T. T. S. LAIDLEY.

Primer for Fire-Arms.

No. 22,957. Patented Feb. 15, 1859

Fig 1

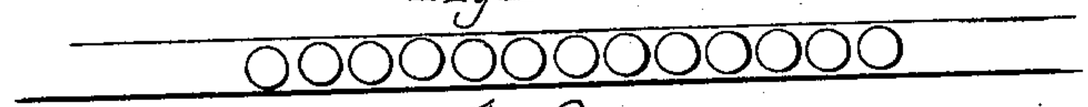


Fig 2

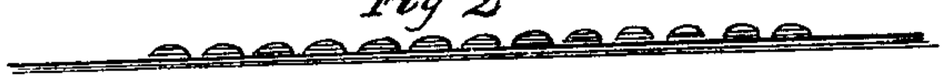
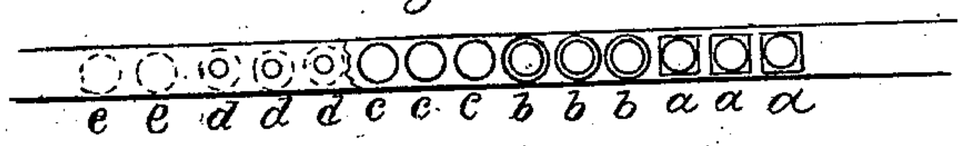


Fig 3



T. T. S. Laidley

Witnesses { J. F. Wollard
John B. Wrightson

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THEODORE T. S. LAIDLEY, OF THE UNITED STATES ARMY.

IMPROVEMENT IN TAPE PRIMERS FOR FIRE-ARMS.

Specification forming part of Letters Patent No. **22,957**, dated February 15, 1859.

To all whom it may concern:

Be it known that I, THEODORE T. S. LAIDLEY, of the Army of the United States, have invented a new and Improved Mode of Making Tape Primers for Small-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.

The nature of my invention consists in attaching a number of percussion-primers, made somewhat in the manner of ordinary percussion-caps, except in the depth of the cap, to a strip of paper or other substance, which may be easily severed by the hammer by embedding the cap in an indentation or hole in the paper or other substance, and held in place by means of glue or other adhesive material, or by means of a second strip of paper made fast to the first by some glue, paste, or other substance, the caps being held fast and forming a series of primers connected together which can be fed out in succession.

The advantages claimed for this process of making a tape primer over all others now known consist in having the percussion-powder firmly pressed in a metallic cup with a greater pressure than can be used when paper or other soft material is used, which, with the polishing, prevents the fulminate from absorbing the varnish placed over it to protect it from moisture, and thereby weaken or destroy its detonating properties, and at the same time connecting the primers into a series by means of a substance which will yield readily to the edge of the hammer—a combination of the two most important features of a good primer, which have never been satisfactorily united in any tape primer of which I have ever heard.

It is well known that Maynard's primer, as now made, requires more than one-fourth heavier a blow to ignite them than the ordinary percussion-cap. In my primer the same ease of ignition will be had as in the percussion-cap, and the danger of failure to fire the powder from weakened mainspring will not be apprehended. It has no metal between the fulminate and the cone, nor even paper, if it is desired, and therefore no danger of clogging the cone, which will sometimes happen in the other tape primers.

My primer, in addition to the one last named, has this advantage over those in which a metal strip is used that the force of the blow of the hammer is not diminished perceptibly by the effort to sever the strip, and there can be no dulling the edge of the hammer, so that it shall not cut the strip off clean.

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

Figure 1 represents a plan of the tape primer; Fig. 2, a section of the same; Fig. 3, the primer from below, a portion of the second strip taken off, showing the caps of different forms embedded in the first strip.

d d d show small holes cut in the second strip to permit the fulminate to rest directly on the nipple.

The mode which I deem preferable to others of making my primer is as follows: The cap which holds the percussion-powder is made, filled, polished, and varnished as other percussion-caps for small-arms with this difference in the form that the cap is made only deep enough to hold the percussion-powder, the varnish, and leave a small space to the end of the cap. It may have a flange, which may be round or square; or it may not have any. The strip of paper is prepared by having the indentations pressed into it by any of the ordinary means for that purpose made of the right size to receive the cap, the end or flange being flush with the surface of the strip. Paste or glue is then applied to the inner surfaces of the recesses, and the caps are pressed into their places. A second strip of paper, with holes of less size than the caps cut at regular intervals and at such distances that they shall come over the center of the cap, is pasted over the first strip, and the whole is submitted to a heavy pressure, the caps resting in recesses, so that the two strips are closely united. The strip of primers is then dried and varnished.

Although I have here described what I deem the best and cheapest mode of making my improved primer, I by no means confine myself to it, but it may be varied in many ways. For instance, the cap may have no flange; or it may be made by inclosing the fulminate between two circular disks of copper; or the cap may be held in by some adhesive substance alone; or a hole may be pierced in the lower strip and the cap rest in it; or india-rubber, gutta-percha, cloth, parchment, or other substance may be used to join the primers into a series; or a va-

riety of other ways might be adopted and yet retain this essential character of using a soft substance where the strip is to be cut off, and having a metallic cup or covering for the percussion-powder, making the primer secure from moisture and insuring its explosion with the least possible blow of the hammer, the same in these respects as the ordinary percussion-cap.

Having thus explained the essential features of my invention, the manner of making it, and the advantages that it possesses over all others now known, what I claim as my invention and as distinguished from all other primers before known is—

The combination of two different materials in the manufacture of tape primers—one a metal or like substance to receive and protect the percussion-powder, into which it can be firmly pressed, and the other to connect the former into a series something that can be easily severed by the edge of the hammer.

T. T. S. LAIDLEY.

Witnesses:
JOHN S. HOLLINGSHEAD,
J. F. WOLLARD.