

(No Model.)

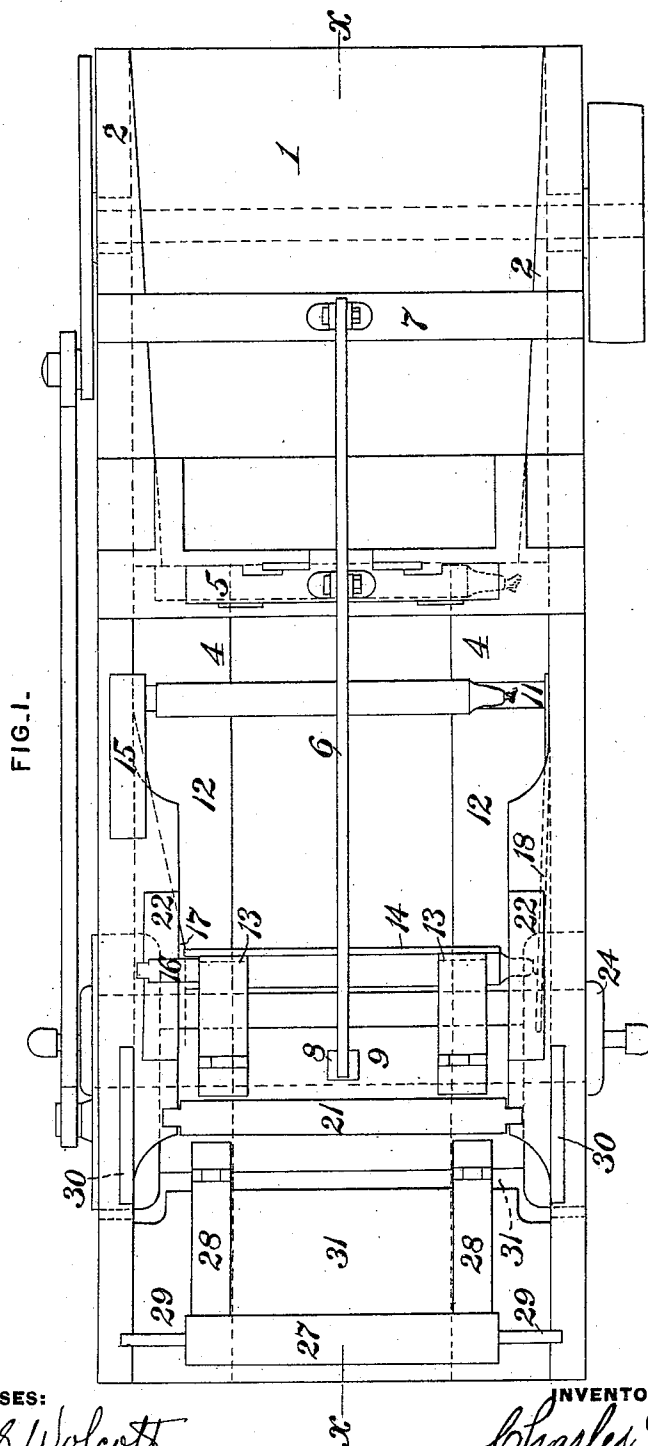
2 Sheets—Sheet 1.

C. FORSTER.

MACHINE FOR MARKING OR ORNAMENTING CANDLES.

No. 471,991.

Patented Mar. 29, 1892.



WITNESSES:

Danwin B. Wolcott
F. E. Gaither

INVENTOR.

