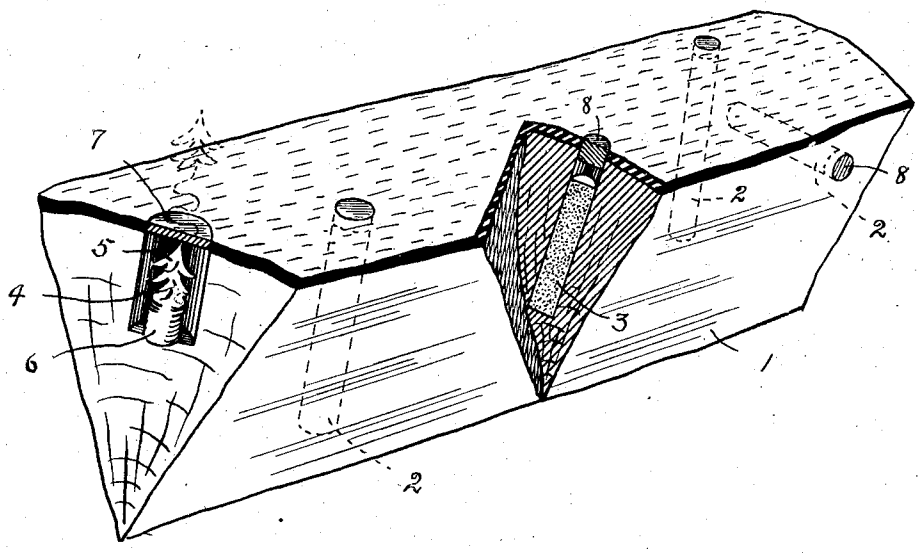
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S. G. STEVENS

PYROTECHNIC

Filed March 30, 1925




Inventor

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# UNITED STATES PATENT OFFICE.

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## PYROTECHNIC.

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This invention relates to pyrotechnics and has special reference to means for producing pyrotechnical display in an open fire, and, to this end, the accompanying illustration represents one of the embodiments of my invention in a yule log.

The principal object of the invention is to produce novel means whereby the æsthetic effect of pyrotechny may be prolonged in an open fire.

Another object of the invention is to provide means whereby varied forms of display may be successively accomplished during the burning of a log or stick.

Other objects and advantages will appear in the further description of the invention.

Referring now to the accompanying drawing, forming part of this application, and in which like reference characters indicate like parts:

The illustration is a perspective view of a fragmental portion of a yule log representing the invention.

1 represents a stick of wood having holes bored or drilled therein in various directions such as indicated at 2, and the holes are preferably substantially filled with granular material illustrated at 3 having colorful properties during the burning thereof.

There are various combinations of chemicals with a granular vehicle for producing different color effects when thrown in the fire. These however are invariably soon consumed and their pyrotechnic value quickly destroyed, but where a piece of fuel is impregnated with such material either by boring holes therein and filling same with the display substance, or otherwise, the pyrotechnic value is materially lengthened.

It is readily seen that by boring the holes 2 in different directions and spaced longitudinally of the fuel unit during practically the entire burning of the fuel benefits from the display material will be derived, and, in the event of a yule log being the vehicle for such display and as the custom is of saving portions of the log from one yuletide to another, colorful effects may be obtained from the remnants of the past log when used to kindle the subsequent one, and in this manner effectively transfer the yuletide spirit as it were from log to log.

At 4 in the accompanying drawing I have shown a somewhat enlarged hole having a slightly different operable device therein, the same in this instance representing a miniature Christmas tree 5 mounted upon an expansive helical spring 6 preferably fastened to the bottom of the hole 4. This hole is covered with say a paper wadding or cork 7 which when burning away will free the spring 6 and permit of forcing the tree upwardly out of the hole where it will remain until consumed, and it is obvious that this tree may be impregnated with a colorful substance of some kind that will readily burn. It is also apparent that the cork 7 may if desired be impregnated with alcohol or shellac or some other substance that would burn more readily than the fuel stick, or they may be made of different thicknesses so as to not burn simultaneously, and that various forms of pyrotechnical substances or objects may be concealed within the apertures thus formed in the fuel so as to produce almost any desired form of display in the fire for independent celebration, yuletide celebration, or other special occasions.

While I have illustrated the embodiment of the invention in connection with a wooden stick, it is apparent that the same may be accomplished with lumps of coal or other fuel if desired, and that where holes are filled with the pyrotechnic material, such as illustrated at 3, the outer extremity of the hole is securely corked or plugged as at 8 and cut off flush with the outer surface of the stick, so as to be as inconspicuous as possible.

It is found that forcibly plugging the holes in this manner when filled with chemical substance produces internal pressure by hammering in of the plug or cork and has a tendency to impregnate the wood to some extent adjacent the hole with the chemical and thus render it more effective during the burning of the entire stick.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. The combination with a unit of fuel having chambers therein, a confined display element within the chambers, and means whereby the display element is released by heat.

2. The combination with a container subject to heat of individual chambers within the container, display means within the chambers and means released by heat for operating the display means.

3. The combination with a unit of fuel, of

individual zones within said unit, each zone carrying pyrotechnic combustible material different from that carried by another zone.

4. A unit of fuel of the class described having in combination therewith pyrotechnic display means and means operable subsequent to the initial burning of the fuel for releasing the display means.

5. A unit of fuel of the class described having in combination therewith pyrotechnic display means operable at a predetermined time during the consumption of the fuel.

In testimony whereof I hereunto affix my signature.

SYLVESTER GEO. STEVENS.