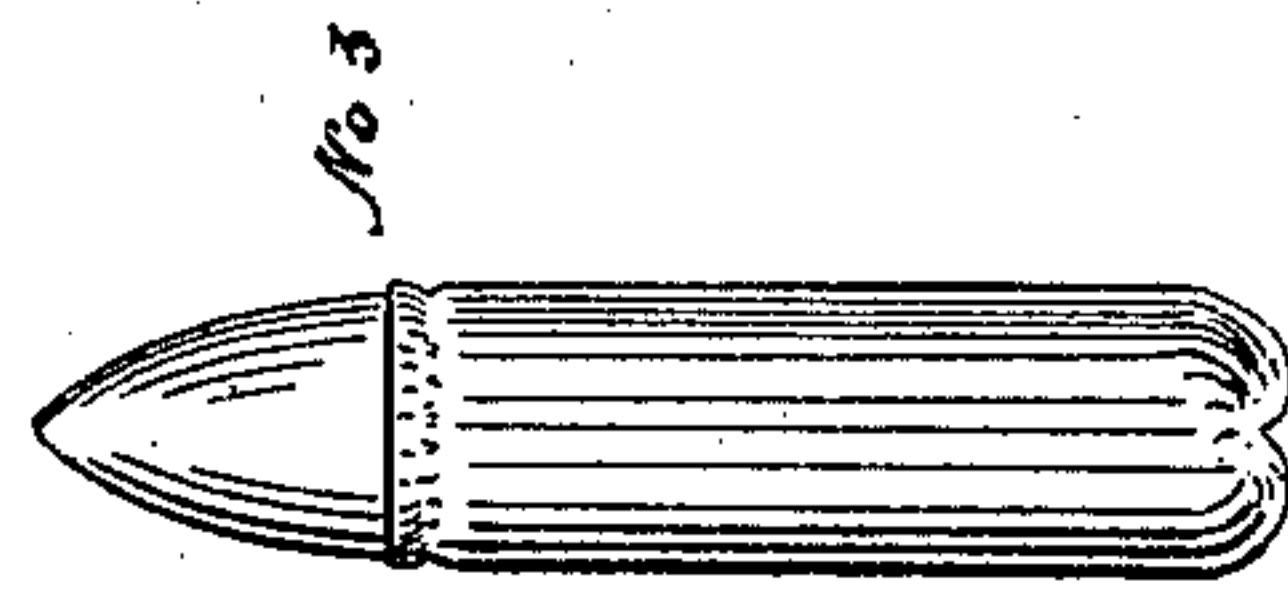


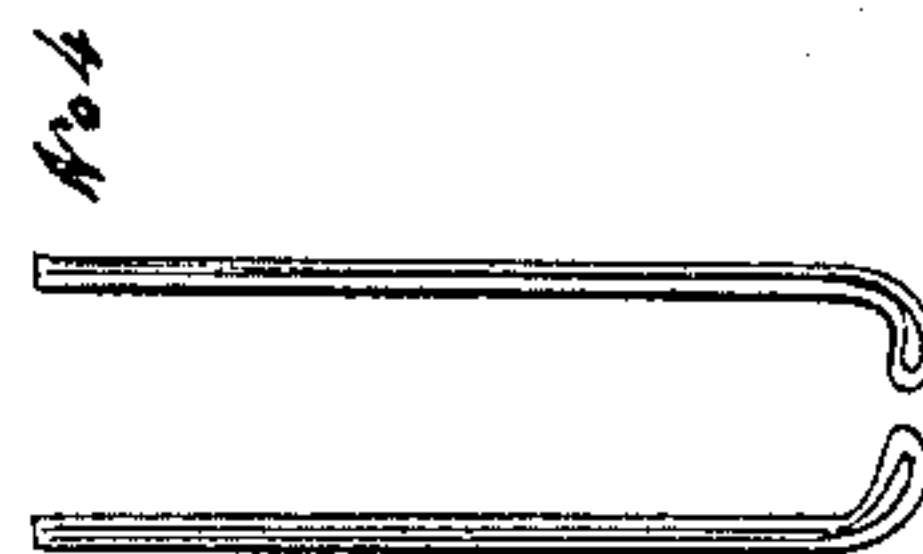