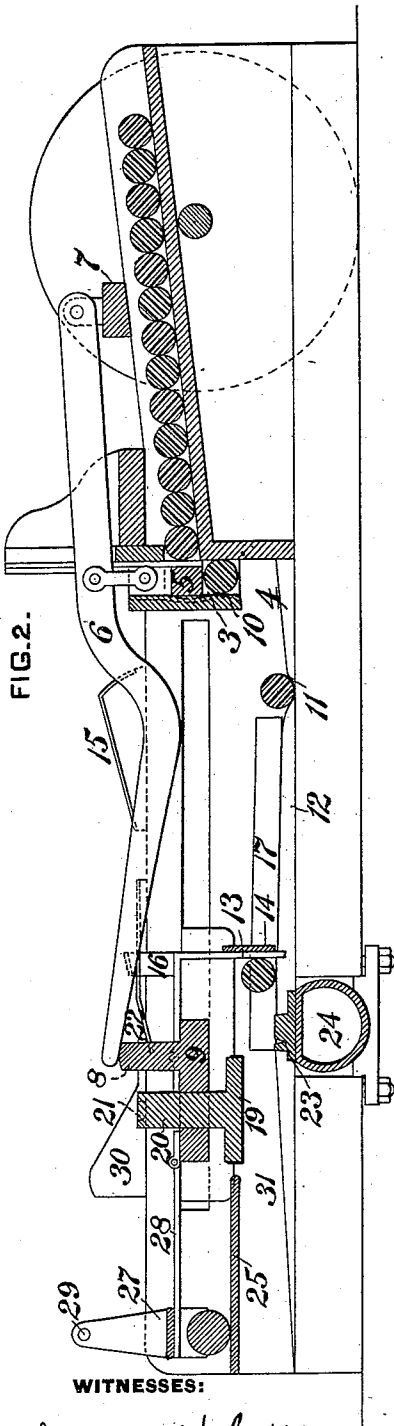
Charles Forster
by George H. Christy
Att'y.

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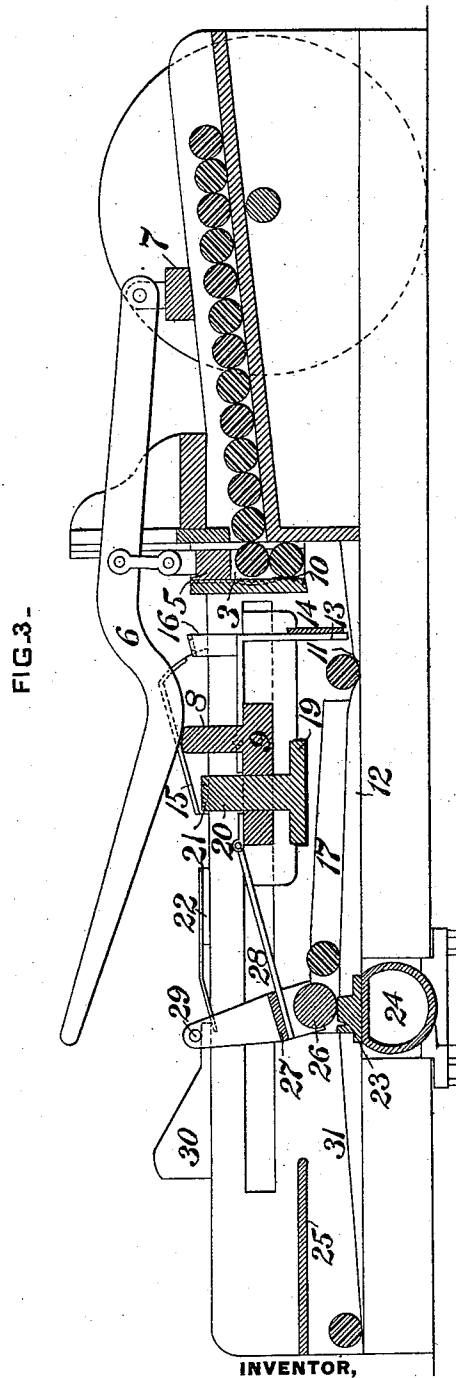
MACHINE FOR MARKING OR ORNAMMENTING CANDLES.

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UNITED STATES PATENT OFFICE.

CHARLES FORSTER, OF PITTSBURG, ASSIGNOR TO W. & H. WALKER, OF ALLEGHENY, PENNSYLVANIA.

MACHINE FOR MARKING OR ORNAMENTING CANDLES.

SPECIFICATION forming part of Letters Patent No. 471,991, dated March 29, 1892.

Application filed November 6, 1891. Serial No. 411,059. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FORSTER, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Machines for Marking or Ornamenting Candles, of which improvement the following is a specification.

10 The invention described herein relates to certain improvements in machines for marking or ornamenting candles, &c., and has for its object a construction whereby candles may be brought into contact with heated dies or
15 type, whether inked or not, thereby impressing certain marks or ornamentation on the candles, such marks or ornamentation being brought out sharply by the stain imparted to the portions of the candles in contact with
20 the dies or type.

