

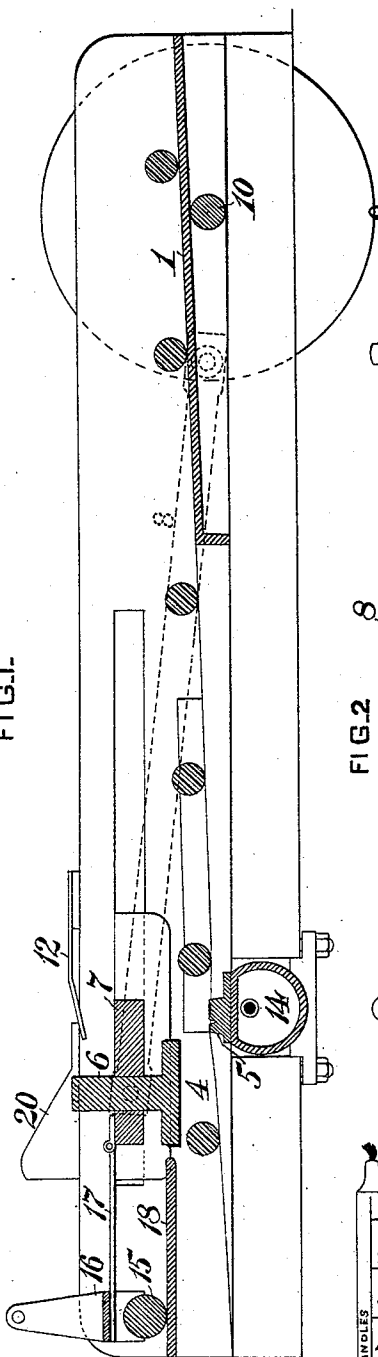
(No Model.)

T. V. FORSTER.
METHOD OF ORNAMMENTING CANDLES.

No. 471,499.

Patented Mar. 22, 1892.

FIG. 1.



WITNESSES:

Danvers & Wolcott
F. E. Gaither

FIG. 2.

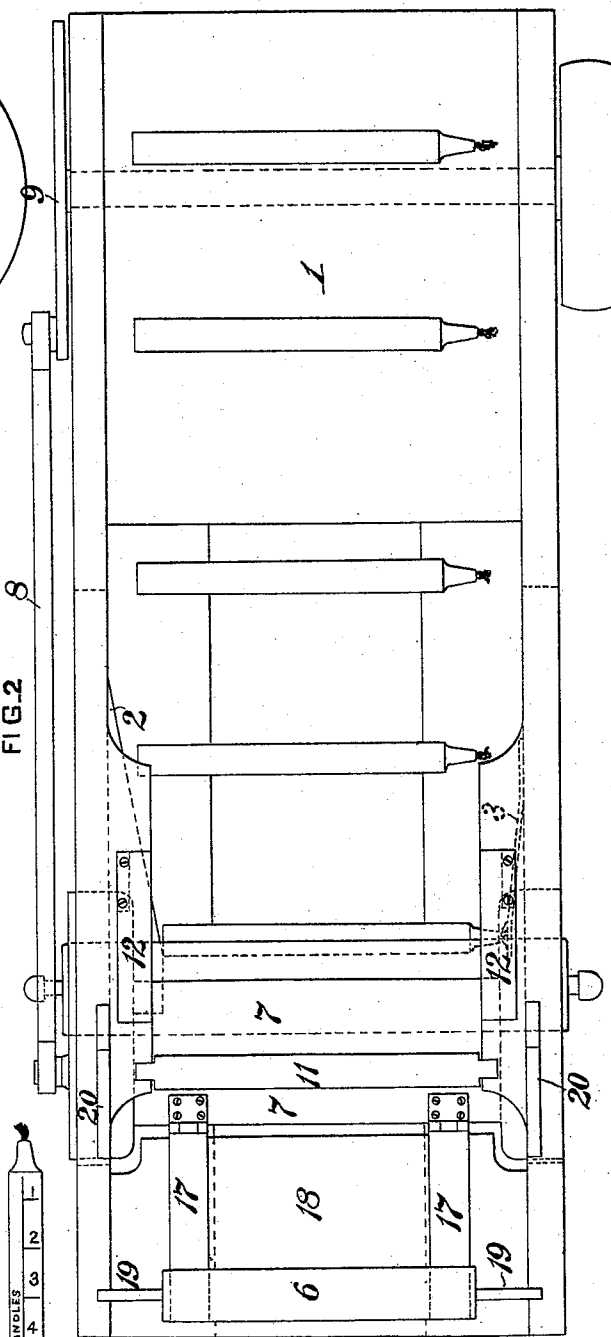
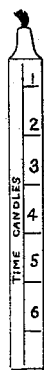


