(No Model.)

T. H. LINDLEY & F. M. ROBINSON.

DEVICE FOR CHROMATIC PRINTING.

No. 330,719. Patented Nov. 17, 1885.

Fig. 1.

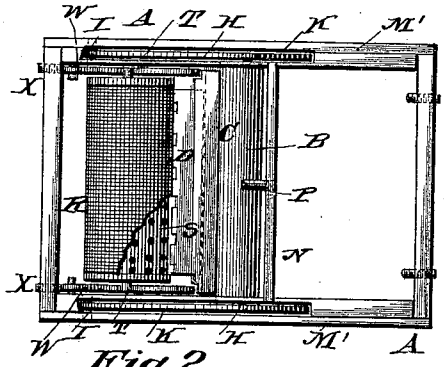


Fig. 2.

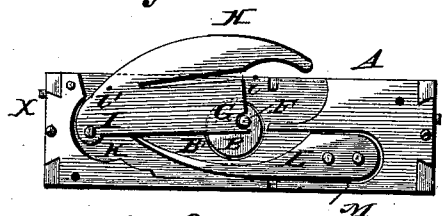


Fig. 3.

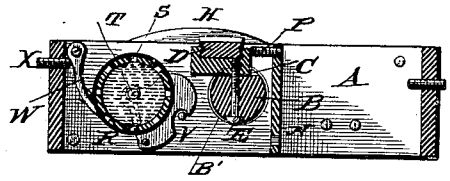


Fig. 4.

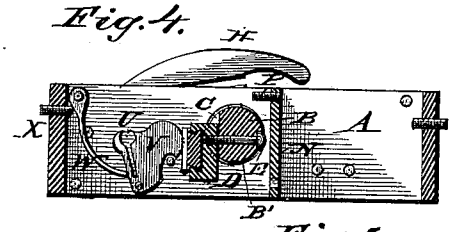
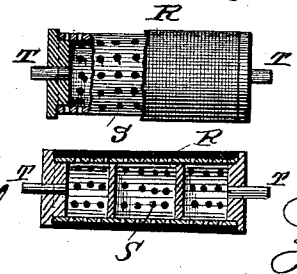


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS H. LINDLEY AND FRANK M. ROBINSON, OF LYONS, IOWA.

DEVICE FOR CHROMATIC PRINTING.

SPECIFICATION forming part of Letters Patent No. 330,719, dated November 17, 1885.

Application filed July 29, 1884. Serial No. 139,055. (No model.)

To all whom it may concern:

Be it known that we, T. H. LINDLEY and F. M. ROBINSON, of Lyons, in the county of Clinton and State of Iowa, have invented certain new and useful Improvements in Devices for Chromatic Printing; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention has for its objects to provide for printing in various colors upon an ordinary newspaper-sheet, and it is designed principally for printing advertising-matter in a color that will bear a striking contrast to the black printed matter of the paper, so as to attract the attention of the reader at a glance. These objects we attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a top view of our improved device; Fig. 2, a side elevation with one side plate of the device removed in order to show a portion of the actuating mechanism. Fig. 3 represents a longitudinal vertical section of the device, showing the parts in position for printing the colored design or characters. Fig. 4 represents a similar view showing the color-printing form in position to receive the colored ink from the colored-ink roller; and Fig. 5 represents a detached view of the colored-ink roller with a portion of its outer covering removed in order to better show its construction.

The letter A indicates a rectangular frame, constructed of metal or other suitable material, which carries the color-printing form and the inking and operating mechanism of the device.

The letter B indicates a transverse rock-shaft, which is journaled in bearings B′ in the sides of the frame, and which is flattened on one side to form a seat, C, for the color-printing form D, which is secured to the said rock-shaft by means of the screws E, or in any other convenient manner. The said shaft at its ends is provided with short crank-pins F, which are engaged by the recesses G in the ends *i* of the levers H. The said levers are fulcrumed at their other ends, *i′*, to the sides of the frame, as indicated by the letter I, in recesses K, in which they are adapted to work, and are held normally upward by means of the springs L, secured to the recesses M in the sides of the frame. The sides of the frame are covered by detachable plates M′, in order to protect the levers, springs, and the ends of the rock-shaft from dirt or injury and provide a plain surface to the sides of the frame in order that it may be properly secured in the type-form. The levers project above the edges of the frame and are curved, as shown in Figs. 2, 3, and 4 of the drawings, for the purposes hereinafter specified, and they are cut or slotted longitudinally, so as to have a certain amount of "spring" or elasticity, for the reason hereinafter set forth.

