(No Model.)

J. S. PALMER.

MANUFACTURE OF GOLD PLATED WIRE STOCK FOR JEWELRY.

No. 383,240. Patented May 22, 1888.

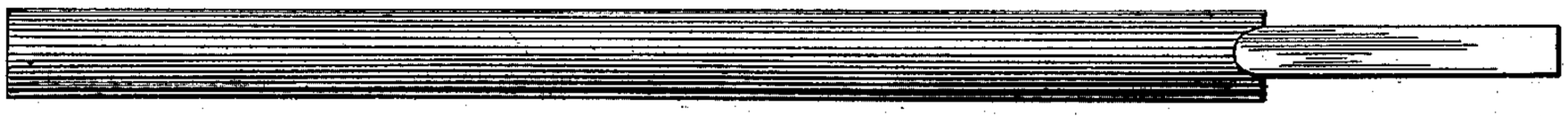


Fig. 1.

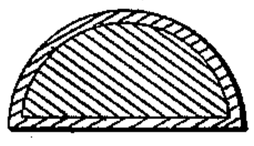
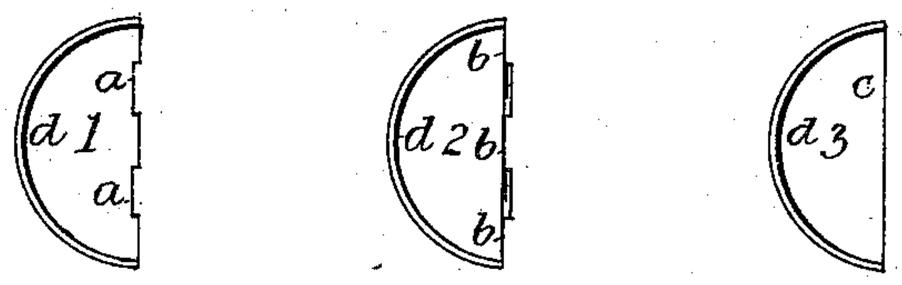
Fig. 2. 

Fig. 3.



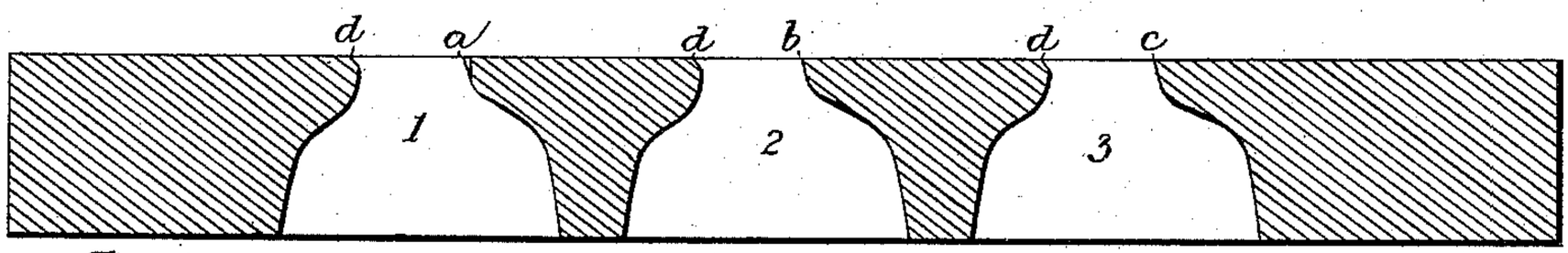


Fig. 4.

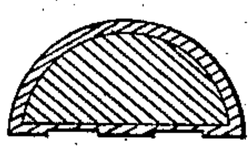


Fig. 5.

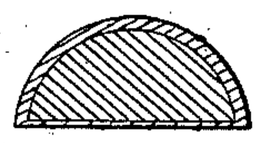


Fig. 6.

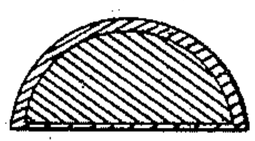
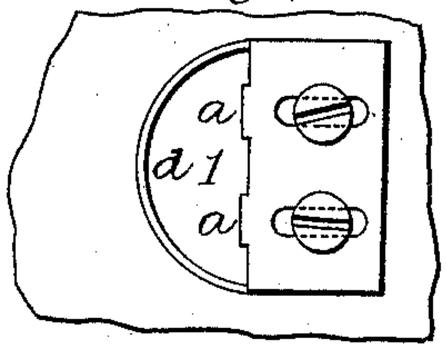


Fig. 7.

Fig. 8. 

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UNITED STATES PATENT OFFICE.

JOHN S. PALMER, OF PROVIDENCE, RHODE ISLAND.

MANUFACTURE OF GOLD-PLATED-WIRE STOCK FOR JEWELRY.

SPECIFICATION forming part of Letters Patent No. 383,240, dated May 22, 1888.

