

G. A. HERZOG.

MACHINE FOR PRODUCING DESIGNS UPON FLEXIBLE FABRICS.

APPLICATION FILED APR. 28, 1904.

FIG. 1

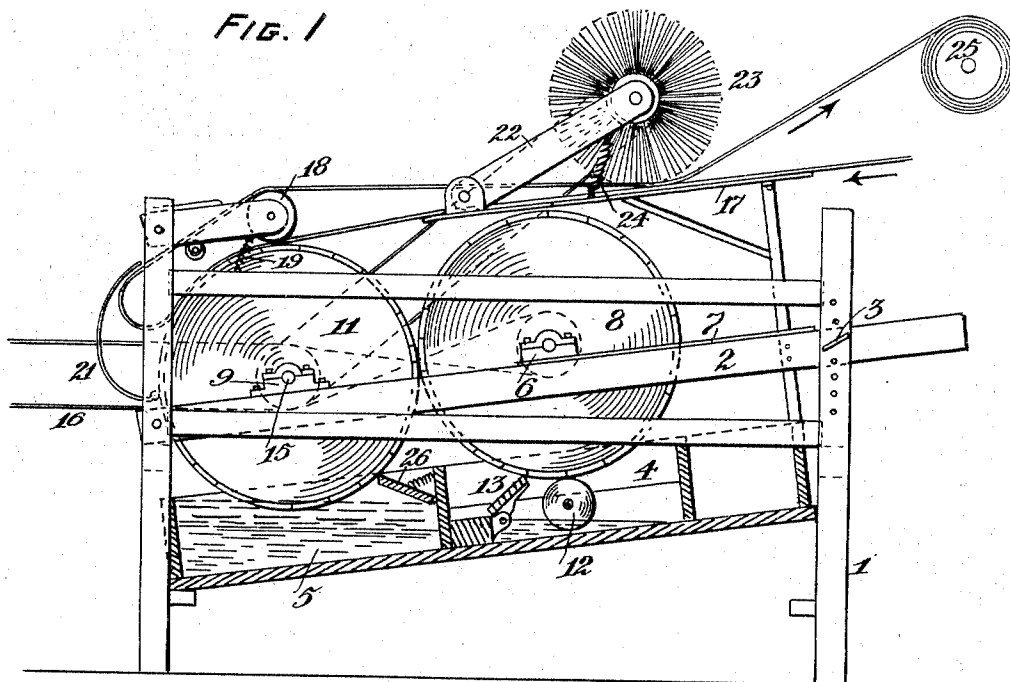


FIG. 2

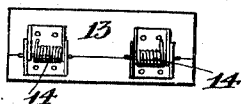
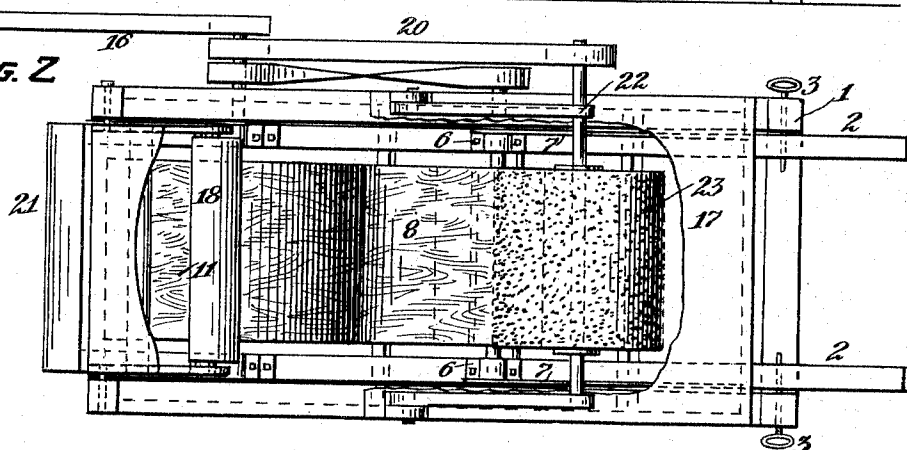


FIG. 3

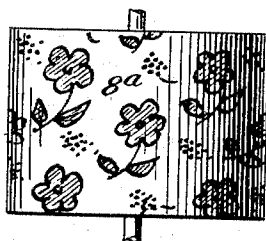


FIG. 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

GUSTAVUS A. HERZOG, OF SAN FRANCISCO, CALIFORNIA.

MACHINE FOR PRODUCING DESIGNS UPON FLEXIBLE FABRICS.

SPECIFICATION forming part of Letters Patent No. 783,580, dated February 28, 1905.

Application filed April 28, 1904. Serial No. 205,406.

To all whom it may concern:

Be it known that I, GUSTAVUS A. HERZOG, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Machines for Producing Designs upon Flexible Fabrics, of which the following is a specification.

My invention relates to painting-machines, and more especially to machines for reproducing wood-graining or other designs upon flexible material, such as oil-cloth or wall-paper.

The object of my invention is to provide a simple and compact machine having characteristics which enable it to do better work than previous machines of its class, particularly in imitating wood surfaces.

