H. THAYER & L. L. MARTIN.

Painting and Varnishing Machine.

No. 19,316. Patented Feb. 9, 1858.

Fig. 1.

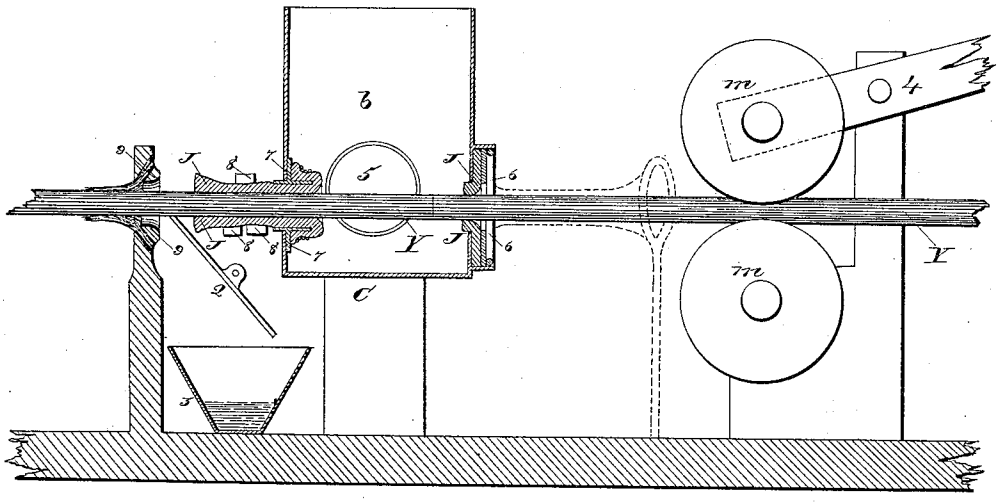


Fig. 3.

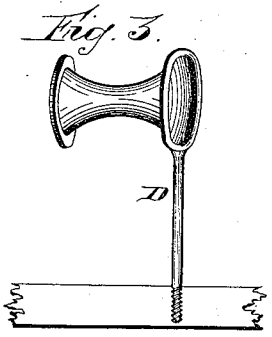


Fig. 2.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

HORACE THAYER AND LEVI L. MARTIN, OF WARSAW, NEW YORK.

PAINTING AND VARNISHING MACHINE.

Specification of Letters Patent No. 19,316, dated February 9, 1858.

To all whom it may concern:

Be it known that we, HORACE THAYER and LEVI L. MARTIN, (of the firm of Thayer & Martin,) of the town of Warsaw, in the county of Wyoming and State of New York, have invented a new and useful Machine Called the "Painting and Varnishing Machine," used for sizing, blacking, painting, and varnishing map-rollers and moldings, broom-handles, umbrella-staves, or any article made of wood or iron which in shape may be round, square, flat, grooved, or fluted, of a moderate size, which articles, if round, may be of an equal size at each end or may diminish in size; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of the specification, with the figures and letters thereon.

The nature of our invention consists in flowing the paint or liquid substance to be used, on articles of wood or iron by running them through a body of paint or liquid substance contained in any vessel, by means of cutting holes in two sides of said vessel directly opposite each other, which holes must correspond in shape with the ends of the articles to be run through, and must be packed with flannel, fulled-cloth or any other appropriate packing material, well fastened in, and closely fitting said articles to prevent the flowing out of more paint or liquid substance than will sufficiently coat them as desired, and smoothing them with a hollow brush that is placed just outside of said vessel through which they pass as they leave the vessel.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

We make a vessel we will call a "chamber" which is represented in the plan view Figure 2 marked A. Said vessel may be made of any metallic substance or of wood. Through two sides of said chamber directly opposite each other we cut a hole corresponding in shape with the ends of the article we wish to run through and coat with the liquid substance contained in said chamber. Around the hole nearest the operator we solder on a projecting tube marked I. We then pack said hole with suitable packing of flannel or fulled cloth marked II, closely fitting the articles to be run through. Said packing is held in its place by doubling it over the outer side of said chamber within the tube marked I and placing upon it a washer which is held firmly down by crowding down over it a stiff round steel spring within the tube I. In the hole on the opposite side from the operator is inserted a thimble marked III. Inside of said thimble and projecting outwardly is a packing of the same material marked XXX. Said packing is doubled over the flange of the thimble on the inner side of the chamber and closely tied with a small twine wound around it. The projecting portion of the last named packing is surrounded with an india-rubber strap or band marked O, O, O, which strap is firmly fastened to a ring at one end, and attached to a spring at the other end, or may be fastened at both ends to rings as represented by L, L. The elasticity of said strap when tightly drawn causes it to closely contract around the packing, always fitting it to the article running through, and wiping off the surplus paint or liquid substance not needed to give it a sufficient coating. The thickness of the coating can always be regulated by adjusting the strap as desired. Farther out stands a hollow brush marked K, through which the article passes in its course and receives the last smoothing finish.

