(No Model.) 2 Sheets—Sheet 1.

W. DICKS, Sr.

CHROMATIC PRINTING APPARATUS.

No. 429,848. Patented June 10, 1890.

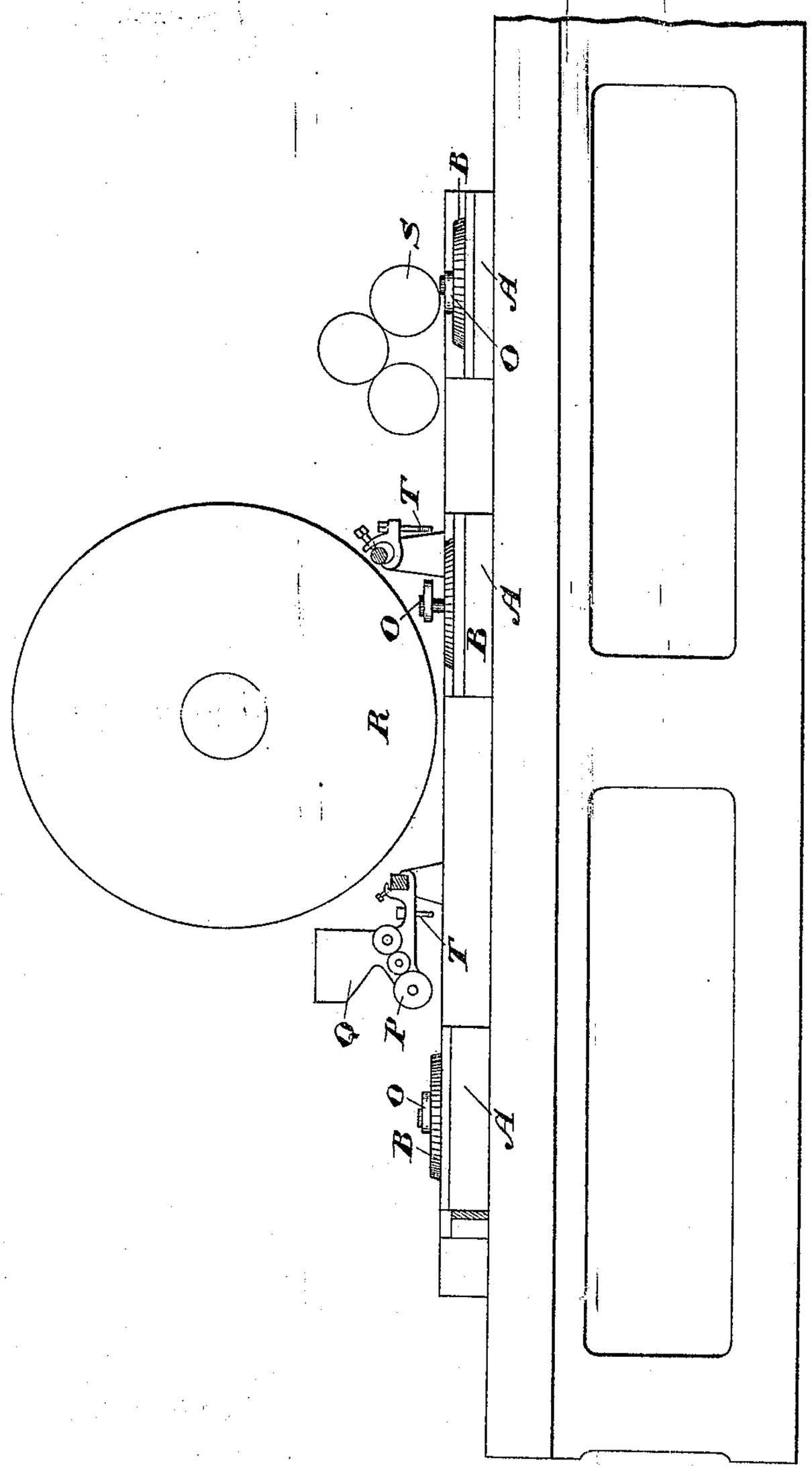

Fig. 1.

Witnesses
J. Edw. Mayhew
F. R. Cameron.

Inventor
William Dicks Sr.
by Donald. C. Richards & Co
Attys

(No Model.) 2 Sheets—Sheet 2.