In general terms the invention consists in the construction and combination, substantially as hereinafter more fully described and claimed.

25 In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of my improved machine. Fig. 2 is a sectional elevation of the same, the plane of section being indicated by the line *xx*, Fig.
30 1. Fig. 3 is a similar view, the operating parts being shown in a different position; and Fig. 4 is an elevation of a candle marked in my improved machine.

In the practice of my invention the candles
35 to be marked or ornamented are placed in the trough 1, having inclined guideways 2, down which the candles roll. At the end of the trough is formed a vertical slot 3, of a length and breadth a little greater than the
40 length and diameter of the standard candle, for the passage of the candles down to the inclined bed 4. The movement of the candles through the slot 3 is controlled by a plunger 5, which is connected to a lever 6, pivoted
45 at one end to a bar 7, its opposite end being raised and lowered by a standard 8 on the cross-head 9. As the plunger 5 is raised a candle rolls into the slot and is forced down along the slot by the plunger as it descends. As shown in Fig. 2, the plunger as
50 it descends closes the upper end of the slot

and checks the movement of the candles along the trough 1. The movement of the candle down the slot is checked by springs 10, which will hold the candle until forced
55 down by the plunger operating through the next candle, which rolls into the slot as the plunger is raised, this second candle being in its turn caught and held within the slot by the springs 10. As the candles drop out of
60 the slot they roll down the bed 4 to a depression or transverse groove 11, formed by the bed 4 and the oppositely-inclined rails 12.

The candles are drawn up the rails 12 by means of fingers 13, hinged, as shown, to the
65 cross-head 9 and connected together by a bar 14. As the cross-head moves to the right, the fingers are raised, so as to clear the candle in the depression 11, by an inclined spring-plate 15, over which an angular arm 16 on one of
70 the fingers passes as the cross-head moves to the right. As the cross-head reaches the limit of its movement to the right, the angular arm moves off the plate 15 and permits the fingers to drop behind the candle, which is drawn up
75 the rails by the fingers as the cross-head returns to the left, the angular arm passing under the plate 15. As the candle is drawn up the rails, it is shifted longitudinally by the
80 guide-plate 17, attached to one of the side pieces of the machine, and by this longitudinal movement the opposite end of the candle is pressed against a spring 18, attached to the opposite side of the machine. By the combined action of the spring and guide plate 17
85 the candle is held from rolling down the rails 12 on the return movement of the fingers 13. The spring and guide so hold the candle that when the cross-head 9 reaches the right-hand limit of its movement the rolling table 19, carried by the cross-head, will be to the right of
90 the candle, as shown in Fig. 3. This table 19, having a suitable cushion on its under side, is provided with a post or standard 20, passing up through an opening in the cross-head
95 9, and is free to move up and down therein. On the upper end of the post or standard is secured a cross-bar 21, whose ends extend over the side pieces of the machine, as shown in
100 Fig. 1. As the cross-head moves to the right, the ends of the bar 21 ride up along the spring-plates 22, secured, as shown in Figs. 1 and 2,

to the side pieces of the machine, thereby lifting the table 19 above the candle. The spring-plates are made of such a length and so located on the side pieces that when the table
 5 has passed to the right of the candle, when held by the spring 18 and guide-plate 17, the cross-bar 21 will drop off the spring-plates onto the side pieces of the machine. As the cross-head moves to the left, the table will pass over
 10 the candle and in contact therewith, and as the rails 12 have an upward inclination and the upper edge of the side pieces of the machine are horizontal and as the parts of the machine are so portioned relative to each
 15 other that the left-hand edge of the table will just bear upon the candle, it is evident that as the candle is rolled up the rails 12 the table will be raised somewhat, thereby lifting the cross-bar from the side pieces of the machine
 20 and allowing the entire weight of the table to rest upon the candle. As the table is carried along to the left, it rolls the candle over the type or die 23, which is heated in any suitable manner, preferably by a shell or drum
 25 24, through which a heating-fluid is caused to pass and to which the type or die is secured.

