

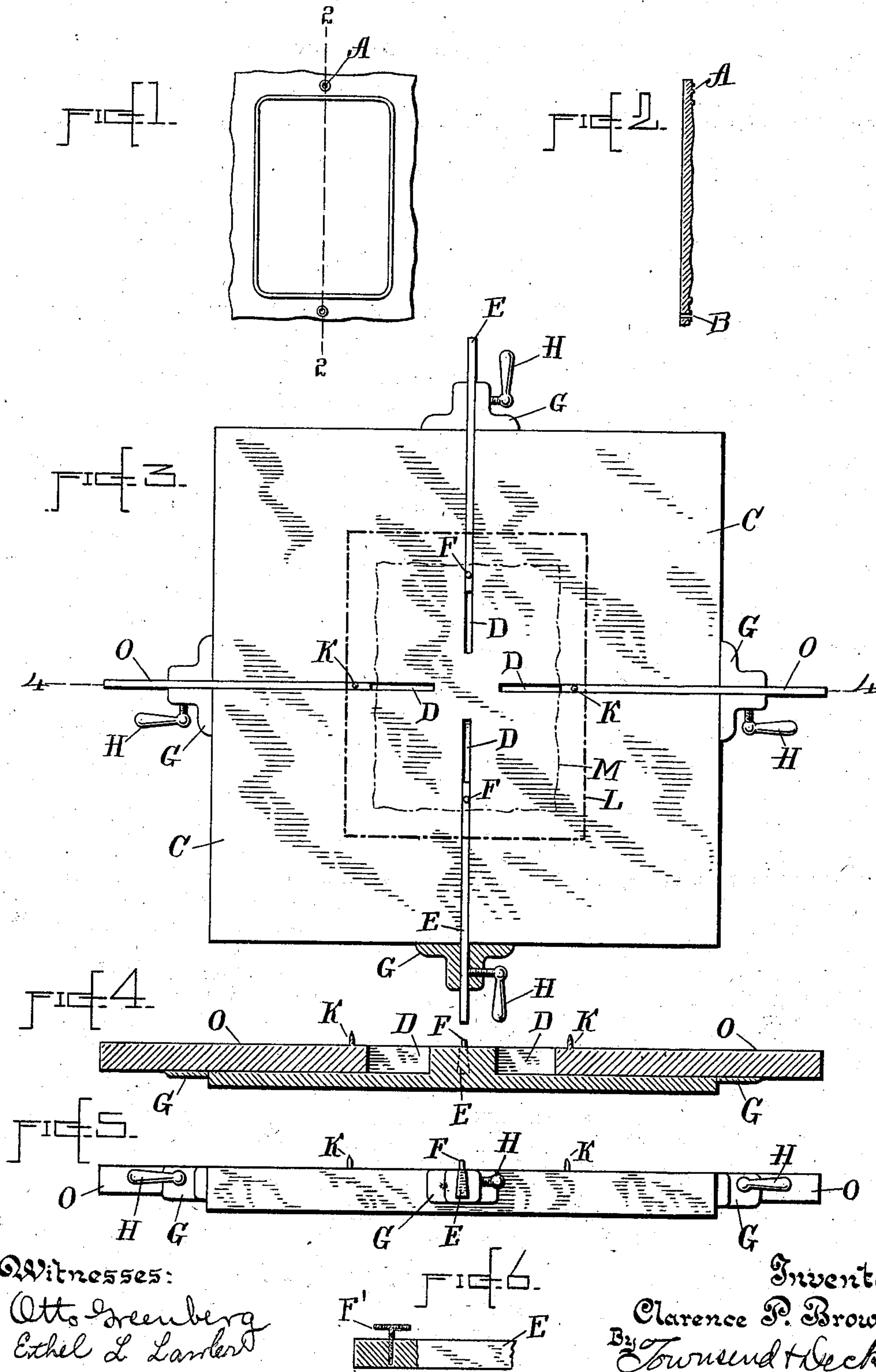
No. 698,255.

Patented Apr. 22, 1902.

C. P. BROWNING.
ART OF COLOR PRINTING.

(Application filed Oct. 25, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

CLARENCE P. BROWNING, OF MANHASSET, NEW YORK.

ART OF COLOR-PRINTING.

SPECIFICATION forming part of Letters Patent No. 698,255, dated April 22, 1902.

Application filed October 25, 1901. Serial No. 79,897. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE P. BROWNING, a citizen of the United States, and a resident of Manhasset, in the county of Nassau and State of New York, have invented certain new and useful Improvements in the Art of Color-Printing, of which the following is a specification.

This invention relates to an improvement in the art of printing in colors, and has for its main object to so construct a supplemental bed and the plates to be used thereon that perfect registry of succeeding plates may be readily effected and likewise perfect registry of succeeding sheets to be printed.

In printing in several colors—say, for example, three—it is absolutely necessary that each of the three plates shall occupy in succession exactly the same place on the bed of the press. It is also desirable that one plate may be replaced by another rapidly as well as accurately. It is also just as necessary and desirable that each of the succeeding sheets shall register accurately upon succeeding plates and that the registry thereof may be readily and rapidly effected. By my invention these ends are attained, and it therefore consists in the construction, combination, and arrangement of parts, as hereinafter fully described and claimed.

