

No. 615,596.

Patented Dec. 6, 1898.

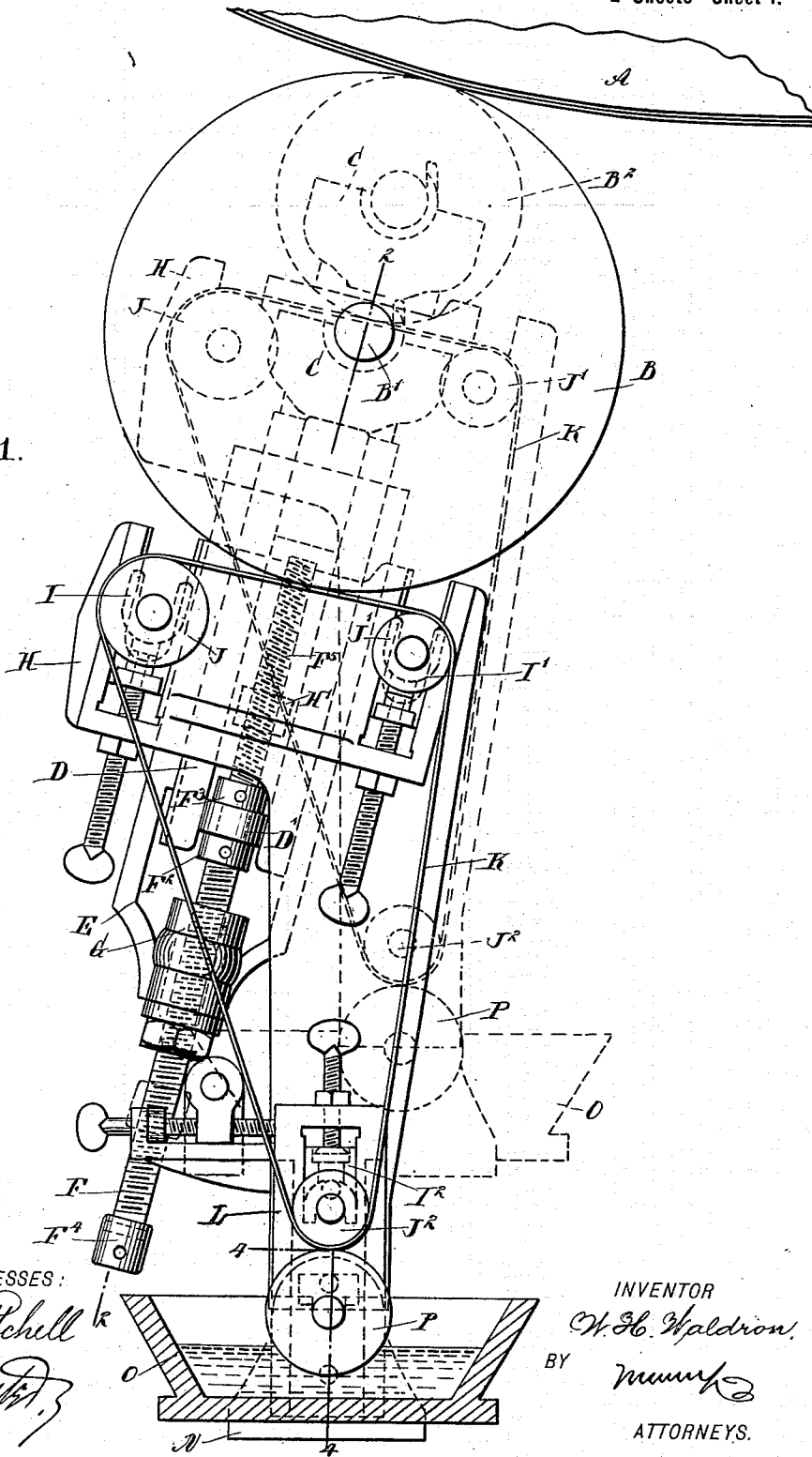
W. H. WALDRON.  
COLOR PRINTING MACHINE.

(Application filed Mar. 7, 1898.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



WITNESSES:

*Donn Twitchell*  
*Henry ...*

INVENTOR

*W. H. Waldron.*

BY

*[Signature]*

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FIG. 2.

