

H. R. CASSEL.

ELECTROPLATED SHELLS OR CYLINDERS FOR IMITATING
LEATHER, &c.

No. 193,922.

Patented Aug. 7. 1877,

Fig. 1.

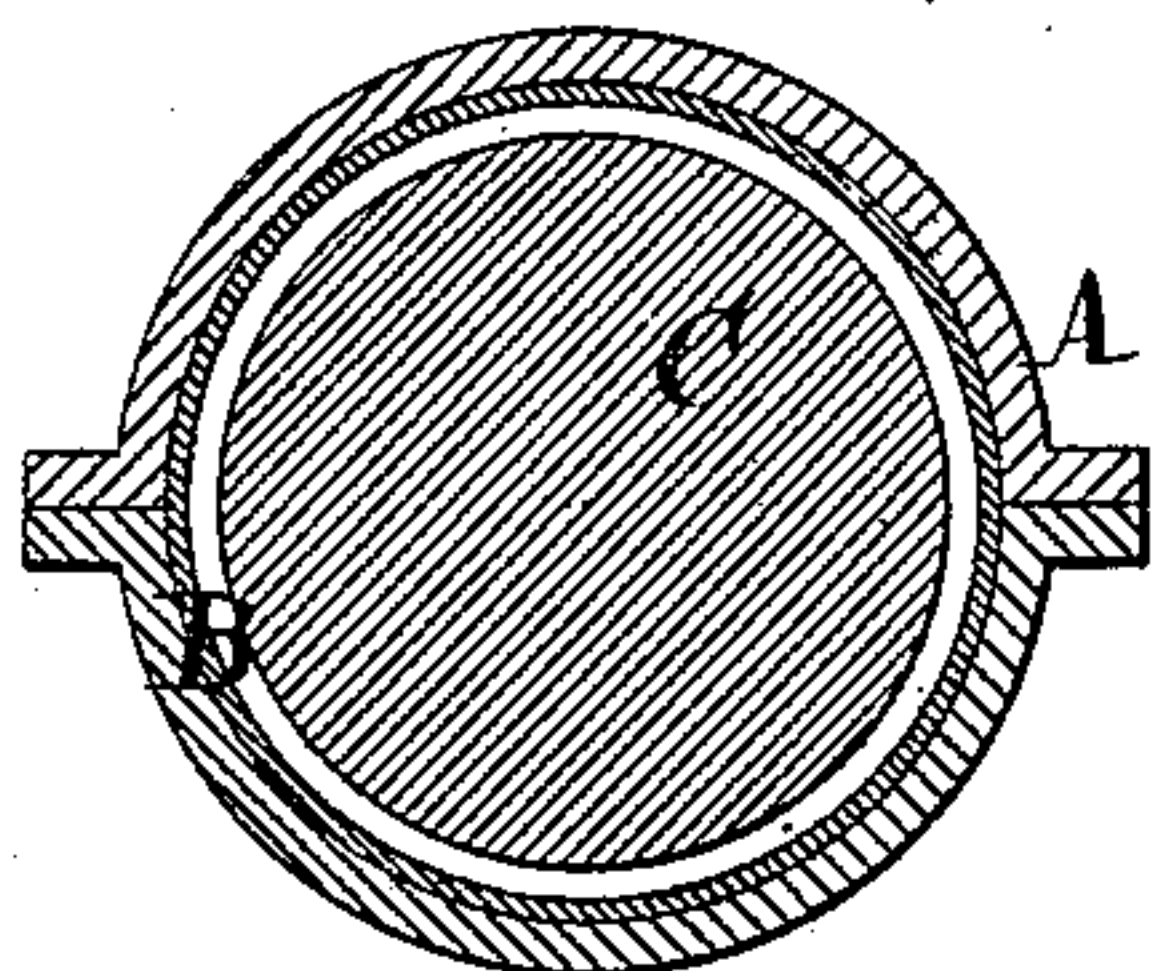


Fig. 2.