FIG. 3.



INVENTOR.

Thomas V. Forster,
by George H. Christy
Att'y

UNITED STATES PATENT OFFICE.

THOMAS V. FORSTER, OF AVALON, ASSIGNOR TO W. & H. WALKER, OF ALLEGHENY, PENNSYLVANIA.

METHOD OF ORNAMENTING CANDLES.

SPECIFICATION forming part of Letters Patent No. 471,499, dated March 22, 1892.

Application filed October 30, 1891. Serial No. 410,358. (No model.)

To all whom it may concern:

Be it known that I, THOMAS V. FORSTER, a citizen of the United States, residing at Avalon, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in the Method of Ornamenting or Marking Candles and other Articles, of which improvement the following is a specification.

10 The invention described herein relates to certain improvements in marking or ornamenting candles or other articles.

It has heretofore been customary in marking or ornamenting candles, &c., to color the material of which the candle, &c., is to be formed and then employ different-colored materials in the formation of the candle. This method of ornamenting candles is objectionable on account of the limited number of designs which could be formed in this manner, and also on account of the labor and expense involved. It has also been attempted to form the designs with ink or paints applied to the surface of the candle, &c.; but such attempts have been unsuccessful, as the oily surface prevents the adherence of the ink or paint thereto. Candles have also been marked or ornamented by cutting or otherwise forming recesses or depressions in the candle and then filling such recesses or depressions with a colored wax or other suitable material. This method is also objectionable on account of the labor and expense and also as it is exceedingly difficult to obtain in such manner a clear sharp design.

25 The object of this invention is to effect a commingling of any suitable colored material with the material of the candle or other article at or along certain predetermined lines, points, &c., the material of the candle being softened or liquefied along or at such lines, points, &c., and the coloring material mixed therewith, so that when the material of the candle becomes hard the coloring is so incorporated therewith as to be incapable of being removed without cutting away a portion of the candle, &c.

The invention will be hereinafter more fully described and particularly claimed.

50 In the accompanying drawings, forming a part of this specification, Figure 1 is a sec-

tional elevation of a form of machine adapted for the practice of my invention in marking candles. Fig. 2 is a plan view of the same, and Fig. 3 is a view of a marked or ornamented candle. 55

In the practice of my invention in connection with the apparatus shown in the drawings the candles are placed by an attendant upon the inclined bed 1 and roll down the same until arrested by guide-bars 2 and the spring 3, which are designed to adjust the candles longitudinally into proper position for marking. The guide-bar and spring stop the candle, so that it may be caught by the reciprocating bed 4 and rolled along the bed and over the heated type 5. The bed 4 is provided with a post or standard 6, projecting up through a cross-head 7, having its ends mounted in suitable guideways in the side pieces of the machine and connected by pitman 8 to a crank-pin on the wheels 9 on the power-shaft 10. 60

