

UNITED STATES PATENT OFFICE.

PIERRE STEENLET, OF BRUSSELS, BELGIUM, ASSIGNOR TO MARCEL
PERREW LLOYD, OF BRUSSELS, BELGIUM.

PROCESS OF OBTAINING MARKETABLE ELECTROLYTIC DEPOSITS.

No. 807,973.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed November 7, 1903. Serial No. 180,155.

To all whom it may concern:

Be it known that I, PIERRE STEENLET, engineer, a subject of the King of Belgium, residing at Brussels, Belgium, have invented a new and useful Process for Obtaining Marketable Electrolytic Deposits by the Use of Diaphragms; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to the art of electroplating or electrodepositing, and it has reference particularly to those processes in this art in which the anode and cathode are separated by a suitable diaphragm.

It is well recognized that in the electroplating operations a very material improvement results from adding to the electrolyte small quantities of certain organic materials, as albuminoids. It is also a well-known fact that such additions to the electrolyte are removed from the latter by electrolytic action or occluded in the deposit, whereby the latter is rendered brittle or irregular and cannot be treated in metallurgy unless it is previously melted.

I have discovered that the objections attending the old method of using organic materials in connection with electrodepositing may be overcome by employing a diaphragm impregnated with or otherwise made to carry in suitable disposition and quantity the organic substance, which latter is rendered insoluble. The process then becomes one in which the organic substance is not influenced by the electrolytic action or by the electrolyte itself, with the result that it does not enter into the composition of the resultant de-

posit and does not deleteriously affect the same. Said albuminous or other organic substance being made insoluble and the diaphragm charged therewith being interposed between the anode and the cathode, the electrolytic action on the resultant deposit remains the same as to quality—that is, an increased and regular deposit is obtained—and, further, said increased deposit is not mixed with organic substances and the deposited metal may be directly treated in metallurgy or used directly as metal plates. Such results have never been obtained by the old processes, whereby brittle or irregular deposits have been only obtainable.

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

The process of producing marketable metallic electrolytic deposits which consists in charging the diaphragm with an organic substance, treating said organic substance to render it insoluble, interposing the thus-charged diaphragm between a metallic anode and the cathode and the corresponding portions of an electrolyte containing a metal, and causing an electric current to flow from the anode to the cathode through the thus-charged diaphragm and from a metallic deposit on the cathode, substantially as described.

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

PIERRE STEENLET.

Witnesses:

JOSEPH MARKL,
GREGORY PHELAN.

Correction in Letters Patent No. 807,973.

It is hereby certified that in Letters Patent No. 807,973, granted December 19, 1905, upon the application of Pierre Steenlet, of Brussels, Belgium, for an improvement in the "Processes of Obtaining Marketable Electrolytic Deposits," an error appears in the printed specification requiring correction, as follows: On page 1, line 66, the word "from" should read *form*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of January, A. D., 1906.

[SEAL.]

W. H. Mortimer
Chief Div. B.

F. I. ALLEN,
Commissioner of Patents.