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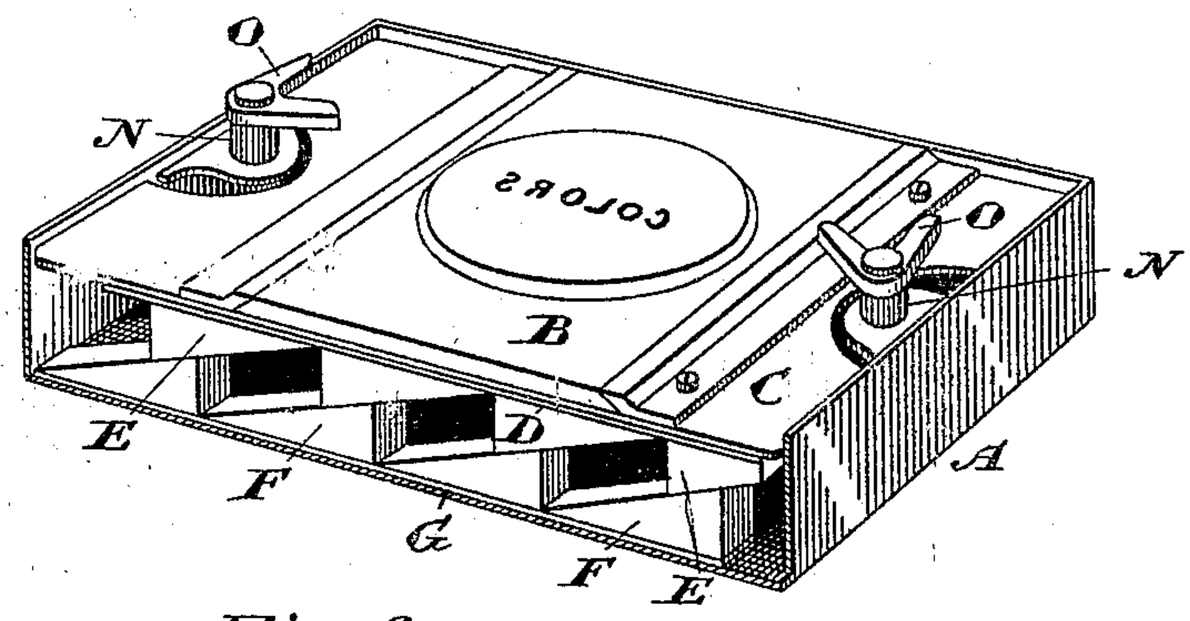