On the upper end of the post or standard 6, which is free to move up and down in the cross-head, is secured a cross-bar 11, whose ends rest upon the side pieces of the machine. As the cross-head moves to the right, in Figs. 1 and 2, and with it the bed 4 and cross-bar 11, the ends of the latter ride upon the spring-plates 12, thereby raising the bed 4 above the bed 1 a distance greater than the diameter of the candles. As the cross-head reaches the end of its movement to the right at which time the left-hand end of the bed 4 is over a candle held between the bar 2 and spring 3, the cross-bar 11 drops off the plates 12, thus permitting the bed 4, whose under face is covered with felt or other suitable cushion, to drop upon the candle, the post 6 being made of such a length relative to the height of the side pieces of the bed 1 that the entire weight of the bed 4 will be upon the candle as the bed 4 moves to the left. As the cross-bar 11 moves to the left, it passes under the left-hand ends of the spring-plates 12, which are lifted thereby, and after the passage of the cross-bar resume their normal position, so as again to be capable of raising the cross-bar when it is shifted to the right. As the bed is shifted to the left, it rolls the candle along the bed 1 and over the type or die 5, having the reverse 100

of the mark or ornamentation which is to be applied to the candle.

The type or die is treated in any suitable manner—as, for example, by arranging it over 5 or on a hollow block or shell 14, through which steam or other hot fluid is caused to circulate. The type or die should be made sufficiently hot to quickly melt or soften so much or such portions of the candle as come in contact with 10 the raised parts of the type or die, as the candle is rolled with comparative rapidity over the type or die. It is desirable in order to obtain a sharp clear mark or ornamentation that the candle should remain in contact with 15 the type or die for a short time only, so as to prevent any undue spreading or extension of the softening or melting action of the type or die.

I have ascertained by experiment that the 20 stearic acid in the candle will immediately act upon the type or die when formed of brass, copper, or other analogous metal or alloy, producing a compound which is absorbed by the softened or liquefied portions of the candle. 25 The compound thus produced and absorbed or combined with the material of the candle will produce a discoloration or stain, whose character—*i. e.*, color—will be dependent upon the character of metal used in the type or die. 30 As the softening or liquefaction is of a very limited area and depth, the softened portions of the candle will harden almost immediately after removal from the type or die.

In lieu of depending upon the discoloration 35 due to the action of the stearic acid upon the metal of the type or die a suitably-colored ink or other material may be applied to the heated die or type. A means for applying the ink is shown in the drawings, and consists of a roller 15, mounted in a frame 16, 40 which is connected by hinged arms 17 to the cross-head 7, so as to permit of the frame and roller rising and falling, as hereinafter described. While the cross-head 7 is at the 45 left-hand limit of its movement, the roller rests upon the inking-table 18 and rolls along said table as the cross-head moves to the right until nearly over the type or die 5, when the roller and frame are raised slightly from 50 the table by rods 19 on the frame, engaging

the cam-plates 20 on the side pieces of the machine. As the cross-head continues its movement to the right, the cam-plates permit the roller to descend and roll over the type or die. On the return movement of the cross-head 55 the cam-plates raise the roller and permit it to drop onto the inking-table. The ink thus applied to the type or die mingles with the material of the candle when softened or melted by the heat of the type or die. 60

While I deem it preferable to soften or liquefy the material of the candle or other articles by means of heated types or dies for the purpose of incorporating the coloring-matter therewith, other means known in the 65 art for effecting such purpose may be employed.

No claim is made herein for the apparatus shown and described, as the same is no part 70 of this invention, nor do I wish to be understood as limiting myself to the use of such apparatus in the practice of my invention.

I claim herein as my invention—

1. As an improvement in the art of marking or ornamenting candles and other arti- 75 cles, the herein-described method, which consists in softening or liquefying the material of the candle or other article at, over, or along certain predetermined lines, points, or surfaces, mingling a coloring-matter with the 80 softened or liquefied material, and then allowing the softened or liquefied portions to harden, substantially as set forth.

2. As an improvement in the art of marking or ornamenting candles and other arti- 85 cles, the herein-described method, which consists in applying a suitable coloring-matter to a heated type or die having the desired mark or ornament formed thereon, and then pressing such type or die against a candle or other 90 article, whereby the material of the candle or other article is softened or liquefied and the coloring-matter incorporated therein, substantially as set forth.

In testimony whereof I have hereunto set 95 my hand.

THOMAS V. FORSTER.

Witnesses:

W. B. CORWIN,
DARWIN S. WOLCOTT.