

# UNITED STATES PATENT OFFICE.

HERMANN WUERZ, OF ELBERFELD, PRUSSIA.

IMPROVEMENT IN PATTERNS FOR PRODUCING DESIGNS BY THE SAND-BLAST PROCESS.

Specification forming part of Letters Patent No. **214,742**, dated April 22, 1879; application filed February 12, 1879.

*To all whom it may concern:*

Be it known that I, HERMANN WUERZ, of Elberfeld, Prussia, have invented certain Improvements in Patterns for Producing Designs by the Sand-Blast Process, of which the following is a specification.

The object of my invention is to prepare patterns for engraving on glass, metal, and other materials by the sand-blast process, so that the same design may be duplicated to any extent, and this in a simple and economical manner. This object I attain by printing in a composition, on paper or similar material, that portion of the design which on the object to be engraved is not to be cut by the sand.

The printing composition is applied to the paper (silk-paper, for instance) or other suitable material, in an ordinary plate-printing press, by means of a printing-plate in which the design has been etched or engraved. The composition I employ for this purpose is obtained by mixing one hundred (100) parts of wax, fifty (50) parts of Venetian turpentine, twelve (12) parts of glue, and as much glycerine as is necessary to dissolve the glue, and to this is added sufficient cinnabar to give a body of color to the mixture. An equal proportion of gelatine or dextrine may be substituted for the glue. When that portion of the proposed design which is to appear in relief on the object to be engraved has been thus printed on the silk-paper or similar material, in the composition described, the printed sheet is then ready to be used as a pattern for the sand-blast.

The object to be engraved or ornamented by the sand-blast having been first cleaned and then moderately warmed, a slight coating of turpentine-oil is applied, and while the surface

of the object still remains sticky—that is, before the turpentine-oil has become quite dry—the pattern is laid upon it, with the printed side to the surface of the object, and is pressed down by hand or by some suitable instrument. The object with the pattern thus attached is then exposed to the sand-blast, which quickly removes the thin paper and cuts or engraves the portions exposed, but does not remove the composition covering the portions which are to be left uncut.

If portions of the composition from any cause should become defective before the required depth has been cut in the object, a fac-simile pattern may be readily applied over the old one; and in the same way the design may be duplicated on different objects.

I claim as my invention—

1. The within-described pattern for sand-blast, consisting of a sheet of paper or similar material, coated with a composition on those portions of the pattern or design which are not to be cut on the object to be engraved or ornamented.

2. The within-described pattern for sand-blast engraving, said pattern consisting of a paper or similar material coated in design with a composition consisting of wax, turpentine, and glue, or dextrine or gelatine, together with a solvent and coloring-body, in about the proportions set forth.

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

HERMANN WUERZ.

Witnesses:

P. BENJ. TACKER,  
HENRY HARDT.