

UNITED STATES PATENT OFFICE.

THOMAS WHITBURN, OF GUILDFORD, ENGLAND.

IMPROVEMENT IN ORNAMENTING WOOD.

Specification forming part of Letters Patent No. **199,129**, dated January 8, 1878; application filed May 24, 1877.

To all whom it may concern:

Be it known that I, THOMAS WHITBURN, of Guildford, England, artist, have invented a new and useful improvement relating to the production of designs, patterns, and devices upon wood, which improvement is fully set forth in the following specification.

This invention relates to a novel and useful application of printing, to be employed in mechanically reproducing designs, patterns, and devices on prepared wood, or veneers of wood, from wood blocks, from engravings on wood, from type, and from lithographic stones, also by the photolithographic process, and from lithographic zinc plates, and by the "Gillot" process, also from electrotypes and stereotypes, as well as from all surfaces whatever intended or adapted for printing, in printer's ink, in all colors used in printing, and in bronze, and silver, and gold.

The invention consists in the process of producing designs upon wood, as fully hereinafter explained.

The surface of the wood, having been made level and smooth, may be covered with a coat of size made from parchment shavings or from glue, the coating being applied warm with a brush. This coating, when dry, is rubbed down with fine sand-paper, and, should the pores of the wood not be sufficiently filled up, another coat of size may be applied, and the rubbing down with sand-paper repeated.

The wood thus prepared is placed with the prepared surface upward on the carriage of the printing-press, and the design from which it is proposed to take the impression is placed face downward on the wood. The prepared wood and the design are then covered by the tympan and passed under the platen, which is then brought down with equable pressure on the carriage and its contents beneath. The carriage is then removed from the platen and returned to its former position, the tympan is raised, the design is lifted from the wood, and a perfect impression of the design will then be found imprinted on the wood in the ink or color transferred from the design and with which it had been covered.

In certain cases it may be convenient to lay the prepared design face upward on the carriage, and to place the prepared surface of the

wood over it, and then to apply pressure in the manner before described. When this mode of printing is employed it will be found advantageous to rest the wood on four small wire springs, placed on the carriage at the corners of the design, and of sufficient strength to prevent the wood from touching, say, by one-eighth of an inch, the surface of the design. When the platen is pressed down, the prepared surface of the wood will come equally in contact with that of the design, and on the removal of the pressure the springs will raise the wood from the design, and an accurate impression of the design will then be found on the wood.

This method or process, which I call the "xylographic" process, is intended to be employed in the production of decorated frames for letter-press prints, pictures, photographs, bas-reliefs, pottery, and mirrors; to the decoration of paneling for walls, ceilings, doors, and other parts of rooms or buildings; to cabinet-work of all kinds, such as chairs, tables, stools, boxes, chests, cabinets, book-cases, chiffoniers, chests of drawers, secretaries, desks, work-tables, chimney-pieces, side-boards, couches, music-stands, pianos, screens, floors, parquetterie, shop-fronts, architectural adjuncts and shutters, and to all useful and decorative objects in which wood is or may be used. The surface of these objects or articles may be protected by oil, by oil-varnish, and by spirit-varnish, and also by polish or other protective coating.

The ink which I have found preferable in carrying out my invention is prepared as follows: To the substance known in commerce as "burnt oil" I add one-eighth part, more or less, in bulk, of resinous oil, varnish, such as that known by the name of "oak varnish," or a thickened or drying oil, and the two substances are mixed well together on a marble slab by means of a spatula, or a palette-knife, or a small trowel. To this mixture I then add so much of the color or pigment with which it is desired to print the design on wood as will convert the mixture into a thick paste. This pigment or color, which is such as used by artists, by house-painters, and by decorative painters, must, when added to the mixture, be, as regards substance, in a con-

dition of fine powder, or must have previously been reduced by pounding in a mortar, or by grinding, either on a marble or glass slab with a muller, or by machinery commonly employed for this purpose, to the requisite condition of fine powder. This thick paste, formed by the intimate mixture of burnt oil, resinous oil, varnish, or thickened or drying oil, and pigment, in powder, may then be diluted with turpentine until it will distribute evenly on a marble slab through being spread by rolling it with a printer's roller. The roller becomes coated by this operation with the ink or color, which is then transferred also by the process of rolling to the engraved block or electrotpe or other prepared surface from which the pattern, or device, or design is to be impressed on the wood.

I wish it to be understood, however, that I do not confine myself to any particular ink in the working of my process.

By means of this invention designs by the best artists can be multiplied indefinitely at small cost; and such designs, being applied to articles of furniture or other articles or places, can be brought within the reach of all classes, and thus tend to refine the public taste and increase appreciation of decorative art.

I claim as my invention—

The process of producing designs upon wood, consisting in first smoothing the surface of the wood and filling the pores with a size, and then printing the design upon the wood in a suitable press, substantially as and for the purposes set forth.

THOMAS WHITBURN.

Witnesses:

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