

UNITED STATES PATENT OFFICE.

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PROCESS FOR REETCHING HALF TONES ON COPPER TOGETHER WITH A FORMULA APPLICABLE THERETO.

No Drawing.

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This invention relates to a process for reducing the high light dots on half tones, an operation which has heretofore required the application of ink, asphaltum, or wax to the plate to prevent the acid from etching or reducing the shadows. According to my process of re-etching half tones, the high lights are reduced with the aid of a solution which preferably consists of alcohol (denatured), 1 gallon of white shellac, 1½ ounces (360 grains) of bulk rosin, 4 grains of borax powder, 3 ounces of bulk gum camphor, and 4 grains of aniline dye (coal tar). The above ingredients in about the proportions named will produce most satisfactory results.

In carrying out the process of my invention, chalk or magnesia is applied to the half tone plate after obtaining the printing depth thereon. The solution above described is then flowed on to the plate to harden or petrify the magnesia so that it becomes acid-proof. The high lights may then be readily brushed clean by the use of a felt or brush, but without disturbing the petrified acid-proof magnesia which remains in the darks of the half tone. In this condition the plate is then subjected to an acid treatment for re-etching. Following this it is cleaned in a bath containing about $\frac{1}{16}$ part of muriatic acid.

By employing the above described process wherein use is made of a re-etching top solution having the ingredients named, I do away with painting and staging the darks with ink or asphaltum. This results in a

very material saving both in time and labor. The solution which I have mentioned is very effective in carrying out this process. It will be found that the camphor and other ingredients have the effect of hardening the magnesia so as to render it resistant to acid. The alcohol acts as a solvent for the rosin, borax powder, and aniline dye, and the presence of the shellac causes the rosin to harden with the result that a thin coat or film forms over the magnesia. By adding borax powder to the solution, it is possible to wash off the plate in a bath containing a very small quantity of muriatic acid. The dye imparts a deeper color to the darks on the plate, thereby enhancing the contrasts in light so as to facilitate the labor of re-etching.

According to the process which I have described, it is possible to save as much as two or three hours daily in the production of a plate which is a fac-simile reproduction of the copy. The plate itself is etched deeper, thereby possessing greater printing life.

I claim:

1. A solution applicable to the re-etching of copper half tones consisting of alcohol, shellac, rosin, borax powder, camphor, and aniline dye, substantially as described.

2. A solution applicable to the re-etching of copper half tones consisting of alcohol, 1 gallon of white shellac, 360 grains of bulk rosin, 4 grains of borax powder, 3 ounces of bulk gum camphor, and 4 grains of aniline dye, substantially as described.

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