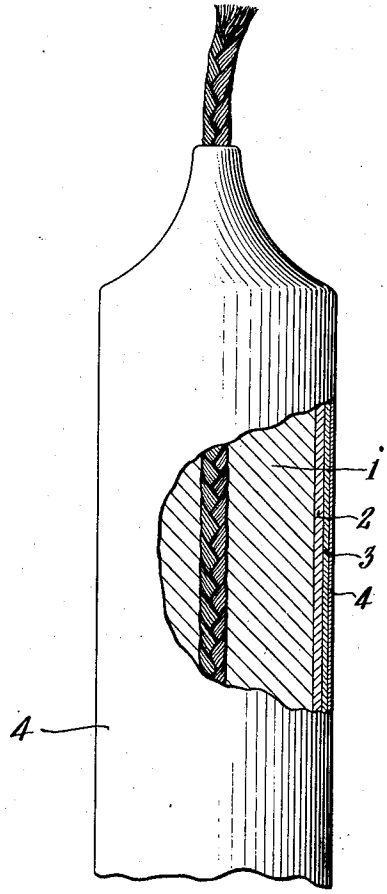
Jan. 16, 1940. M. F. PRATT 2,187,053

METAL-FINISHED CANDLE

Filed Oct. 2, 1937



INVENTOR
Malcolm F. Pratt
BY
Farnum F. Dorsey
his ATTORNEY

Patented Jan. 16, 1940

2,187,053

UNITED STATES PATENT OFFICE

2,187,053

METAL-FINISHED CANDLE

Malcolm F. Pratt, Elmhurst, N. Y., assignor to Socony-Vacuum Oil Company, Incorporated, New York, N. Y., a corporation of New York

Application October 2, 1937, Serial No. 167,004

3 Claims. (Cl. 67—22.5)

This invention relates to the production of a candle with metal-like finish, and the object of the invention is to produce a candle which shall have a smooth and lustrous metal finish and which shall yet burn freely without guttering or smoking.

It is known that a candle of reasonably good burning qualities can be produced by coating the body with a solution of shellac or shellac and rosin containing metal powder. The finish so produced, however, does not have the appearance of lustrous or burnished metal.

It is also known that a lustrous or burnished metal finish may be produced by applying, to the article to be finished, a coat of oil varnish, and applying to the varnish, when dried to a tacky condition, either a metal leaf or a metal powder, the powder, when so used, being afterwards burnished by rubbing with a brush, chamois or the like. When this method has been used in finishing a candle, however, it is has been found that, although the desired appearance is secured, the burning qualities of the candle were seriously impaired because the coating of varnish and metal folded in on the wick as the candle burned down, causing guttering, smothering of the flame or distortion of the exposed portion of the wick.

I have discovered that if the candle body is first coated with shellac, before the metal finish is produced by the use of varnish and metal leaf or powder as above described, the burning of the candle is greatly improved, particularly as the shellac, by producing a smooth and firm surface, permits the use of a relatively thin coating of varnish sufficient only to act as a metal size. By reason of some quality of the shellac, presumably its surface tension or particular thermoplastic properties, the coating so produced shrinks away regularly as the candle burns and leaves little residue on the wick, so that no troublesome accumulation of the coating material occurs.

The accompanying drawing shows a portion of a candle finished in accordance with the present invention, the candle being shown partly in section and the thickness of the several coatings being greatly exaggerated for the purpose of clear illustration.

In the drawing the body 1 of the candle is shown as having successive coats 2, 3 and 4 comprising shellac, oil varnish and metal, respectively, the metal coat 4 presenting a lustrous or burnished appearance.

In the manufacture of the candle the body may be of any ordinary composition, such as a mixture of stearine and paraffine wax. The shellac, for best results, should be dewaxed and should be dissolved either in pure alcohol, or in a denatured alcohol which does not contain any denaturant which is non-volatile or which has greater solvent action on the candle than that of the alcohol.

While pure shellac may be used in the first coat, it has been found that it has a tendency to crack owing to thermal expansion and contraction of the candle body, so that it is desirable to add some material to impart a more yielding character to the shellac. I have found that this may be done by using a mixture of 80% shellac, 10% rosin, and 10% lead manganese naphthenate drier, such as is sold under the trade name "Soligen". The shellac and other ingredients may be dissolved in enough alcohol to make a 20% solution.

The varnish used in the second coat may be of any ordinary composition, the oil being China-wood oil, thermolized tung oil, varnish-makers linseed oil or bodied linseed oil, and the suitable resins including rosin, ester gum and various other natural and synthetic resins. The chief practical requirement for convenient manufacture is that the varnish, in drying, have a sufficiently long tacky period after it has dried to the point at which the metal may be applied.

As an example of a suitable varnish, 80% of ester gum, and 20% of thermolized tung oil may be used, dissolved in a light petroleum naphtha with a boiling point range between 190° and 270° F. In order that the varnish coat may be relatively thin, sufficient naphtha may be used to give a 10% solution. I have found that with the two coating solutions as particularly described, coats of suitable thickness will be produced by dipping the candle, and withdrawing it at a rate such that about ten seconds are required for withdrawal.

In addition to its principal advantages, before described, the shellac first coat has the advantage that it seals the body of the candle against the solvent action of the naphtha used in the varnish coat. In the absence of such protection it would be necessary to use special varnish bases dissolved in acetone or some other solvent in which was is relatively insoluble.

The metal coat is applied while the varnish is still tacky. Where a metal powder is used the varnish should be allowed to dry to the "dust-free" condition so that the powder may adhere to the outer surface of the varnish while the varnish is firm enough to permit a light rubbing with some soft material to give a burnished appear-

ance. The powder may be applied by dipping or dusting, and the quantity necessary is extremely small, so that troublesome accumulation of metal as the candle burns does not occur. To permit the production of a good burnished or lustre effect the metal powder should be fine and of good quality, such as the standard lining grade of polished aluminum powder.

I claim as my invention:

1. A candle having, in combination, a body, a relatively thick first coat, on the body, of shellac, a relatively thin second coat of oil varnish, and an outer coat of metal adherent to the outer surface of the varnish coat.

2. The method of making a candle with a metallic finish, which comprises the steps of coating the candle body first with shellac and drying the same, applying a relatively thin coat of oil varnish to the shellac coat, dusting the varnish, when it has dried dust-free but is still tacky, with metal powder, and rubbing the metal powder to produce a lustrous surface.

3. The method of making a candle with a metallic finish, which comprises the steps of coating the candle body first with material comprising a major portion of shellac and a minor portion of rosin, dissolved in alcohol, then applying a coat of oil varnish thinned with petroleum naphtha, and then applying a thin and substantially continuous metal coat to the surface of the varnish while it is in a tacky condition.

MALCOLM F. PRATT.