H. S. LEVY.

METHOD OF PRODUCING ELECTROTYPES.

APPLICATION FILED FEB. 11, 1911.

1,017,776. Patented Feb. 20, 1912.

Fig. 1.

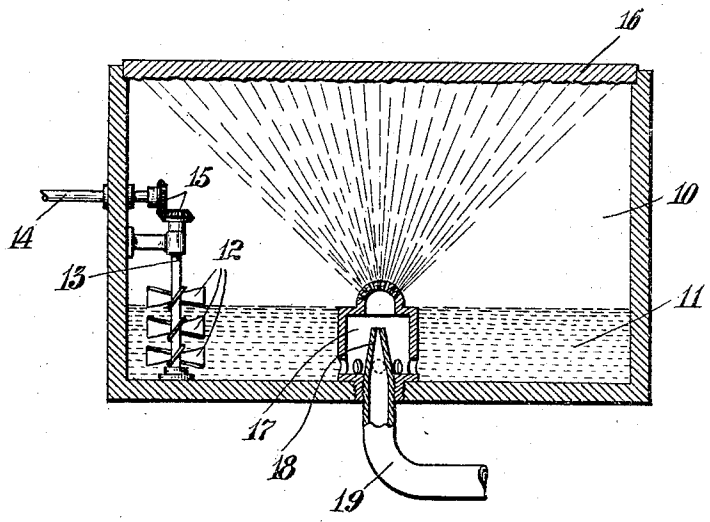
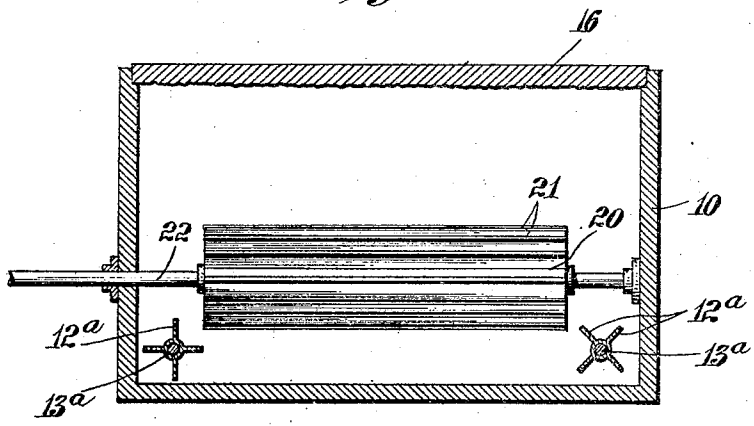


Fig. 2.



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METHOD OF PRODUCING ELECTROTYPES.

1,017,776. Specification of Letters Patent. Patented Feb. 20, 1912.

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To all whom it may concern:

Be it known that I, HOWARD S. LEVY, a citizen of the United States of America, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in the Method of Producing Electrotypes, of which the following is a specification.

My invention relates to an improvement in the method of making or producing electrotypes used for printing purposes.

Briefly stated, the method of producing electrotypes, as now practiced, involves the following steps in the order named:—A wax matrix or mold is first made which contains an impress of the plate or electrotype to be produced; thereafter a suitable cathode material is deposited upon the wax mold, the cathode material most generally used being graphite; then a film of copper is electrodeposited on the graphite covered mold and finally the copper film is backed with type metal and mounted on a block.

The present invention deals with the step of placing graphite on the wax mold and its primary object is to provide for a uniform and speedy distribution, in an efficient and economical manner, of the graphite over the face of the wax mold or matrix. One of the great difficulties heretofore experienced in the deposition of the graphite has been to secure a uniform distribution and to insure a deposit of graphite in all the corners, angles, and curves of the mold. By my invention this difficulty is completely overcome and I produce a mold in which the impress surface is uniformly and properly covered with graphite or such other cathode material as may be employed for the purpose.

The invention consists in projecting the cathode material, preferably mixed with or held in suspension in a suitable liquid, against the face of the mold, the latter being held in such position that when the projected stream or spray impacts against the mold the graphite will adhere to the latter while the fluid will drop by gravity from the face of the mold. I may if desired move either the mold or the liquid projecting means so as to insure uniformity of distribution, and after the graphite has been deposited on the mold the latter may be subjected to washing to remove non-adhering graphite particles therefrom.

