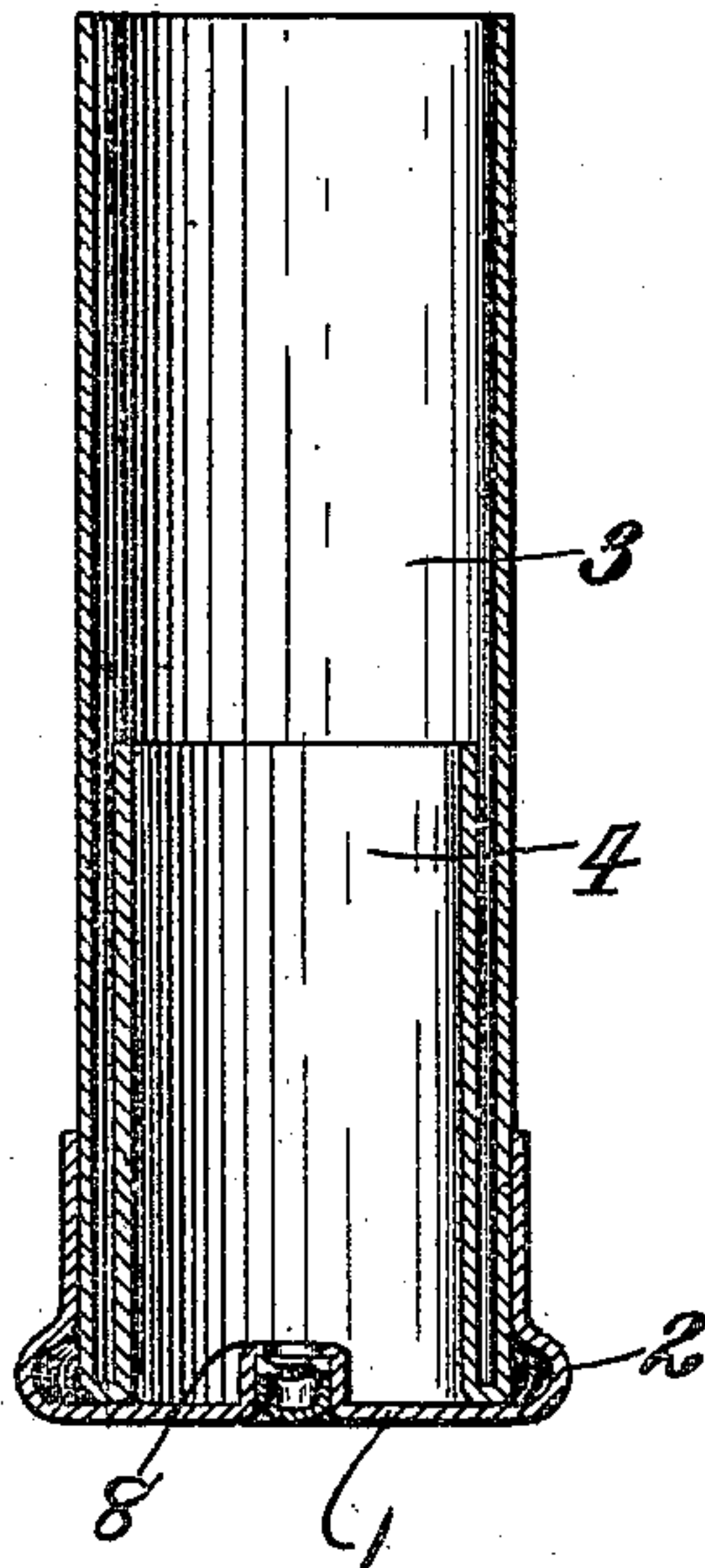


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CARTRIDGE SHELL.  
APPLICATION FILED JUNE 28, 1909.

