

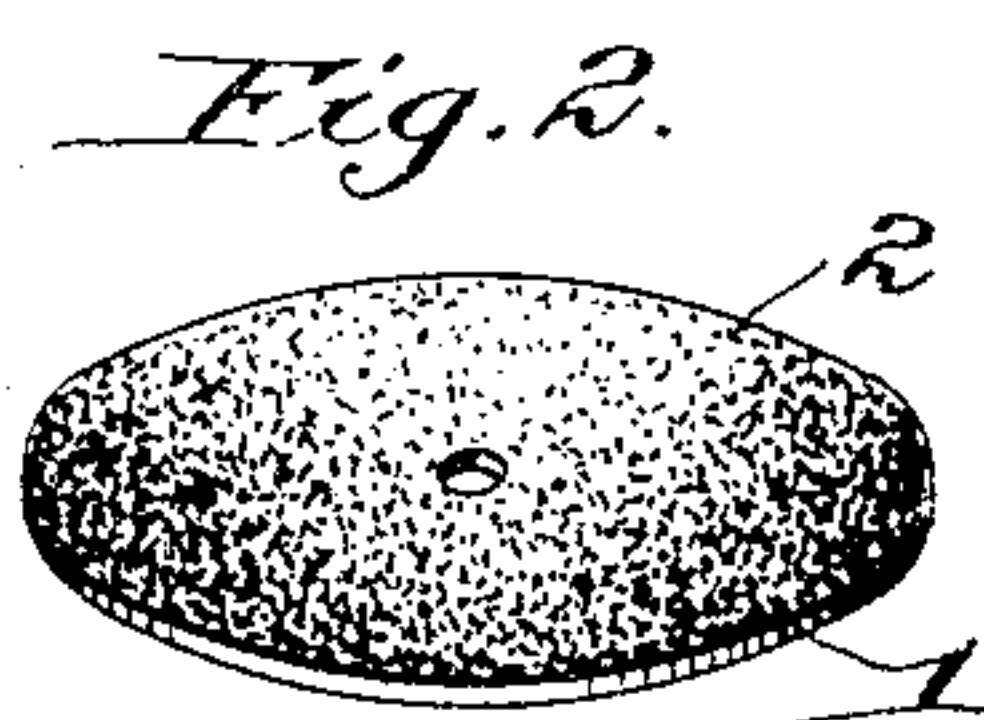
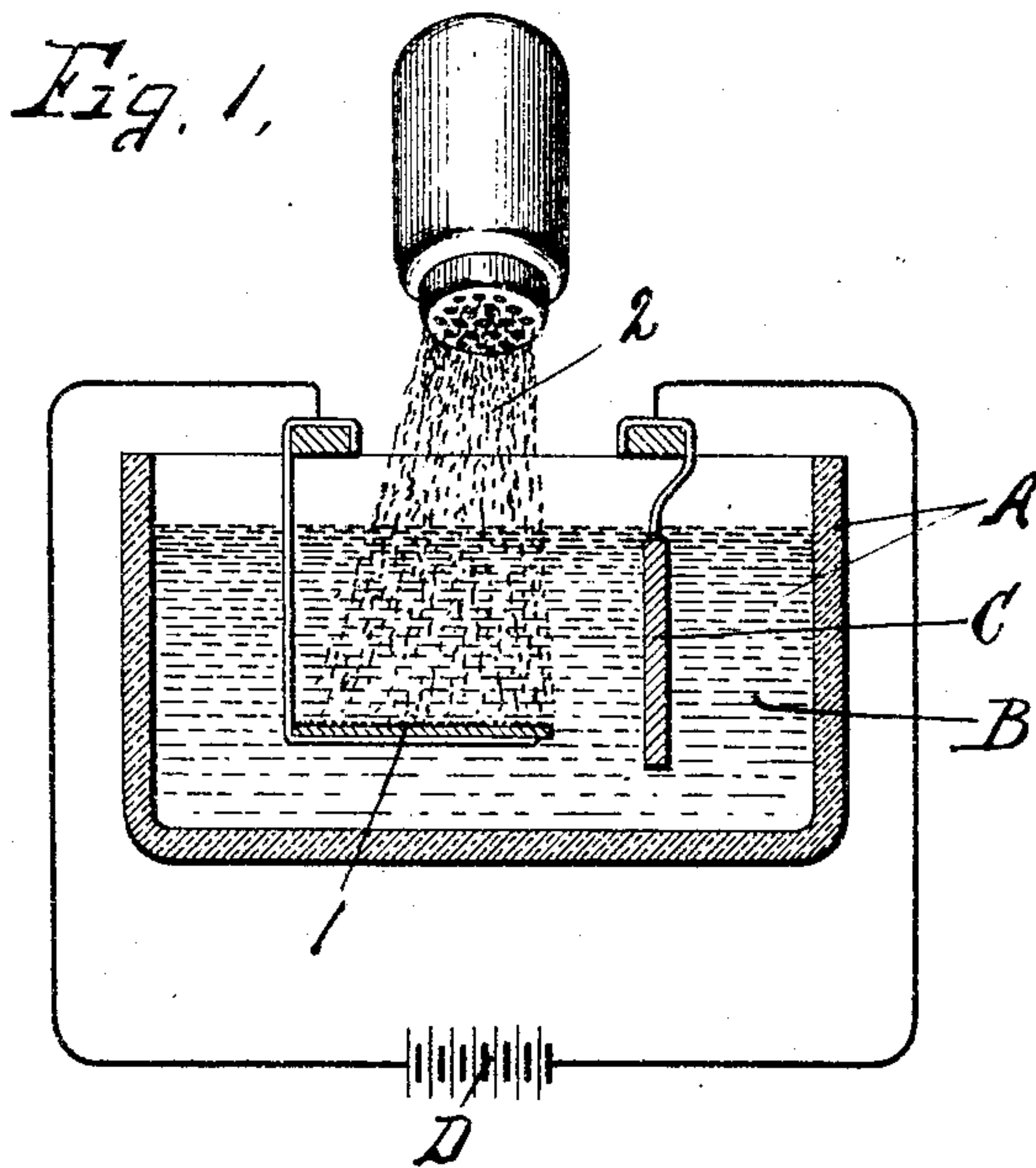
No. 779,639.

