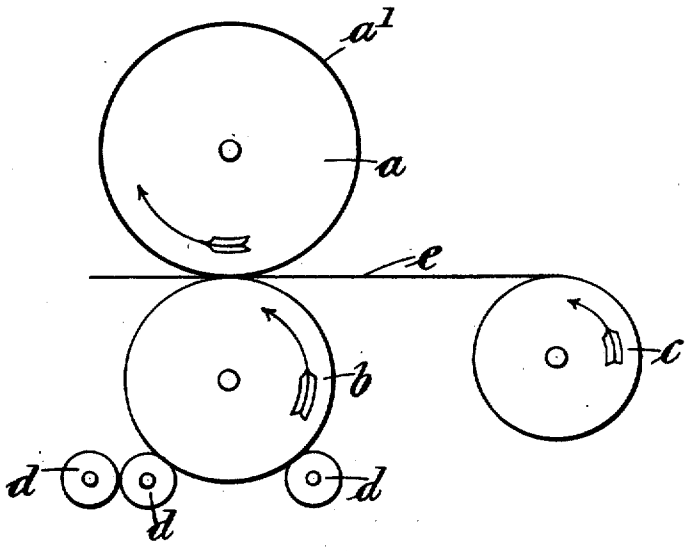
J. M. COOPER.

PROCESS OF PRINTING ON PAPER, CLOTH, AND OTHER MATERIAL.

APPLICATION FILED NOV. 20, 1918.

1,359,034. **Patented Nov. 16, 1920.**



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UNITED STATES PATENT OFFICE.

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PROCESS OF PRINTING ON PAPER, CLOTH, AND OTHER MATERIAL.

1,359,034. Specification of Letters Patent. Patented Nov. 16, 1920.

Application filed November 20, 1918. Serial No. 263,271.

To all whom it may concern:

Be it known that I, JEHANGIR MANECKJI COOPER, a subject of the Emperor of India, residing at Bombay, India, have invented certain new and useful Improvements in Processes of Printing on Paper, Cloth, and other Materials, of which the following is a specification.

This invention relates to the printing of designs or patterns on paper, cloth and other materials, by pressing the material to be printed between a design, pattern or the like and an inked surface, whereby the design or the like does not come into contact with the ink.

The present invention provides a process of this kind, by which any kind of design or pattern, whether simple or complicated, can be easily and expeditiously printed without the use of blocks or engraved cylinders.

According to the invention instead of forming the design or pattern on blocks or engraved cylinders, there are used pliable designs, patterns or the like, either in relief or sunk as in intaglio, *i. e.* either embossed or incised, (such as for instance a piece of lace of the desired pattern) and the ink surface is a plain smooth metal surface. In general, the pliable design, pattern, or the like may be any comparatively thin object of varying surface relief or thickness which is yielding and flexible so that it will coöperate with a plain metal inking surface in the manner described, to print a design on paper, cloth or other material by reason of said varying surface relief or thickness.

A design or pattern embossed on or incised in paper or cloth or leather or rubber or on other materials, or a woven, knitted, or embroidered, design or pattern, or a stencil, or a drawing in relief, may be used.

Referring to the drawing in which an example of apparatus for carrying out the process is shown, a cylinder *a* carries the object constituting the design or pattern a^1 which owing to its pliability can be closely fitted on the cylindrical surface. The cylinder *b*, which has a plain metal surface, is inked by the rollers, *d*, *d*. The material *e* to be printed is supplied from a reel *c* and as it passes between the two cylinders a design in accordance with the variable surface relief or thickness of a^1 is printed on that side of the material which comes in contact with the inked cylinder *b*.

In the absence of a special machine, printing according to this invention can be carried out in ordinary letter-press printing machines either flat-bed or rotary. For example, the invention can be used in combination with letter-press printing, substituting the objects forming the designs for the process blocks, etc. Thus if the design or pattern of a woven fabric such as a piece of lace is to be printed along with letter-press matter on a flat-bed printing machine, the letter-press matter is locked on the bed of the machine in the usual way, and along with it, at its proper place, a type-high smooth surface block of the size of the design. The object forming the design is pasted on the cylinder of the machine so as to coincide with the type-high smooth surface inked block, when the machine is run.

The process according to the invention can be used for printing wall papers, posters, and the like.

What I claim as my invention and desire to secure by Letters Patent is:—

1. The process of printing designs or patterns on paper, cloth, and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported pliable object of varying surface relief or thickness, to print on said material a pattern or design corresponding to these variations of surface relief or thickness.

2. The process of printing designs or patterns on paper, cloth and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported piece of fabric having a woven design or pattern, to print on said material a design or pattern corresponding to that of the fabrc.

3. The process of printing designs or patterns on paper, cloth, and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported piece of lace, to print on said material a design or pattern corresponding to that of the lace.

4. The process of printing designs or patterns on paper, cloth and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported piece of fabric having an embroidered design or pattern, to print on said material a design or pattern corresponding to that of the fabric.

5. The process of printing designs or patterns on paper, cloth and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported piece of fabric having a knitted design or pattern to print on said material a design or pattern corresponding to that of the fabric.

6. The process of printing designs or patterns on paper, cloth, and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported flexible and yielding sheet having a raised design or pattern thereon, to print on said material a corresponding design or pattern.

7. The process of printing designs or patterns on paper, cloth, and other materials, which consists in pressing the material to be printed between a plain inked metal surface, and a suitably supported flexible and yielding sheet having a sunk design or pattern thereon, to print on said material a corresponding design or pattern.

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

JEHANGIR MANECKJI COOPER.

Witnesses:
K. H. SARKARI,
G. M. AMLAD.