(No Model.)

S. W. PEREGRINE.

PAINTING APPARATUS.

No. 402,188. Patented Apr. 30, 1889.

Fig. 2.

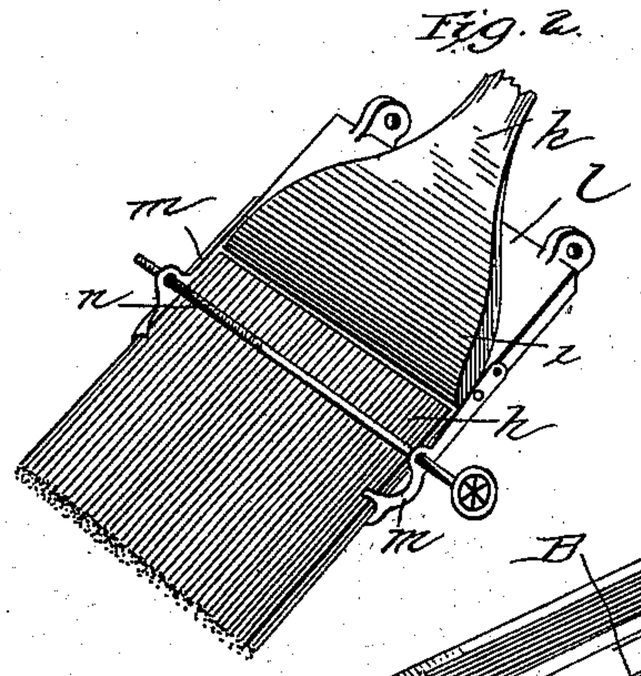


Fig. 1.

Fig. 3.

Fig. 5.

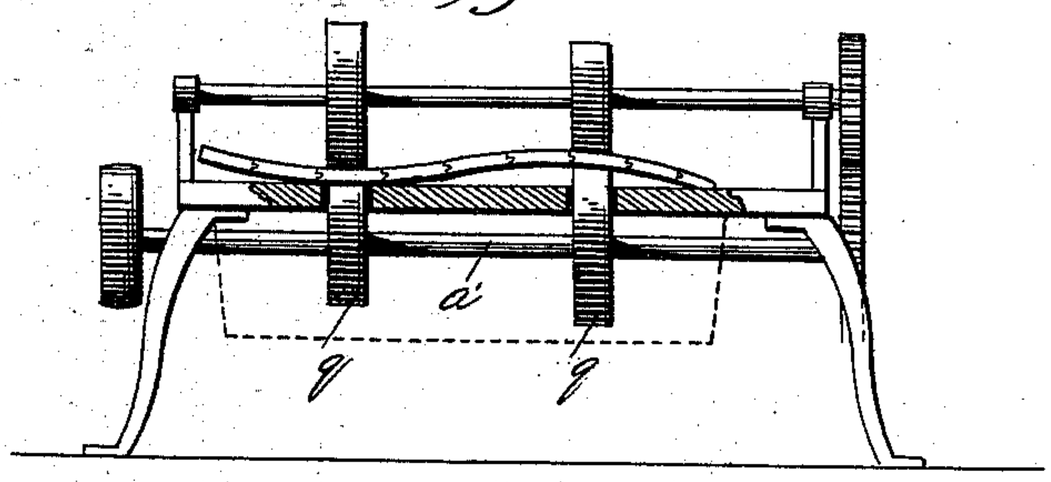
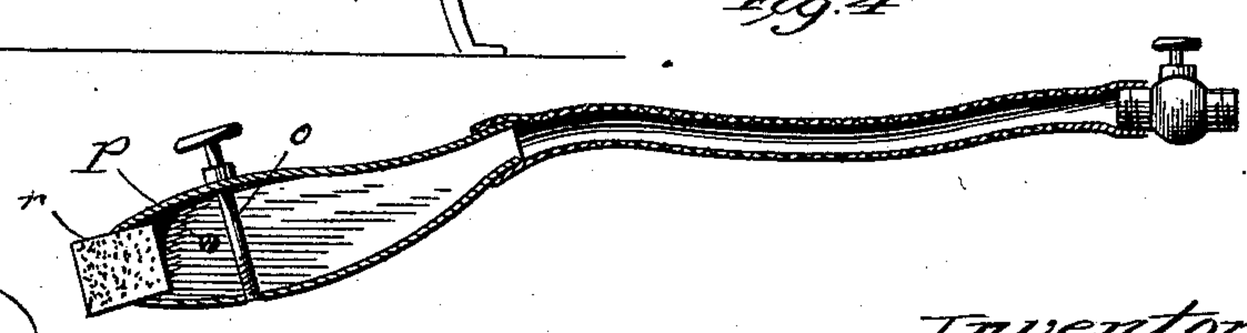