PATENTED JAN. 10, 1905.

E. G. CASE.

METHOD OF FASTENING ABRASIVE MATERIAL TO METAL BODIES.

APPLICATION FILED APR. 29, 1903.



Witnesses:  
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W. E. Chase

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By  
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## UNITED STATES PATENT OFFICE.

~~REISSUED~~

EDSON G. CASE, OF NIAGARA FALLS, NEW YORK.

## METHOD OF FASTENING ABRASIVE MATERIAL TO METAL BODIES.

SPECIFICATION forming part of Letters Patent No. 779,639, dated January 10, 1905.

Application filed April 29, 1903. Serial No. 154,769.

*To all whom it may concern:*

Be it known that I, EDSON G. CASE, of Niagara Falls, in the county of Niagara, in the State of New York, have invented new and useful Improvements in Methods of Fastening Abrasive Material to Metal Bodies, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

10 This invention relates to an improved method of or process for applying and fixing an abrasive material to the surface or surfaces of metal bodies which are adapted to be used for grinding or polishing other surfaces  
15 or bodies.

The object is to produce an abrasive surface which is practically inherent in the body to which it is applied whereby the wearing qualities and permanency of the grinding or polishing surface is materially increased.

To this end the invention consists, essentially, in the mechanical application of an abrasive substance—such as carborundum, emery, or equivalent material—to the surface  
25 or surfaces of a metal body and at the same time subjecting said body to an electroplating process whereby as the abrasive is being applied to the body a metal coating or plating is deposited over and around the surfaces of  
30 the abrasive deposit and metal body and permanently fixes the abrasive material thereto, it being understood that under this treatment the abrasive particles become embedded into and fastened by the plating.

35 In the drawings, Figure 1 is a sectional view of an electroplating apparatus, showing the manner of applying the abrasive material to the part being plated; and Fig. 2 is a metal disk 1, having an abrasive substance 2 applied and fixed thereto under my improved process.

In carrying out the object stated I employ any well-known form of electroplating apparatus, as A, containing a suitable electrolyte  
5 B, in which the metal anode, as C, and the

object, as 1, which is to receive the abrasive substance and plating are immersed and electrically connected to a source of electrical energy, as D, in the manner usual for electroplating.

During the electrolytic action by which the plating metal is deposited upon the surface or surfaces of the object the abrasive substance, such as powdered or granulated carborundum or emery or similar material, is sifted or otherwise deposited into the electrolyte and falls  
55 upon the surface of the object, which is supported in such position that the precipitate is uniformly distributed over the surface to be prepared. It is evident, however, that this  
60 abrasive substance may be applied before immersion or before the electrolytic action begins, the only requirement being that this abrasive material be deposited on the object while being subjected to such action whereby  
65 the plating metal is deposited on the metal body or object so that the abrasive particles become embedded and fastened thereon and thereby.

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

The herein-described process for making, grinding and polishing surfaces upon suitable bodies, said process consisting in distributing  
75 a powdered or granulated abrasive material over the surface of the body and at the same time electroplating the body and abrasive material while the latter is being deposited on the body whereby the plating metal is deposited over and around the surfaces of the body and abrasive powder to permanently fix the  
80 latter to the body.

In witness whereof I have hereunto set my hand this 21st day of April, 1903.

EDSON G. CASE.

Witnesses:

IDA M. CASE,

CHARLES W. JOHNSON.