In practicing the invention I provide a suitable receptacle containing a liquid such as water into which the graphite is placed, the contents of the receptacle being subjected to constant agitation to prevent the graphite from settling. Any suitable means may be employed to project the liquid from the container against the mold which is preferably held substantially horizontally face down over the receptacle. One effective means for projecting the liquid consists of atomizers placed in the receptacle compressed air being forced through such atomizers whereby the liquid containing the graphite will be uniformly projected or sprayed over the exposed surface of the mold, the graphite adhering to the latter and the liquid dropping back into the receptacle. It is also feasible to employ revolving paddles or perforated pipes through which compressed air may be forced, to project the graphite against the mold.

For purposes of illustration and without intending to confine my invention to the use of any specific form of apparatus, I show on the accompanying drawing two forms of apparatus which are well suited to practice the method hereinabove described.

Figure 1 is a vertical sectional view of one form of such apparatus; and Fig. 2 is a similar view of a modified form.

Referring to Fig. 1, the numeral 10 designates the receptacle for containing the liquid 11 with which the graphite is mixed or wherein it is held in suspension. The liquid is constantly agitated by means of paddles or blades 12 carried by the shaft 13 which is rotated from the shaft 14 through the intermeshing gear wheels 15, the shaft 14 being driven from any suitable source of power (not shown). Supported at the upper part of the receptacle 10 with its impress face directed downwardly is the plate 16, which receives a uniform spray of the liquid 11 from the atomizer 17, compressed air passing through the latter from the nozzle 18 of the pipe 19 which connects with the source of compressed air supply.

In Fig. 2 the liquid is projected against the impress face of the plate 16 by means of a revoluble cylinder 20 having fins or ribs 21, the cylinder being carried on a shaft 22 which is suitably driven. In this modified form of the invention the agitating paddles 12^a carried by the shafts 13^a are preferably

arranged to revolve in a horizontal plane, two such paddles carrying shafts being used. As the cylinder 20 is revolved its ribs will project the graphite-containing-liquid uniformly over the face of the plate and deposit the graphite thereon.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In the method of producing electrotypes, the step which consists in projecting against the wax matrix a liquid containing a cathode material while the matrix is held so that no part thereof is immersed in the liquid whereby said cathode material will be uniformly applied over the impress face of the matrix and the liquid will drop therefrom by gravity.

2. In the method of producing electrotypes, the step which consists in projecting against the wax matrix a liquid containing graphite while the matrix is held so that no part thereof is immersed in the liquid whereby the graphite will be uniformly applied over the impress face of the matrix and the liquid will drop therefrom by gravity.

3. The herein described method of producing electrotypes which consists in placing a wax matrix horizontally with its impress face directed downwardly, over but not immersed in a liquid containing a cathode material and then projecting said liquid against said impress face whereby said cathode material will be uniformly applied over said face and the liquid will drop therefrom by gravity.

4. The herein described method of producing electrotypes which consists in placing a wax matrix horizontally with its impress face directed downwardly, over but not immersed in a mixture of water and graphite, constantly agitating said mixture, and projecting said mixture against the impress face of the mold whereby the graphite will be uniformly applied over said impress face and the liquid will drop therefrom by gravity.

5. The herein described method of producing electrotypes which consist in projecting a liquid containing a cathode material against a wax matrix held in a position such that the cathode material will adhere to the matrix and the liquid will drop therefrom by gravity, and thereafter removing from the matrix held in the same position the superfluous or non-adhering cathode material.

6. The herein described method of producing electrotypes which consists in projecting a liquid containing a cathode material against a wax matrix held in a position such that the cathode material will adhere to the matrix and the liquid will drop therefrom by gravity, and thereafter while the plate is held in the same position removing therefrom superfluous or non-adhering cathode-material-particles by a liquid spray.

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

HOWARD S. LEVY.

Witnesses:
CLARISSA FRANCK,
LOUIS ARMOUR.