(No Model.)

C. B. LINTON.

PYROTECHNIC PACKAGE.

No. 356,651. Patented Jan. 25, 1887.

Fig I.

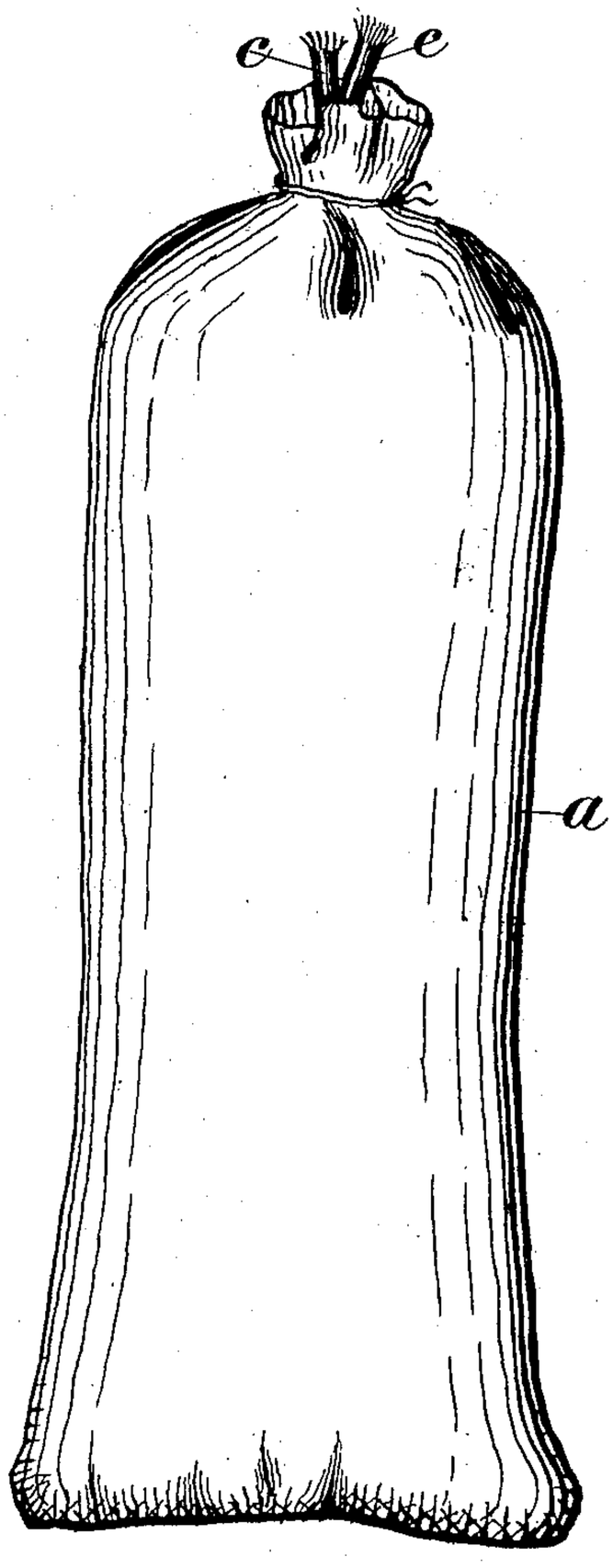
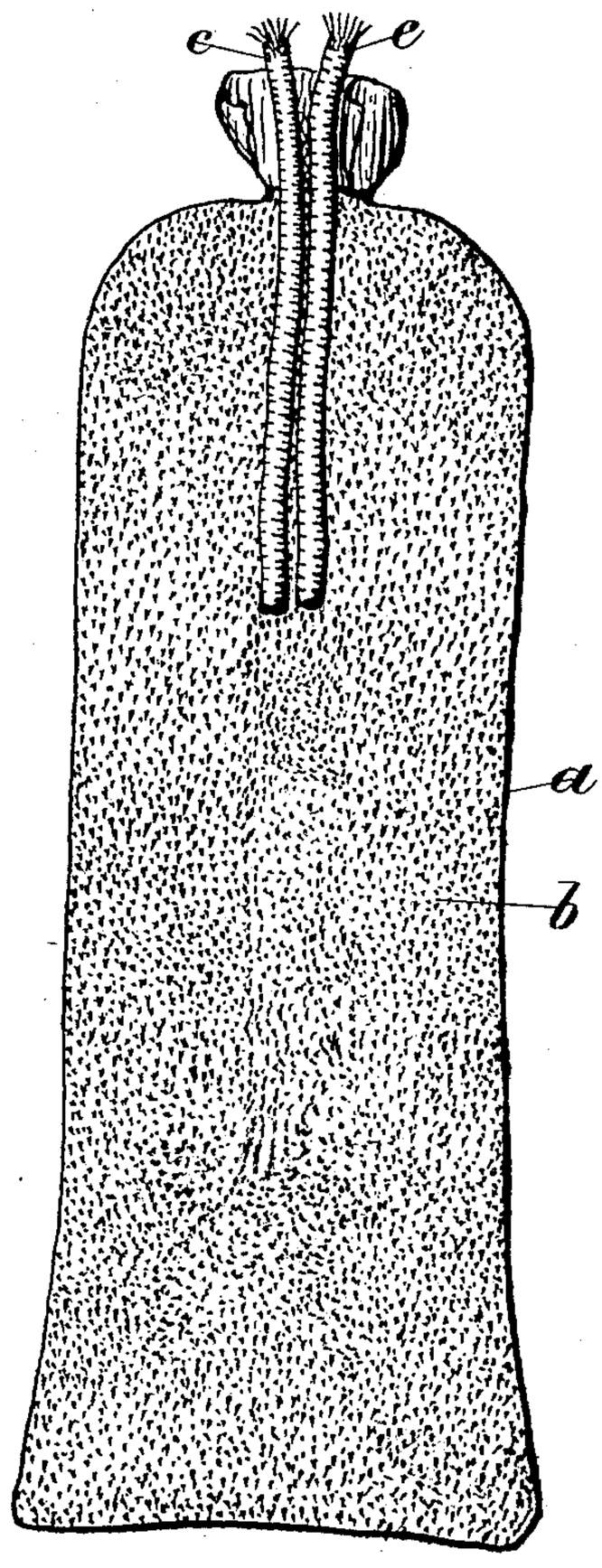


