No. 811,780. PATENTED FEB. 6, 1906.

G. H. HERRMANN.

FLASH LIGHT CARTRIDGE.

APPLICATION FILED NOV. 25, 1903.

Fig. 1.

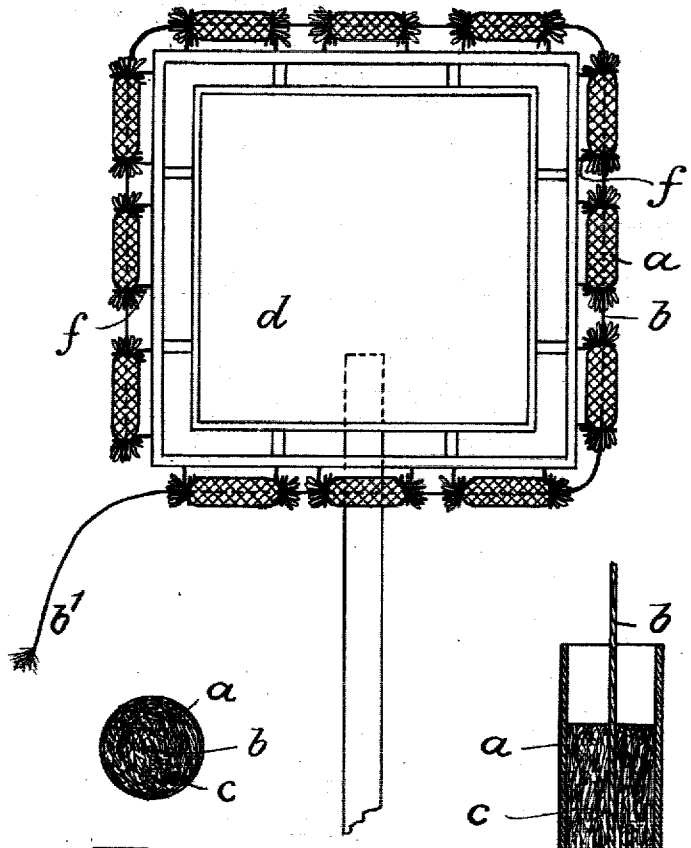


Fig. 3.

Fig. 2.

Witnesses:—
C. N. Schilling
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UNITED STATES PATENT OFFICE.

GUSTAV H. HERRMANN, OF SCHWEIDNITZ, GERMANY.

FLASH-LIGHT CARTRIDGE.

No. 811,780. Specification of Letters Patent. Patented Feb. 6, 1906.

Application filed November 25, 1903. Serial No. 182,670.

To all whom it may concern:

Be it known that I, GUSTAV H. HERRMANN, a subject of the German Emperor, residing at Schweidnitz, Province of Silesia, German Empire, have invented certain new and useful Improvements in Flash-Light Cartridges; and I do hereby 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.

My invention has reference to an improved envelop for explosives, and relates more especially to an improved construction of wrapper or envelop to be used in the making of flash-light cartridges, which are extensively used in gunnery practice.

In artillery practice at long range when the target can no longer be detected with the plain eye it is customary to use flash-light cartridges to indicate the position of the target, which cartridges are made to flash up at certain intervals. For this purpose the flash-light cartridges are placed around the target in certain number and manner and interconnected by means of time-fuse, so that upon the latter being lighted the cartridges will successively be set off. The cartridge generally contains a mixture of smokeless powder, surrounded by an envelop of material not liable to burn or glow after the flash. It has been found that a fabric made of animal hair is best suited for this purpose, as it is porous to an extent to not perceptibly retain the explosion gases, does not glow after the flame surrounding it has gone out, and is indestructible by the explosion, thus preventing untimely loss of unexploded charge. The cloth envelops now in use, however, in practice show a disadvantage, inasmuch as they do not permit the flame to shine evenly in all directions, with the result that the gunner can easily mistake the position of the target. The reason for this uneven distribution of light is that the envelops are made of a square piece of fabric, the longitudinal edges of which first have to be hemmed and then sewed together. The hemming before sewing together is indispensable, owing to the tendency of the loose fabric to unravel. The sewed-together overlapping edges naturally present a greater resistance to the issuing flame than the single thickness, and the light consequently will be projected unevenly at the points of least resistance.

The object of the present invention now is to do away with this defect and provide an envelop of uniform texture through which the flame can issue evenly all over its surface and which will not part during the explosion, and thereby cause more or less charge to be spilled unexploded.

I obtain the desired end by weaving a seamless tube or hose of animal hair, and use this as inclosing integument for the flash-powder composition.

In the accompanying drawings, Figure 1 represents a front elevation of a target with a string of interconnected flash-cartridges of my construction. Fig. 2 is a longitudinal sectional view of a cartridge closed at one end, and Fig. 3 is a cross-section through a cartridge.

The cartridge is made up by taking a length of tube *a* of hair fabric, drawing the time-fuse *b* through it, contracting and tying together one end of the tube, as shown in Fig. 2, and then filling in the composition flash-powder *c*, so as to have the fuse centrally within the envelop. Finally, the other end is contracted and closed in any suitable manner, the finished article then resembling in appearance a "cracker." A number of these cartridges interconnected by means of the fuse *b* is arranged around the target *d*, preferably by being hung on hooks *f*, and can be set off successively by lighting the depending end *b'* of the fuse.

What I claim is—

1. A flash-light cartridge comprising a seamless, porous tube of animal-hair fabric containing flash-powder, substantially as and for the purposes set forth.

2. A flash-light cartridge comprising a seamless, porous tube of animal-hair fabric, composition flash-powder contained therein, a fuse in contact with said charge and protruding from said seamless tube, and means for closing the ends of said tube, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GUSTAV H. HERRMANN.

Witnesses:

ERNST KATZ,

ALBERT SCHENK.