

J. D. JOHNSEN.
 PROCESS FOR PRODUCING COLOR PRINTING PLATES.
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Patented Aug. 21, 1917.

1,237,342.

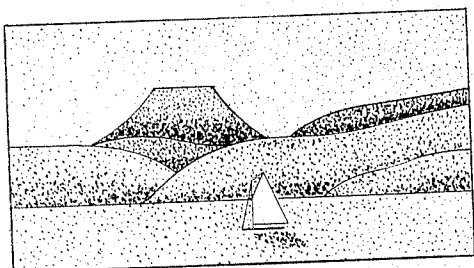


Fig. 1.

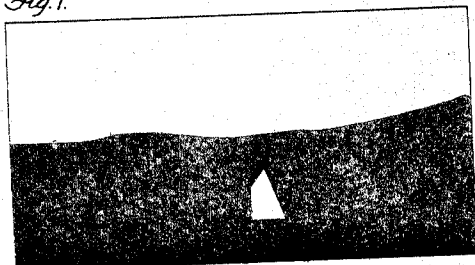


Fig. 2.

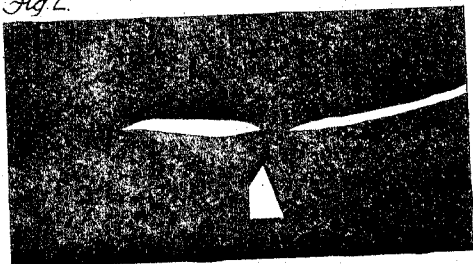


Fig. 3.

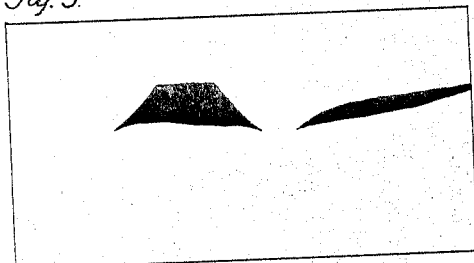


Fig. 4.

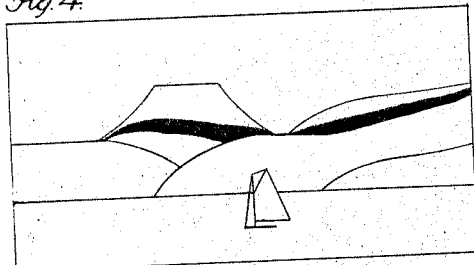


Fig. 5.

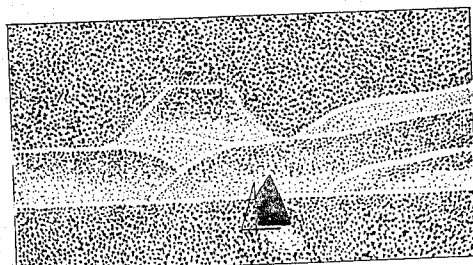


Fig. 6.

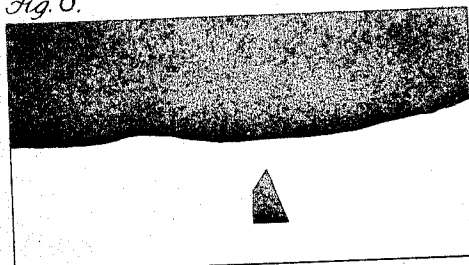


Fig. 7.

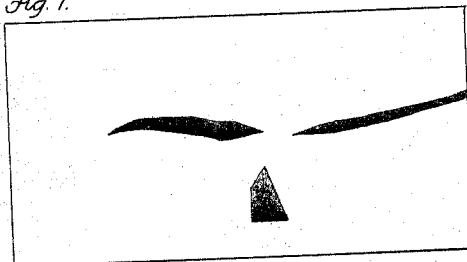


Fig. 8.

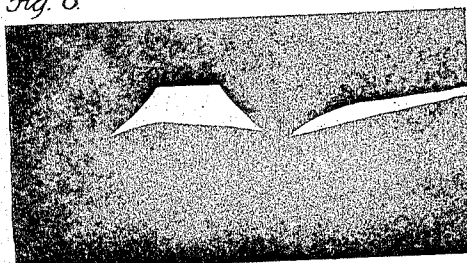


Fig. 9.

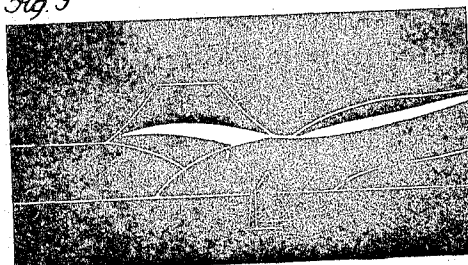


Fig. 10.

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PROCESS FOR PRODUCING COLOR-PRINTING PLATES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN D. JOHNSEN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Processes for Producing Color-Printing Plates, of which the following is a specification.