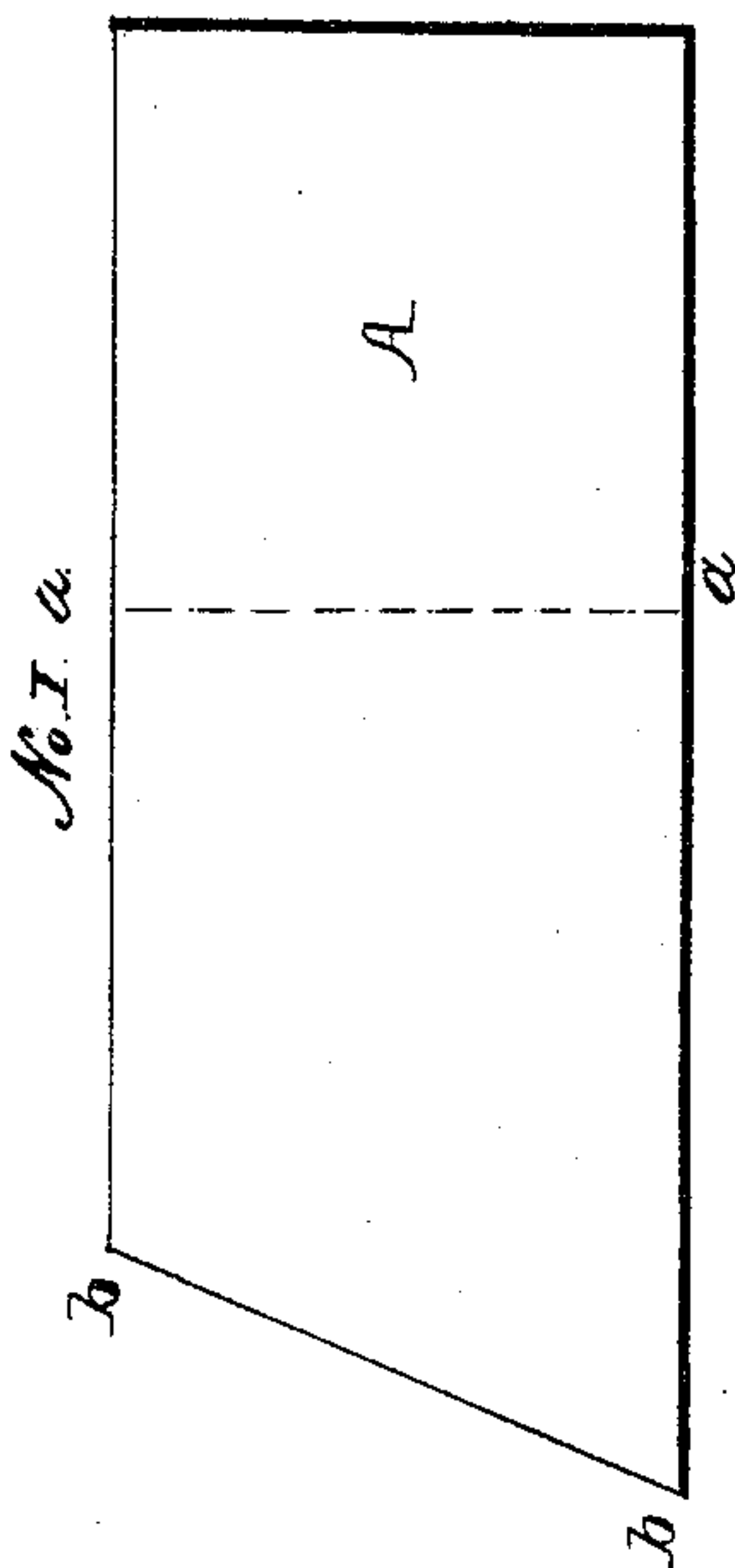
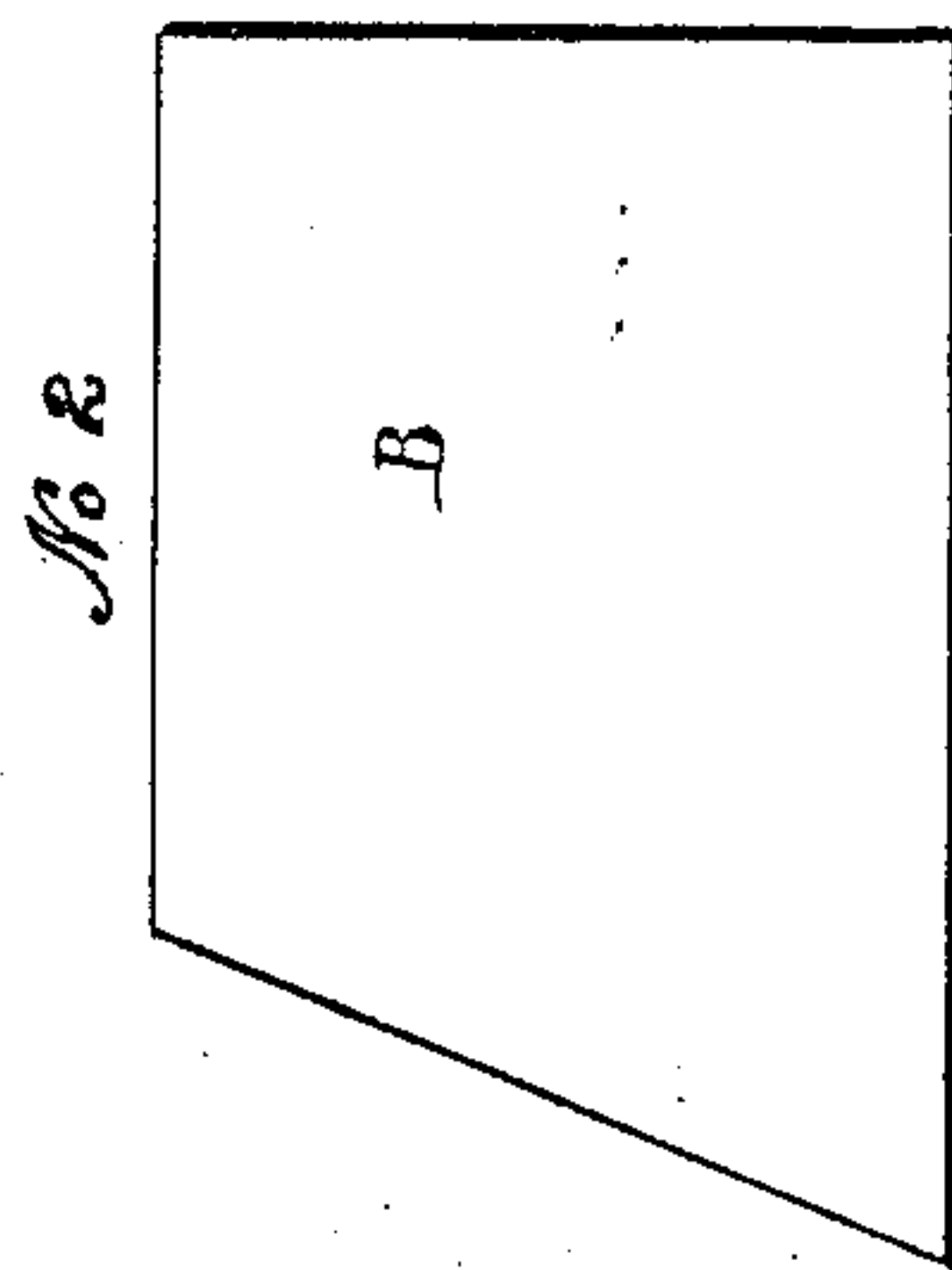
S. CRISPIN.
Cartridge.

