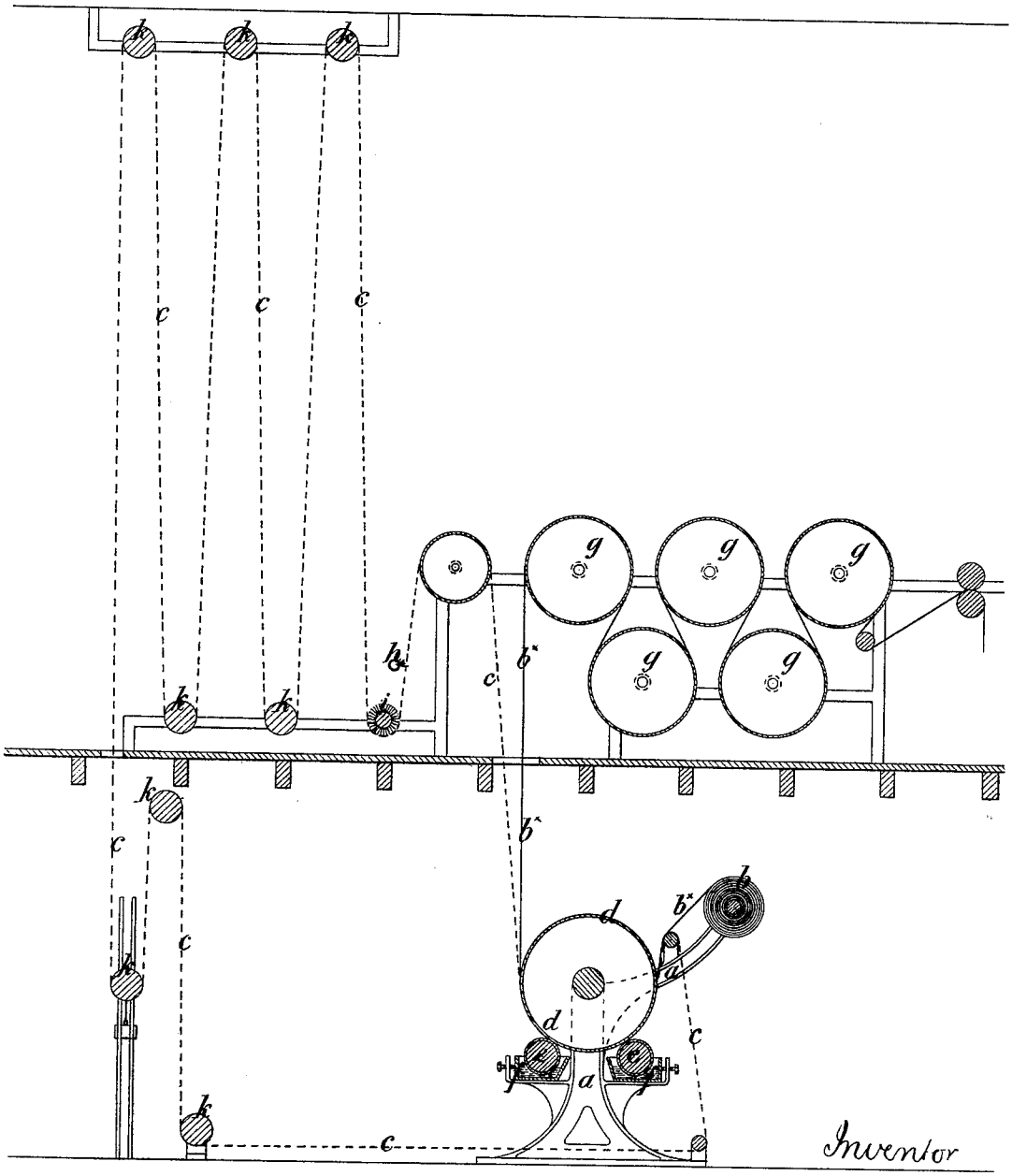
W. RUMNEY.

Art of Printing on Fabrics.

No. 220,428. Patented Oct. 7. 1879.



Witnesses

Henry Howson Jr.

Harry Smith

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UNITED STATES PATENT OFFICE.

WILLIAM RUMNEY, OF MANCHESTER, GREAT BRITAIN.