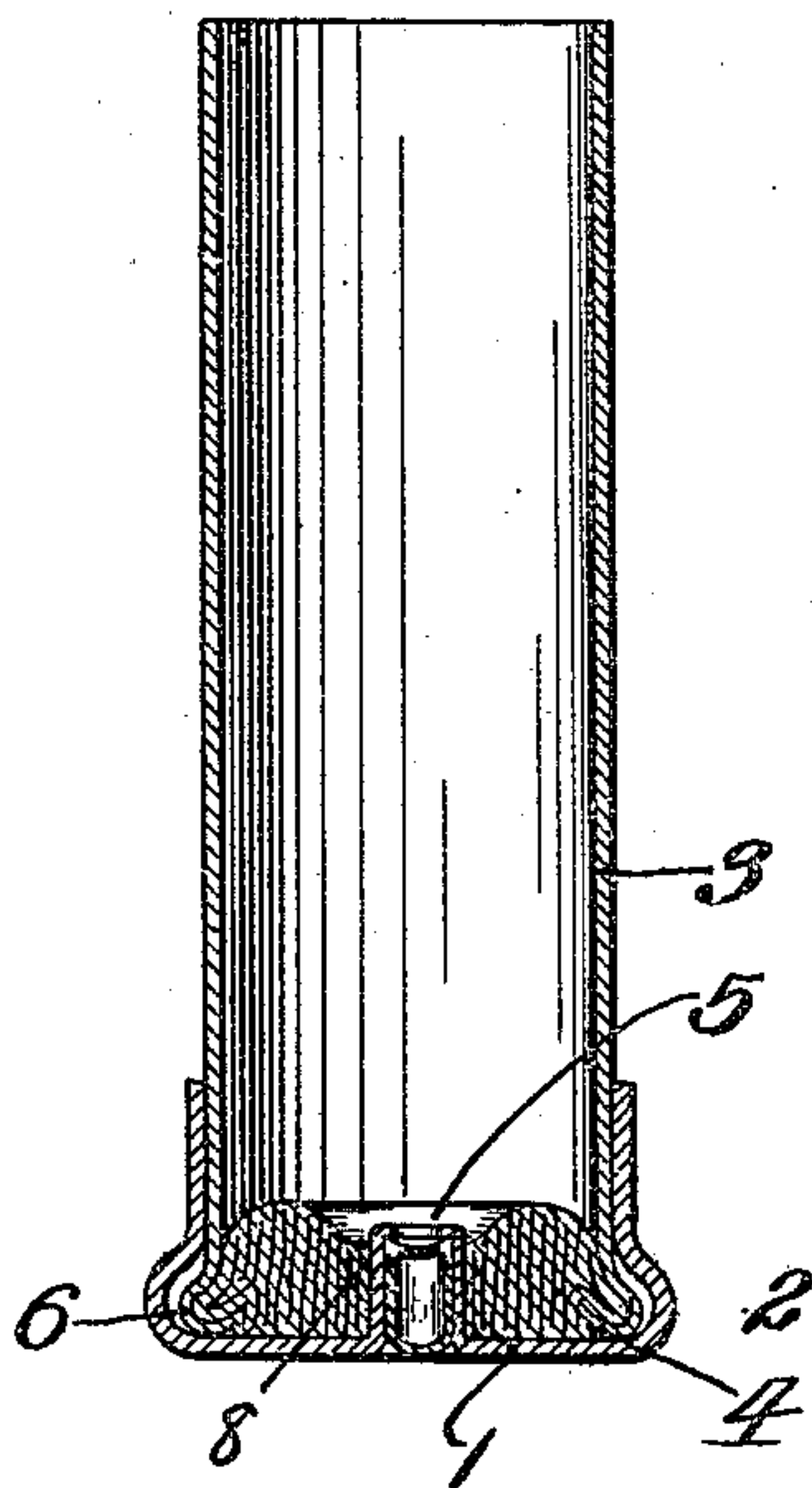
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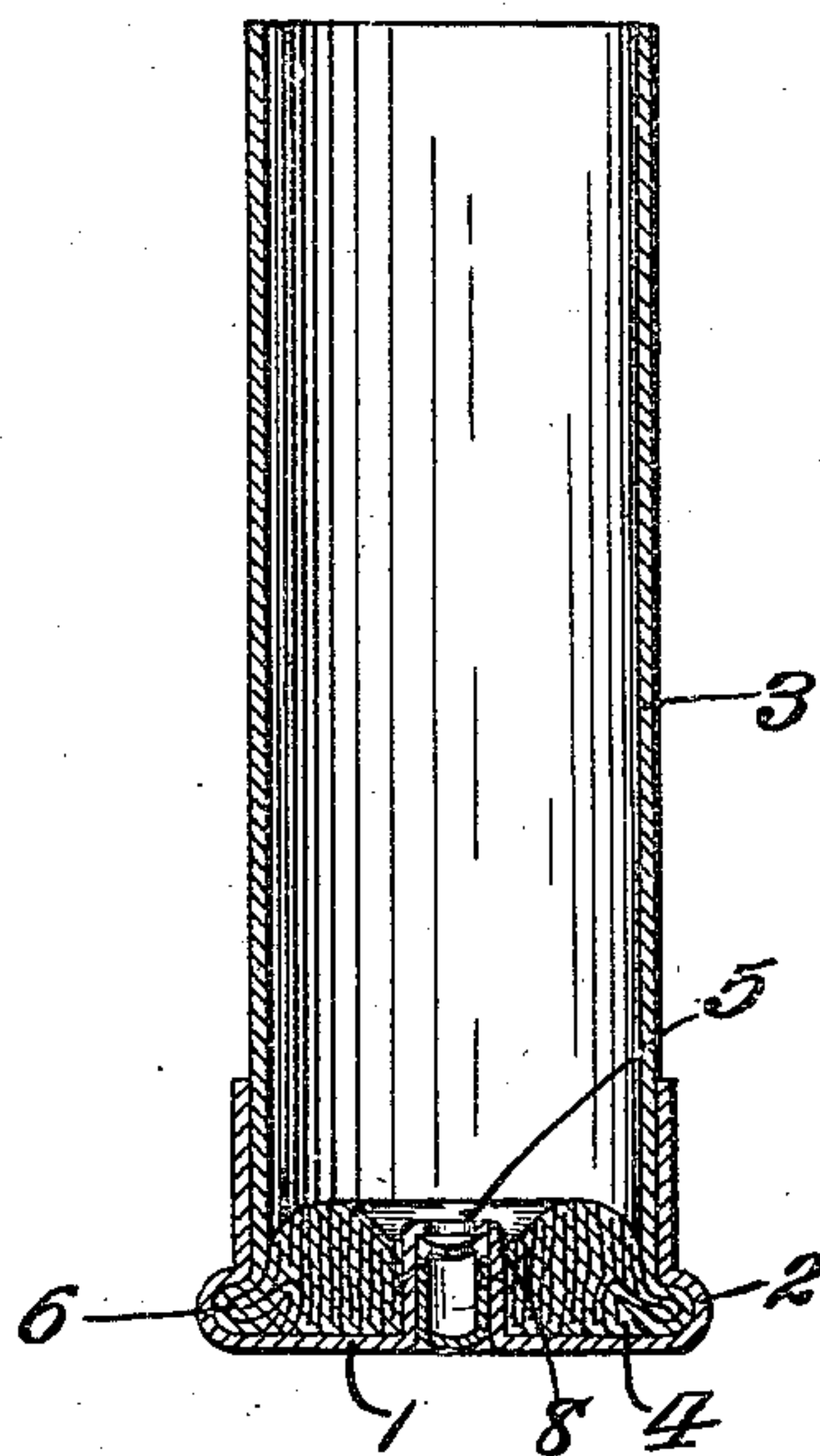
*Fig. I.*