No. 42,329.

Patented April 12, 1864.



Full Size



Witnesses
Walter Gibson
Beng Moor

S. Crispin

UNITED STATES PATENT OFFICE.

SILAS CRISPIN, (UNITED STATES ARMY,) OF NEW YORK, N. Y., ASSIGNOR TO
THOMAS POULTNEY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 42,329, dated April 12, 1864.

To all whom it may concern :

Be it known that I, SILAS CRISPIN, of the city and State of New York, have invented a new and Improved Cartridge for Breech-Loading Fire-Arms; 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 that class of breech-loading fire-arms which are opened and closed on a hinged joint, as per example in the patent of Gilbert Smith, dated June 23, 1857, it is found in practice extremely difficult to effect a secure packing of the joint, one which will positively prevent the escape of the gases generated by the explosion of the charge of powder under all circumstances. Indeed, I am not aware that any known cartridge will perfectly and uniformly effect this most desirable result. It is manifest that where this defect exists the entire projectile force of the explosion cannot be secured; besides which, the residuum of the powder around the hinged joint, or between the breech and the ordinary metal-cup cartridge, (where such is used in breech-loaders,) seriously retard, if they do not entirely prohibit, the reloading of the piece, and thus defeat the main purpose of the breech-loader—namely, rapid firing.