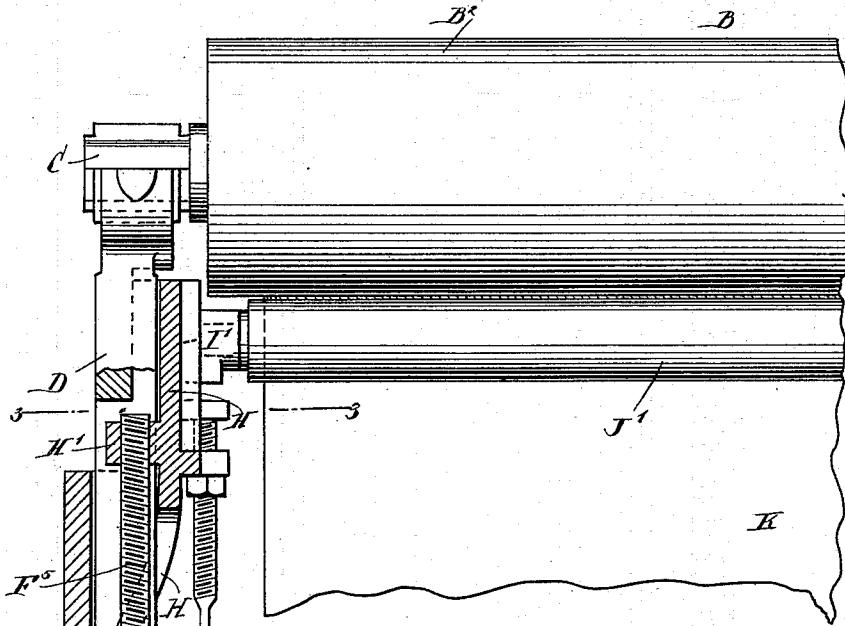


FIG. 3.

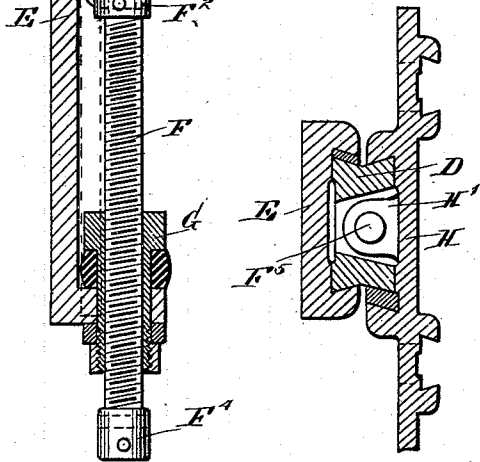
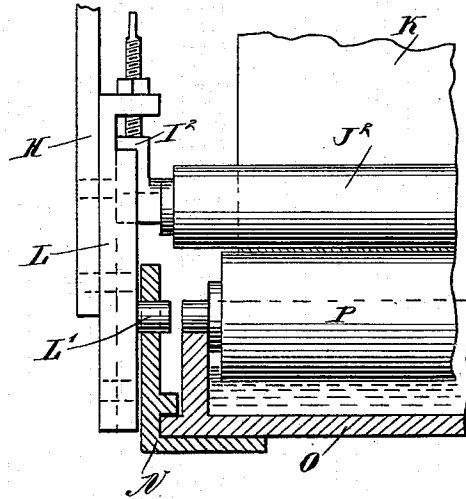


FIG. 4.



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# UNITED STATES PATENT OFFICE.

WILLIAM H. WALDRON, OF NEW BRUNSWICK, NEW JERSEY.

## COLOR-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 615,596, dated December 6, 1898.

Application filed March 7, 1898. Serial No. 672,913. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. WALDRON, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented a new and Improved Color-Printing Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide certain new and useful improvements in color-printing machines whereby different-sized printing or pattern rollers can be readily placed in position and the necessary adjustments made of the printing-rollers to the color-apron and the color-trough to bring the several parts into their proper positions relative to each other and the printing-rollers in proper position relative to the impression-cylinder.

The invention consists of novel features and parts and combinations of the same, as will be described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement with the color-trough in section. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1 and with a small printing-roller in the bearings. Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 2; and Fig. 4 is a transverse section of the color-trough and adjacent parts, the section being taken on the line 4 4 of Fig. 1.

In cylinder color-printing machines considerable difficulty has been experienced in changing the machine for different-sized printing-rollers, as it is evident that in doing so the bearings for the printing-rollers must be adjusted to bring the roller in contact with the peripheral surface of the impression-cylinder. The apron must then be adjusted to bring the apron in contact with the printing-roller, and the trough-roller must remain in contact with the color-box roller to be supplied with color. Heretofore the various adjustments mentioned were made separately and required considerable time and skilled labor to accomplish the desired result; but with my improvement, presently to be described, one single adjustment brings the dif-

ferent parts into the proper positions relative to each other. In the drawings the carriers or supports for the printing-roller and those for the apron are only shown for one side thereof, it being understood that such carriers are alike on both sides of the machine.

The peripheral covered surface of the impression-cylinder A is engaged by the peripheral surface of a printing-roller B, having its shaft B' journaled in suitable bearings C, held on a bracket D, fitted to slide in suitable bearings in a frame E, secured to or forming part of the main frame of the printing-machine. The bracket D is provided near its lower end with a bearing D', in which is mounted to rotate loosely the smooth reduced portion F' of a screw-rod F, carrying collars F<sup>2</sup> F<sup>3</sup>, engaging the bearing D' at opposite sides, as plainly indicated in Fig. 2, to permit the screw-rod to rotate freely in the bearing and to carry the bearing along, together with the bracket, when the screw-rod moves in an axial direction, as hereinafter more fully described. The lower end of the screw-rod is mounted to turn in a nut G, removably held on the lower end of the frame E, and the extreme lower end of the screw-rod is provided with a head F<sup>4</sup>, having openings for the application of a tool for turning the screw-rod and making the adjustments, as hereinafter more fully described.

