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C. L. PAULUS

REINFORCED PYROTECHNIC FLARE

Filed June 27, 1923

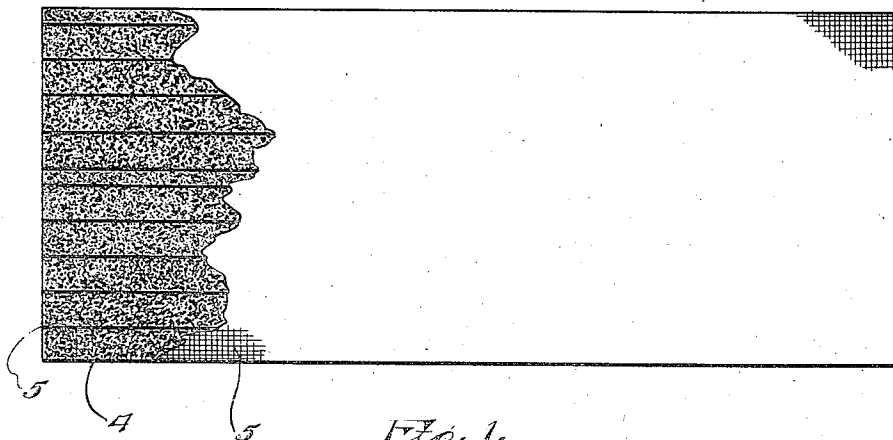


Fig. 1.

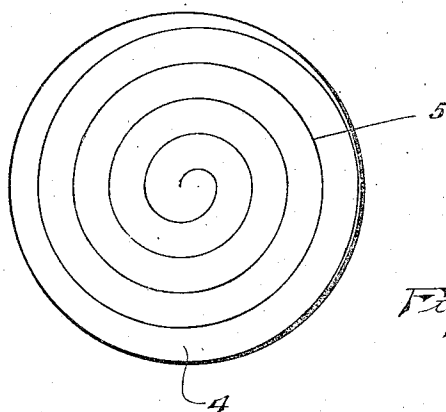


Fig. 2.

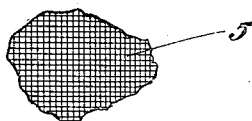


Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES L. PAULUS, OF DAYTON, OHIO.

REENFORCED PYROTECHNIC FLARE.

Application filed June 27, 1923. Serial No. 648,116.

To all whom it may concern:

Be it known that I, CHARLES L. PAULUS, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Reenforced Pyrotechnic Flares, of which the following is a specification.

This invention relates to pyrotechnic flares or candles and it is the primary object of the invention to produce a reinforcement for a pyrotechnic candle which will enable a candle to be made that will burn completely from end to end.

Up to the present time, pyrotechnic candles have not been satisfactory, as they burn with such an intense heat that the unburnt portions are expanded so greatly and so unevenly as to cause large portions of the candle to break off completely. Where these pyrotechnic candles are used on airplanes or similar devices, much damage has been caused due to fires started on the ground beneath to such disintegration of pyrotechnic flares and signals. The material used in the construction of the candles absorbs moisture very rapidly and it is probably this absorbed moisture which causes sufficient pressure from within after the candle is heated, to result in the disintegration of the candle.

It is a second object of the invention to produce a reinforcement for a pyrotechnic candle which will distribute the reinforcement of the candle equally from end to end, and from the center to the outside portions of the same. It is the further object to provide a reinforcement which will burn and be consumed by the combustion taking place about it.

Further objects will be more fully set forth in the attached specification and claims.

Referring to the drawings in which Fig. 1 is a side elevation, partly in section, of a reenforced pyrotechnic candle; Fig. 2 is a plan view and Fig. 3 is a detailed view showing the reinforcing screen. The illuminating unit which is preferably constructed of magnesium or other brilliant burning compound,

4, is reenforced through the use of a spirally formed sheet of aluminum wire mesh, 5, which extends from end to end of the candle and the outside portions of this reinforced screen form a cylindrical structure enclosing the entire candle.

The magnesium or other brilliant burning compound is formed in the usual manner as a paste, and is added to the reinforcing structure in any suitable manner and the paste permitted to harden.

The construction as just described is desirable because of the fact that the aluminum is fused very rapidly by the heat of the burning illuminating unit, aluminum having a sufficient tensile strength to withstand any tendencies toward disintegration of the candle by internal expansion. The reinforcement may however if desired, be constructed of asbestos cord or mesh, by a series of reinforcing rods or by a solid sheet of aluminum. The candle may be ignited by any conventional means, such as an electrically operated fusee or through a booster charge ignited through a primer, or through any other desirable device.

I claim:

1. A reenforced pyrotechnic flare comprising a mass of highly inflammable solid material and a reinforcement therefor comprising a strip of foraminous material.

2. A reenforced pyrotechnic flare comprising a candle of highly inflammable solid material and a strip of foraminous aluminum extending from one end of said candle to the other and within the same.

3. A reenforced pyrotechnic flare comprising a candle of highly inflammable solid material and a strip of aluminum wire mesh extending spirally from the center to the outside of the candle.

4. A reenforced pyrotechnic flare comprising a candle of highly inflammable material and a cylindrical strip of foraminous metallic material extending from end to end thereof.

In testimony whereof I affix my signature.

CHARLES L. PAULUS.