March 28, 1939. G. W. MEYER ET AL 2,152,356

APPARATUS FOR DECORATING GLASSWARE

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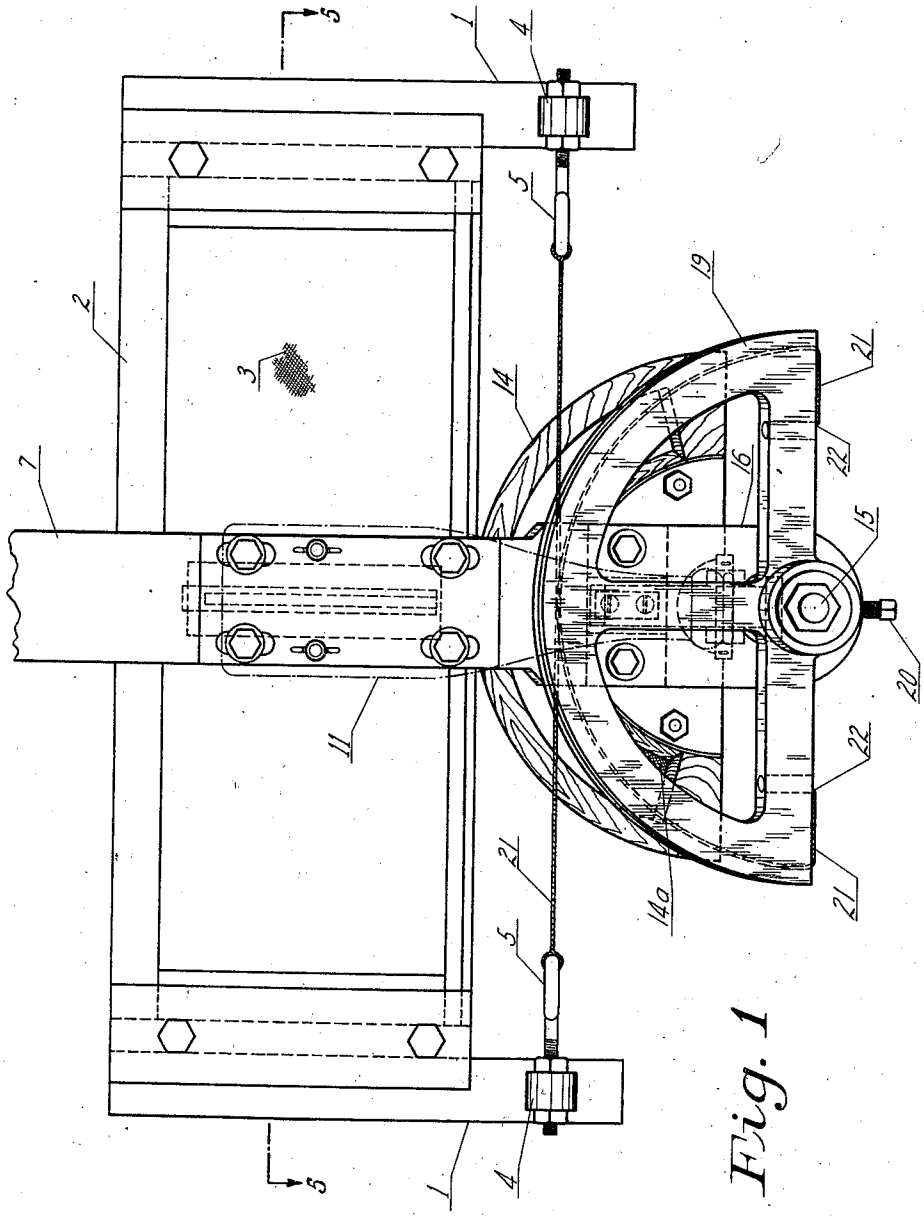