The screw-rod F is provided in its upper portion above the collar F<sup>3</sup> with a reduced left-hand-threaded screw-rod extension F<sup>5</sup>, screwing in a nut H', carried by a frame H, formed with guideways for adjustable bearings I I' for rollers J J', respectively, over which passes the upper portion of an apron K in contact with the peripheral surface of the printing-roller B to supply the latter with the necessary color. The apron K also passes at its lower end over a roller J<sup>2</sup>, held in bearings I<sup>2</sup>, adjustable on a bracket L, fitted to slide longitudinally on bearings on the frame H, and said bracket is adjustable on said bearings by a suitable mechanism, as indicated in the drawings.

On the bracket L is formed a pin L', on which is hung a holder N for a color-trough O, in which is journaled a color or ink-roller P, passing through the color in the trough and in contact with the outer face of the

apron K, so as to supply the latter with the color or ink.

Now it will be seen that by the arrangement described the apron K is in contact with the printing-roller B and the latter is in contact with the impression-cylinder A, and the ink-roller P is in contact with the apron and extends into the ink or color in the trough O. When it is desired to change the roller B to one, say, of a smaller size, as indicated at B<sup>2</sup> in Fig. 2, then the shaft of such roller B<sup>2</sup> is placed in the bearings C and the screw-rods F on each side of the machine are turned to move the screw-rods upward in their nuts G and carry the brackets D in a corresponding direction to bring the peripheral surface of the printing-roller B<sup>2</sup> in contact with the peripheral surface of the impression-cylinder A. At the same time a sliding motion is given to the frame H in its bearings in the bracket D by the action of the screw-rod extensions F<sup>5</sup>, screwing in the nuts H', so that the frame H moves double the distance the bracket D moves, and when the roller B<sup>2</sup> moves in contact with the impression-cylinder A then the upper portion of the apron K is in contact with the peripheral surface of the small roller B<sup>2</sup>. It is evident that the frame H, carrying the apron K and also the trough O, together with the inking-roller P, must move twice the distance that the printing-roller B<sup>2</sup> moves, and this movement is readily brought about by sliding the frame H on the bracket D and moving the frame by the left-hand-threaded screw-rod extension F<sup>5</sup> when the screw-rod F is turned. Thus the several parts are simultaneously adjusted to bring the same in proper relation to each other—that is, to bring the smaller printing-roller in peripheral contact with the cylinder A and to move the apron K into contact with the printing-roller and without moving the apron out of engagement with the inking-roller P.

The various means for adjusting the bearings I I' I<sup>2</sup> are of ordinary construction, so that further description of the same is not deemed necessary. The same is true of the means employed for adjusting the bracket L longitudinally on the frame H.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A color-printing machine, provided with a printing-roller carrier, an apron-carrier, and means for simultaneously adjusting the said carriers to bring the printing-roller in proper position relative to the impression-cylinder, and the apron in proper contact with the print-

ing-roller, substantially as shown and described.

2. A color-printing machine, provided with a printing-roller carrier, an apron-carrier, and means for simultaneously adjusting the said carriers to bring the printing-roller in proper position relative to the impression-cylinder, and the apron in proper contact with the printing-roller, the movement of the apron-carrier being in the same direction as that of the printing-roller carrier, substantially as shown and described.

3. A color-printing machine, provided with a printing-roller carrier, an apron-carrier, and means for simultaneously adjusting the said carriers to bring the printing-roller in proper position relative to the impression-cylinder, and the apron in proper contact with the printing-roller, the apron-carrier moving twice the distance the printing-roller carrier moves and in the same direction, substantially as shown and described.

4. A color-printing machine, provided with a printing-roller carrier, an apron-carrier, means for simultaneously adjusting the said carriers to bring the printing-roller in proper position relative to the impression-cylinder, and the apron in proper contact with the printing-roller, and a color-trough carried by and moving with the said apron-carrier to hold the trough-roller in contact with the apron, substantially as shown and described.

5. A color-printing machine, provided with a bracket fitted to slide in fixed bearings and carrying a printing-roller, a frame fitted to slide on the said bracket and carrying an apron, and means for simultaneously adjusting the bracket in its bearings and the said frame on the bracket, substantially as shown and described.

6. A color-printing machine, provided with a bracket fitted to slide in fixed bearings and carrying a printing-roller, a frame fitted to slide on the said bracket and carrying an apron, and means for simultaneously adjusting the bracket in its bearings and the said frame on the bracket, the said means comprising a screw-rod and a fixed nut therefor, said screw-rod being mounted to turn loosely in bearings on the said bracket and carry the latter along on screwing the rod in its nut, the screw-rod having a reversely-threaded extension screwing in a nut on the said frame, substantially as shown and described.

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Witnesses:

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