

UNITED STATES PATENT OFFICE.

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METHOD OF PREPARING PRINTING-PLATES.

SPECIFICATION forming part of Letters Patent No. 749,350, dated January 12, 1904.

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To all whom it may concern:

Be it known that I, EUGEN WÜNSCHE, a subject of the Emperor of Germany, and a resident of Schöneberg, near Berlin, Germany, have invented certain new and useful Improvements in Methods of Preparing Printing-Plates; and I do hereby 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.

It is a well-known fact that lithographic printing and letter-press printing are radically different one from the other, as are also the respective processes for producing the same, while, what is the most important, different appliances are necessary for the practical execution thereof.

Now the present invention relates to improvements in the manufacture of lithographic, photolithographic, &c., metal plates, which have for object to render such plates suitable for use in the letter printing-press, which use has hitherto been commercially unsatisfactory. This invention has the further advantage of economy by reason of allowing of the employment of the cheaper metal plates instead of the expensive lithographic "stones."

By means of the present invention it is therefore possible to produce lithograph-printing as well as letter-press printing with one and the same apparatus.

Now the present invention consists in first freeing the metal plate intended for use from grease, then rubbing down the said plate, and then making it rough again for the purpose of enabling the impression of the transfer to obtain a better hold on the plate. The plate is then treated with steatite, (German talcum,) and after the transfer has been applied to the plate the latter is etched. When the etching medium has been washed off, the plate is rolled up with ink containing glycerin and a suitable salt of an alkali, as caustic soda or potash, in addition to any suitable coloring-matters which it may be desired to employ. The plate, which is now ready for printing, is placed or mounted upon a backing of wood, iron, or other suitable material, whereby the printing-surface of the plate is raised to the

height of the type required by the particular machine in which the plate is to be used. The plate is then rolled up, again damped with water and dried, and then damped with glycerin-water, whereupon the printing can now begin.

One way of carrying out the present invention is as follows: The plate is first placed for several (about six to eight) hours in an acid-bath composed of one part of nitric acid free from chlorin and three parts of water for the purpose of freeing the plate from grease. However, instead of an acid-bath potash may also be used for the purpose of removing the grease from the metal plate. Then the plate is well rubbed down with felt and again rinsed and then placed on end, with the object of facilitating the drying of the plate. The plate is then ground with powdered pumice-stone and afterward treated with steatite, (German talcum.) The talcum powder is dusted over the surface of the plate with a piece of absorbent cotton. The powder renders the plate completely dry and enters and fills all the fine scratches and grains and makes the plate perfectly dry for the reception of the transfer, as otherwise the transfer will not stick well.

"Washing-out tincture" may be employed for the purpose of washing out the acid or etching medium. The plate is then dried by waving or ventilation, washed with water, and rolled up.

In rolling up it is advisable to avoid all "wiping" of the lithographic plates, as in lithoprinting from stones, and to roll up dry only.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States of America, is—

1. The method of preparing metal plates for printing, which consists in freeing the plates from grease, rubbing them down to obtain a smooth flat surface, roughing or graining the surface, treating the surface with steatite, making a transfer on the plate, etching it, washing out the etching acid and then rolling up the plate with an ink, substantially as described.

2. The method of preparing metal plates for printing, which consists in treating the

plate with dilute nitric acid to free it from grease, rubbing down the plate, graining the plate with pumice-stone, then treating it with steatite, effecting a transfer thereon, etching
5 the plate, neutralizing any acid on the plate by alkali, washing and drying the plate and then rolling up the plate with a suitable ink, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

EUGEN WÜNSCHE.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.