(No Model.)

C. R. TAYLOR.

COLOR PRINTING MACHINE.

No. 372,777. Patented Nov. 8, 1887.

Fig. 4.

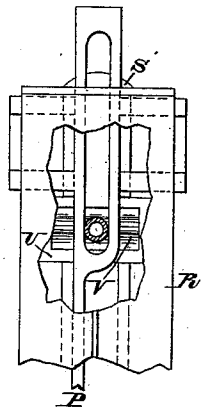


Fig. 1.

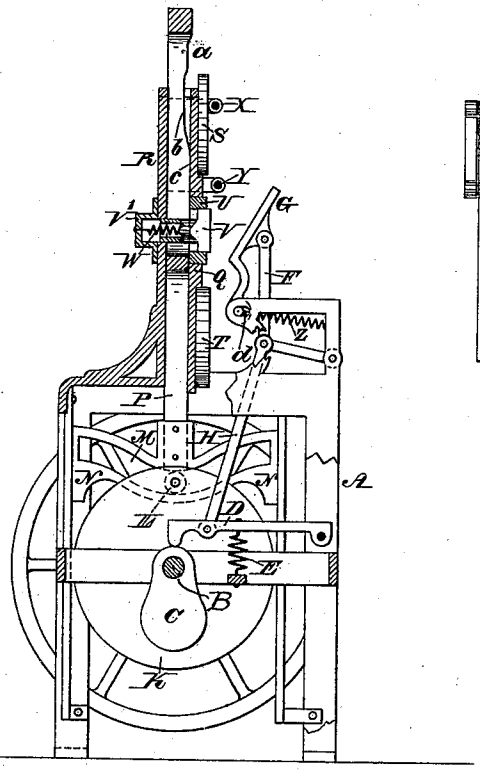


Fig. 5.

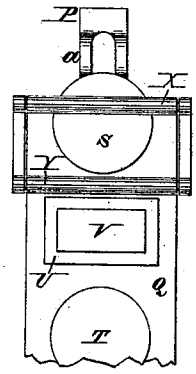


Fig. 2.

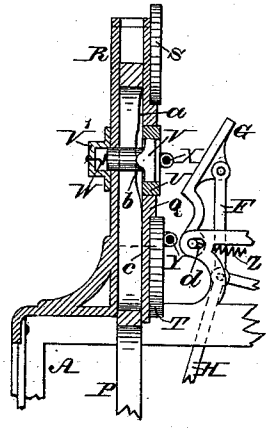
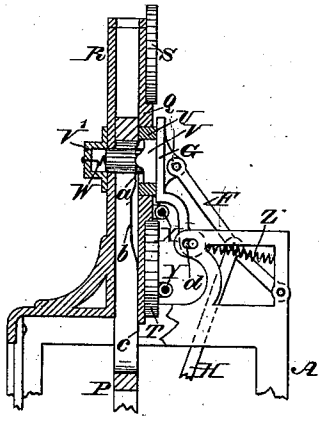


Fig. 3.



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COLOR-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 372,777, dated November 8, 1887.

Application filed December 9, 1886. Serial No. 221,052. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. TAYLOR, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Color-Printing Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a partial side elevation and a partial vertical section of a color-printing press embodying my invention. Figs. 2 and 3 represent partial side elevations and partial vertical sections of portions of the same. Fig. 4 is a view of the upper part of the machine, looking from the left of Fig. 1, and broken away at center to show parts beyond the frame R. Fig. 5 represents a face view of the forms and adjacent portions of the bed.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a press for printing colors embodying means for advancing a form, whereby the same may be inked, providing for the inking in different color of another form, and the subsequent printing of both colors at one operation with a perfect register. While in the present case the press is shown as used for printing in two colors, it is evident that by a proper multiplication of certain parts three or more colors may be printed at one operation.

It further consists of means for advancing the hinged or pivotal platen flat against the form, thus preventing blurring.

Referring to the drawings, A represents the frame of a printing-press, and B represents the driving-shaft thereof, the latter being properly mounted on the frame A and receiving power in any suitable manner. Secured to the shaft B is a cam, C, and mounted on the frame is a lever, D, which is so located that it is engaged and operated in one direction by said cam C, the operation in the other direction being accomplished by a spring, E, which is attached to said lever and frame A. It is, however, evident that by means of a groove in the cam and a roller or stud on the lever the latter may be operated in both directions by said cam. On the upper end of the frame is mounted a toggle-lever, F, which is pivotally connected with the platen G of the press and a rod, H, whose lower end is attached to the lever D, it now being seen that the motions of the rod H, due to the cam C and lever D, open and close the toggle, and thus advance and return said platen G. To the shaft B is keyed or otherwise secured a cam-wheel, K, whose wrist-pin or roller L enters a cam-groove, M, in a cross-head, N, the latter being fitted in guides on the frame A and moving vertically therein.