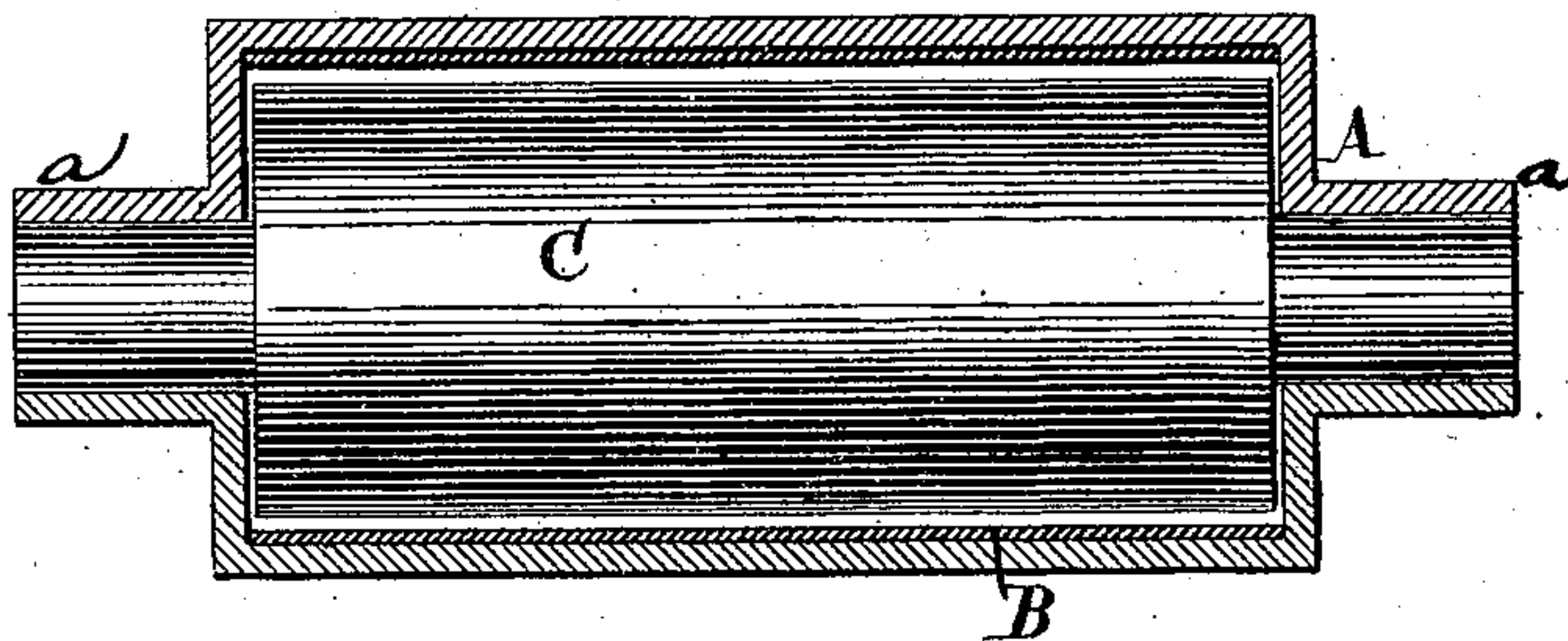


Fig. 3.

