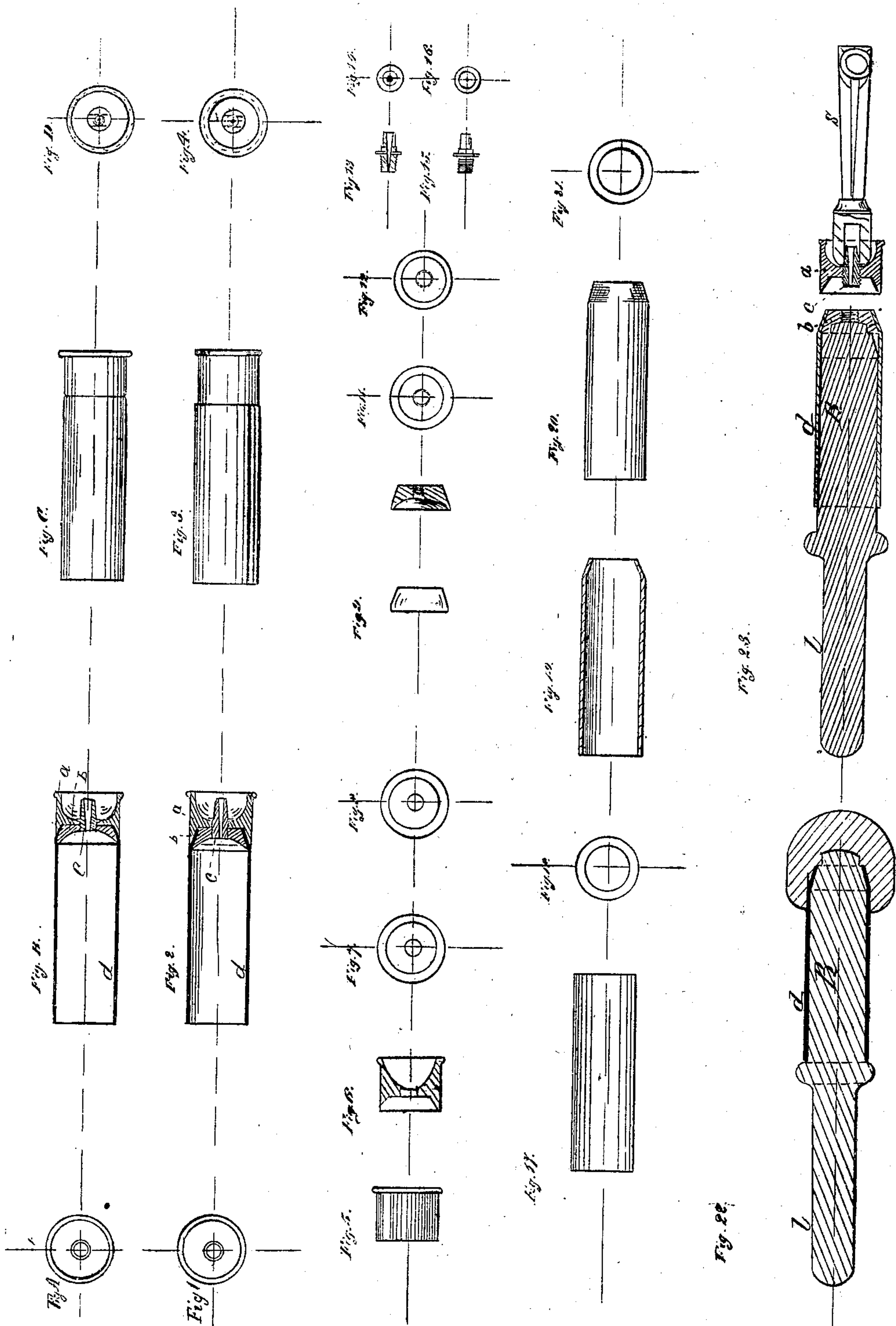


# T. Cullen, Cartridge.

No 72982.

Patented Jan. 7, 1868.



Inventor *Thomas Cullen*

Witnesses.

*John Campbell*  
*John Cullen*



# UNITED STATES PATENT OFFICE.

THOMAS CULLEN, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN CARTRIDGES FOR SMALL-ARMS.

*Specification forming part of Letters Patent No. 72,982, dated January 7, 1868.*

*To all whom it may concern:*

Be it known that I, THOMAS CULLEN, of the city and county of San Francisco, State of California, have invented a new and Improved Cartridge, involving many improvements upon the construction and mode of using the cartridges at present in use, the particulars of which are subjoined.

The accompanying drawings will be found sufficient to explain the workings of this my cartridge.

My cartridge consists of a metallic base or cap, *a*, capable of being secured to a paper tube, *d*, for holding powder, shot, and wadding, by means of a nipple, *c*, screwing into the interior washer *b*, and by this arrangement I derive the advantage of being able to disengage any part, such as the paper tube, and replace as required.

My invention is called and designated by me "Cullen's Improved Cartridge," and is made in a manner wherein no skill in the manufacture will be found requisite. The improvements of the various parts, in order to be more fully understood in its construction and use, are described with reference to the drawings that accompany this specification, and will be amply sufficient to explain all that may be required.