Fig. 1

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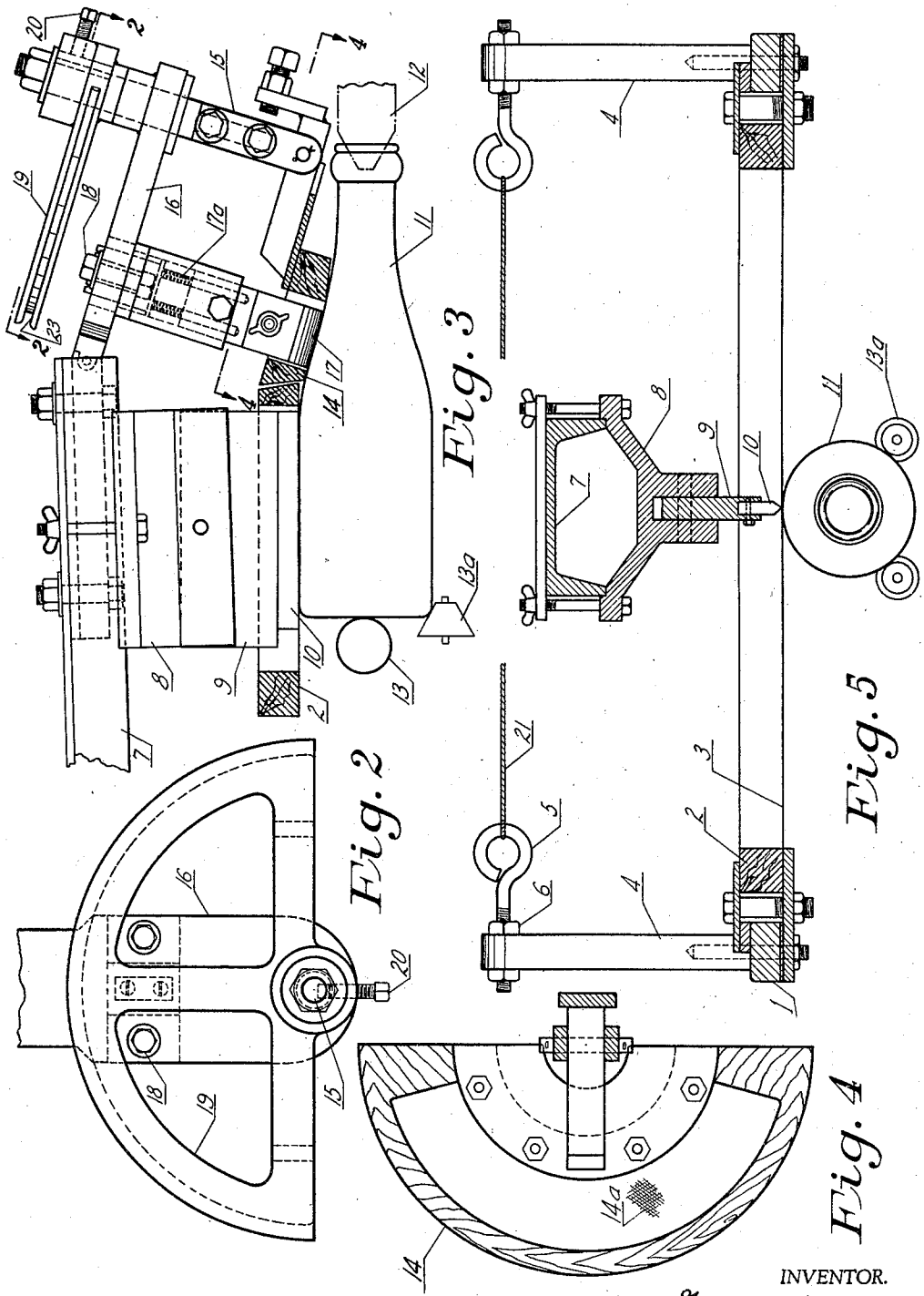


Fig. 2

Fig. 3

Fig. 5

Fig. 4

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APPARATUS FOR DECORATING GLASSWARE

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3 Claims. (Cl. 101—124)

This invention relates to new and useful improvements in decorating glass bottles and the like, and it is among the objects thereof to provide apparatus whereby decorations, lettering or the like, may be simultaneously applied to the body and shoulder of the glass articles.

Decorating glassware, as now in common practice, is accomplished by means of a stencil and silk screen, the colors being applied through the screen by displacement action, while the bottles or other glassware are rotated in contact with and below the screen.

To apply the ornamentation or lettering to both the body and shoulder of a bottle, as heretofore practiced, necessitated separate operations because of the different peripheral speeds of the larger body portion and the smaller shoulder or neck portion of the bottle.

In accordance with the present invention, both the body and shoulder decorations may be applied simultaneously, this being accomplished in accordance with the present invention by coordinating the movements of the body and shoulder decorating screens.

Apparatus embodying the principles of this invention will be shown in the accompanying drawings constituting a part hereof and in which like reference characters designate like parts.

In the drawings, Fig. 1 is a plan view of a decorating device constituting an embodiment of this invention;

Fig. 2 a plan view of a detail showing a portion of an arm of the machine, with a segment device mounted thereon;

Fig. 3 a side elevational view partially in section, showing the wiper squilgee pads and screens and their relation to a bottle to be decorated;

Fig. 4 a top plan view of the neck or shoulder printing screen; and

Fig. 5 a transverse section through the screen taken along the line 5—5, Fig. 1.

With reference to Fig. 1 of the drawings, the structure therein illustrated comprises a pair of arms 1 supporting a frame 2 to which is fastened the screen 3, the latter frame being movable with the table frame along the longitudinal centerline of the frame 2. Supported on the side arms 1 are a pair of uprights or posts 4, each of which are provided with eye-bolts 5 adjustable by the screw nut members 6 for purpose to be hereinafter described. An arm in the form of an inverted channel 7 is pivotally mounted to be raised and lowered relative to the screen 3 as viewed in Fig. 5, the arm 7 being adapted to support a bracket 8 having a slotted portion for mounting a bar 9 to which is attached a flexible tip or squilgee 10 of rubber or other yieldable material, which bears against the silk screen 3. The coloring material, which is usually a ceramic paint, is placed on top of the screen, and the squilgee element 10 acts as a wiper which forces the color through the screen and stencil on to the bottle 11 mounted therebeneath.