This invention relates to processes for producing color-printing plates, particularly for reproducing natural color effects; and it is a primary object of this invention to provide a method of procedure which is simple and effective in its use and results, and to provide a method of procedure whereby the artist may work directly upon the picture itself rather than upon a negative of the picture.

It is a feature of this procedure that negative or reverse silhouettes are made of the original picture and are used in superposition on a half-tone negative of the original to make a final print on the plate of engraver's metal; and that the work of making the silhouettes is done directly on or over the original picture, rather than on or over a negative; the procedure being such that, by making a silhouette of certain parts of the original picture, the artist thus selects from the picture those parts which he wishes to be finally printed in any particular color or in black. Now, although it is possible, as hereinafter pointed out, to silhouette, in any case, either those portions which are not wanted in the corresponding plate, or to silhouette those portions which are wanted in the corresponding plate, yet I prefer to silhouette those portions which are wanted in the corresponding plate. Other variations of my process will appear from the following description; these variations, including among other things, a choice of procedures in making the black or key plate, and a choice as to whether the silhouetting is done on a transparent medium placed over the picture or on a print of the picture itself.

I shall explain my processes as carried out in the three colors; blue, red and yellow. It will be understood, of course, that in using my process the artist must understand the composition of colors and must have a preconceived idea as to what colors he wishes any certain part of the picture to be printed in. Some parts of the picture will be printed in one color alone, while others will be

printed in two or more superimposed colors to produce colors intermediate the three primary ones.

I refer to the accompanying drawings wherein I illustrate typical silhouetting procedures and wherein Figure 1 may represent the original picture (a positive print of any kind); Fig. 2 represents a silhouette of the yellow parts of the original picture; Fig. 3 represents a silhouette of the blue parts; Fig. 4 represents a silhouette of the red parts; Fig. 5 represents a silhouette of those parts wanted to be printed in black to give body to the final print; Fig. 6 represents a negative (a half-tone negative) of the original picture; and Figs. 7, 8, 9 and 10 represent negatives of the respective silhouettes of Figs. 2, 3, 4 and 5.

I shall first explain my preferred mode of procedure for producing any one of the color plates. The original picture (usually a photograph), is taken and a suitable transparent medium, preferably celluloid, placed over it. The artist then, with a black ink, or other medium, covers or silhouettes all those portions of the picture which he wishes to have finally printed in the particular color he is then working on. For instance, as for the reds, he silhouettes all those portions which he wishes to have appear in red or in a color of which red is a component. Such a silhouette is represented in Fig. 4, where it may be desired to give a reddish cast to a mountain in sunset glow. This silhouette being finished, he then similarly silhouettes for the other two colors; having then produced three silhouettes on the transparent medium. The yellow silhouette, Fig. 2, will be opaque over all that is wanted in yellow, or yellow component, in the final print. Thus, the green of the water and of the hills will require yellow and these parts are covered in making this silhouette. The blue silhouette, Fig. 3, will, in this particular case, cover almost all parts of the picture, including the blue sky, the green hills and the green water.

The silhouette for the black or key plate may then be made in exactly the same manner as just described, excepting that only those portions wished to be printed in black are covered in this silhouette. The black silhouette, Fig. 5, may, in this case, cover certain portions of the hills where a dark shade is desired in the final print, and may

also cover the outlines of the different features of the picture. The black gives body to the finally printed reproduction which cannot be obtained by the colors alone. Another, and preferred, method of producing the black or key plate is hereinafter described. These negatives are illustrated in Figs. 7 to 10; and it will be seen that in each negative there is a clear part corresponding to the parts of the picture wanted in the particular color corresponding to that negative.

Negatives are now made of each of the silhouettes. If the original silhouettes have been made on a clear transparency, such as celluloid, a backing of white is used when the silhouette is photographed to produce the negative silhouette; but if white paper has been used as a transparency, then no backing is needed. In my preferred method of procedure an ordinary half-tone negative has also been made of the original picture. (See Fig. 6.) These negative silhouettes are next stripped and the strips are successively superimposed on the half-tone negative. It will be remembered that the original silhouette blocked out all those parts wished to be printed in a particular color or in black; so that the negative silhouettes will, in each case, be transparent over those parts of the half-tone negative wished to be printed in any particular color and be opaque over those parts not wanted in this particular color. A print is then made through the half-tone negative and the superimposed negative silhouette onto engraver's metal for producing a color plate. This operation is repeated with each of the negative silhouettes for the different colors and for the black; so that there is then produced a set of four plates, one for black and one for each of the colors.

The foregoing describes my preferred procedure for producing the plates for color printing; but I prefer to make the black or key plate by superimposing a contrasty negative upon the ordinary half-tone negative. This contrasty negative (not a half-tone negative) is made in the ordinary manner preferably on a wet plate, which is then stripped and superimposed on the half-tone negative. The result is to greatly deepen and make more opaque the dark parts of the composite negative, which means that the light parts of the print then taken on the key plate will be clear of all tone. The contrasty negative is merely a negative wherein the dark parts are darker than usual and the light parts lighter than usual; in fact the contrasty negative is very much similar to the silhouette negative shown in Fig. 10, except that the contrasty negative has graduations from light to dark while in the silhouette there may be no graduations.

