(No Model.)

F. STINER & E. R. DARLING.

CARTRIDGE SHELL.

No. 377,816. Patented Feb. 14, 1888.

Fig-2-

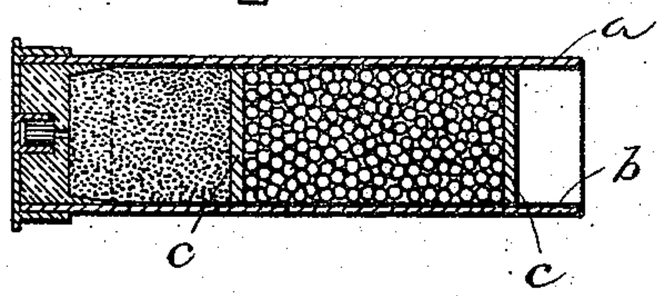
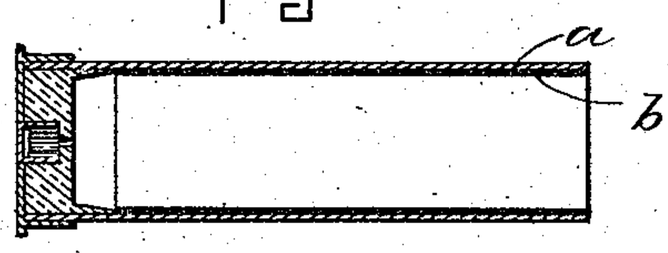


Fig-1-



WITNESSES:

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by Wright Brown Quinby & Otop.

UNITED STATES PATENT OFFICE.

FRANK STINER AND ESEK R. DARLING, OF NORTH MONSON, ASSIGNORS OF ONE-THIRD TO CHARLES ATWATER, OF PITTSFIELD, MASSACHUSETTS.

CARTRIDGE-SHELL.

SPECIFICATION forming part of Letters Patent No. 377,816, dated February 14, 1888.

Application filed September 19, 1887. Serial No. 250,054. (No model.)

To all whom it may concern:

Be it known that we, FRANK STINER and ESEK R. DARLING, of North Monson, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Cartridge-Shells, of which the following is a specification.

This invention consists in a cartridge shell having its inner periphery coated with any suitable adhesive material which is hard and impervious to air when dry, not easily burned, and adhesive when moistened, the object of the invention being to enable the wads of the cartridge to be fastened by simply moistening the inner surface of the shell, and to make the shell capable of being repeatedly used, as well as to improve it in other respects, all of which we will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of our improved cartridge-shell. Fig. 2 represents a longitudinal section of a complete cartridge.

In carrying out our invention we take a cartridge-shell, *a*, of paper or other like material, and of ordinary or any suitable construction, and apply to its inner surface a coating, *b*, of any suitable adhesive material, such as mucilage or other material which hardens and becomes impervious to air when dry and becomes sticky when wet, and will not readily ignite and burn away. Said coating preferably extends over the entire inner surface of the shell. When the wads *c* are to be secured in the shell, the coating *b* is moistened at the points where said wads are to be located, and the wads are then inserted, their edges coming in contact with the adhesive coating, and being held by said coating when the latter dries or hardens.

Heretofore cartridge-wads have been gummed on their peripheries to enable them to adhere to the shell, the gum being first moistened; but we are not aware that a cartridge-shell has ever been gummed or internally coated with an adhesive and comparatively non-combustible material in the manner above described.

The following are the chief advantages of our improvement: First, the shells require about one-fifth less powder than shells which have not an internal coating such as we have described, because the powder is more closely confined, so that its action is more positive and direct, and the gun or pistol is not so quickly fouled and does not require to be so frequently cleaned; secondly, when the shell is made of paper, the internal coating enables a cheaper quality of paper to be used, the gum acting to stiffen the paper; thirdly, paper shells coated internally with gum will not be blistered by the explosion of the powder, so that the same shell can be used for a greater number of discharges than ungummed paper shells, which after one or two firings become so blistered as to be unfit for use; fourthly, the gummed surface, being within the shell, cannot become moistened by contact with wet fingers or other external objects, while gummed wads are quite liable to be so moistened.

We are aware that it has been proposed to coat a metallic cartridge-shell internally with collodion, which is a highly-combustible material, and would therefore be destroyed by a single discharge of the cartridge. Our coating, being practically non-combustible, enables the shell to be repeatedly used without recoating and without blistering.

We claim—

A non-metallic cartridge-shell having an internal coating of adhesive and practically non-combustible material, whereby the wads may be secured, said coating enabling the shell to be repeatedly used without blistering, as set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 12th day of September, A. D. 1887.

FRANK STINER.
ESEK R. DARLING.

Witnesses:
WM. F. SHAW,
J. F. BRENNAN.