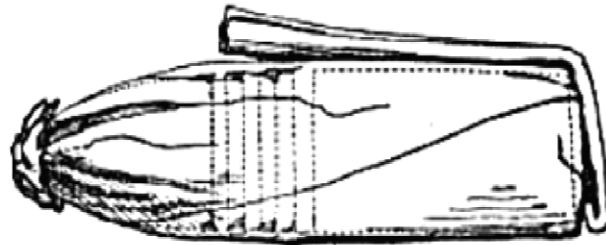


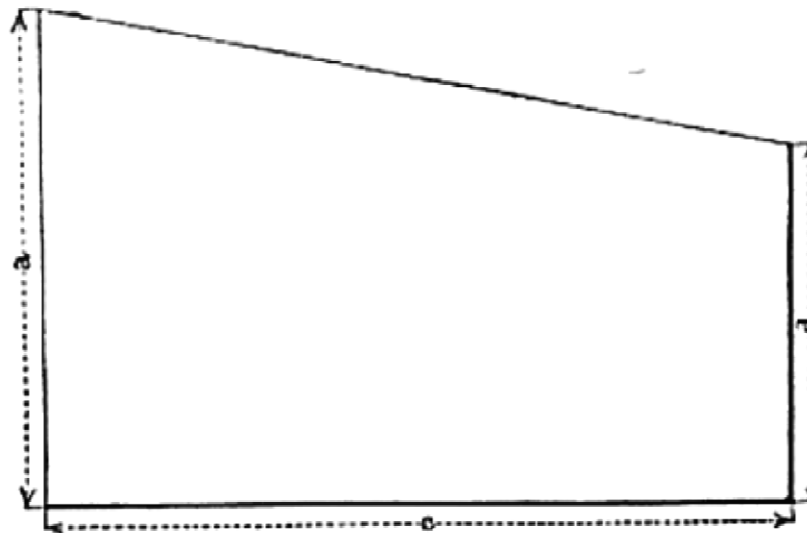
CARTRIDGES.

CARTRIDGE FOR EXPANDING BALLS.

FULL SIZE FOR NEW MUSKET.



OUTER WRAPPER.



CYLINDER CASE

CYLINDER WRAPPER

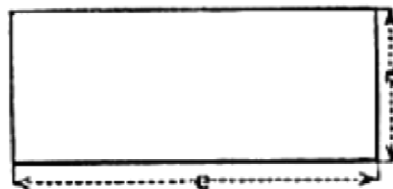


Table of dimensions for formers for making cartridges with elongated expanding balls. (The dimensions are referred to the plate by means of the letters placed opposite to them.)

	Altered musket.	New rifle musket.	Pistol carbine.	
	Inches.	Inches.	Inches.	
a	3.5	3.5	3.5	} Outer wrapper.
d	2.5	2.25	2.25	
c	5.25	4.25	4.25	
a	1.1	1.	.8	} Cylinder case.
e	2.75	2.	2.	
f	1.5	1.3	1.1	} Cylinder wrapper.
g	2.75	2.2	2.2	
h	3.75	3.	3.	

The diameters of the round sticks on which the powder cases are formed should be .69 inch for the old, and .58 inch for the new calibre. This will make the exterior diameter of the case somewhat larger than the ball, and will prevent the outer wrapper from binding around its base when the cartridge is broken.

The outer wrapper should not be made of too strong paper: that prescribed in the Ordnance Manual for blank cartridges, and designated as No. 3, will answer a better purpose for these cartridges than that designated as No. 1. The cylinder case should be made of stiff rocket paper, No. 4; and its wrapper may be made of paper No. 1, 2, or 3.

Before enveloping the balls in the cartridges, their cylindrical parts should be covered with a melted composition of one part beeswax and three parts tallow. It should be applied hot, in which case the superfluous part would run off; care, should be taken to remove all of the grease from the

bottom of the ball, lest by coming in contact with the bottom of the case, it penetrate the paper and injure the powder.

The balls being thus prepared, and the grease allowed to cool, the cartridges are made up as follows, viz: place the rectangular piece of rocket paper, called the cylinder case, on the trapezoidal piece, called the cylinder wrapper, as shown by the broken lines of the plate, and roll them tightly around the former stick, allowing a portion of the wrapper to project beyond both case and stick. Close the end of the case by folding in this projecting part of the wrapper. To prevent the powder from sifting through the bottom, paste the folds, and press them on to the end of the stick, which is made slightly concave to give the bottom a form of greater strength and stiffness.

After the paste is allowed to dry, the former stick is inserted in the case, and laid upon the outer wrapper (the oblique edge from the operative, and the longer vertical edge towards his left hand) and snugly rolled up. The ball is then inserted in the open end of the cartridge, the base resting on the cylinder case, the paper neatly choaked around the point of the ball, and fastened by two half hitches of cartridge thread.

The former stick is then withdrawn, the powder is poured into the case, and the mouth of the cartridge is "pinched" or folded in the usual way.

To use this cartridge, tear the fold and pour out the powder; then seize the ball end firmly between the thumb and fore finger of the right hand, and strike the cylinder a smart blow across the muzzle of the piece; this breaks the cartridge and exposes the bottom of the ball; a slight pressure of the thumb and fore finger forces the ball into the bore clear of all cartridge paper. In striking the

cartridge the cylinder should be held square across, or at right angles to the muzzle ; otherwise, a blow given in an oblique direction would only bend the cartridge without rupturing it.

Cartridges constructed on these principles present a neat and convenient form for carrying the powder and ball attached to each other, and they obviate two important defects of the elongated ball cartridges in common use, viz : the reversed position of the ball in the cartridge, and the use of the paper wrapper as a patch. So far as they have been tried in the hands of the troops, they have been found to answer a good purpose.

Source:

Reports of Experiments with Small Arms for the Military Service
United States War Department, January 1, 1856

<https://play.google.com/store/books/details?id=cXkDAAAAYAAJ>