

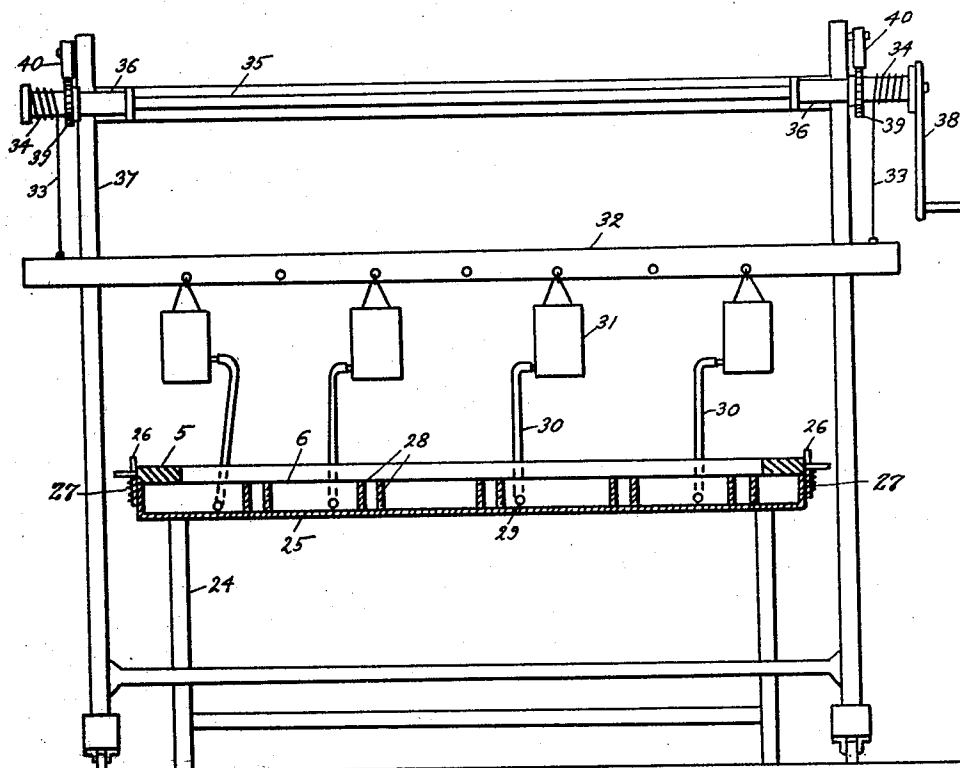
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P. M. ZLYDIN

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PRINTING MACHINE FOR SILK AND OTHER MATERIALS

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PETER M. ZLYDIN

INVENTOR

BY *John P. Wilson*

ATTORNEY

UNITED STATES PATENT OFFICE

PETER M. ZLYDIN, OF NEW YORK, N. Y.

PRINTING MACHINE FOR SILK AND OTHER MATERIALS

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My invention relates to printing on silk and other materials and has a particular reference to devices for dyeing silk and other fabrics into different colors.

5 The object of my invention is to provide a machine for printing colored patterns on textile fabrics, separating different colors by white or colorless lines.

10 Such printing is usually done by hand for decorating small pieces of goods, such as shawls, scarfs etc., in the following manner: The material is stretched in a frame and the outline of the design is drawn by a thin brush using some impervious to water substance, such as clay or rubber composition (or solution). The spaces between these lines are then hand painted or covered with various colors, each enclosed space into a single color of a uniform shade.

20 The manual process is, however, very slow and expensive. It can be greatly simplified and cheapened by means of my machine by printing first impervious lines and then printing the spaces between these lines with different colors.

My invention is more fully described in the accompanying specification and a single drawing representing a sectional elevation of my machine.

30 My machine consists of two separate parts: line printer and color printer. The line printer forms the subject matter of a separate patent application.

35 The color printer consists of a frame 24 supporting a tray 25 with guiding pins 26. They are provided with springs 27 so that when the frame or stretcher 5 is placed on these pins, the cloth 6 is supported at a certain height above the top of the tray 25.

