C. M. FAUERBACH.

PRINTING ROLLER.

APPLICATION FILED FEB. 23, 1912.

1,135,783.

Patented Apr. 13, 1915.

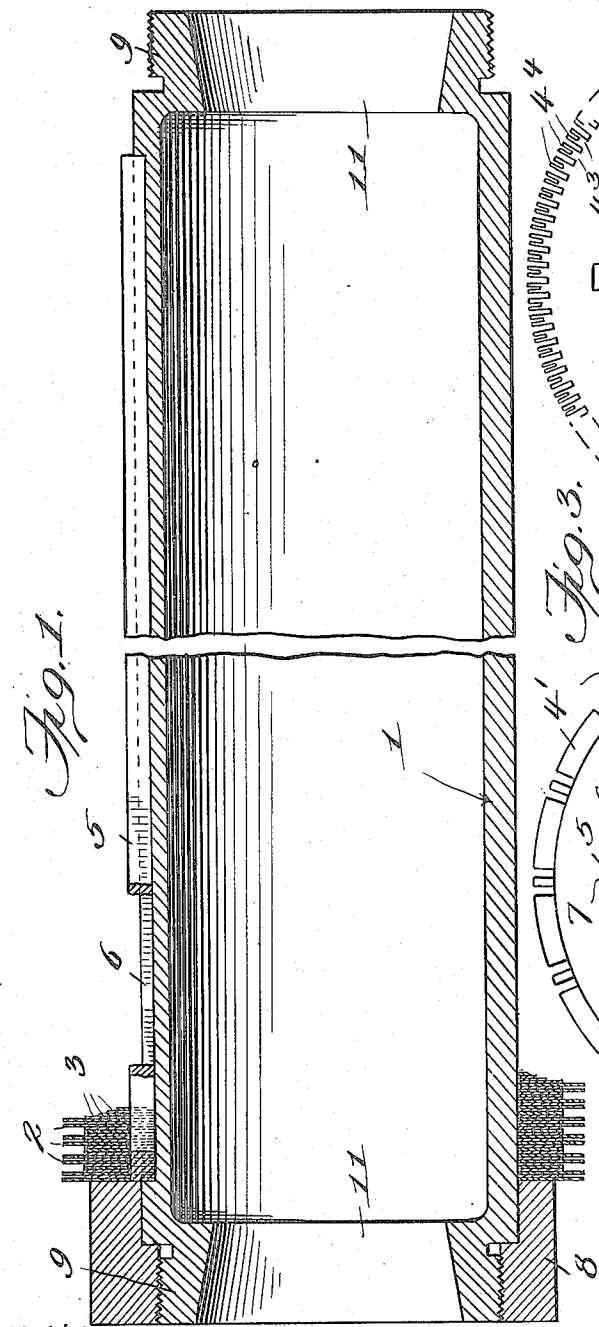


Fig. 1.

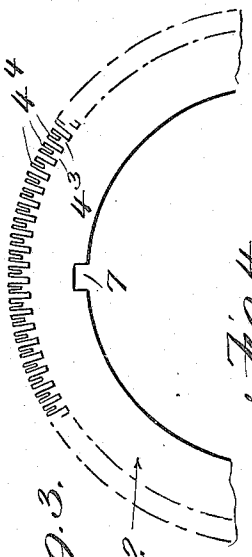


Fig. 3.

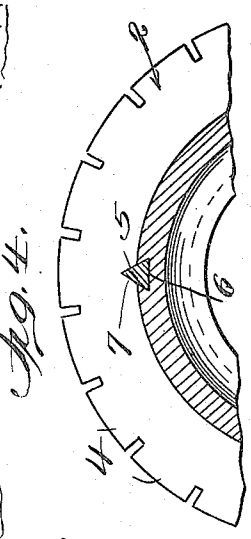


Fig. 4.

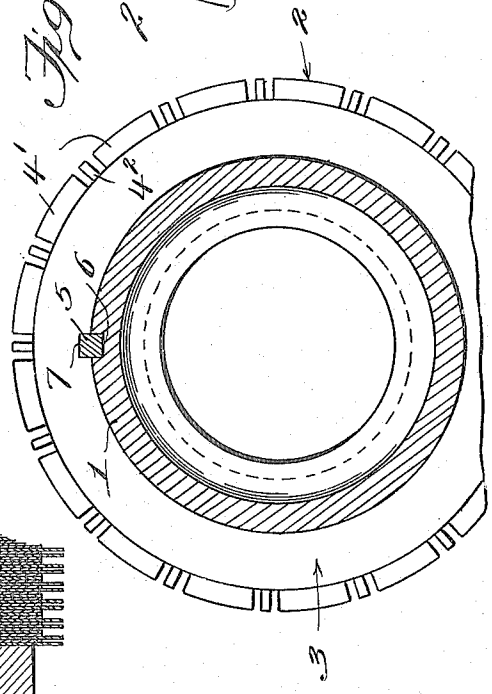


Fig. 2.

Witnesses:

[illegible]

[illegible]

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UNITED STATES PATENT OFFICE.

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PRINTING-ROLLER.

