

# UNITED STATES PATENT OFFICE.

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## PROCESS OF MAKING ENGRAVED PRINTING-ROLLERS.

971,009.

Specification of Letters Patent. Patented Sept. 20, 1910.

No Drawing.

Application filed September 15, 1909. Serial No. 517,776.

*To all whom it may concern:*

Be it known that I, JOHN W. IPPERS, a citizen of the United States of America, residing in New York, in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Processes of Making Engraved Printing-Rollers, of which the following is a specification.

10 This invention relates to an improved process of making printing rollers for transferring designs on silk, cotton, velvet, oil-cloth, wall-paper and other fabrics.

15 This process is intended for making printing rollers without the use of a pantograph machine or camera negative, by transferring a drawing or design placed on a lithographic stone or metal plate onto a transparent sheet of celluloid, gelatin, collodion, glass or other transparent substance, then transferring the design to a plate prepared with a sensitized coating of asphalt, albumen or gelatin by subjecting it to the action of the light through the transparent sheet, then etching the positive obtained thereby and transferring it by repeats to a metal printing roller.

20 In carrying out my improved process, the drawing or design to be printed by the printing roller is made on a lithographic stone, metal or other printing surface in positive in crayon, stipple, line or half-tone effect. The drawing or design is then etched and inked and transferred by printing it on a transparent sheet of celluloid, gelatin, collodion, glass or other transparent material. To make the printed design on the transparent sheet sharp and opaque, a coating of clear gelatin, or any other kind of transparent elastic coating, is given to the transparent sheet. From the transparent sheet the design is made on a metal (zinc) plate by subjecting it to the action of light passing through the transparent sheet, the surface of the metal plate being coated with a sensitized film of gelatin, asphaltum or albumen, the parts not acted upon by light being etched so that the drawing or design is obtained in depressed characters. The parts not depressed are then inked and transferred by repeats to the surface of a metal printing roller and the uninked part of the roller etched in the usual manner.

When the roller is to be printed from, the roller is covered with ink and the ink from the undepressed part wiped off, leaving the ink in the depressed parts, from which a fabric may be printed. In the case of wall-paper, the paper is printed from the raised part of the printing roller, and in this case the first step of the process consists in making a negative of the design on the lithographic stone. The other steps will be understood from the process for fabrics.

My improved process of making printing rollers dispenses with the use of camera negatives, by transferring the design from the stone or other plate onto a transparent transfer-sheet and from the same by the action of light to a sensitized metallic plate, on which a positive is formed by etching, which is then transferred, by means of a repeating transfer-frame, onto a metallic printing roller for use in printing silk, cotton, velvet, oil-cloth, wall-paper and other fabrics. The transparent celluloid transfer-sheet can be used over and over again after the design has been transferred, by washing it off from the same, and then using it again for transferring a new design, and so on.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The process herein described of making printing rollers, consisting in producing a design in relief upon a lithographic stone, printing said design directly from said stone onto a transparent celluloid plate, next photochemically printing said design upon a sensitized metallic plate by the action of light passing through the transparent plate, then etching the parts of said metallic plate not exposed to the light so as to form a negative of the design, and then transferring said design to a printing roller, and finally etching the design on the roller.

2. The process herein described of making printing rollers, consisting in producing the positive of a design in relief upon a lithographic stone, printing said design directly from said stone to a transparent celluloid plate, next photochemically printing said design upon a sensitized metallic plate by the action of light passing through the transparent plate, then etching the parts

of said metallic plate not exposed to the light  
so as to form a raised negative of the design,  
and then repeatedly transferring said de-  
sign to a printing roller until said roller is  
5 covered with the repeated design, and finally  
etching the repeated design on the roller.

In testimony, that I claim the foregoing

as my invention, I have signed my name in  
presence of two subscribing witnesses.

JOHN W. IPPERS.

Witnesses:

PAUL GOEPEL,

A. J. COOK.