No. 770,732. Patented September 27, 1904.

UNITED STATES PATENT OFFICE.

THEODORE P. ANDERSON, JR., OF MOUNT VERNON, NEW YORK, ASSIGNOR OF ONE-HALF TO THE MURPHY VARNISH COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

VARNISHING PROCESS.

SPECIFICATION forming part of Letters Patent No. 770,732, dated September 27, 1904.

Application filed November 19, 1903. Serial No. 181,827. (No specimens.)

To all whom it may concern:

Be it known that I, THEODORE P. ANDERSON, Jr., a citizen of the United States, residing at Mount Vernon, county of Westchester, State of New York, have invented certain new and useful Improvements in Varnishing Processes, of which the following is a full, clear, and exact description.

My invention relates to a new and useful process for applying varnish-like material to the surface of bodies to be highly finished.

My invention has particular utility in connection with finishing piano-cases, cars, wagons, and other bodies to the surface of which it is desired to impart a high polish.

Broadly speaking, the process consists in applying several coats of varnish-like material to the surface to be treated, each successive coat being applied before the underlying coat is dry, and finally allowing the entire mass to dry thoroughly before rubbing.

Heretofore it has been the universal custom in applying varnish to allow each layer to thoroughly dry before another coat is applied. As a consequence and because it takes several days for a single coat to thoroughly dry the same is exposed to dust for a longer period for a given number of coats than is the case where my improved process is availed of. The result is the varnished body when finally dry contains more foreign particles than where my process is resorted to. Furthermore, when each coat is applied the application of the successive coat merely provides a superimposed layer entirely distinct from the underlying layer and attached thereto merely by adhesion. As a result, when varnish is applied in the old way checking or scaling frequently results not only after the article has been in use for some time, but even during the rubbing-down process. By the use of my method the danger of checking or peeling from this cause is avoided, since the entire coating is practically one homogeneous layer.

In practicing my process a first coat is applied and allowed to stand for a sufficient time to partially set, but not to dry hard. When this coat is set to a sufficient extent to support a second coat without running, said second coat is applied. When the second coat is applied before the first coat has become dry, the material of the two coats blends together and coheres and becomes practically a single coat of a double thickness rather than two superimposed separate layers. By this new method there is no line or plane of demarcation between each layer, and hence checking and scaling is practically avoided.

The preferred method of practicing my process consists in applying a first coat in which the proportion of varnish relatively to the thinning agent employed is greater than in successive coats, although this is not essential. In practice I have formed the first coat of three-fourths varnish and one-fourth thinner. This coat has been allowed to stand for a day, during which time I have found it set sufficiently to receive and support a second coat without becoming softened to a sufficient extent to run. The second coat has been formed of one-half varnish and one-half thinner. In the third coat I have still further lessened the quantity of varnish relatively to thinner, and so on. Each coat I have permitted to stand for a day. As a result, I have been enabled to apply four or more coats in the same length of time that it ordinarily requires one coat to dry. As a result of this expeditious application of the varnish-like material, I have not only eliminated the danger of dust becoming attached to the varnish in such a quantity as by the old process, but I have made it possible to regulate more systematically the work in a large factory where many pieces are being finished. I have also found that by this new process the more speedy evaporation and drying of the underlying coats is effected than would be the case were each coat allowed to dry hard before a second or third coat is applied.

Another advantage due to the use of my process results in getting a more uniform coating, since the application of a second coat before its underlying coat is dry tends to level the underlying coat should any portion of it be thicker than any other portion.

To sum up, by my process a finished surface may be expeditiously and economically produced, and said finished surface is superior in point of durability and appearance to the finished surface produced by the methods heretofore availed of.

By the old process—as applied, for example, to piano-finishing—a series of coats are applied to the surface to be finished, each of which is allowed to dry hard, so that each coat forms a distinct layer. The surface is then rough-rubbed, usually with pumice-stone. This rough-rubbing cuts through one or more layers of varnish, and as a consequence the surface appears mottled. To cure this, it is necessary to apply what is termed a "flow-coat." When this flow-coat has hardened, the same is fine-rubbed, rotten-stoned, and polished.

By the use of my process as applied to piano-finishing the body of the varnish is homogeneous, there being no plurality of distinct layers. The result is that the rough-rubbing does not produce the mottled effect incidental to the old process, and therefore there is no necessity for a flow-coat. The fine-rubbing, rotten-stoning, and polishing may follow the rough-rubbing immediately, thus resulting in a further substantial saving.

What I claim is—

The method of finishing surfaces comprising applying thereto a plurality of coats of varnish each coat being applied before the underlying coat has dried, a sufficient period intervening between the application of separate coats to allow the underlying coat to set to a sufficient extent to support said superimposed coat without running, and finally rubbing and polishing the surface of said varnish after the entire mass has become dried.

Signed at New York, N. Y., this 18th day of November, 1903.

THEODORE P. ANDERSON, JR.

Witnesses:
R. C. MITCHELL,
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