1,135,783. Specification of Letters Patent. Patented Apr. 13, 1915.

Application filed February 23, 1912. Serial No. 679,264.

To all whom it may concern:

Be it known that I, CHARLES M. FAUERBACH, a citizen of the United States, residing at Hudson Falls, in the county of Washington and State of New York, have invented new and useful Improvements in Printing-Rollers, of which the following is a specification.

This invention has reference to printing rollers, and more especially to rollers for producing background and overline effects in wall paper, which effects, as is generally understood, are obtained by printing upon the paper, either before or after the design is printed thereon, series of straight or substantially straight broken lines, (*i. e.*, dot, dash or dot-and-dash lines), that are disposed in spaced parallel relation to each other and, in most instances, longitudinally of the roll of paper. Where these lines are printed on the paper before the application of the design, they constitute a background for the latter, and when they are printed over the design, that is to say, after the design has been printed, they constitute an overlining. It resides in certain improvements, hereinafter described at length, in or relating to the elements or devices for obtaining the afore-mentioned effects, whereby such devices or elements, when properly positioned and spaced upon the roller body, will form a particular design, and in the further provision of improved means for retaining the aforesaid elements or devices and their spacers in place.

An embodiment of the invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a longitudinal section of the complete roller; Fig. 2 is a transverse section of said roller, showing one of the printing elements comprehended therein; Fig. 3 is a fragmental face view of a second element having a slightly different printing surface from that shown in Fig. 2; and Fig. 4 is a view similar, generally, to Fig. 2, but showing an element having a still different printing surface and showing also a modified form of retaining device.

In said drawing, 1 indicates the hollow cylindrical shell or roller body, which is, in the main, of conventional type. This shell carries the printing elements 2 and spacers 3, both of which are in the form of thin brass disks adapted to be slipped onto and off of the roller, the spacer disks having a smaller external diameter than the printing disks.

The printing surfaces of the disks 2 are produced by notching the peripheral portions thereof radially to form spaced teeth, as depicted in Figs. 2, 3 and 4, the shape of the teeth being dependent upon the particular characteristics of the lines constituting the background or other effect desired. Accordingly, the teeth 4 shown in Fig. 4 are relatively wide, and are separated by narrow gaps or spaces, to produce long dash lines; those shown in Fig. 2, and indicated by the numeral 4^1 have substantially the same width as the teeth 4, but alternate with narrow teeth 4^2, to produce lines composed of alternating long and short dashes, the teeth 4^1 and 4^2 being spaced from each other as in the first instance; while the spaced teeth 4^3 shown in Fig. 3 are slightly wider than teeth 4^2, but are slotted longitudinally, as indicated by the numeral 4^4, to produce dotted or extremely short dash lines. When spaced apart the proper distances, by means of the disks 3, the teeth on the printing disks will produce a preconceived design composed of parallel straight or substantially straight lines, which design may, of course, be varied almost indefinitely by varying the size and shape of the teeth, and the width of the spaces between said printing disks, and by changing the relative positions thereof. It is intended, however, when both sets of disks are positioned upon the shell or roller body, to produce a particular design, that they be held against relative displacement from such position consequent upon any rotary or circumferential movement which might be accidentally imparted to them. To this end, there is provided a locking device 5, which is preferably in the form of a suitable key arranged longitudinally of said shell and is seated in a groove 6 therein, as depicted in Figs. 1, 2 and 4, the disks included in said sets being provided upon their inner peripheral edges with alining notches 7 into which the outer portion of the key projects. These notches and the shell groove are shaped to conform with the corresponding portions of the key, as will be understood, the latter having any cross-sectional shape that may be found desirable.

To retain the disks upon the shell itself and hold them against lateral movement, a pair of caps 8 is preferably used, these caps being fitted upon the exteriorly-threaded re-

duced ends 9 of the shell and projecting across the shell body into contact with the outermost disks. The axial openings or bores 11 that extend through the shell ends into the interior of the shell are tapered inwardly, to permit the roller to be mounted upon conical supports, (not shown), carried by an arbor.

In forming the teeth upon the printing disks, the latter, which are stamped with the key seats or notches, are placed on a key-provided mandrel and each section is milled separately and spaced in such a way as to produce a given design, thus permitting two or more rollers having exactly the same design and exactly identical in all respects to be obtained.

I claim as my invention:

A printing roller for producing straight-line background and overline effects on wall paper comprising a hollow cylindrical shell having reduced exteriorly-threaded ends; a series of thin, flat metal printing disks fitted axially on said shell and having their peripheral portions notched to produce teeth, the teeth of said disks having a predetermined position relative to each other and to those of adjacent disks, to form a given design; spacing disks of less diameter externally than said printing disks interposed between the latter and in contact with the same upon said shell, the shell and the printing and spacing disks constituting companion parts, one of which is provided with a longitudinal groove and the other with a longitudinal projection extending thereinto, to lock said disks against circumferential movement on said shell; and caps removably fitted upon said shell ends and projecting across the shell body into contact with the outermost disks, to hold said disks against lateral movement.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES M. FAUERBACH.

Witnesses:
LEON RAY LEWIS,
CHARLES F. MCMAHON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."