As shown in Fig. 3, the bottle is mounted on a conical center 12 at one end and is supported by rollers 13 and conical rollers 13a at its other end, to be freely movable about its longitudinal axis beneath the screen, and by contact with screen 3 it revolves as the frame 1 is moved in a direction tangentially to the bottle as viewed in Fig. 5. By lowering the arm 7 to contact the squilgee with the screen, as shown in Fig. 5, the coloring is forced through the screen and stenciled to the face of the bottle, and when the bottle is removed the decoration is baked in an oven at sufficiently high temperature to fuse it to the body of the glass.

As viewed in Fig. 3, a screen frame 14 of arcuate shape, more clearly shown in Fig. 4, is mounted to be in alignment with the shoulder portion of the bottle, whereby the printing of the ornamentation or lettering on the shoulder may be done simultaneously with the printing of the main body portion of the bottle through the screen 3. The screen frame 14 with a screen 14a is mounted on a pivot pin 15 supported on an arm 16, forming an extension of the main screen arm 7. A squilgee 17 bearing against the screen 14 is resiliently mounted on the extension 16 to which it is clamped by a bolt 18, the squilgee 17 being in alignment with the squilgee 10, both being stationary while the frame members are movable.

The squilgee 10 for the main screen 3 is adapted for vertical movement to compensate for any irregularity of the bottle, but the squilgee 17 of the arcuate screen will maintain contact with its screen by tension of springs 17a when such movement takes place.

The screen frame pivot 15 is provided with a grooved segment-shaped wheel 19, the latter being secured to the pivotal member 15 by a set screw 20. A pair of strands 21 are fastened to the segment 19 at 22, Fig. 1, and extend through the groove 23 of the segment wheel 19 to be fastened in the eyes of the eye-bolts 5, as shown in Figs. 1 and 5. It will be noted that the wire fastened to the right-hand end of the segment, as viewed in Fig. 1, crosses the wire fastened at the opposite end, which is attached to the left-hand post, and the other wire crosses the first-named

wire and is fastened to the right-hand post of the frame. By adjusting the screw nuts 6, the desirable tension may be maintained on the strands 21 so that when the frame 1 is moved tangent to the bottle, the segment wheel 19 is oscillated, causing the pivot pin 15 to swing to thereby subject the segment-shaped screen frame 14 to angular movement.

The coloring material is placed in the frame 14 on screen 14a and the squilgee 17 forces the paint through the screen on to the neck or shoulder portion of the bottle. When the arms 1 are moved transversely to the arm 7, the bottle 11 is rotated by contact with the large screen 3, and by movement of the arms 1, which carry the side posts 4 to which the strands of segment 19 are attached, the arcuate frame 14 will likewise be subjected to oscillating movement, causing the squilgee 17 to force paint through the screen 14 to the shoulder of the bottle.

Various adjustments are available as shown for regulating the relative positions of the screen frames to accommodate them to different sizes and lengths of bottles.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

We claim:

1. Apparatus for decorating bottles or the like, comprising a screen mounted to be movable in contact with the cylindrical or main body portion of the bottle and a screen mounted to be movable in contact with the shoulder or neck portion of the bottle, means for moving said first-named screen over the bottle, and means operative with and in response to the movement of said first-named screen for actuating the second named screen whereby both imprints of the screens are made on the body and shoulder portion of the bottle simultaneously.

2. A device for imprinting decorations or the like on glass bottles, comprising a frame, a screen mounted on said frame in a manner to contact the outer surface of the main body portion of the bottle to be decorated, a squilgee extending in contact with the screen for wiping the screen to force the coloring material through the screen, a second screen of arcuate shape mounted to contact the neck or shoulder portion of the bottle, a squilgee contacting the second-named screen, means for subjecting the second-named screen frame to angular movement, means for subjecting the first-named screen to lateral movement, and means coordinating the movement of said screens to simultaneously imprint the main body and shoulder portions of the bottle.

3. A device for imprinting ornamentations or the like on the main body and shoulder portions of a bottle, comprising a main frame, means for rotatably mounting a bottle to be decorated therebeneath, a frame carried by said first-named frame supporting a silk stencil screen in contact with the main body portion of the bottle, a squilgee disposed in said screen for forcing coloring material through the screen to the surface of the bottle, an arcuate screen frame mounted for angular movement adjacent the shoulder portion of the bottle, a grooved segment attached to said shoulder, strands connected to said segment wheel and being attached to the main frame supporting the first-named screen, and a squilgee disposed in said segment-shaped screen, said device being operative by movement of the main frame to simultaneously effect rolling contact of both of said screens with the main body and shoulder portions of the bottle.

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