

UNITED STATES PATENT OFFICE.

JOHANN CONRAD HÖSCH, OF VIENNA, AUSTRIA-HUNGARY.

PHOTOGRAPHIC PROCESS FOR PRINTING IN COLORS.

SPECIFICATION forming part of Letters Patent No. 465,178, dated December 15, 1891.

Application filed July 17, 1888. Serial No. 280,214. (No model.) Patented in England August 16, 1886, No. 10,483.

To all whom it may concern:

Be it known that I, JOHANN CONRAD HÖSCH, a citizen of the Empire of Austria, residing at Vienna, in the said Empire of Austria, have invented certain new and useful improvements in a Photographic Process for Printing in Colors, (for which Patent No. 10,483 was issued to me in Great Britain August 16, 1886;) and I do 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.

My invention relates to a photographic process for printing in colors, by means of which said process exact colored copies of objects of all kinds, such as living objects, oil paintings, water-color paintings, and other colored original objects, can be produced.

As an example of how my process may be employed, let it be assumed that it is desired to reproduce a water-color painting in six different colors—that is to say, one yellow, one red, one blue, one gray, one flesh, and one intensifying or finishing color. In such case the process would be as follows: A photographic negative would be first taken from the original water-color drawing and from this original negative five glass positive pictures of exactly the same size would be made. These glass positives form the basis of the process of photographic color-printing. I next prepare the glass positives by means of transparent and opaque varnish colors—that is to say, I apply the whole, half, and finer tints to such parts as are not to be seen, or only slightly to be seen, in each one of the above-named positive plates for the production of a faithful representation of the original color. I have then a corrected glass positive for each one of my colors, one each for the yellow, red, blue, and flesh colors and finishing tones. I now transfer these corrected glass positives in the ordinary photographic manner into glass negatives and retouch the so-inversed parts. I cover all the parts, surfaces, and lines which are reproduced on the glass positives just taken and not required for the special color—that is to say, the same parts which are stopped out in the negatives

are provided with the necessary coverings to such extent as the yellow, red, blue, or flesh color and the finishing tone of the original makes it requisite in order to reproduce the colors contained in the said original. I use the first and direct photographic negative for the gray plate as a deepening of the tone for this plate, or the transformation into positive and negative is not necessary. I will then have a plate in which all has been obscured, but that which is to print or reproduce the yellow color, another in which all but that to reproduce the blue has been obscured, and so on throughout the entire plates. When the negatives are used for producing gelatine printing-plates and these plates are printed in the corresponding colors, the six single printings are produced. I copy these six negatives on gelatine printing-plates and print the sheet yellow by means of the plate provided with yellow color. This yellow print is now placed in the customary printing-press and printed with flesh color from the plate provided with this color. The sheet so printed with yellow and flesh colors is again printed with the plate provided with red. This sheet, provided with the yellow, flesh, and red colors, is again printed with blue from the plate for the said blue color and the picture produced with these four colors. The so-prepared sheet is now printed with gray from the negative printing-plate containing the gray color and then with the tint applied to the last printing-plate for intensifying or finishing the colors so as to produce the complete picture.

It will be evident from the foregoing that the successive printing of the sheet with the various negative plates provided with the appropriate colors will produce an exact copy of the original photograph in the colors of the natural object.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

The process herein described of printing in colors which consists of the following steps: first, making a photographic negative from the original to be reproduced; secondly, pro-

ducing from said negative as many glass positives as there are colors to be printed; thirdly, correcting said positives with transparent colors so as to represent the different colors
5 in the original; fourthly, producing negatives from said corrected positives and stopping out said negatives; fifthly, producing printing-plates from the stopped-out negatives; and, lastly, printing the different colors re-

quired from said printing-plates, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHANN CONRAD HÖSCH.

Witnesses:

EDMUND JUSSEN,
OTTO SCHIFFER.