*Fig. II.*



*Fig. III.*



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# UNITED STATES PATENT OFFICE.

HARRY E. SHERMAN AND LOUIE A. SHERMAN, OF KANSAS CITY, MISSOURI.

## CARTRIDGE-SHELL.

956,201.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed June 28, 1909. Serial No. 504,723.

*To all whom it may concern:*

Be it known that we, HARRY E. SHERMAN and LOUIE A. SHERMAN, both citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Cartridge-Shells; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to cartridge shells and has for its object to provide a shell in which the paper cylinder will not separate from the metal cap when the shell is discharged. In accomplishing this object we construct the shell cylinder and the base wad in a single piece and combine such piece with the metal cap in the manner presently described; the details of our construction being illustrated in the accompanying drawings, in which:—

Figure I is a section of our improved shell in its first stage. Fig. II is a similar view showing a formed base wad. Fig. III is a similar view of the completed shell.

Referring more in detail to the parts:— in Fig I, 1 designates a metal cap of ordinary construction before the edge flange 2 has been pressed.

3 designates the shell cylinder, the cap end of which has been crimped to form the base wad cylinder 4, and is fitted into the metal cap ready for forming the wad.

In Fig. II the metal cap is in the same condition as shown in Fig. I, but the wad cylinder 4 has been pressed inwardly to form the base wad 5, the pressure exerted during the wad pressing process having forced the inner end of the cylinder 3 into the socket in the cap flange 2, to form the shoulder 6.

In Fig. III the metal cap is shown in its finished condition, in which the flange 2 has been pressed against the wad shoulder 6 to hold same firmly to the cap, and at the same time shape the cap flange.

In pressing the cylinder 4 into the wad, the material is successively lapped upon itself and pressed compactly to the shape of the mandrel used in the forming process.

In the finished shell the base wad is pressed tightly against the head of the cap and between, the battery cap 8 and the outer side of the brass cap; the lip or shoulder being bound firmly within the cup flange socket when the flange is formed.

It is readily apparent that in a shell of this construction, the shell cylinder 3 cannot be separated from the metal cup when the shell is discharged without pulling the wad shoulder from the cup flange, and as the shell is pressed tightly into the flange the probability of the shell becoming separated is reduced to a minimum.

Having thus described our invention, what we claim as new therein and desire to secure by Letters-Patent is:—

1. A cartridge shell comprising a metal cup, a paper cylinder and base wad, the cylinder and wad being formed in a single piece and the wad pressed against the cup head, substantially as set forth.

2. In a cartridge shell, a metal cup having an edge flange forming an interior socket, a cylinder having one end located within the cup, and a wad formed against the cup head by folding and pressing the inner end of the cylinder, the cylinder and wad being formed in a single piece, a portion of the cylinder and wad being located within the flange socket and the flange being pressed tightly thereagainst, substantially as and for the purpose set forth.

3. A cartridge shell comprising a metal cup, a paper cylinder seated in said cup and having its inner end turned back within its main body to form a plurality of layers forming a wad, for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

HARRY E. SHERMAN.  
LOUIE A. SHERMAN.

Witnesses:

MYRTLE M. JACKSON,  
EDMUND A. CAHILL.