The two things most essential to the practice of my invention are the construction of the plates, whereby they may be made to register one with the other, and the construction of the bed, whereby to effect the registry of succeeding plates and succeeding sheets. These things are illustrated in the accompanying drawings, wherein—

Figure 1 is a plan of a plate representing the adaptation of my invention thereto. Fig. 2 is a section therethrough on the line 2 2. Fig. 3 is a plan of a supplemental bed for a Washington hand-press, showing the application of the second feature of my invention. Fig. 4 is a sectional view of said bed taken on the line 4 4, and Fig. 5 is an edge view of said bed. Fig. 6 is a detail of a modification.

This invention has to do especially with what is popularly known as "half-tone" work and similar modes of reproduction wherein photography is employed.

The usual plan for registering the plates of

a color series is to provide the plates with holes and the bed with pins. In doing the first of these acts there has been great liability to error, and the second results in destruction of the bed. I provide registry-holes in the plates by making upon the drawing from which the plates are to be made registry-marks in the form of a circle whose central space, when reproduced upon the plates, will be the diameter of the drill used for making the registry-holes. These circles are preferably made at the top and bottom of the drawing, though they may be made at any other desired points. These circles are reproduced as annular walls upon the plates, as shown at A in Figs. 1 and 2. These walls make little wells the size of the diameter of the drill to be used in boring the registry-holes and guide the drill to its work. At B the hole is shown as drilled through such a well. As each plate in a color series is produced from the same negative, these drill-guides are located in absolutely the same place upon each plate of the series, and thereby the registry-holes are accurately located.

A bed for color-printing must be constructed to take plates of various sizes and shapes. Therefor to avoid driving it full of holes for registry-pins I have devised a structure whereby one pair of pins will serve for all sizes and shapes of plates. Figs. 3 to 5 illustrate such a structure. Therein C refers to the supplemental bed, which may be made of any desirable material—for instance, cast-iron. In it are formed channels, preferably undercut, as seen at D, and in these channels are located slides, as E, fitted snugly thereto, yet capable of free longitudinal movement, and having their upper edges flush with the top of the bed and as narrow as practical, so as to maintain as nearly as possible the surface of the platen unbroken. In the slides E at their inner ends are the registry-pins F, which project above the surface of the bed and are made to closely fit the registry-holes in the plates. Pins thus mounted may be moved to any desired distance from the center of the bed to properly locate different series of plates. The slides may be fixed in any adjusted position in various ways. One of such ways is shown in the drawings, wherein abutments, as G, are located at the sides of the channels

D on the edge of the bed, and through one of these is passed a set-screw H. I do not confine myself to any particular way of adjusting the slides longitudinally nor of securing them in adjusted positions.

Having made provisions for absolute accuracy in locating on the bed the plates of a color series, it is next essential to locate accurately the sheets to be printed on each succeeding plate of the series. This I do by placing at each side of the plate a sharp pin, as K, which pins pierce the sheet in its application to the first plate. Then in its application to the succeeding plates the pins are made to enter again the holes thus formed. A sheet is indicated in coarse broken lines at L, Fig. 1, as in position upon the pins K and overlying the plate, which is indicated by fine broken lines, as at M. The pins K are preferably pointed and are mounted on slides O, constructed in substantially the same manner as those bearing the pins F, and these slides are adjustable in the same manner in all respects as are the slides E, so as to accommodate sheets of different sizes. This supplemental bed may be varied in shape and size, and while especially designed for use on a Washington hand-press it may obviously be used on other presses and even locked in a form, if desired. When used in this latter way or in a press where in operation it would be turned face downward, the pins F may be replaced by removable hooks or headed pins, as indicated in Fig. 6 at F', which will hold the plate securely to the bed whatever the position of the bed. These and other changes may be made without departing from my invention.

I claim as my invention—

1. A plate for printing having annular walls formed thereon as guides for drilling registry-holes, the center space or well formed by said wall being of the diameter of the drill used in boring the registry-holes.
2. A series of plates for color-printing, each of which plates has annular walls formed

thereon during the production of the plate as set forth and in identically the same positions as on the remaining plates of the series, said walls forming wells to receive and guide the drill used in boring the registry-holes.

3. The combination with a bed for printing-presses having ways formed in the surface thereof, of registry-pins mounted in the ways and adjustable to different places on the surface of the bed, for the purpose set forth.

4. A bed for printing-presses having slots or channels formed therein and slides adjustable longitudinally in said channels and registry-pins mounted in said slides as and for the purpose set forth.

5. A bed for printing-presses having channels formed therein, slides fitted to said channels, registry-pins carried by said slides, and means for fixing the slides in adjusted position.

6. A bed for printing-presses having undercut channels formed therein with narrow openings in the face of the bed, slides fitted to said channels and filling them flush with the surface of the bed, pins carried by said slides and projecting above the surface of the bed.

7. A bed for printing-presses for use in color-printing having slots formed radially therein, slides adjustable longitudinally in said slots and registry-pins carried on the inner ends of said slides.

8. A supplemental bed for use in color-printing having slots formed radially therein, slides adjustable longitudinally in said slots, registry-pins for a plate in one pair of opposing slides, and prick-pins for sheet-registry in another pair of opposing slides, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 17th day of September, A. D. 1901.

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