

C. W. SAALBURG.

PICTURE.

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935,612.

Patented Sept. 28, 1909.

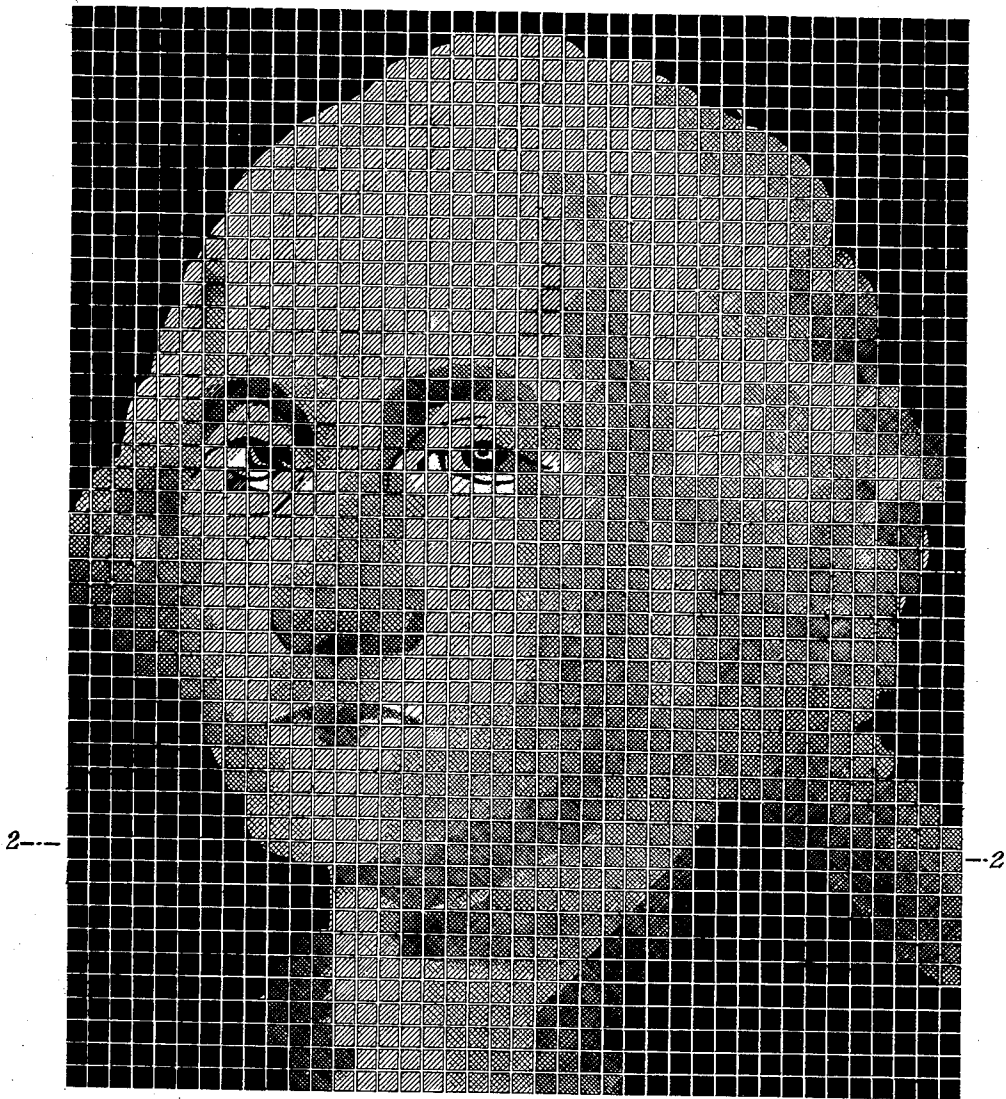


Fig:1

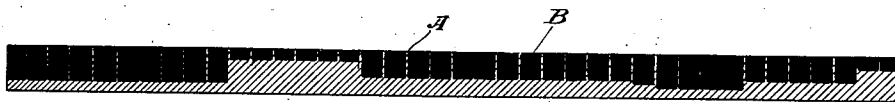


Fig:2

Witnesses:
A. Newcomb
M. Meikle.

Inventor
Charles W. Saalburg,
By his Attorneys
Brindle and Wright.

UNITED STATES PATENT OFFICE.

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PICTURE.

935,612.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed April 7, 1909. Serial No. 488,405.

To all whom it may concern:

Be it known that I, CHARLES W. SAALBURG, of East Orange, in the county of Essex and in the State of New Jersey, have
5 invented a certain new and useful Improvement in Pictures, and do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention has been to
10 produce a picture which shall be especially adapted to be manufactured by printing, and especially such a picture having a high degree of artistic merit; and to such ends my invention consists in the picture herein-
15 after specified.

As my picture will be best understood by describing one process of making the same, I shall describe such process.

In the accompanying drawings Figure 1
20 is a plan view of a plate adapted for printing my said picture according to my said process; and Fig. 2 is a section taken on the line 2—2 of Fig. 1.

