

UNITED STATES PATENT OFFICE.

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GRAINING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 700,493, dated May 20, 1902

Application filed March 12, 1902. Serial No. 97,958. (Model.)

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 Imitating Wood-Surfaces, of which the following is a specification.

My invention relates to painting-machines, and more particularly to a machine for imitating the grain of wood by transferring its design from one surface to another.

The object of my invention is to produce a simple and easily-operated machine for the purpose, so constructed as to give better results and more nearly perfect reproductions than has been heretofore possible.

My machine is represented in the accompanying drawings, in which—

Figure 1 is a plan view. Fig. 2 is a sectional elevation on line *x x*, Fig. 1. Fig. 3 is a side elevation. Fig. 4 is a rear elevation. Fig. 5 is a longitudinal section on line *y y* of Fig. 1.

A represents the base of the machine, which is a long narrow trough having side guides 1 1 to receive the bottom sills B' of the movable structure B, which supports the painting apparatus. Rollers 2 are journaled in sills B'. The structure B is a frame having upright side guides 4 4 for the roller-frame C, which is movable vertically in said guides and carries the transferring-roller D, whose shaft 5 projects through between the side guides and is provided with a crank 6. The roller and its carrying-frame are suspended from a shaft or windlass 7, having a crank 8 and journaled in the frame B at the top and on which is wound a rope, which is made fast to the cross-head 9 of the roller-frame. The roller is surfaced with any suitable soft or yielding composition adapted to retain a colored pattern and to transfer the same.

At one end of the structure B and hinged thereto above the base is a spreader E, which can be turned down on its hinges from the ineffective position shown in the drawings to a vertical position in which its edge is nearly in contact with the bottom. Occupying a substantially similar position, but preferably at the other end of the frame B, is a hinged scraper F, which is usually made of sole-

leather and which can be raised or lowered by a cord 10 or in any suitable way. Behind the main transferring-roller is journaled a blending-brush G, the brush-head 11 of which can be turned so as to raise and lower the said brush respectively out of contact and into contact with the bottom.

In operating the machine the model-board H, which is generally a piece of hard wood with a desirable grain, is placed on the bottom, abutting against an intermediate division-strip 12, and another board I, on which the grain is to be imitated, is set on the other side of said strip. This last board is usually of soft wood, such as pine or redwood. The surface of the model-board is charged with a suitable oil-color in front of the lowered spreader E, the brush G and the impression-roller being both raised, as well as the scraper. The frame B is now pushed back over the board H, (to the right in Fig. 1.) The spreader will charge the whole width of the model-board with the color. The spreader is now raised and the wiping-scraper F lowered, the frame being moved so far back that the scraper is in line with the end of the surface of color. The traveling frame is now pushed in the opposite direction, the scraper wiping the surface clean of any surplus of color, but leaving a thin film on the board. When enough of the cleared surface appears, the impression-roller is lowered and rests upon the board. The frame and roller, the latter revolving by frictional contact, are now pushed steadily forward up to the other end of the scraped board, and the scraper and roller are raised to pass the dividing-strip. The roller now carries on its soft cylindrical surface the accurate impression of the grain-marks of the model-board. The roller is now lowered and also the blending-brush, which follows it. This blending-brush is one of the most important features of my machine. Without it the roller will undoubtedly transfer the grain-pattern to the soft-wood board; but there is something lacking in the quality of the impression. It has a hardness, harshness, or sharpness of outline which falls short of a perfect imitation. The blending-brush following the roller gives the imitation the softness of shading and the blending of light and dark which characterize the natural design.

The frame is pushed over the soft-wood board to the extreme end of the table, the roller transferring the imitation to its surface.

At the front end of the base is a tank K, 5 containing benzene for cleaning the roller and blending-brush, the traveling frame being pushed to that end and the brush and the roller revolved in the contents of the tank.

It will be observed that the roller, scraper, 10 spreader, and blending-brush are all carried by the same traveling structure, and, further, that the model-board and plain board can both be placed in the machine at the same time and at different ends, so that it is not 15 necessary to set or adjust the plain board after the design has been taken by the roller. This enables the work to be performed more rapidly.

Having thus fully described my invention, 20 what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for imitating wood-sur-
faces, the combination with the traveling
roller for receiving a design from one board
25 and transferring it to another, of a blending-
brush mounted so as to follow the said roller
in its transferring operation.

2. In a machine for imitating wood-sur-
faces the combination of a base, a traveling
30 structure mounted thereon, a roller suspend-
ed and revoluble in said structure and an ad-

justable blending-brush also mounted in said traveling structure.

3. In a machine for imitating wood-sur-
faces, the combination of a base, a traveling 35
structure mounted thereon, a roller-frame
vertically movable in said traveling structure
and carrying a roller, a spreader hinged to the
traveling structure and a scraper also hinged
thereto. 40

4. In a machine for imitating wood-sur-
faces, the combination of a base, a traveling
structure mounted thereon, a roller-frame
vertically movable in said traveling structure
and carrying a roller, a spreader hinged to the 45
traveling structure, a scraper also hinged
thereto and a blending-brush.

5. In a machine for imitating wood-sur-
faces, a trough-like base having guides, and
provided with seats for supporting two boards 50
simultaneously and upon substantially the
same plane, a frame, a structure movable in
said guides, and an adjustable roller, an ad-
justable spreader and an adjustable scraper
all carried by said movable structure. 55

In testimony whereof I have affixed my sig-
nature, in presence of two witnesses, this 13th
day of February, 1902.

GUSTAVUS A. HERZOG.

Witnesses:

L. W. SEELY,
NETTA BURT.