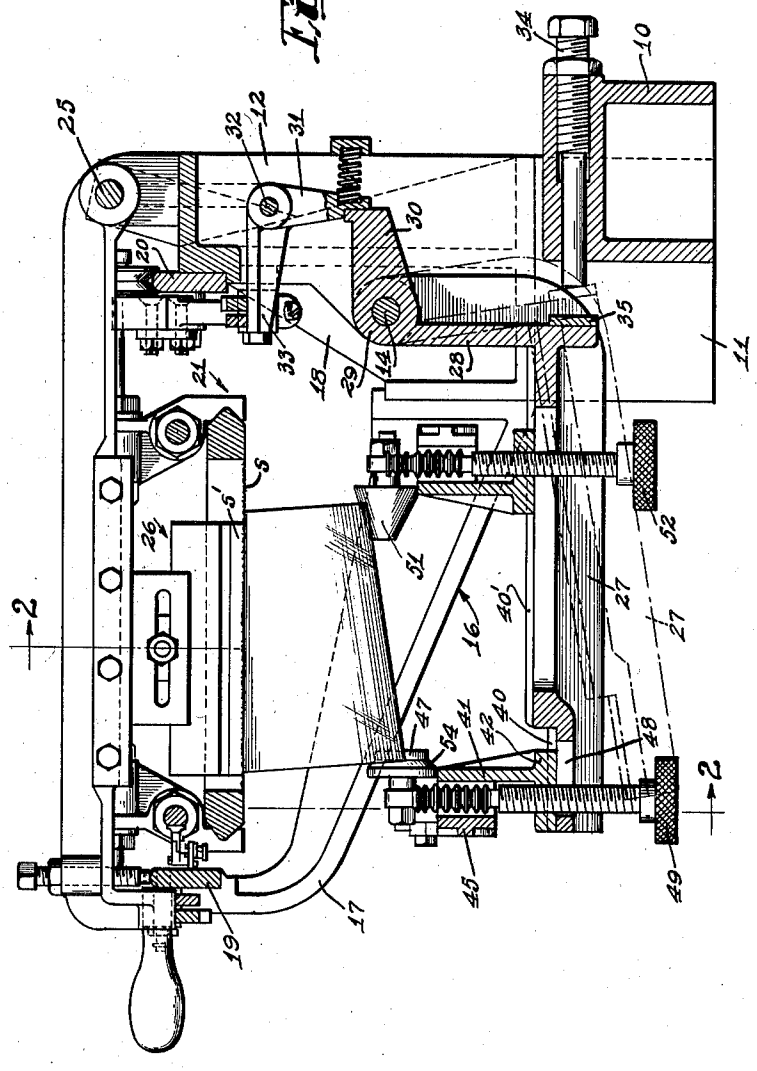
Nov. 7, 1939. H. W. SCHNEIDER 2,179,222

STENCILING APPARATUS

Original Filed Aug. 21, 1936 2 Sheets-Sheet 1

Fig. 1.



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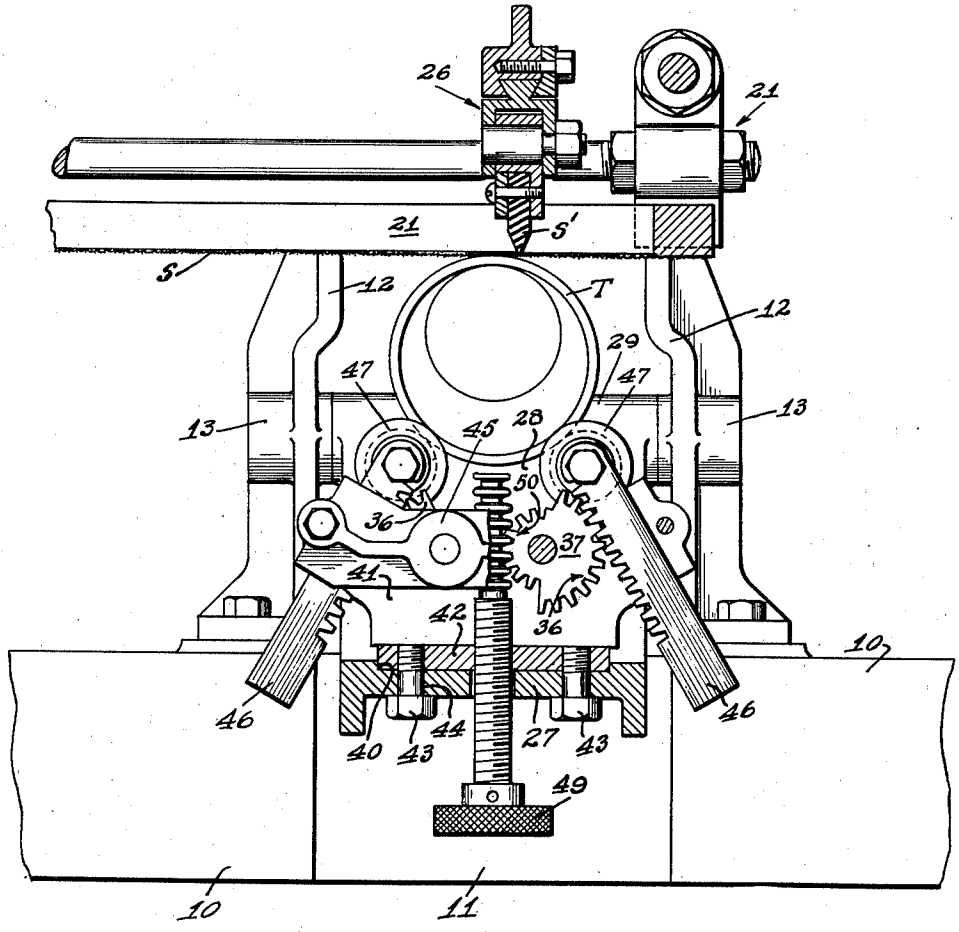
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Fig. 2.