Fig. 4



Attest,
Albert Knudson
F. L. Middleton

Inventor,
S. W. Peregrine,
by Ellis Spear.
Atty.

UNITED STATES PATENT OFFICE.

SEYMOUR W. PEREGRINE, OF GRAND RAPIDS, MICHIGAN.

PAINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 402,188, dated April 30, 1889.

Application filed April 10, 1888. Serial No. 270,214. (No model.)

To all whom it may concern:

Be it known that I, SEYMOUR W. PEREGRINE, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Painting Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same.

In the manufacture of school seats and desks out of slats it has been customary to give them the appearance of being composed of different-colored wood by painting or staining alternate slats.

The slats composing the seat or desk are first put together, the material used being tongued and grooved. Then the whole surface is smoothed off by sand-paper or otherwise, so as to make the joints of even height and to present a surface without projections. This step is very necessary at all times, but especially in school-seats, where the backs are usually curved. By reason of this smoothing-off operation the slats cannot be stained or painted until the desk-top or seat-back is fully constructed, as were the slats painted or stained previously it is obvious that the sand-paper or other smoothing agent used would mar the painted or stained surface. It has therefore been necessary to paint or stain these slats by hand, and this is both a slow and tedious operation, requiring great care to prevent the staining of adjoining slats and to give the painted slats the appearance of being composed of a wood differing in color from the adjoining slats.

It is the object of my invention to provide means for staining or painting alternate slats, as described, automatically, to provide for the accurate regulation of the supply of paint or staining material and for the regulation or adjustment of the brushes or stainers to the width of the slat to be stained.

Figure 1 is a perspective view of an apparatus embodying my improvements. Fig. 2 shows a detail view of a form of brush which I prefer to use. Figs. 3 and 4 represent a modified form of brush or stainer, Fig. 3 being a perspective and Fig. 4 a sectional view. Fig. 5 is a sectional view through the supporting-table, representing devices for applying the stain or paint to the under side of the panel or slat.

In the drawings, A represents a table, of a size suitable for supporting the seat or back of desk to be stained. I have shown in place thereon, partly stained, a seat-back, B, each alternate slat being acted upon by the stainers or brushes. This may be pushed through beneath the brushes by hand or by any suitable feeding-rollers, such as I have shown. These consist of simple friction-rollers *a a*, mounted on a shaft extending across above the table, as shown, with a gear-wheel, *b*, fixed to the shaft at one end, gearing with a gear-wheel, *c*, mounted on a shaft beneath the table. A hand-wheel, *d*, in connection with the wheel *c*, communicates motion to the feed-rollers, and these, bearing on the work, feed it through beneath the brushes. This shaft may be driven by power.

In front of the feeding-rollers I place a supporting-bar, *d*, fixed on standards extending above the level of the table, and upon this bar I arrange a reservoir, *f*, for the paint or staining. From the reservoir flexible conducting-pipes extend to the brushes, and these pipes are provided with suitable valves or stop-cocks to regulate or shut off altogether the flow of the paint or stain to the brushes.