In this method of making the key nega-

tive and key plate I may and do modify the composite negative in the following manner: Suppose that there are certain parts in the picture that I wish to show clearly in brilliant color without any gray or black tones at all; or that there are certain parts that I particularly wish to finally show in subdued gray or gray color tones. Before the contrasty negative is made I place my transparent medium over the original picture and white over any parts desired to be finally shown in clear color, and black over any tones desired to be shown in gray or grayish tones. The contrasty negative is then made of the picture behind this whited and blacked transparency; and this contrasty negative then has opaque parts where it is desired to finally show clear color and transparent parts where it is finally desired to accentuate the gray tones. This modified contrasty negative is then somewhat like both the plain contrasty negative and the black silhouette negative (Fig. 10); in that it is an ordinary negative in all its unmodified parts and has transparent parts where the picture was covered with black and where it is desired to show gray tones in the finished print and has opaque parts where the picture was covered with white and where it is desired to show clear color in the final print. The contrasty negative is then superimposed as before over the half-tone negative and the print made on the key-plate; with the result that the key plate then has clear spaces where it is desired to show clear color (that is, where no gray tones are wanted), and has all the gray tones of the halftone negative, unmodified by the contrasty negative, in those parts wished to be accentuated in gray. The key plate thus made is used in the ordinary manner to make the black or key printing.

It will be seen that a feature of this process is the making of a negative silhouette, or a reverse silhouette, which has opaque parts over those parts of the half-tone negative not wanted and transparent parts over those parts of the half-tone negative wanted in the final plate. Now, as hereinbefore described, I prefer to make these negative or reverse silhouettes by making a positive silhouette and then photographing it; but the artist may make the negative silhouette directly by using a clear transparency over the original picture and blacking out those portions not wanted. This hand made negative silhouette may then be used in superposition on the half-tone negative in the manner before described.

Now, in general, the production of the negative silhouettes does not necessarily involve the use of a transparency placed over the picture. I may prepare a set of prints of the picture and silhouette in black di-

rectly on the prints for the black and the colors. I may then bleach out all those portions of each print not blocked out by the silhouette and then make a photographic negative of each silhouetted and bleached print; the negative silhouettes thus produced being the same as the negative silhouettes hereinbefore described.

In my process, carried out in accordance with any of the above stated procedures, it will be seen that the artist works directly upon or over the original picture and is not compelled to work upon a negative. The artist also always has at hand the silhouettes or negative silhouettes which he has previously made so that one silhouette may be a guide in making another silhouette. Having once produced the negative silhouettes, the operation of my superimposing them on the half-tone negative and printing onto the final plate is very simple and easily carried out with great accuracy.

Having described a preferred form of my invention, I claim:

1. The herein described process of making engravers' plates, which comprises producing a half-tone negative of a picture, producing a silhouette of any desired portion of the picture, making a negative of said silhouette, thus making a negative silhouette with opaque and transparent portions, superposing said negative silhouette upon the said half-tone negative, and then printing therefrom onto the engraver's plate.

2. The herein described process of making engravers' plates, which comprises producing a half-tone negative of a picture, superposing a transparent medium upon the original picture, silhouetting thereon those parts of the picture desired to be finally reproduced in the plate, producing a photographic negative of said silhouette, thereby producing a negative silhouette having opaque and transparent portions, and then superposing said negative silhouette upon

said half-tone negative and printing there-through onto the engraver's plate.

3. The herein described process of making engravers' plates, which comprises producing a half-tone negative from the same picture, in which negative the light and dark tones are more highly contrasted than in the half-tone negative, superposing said negatives, and printing therethrough onto an engraver's plate to form a key plate; producing a negative silhouette of said picture, said silhouette being transparent over those parts of the picture wished to be reproduced on the final color plate, superposing the negative silhouette and the half-tone negative, and printing therethrough onto an engraver's plate to form a color plate.

4. The herein described process of producing engravers' plates, which comprises producing a half-tone negative from a picture, producing an ordinary negative from the same picture, in which negative the light and dark tones are more highly contrasted than in the half-tone negative, superposing said negatives, and printing therethrough onto an engraver's plate to form a key plate; producing a silhouette of those portions of the original picture desired to appear in a final color plate, producing a photographic negative of the said silhouette, thereby producing a negative silhouette having clear portions corresponding to those portions of the picture desired to appear in the final color plate, superimposing the negative silhouette and the half-tone negative and printing therethrough onto an engraver's plate to produce a color plate.

In witness that I claim the foregoing I have hereunto subscribed my name this 8th day of July, 1916.

JOHN D. JOHNSEN.

Witnesses:

JAMES T. BARKELEW,
ELWOOD H. BARKELEW.