Now, my invention obviates all these objections, and will secure a perfect packing of the joint in all breech-loaders wherein it can be used, constitute a positive check to the escape of any gas whatever at the joint, and of course the deposit of any residuum from the explosion of the powder around the joint will not take place, and the arm can, in consequence, be fired any number of times in rapid succession.

My invention consists in the combination of thin pieces of sheet-metal with common cartridge-paper rolled together like an ordinary cartridge, and a thin paper disk, which is pierced in the center and inserted into the bottom of the cartridge.

In the accompanying drawings, Figure 1 shows the trapezoidal-shaped piece of metal and paper to form the wall and bottom of the cartridge, the metal piece terminating at the dotted line *a a'*. Fig. 2 shows the metal piece

separate from the paper. Fig. 3 shows the cartridge charged with the ball in place. Fig. 4 shows a central vertical section, exhibiting the metal piece entirely enveloped by the paper. Fig. 5 shows the blank for the disk or cup before being stamped or pressed into form. Fig. 6 shows a cross-section of the finished disk or cup, ready to be inserted into the cartridge, and Fig. 7 gives an outside view of the disk or cup when completed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction.

From sheets of United States No. 1 laboratory paper, by machinery or otherwise, cut of the size desired for a cartridge, and of a trapezoidal shape, as shown at A in Fig. 1. Cut also from brass, or other thin sheet metal, of about .002 of an inch in thickness, annealed or not, and of the same width as the paper, but one circumference of the former less in length, a trapezoidal-shaped piece, like B on No. 2 of the drawing, so that the angular ends and sides of the paper and metal piece shall neatly register, as seen from the dotted line *a a'* to the line *b b* in Fig. 1.

To prepare the cups or disks of paper for the bottom of the cartridge, moisten one side of strong paper with paste, gum, or some adhesive material, and roll the sheet together until it becomes solid and attains the diameter of the former. Cut the roll thus formed transversely into disks, like No. 5, of a right thickness, and by the application of pressure from either a press or punch and die shape these disks into cups of the form shown in Figs. 6 and 7, perforating them in forming or afterward with a small hole in the center sufficient to permit the explosion of the charge, but protecting the hole, to prevent the escape of powder, with a film of bees-wax or tallow. A common wooden cylindrical former, having one end rounded to match the base of the chamber of the arm for which the cartridge may be designed, and of a gage that will permit the finished cartridge to fit its bore neatly, is placed upon the straight end of the paper, the rounded end being kept far enough from the longest side of the paper to permit it to project when rolled far enough beyond the former to be crimped upon it, and rolled with it until the

former is covered with a single thickness of paper, when the thin metal piece is placed on the paper so as to register with it, as above-described. The former is now pressed and rolled forward until both the paper and the metal are wrapped together upon it, and the metal is entirely enveloped in paper. The end of the cartridge is now compressed over the end of the former and chocked with a chocking-string, which is replaced by a thread after the string is withdrawn, as in making the common cartridge. The case, yet upon the former, is inserted into an iron or steel die and a smart blow is given to the former by a hammer or mallet. The former is now withdrawn and a cup, having first been dipped in any adhesive material, is inserted and forced to the bottom of the cartridge, which is now ready to be charged. The cartridge-case thus formed receives its charge of powder, when the ball, having a groove around its lower edge and being properly greased, is inserted and the case is compressed by a chocking-string, or

otherwise, into the groove, when the finished cartridge is ready for service, as seen in Fig. 3.

I do not limit myself to this precise mode of manufacture, as others may be used advantageously; nor do I limit myself exactly to the thickness and weight of the paper or metal used, as these may be slightly varied without detriment to my improved cartridge. It is obvious that, for protection against moisture, the outer coating of the cartridge may be coated with any suitable or approved water-proof varnish.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of thin pieces of sheet metal with paper and a cup, to form, substantially in the manner described, a finished cartridge for breech-loaders, for the purpose set forth.

S. CRISPIN.

Witnesses:

WALTER GIBSON,
BENJ. MOOR.