

# UNITED STATES PATENT OFFICE.

ALEXANDER FINGER AND WILHELM MENZEL, OF BERLIN, GERMANY, ASSIGNORS TO A. FINGER & CO., OF SAME PLACE.

## PRINTING BRONZE ON PLUSH.

SPECIFICATION forming part of Letters Patent No. 363,131, dated May 17, 1887.

Application filed December 23, 1886. Serial No. 222,402. (No specimens.)

*To all whom it may concern:*

Be it known that we, ALEXANDER FINGER and WILHELM MENZEL, both subjects of the Emperor of Germany, residing at the city of Berlin, in the Kingdom of Prussia, Empire of Germany, have invented certain new and useful Improvements in Printing Bronze on Plush, of which the following is a specification.

Our invention relates to a process of applying bronze or bronze-powder upon plush or other fabric by printing, for the purpose of producing patterns or ornamentations thereon. By means of the said process the bronze is firmly applied to the plush or the like in a perfectly pure state.

Heretofore the application of bronze-powder on plush or other material by means of printing has been accomplished, but, so far as we are aware, only in an imperfect manner.

Our object is to produce a more perfect impression than former methods are, as we think, capable of producing.

In order to obtain a bronze impression, especially upon plush, we proceed in the following manner: We take a plate engraved with the pattern or ornamentation to be produced and apply thereon, in a cold state, a mixture consisting of bronze powder and lacquer, (turpentine lacquer, copal lacquer, Demarara lacquer.) The said mixture of bronze-powder and lacquer must have the consistency of a tenacious paste. The mixture is spread upon a surface and transmitted to the engraved printing-plate by means of an india-rubber roller, the roller being passed over the printing-plate several times, so that a moderately thick layer of the mixture of bronze and lacquer adheres to the said plate. The plush upon which the pattern is to be printed is placed upon a surface composed of felt or other suitable fabric, so as to render it elastic, por-

ous, and absorbent. The printing-plate prepared in the manner before described is then placed upon the plush with its engraved side in contact with the same, and subjected to considerable pressure in a press heated to about 80° centigrade. The layer of the mixture of bronze and lacquer upon the engraved printing-plate is thereby transferred to the plush. The lacquer, owing to the heat communicated to the printing-plate by the press, is liquefied, and serves to unite the bronze-powder with the fibers of the plush, which are pressed down by the printing-plate. The excess of lacquer contained in the mixture passes through the plush, and is absorbed by the porous surface below the plush. The impression thus made is perfectly clear and the bronze adheres very firmly to the plush.

What we claim is—

The herein-described process of printing with bronze on plush or other fabrics, which consists in applying to the printing-plate engraved with the desired pattern a mixture of bronze-powder and lacquer in a cold state and having the consistency of a tenacious paste, then placing the plate so coated upon the plush or other fabric to be printed, while the latter rests upon an elastic, porous, and absorbent surface, and then subjecting the plate to heat and pressure, the heat being sufficient to liquefy the lacquer, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALEXANDER FINGER.  
WILHELM MENZEL.

Witnesses:

GERARD V. NAWROCKI,  
B. ROJ.