This, my improvement of a cartridge for breech-loading shot-guns, consists essentially of four different parts or portions in all, viz: First, the end piece *a*. (See Figs. 2, 5, 6, 7, 8, 23, and B.) Second, the washer *b*. (See Figs. 2, 9, 10, 11, 12, 23, and B.) Third, the nipple *c*. (See Figs. 2, 13, 14, 15, 16, 23, and B.) Fourth, the paper casing *d*. (See Figs. 2, 18, 19, 20, 21, 23, and B.)

The end piece *a* and washer *b* may be made of brass, the nipple being, as usual, a steel one; but if lightness be required the end piece, washer, and nipple may all be of steel, as represented in Figs. A, B, C, D, the same principle exactly being involved, the only difference in the construction being smaller dimensions for the steel parts being admissible, on account of its superior strength compared with brass.

*a.* The end piece (see Figs. 2, 5, 6, 7, 8, 23, and B) is turned or ground out on one side, (the end,) so that the shoulder of a nipple resting on the bottom of the portion turned

or ground out will allow the nipple-head, together with the cap resting on it, to be below the end part or rim that rests against the breech portion of the gun. The other or front side is also turned or ground out to a flat bottom, inclining thereto at an angle. The flat-bottom part may be smooth for the washer to sit on; but the angulated portion is left rough, so as to obtain a firmer hold of the paper, which has to rest against it. A hole is drilled through the center from the flat-bottom side to the other, and is made sufficiently large to admit of the thread portion of the nipple entering easily, but has no threads itself.

*b.* The washer has on one end a smooth bottom, to rest inside on the end piece, and is turned rough on its side at an angle, so as to correspond with the same shape in the end piece; the diameter, however, is smaller, so as to admit of the paper casing fitting in exactly between the two angulated portions of washer and end piece. The other or front side of washer is slightly hollowed out. A hole is also drilled through the center, in which threads are turned, to admit of a nipple being screwed in. (See Figs. 2, 9, 10, 11, 12, 23, and B.)

*c.* The nipple (see Figs. 2, 13, 14, 15, 16, 23, and B) is one with a long thread portion in the brass cartridge, and of ordinary size and shape in the steel one; its thread portion is made use of to bind itself, end piece *a*, washer *b*, and paper casing *d* all firmly together, releasing them also when required.

*d.* The paper casing (see Figs. 2, 18, 19, 20, 21, 23, and B) of rolled and pasted thick paper, of a hollow cylindrical shape, such as those in use at present for forming part of the cartridge, (see Fig. 17,) is bent at one end into an angulated shape, as represented, (Figs. 18, 19, 20, 21, and C,) which may easily be accomplished by machinery for that purpose, or may be done by hand with the use of two pieces of wood—one a roller, the other hollowed out to receive it, with the paper casing adjusted into its place—and, by a few turns of either, squeezed into the required form, as shown in Fig. 22. This shape which is given to it enables it to fit exactly between the washer *b* and end piece *a*. (See Figs. 2, 23, and B.)

When the cartridge is about to be used, and is in a position, as represented in Fig. 3 or C,



(Figs. 1, 2, 4, and A, C, D being their respective front section and end views,) all that is necessary is to charge in the usual manner with powder, shot, and wadding, capping the nipple. This done, and the contents fired, if the paper casing be still in good condition, all that is required is to knock off the old cap and replace by a fresh one, loading as before; and when the paper casing is found to be unfit for further service, the roller-stick R for making the paper casing into shape (see Figs. 22, 23) is inserted into the paper casing. (See Fig. 23.) The nipple *c* (see Figs. 23, 13, 14, 15, 16, 2, and B) is unscrewed by the nipple-wrench *s*, (see Fig. 23,) thus separating the paper casing *d* and washer *b* from end piece *a* and nipple *c*. The end of this same roller-stick *l* is then made to push out the washer *b* from the smaller opening of the old paper casing, and push it into a new one by the other end, as represented in Fig. 23, where it is retained in its proper place by its angulated shape and that of the paper casing it fits into. The end piece *a* is then adjusted to meet it, and the nipple *c* screwed home by the nipple-

wrench *s*, so as to firmly secure all four together. This roller of wood R, Figs. 22 and 23, is only applied for facilitating the disengaging and readjusting of the paper casings for the cartridge, since it may be dispensed with altogether, and the same process be undertaken by the aid of the fingers and nipple-wrench alone, some time, however, being lost in the adjustment of the parts. A piece of stick of any convenient size and length, capable of entering the smaller end of the paper casing, would, in conjunction with the nipple-wrench, answer every purpose required.

What I claim as my invention, and for which I desire to obtain the Letters Patent of the United States, is—

The method and arrangement of securing the metallic base or cap *a* to the paper tube *d*, which holds the charge, by means of the nipple *c*, screwing into the interior washer *b*, as substantially herein set forth and described.

THOMAS CULLEN.

Witnesses:

W. W. LAWTON,  
EDGAR M. LAWTON.