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UNITED STATES PATENT OFFICE

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STENCILING APPARATUS

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Original application August 21, 1936, Serial No. 97,241. Divided and this application November 21, 1938, Serial No. 241,521

5 Claims. (Cl. 101—126)

The present invention relates to stenciling apparatus of the type designed for use in applying decorations or lettering to the curved surfaces of articles such as tumblers by a stenciling process in which the article undergoing decoration or lettering is maintained in tangential rolling line contact with the underneath surface of a stencil screen while coloring material is forced through the screen by the spreading action of a squeegee.

This application is a division of my copending application, Serial No. 97,241, filed August 21, 1936, for Method of and apparatus for stenciling articles.

The principal object of the invention is to provide an improved article support or carriage by means of which articles such as tumblers having cylindrical or tapered inclined surfaces may be quickly and conveniently positioned in the machine with such surfaces in operative contact with the stencil screen.

Other objects of the invention, not at this time more particularly enumerated, will become apparent as the nature of the same is better understood.

In the accompanying drawings:

Fig. 1 is a vertical sectional view taken through a stenciling apparatus constructed in accordance with the principles of the present invention; and

Fig. 2 is a sectional view taken substantially along the line 2—2 of Fig. 1.

The apparatus involves in its general organization a base 10 in the form of an elongated, substantially rectangular casting provided with a recess 11. Extending vertically upward from the casting is a pair of standards or supports 12 having integrally formed aligned bearings 13 medially of their ends which serve to support therebetween a horizontal rock shaft 14. The improved article supporting assembly 15 is pivotally mounted on the rock shaft 14 and is designed to support a tumbler T or like article to be decorated.

A plurality of supporting members, one of which is shown at 16, each having a forwardly and upwardly extending supporting arm 17 and a vertically extending arm 18, are bolted or otherwise secured to the base 10 at spaced points therealong. A pair of front and rear transversely extending horizontal tracks 19 and 20 respectively are carried by the supporting arms 17 and 18 and are substantially coextensive with the base 10. Supported upon the tracks 19 and 20 and movable therealong transversely of the apparatus, is a stencil screen assembly 21 having associated therewith a stencil screen S adapted to occupy a position in the apparatus in tangential rolling line contact with the tumbler T or other article supported therebeneath.

A transversely extending rock shaft 25 is rockably supported across the upper ends of the standards 12 and a squeegee assembly 26 including a squeegee S' is secured to the shaft 25 and is rockable therewith from an inoperative elevated position to an operative lowered position in contact with the screen S in the immediate vicinity of the tangential rolling of contact between the screen and tumbler. The squeegee S' is adapted to force decorating material placed on the screen S through the same and onto the article undergoing decoration.

The article supporting assembly 15 includes a carriage in the form of a base plate 27 having an upwardly extending portion 28 at the rear thereof. An integral sleeve 29 is formed on the portion 28 and in axial alignment with the bearings 13. The base plate 27 is rockably supported on the shaft 14 which extends through the bearings 13 and sleeve 29. A latch-engaging arm 30 projects rearwardly from the sleeve 29 and is adapted to be engaged by a depending spring pressed latch 31 pivotally mounted on a rock shaft 32 supported between the standards 12. In the latch engaging position of the arm 30, the carriage 27 is supported in a horizontal position in the apparatus. A forwardly extending latch-operating arm 33 is integrally formed on the latch 31 and is adapted to be depressed upon movement of the stencil screen assembly 21 to one or the other of its limiting positions to cause the latch 31 to be moved out of the path of the arm 30 to permit the carriage 27 to drop by gravity to the broken line position shown in Fig. 1 to permit substitution of tumblers in the apparatus.

In order to adjustably limit the downward movement of the carriage 27, an adjusting screw 34, threadedly received in the base 10, projects forwardly into the slot 11 and engages an abutment 35 suitably secured to the rear edge of the carriage.