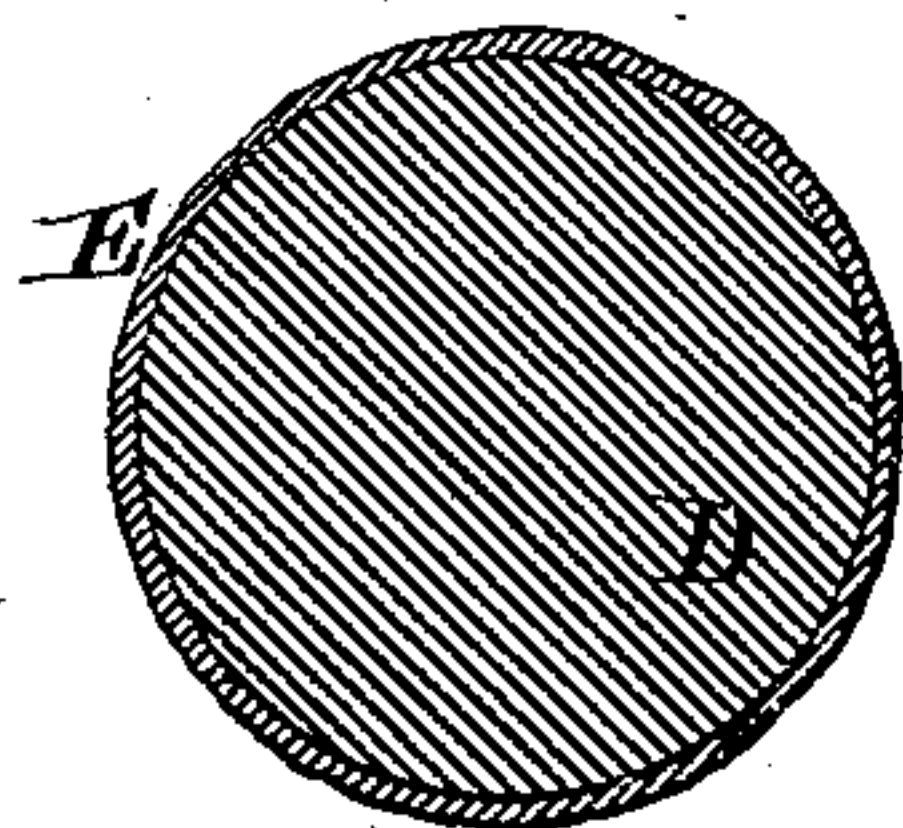
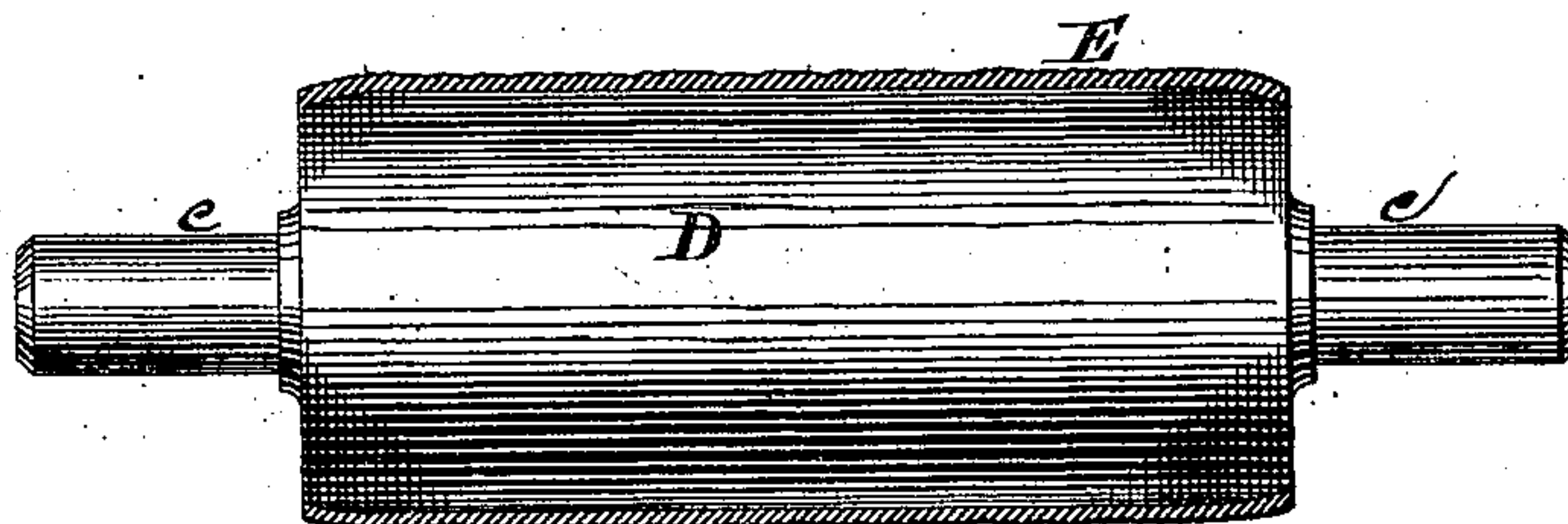


Fig. 4.



