J. GREEN.

MACHINE FOR PRINTING CALICO.

No. 51,039. Patented Nov. 21, 1865.

Fig. 1.

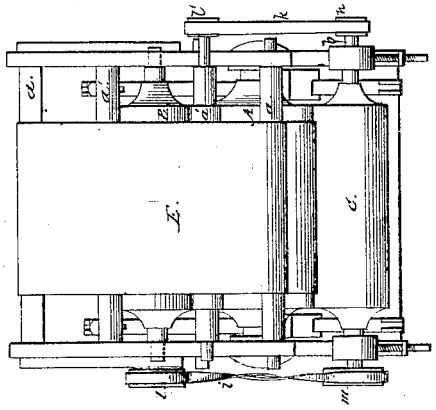


Fig. 2.

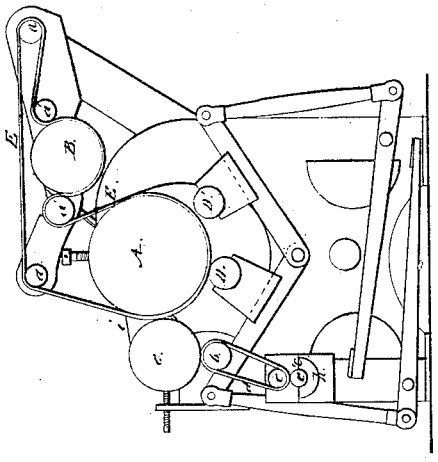
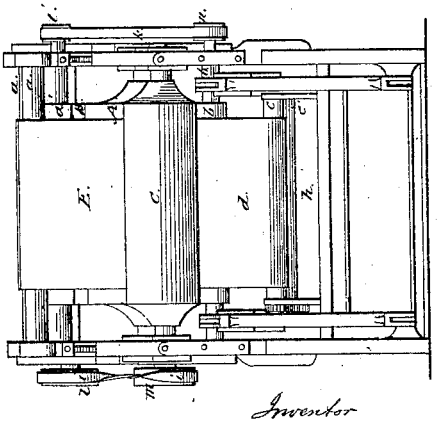


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN GREEN, OF LOWELL, MASSACHUSETTS.

MACHINE FOR PRINTING CALICO.

Specification forming part of Letters Patent No. **51,039**, dated November 21, 1865.

To all whom it may concern:

Be it known that I, JOHN GREEN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for Printing Calico; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a plan; Fig. 2, a vertical section, and Fig. 3, a side elevation of such machine.

The object of this invention or machine is to print borders as well as the figures inclosed therein.

The printing-rollers of an ordinary calico-printing machine are usually of one diameter; but in my invention I employ printing-rollers of different diameters—that is to say, the roller for printing the border of a handkerchief, for instance, I make of very much larger diameter than that for printing the figure encompassed by such border, intending to print the entire border by one revolution of the border printing roller, whether such border be rectangular or square, or be composed only of two parallel stripes, or be otherwise formed. The filling figure or figures may be printed by a succession of rotations of their roller or rollers.

In the drawings, A is the bed-cylinder or "bowl" as it is commonly called by calico-printers. Around this and a series of rollers, *a a a' a'*, an endless blanket, E, runs. The said blanket also goes about a roller, B, on whose shaft there is a pulley, *l*. An endless crossed band, *i*, works about the said pulley *l*, and a pulley, *m*, fixed on the shaft of the border-printing cylinder C, and having a diameter equal to that of the pulley *l*.

There is a pulley, *l'*, on the shaft of one of the rollers *a'*, which is next to the roller B. An endless belt, *k*, goes around the said pulley *l'*, and a pulley, *n*, fixed on the shaft of a roller, *b*, about which roller, and a roller, *c*, an inking-apron, *d*, travels. This inking-apron takes color from a roller, *c'*, placed in a trough, *h*.

D D' are rollers or cylinders which may also take ink or color from suitable rollers working in troughs. Each of the rollers D D' serves to print the filling figure or figures on a strip of cloth when extending around the cylinder A and on the blanket E.

The roller B gets its motion from the cylinder A by means of the blanket E, and the cylinder A gets its rotary motion from the roller D, to which rotary motion is to be given in any suitable manner.

The roller B should have a diameter equal to that of the roller C in order that the circumference of the roller C may move at the same velocity as that of the cloth on the cylinder A. The printing-apron *d* also runs at this velocity. While the printing-cylinder C prints the border the cylinder D prints the figures encompassed by or inclosed within the border.

What I claim as my invention is as follows:

1. The printing of a square or rectangular or other endless border with one cylinder, and printing figures within the space inclosed by such border by one or more cylinders having a diameter or diameters less than that of the border-printing cylinder.

2. The printing of a right-line border, or one with two ends, with one cylinder, and printing the filling between such border by means of one or more cylinders having a diameter or diameters less than that of the border-printing cylinder.

3. In combination with the printing-cylinder D, the bed-cylinder A and the blanket E, the border-printing cylinder C, having a diameter larger than that of the printing-cylinder D, and prepared so as to print a border, as specified.

4. The combination as well as the arrangement of the equalizing-speed roller B, the blanket E, the bed-cylinder A, the printing-cylinder D, and the border-cylinder *c*, the two pulleys *l m*, and the belt *i*, or the equivalents thereof.

5. The arrangement of the inking-belt *d* and its operative mechanism, the border-printing cylinder C, the bed-cylinder A, the printing-cylinder D, and the blanket E.

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Witnesses:

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