

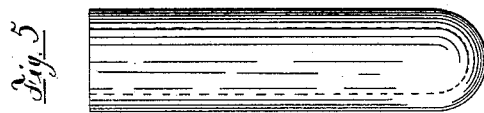
(No Model.)

H. T. SMITH.

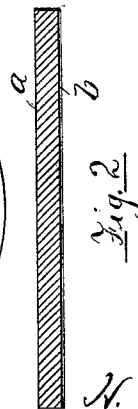
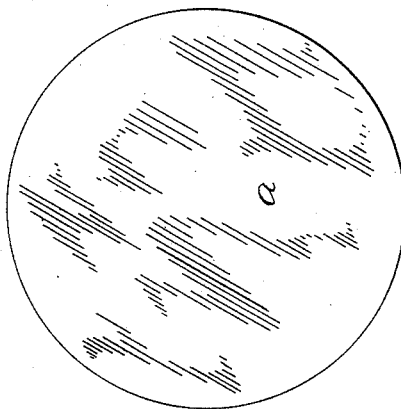
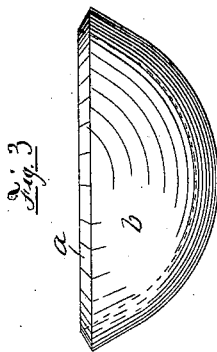
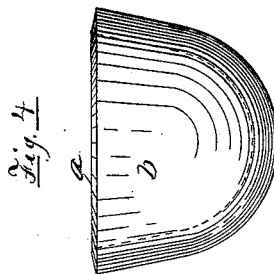
ART OF MAKING SEAMLESS PLATED HOLLOW WIRE.

No. 422,647.

Patented Mar. 4, 1890.



c



Witnesses
A. D. Hanson
W. B. Ramsay.

Inventor

N. T. Smith

By his Attorney

Wm. Brown & Co.

UNITED STATES PATENT OFFICE.

HENRY T. SMITH, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR, BY DIRECT
AND MESNE ASSIGNMENTS, TO ROSWELL C. SMITH, TRUSTEE, OF SAME
PLACE.

ART OF MAKING SEAMLESS PLATED HOLLOW WIRE.

SPECIFICATION forming part of Letters Patent No. 422,647, dated March 4, 1890.

Application filed September 18, 1889. Serial No. 324,297. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. SMITH, of Providence, in the county of Providence and State of Rhode Island, have invented certain
5 new and useful Improvements in the Art of and Ingots for the Manufacture of Seamless Plated Wire, of which the following is a specification.

My invention has for its object the provision
10 of a mode of and ingot for the manufacture of seamless plated wire for the manufacture of watch and other chains, bracelets, rings for parasols, as well as various other articles of jewelry, &c., whereby the said articles of
15 manufacture can be more economically and expeditiously manufactured than heretofore, and whereby, also, the gold plate may be securely fused with or connected to the base metal.

My invention comprises the formation of a
20 hollow ingot by connecting a thin plate of gold or other high-grade metal with a thick plate of copper or other comparatively base metal by means of hard solder, or in other suitable
25 manner, then forming the plate thus compounded into an ingot by pressing it into a cap or thimble like tube with the gold or high-grade metal on the outside of such ingot, and, finally, spinning, drawing, or rolling down
30 the ingot thus formed into a seamless plated wire or hollow seamless rod or tube.

My invention will first be described in connection with the accompanying drawings, forming a part of this specification, and be
35 subsequently pointed out in the claims.

Of the said drawings, Figure 1 is a plan view of a circular plate of metal, which may in this instance be supposed to be copper. Fig. 2 is a sectional view of the same, showing a thin sheet of gold soldered to the under
40 side thereof. Fig. 3 represents the sheet after the action of the first set of dies, thereon in the operation of forming the sheet into an ingot. Fig. 4 represents the sheet after the
45 operation of the second set of dies. Fig. 5 represents the completely-formed ingot died up from the sheet.

The same letters of reference designate the same parts in all of the views.

In carrying out my invention I take a thick
50 plate *a* of comparatively base metal, preferably, though not necessarily of copper, and secure upon one face thereof by means of hard solder or in other suitable manner a
55 thin sheet *b* of gold or other comparatively high-grade metal, all as clearly shown in Fig. 2. I then take the blank thus formed and compress or die it up into a cap or thimble like
60 tube or ingot *c* in such manner that the gold or high-grade metal will be on the exterior and the base metal form the core of the ingot, which may have a small hollow extending
65 from near the cap end through the opposite end, as shown by dotted lines in Fig. 3. I finally spin or draw down the ingot thus
70 formed into a wire in such manner that the copper or base metal will form the core of the wire, while the gold or high-grade metal will cover its exterior, thus producing a seamless
75 plated wire.

In the formation of the ingot but two steps or acts are performed: first, the preparation of the blank by securing the plate of gold or high-grade metal to the copper or base metal, and, secondly, the dieing up of the blank into
75 a cap or thimble like ingot *c*, though in so constructing the hollow it may be necessary to pass it through successive dies to give it proper form in order that hollow tubing or
80 wire may be formed therefrom.

I do not fill the hollow which may be formed or left in the ingot in any manner whatsoever, since such hollow does not interfere with the formation of wire from the ingot; nor does it act detrimentally in the wire made
85 from the ingot, but on the contrary is beneficial, since from this construction it is rendered expedient, by the employment of a mandrel in the hollow of the ingot, or by using
90 other suitable means, to manufacture hollow plated wire—a result that is, for many purposes, very desirable.

Plated wire thus formed is particularly well adapted for the manufacture of watch and neck chains and other articles of jewelry.

It is a special object of my invention to secure a hollow ingot and to dispense with the supplementary core which has hitherto been

used, and which requires a subsequent soldering to the previously-formed shell, the base metal of my ingot forming its own core or filling so far as such thing is needed.

5 By spinning or drawing down the hollow ingot over a mandrel or arbor a hollow seamless gold-plated tube may be readily formed, which can be manufactured into rings for
10 parasols, bracelets, and a variety of other articles, and this is an important feature of the invention and a thing that could not be accomplished heretofore.

Having thus described the nature of my invention and explained a way of practicing
15 and using the same, I declare that what I claim is—

1. An ingot for the manufacture of seamless plated hollow wire, consisting of a hollow body constructed as described, and composed

of copper or comparatively base metal having an exterior of gold or high-grade metal, substantially as set forth. 20

2. The improvement in the art of forming plated hollow wire, consisting in soldering a plate of high-grade metal on a plate of comparatively base metal, dieing up the blank
25 thus formed into a hollow or cup or thimble like ingot, with the high-grade metal on the outside, and then drawing or spinning a wire from such ingot, as set forth. 30

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 14th day of September, A. D. 1889.

HENRY T. SMITH.

Witnesses:

ROBERT W. BURBANK,
CHARLES D. WOOD.