A. F. BUCHANAN.
Block-Printing Machine.

No. 207,490. Patented Aug. 27, 1878.

Fig. 1.

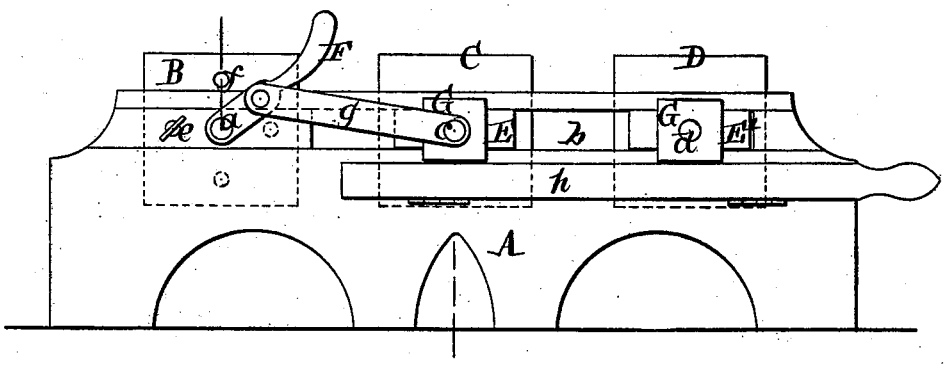


Fig. 2.

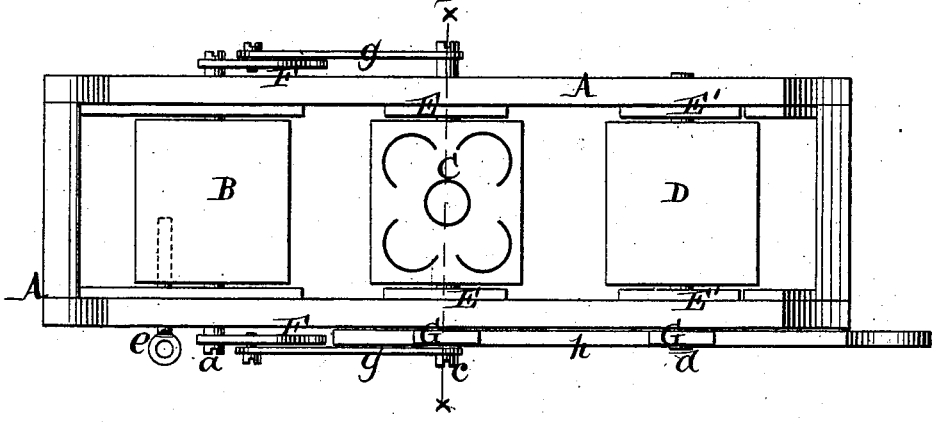
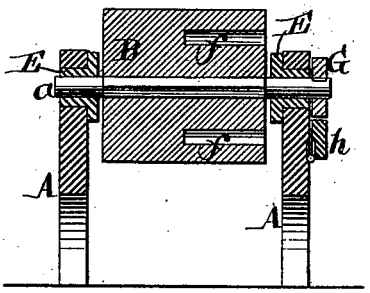


Fig. 3.



Witnesses.
Chas. Wahlers.
Otto Schifeland

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UNITED STATES PATENT OFFICE.

ALEXANDER F. BUCHANAN, OF MONTROSE, NEW YORK.

IMPROVEMENT IN BLOCK-PRINTING MACHINES.

Specification forming part of Letters Patent No. **207,490**, dated August 27, 1878; application filed April 10, 1878.

To all whom it may concern:

Be it known that I, ALEXANDER F. BUCHANAN, of Montrose, in the county of Westchester and State of New York, have invented a new and Improved Block-Printing Machine, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a side view of a machine embracing my invention. Fig. 2 is a plan or top view thereof. Fig. 3 is a cross-section in the line *x x*, Fig. 1.

Similar letters indicate corresponding parts.

