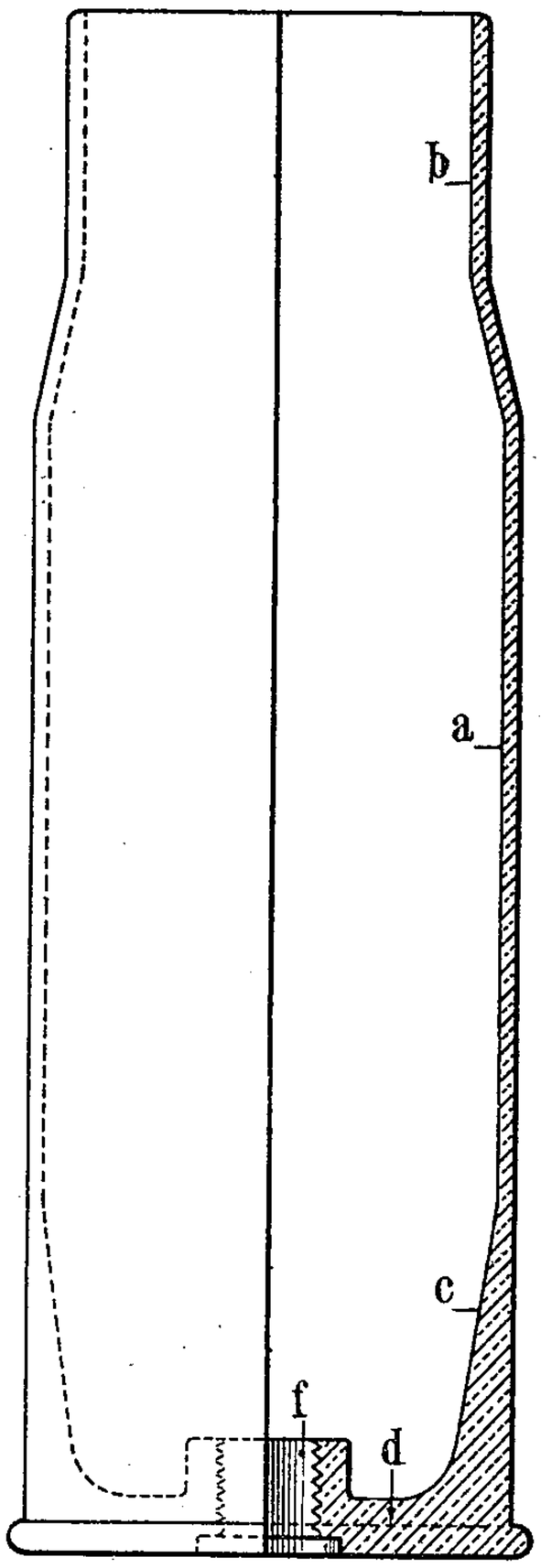
No. 725,395. PATENTED APR. 14, 1903.

A. BARRALLON.

CARTRIDGE CASE.

APPLICATION FILED JULY 24, 1902.

NO MODEL.



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ANTONY BARRALLON, OF ST. ETIENNE, FRANCE.

CARTRIDGE-CASE.

SPECIFICATION forming part of Letters Patent No. 725,395, dated April 14, 1903.

Application filed July 24, 1902. Serial No. 116,831. (No model.)

To all whom it may concern.

Be it known that I, ANTONY BARRALLON, a citizen of the French Republic, residing at St. Etienne, Loire, in the Republic of France, have invented certain new and useful Improvements in and Relating to Cartridge-Cases; and I do hereby declare the following to be a full, clear, and exact description of said invention.

This invention relates to cases for containing the charge of powder and for carrying the projectile in cartridges for firearms of all kinds and calibers, including mitrailleuses and cannons of small caliber.

My improved cartridge-case is constituted of plastic material, of which the base is preferably celluloid, in combination with inert material, such as sienna earth or other pulverulent material.

Cases consisting entirely of celluloid or partly of celluloid with a metal cap have been constructed; but these cases present numerous defects. In the first place, the celluloid, which is an eminently inflammable material, disappears entirely after each shot, thus causing loss, as it is not possible to utilize a case more than once, while it is advantageous that it should be possible to utilize one and the same case two or three times. In addition to this, as celluloid is so inflammable the case may ignite at certain parts and the gases produced by the combustion of the celluloid may first of all burn and then destroy the case in places and prevent its extraction. The gases produced by the combustion of the celluloid prejudicially affect the gases of the powder and modify the pressures, and consequently the firing conditions. Finally, pure celluloid being a body with a mobile chemical composition molecular modifications are produced, which cause the deformation of the case and render it useless.

The substance of which the case should be formed must be plastic, not deforming after a lapse of time, becoming hard upon drying, and having a stable molecular composition such as will not give rise to ulterior deformations. This substance under the influence of the heat and pressure developed by the gases of the powder at the moment of firing should expand, so as to produce perfect obturation, and after discharge it should contract, so as to permit of the extraction of the case. The substances which appear to best fulfil all these conditions are celluloid in combination with an inert material, such as sienna earth or any other pulverulent material.

In the accompanying drawing, the figure represents, partly in elevation and partly in section, a cartridge-case suitable for munitions of artillery.

This case consists of a sleeve *a*, made of the material described and of sufficient thickness to firmly surround and maintain in a horizontal position without danger of tearing the projectile embedded in its fore extremity. The body portion *a* is restricted at its open end, so as to present a collar *b* of greater or less length. The other extremity *c*, forming the bottom of the case, is made of the same plastic material, which is molded, preferably, in a single piece with the sleeve *a*. At the center of the end piece *d* of the case is molded a nipple *f*, into which is screwed the firing device, such as a cap. For obvious reasons the walls of the sections *c* and *d* at the lower end of the case are thicker than the walls *a* and *b*. Experience has shown that cartridge-cases constructed in this manner while being far lighter and less costly than metal cases behave exactly like these latter and leave the bore intact after firing, thus permitting them to be used again. These cases may be made of all forms, dimensions, and proportions adapted to the caliber and special disposition of the weapon in which they are to be used. They may be utilized two or three times, and the material when remelted and remolded may be used indefinitely. The lightness and the low cost of production render them greatly superior to cartridge-cases of brass or copper.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An obturating cartridge-case, comprising a hollow shell made of a mixture of celluloid and earthy material.

2. An obturating cartridge-case, comprising a hollow shell made of a mixture of celluloid and sienna earth.

3. An obturating cartridge-case, comprising a hollow shell made of a mixture of celluloid and solvent pulverulent material the two having been first dissolved and thereby united together in a practically homogeneous mass.

ANTONY BARRALLON.

Witnesses:
PIERRE BARRALLON,
HASTINGS BURROUGHS.