

(No Model.)

J. S. PALMER.

PLATE FOR THE MANUFACTURE OF PLATED WIRE STOCK.

No. 383,241.

Patented May 22, 1888.

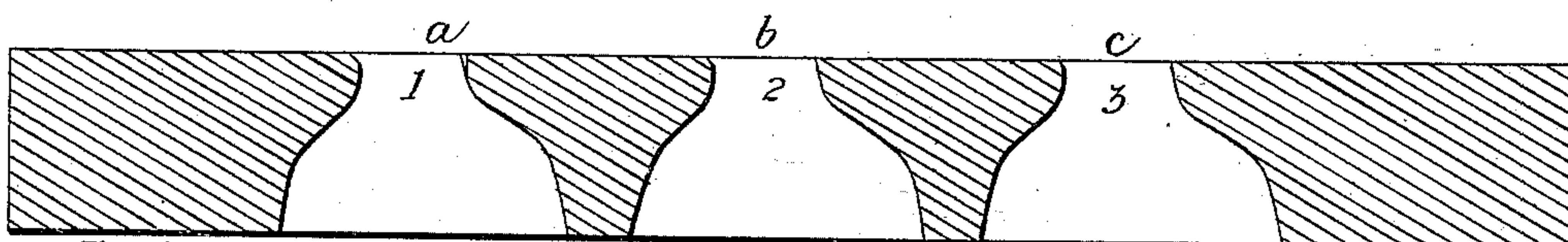
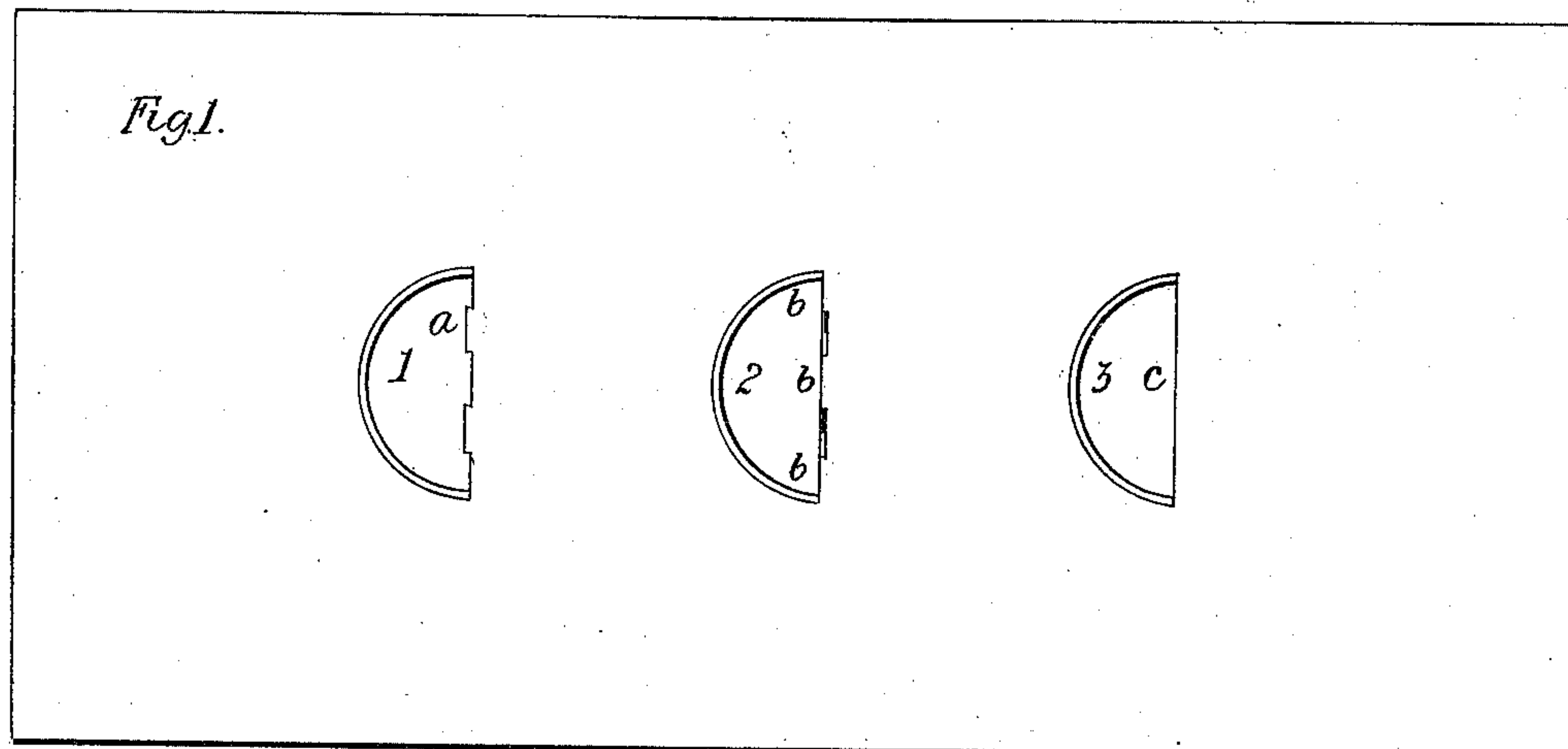
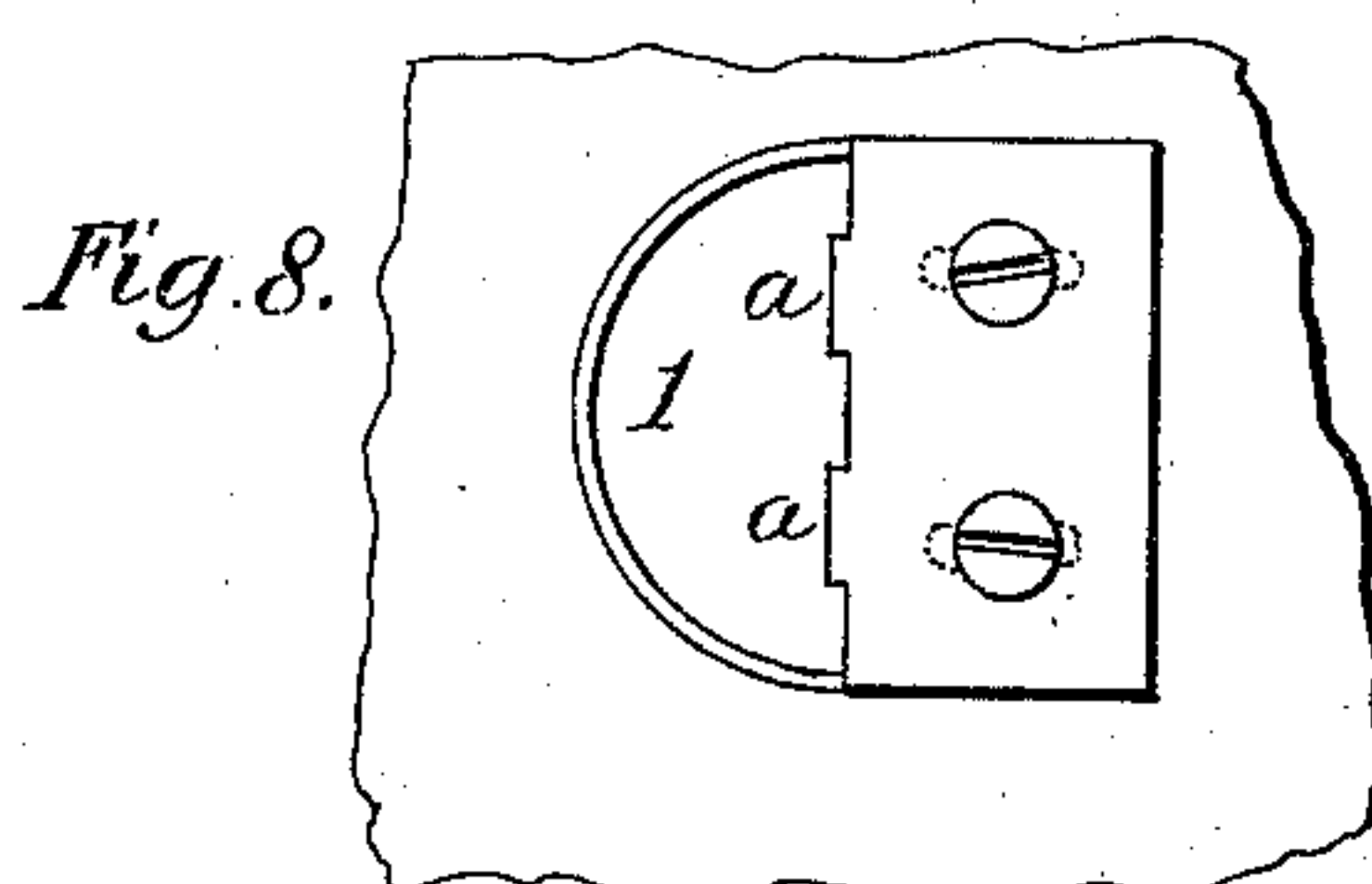