The object of my invention is to produce an apparatus which is especially adapted for printing oil-cloth in various different colors, as, for instance, in the manufacture of oil-cloth table-covers; and it consists in the combination of an intermittently-rotated polygonal platen, a rotating polygonal printing-block, and an intermittently-rotated polygonal color-cushion, movable journal-boxes to support the printing-block and the color-cushion, and suitable means for locking the platen, the printing-block, and the color-cushion, in such a manner that when the strip of oil-cloth or other material to be printed is placed on the platen and the latter is rotated step by step, the different sides of the platen are successively caused to face the printing-surface of the printing-block, and successive portions of the material can be printed thereby, while when the printing-block is rotated the different sides or surfaces thereof are successively brought in position for printing, and when the color-cushion is rotated the printing-block can be supplied with the colors contained on the different sides of the cushion in succession.

In the drawing, the letter A designates the frame of my apparatus, and B is the intermittently-rotating polygonal platen, whose shaft *a* has its bearings in said frame. C is the intermittently-rotating polygonal printing-block, and D is the intermittently-rotating polygonal color-cushion. In the example shown the platen, the printing-block, and the color-cushion are each constructed with four sides, this being the number of colors in which the apparatus is adapted to print; but if it is desired to print in a greater or less number of colors the sides of such parts, and particularly of the printing-block and the color-cushion, are increased or lessened. I arrange the platen, the printing-block, and the color-cushion, by preference, in a horizontal plane, as shown.

E E′ designate the movable journal-boxes which support the printing-block C and the color-cushion, the shafts *c d* thereof being arranged in these boxes, and the boxes being guided in horizontal ways *b*, formed in the frame A. For the purpose of locking the platen B, or holding the same against a rotary movement, I make use of a bolt, *e*, which extends through one side of the frame A, and catches in one of a series of sockets, *f*, formed in the adjacent end of the platen, the number of these sockets corresponding to the number of sides to the platen, and the whole being so arranged that when the platen is locked one of its sides is in a vertical plane.

The means employed for locking the printing-block C and the color-cushion D consists of polygonal heads G, whose sides correspond both in number and direction to the sides of the printing-block and the cushion, and which are firmly secured to one end of the shafts *c d*, so as to turn with the printing-block and the cushion, in conjunction with a horizontal bar, *h*, which is hinged at its lower edge to the side of the frame A in such a manner that when this bar is in its upper position, as shown, the printing-block and the cushion are prevented from rotating, without, however, being prevented from moving toward or from each other. The polygonal heads G, moreover, hold the printing-block C and the cushion D in a corresponding position to the platen B.

The letter F designates two levers pivoted to the respective ends of the shaft *a*, (or to a suitable part of the machine-frame,) and *g* are two rods serving to connect such levers to the journal-boxes E of the printing-block. The object of these levers and rods is to move the printing-block C toward and away from the platen B, through the medium of its journal-boxes E, and they can be arranged at one or both ends of the printing-block, as may be found most expedient.

A strip of oil-cloth or other material to be printed is wound on the platen B, and, the side or surface of the printing-block C facing the platen having been previously colored by

means of the cushion D, the block is moved up to the platen and allowed to remain in this position a sufficient length of time to allow the material to receive the color from the block. The appropriate side of the color-cushion D is then brought in contact with the side of the printing-block C which faces the same; and when the cushion has been returned to its normal position the printing-block is moved back and rotated so as to bring the next side or surface thereof in a position for printing, this side having also been previously colored, when the printing-block is again moved forward, this operation being repeated until each side of the printing-block has been brought in contact with the portion of the material facing the same, and until the desired colors and figures have been impressed on the material.

When the article to be produced has been thus finished the platen B is rotated, so as to unwind the printed portion of the material and bring a fresh portion thereof in position to receive an impression.

Instead of winding the material to be printed round the platen, it may be secured to one of the faces thereof by pins, and successive portions of the material may thus be printed.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the polygonal platen B, mounted in fixed bearings and adapted to be rotated and fixed in different positions, the polygonal printing-block C, and polygonal color-cushion D, said printing-block and color-cushion being capable of reciprocating motion and step-by-step rotation, and means, substantially as described, for preventing rotation of said platen, printing-block, and cushion when desired.

2. The combination of the polygonal printing-block C, mounted in reciprocated bearings, the polygonal head G, secured to the shaft of said printing-block, and the pivoted bar *h*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 4th day of April, 1878.

A. F. BUCHANAN. [L. S.]

Witnesses:
JABEZ BURNS,
W. HAUFF.