UNITED STATES PATENT OFFICE.

CHARLES S. HADLEY, OF BROOKLYN, NEW YORK.

PROCESS OF MAKING PRINTERS' ROLLERS.

985,164. Specification of Letters Patent. Patented Feb. 28, 1911.

No Drawing. Application filed April 15, 1910. Serial No. 555,638.

To all whom it may concern:

Be it known that I, CHARLES S. HADLEY, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in the Process of Making Printers' Rollers, of which the following is a specification.

In the manufacture of rollers for use in printing presses to ink the forms, to transfer the ink from the ink font to the plate from which the form rollers take ink, or to transfer the ink from transfer rollers to the form inking rollers, one of the difficulties met with is the production of a roller that will take upon its face or circumference a uniform and even coating of ink and transfer and distribute the same in a uniform and even layer upon the faces of the type in the form, the plate from which the form inking rollers take ink, or other roller with which it comes in contact.

Some kinds of ink, especially those of a heavy or thick body, are difficult to spread evenly, and often lie in lumps on the face of the roller.

It is the object of this invention to provide a roller, the surface of which will "break" or "cut" the ink applied thereto so as to spread evenly thereon and be distributed evenly and uniformly upon the surface or surfaces with which the roller comes in contact; and it consists in the process of securing a cover, preferably of textile fabric, to the ordinary composition roller, as hereinafter described and claimed.

In the present invention, the body of the roller is composed of the usual gelatinous compound, and is provided with the usual core spindle, and in general is the same as the ordinary inking roller. Upon this roller is slipped a tubular cover of any suitable textile fabric, such as linen, the cover being of such a size that it will readily slip upon the roller without disturbing or marring the surface of the composition and extend over the entire length thereof. The roller thus covered is preferably placed and supported by its spindle in any suitable supporting frame, or connected standards, in such a manner that it may be caused to revolve preferably in the presence of steam.

A device of any suitable construction from which steam may issue, may be supported on the same frame or standards as the fabric covered inking roller in such a manner that it may be caused to travel back and forth in front of or in proximity to the roller and from end to end thereof; and this device may be a nozzle or sprayer supported on a block, which travels on a screw, so that the steam issuing from the nozzle in its back and forth movements will impinge against the fabric cover of the roller.

As before stated, the fabric covered roller is preferably caused to revolve in the presence of a traveling jet or spray of steam. The heat and moisture contained in the steam penetrate and saturate the fibers of the textile material and pass through the interstices of the material, and coming in contact with the gelatinous composition, will cause the surface of the composition to soften and become tacky or sticky, and the textile fabric to firmly adhere to the same. The fabric sleeve or cover thus secured upon the roller is now permitted to dry, and upon drying will shrink and be drawn taut upon the composition, thereby making it immovable, the composition also drying to its previous condition with the cover adherent thereto. Although the composition when softened, may slightly penetrate the fabric, yet the outer surface of the roller, when dry, will retain the fibrous or thready characteristics of the fabric, so that the ink as applied thereto will be cut or broken to cause it to spread and to be spread evenly and uniformly. It is thus obvious that by the present invention the sleeve or cover will not bag, "creep" or wrinkle on the surface of the roller and the roller will produce an even and perfect distribution of the ink.

It is evident that the process may be practiced in other ways, that is, by the use of hot air instead of steam, and that the roller may be revolved and reciprocated in front of the device from which the hot air or steam issues, such device remaining stationary, the carrying out of the process not depending upon the mechanism. When hot air is used the surface of the composition will soften sufficiently to cause the fabric cover to adhere and bind firmly upon the composition, but steam is preferable on account of the moisture it contains.

I claim as my invention:

1. In the manufacture of printers' rollers the forming of a composition roller body provided with a fabric casing and subjecting the body with the casing thereupon to

the action of heat and moisture, besides that which may be given off from the body, sufficient to cause it to adhere to the body and to affect the shrinking of the fabric.

2. The process of making printers' rollers which consists in forming a composition roller body, providing the body with a fabric cover and heating and moistening the cover to cause it to adhere to the roller and to shrink the fabric thereupon.

3. The process of making a printer's roller which consists in providing a roller body of gelatinous composition with a cover of fabric and then applying steam to the covered roller sufficient to cause a uniting of the cover to the roller body and a shrinking of the fabric thereupon.

4. The process of making a printer's roller which consists in providing a composition roller with a cover of fabric and revolving the roller in the presence of steam to shrink the cover thereto.

5. The process of making a printer's roller which consists in providing a roller with a cover, revolving the roller, and applying steam over the surface of the roller to cause the cover to shrink onto the composition.

6. The process of making printers' rollers which consists in providing a composition roller body with a cover of textile fabric and applying steam to the surface of the covered roller to moisten and penetrate the fabric and reduce the surface of the roller to a tacky or sticky condition to cause the cover to adhere thereto.

7. In the manufacture of printers' rollers the method which consists in applying a fabric covering to a gelatinous compound body and subjecting the fabric thereupon to heat and external moisture.

This specification signed and witnessed this seventh day of April, A. D., 1910.

CHAS. S. HADLEY.

Signed in the presence of—
A. N. JESBERA,
G. MCGRANN.