An embodiment of my invention is shown in the accompanying drawings, in which—

Figure 1 is a side elevation with the color-tank and cleaning-tank in longitudinal section. Fig. 2 is a top plan. Fig. 3 is a detail elevation of a hinged scraper. Fig. 4 is a plan view of a substitute design-roller.

A suitable supporting structure is represented at 1, in which is hinged the frame 2, adjustable to any desired inclination in frame 1 and capable of being held in such inclined position in any suitable way, such as the locking-pins 3, engaging with registering holes in the support 1 and frame 2. Secured to and forming a part of the hinged frame are the color-tank 4 and cleaning-tank 5, the former containing the oil-color employed and the latter being supplied with benzin or other suitable cleansing fluid. Mounted on the frame 2 are sliding bearings 6, held in position by longitudinal guides 7, which permit them to slide in the direction of the frame. In these bearings is journaled the roller 8. This roller is located directly above the color-tank and extends partially into said tank. Also journaled in the frame 2, but in stationary bearings 9, is a second roller 11 of the same diameter as roller 8. When the frame has been given a proper degree of inclination, the roller 8 will move by gravity down toward and into contact with roller 11 and will maintain such contact by gravity alone and with-

out springs or forcing devices of any kind. Such springs are difficult to regulate on both sides of the machine and if not exactly regulated produce either too great pressure at both ends or too little pressure at both ends or unequal pressure at both ends. Any of these faults interfere seriously with the successful operation of the machine; but by having one roller loose and sliding its weight causes it to bear upon the other roller with precisely equal pressure along the whole line of contact. Journaled in the color-tank is a roller 12, which takes up and transfers the color to the roller 8. The surface of this roller 8 bears the design to be imitated—such, for example, as wooden veneers when an imitation of the grain of wood is to be produced, as shown in Fig. 2, or engraved designs of any character, as shown on roller 8^a in Fig. 4. A scraper 13 is hinged in the tank 4 and is held up by springs 14 against the surface of roller 8 in order to remove the excess of color.

The shaft 15 of roller 11 may be considered the driving-shaft of the machine, and a belt 16 is shown as transmitting power to said shaft. From the same shaft 15 a crossed belt extends to the shaft of the roller 8, so that said rollers are driven in opposite directions, and as they revolve in contact the design is transferred from roller 8 to the surface of roller 11, which surface is of any suitable character to receive and retain the design.

The paper or cloth to be printed is fed into the machine in any suitable way and enters upon a table 17, forming part of the hinged frame. Above the printing-roller 11 is a hinged pressure-roll 18, having springs 19 for keeping the paper pressed against roller 11. As the paper is fed over the roller 11 it receives the impression of the design. In the embodiment of the machine shown I return the paper back over the table, and therefore provide the curved guide 21. Above the feed-table are pivoted the arms 22, in which is journaled the blending-brush 23, driven by a belt 20 and which is preferably held down against the paper by springs 24. Although the paper has received the correct design, there is a mechanical sharpness and hardness about the re-

production, particularly of wood-graining, which I consider very objectionable. The blending-brush rotating on the wet surface blends the lines of the design, softens the sharpness and hardness referred to, and produces an artistic and natural-looking imitation instead of a mechanical one. After passing under the blending-brush the completed web of paper or cloth is wound upon a spool 25.

10 The printing-roller 11 revolves in the cleaning-tank 5, its lower periphery entering the cleaning fluid therein. The cleaning is completed by the spring-pressed scraper 26, which removes all traces of the design from the surface of the roller, so that the latter is perfectly clean when it meets the roller 8 and receives a new impression.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for the described purpose, the combination of an adjustable frame, a pair of rollers journaled therein one of which is movable by gravity relatively to the other, means for applying color to one of said rollers, and means for feeding a web of flexible material into contact with the other roller.

2. In a machine for the described purpose, a stationary support, a frame hinged thereto, a pair of rollers one of which is mounted in sliding bearings on said hinged frame, means for applying color to the sliding roller, and means for feeding a web of flexible material into contact with the other roller.

3. In a machine for the described purpose, a main frame, a frame hinged therein, a roller journaled in said hinged frame and having

bearings slidable in said frame, a color-tank from which said roller receives the proper color, and a second or printing roller adapted to receive a design by contact with said first-named roller.

4. In a machine for the described purpose, a main frame, a second frame hinged thereto, a pair of rollers journaled in said hinged frame one of which rollers presses against the other by gravity, means for applying, to one of said rollers, color to be transferred to the other, means for feeding a web of flexible material into contact with the other roller, and a blending-brush.

5. In a machine for the described purpose, the combination of a design-roller, a printing-roller, a support for a web of flexible material adapted to be brought into contact with the printing-roller so that it receives an impression upon its lower side, means for turning the flexible material so as to bring the printed side uppermost, and a blending-brush.

6. In a machine for the described purpose, the combination of the design and transfer rollers, a table over which a web of flexible material is fed into the machine, and a curved shield for returning the web upon itself so as to expose its newly-colored surface, and a blending-brush.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 16th day of March, 1904.

GUSTAVUS A. HERZOG.

Witnesses:

L. W. SEELY,
M. R. SEELY.