Fig. 2

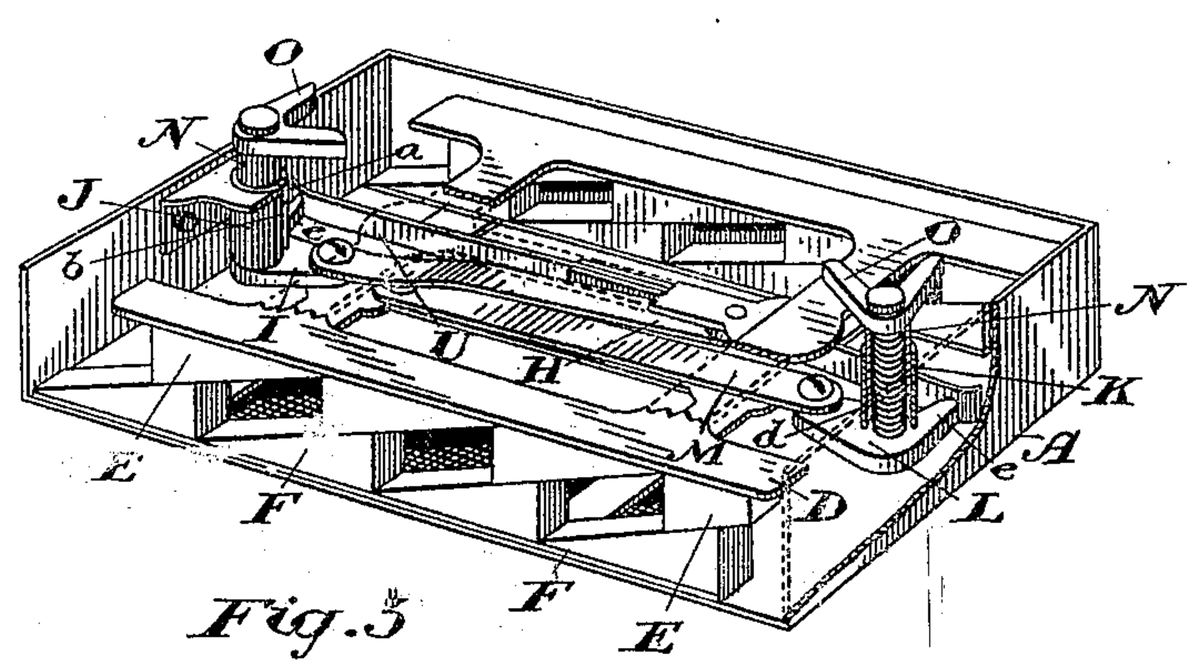

Fig. 3

Witnesses

J. Edw. Mayhew

F. R. Cameron.

Inventor

William Dicks Sr.

by Donald. P. Dickson & Co

Attys

UNITED STATES PATENT OFFICE.

WILLIAM DICKS, SR., OF TORONTO, ONTARIO, CANADA, ASSIGNOR OF ONE-HALF, BY MESNE ASSIGNMENTS, TO RICHARD NOBLE MORTON, OF BROOKLYN, NEW YORK.

CHROMATIC PRINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 429,848, dated June 10, 1890.

Application filed August 30, 1889. Serial No. 322,450. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DICKS, Sr., machinist, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a certain new and useful Improvement in Chromatic Printing Apparatus, of which the following is a specification.

The object of the invention is to provide a simple attachment capable of being applied to almost any class of printing-press, and by which a paragraph in a color different from the color of the main body of the printing may be impressed simultaneously with the other printing-matter; and it consists, essentially, of a box designed to contain a cast or electrotype and fitted into the chase in the same manner as the blocks or type, the said box being provided with simple mechanism by which its cast or electrotype may be adjusted vertically so as to bring its surface above the type-surface at the point where its inking-roller is placed, the said cast or electrotype being then lowered until its surface is flush with the type-surface, where it remains until the impression or printing has been effected, when it descends below the type-surface, remaining there while passing the main inking-rollers, the operation being reversed as the chase returns.

Figure 1 is a skeleton elevation illustrating the operation of my invention. Figs. 2 and 3 are enlarged perspective views of my improved box partially broken away to expose the interior mechanism.

My invention is specially designed to enable a printer to print in an ordinary press advertisements or paragraphs in two or more colors, in order that any particular advertisement or paragraph shall be specially conspicuous.

In the drawings like letters of reference indicate corresponding parts in the different figures; but for the purpose of this specification I shall first refer to Fig. 2, in which the mechanism for operating the cast or electrotype is shown.

A is a box, which is designed to fit into the chase in exactly the same manner as an ordinary electrotype. In this box I fit the electrotype B, containing the paragraph or advertisement, the said box resting on top of a plate C, which is supported by the frame D, loosely fitted into the box A. On the bottom of the frame D, I form or attach a series of wedge-shaped blocks E, which blocks rest upon inversely-shaped blocks F, attached to the frame G, which corresponds inversely with the frame D. A rod or pitman H is pivoted at one end on the frame D, and at its other end on a crank I, fixed onto a hollow spindle J, journaled in one end of the box A. A similar hollow spindle K is journaled in the opposite end of the box A, and its crank L is connected to the frame G by a rod or pitman M. A spindle N is fitted into each of the hollow spindles J K, and each spindle N has a lug *a* formed on it to fit into a slot *b*, made in each of the spindles J K, so that the spindle N will revolve with its spindle J or K. A spiral spring *d* is suitably connected to the end of each of the spindles N, and is designed to support the said spindle in such a manner as to permit it to be pressed down and again resume its initial position upon the removal of the pressure. On the upper end of each spindle N, I fix a bell-crank O. A heel *e* is formed near the bottom of each of the spindles J and K, and a spring P is provided for each spindle to act against its tail *e*, in order that when turned on its pivot the said spring will push upon and hold its spindle in the desired position. Owing to the connection described between the bell-crank O and its respective frame, the turning of either of the cranks O will cause its frame to be moved longitudinally, thereby causing the blocks E and F to move up or down each other, and thus raise or lower the electrotype B, for the purpose and in the manner hereinafter more particularly explained.

On reference to Fig. 1, which is simply a skeleton view, P represents a set of inking-rollers attached to one of the fender-bars Q. R represents the impression-cylinder, and S represents the ordinary inking-rollers of the printing-press.

