

UNITED STATES PATENT OFFICE.

HUGO COHN, OF GÖRLITZ, GERMANY.

METHOD OF PROTECTING MATRICES.

949,819.

Specification of Letters Patent.

Patented Feb. 22, 1910.

No Drawing.

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To all whom it may concern:

Be it known that I, HUGO COHN, subject of the King of Prussia, residing at 19/20 Blumenstrasse, Görlitz, in the Kingdom of Prussia and Empire of Germany, have invented new and useful Improvements in Methods of Protecting Matrices, of which the following is a specification.

The known flexible matrices used for casting the stereotype printing plates are ordinarily coated on their face with a protecting layer, so as to prevent the liquid metal from penetrating into the finest pores of the paper material and adhering to the latter, so that the matrices are protected from rapid destruction. Hitherto this protecting layer was made from mineral colors, which were applied in watery suspense. Such protecting layers, however, are not sufficiently tight and do not present a sufficiently uniformly closed surface for preventing the liquid metal forced by casting apparatus into the casting chamber from penetrating through the fine fissures and adhering to the fibers thereunder. The consequence of this is, that the flexible matrix can be unwound from the cast plate only with difficulties, so that it is easily destroyed. Moreover all the known protecting layers used in the paper manufacture present the defect, that on coming in contact with the liquid metal they gradually lose their smooth surfaces by forming bubbles, broiling, twisting, loosening etc., so that they facilitate the adhering of the metal to the matrix.

My invention relates to a method of protecting the matrix from the penetration and adhesion of the liquid metal during the casting of the stereotype printing plates, so that the matrix is rendered so durable as to be capable of withstanding almost an unlimited number of castings and to satisfy the severe requirements in the employment of casting apparatus, even at the maximum pressure of the liquid metal.

My method is as follows: The matrix is on its face first coated with any of the known mineral protecting materials, such as talcum, china clay, alum, borax, etc. and then, before the coat has completely dried, it is covered with a mass which contains an easily fusible fat in a powdery condition. Instead of the above, however, it is preferable to use the

adhesive substance known under the term of "collodin," which is a vegetable gluey preparation made from starch, for forming the protecting layer on the matrix and to apply thereto the easily fusible fat layer. It is optional to at once add the collodin to the fatty material and to apply both of them to the matrix. The said collodin enlarges the safety of the matrix against the penetration and adhesion of the metal during the casting operation, since it furnished a very tight coat over the matrix. Thus with the aid of the collodin the closed lacquer layer of great tightness is formed on the face of the matrix, which layer presents the advantages, that even at the temperature of the liquid metal it does not change, but remains tight, and does not get off or loosen, neither in the heat nor in the cold. The fatty substance is preferably stearin in its finest powdery condition and with this stearin the matrix is powdered, so that the stearin is uniformly distributed over the matrix. The matrix is impressed with the respective type matter as usual and is then dried, *i. e.* heated, so that the stearin will melt and form a continuous thin fatty layer on the face of the matrix. The finished matrix is before its insertion in the casting apparatus preferably once more powdered with stearin by means of a soft brush. I recommend to repeat this powdering operation after every fourth or fifth casting. During the casting operation the liquid metal enters the casting chamber formed by the matrix and the stearin will melt.

The employment of stearin presents the special advantage, that it can be applied in a powdery condition, renders a rapid and uniform lubrication of the matrix possible and does not prevent the metal from exactly filling the spaces. The melted stearin is prevented by the coat under it from penetrating into the paper material of the matrix and it forms a protecting layer, whereby the coat itself is at the same time protected and the liquid metal is prevented from penetrating into the pores of the matrix.

I recommend to use the stearin powder in combination with talcum powder, because stearin alone is apt to form lumps. However, any other mineral powder in place of talcum powder can be added to the stearin,

provided that this powder can be powdered and does not hinder the casting of the stereotype printing plates.

I claim:

1. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat, whereupon the latter is dried and, before being thoroughly dry, sprinkled with an easily fusible fat in powder form.

2. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat, whereupon the latter is dried and, before being thoroughly dry, sprinkled with an easily fusible fat and with mineral substances in powder form.

3. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat, whereupon the latter is dried and, before being thoroughly dry, sprinkled with stearin powder.

4. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat, whereupon the latter is dried and, before being thoroughly dry, sprinkled with a mixture of stearin- and talcum-powder.

5. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of liquid starch paste, whereupon the latter is dried and, before being thoroughly dry, sprinkled with an easily fusible fat in powder form.

6. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of liquid starch paste, whereupon the latter is dried and, before being thoroughly dry, sprinkled with a mixture of easily fusible fat and mineral substances in powder form.

7. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of liquid starch paste, whereupon the latter is dried and, before being thoroughly dry, sprinkled with stearin-powder.

8. A process for protecting stereotype matrices against the entering and adhering

of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of liquid starch paste, whereupon the latter is dried and, before being thoroughly dry, sprinkled with a mixture of stearin and talcum-powder.

9. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of collodin a vegetable paste preparation obtained from starch, whereupon the latter is dried and, before being thoroughly dry, sprinkled with an easily fusible fat in powder form.

10. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of collodin, whereupon the latter is dried and, before being thoroughly dry, sprinkled with a mixture of easily fusible fat and mineral substances in powder form.

11. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of collodin, whereupon the latter is dried and, before being thoroughly dry, sprinkled with stearin powder.

12. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat of collodin, whereupon the latter is dried and, before being thoroughly dry, sprinkled with a mixture of stearin- and talcum-powder.

13. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat, whereupon the latter is dried and, before being thoroughly dry, sprinkled with an easily fusible fat in powder form, whereupon the matrix before placing same in the casting-apparatus is once more powdered with an easily fusible fat in powder form.

14. A process for protecting stereotype matrices against the entering and adhering of metal during the casting of stereotype plates, consisting therein that the face of the matrix is provided with a protecting coat, whereupon the latter is dried and, before being thoroughly dry, sprinkled with an easily fusible fat in powder form, whereupon the matrix before placing same in the casting apparatus is once more powdered with an easily fusible fat and mineral substances in powder form.

15. A process for protecting stereotype
matrices against the entering and adhering
of metal during the casting of stereotype
plates, consisting therein that the face of
5 the matrix is provided with a protecting
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fore being thoroughly dry, sprinkled with
an easily fusible fat and mineral substances
in powder form, whereupon the matrix be-
10 fore placing same in the casting apparatus is
once more powdered with an easily fusible
fat in powder form.

16. A process for protecting stereotype
matrices against the entering and adhering
of metal during the casting of stereotype
15 plates, consisting therein that the face of

the matrix is provided with a protecting
coat, whereupon the latter is dried and, be-
fore being thoroughly dry, sprinkled with an
easily fusible fat and mineral substances in 20
powder form, whereupon the matrix before
placing same in the casting apparatus is
once more powdered with an easily fusible
fat and mineral substances in powder form.

In testimony whereof I have signed my 25
name to this specification in the presence of
two subscribing witnesses.

HUGO COHN.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.