

UNITED STATES PATENT OFFICE.

CAMPBELL MORFIT, OF NEW YORK, N. Y.

IMPROVEMENT IN COMPOSITIONS FOR COATING CANDLES.

Specification forming part of Letters Patent No. 26,780, dated January 10, 1860.

To all whom it may concern:

Be it known that I, CAMPBELL MORFIT, chemist, of the city of New York, in the county and State of New York, have invented a new and improved method of imparting a hard closely-adhering glaze to the surface of candles made from tallow, stearine, or other fat stock; and I do hereby declare that the following is a full and exact description of it.

The advantage obtained by my process is the production of handsome and economical candles at a cost barely exceeding that of tallow candles, the glossy coating imparted not only refining the appearance, but masking all disagreeable odor and greasy feeling, thus, too, improving their burning qualities by preventing "running" or "guttering," and adapting them peculiarly for use in warm climates.

The first step in my process is to form a bath of the coating-mixture by melting together the proper components in a kettle by direct fire or in a double kettle heated by a current of steam circulating through the casing. This being done, the temperature of the bath is then raised to 232° Fahrenheit, and immediately afterward allowed to fall to 205° Fahrenheit by repose and shutting off the current of steam. At or about this degree of heat the candles, whether of tallow, stearine, or other fat stock, "molds" or "dips," are then quickly immersed their whole length in the bath and as quickly drawn out, one dip being sufficient to insure the requisite coating. There is very little dripping from the butts of the candles, and the hardening of the surface is so prompt that the candles are ready for packing after having hung a few minutes. The bath should not be allowed to fall very much below 175°, because a higher temperature not only improves the gloss, but cements the coating to the body of the candle. The coating-surface is free from resins, and assimilates in all necessary respects to the mate-

rial of the candle, so that there is no peeling or cracking. There is a proper adjustment of the relation between the melting-point of the coating and that of the body of the candle. Consequently the latter, in burning, has a hard circumference formed just below the ignited wick, and by thus welling in the melted tallow prevents running and guttering of the candle by overflow. The materials of the dipping-bath are paraffine, (whatever its source and the mode by which it is produced,) either alone or in admixture with palmitic, stearic, or any other solid fat acid candle-stock, singly or combined, and with Japan (vegetal) wax, the proportions which have proved most favorable being set forth in the following formulas:

No. 1. Paraffine, fifteen pounds; palmitic candle-stock, five pounds.

No. 2. Paraffine, sixteen pounds; palmitic candle-stock, four pounds.

No. 3. Paraffine, four and one-half pounds; palmitic candle-stock, six pounds; Japan wax, three pounds.

No. 4. Paraffine, ten pounds; palmitic candle-stock, four pounds; Japan wax, five pounds.

I do not claim the process of coating candles, nor yet the use of stearic acid or other matters in alcoholic solution as a paint-covering for tallow candles, nor, again, the coating of tallow candles with mixtures of stearic acid with tallow, wax, camphor, and resin; but

What I do claim is—

The covering of tallow, stearine, or other candles with paraffine or paraffine mixtures, substantially as set forth, for the purpose of hardening their surface and improving their appearance and burning qualities.

CAMPBELL MORFIT.

Witnesses:

L. D. GALE,
EDM. F. BROWN.