In order to insure the candle being pressed with sufficient force against the heated type or die, the left-hand ends of the spring-plates
 30 22, under which the ends of the cross-bar move when passing to the left, are arranged over or in line with the type or die and are so constructed as to exert a considerable pressure on the cross-bar and through that on the table.
 35 As the candle is rolled over the type or die, the portions of the candle which come in contact therewith are softened or liquefied, and such softened or liquefied portions will absorb or commingle with the ink or coloring-matter on the type or die. As the area and
 40 depth of the softened or liquefied portions is small, it will harden almost immediately after the candle has been rolled away from the type or die.

The ink or coloring-matter when used is transferred from an inking-table 25, secured to the side pieces at the rear end of the machine, to the type or die by a roller 26, which is mounted in a frame 27, connected by
 50 hinged bars 28 to the cross-head 9. As the latter moves to the right, the roller is rolled over the table 25 until pins 29 on the frame 27 pass up along cam-plates 30 on the side pieces of the machine, thereby raising the roller
 55 slightly from the inking-table and holding it in such elevated position until beyond the edge of the table. As the cross-head continues its movement to the right, the pins 29 slide down the cam-plates, thus lowering the inking-roller onto and permitting it to roll
 60 over the type or die. As the cross-head moves to the left, the above-described movements are reversed. As the rolling table approaches the left-hand limit of its movement, the candle is rolled off the type or die and onto the
 65 downwardly-inclined rails 31, so that the distance between the rolling bed, which moves

in a horizontal plane and the rails, constantly increases until the candle is free to roll down the rails to a suitable receptacle.

In lieu of inking the type or die, the latter may be made of copper, brass, or other metal or alloy, which will be attacked by the acid in the candles and form therewith such a compound as will be taken up or absorbed by
 75 the softened or liquefied material of the candles and stain or discolor the same. When such type or die is employed, the inking devices may be omitted.

I claim herein as my invention—

1. In a machine for marking or ornamenting candles, the combination of a suitably-heated type or die, candle-supporting rails extending downwardly from said type or die, reciprocating fingers for drawing the candles up
 85 said rails, and a reciprocating table for rolling the candles over the type or die, substantially as set forth.

2. In a machine for marking or ornamenting candles, the combination of a suitably-heated type or die, a reciprocating table, and spring-plates for raising said table during its movement in one direction and for exerting a downward pressure on the table during its movement in the opposite direction, substantially
 95 as set forth.

3. In a machine for marking or ornamenting candles, the combination of a suitably-heated type or die, candle-supporting rails inclined downwardly from said type or die, reciprocating fingers for drawing the candles up said
 100 rails, a spring-plate for raising said fingers over the candles when moving in one direction, and a reciprocating table for rolling the candles over the type or die, substantially as set forth.

4. In a machine for marking or ornamenting candles, the combination of a suitably-heated type or die, rails inclining downwardly from the type or die, reciprocating fingers for drawing the candles up said rails, a guide-rail and a spring for adjusting the candles longitudinally and preventing their movement down the rails, and a reciprocating table for rolling the candles over the type or die, substantially
 115 as set forth.

5. In a machine for marking or ornamenting candles, the combination of a suitably-heated type or die, a reciprocating inking-roll for applying ink to the type or die, and a reciprocating table for rolling the candles over the type or die, substantially as set forth.

6. In a machine for marking or ornamenting candles, the combination of a suitably-heated type or die, an ink-distributing table, a reciprocating inking-roller, cam-plates for raising the roller from the table and lowering it into contact with the type, and vice versa, and a reciprocating table for rolling the candles over the type or die, substantially as set forth.

7. In a machine for marking or ornamenting candles, the combination of an inclined feed chute or trough, a vertical slot at the lower end of said chute, supporting springs or

5 ranged in said slot, a plunger for pushing the
candles through the slot and checking their
movement down the chute, an inclined bed
arranged at the lower end of the chute, op-
positely-inclined rails extending from said in-
clined bed, heated type or die at the upper
end of said rails, reciprocating fingers for
drawing the candles up said rails, and a re-

ciprocating table for rolling the candles over
the type or die, substantially as set forth. 10

In testimony whereof I have hereunto set
my hand.

CHARLES FORSTER.

Witnesses:

DARWIN S. WOLCOTT,
R. H. WHITTLESEY.