In front of the reservoir I arrange a supporting plate or bar, *g*, held a suitable distance above the upper surface of the table and serving as a support for the brushes. As shown in Fig. 2, I prefer to use a brush, *h*, made of bristles, held in a hollow head, *i*, which is in connection with the supply-tube from the reservoir through the neck *k*. The head of the brush may be directly secured to the bar *g*, or may be fastened to a plate, *l*, which is mounted upon the bar. This plate I preferably secure to the bar, so that the brushes may be adjusted to increase or diminish the space between the brushes for wide or narrow slats, and this arrangement also allows the brushes to be adjusted as to inclination or vertically to suit the irregularity or curve of the article being painted. Upon each side of the plate *l*, I provide a spring-arm, *m*, which extends along each edge of the brush, having their lower ends made flaring to embrace the bristles of the brush at the edges. A screw-threaded rod, *n*, connects the two arms, a hand-wheel being provided at one end, and, by turning the rod the

width of the brush, may be diminished by compressing the bristles into a smaller space. This adjustment will usually be found sufficient, except where there is great difference in the widths of the slats, in which case, as explained above, the brushes may be adjusted laterally on their supporting rod or plate.

As shown in Figs. 3 and 4, I may use a different form of brush from that shown in Fig. 2. In these figures the head of the brush-holder is made hollow, as in Fig. 2, but the upper and side walls having a sliding connection with each other, and are preferably of sheet or spring metal. The top and bottom plates are connected by a screw-threaded rod, *o*, and the side walls by a similar rod, *p*, both rods being provided with hand-wheels. Between the lower edges of the upper and lower plates and the side walls I place a piece of felt or sponge or any other suitable material, clamping it in place by means of the rods described. The paint or stain flows through to the hollow head and out through the porous stainer *r*, which thus serves the same purpose as a brush. By compressing the side walls the width of the stainer *r* is lessened, as in the brush, and by compressing the upper and lower walls upon the stainer the passage of the material through its pores may be checked entirely.

In case it should be desired to paint both sides of the slats at the same time, I groove the table, as shown in Fig. 5, at a point preferably beneath the feeding-rollers. On the shaft *a'*, mounted in bearings beneath the table, I place rollers *q q*, one larger than the other if the work operated upon is curved, as that shown, or the shaft may be arranged so as to place upon it rollers adapted for the work to be done. These rollers are located in respect to the table so that their peripheries pass through the slots therein and bear against the slats to be stained. Beneath the rollers I place a tank containing the paint or staining, and as the rollers revolve they receive a fresh supply.

The operation of the apparatus is very simple. Power is applied to the shaft, which revolves the feed-rollers and moves the seat-back or other work along the surface of the table, at the same time communicating motion to the rollers beneath the table, if these are used. The brushes are properly adjusted so as to just cover the panels or slats to be stained, and the cocks are opened to allow the material to flow to the brushes. The brushes then apply it to the panels or slats regularly and uniformly as the slats pass beneath them.

Instead of the brushes or stainers, composed of felt, as shown, it will be understood that rollers may be used.

I claim as my invention—

1. In combination, the table, the brush or stainer consisting of the hollow head with the staining-brush held therein, a reservoir, a connection between said reservoir and the hollow head of the brush, and adjusting-screws for varying the size of the staining-brush.

2. In combination, the table, the reservoir, the bar *g*, and the brush-holders K, pivotally secured to said bar *g*, whereby they may be adjusted in elevation to conform to the surface being painted, substantially as described.

3. In combination, the table, the reservoir, the bar *g*, and the brush-holders K, pivotally secured to said rod to have vertical adjustment, said brushes being adjustable laterally toward and from each other, substantially as described.

4. In a machine for painting slats of school-seats, &c., a table, a reservoir above the same, a supporting-bar, *g*, extending across said table, a series of staining-brushes pivotally supported on said bar at different points to paint the desired slats, feeding-rolls arranged in rear of the brushes, and means for operating said rolls, substantially as described.

5. In a machine for painting slats of school-seats, a table, a reservoir above and a reservoir below the same, a supporting-bar, *g*, extending across above said table, a series of staining-brushes pivotally supported thereon at different points to paint the desired slats, a shaft beneath the table, painting wheels or rollers supported at different points along said shaft in connection with the lower reservoir, and openings in the table in line with said wheels or rollers, whereby the slats are painted upon both sides at the same time, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SEYMOUR W. PEREGRINE.

Witnesses:
A. R. ROOD,
JOHN F. STEWARD.