The base plate 27 of the carriage is provided with a longitudinally extending shallow groove 40. A front article supporting bracket 41 is provided with a base 42 which is slidably disposed in the groove 40 for longitudinal adjustment on the base plate 27 and is adapted to be clamped in any desired adjusted longitudinal position by means of clamping bolts 43 (Fig. 2) extending through longitudinal slots 44 provided in the base plate 27. An offset bracket plate 45 (Fig. 1) is bolted adjacent its ends to the upper portion

of the bracket 41 and has its medial portions spaced from the body of the same. A pair of upwardly extending inclined toothed racks 46 (Fig. 2) carrying article-supporting rollers 47 at their upper ends are slidably mounted between the body of the bracket 41 and the bracket plate 45 and are adapted to be moved bodily in their respective inclined planes by means of toothed sectors 36 which are integrally formed on a pair of pinions 37 pivotally mounted between the bracket 41 and the bracket plate 45. A longitudinal slot 48 (Fig. 1) is formed in the base plate 27. An adjusting screw 49 extends through the slot 48 and base 42 and is in threaded engagement with the latter. The upper end of the adjusting screw 49 is in threaded engagement with a second pair of toothed sectors 50 (Fig. 2) provided on the respective pinions 37. The lower end of the adjusting screw 49 projects below the base plate 27 and is readily accessible to the operator of the apparatus. Thus it will be seen that turning movement of the adjusting screw 49 in one direction or the other will serve to elevate or lower the racks 46 and rollers 47 to raise or lower the rim or upper end of the tumbler T in order that proper adjustment thereof in the application of the tumbler to the screen may be effected.

The base portion of the tumbler T is supported upon rollers 51 (Fig. 1) which are adjustable in respective inclined planes by means of an adjusting screw 52 forming part of a pinion and rack assembly which is substantially identical with the assembly just described for elevating or lowering the rim end of the tumbler. This assembly is similarly slidably disposed in a shallow groove 40' provided on the base plate 27.

The rollers 47 are flanged as at 54 to prevent the tumbler T from creeping forwardly on the supporting rollers 47 and 51 due to gravitational end thrust. When the tumbler is properly positioned on the apparatus, the rollers 47 occupy a position below the plane of the rollers 51 a sufficient distance to permit the tapered surface of the tumbler to make tangential line contact with the lower side of the screen S.

From the above description it will be apparent that the various adjustments necessary to properly position the tumbler T in tangential rolling line contact with the screen S may readily be made with a minimum of effort. By grasping the adjusting screw 49 in one hand and the adjusting screw 52 in the other hand, an operator may with comparative ease bring the curved tapered surface of a tumbler T positioned on the rollers 47 and 51 into a line contact with the stencil screen S thereabove.

Modifications may be resorted to within the spirit and scope of the appended claims.

I claim:

1. In a stenciling apparatus for decorating tumblers, a tumbler support comprising a supporting bracket, a pair of racks slidably supported for axial movement in said bracket, a roller carried by each of said racks, said rollers being adapted to rotatably support therebetween a tumbler, and means for adjusting the axial position of said racks.

2. In a stenciling apparatus for decorating tumblers, a tumbler support comprising a supporting bracket, a pair of racks inclined toward each other and slidably supported in said bracket for axial movement toward and away from each other, a roller mounted on the upper end of each rack, said rollers being adapted to rotatably support therebetween one end of a tumbler, and means for adjusting the axial position of said racks to elevate or lower said rollers and to decrease or increase the distance therebetween.

3. In a stenciling apparatus for decorating tumblers, a tumbler support comprising a supporting bracket, a pair of racks inclined toward each other and slidably supported in said bracket for axial movement toward and away from each other, a roller mounted on the upper end of each rack, said rollers being adapted to rotatably support therebetween one end of a tumbler, and means for simultaneously adjusting the axial position of said racks to elevate or lower said rollers and to decrease or increase the distance therebetween.

4. In a stenciling apparatus for decorating tumblers, a tumbler support comprising means for supporting one end of a tumbler including a supporting bracket, a pair of racks inclined toward each other and slidably supported in said bracket for axial movement toward and away from each other, a roller mounted on the upper end of each rack, said rollers being adapted to rotatably support therebetween said end of the tumbler, and means for adjusting the axial position of said racks to elevate or lower said rollers and to decrease or increase the distance therebetween, and similar means including a bracket, racks, rollers and adjusting means for supporting the other end of said tumbler.

5. In a stenciling apparatus for decorating tumblers, a tumbler support comprising means for supporting one end of a tumbler and means for supporting the other end thereof, each means comprising a supporting bracket, a pair of racks inclined toward each other and slidably supported in said bracket for axial movement toward and away from each other, a roller mounted on the upper end of each rack, said rollers being adapted to rotatably support respective ends of said tumbler, and means for adjusting the axial position of said racks to elevate or lower said rollers and to decrease or increase the distance therebetween.

HENRY W. SCHNEIDER.