Rising from and secured to the cross-head N is a bar, P, which is guided between the bed Q and upright part R of the frame A, said bed being sustained in upright position on the frame A. The bed has secured to it at its upper and lower ends the inking-plates S T, respectively, it being noticed that the plate T stands out from the bed to a greater extent than the plate S. At or about the center of the bed, and standing out from the face thereof, is the stationary form U and movable form V, said form U being of the form of a chase with type properly set therein, or may be an electrotype, the central portion of the form being open and receiving the movable form V, whose rear portion is engaged by the bar P, said rear portion being fitted in a guide, V′, on the part R of the frame, whereby the movable form V is properly steadied in its advance and return motions.

W represents a spring, which is secured to the movable form V and the guide V′, for imparting motion to said form in one direction—namely, its return—the advance motion of said form being accomplished by means of the bar P, which bears against the back of the form V, as has been stated. The bar has a portion of its front face recessed, as at *a*, and recessed to a greater extent, as at *b*, and of full width, as at *c*. Consequently, when the form V is in contact with the part *c*, its face projects beyond the face of the form U, as seen in Fig. 1. When the form is in contact with the wall of the recess *b*, its face is below or behind the face of the form U, as seen in Fig. 2. When the face is in contact with the wall of the recess *a*, its face is level or flush with the face of the form U, as seen in Fig. 3, it being remembered

that the bar P rises and falls, so that its parts *a b c* come in contact with the form V and set the same, as above stated.

X represents an inking-roller which comes in contact with the plate S, and Y represents an inking-roller which comes in contact with the plate T, it being noticed that said rollers are located one above the other and both are mounted on the sides of the bar P, so as to rise and fall therewith. The roller Y is set out from the roller X, and the throw of the bar P is so adjusted that the roller X does not pass over the plate T and the roller Y does not pass over the plate S.

The pivots of the platen G are fitted in horizontal slots *d* in the frame A, whereby they have play in said slots, and the pivotal end of said platen has secured to it a spring, Z, which is also secured to the frame A, whereby said end is drawn back or in the direction from the bed, as seen in Fig. 3.

The operation is as follows: The plates S T are fed with ink of different colors, so that when the press is in motion the roller X applies its ink to the form U and the roller Y applies its ink to the form V. When the parts are in the position shown in Fig. 1, the bar is about to descend, and when it descends the roller X passes over the plate S. Then the form V recedes and the roller X inks the form U. The roller Y then reaches and passes over the plate T, and the bar descends to full extent, and the form V is moved out so that its face is flush with the face of the form U. (See Fig. 3.) The bar now ascends and the platen returns to its normal position. The form V is then pressed by the part *c* of the bar and thrown out so that its face is beyond that of the form U, and the roller Y passes over said form V and inks the same without coming in contact with the form V. Both forms have now received their distinct colors. The bar now descends, the form V recedes, the form U is again inked by the roller X, the roller Y rides on the plate T, and the platen advances against the two forms as inked, whereby the impression is made simultaneously in the two colors, the register being perfect, after which the other operations stated are repeated. When the platen is advanced, the spring Z draws back the lower end thereof, so that said platen, instead of advancing in curvilinear direction against the forms, moves in a plane parallel with that of the bed, (see Fig. 3,) whereby the tendency of the sheet to shift, due to radial motion against the forms, is obviated and blurring consequently prevented.

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

1. A printing-press having rollers for different colors, a bed with stationary and movable forms or chases inclosed one within the other, and means for moving one of the same, whereby both forms may be inked with individual colors and the printing from both forms accomplished at one operation, as stated.

2. A printing-press having rollers for different colors, a bed with stationary and movable forms or chases, and a bar which engages with the movable chase and is formed with different faces, whereby said movable chase is respectively advanced beyond, set back, and located flush with the stationary chase for printing in different colors at one operation, substantially as described.

3. A printing-press having a bed with a stationary chase or form and a movable chase or form, the latter being fitted within the former, a bar for operating said movable chase or form, and inking-rollers for different colors, said bar having faces, substantially as described, whereby the movable chase or form may be placed in different positions, each chase or form receives its individual color, and the colors are simultaneously printed, as stated.

4. In a printing-press, a bed with stationary and movable chases or forms and inking-rollers for different colors, in combination with a sliding bar bearing against the movable chase and formed with different faces, as stated, whereby said chase is located in relation to the stationary chase and inking-rollers, a platen, and means for operating said bar and platen, substantially as described.

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