The said picture may be either mono-
25 chrome or polychrome. As the highest form of the picture is best illustrated in the polychrome, I shall describe such picture and process of making it, but it is to be understood that my invention also includes a pic-
30 ture in monochrome. The process described herein is not claimed in the present application, but is the subject of a patent granted to me June 1st, 1909, No. 923,799. Reference is made to the said patent for the details of
35 the process of making my said picture.

In the accompanying drawings, the formation of the printing surface by which my picture is printed is illustrated as applied to a plate. The metal which was protected
40 is not eaten away, and forms a series of rectilinear walls A, which, crossing each other, form inclosed wells B. The wells B are of varying depths, according to the depth of color to be reproduced, and are of uniform
45 area. It is essential that the areas of ink making up the picture be of uniformly large size so that they shall all be sufficiently large to permit the ink to be piled up on them to a sufficient height to produce the color effect
50 desired.

In printing the picture, ink is mechanically applied to the printing plate in a sufficient quantity to fill all the cells. The ink is then scraped off by a preferably sharp
55 steel blade, which fits closely against the

plate. An ink which I find very effective for my purpose is one which is the subject of an application for patent executed by me on the 7th day of November, 1908, Serial No. 464,192, filed November 23, 1908, to
60 which reference is made. The scraper or "doctor" removes the ink from the printing surface wherever such surface remains, namely, from all the screen lines and from
65 all the blank portions of the cylinder which are to represent white in the picture, and the white margin around the printing surface, and this operation leaves the cells or pockets between the walls A completely
70 filled with ink. In printing a polychrome picture the several impressions of primary colors, each made from a separate printing plate or cylinder, are superimposed one upon another in the usual order of such printing.

The nature of my picture can now be understood. Each cell in the etched plate deposits its ink upon the paper like an inverted cup, so that the ink is piled up in relief upon the paper. It is entirely different from
75 printing where the plate is etched away around the points which are to print upon the paper, for in the latter case a film of ink is deposited upon a plane surface, and that surface crushes the ink into the paper, and
80 often forms a depression in the paper where the imprint is made. With my picture, however, the paper is not depressed, where the ink is deposited, but the ink is deposited on the surface of the paper and piled up
85 thereon (where the color is heavy), and the impression of the printing surface on the paper tends to increase rather than decrease such relief, for the walls A, which in my
90 printing surface are in relief and do not carry any ink, tend to depress the paper around the portions which receive the ink. The areas of ink are separated only by
95 spaces which are in the form of relatively uniform lines so that almost the entire area of my picture is covered with ink. The differences in shade are not obtained by making
100 the rectangles larger or smaller, or more or less complete, but they are obtained by the differences in depths of the cells, and consequently the differences in thickness of the
105 deposit of ink. It is in precisely the same way that differences in color are produced in a pastel. In a pastel, the color is put on in varying thicknesses, according to the
110 depth of color desired. On the contrary,

with a half tone engraving, the different degrees of color are obtained by making the dots of color which are printed larger or smaller, and often of different shapes. In my picture, the entire paper is fully covered with ink, except for the narrow lines of separation between the ink areas, but the ink is of varying degrees of thickness. In a half tone, on the other hand, the ink is of uniform thickness wherever it appears, but the natural surface of the paper is left uncovered where it is desired to produce a lighter effect. This, as before stated, is owing to making the dots of color of larger or smaller area. In other words, the engraving in the surface of my printing plate is a cast of the picture to be produced, while with half tones, the engraving is never filled with ink, the ink being applied only to the portions of the original surface which still remain, so that the engraving represents the white portions of the picture. In my picture, the picture is made up by ink running from transparency to opacity, while with all other printed pictures, the picture is made up by dots or isolated specks of ink of different sizes. In my picture, the effect is produced in an ideal way of varying the depths of the ink as an artist would do by hand, while in all other printed pictures, the effect is produced by ink areas of equal depth and varying sizes. With my picture, the effect of the lighter tones is produced by the white of the paper showing through the ink, something in the same way as the light shows through a stained glass window. This is a highly artistic effect. My picture can be printed on soft paper, while a half tone must

be printed on paper having a hard surface, to prevent the ink from sinking in and separating and covering the little white interstices between the specks of ink. This piling up of the ink in effect produces the rich velvety appearance so much prized in etchings or in intaglio engravings, and is a result never obtained before, so far as I know, prior to my invention, either in monochrome or polychrome automatic printing. The reproduction of pictures by my process produces a picture remarkably like the pastel in appearance.

As my colors are printed in varying degrees of thickness, the lower colors shine through the upper colors, and thus combine the colors, because they are transparent, while the usual colors do not combine in this way.

I claim:

1. A picture comprising a large number of small color areas of uniform size but of different depths.

2. A picture comprising a number of small color areas of substantially equal size having the ink piled up in relief thereon.

3. A printed picture, comprising a large number of small areas of substantially equal size and having inks of several colors on such areas and of different depths, according to the effect to be produced.

In testimony that I claim the foregoing I have hereunto set my hand.

CHARLES W. SAALBURG.

Witnesses:

A. NEWCOMB,
M. MEIKLE.