I show the box in three positions, in order to illustrate the operation of my device. The box A, which fits into the chase in exactly the same manner as an ordinary block, is first

placed in the chase and the chase is placed in the machine in the ordinary way. When the box is in the first position, as indicated in the left-hand side of Fig. 1, the frames D and G are adjusted so that the thick ends of their wedge-shaped blocks shall be immediately above each other, in which position they elevate the surface of the electrotype B above the type-surface of the chase. When the press is put into operation the surface of the electrotype B comes in contact with its inking-roller P, where it receives a color in marked contrast to the color of the ink on the type-surface. As the box A passes below the inking-rollers P one of the cranks O comes in contact with the pin T, which is fixed to and projects below the fender-bar Q, on which the inking-rollers P are supported. The crank thus struck is caused to revolve a quarter-turn, sufficient to move its frame down until the surface of the electrotype B is flush with the general type-surface in the chase, which passes below the impression-cylinder R, which prints the paper in the usual way, when a sheet is produced having the main body of the printing in one color and the advertisement or paragraph which it is desired to display printed in a strong contrasting color, calculated to attract immediate attention. As the box A passes from below the impression-cylinder R its other crank O comes in contact with a pin T, supported by and projecting from the fender-bar Q on the right-hand side of Fig. 1, thus turning the second crank a quarter-turn and causing it to adjust its frame so as to still farther lower the frame G in the box A, bringing the surface of the electrotype B below the type-surface of the chase, which then passes below the ordinary inking-rollers S and receives its ink without the surface of the electrotype being interfered with. On the return-stroke of the table carrying the chase the operation just described is reversed. The electrotype B, being first raised so that the surface shall be flush with the type-surface of the chase, is then raised so that its surface shall be above the type-surface, ready to receive a fresh supply of ink from its inking-roller P. When passing below the rollers and impression-cylinder, the cranks O are pressed down, the spiral spring *t* permitting the said movement.

From this description it will be seen that by simply placing on one of the fender-bars Q an arrangement of inking-rollers and providing two downwardly-projecting pins T, I alter an ordinary printing-press to produce in a single impression a printed surface having a paragraph printed in a color which will form a strong contrast with the main body of the printed surface. It will also be understood that I can easily have more than one colored paragraph, it being merely necessary to duplicate the mechanism I have described.

What I claim as my invention is—

1. In a printing-press, the combination of a case or bed, vertically-movable frames in said case, pitmen connected to each frame, and levers pivoted to each of the pitmen and adapted to be struck by mechanism of the press for moving the frame, substantially as and for the purpose described.

2. An electrotype B or equivalent printing-surface supported on a frame D, contained within a box A, and having wedge-shaped blocks E and F fixed to it, the frame G, having inversely-shaped blocks F to support the wedge-shaped blocks E, in combination with the rod or pitman H, connecting the frame D to the crank I, the rod or pitman M, connecting the frame G to the crank L, and bell-cranks O, connected, respectively, to the cranks I and L, and arranged to adjust the latter, substantially for the purpose hereinbefore described.

3. In a printing-press, the combination of a case or box, frames therein having inversely-arranged blocks thereon, pitmen connected to said frames, cranks connected to said pitmen, and levers connected with the cranks and adapted to be operated upon by mechanism on the press, substantially as and for the purpose specified.

4. In a printing-press, the combination of the frames having the inversely-arranged wedge-shaped blocks, and the spring-actuated levers connected with said frames and adapted to be operated upon by mechanism on the press, substantially as and for the purpose described.

5. In a printing-press, the combination of a case or box, frames arranged therein, spindles mounted in the case and connected to the frames, springs around said spindles, and bell-crank levers connected to the spindles and adapted to be struck by a projection on the press, substantially as described.

6. In a printing-press, the combination of a case or box, frames arranged in said case, spindles journaled in the case, carrying cranks and connected to the frames, and springs bearing against the cranks of the spindles, adapted to be struck by a lug or projection of the press, substantially as and for the purpose specified.

7. In a printing-press, the combination of the frames, pitmen connected to the frames, the cranks connected to the pitmen, springs bearing against the cranks, the spring-actuated spindles connected to the crank, and the bell-crank levers on the spindles, adapted to be struck by a lug or projection on the press, substantially as and for the purpose specified.

Toronto, August 7, 1889.

WILLIAM DICKS, SR.

In presence of—
CHARLES C. BALDWIN,
F. R. CAMERON.