Underneath the roller marked Y, Y, is a metallic scraper marked N, N, set on a spring which scrapes the flattened side of any article that does not require to be covered, the character & is a view of the upper feed-roller. There is a tube projecting from the side of the chamber marked IIII, which slides over a similar tube marked S on the reservoir marked B, forming a connection therewith. At one end of said reservoir is a division or compartment filled with hot water marked Z. Said compartment runs around under the bottom of the reservoir and the water contained therein is kept hot when required by an alcohol lamp burning underneath. *b*, *b*, *b*, *b*, represents the paint or liquid substance in the reservoir and in the chamber as it flows out through the connecting tube marked IIII, flowing the articles passing through marked Y, Y. While said machine is in operation the articles operated upon must be continuously run through by placing one closely against the end of the other as represented by the roll-

ers marked Y, Y, Y, Y, so that the packing will be always full, and when it is stopped one must be left in while standing still.

Fig. 1 is a vertical sectional view of the machine. J, J, J, J, is the packing at the two sides of the chamber. 6, 6, is the steel spring fastening down the packing nearest the operator. 7 7 is the thimble in which the packing is placed on the opposite side. 8, 8, 8, is the india-rubber strap, 9 9 is the sectional view of the hollow brush. 2 is a view of the metallic scraper. 3 is a view of the dropping pan which receives the scrapings from the flattened side of any article, which does not need to be coated, or any leakage from the chamber. *m*, *m*, represents the feed-rollers which may be driven by any common gearing, either turned by hand-crank foot-treadle or any motive power. 4 is a lever to raise the upper feed-roller at the option of the operator. 5 represents the connecting tube between the chamber and the reservoir.

Fig. 3 represents a funnel-shaped india-rubber tube, one end of which is stretched over and fastened to the bow-end of a standard marked D, and the other to a flattened ring or washer which will fit to the projecting tube on the chamber marked I and is fastened in by the steel spring marked 6 6. Said tube is properly packed inside with flexible flannel or fulled cloth. A similar one is used also on the opposite side of the chamber, but these funnel-shaped packing tubes are only used when the articles to be run through are larger at one end than the other, or vary in diameter from end to end. In running through rollers that diminish in diameter the large ends and the small ends must always be placed against each other alternately.

The reservoir and chamber are placed upon an appropriate frame-work for operation. On the farther side of which from the operator is a receiving rack for the articles to drop on as they pass through the machine. Said rack or carriage is moved one space to the left by each passage, caused by the articles pulling upon a wire as it leaves the hollow brush bearing it down, which carries down a jack that is continually moved by a crank in one of the gearing wheels and fitting it to a notch in said carriage, thus throwing it along one space when the article falls to its place and the jack flies back and continues to move without effect till the next article bears it down in its passage fitting it to the next notch in the rack or carriage and moving it along another space, which operation is repeated at each passage till the rack is full.

We claim as our invention and desire to secure the same by Letters Patent—

1. The mode of flowing paint, size, varnish, or any other liquid substance on articles of wood or iron by passing them horizontally or otherwise through holes cut in two sides of any vessel while said vessel is filled with the liquid substance to be used, as fully represented in Fig. 2, said holes to be cut directly opposite each other and to be appropriately packed with flannel, fulled cloth or any other appropriate packing, as described by the letters XXX and figure II in Fig. 2, and to correspond in shape with the articles to be run through as above set forth.

2. We also claim as our invention the funnel-shaped india-rubber tube with its packing as represented in Fig. 3 and its application to painting, sizing and varnishing articles that diminish in size from one end to the other or that vary in diameter.

3. We also claim as our invention the hollow brush marked K standing on the farther side of the chamber from the operator in Fig. 2 and its adaptation as above described.

HORACE THAYER.
LEVI L. MARTIN.

Witnesses:
J. W. KNAPP,
DAVID HOAG.