

(No Model.)

G. U. MEYER.

MODE OF MAKING INGOTS FOR SEAMLESS PLATED WIRE.

No. 460,921.

Patented Oct. 6, 1891.

Fig. 1.

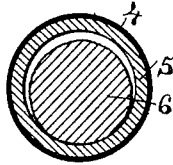


Fig. 2.

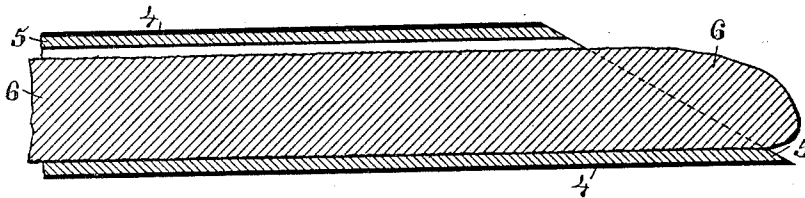
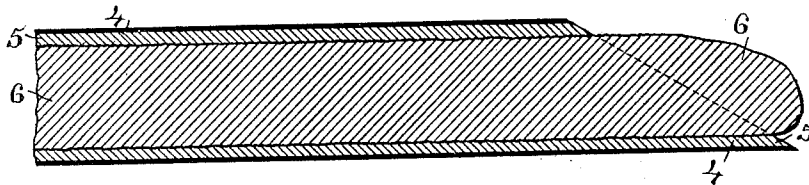


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE U. MEYER, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE
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MODE OF MAKING INGOTS FOR SEAMLESS PLATED WIRE.

SPECIFICATION forming part of Letters Patent No. 460,921, dated October 6, 1891.

Application filed December 17, 1890. Serial No. 375,023. (No model.)

To all whom it may concern:

Be it known that I, GEORGE U. MEYER, of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Seamless Plated Wire; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in the process for manufacturing ingots from which seamless plated wire is drawn, the object being to produce such an ingot without the use of solder and in a manner which will avoid the imperfections which exist in the ordinary seamless wire. To this end my invention consists in the peculiar and novel steps, which will be more fully described hereinafter, and pointed out in the claims.

In the manufacture of seamless plated wire a core of inferior metal, usually brass, is covered with a tube of precious metal and is secured to the tube by solder fusible at a lower temperature than the metals of the plating-tube and the core, the ingot thus formed being afterward drawn through a draw-plate or rolled between rollers until it is reduced to wire.

In preparing the core for the tube it is essential that the surface of the core should be made perfectly smooth, as any projecting points, even the smallest, would tend to pierce the thin covering of gold when being drawn through the draw-plate and produce imperfections on the surface of the finished wire.

Figure 1 is a cross-sectional view of a tube with the core or stuffing-rod inserted. Fig. 2 is a longitudinal sectional view of the same, the stuffing-rod being shown as loosely fitting the inside of the tube and having the ordinary imperfections. Fig. 3 is a longitudinal sectional view of the finished ingot, showing the tube as drawn or rolled down on the core, the lining of the tube filling up the spaces between the imperfections on the surface of the core.

In my improved process of manufacturing ingots for seamless wire I take a tube made of stock-plate by any of the well-known processes. The stock-plate may consist of a thin

plate of precious metal secured to a thicker plate of base metal by sweating or soldering, or it may consist of other combinations of sheets of precious metal, solder, and base metal—for instance, the stock-plate may consist of a sheet of base metal secured to a sheet of hard solder, which in turn is secured to a sheet of gold. The core or stuffing-rod, formed of base metal, is inserted into the tube described and pushed through the same until the end of the tube is reached. The ends of the tube and rod are then tapered, as shown in the drawings, to permit them to be passed part way through a hole in the draw-plate, where they can both be grasped by a clamp and held firmly while the tube is being drawn down onto the core.

It is not necessary that the core should be made to exactly fit the inside of the tube, nor is it necessary that the surface of the core be absolutely smooth, as the base-metal lining of the tube, when drawn down on the core, will tend to smooth the surface of the same, and where that is not wholly accomplished it will be forced by the rollers or draw-plate into the spaces between the projections, as is indicated in Fig. 3.

Where a layer of solder is used to unite the shell of precious metal directly to the core, the solder is consolidated by the drawing process into the spaces between any projections on the core, and this process is continued in the drawing until the projections are forced into the thin gold shell and possibly through the same, in either case causing a varying distribution of gold over the core. Soldering the gold shell directly to the core is also objectionable from the care that is necessary to thoroughly cleanse the core and inside of the shell from every particle of grease, oxidation, or other foreign substances, as the slightest amount left on these portions will cause blisters to appear in the finished wire.

My improvement in forming ingots for plated wire avoids the expensive and defective soldering process, while the imperfections on the surface of the core are a benefit, as they are pressed into the base-metal shell and have a tendency to hold the shells more firmly onto the core.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. The herein-described process of making ingots for seamless plated wire, consisting in
5 inserting a core of base metal into a tube formed of stock-plate, and then contracting the diameter of the tube by rolling or drawing to secure the same to the core, as described.
2. The process of making ingots for seam-
10 less plated wire, consisting in inserting a core of base metal into a tube of plated metal,

tapering the ends of the core and tube to allow of their being passed part way through a hole in a draw-plate, and finally contracting the diameter of the tube by drawing the
15 tube and core through a hole in the draw-plate, as and for the purpose described.

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Witnesses:

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