40 The desired pattern is formed in the tray 25 with strips 28. The tops of the strips 28 are made even with the top edge of the tray 25.

45 The spaces outlined by the strips 28 are provided with apertures 29 or nipples in the sides of the tray (or in the bottom if necessary) for flexible pipes 30 extending from containers or cans 31 suspended on a bar 32. This bar is suspended on cords 33 from drums 34 on the ends of a shaft 35 journaled

in bearings 36 supported on a frame 37. The shaft 35 can be turned by a handle 38 thereby raising or lowering the bar 32. Ratchet wheels 39 engaged by pawls 40 serve to retain the bar 32 in any desired position. 55 The cloth or a similar material 6 is stretched on a frame 5 which is of the same size as the tray 25, so that when the frame is placed on the tray, the cloth rests on the upper edges of the partitions or strips 28. 60

The operation of this machine is as follows.

The cloth 6 is stretched on the frame 5, and the design is prepared either by hand by an ordinary method, or, preferably 65 by means of my line printing machine divisional application Serial No. 459,190, filed June 4, 1930 using a suitable impervious solution of glue or rubber. The pattern of this design should correspond to the pattern 70 formed by the blocks or partitions 28 in the tray 25, so that when the frame 5 with cloth 6 is placed on the tray 25, the outlines of the pattern on the cloth will rest on the edges of the blocks 28. These blocks are 75 made much wider than the pattern lines in order to prevent the mixing of different colors. Even two blocks side by side can be used as it is shown in the drawing. The bar 32 is then raised so as to fill the spaces between 80 the strips 28 with coloring solution clear to the tops of these strips. The stretcher is then pressed down against the springs 27 allowing the colored solution to penetrate into the cloth between the outlined figures 85 or patterns. The stretcher with the cloth is then removed and placed in a fixing solution.

This process can be modified by pressing the cloth against the strips 28 and then raising the bar 32 so as to bring the colored solutions in contact with the cloth. 90

The amount of solutions of different colors can be determined and the containers filled accordingly so as to obtain uniform filling 95 of the patterns with a single operation of lifting the bar 32. For small patterns the cans 31 can be only partly filled, and for large spaces two or more cans can be connected in parallel. 100

Important advantages of my machine are that it provides means for rapid printing of fancy patterns thereby replacing manual labor and enabling an exact reproduction of the same pattern on a large number of pieces of goods.

I claim as my invention:

1. In a machine for printing on silk and other materials, the combination with a tray, a frame removably supported on said tray, said silk being stretched on the bottom surface of said frame, partitions on said tray forming closed patterns, spaces in said closed patterns being adapted to be filled with liquid solutions of dyes, and means to raise the level of said solutions to the edges of said partitions and in a contact with said silk on said frame.

2. In a machine for printing on silk and other materials, the combination with a tray, partitions on said tray forming closed patterns, means to fill the spaces in said closed patterns with liquid solutions of different dyes, a frame adapted to support said silk and further adapted to be placed on said tray thereby bringing said silk in contact with said dyes, and means to separate the outlines of the adjacent patterns on said silk.

3. In a machine for printing on silk and other materials, the combination with a tray, partitions on said tray forming closed patterns, means to fill the spaces in said closed patterns with solutions of dyes and to raise said solutions to the edges of said partitions, a frame adapted to support said silk in a stretched condition on its bottom surface and further adapted to be placed on said tray thereby bringing said silk in contact with said dyes, said partitions being formed of double walls with spaces between said walls adapted to receive the overflow from said spaces with dye solutions thereby preventing the mixing of said solutions at the edges of said patterns.

4. In a machine for printing on silk and other materials, the combination with a tray, partitions on said tray forming closed patterns, means to fill said spaces with dye solutions, a frame adapted to support said silk, and means to resiliently support said frame on said tray, said frame being adapted to be brought in contact with said dye solutions thereby printing said patterns on said silk.

Signed at Brooklyn in the county of Kings and State of New York this 5th day of July A. D. 1929.

PETER M. ZLYDIN.