The letter N indicates a transverse plate secured within the frame behind the rock-shaft, and provided with a set-screw, P, which forms an adjustable stop for the rock-shaft and its type form, whereby the rotary movement of the shaft may be limited, so as to present the face of the type squarely to the surface of the paper to be printed.

The letter R indicates the inking-cylinder, which is constructed of metal and hollow to receive the ink. The periphery of the said cylinder is perforated, as indicated by the letter S, and it is covered with felt or other suitable material, to which the ink is fed from the interior through the perforations. The said cylinder is provided with journals T at its ends, which have bearings U in the tumblers V, which are pivoted to the inner sides of the frame, the tumblers being slotted, as indicated, in order to permit the journals of the inking-cylinder to be sprung into and out of the bearings, in order to permit it to be readily inserted and removed. The tumblers are kept pressed normally toward the rock-shaft and its form by means of the curved springs W, which are adjusted by means of set-screw X, to bear with the requisite force against said tumblers to press the inking-cylinder against the face of the type. One or both ends of the inking-cylinder is detachable for charging the same with ink.

The frame is to be secured in the type-chase with the other matter, being set up the same manner as an electrotype-block or other similar matter, the rounded edges of the levers

projecting above the edges of the frame, as shown.

The frame is secured to the bed of a reciprocating press of any suitable description. The levers and other parts of the device remain in normal condition, as shown in Fig. 2, while the bed passes under the black inking-roller, which, being soft, yields to the levers without depressing them, but when the bed passes under the impression-cylinder the levers are depressed, partially rotating the rock-shaft, as shown in Fig. 3, so as to present the faces of the color-types to the sheet and make the colored impression upon the said sheet. In turning, the type form on the rock-shaft presses the inking-cylinder forward, the tumblers yielding for the purpose, and at the same time rotates it so as to present a fresh portion to the type at each operation of inking. The slots in the levers permit them to yield to some extent to the impression-cylinder, so as to prevent injury to the parts of the device or to the type from any undue pressure.

The inking-cylinder may, if desired, be divided by means of suitable partitions into two or more compartments, which may contain ink of different colors when it is desired to print in different colors, and the frame may be made of sufficient width to occupy two or more columns, or any desired space. The spaces at each side of the rock-shaft and inking mechanism may be utilized to hold advertising-matter either set up in type or in the form of electro plate, which receive the black ink from the inking-roller of the press and transfer it to the paper in the same manner as the ordinary printed matter.

Having described our invention, we claim—

1. A device for printing in colors, consisting of a rectangular main frame adapted to be locked in a case with ordinary type, a type-form secured to a transverse oscillating shaft, and levers pivoted to the main frame and adapted to turn the said form flush with the ordinary type when acted on by the impression-cylinder, substantially as specified.

2. The combination, with the main frame, of the rock-shaft flattened on one side to form a seat for the type-form, and journaled in bearings in the main frame, the curved levers fulcrumed to the sides of the frame and engaging suitable crank-pins on the ends of the rock-shaft, and the springs, whereby said levers are turned to shift the type frame or form, substantially as specified.

3. The combination, with the main frame, partitions N, and stop-screw P, of the oscillating shaft B, provided with the crank-pins F, and actuating levers H, substantially as specified.

4. The combination, with the frame and the rock-shaft provided with crank-pins at its ends, of the curved levers slotted as described, so as to yield to the impression-cylinder, substantially as specified.

5. The combination, with the main frame and tumblers V, provided with spring-bearings U, made by boring said tumblers and partially splitting the tumblers from the lower portions of said bores, with the inking-cylinder R, the springs W, and screws X, adapted to regulate the pressure of the springs against the inking-cylinder.

6. The combination, with the main frame, the form D secured to the oscillating shaft B, the pivoted levers H, and springs L, of the tumblers V, the inking-cylinders R, springs W, and set-screws X, substantially as specified.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

THOMAS H. LINDLEY,
FRANK M. ROBINSON.

Witnesses:
T. D. ALEXANDER,
F. O. MCCLEARY.