

UNITED STATES PATENT OFFICE.

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PRINTING MEDIUM.

No. 929,913.

Specification of Letters Patent.

Patented Aug. 3, 1909.

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To all whom it may concern:

Be it known that we, PAUL CHARLES and STEPHAN FAUJAT, a subject of the Grand Duke of Luxemburg and a citizen of the Republic of France, respectively, and residents of 20 Neue Mainzerstrasse, Frankfort-on-the-Main, Kingdom of Prussia, German Empire, have invented a new and useful Printing Medium, of which the following is a specification.

The invention relates to a printing medium or color having a gelatin base, and more particularly to colors of this character to be employed in printing from intaglio forms.

In printing from intaglio forms, such as photo-engravings, copper-engravings, etched plates and the like, with a color medium having a gelatin base in which the excess of printing medium is removed from the surface of the plate or form by means of a doctor or wiper, it is customary, in order to prevent the gelatin medium from adhering to the surface of the form, to cover the latter with oil. It was found, however, that the oil entering the depressed or intagliated portions of the form caused the ink to be removed to a greater or lesser degree therefrom, also with the result that the printed copy was either too faint or irregular in color and tone. In an endeavor to obviate this difficulty it has been proposed to add to the gelatin printing medium a solution of ox gall, but it was found that if an excess of the ox gall solution were employed, the printing medium could not be uniformly removed from the surface of the plate by the doctor, and the impressions taken from the form were blurred, smeared about the edges and otherwise imperfect. On the other hand, if too little of the ox gall solution were employed, the coagulated gelatin coloring medium adhered to the engraved or intagliated lines of the form in the printing operation and it was impossible to obtain a uniform impression or print. Hence the ox gall is very unsatisfactory and unreliable as an agent for overcoming the inherent difficulties of intaglio printing with gelatin color mediums. We have found, however, that by employing a fatty material mixed with the gelatin color, the gelatin medium could be thoroughly and effectively removed

from the surface of the form before the printing operation, leaving the material in the intagliated lines in the best possible condition to be transferred smoothly and uniformly to the printed surface. To produce an intimate admixture of the fatty material with the gelatin base, drying oils, waxes, spermaceti, or the like, are preferably saponified or emulsified and mixed in sufficient quantity with the gelatin dissolved in a little water, in order to produce a comparatively thick, smooth and pliant color medium. The proportion of fatty matter depends, of course, upon the character or properties of the fat. A suitable mixture, for example, consists of 10 grams of gelatin, 10 grams of water, 20 grams of linseed oil, 5 grams of soap, and between 1 and 3 grams of coloring matter. A printing medium possessing the composition mentioned may be removed by the doctor or wiper, without any tendency to flow or smear, or, on the other hand, to draw out in thread-like form, so that the medium is completely cleaned from the surface of the plate and is absolutely undisturbed in the intagliated lines, and the impression, produced by the printing operation, is smooth, even and uniform, even in the softest half-tone effects. The addition of the oil to the gelatin printing medium renders the prints or impressions much softer in effect and also prevents the troublesome rolling, which is a recognized defect of all gelatin prints, in dry weather.

What we claim is:

1. A printing medium for use with intaglio forms, comprising the following ingredients in substantially the proportions indicated; a gelatin base 10 parts, water 10 parts, coloring material 1 part, and a fatty constituent 20 parts.

2. A printing medium for use with intaglio forms, comprising the following ingredients in substantially the proportions indicated; a gelatin base 10 parts, water 10 parts, coloring material 1 part, and a soapy material 20 parts.

3. A printing medium for use with intaglio forms, comprising the following ingredients in substantially the proportions indicated; a gelatin base 10 parts, water 10 parts, coloring material 1 part, and an emulsified fatty constituent 20 parts.

4. A printing medium for use with in-
taglio forms, comprising the following in-
gredients in substantially the proportions
indicated; a gelatin 10 parts, water 10 parts,
5 coloring material 1 part, an oil 20 parts, and
a soap 5 parts.

In testimony, that we claim the foregoing
as our invention, we have signed our names

in presence of two witnesses, this eleventh
day of August 1906.

PAUL CHARLES.
STEPHAN FAUJAT.

Witnesses:

CARL WEIHE,
FRIEDRICH QUEHL.