

UNITED STATES PATENT OFFICE.

LAURENT BASSANI. OF PARIS, FRANCE.

PROCESS FOR THE PRODUCTION OF LITHOGRAPHIC-PRINTING PLATES.

1,029,337.

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No Drawing.

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To all whom it may concern:

Be it known that I, LAURENT BASSANI, subject of the King of Italy, residing at 147 Avenue Félix Faure, Paris, in the Republic of France, have invented new and useful Improvements in Processes for the Production of Lithographic-Printing Plates, of which the following is a specification.

This invention relates to a new or improved process for the production of lithographic printing plates which are primarily intended to be used for transferring designs to lithographic stones or zinc plates but may be used also for directly printing upon paper or other materials.

The new process is of the kind in which the ink transferred from the design upon the printing plate is removed from the latter by means of a water soluble film and replaced by an asphalt layer. It has already been proposed in such processes to use as the water soluble film, a gum solution to which some glycerin is added and form the asphalt layer by dissolving the asphalt in a suitable solvent such as naphtha, benzol or chloroform. I have however ascertained that improved results are obtained by using as a water soluble film a solution of dextrin and candied sugar in water and forming the asphalt layer by dissolving asphalt in essence of turpentine to which a small quantity of Venetian turpentine is added, said improvements forming the subject of my invention.

By means of this process by which exceedingly clear prints may be obtained half tone plates can be used for lithography, that is to say plates in which the design consists of points. As is already known proofs or prints in black or colors can be obtained from said plates so that the said process will allow of obtaining lithographic plates which can be used for color lithography.

It is to be understood that a half tone plate can only be used in lithography if the dotted portion can be impressed with great clearness, which is the case when the process according to the present invention is employed.

The different operations relating to the process are the following: A plate in relief or of typographic or other character is taken

and inked as in the known manner, the ink preferably consisting of the following:

Resin	25 grams.	55
Canada balsam	20 "	
Wax	50 "	
Printing ink	1000 "	

The plate is then applied to the lithographic surface and the desired pressure between the two surfaces is preferably produced by moving the whole below an edge-wise placed plate which is caused to bear successively and parallelly in the desired direction on all the lines of the plate to be reproduced. The transfer design being thus obtained on the lithographic surface, body or tone is given thereto by sprinkling it with resinous substances such as dragon's blood, colophony, gum lac, or the like, in finely powdered condition and then by heating. The lithographic surface left uncovered by the ink is prepared by acidulating it according to its nature by ordinary processes.

The lithographic surface prepared as above described is covered with a water soluble film formed by the desiccation of a solution composed preferably of the following substances:

Water	1000 grams.	
Dextrin	50 "	
Candied sugar	10 "	85

The ink left by the pressure of the plate on the lithographic surface is dissolved by means of a solvent such as benzin, spirit or the like, the ink on removal taking with it those portions of the water soluble film which exactly cover it, so that at all points at which the ink was originally deposited the lithographic surface is thus exposed and the design becomes invisible. The whole surface is then covered with a light sensitive film formed by the evaporation of a liquid preferably composed of the following substances:

Essence of turpentine	1000 c. c.	100
Venetian turpentine	5 gr.	
Wax	5 gr.	
Asphalt	50 gr.	
Essence of lavender	25 drops.	

When this film has become attached to the surface the latter is treated with lukewarm water, whereupon the above mentioned water soluble coating dissolves and carries with it the sensitive film which henceforth only remains on the points originally touched by the ink of the plate and constituting the design. It only remains to expose to the light the surface for a sufficient time; the light definitely rendering insoluble and hardening the design formed by the sensitive film and preserving therein the property of taking a greasy ink.

A lithographic plate is thus produced having a properly fixed design which can be employed for printing transfers with very consistent ink which insures the clearness of the transfers and the use of said transfers for printing an unlimited number of good proofs or prints for commercial purposes.

Having now described my invention, what

I claim as new and desire to secure by Letters Patent is:

A process for the production of lithographic printing plates which consists in forming an ink design upon the plate, covering the design with a solution of dextrin and candied sugar in water, removing the ink of the design, covering the plate with a solution of sensitive asphalt in essence of turpentine to which some Venetian turpentine is added, treating the plate with lukewarm water and exposing the plate to the light, substantially as described and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LAURENT BASSANI.

Witnesses:

LOUIS MOSES,
DEAN B. MASON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."