C. B. HOWE.

METHOD FOR REGISTERING CUTS FOR COLOR PRINTING.

APPLICATION FILED MAR. 31, 1909.

927,049. Patented July 6, 1909.

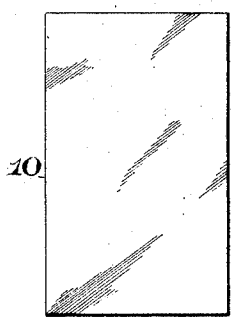


Fig. 1

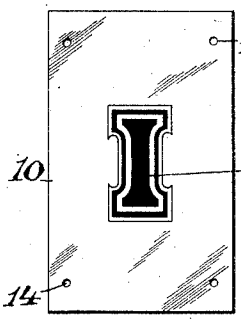


Fig. 2

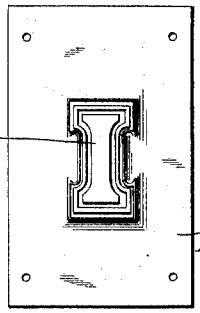


Fig. 3

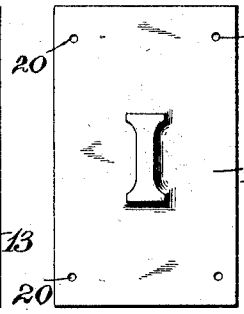


Fig. 4

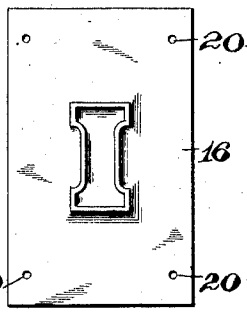


Fig. 5

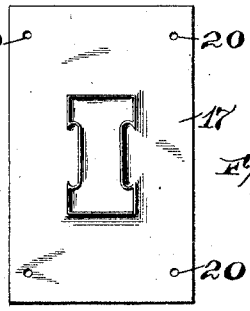


Fig. 6

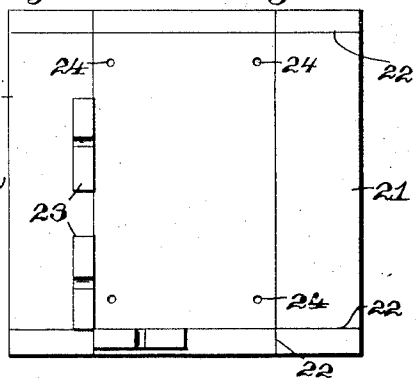


Fig. 7

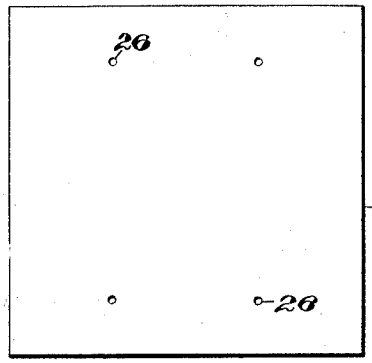


Fig. 8

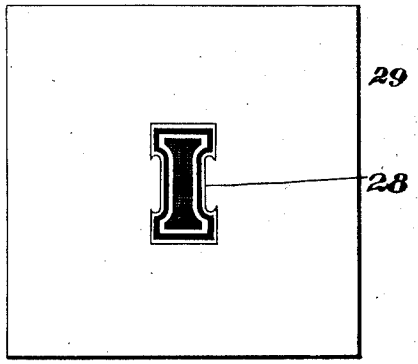


Fig. 9



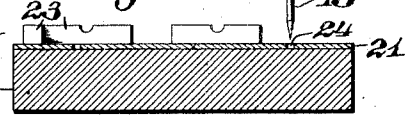


Fig. 10

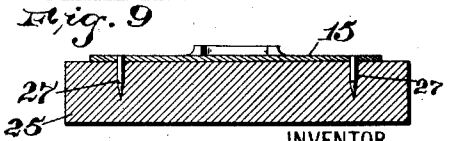


Fig. 11

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UNITED STATES PATENT OFFICE.

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METHOD FOR REGISTERING CUTS FOR COLOR-PRINTING.

No. 927,049. Specification of Letters Patent. Patented July 6, 1909.

Application filed March 31, 1909. Serial No. 486,848.

To all whom it may concern:

Be it known that I, CHARLES B. HOWE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Methods for Registering Cuts for Color-Printing; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in color printing, and particularly in a method of insuring the different colors being printed on the same sheet so that they will register and cause the production of a sample of the typographical art that is symmetrical. The method is quick and positive, and sheets can be printed successively from cuts or electros so that the different colors will be in their proper places on the sheet and not overlap each other.

As heretofore made the cuts for the different colors have been placed in blocks and adjusted by means of screws, and a great deal of adjustment is usually necessary to finally get the cuts in place so that they will print at exactly the right point, since the cut should be exactly in register to produce a good copy, and the slightest variation causes an overlapping of the colors and blank spaces to appear between them, which gives an uneven effect.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a plan of a transparent sheet used in the process, and Fig. 2 is the same sheet with an impression thereon of the device or emblem to be printed, the print being made of the assembled cut. Fig. 3 is a view of the cut from which the impression on Fig. 2 is made. Figs. 4, 5 and 6 are face views of electros used for different colors on the same design to form the whole figure. Fig. 7 is a face view of a lined up sheet used in the method. Fig. 8 is a face view of a block or panel also utilized in this process. Fig. 9 is a sample of the result of printing in different colors from the cuts shown in Figs. 4, 5 and 6. Fig. 10 is a view illustrating one step in the process, and Fig. 11 is a section showing one of the cuts as in Fig. 4 secured to the panel shown in Fig. 8.