Fig. 2.



WITNESSES.

W. J. Morgan.
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INVENTOR.

Chas B. Linton.
By A. P. Thayer Atty

UNITED STATES PATENT OFFICE.

CHARLES B. LINTON, OF BROOKLYN, ASSIGNOR TO THE UNEXCELLED FIRE WORKS COMPANY, OF KINGS COUNTY, NEW YORK.

PYROTECHNIC PACKAGE.

SPECIFICATION forming part of Letters Patent No. 356,651, dated January 25, 1887.

Application filed March 3, 1886. Serial No. 193,864. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES B. LINTON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new Improvement in Pyrotechnic Illuminating and Display Packages, of which the following is a specification.

My invention relates to the pyrotechnic device commonly called "Bengal fire," "colored fire," or "tableau fire," but which I call "club-fire," and which, as heretofore made, consists of an illuminating composition packed either in a tin case, to be opened to pour out the composition in a train on the ground to be fired, or in a paper tube that may be lighted at one end and burns with the composition.

My invention consists of the illuminating composition contained in a sack of muslin or other textile fabric for the inclosing-case, said case being tied at one end after filling, with a fuse projecting out of the tied end and extending into the composition, and the sack being coated with shellac to render the flexible package moisture-proof, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a side view of a package of my improved club-fire. Fig. 2 is a longitudinal section of the same.

Instead of the tin case or paper tube, I take a muslin or other suitable textile sack, *a*, of suitable size and length, and pack the composition *b* in it, with a fuse, *c*, extending into the composition a suitable distance, and also out of the mouth of the sack, and I tie the sack around the fuse, which projects far enough for igniting, so as to burn the sack and composition together, thus making a package that is superior to either of the forms now in use, first, by the gradual supply of oxygen to the composition through the meshes, or pores, so to speak, of the fabric, and, second, by the slower combustion of the interior mass of the composition.

The rate of combustion will be governed in considerable measure by the texture of the fabric, which may be chosen for suitability in this respect according to the desired length of time of the burning.

Should it be necessary to protect the composition by excluding moisture in greater degree than the fabric will for long storage, I will apply an exterior coating of shellac or equivalent material that will temporarily close the meshes, but will burn readily with the sack.

The textile sack avoids the faulty combustion common to the ordinary tin-can packages, which are dumped on the ground, so that combustion soon spreads over the whole surface and materially excludes oxygen from the interior portions by the lava-like streams impervious to air that are melted on the upper portions and flow down over unconsumed portions beneath, and it also avoids the faulty combustion common to the straw-board tubes, which are of such close texture that being burned, together with the composition, prevent access of the necessary amount of oxygen for good combustion.

I am aware that explosive compounds have been put up in cartridges with a fuse attached to communicate fire to the explosive charge contained in the cartridge; but these differ from the kind of articles to which mine belong, which are for illumination, and have to be prepared with reference to their adaptation for burning and giving light to the best advantage at a slow rate and for a length of time. The packages used for explosive cartridges are chosen with reference to their capacity for retaining the contents till used, and for producing powerful explosions, while the object of my invention is to devise a package with special reference to the best effects in the combustion of the contents, as before stated, and which I have produced in the textile material described, the meshes of which, when of the proper degree of fineness, supply or feed the air, so to speak, in due measure for much better combustion and illumination than when the material is discharged from the paper tubes openly upon the ground, for paper tubes or other paper packages of sufficient strength to serve for the packages will not burn uniformly with the material, which, if not poured out of such packages, will not burn with sufficient intensity. The function of the shellac, which I use when the goods are liable to be kept long in damp

places, is to fill and close the meshes and render the package impervious to the moisture of the atmosphere until burned, when the shellac will dissolve by the heat and open the pores for the admission of the oxygen, as before. I do not, therefore, broadly claim a combustible packed in a sack and having a fuse tied in the mouth of the sack; nor do I claim, broadly, a varnished package, but limit myself to the inclosing-sack of textile material for combustible material for illuminating purposes, and to the use of the shellac on a sack of such material for closing the meshes until required for use.

I am not aware that a textile sack has been employed either for an explosive or an illuminating package.

What I claim, and desire to secure by Letters Patent, is—

As an improvement in pyrotechnic packages, a colored, slow-burning, non-explosive, illuminating compound inclosed within a flexible moisture-proofed textile bag having a tied mouth, and a fuse exposed outside the tied bag-mouth and extending into the compound, substantially as and for the purposes described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES B. LINTON.

Witnesses:
JAMES F. MORE,
S. WM. ATWOOD.