IMPROVEMENT IN ART OF PRINTING ON FABRICS.

Specification forming part of Letters Patent No. **220,428**, dated October 7, 1879; application filed May 26, 1879.

To all whom it may concern:

Be it known that I, WILLIAM RUMNEY, of Manchester, in the county of Lancaster, Kingdom of Great Britain, have invented Improvements in the Method of and Apparatus for Printing upon Calicoes and other Fabrics, of which the following is a specification.

This invention relates to a novel method of printing designs on calicoes or other woven fabrics, felted fabrics, paper, and other materials, and consists, principally, in padding or printing the color onto the calico or other material through figured net, lace, leno, muslin, or other similarly-open-figured fabric, the color being padded or printed through the interstices of the figured net or other fabric, so as to reproduce the pattern or design of the same on the face of the calico or other material without the use of engraved cylinders or blocks.

The drawing, which forms part of this specification, represents a vertical section of an apparatus suitable for the purposes of my invention, *a a* being the framing, and *b* the roll of calico or other fabric to be printed.

I prepare the figured net—say, a window-curtain, for example—by coating it on one or both sides with a solution of india-rubber, or with varnish or such other material or composition as will give it increased strength and rigidity and at the same time render the threads of the fabric impervious to the color. I then connect the two ends together, so as to form an endless band of any length or width to suit the design of the figured material, as represented by the dotted line *c c;* or in some cases I use it in detached pieces.

I employ an ordinary plain printing-cylinder, *d d*, and an ordinary roller or rollers, *e e*, known to calico-printers as "pad-rollers," the latter running in the color-troughs *f f* in the usual way. The calico or other material $b^{\times}$ $b^{\times}$ to be printed passes between the printing-cylinder *d d* and the pad roller or rollers *e e*, and the endless band of figured fabric *c c* passes between the pad roller or rollers *e e* and the material $b^{\times}$ $b^{\times}$ to be printed, so that the color from the pad roller or rollers *e e* is printed or padded onto the calico or other material $b^{\times}$ $b^{\times}$ through the interstices of the figured fabric *c c*, and thus the design is impressed onto the calico or other material $b^{\times}$ $b^{\times}$, which then passes over steam-heated drying-cylinders *g g* above.

The endless band *c c* of the figured material, after leaving the pad-roller *e e*, passes in contact with jets of high-pressure steam, as at *h*, which blows through the lace or other material, and clears the interstices of the lace from the superfluous color. A circular brush, *i i*, is made to revolve against or with the lace to further clear it, and it is then passed over hot cylinders or round other suitable drying and taking-up rollers *k k*, to regulate the tension before coming in contact again with the pad-rollers *e e*.

The calico or other material may be thus padded or printed on either one side only, or on both sides; and in the latter case each side may be printed of a different pattern or color, or both, so long as the principal feature of my invention is retained, which is the padding or printing of colors, by means of pad-rollers, through an open or perforated figured fabric or material, which is interposed between the padding-roller and the calico or other material to be printed.

In some cases I also propose to use the prepared lace, net, or other similar fabric as a printing-surface, so as to produce a negative effect by the ordinary surface-printing process, instead of padding the color through the interstices; and I also propose sometimes to pad the lace-pattern onto a printed material, such as chintz, for instance, instead of onto plain cloth, so as to produce a different effect.

I do not claim as my invention any parts of the apparatus above described and illustrated by the annexed drawing, with the exception of the endless band of prepared lace or other material represented by the dotted line *c c* on the drawing, and the method employed for keeping the interstices of the same clear, as they are for the most part old and well-known parts of machines ordinarily employed in calico-printing, and are merely represented for the purpose of illustrating the practical application of my invention; but

What I claim as my invention is—

1. The method of preparing figured net, lace, leno, muslin, or other similarly open-figured fabric, as above described, by coating or

saturating it with india-rubber solution, varnish, or other suitable waterproofing material or composition, to be used in the place of embossed or engraved rollers or blocks as a medium for printing upon calico or other woven fabrics, felted fabrics, paper, and other materials.

2. The within-described medium for printing on fabrics or other materials, said medium consisting of lace or other open fabric waterproofed, as set forth.

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

WILLIAM RUMNEY.

Witnesses:

GEORGE DAVIES,

CHARLES DAVIES.