The electros used in this process are similar to those used in the ordinary color printing and there is nothing new in the production of the cuts, and the method of using them is the same, that is, they are impressed successively on the same sheet, each being printed with a different color so that after all the impressions have been made an ornamental and artistic impression is the result.

In Fig. 1 is illustrated a transparent sheet 10 which is made the same dimensions as the cuts and can be used as shown in Fig. 1, or it can be printed as in Fig. 2 with the design 11 which is struck up from the printing portion 12 of the cut 13, which cut is the assembled cut, and the design 12 is printed in one color on the transparent sheet. The transparent sheet is provided with perforations 14, these being shown symmetrically arranged in the figure, but in an odd shape the perforations can be placed at any point where there is a blank space and it would not interfere with the printing. The cuts 15, 16 and 17, shown in Figs. 4, 5 and 6, are then taken, these cuts being provided by an electrotyper and being adapted to print the different colors successively. Each one in its turn has the transparent sheet 10 laid thereon, if the sheet is plain with the edges in register, or if the sheet is printed as in Fig. 2, with the design or the portion of the design corresponding therewith in register with the cut. Any suitable tool 18, shown in Fig. 10, with a handle 19 is then used and holes 20 are punched in the cuts in register with the holes 14 of the transparent plate. This is done on all of the electros 15, 16 and 17 so that they all have the holes in register. The cuts are usually made of copper or similar soft material and are easily perforated. I then take a sheet 21, known in printing offices as a lined up sheet and used at present to lay out the work, and this sheet is lined up with the lines 22 so as to properly indicate where the cut is to be, the lined up sheet usually being the size of the sheet to be printed. Quads or similar articles 23 are pasted to the lined up sheet 21 to form the edges of the space in which the cut is to be placed to form bearings against which the transparent sheet can be laid so that it will be held in place, although these quads or guiding pieces are not absolutely essential.

The transparent sheet, with its holes 14, is then laid on the lined up sheet and the holes 24 are punched through the lined up sheet so that the location of the cut is fixed on the sheet. A block of wood or similar material, known in the printing trade as a panel to which the cuts are to be attached, is then placed under the lined up sheet 21 and the holes in the lined up sheet will then be over the spot where the holes in the cuts 15, 16 and 17 are to come when they are in place. The edges of the lined up sheet 21 and the panel 25 are in register, and while held that way, the tool 18 is used to punch holes through the perforations 24 in the lined up sheet, and the panel is thus provided with the perforations 26 shown in Fig. 8. There is a panel provided for each of the cuts 15, 16 and 17, that is, there are as many panels as there are going to be impressions or colors printed.

After the perforations, which can be very slight if desired, have been made, register pegs or pins 27 are driven into the panel 25, these pins being shown in Fig. 11. Each of the panels is thus provided with pins and has its cut 15, 16 or 17 placed thereon, the holes 20 in the cut fitting over the pins 27 and placing the cut absolutely in its place so that the panels can be successively inserted or used in the same or different presses, preferably flat bed presses, and impressions thereon made on the same sheet, and if the sheets are fed properly, the impressions are bound to be in register. This lining up is quickly done, because more than one cut can be fastened to its panel at a time and it is not necessary to wait and use the same block or panel for different cuts, although, if desired, the same pins can be used for different successive cuts, because the holes in the cuts are in the same place, and when fitted over the same pins, would print in line or register. If a cut happens to be insecure on its pins, a small headed brad or tack can be driven through a blank space in the cut to fixedly secure it to the panel. As a result of the printing steps from the different colors, the design 28 on the sheet 20 is shown, and there is no overlapping or misplacing of any of the different impressions.

Having thus described my invention, what I claim is:—

1. The improved method of registering cuts for color-printing which consists in providing a sheet with perforations, providing a series of cuts with perforations through the perforations in the sheet so that they register with the perforations in the sheet, then providing a series of panels with perforations in register with the perforations in the sheet, placing register pins in the perforations in the panels, and placing the cuts on the register pins.

2. The improved method of registering cuts for color-printing which consists in providing a sheet with perforations, providing a series of cuts adapted to register in printing, providing the sheet and cuts with co-acting means for placing the sheet and each cut in register and providing the cuts with perforations through the perforations in the sheet, providing a series of panels with perforations through the perforations in the sheet, placing register pins in the perforations in the panels, and placing the cuts on the pins.

3. The improved method of registering cuts for color-printing consisting in providing a transparent sheet, providing a series of cuts adapted to be registered, and a lined-up sheet, placing the transparent sheet on each cut and perforating through the transparent sheet and each cut, perforating through the transparent sheet on and in the lined-up sheet, providing a set of panels, perforating each panel through the lined-up sheet, and securing a cut to each panel through the perforations in each.

4. The improved method of registering cuts for color-printing which consists in providing a transparent sheet of material, providing the sheet with an impression of a cut, perforating the transparent sheet at points that will not interfere with the printing surface, providing a series of color cuts, placing the transparent sheet on the color cuts with the designs or impressions in register, perforating the color cuts in register with the perforations in the transparent sheet, providing a lined-up sheet, perforating the lined-up sheet to register with the perforated sheet, providing a set of panels one for each color cut, perforating each panel from the lined-up sheet, the panels and the lined-up sheet having co-acting means for placing them in register, placing register pins in the perforations in the panels, and securing a color cut on the pins on each panel.

5. The improved method of registering cuts for color-printing which consists in providing a transparent sheet, and color cuts, perforating the transparent sheet and the color cuts so that their perforations are in register, using the transparent sheet for perforating supports for the color cuts, and securing the color cuts on the supports through the perforations in each.

In testimony, that I claim the foregoing, I have hereunto set my hand this 27th day of March 1909.

CHARLES B. HOWE.

Witnesses:
WM. H. CAMFIELD,
E. A. PELL.