F. J. WELTER.

SPARK EMITTING CANDLE.

APPLICATION FILED JUNE 11, 1908.

910,755. Patented Jan. 26, 1909.

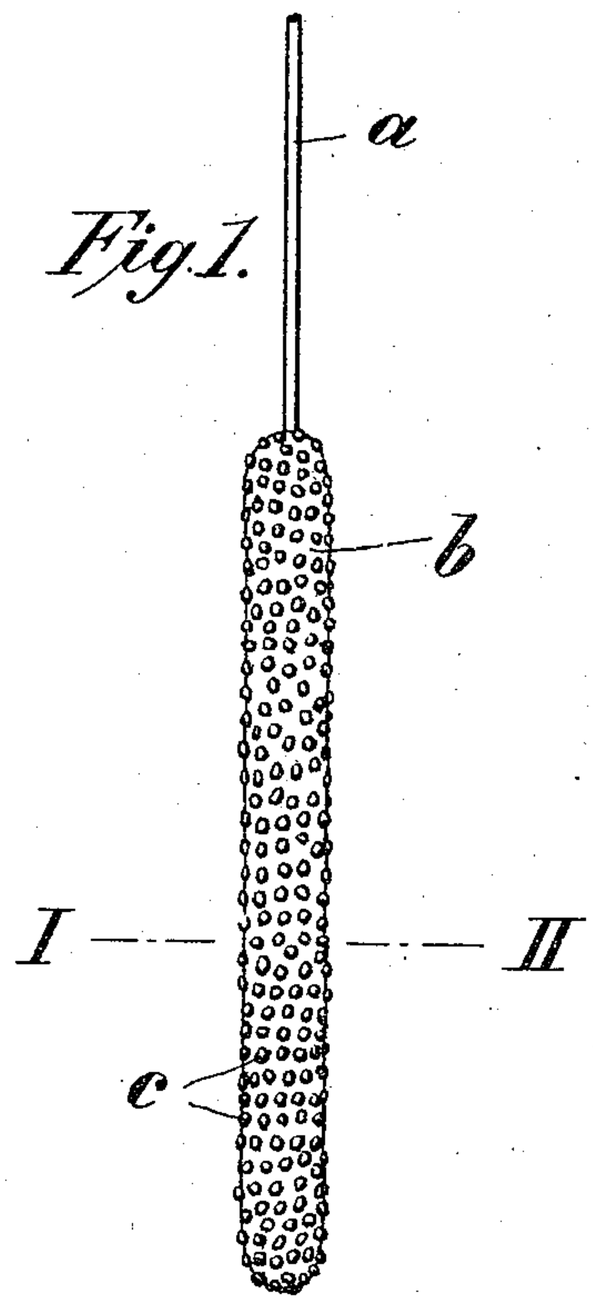


Fig. 1.

Fig. 2.

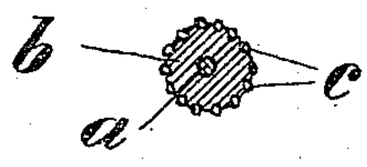
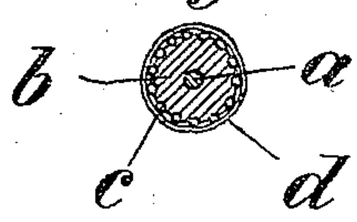


Fig. 3.



Witnesses.

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SPARK-EMITTING CANDLE.

No. 910,755. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed June 11, 1908. Serial No. 437,904.

To all whom it may concern:

Be it known that I, FRANZ JACOB WELTER, a subject of the German Emperor, and resident of Hamburg, Germany, have invented certain new and useful Improvements in Spark-Emitting Candles, of which the following is a specification.

The invention relates to improvements in candles emitting sparks which consist of a sparking composition provided with metallic powder and salts rich in oxygen and exerting a vigorous spark-emitting effect and formed in a pasty condition into pencils or applied to a support. Candles of this kind are used on Christmas trees in particular, in addition to ordinary candles.

The present invention relates to an improvement which consists in the fact that small combustible bodies or bodies emitting a bright light when glowing are arranged more or less densely upon the surface of the candle and so as to adhere to it but slightly.

A spark-emitting candle made in accordance with and embodying my invention is represented in the accompanying sheet of drawings which form part of this specification, and in which—

Figure 1 is an elevation of an improved spark-emitting candle; Fig. 2 is a cross-section on the line I—I of Fig. 1; and Fig. 3 is a similar sectional view illustrating a modification of the candle.

Similar letters of reference refer to similar parts throughout the figures.

Referring to Figs. 1 and 2, *a* is the support or carrier, *b* is the spark composition applied thereto and *c* are the additional bodies applied or attached to the spark composition proper. The support *a* is rod- or tube-shaped and made of any incombustible material, for example it may consist of a piece of ordinary metallic wire. The spark composition *b* may be composed of well known components. The additional bodies *c* may consist of filings or the like of any suitable metals or of other appropriate material as will be more fully explained later on.

When the candle burns the additional particles *c* furnish a luminous effect other than that of the candle *b* itself and in particular fall from the candle in a burning or glowing condition or are discharged laterally from the candle and while falling freely burn or glow with a light agreeably differentiated from the luminous effect of the candle itself. Such added particles or bodies *c* may consist of filings of appropriate metals, such as magnesium, aluminium, copper or the like or they may be constituted by small particles of Roman candle composition and these bodies are lightly attached to the candle by means of an appropriate binding medium or they may merely be pressed into the mass of the candle while it is still soft. Coarse charcoal powder if caused to adhere to the surface of the candle also gives good results as the burning particles of carbon emitted from the candle on all sides furnish a golden rain which falls slowly, its dull light contrasting very effectively with the brilliant light of the candle.

If the added bodies or particles were mixed up with the candle mass referred to above, the desired result would not be obtained because when the candle was burning a very solid dross would be formed and would retain the particles in such a manner that they could not fall in a glowing state, but on the contrary the materials of which these particles were composed might react with the material of the candle in such a manner that a firework composition of quite a different kind would result; it is only possible to obtain the desired subsidiary effect by coating the surface of the candle with particles of special composition in accordance with the invention.

In order to insure uniform burning of the candle and to avoid burning onesidedly, it is desirable to coat the outer surface of the candle and the added bodies with thin leaf metal or bronze powder, a binding medium being used if necessary such as a solution of shellac, starch or the like. Such metallic coating *d* (see Fig. 3) acts in a manner similar to a thin firework case, that is to say, it prevents onesided burning of the candle, and as it must be gradually destroyed as the burning progresses this coating also tends to prolong the life of the candle and also protects the candle from harmful external influences.

I claim:

1. A spark emitting candle comprising an inflammable body portion and a plurality of separate luminous bodies adhering thereto.

2. A candle, comprising a body portion composed of inflammable spark emitting

ingredients and a plurality of separate inflammable bodies normally adhering to the body portion and composed of ingredients capable of giving a luminous effect different from that of the body.

3. A spark-emitting candle, comprising a body portion of an inflammable composition and a plurality of isolated sparking bodies normally adhering thereto.

4. A candle comprising a body portion of an inflammable spark-emitting composition and a plurality of separate sparking bodies normally adhering thereto.

5. A candle, comprising a body portion composed of inflammable spark emitting ingredients and a metallic coating incasing the same.

6. A candle, comprising a body portion composed of inflammable spark-emitting ingredients, an adhesive substance applied to said body, a plurality of separate luminous bodies secured to the adhesive and a metallic coating surrounding the structure.

7. A spark emitting candle comprising an inflammable body portion and a plurality of separated metallic bodies adhering thereto.

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Witnesses:

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