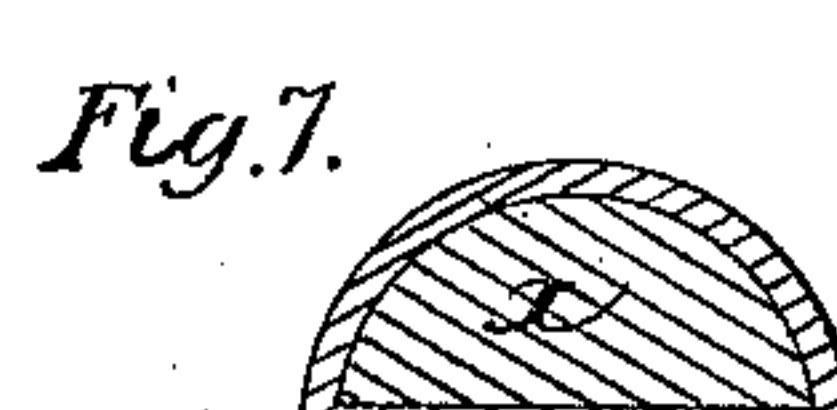
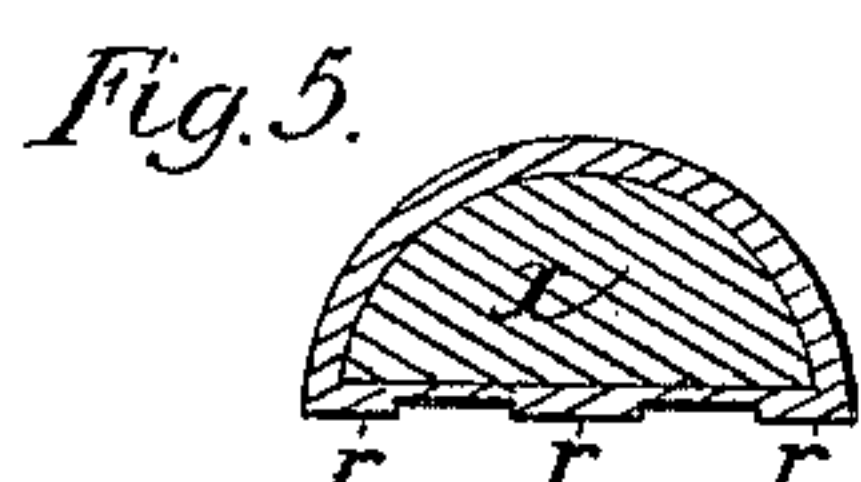
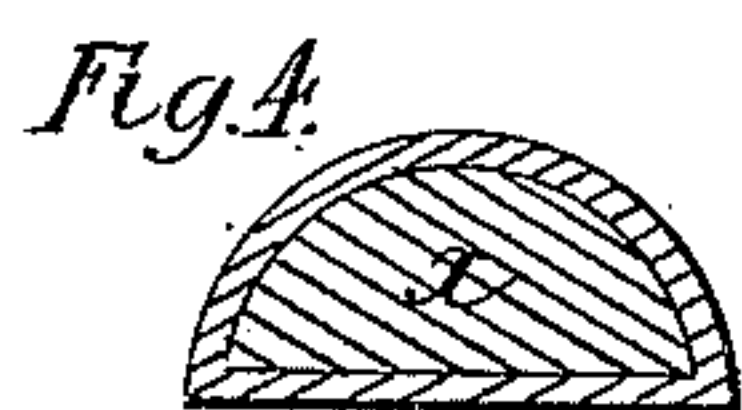