Application filed January 30, 1888. Serial No. 262,316. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. PALMER, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Improved Method of Shaving Plated-Wire Stock; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In "drawing" or elongating plated wire for jewelers' use through draw-plates the gold or precious metal incasing the baser metal in the act of drawing is always necessarily reduced or drawn down so as to be of substantially equal thickness throughout; but in many fabricated articles of jewelry—such as finger-rings, chains, &c.—there are certain portions which are most exposed to wear—such, for instance, as the exterior of a finger-ring and other portions, which receive but little wear. It is therefore most desirable to find a method whereby such plated wire may be made as thick as desired where the most wear comes, and reduced or made as much thinner as may be desired by planing, shaving, milling, grinding, or scraping off at the part or parts where the least wear is to come; and to accomplish this end is the object of my present invention, which I will now describe, illustrating it by drawings, in which—

Figure 1 shows enlarged a wire of plated stock which has by known methods been elongated and drawn down to a form suitable for making plain semicircular finger-rings; and Fig. 2, a cross-section, still further enlarged, before it has been treated by my new method. Fig. 3 (by way merely of illustration) shows enlarged a cutting or shaving plate adapted for practicing my invention when making stock for finger-rings; Fig. 4, a cross-section of the same; Fig. 5, a cross-section, of same size as Fig. 2, of a wire or bar, such as above named, after being pulled through the hole marked 1 of the cutting-plate; Fig. 6, a similar section after it has been passed or pulled through the hole 2 of such plate; Fig. 7, a similar section after being passed or pulled through the hole 3. Fig. 8 illustrates a means for adjusting the cutters.

Here I would state that by my method I do not elongate the stock by compressing it into a smaller size transversely, and which is technically known in the trade as "drawing." On the contrary, my method commences with the stock which has already been so drawn by known methods.

Hole No. 1, for the sake of explaining my improved method, is shown as having projecting cutting-edges *a a*, and which, as hereinafter stated, may be made adjustable, and which shall act on the gold of the wire stock as pulled through it and shave it off in grooves for the predetermined depth. Hole No. 2 has other cutting-edges, *b*, differently located, and which next serve to cut or shave off from the same side of the wire and to about the same depth that part left uncut by the cutting-edges *a a*, and in this hole 2 the edges corresponding to the edges *a a* in the hole 1 are rounded off and serve as guiding-edges upon which the previously cut surfaces rest, in order to limit this cut to a depth corresponding to those first made. Hole No. 3, which is next used, has its cutting-edge made continuous—that is, without any cutter projecting beyond the cutting line of the other cutters, and this serves to smoothly thin off any irregularities left by the cutters *b*. Such or a similar cutter-plate, it will be seen, may be used for shaving wire-plated stock of any length, and at any stage of the manufacture which may be the most economical or desirable.

A convenient way of passing the wire stock through the holes in the plate is by temporarily soldering or fastening one end of the wire to a "point" or solid piece of metal, which thus serves as a handle for pulling the wire stock and for strengthening it for the draw-tongs.

When the plated wire is of different form in cross-section, of course the holes in the plate must be adapted to such shape, and the number or size of the cutting portions or edges varied accordingly as may be requisite.

In some cases it may be desirable or more economical to shave off or remove the gold while the wire stock is larger, and when it is either round or of other shape, and when the

gold is thicker than at later stages of drawing or before the stock has been brought to its general shape desired in its cross-section.

That portion of the holes in the plate which is not to shave, plane, or cut off the gold—as, for instance, the arched portion marked *d* in the drawings—has edges sufficiently blunt or beveled off to allow of drawing and guiding without removing any metal.

It must be distinctly understood that I do not in anywise confine myself to the exact construction of the plate shown, nor to the number or form of cutting-edges in any of the plates, which necessarily must be varied to adapt them to the form or character of the plated stock and to the ultimate form to which the same is to be cut down or removed.

The plated-wire stock should be passed entirely through the plate for its first cut to make the requisite channels, and again entirely through the next hole to reduce or cut away the ridges left by the first cut, and then through the next hole to give a smoothing cut.

It will be seen that by my method there is no danger of reducing those parts of the gold which are to have the most exposure and hardest wear to a thinness likely to destroy the article of jewelry made from the stock or to wear it through quickly, because such part is not made even as thin as usual, and is not shaved or cut away at all.

Articles made from plated wire treated with my cutting-plates and having the requisite thick portions and the requisite thin portions of the gold or precious metal may, while containing a given quantity of such metal, last twice as long as those made by the existing methods and with the same quantity of such metal, because the parts most exposed to wear and abrasion may be plated as much thicker as the other parts which are less liable to wear away are made thinner by the cutters; and inasmuch as the act of pulling the wire through the die-plate also effects this cutting off or shaving there is really no cost of time or money in this shaving process, while the precious metal thus cut off may all be saved, as it mainly comes off in chips or shavings lengthwise of the wire stock. In short, much better and far more durable articles may be made from such stock at practically no additional cost, and my invention offers no temptation to manufacturers for drawing down to the last degree of thinness and poorness all the exterior plate of gold for the sake of saving the gold and producing the articles as cheaply as possible, but with a large profit. A main object of my invention, it will be seen, is to afford the means of producing articles approaching as nearly as practicable to those of solid gold in durability, but at a much lower price, thus putting on the market more valuable plated articles than existing methods permit.

I make in another independent application a claim for a cutting-plate adapted for practicing this improved method of cutting or shaving the stock.

If desired, the gold may be taken off or removed by the milling process—that is, by means of a circular cutter.

I claim—

1. In the manufacture of gold-plated-wire stock for jewelry, the described method of reducing the gold plate to the requisite unequal thickness, consisting in passing the stock through dies adapted for guiding it, and for cutting off, shaving off, or otherwise removing a portion of the gold at the parts desired, substantially as set forth.

2. In the manufacture of gold-plated-wire stock for jewelry, the described method of reducing the gold-plate to the requisite unequal thickness, consisting in passing the stock successively through dies adapted for guiding it and for cutting off, shaving off, or otherwise removing a portion of the gold at the parts desired, substantially as set forth.

JOHN S. PALMER.

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