R. MORRIS.
Cartridge.

No. 202,365. Patented April 16, 1878.

Fig 1

Fig 2.

Fig 3

Fig 4

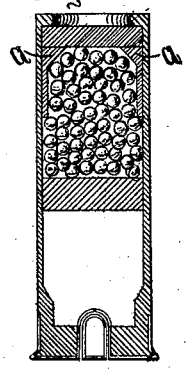
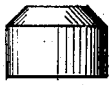


Fig 5



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UNITED STATES PATENT OFFICE.

ROBERT MORRIS, OF KANSAS CITY, MISSOURI.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. **202,365**, dated April 16, 1878; application filed August 14, 1877.

To all whom it may concern:

Be it known that I, ROBERT MORRIS, of Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Shot-Concentrators, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, making part of this specification.

My invention relates to that class of contrivances known as "shot-cartridges," and which (unlike that class of cartridges which contain the charge both of powder and shot) contain the charge of shot only. This class of cartridges, intended for use indiscriminately both in breech and muzzle loading shot-guns, pass out of the gun with the charge, and their object is to prevent the shot from scattering, thereby increasing the range of the gun.

In each kind of shot-cartridge heretofore known there is some serious objection embodied, to obviate which is the object of my invention.

My improved shot concentrator or cartridge, which is an improvement of the shot-concentrator now in use, consists either of a hollow cylinder made of pasteboard or other suitable material, open at one end, and partially closed at the other by a narrow annular collar or shoulder of even width, as by reference to Figures 1, 2, and 3 of the accompanying drawings will more clearly appear, or it consists of a hollow cylinder made of pasteboard or other suitable material, open at one end and contracted at the other, as by reference to Fig. 5 of the accompanying drawings will more clearly appear.

The shoulder will vary in width from about one-quarter to one-sixteenth of an inch, and its depth will vary to about the same extent, according to the gage, being larger in the larger gages, and smaller in the smaller gages. In a cylinder for a No. 10 bore gun the shoulder should be about one-eighth of an inch wide.

The shoulder can be made either as part of the cylinder itself, or made separately and afterward attached to it.

When the concentrator is in its place in the loaded shell or gun-barrel (if used in a muzzle-loader) it fits close to the inside of the shell or barrel, and surrounds laterally the charge of shot to the full depth of the charge, or less, the end of the cylinder which is partially closed or contracted being nearest the muzzle of the shell or barrel, and directly under the wad over the shot.

To enable those skilled in the art to make and use my invention, I will proceed to describe it more fully, referring by letters to the accompanying drawings, in which—

Figs. 1, 2, and 3 represent sectional elevations of the improved shot-concentrator, the annular shoulder which partially closes one end of the cylinder being marked *a a*.

Fig. 1 represents a sectional elevation of the improved concentrator, in which the shoulder *a a* is made oblique, so that the shot may the more easily escape from the cylinder. Fig. 2 represents a like elevation of the concentrator, wherein the shoulder *a a* is left rectangular. Fig. 3 represents a sectional elevation of the improved concentrator, in which the shoulder *a a* is formed by turning over (crimping) the material of which the cylinder is composed.

Fig. 5 represents an elevation of that form of the improved concentrator in which the shoulder is formed on the inside of the cylinder by contracting one end of the cylinder, the shape of the inside of this form of the concentrator being the same as shown in Fig. 1, the difference being in the shape of the outside. The contracted end is marked *a a*, and is directly under the wad over the shot when the concentrator is in its place in the loaded shell or barrel.

Fig. 4 represents a sectional elevation of an ordinary central-fire shell, used in central-fire breech-loading shot-guns, and shows the position of the improved shot-concentrator in the loaded shell, or, if used in a muzzle-loading gun, in the barrel, with relation to the charge of shot, the shoulder of the improved concentrator being marked *a a*.

The operation of the improved shot-concentrator is as follows: When the gun is discharged, the cylinder, filled with shot, passes out of the gun-barrel with the charge of shot, and is carried along by the pressure of the shot against the shoulder *a a* till such time as (it being lighter than the shot, and therefore

losing its momentum sooner) the shot contained in it have passed through the opening at the forward end of the cylinder. The cylinder then falls to the ground.

The shoulder *a a* has the effect, first, of retarding the passage of the shot-pellets out of the cylinder during its flight, thereby holding together and concentrating the charge of shot; second, of affording a surface for the shot to bear against during the flight of the cylinder, thereby keeping it on its axis, and preventing it from tipping or turning over.

A shot-concentrator made in the manner described above gives about forty per cent. closer concentration of the shot-charge than the concentrator as now made—*i. e.*, without the obstructing-shoulder *a a*. It is also free from the fault of tipping or turning over, which the plain concentrator is not.

Having thus described my invention, the feature of it which I claim as new, and desire to secure by Letters Patent, is—

The partially-closed or contracted end of the cylinder, substantially as herein shown and described.

ROBERT MORRIS.

Witnesses:
JOHN A. ROSS,
CHAS. E. SMALL.