Witnesses.

Otto Hufeland
Chas. Kahlers.

Inventor.

Henry Renner Cassel
by

Van Santwood & Hauff

his attorneys

UNITED STATES PATENT OFFICE.

HENRY R. CASSEL, OF NEW YORK, N. Y.

IMPROVEMENT IN ELECTROPLATED SHELLS OR CYLINDERS FOR IMITATING LEATHER, &c.

Specification forming part of Letters Patent No. 193,922, dated August 7, 1877; application filed June 14, 1877.

To all whom it may concern:

Be it known that I, HENRY REIMER CASSEL, of the city, county, and State of New York, have invented a new and useful Improvement in Electroplated Shells or Cylinders for Imitating Leather or other Materials, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a cross-section of a mold used in carrying out my invention. Fig. 2 is a longitudinal section of my roller. Fig. 3 is a cross-section thereof; and Fig. 4 is a view of the complete roller.

Similar letters indicate corresponding parts.

My invention has reference to rollers for producing imitation articles of leather or other materials; and it consists of a mold lined on the inside with leather or other suitable material, the surface of which it is desired to imitate, said parts being combined with an anode suspended in the mold, so as to form an intervening chamber or annular space between the exterior of the anode and the material to be imitated, whereby a cylindrical shell of deposited metal is produced by depositing the copper by galvanic action on the surface of the material to be imitated, and from which an exact copy is obtained.

In carrying out my invention I take a mold, A, the inner surface of which has a circular shape, and is perfectly smooth, and which is preferably made in two parts, and line the same with a piece of leather, B, (when the roller is to be finished in imitation of leather,) which is cut so as to fit the interior of the mold, and is placed therein in such a way that its grained surface is exposed, the leather, moreover, being made to adhere to the mold by means of heated wax. I coat this leather with plumbago, in order to give it a metallic surface, and then place, lengthwise, in the mold a piece, C, of copper as an anode, which is kept exactly in the center, and which leaves an annular space between its outer surface and the grained surface of the leather in the mold. The cylindrical anode is placed in the center of the mold, in order that the inner face of the same shall at all points be at the same relative distance from such anode, in

order to insure a regular and uniform deposit of metal upon the leather. The anode may be suspended in any suitable manner within the mold, care being taken that it is concentric therewith, and is insulated therefrom. In the present instance said anode is represented as mounted upon a cylindrical shaft of non-conducting material, *e*, supported at each end in the contracted portions *a a* of the mold, provision being made in any suitable manner for the entrance of the sulphate-of-copper solution between said shaft and its bearing-surfaces. The whole is then plunged into a bath of sulphate of copper in solution, and the copper anode is connected to the negative pole of a galvanic battery, while the metallized leather is connected to the other or positive pole thereof, by the action of which the copper from the solution is deposited on the surface of the leather in a thin film. When the deposit attains the thickness required for the roller-shell E on the surface of the leather, the whole is removed from the bath, the mold is taken off, and the leather is detached from the shell.

By this process an exact copy of the grain of the leather is transferred to the outer surface of the copper shell, which is soldered on a suitable round bar, D, of steel or brass, and thereby a roller is obtained which is adapted to imitate leather with the greatest possible accuracy. This roller can be used to great advantage for giving to cheap leather an impression imitating leather of better quality—thus, for instance, sheepskin may be made to look like morocco, levant, or other grained leather.

It will be seen that by using a seamless shell an unbroken surface is given to the roller, and the latter is adapted to impress the leather or other material over its entire surface. My roller can be used in the ordinary way. It can, moreover, be made to imitate various other well-known materials besides leather by simply substituting such materials for the leather in the mold.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the mold lined on the inside with leather or other suitable material,

the surface of which is to be imitated with an anode suspended in the mold, so as to form an intervening chamber or annular space between the exterior of the anode and the material to be imitated, substantially as described, whereby a cylindrical shell of deposited metal is produced, as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 9th day of June, 1877.

HENRY REIMER CASSEL. [L. S.]

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.