

No. 714,965.

Patented Dec. 2, 1902.

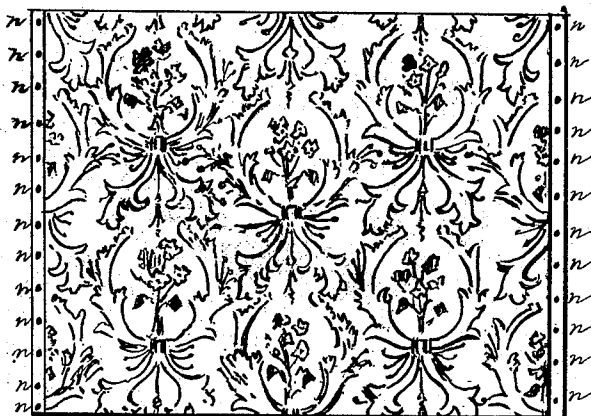
B. J. SUCH.

ROLLER FOR PRINTING DECORATIVE DESIGNS.

(Application filed Mar. 9, 1901.)

(No Model.)

Fig. 1



A

Fig. 2

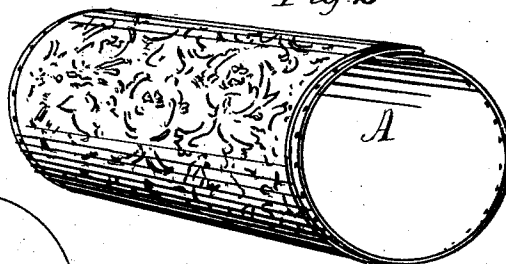


Fig. 3

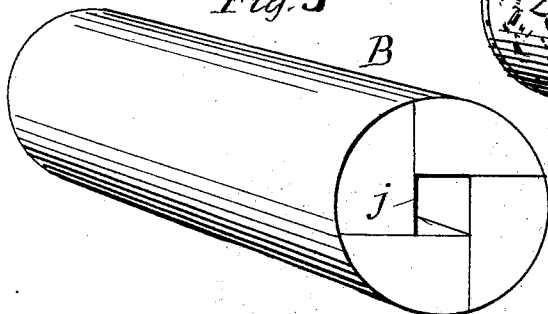


Fig. 4



Witnesses

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ROLLER FOR PRINTING DECORATIVE DESIGNS.

SPECIFICATION forming part of Letters Patent No. 714,965, dated December 2, 1902.

Application filed March 9, 1901. Serial No. 50,501. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN J. SUCH, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Roller for Printing Decorative Designs, of which the following is a specification.

My invention relates to improvements in printing-rollers for the printing of patterns on wall-paper; and the object of my invention is the adaptation of a metal plate etched by the photo-engraving process to the printing of a continuous pattern. To this end I depart from the usual methods now in use for the printing of wall-paper, which involve the use of body colors, and aim to produce my effects by means of a printing-surface consisting of a metal plate whereon the pattern to be printed has been etched by the photo-engraving process and by the employment of the ordinary colored printing-inks.

I am aware that photo-engraved plates have been inserted in stereotypes and so used on rotary printing-presses, and I am also aware that engraved metal cylinders have been used for the printing of textile fabrics and for other purposes; but I am not aware that a photo-engraved plate has ever been used for the printing of a continuous pattern, and by the methods hereinafter described I aim to apply a photo-engraved plate to this purpose, and thereby attain a new and useful result in the product of what is virtually a new article of manufacture. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a flat metal plate on which a design or pattern has been etched by the photo-engraving process. Fig. 2 is the same plate bent to a cylindrical form. Fig. 3 is a roller, of hard wood, intended to receive the metal plate A. Fig. 4 shows the roller with the metal plate secured thereon.

Similar letters refer to similar parts throughout the several views.

From a photographic negative taken from the pattern to be printed a print is made on a flat metal plate and then etched thereon by the usual photo-engraving process, Fig. 1.

This plate may be of zinc or copper, but pref-

erably of copper. After the plate is etched it is proved and made ready in the usual way, except that instead of being mounted on a block of wood and brought up to a proper printing-surface by underlaying the block the underlay is put on the back of the plate itself. The plate is then trimmed at top and bottom to a line even with the design and, backed with this underlay, is shaped to a cylindrical form by being passed between the rollers of a machine adapted to the purpose, the two ends of the plate being made to overlap about a quarter of an inch, as shown in Fig. 2.

The roller B, Fig. 3, for which the cylindrical metal plate is intended as a facing, I prefer to make of wood in the following manner: Four pieces of square wood are firmly joined together in such a way as to leave a square opening *j* in the center. Thus made it is rectangular in form and of the length and diameter required for the roller. By means of a lathe, having as a mandrel a square shaft that passes through the center opening *j*, it is turned to a cylindrical form of a size corresponding to the inside periphery of the cylindrical metal plate it is intended to carry. When the metal cylinder is jacketed on this roller, it is forced open to its full diameter, and the spring of the metal tends to hold the two ends in such close contact as to avoid any break or interruption in the printed pattern. As the two ends must make a close joint in order to avoid a seam on the printing-surface of the roller, which would appear as a disfiguring break in the printed pattern, and as it is not feasible to use any form of fastening without marring the face of the plate I adopt the method described of first rolling the plate to cylindrical form somewhat smaller in diameter than the diameter of the roller on which it is intended to be placed. After the plate is sprung on the roller B it is secured in place by means of screws or nails through the holes *n n n n*.

The printing-roller B fits on a square shaft geared in the machine, which passes through the center opening *j*, and the roller is placed in position in the machine or removed therefrom by being slipped on and off this shaft.

In Fig. 4 the photo-engraved plate A is shown secured in place on the roller B, the ends of the plate abutting at the line c.

Having described my invention, what I
5 claim, and desire to secure by Letters Patent, is—

A printing-roller comprising a cylinder, a cylindrical photo-engraved printing-plate carried thereby, the plate being adapted to be
10 sprung over the cylinder so that its edges abut without forming a break in the pattern,

and means for securing the plate at its sides to the cylinder, substantially as shown and described.

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

BENJAMIN J. SUCH.

Witnesses:

B. W. HOLMAN,
BENJ. W. HOLMAN,
CHAUNCEY C. WILLIAMS.