Fig. 2.



Fig. 3.



Witnesses.

Wm. T. Norton.

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PLATE FOR THE MANUFACTURE OF PLATED-WIRE STOCK.

SPECIFICATION forming part of Letters Patent No. 383,241, dated May 22, 1888.

Application filed January 30, 1888. Serial No. 262,317. (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 Shaving Plates Used in the Manufacture of 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 the manufacture of plated-wire stock to be cut up into appropriate lengths for fabrication into different articles of jewelry ordinarily made from such stock the result of several "drawing" processes with the drawing-plates heretofore used is to leave the stock with the solid interior wire or core of base metal covered with a thin plate of gold or precious metal having throughout a thickness substantially uniform all around such wire or core; but, inasmuch as most, if not all, articles of jewelry made from compound or plated wire are subject to much more wear at some parts than at others—as, for instance, in chains, rings, buckles, breastpins, bars, &c., in which the under or non-exposed parts are but little liable to being rubbed, abraded, or worn away—and inasmuch as the parts most exposed to view, as also to wear, will far too soon wear entirely through the gold, thus rendering the article comparatively valueless as an ornament, it is of great importance so to make this plated-wire stock that the gold or precious metal shall be thick at the part where the greatest wear comes and as thin as practicable consistent with due strength where it is least liable to wear away, thus permitting the production of articles of much greater value and durability, without using any more gold, by insuring a judicious distribution or apportioning of the gold on the wire, and consequently in articles made from it.

My present invention consists in a special construction of paring or cutting plate adapted for producing plated bars or wires having this plating of the desired varying thickness.

In the drawings, Figure 1 shows (merely by

way of illustration) one form, enlarged, of paring-plate adapted for practicing my invention when making plated stock suitable for making plain semicircular finger-rings, &c.; Fig. 2, a longitudinal section of the same. Fig. 3 shows enlarged a bar of plated-wire stock having a form in cross-section suitable for making such rings or similar articles; Fig. 4, a cross-section, still further enlarged, of the same bar before it has been passed through and partially planed, shaved, or cut away by my improved plate; Fig. 5, a cross section, enlarged, of the same bar of plated wire after being pulled through the first die-hole in my improved plate; Fig. 6, a cross-section, enlarged, after it has been pulled through the second die-hole in said plate; Fig. 7, a cross-section, enlarged, after being pulled through the third or smoothing hole in said plate; and Fig. 8, a view of a die-hole with adjustable cutter.

I would here state that what is technically known as "drawing" down the stock by elongating it forms no part of my present invention, for my paring or cutting plates are designed to act upon the stock after it has been drawn down.

I prefer to use a single plate in which are all the required holes for effecting the planing, shaving, or scraping. In the first die-hole (marked 1) are shown projecting straight cutting-edges *a a*, which may be fixed or adjustable, adapted to act upon the exterior of the gold of the plated-wire stock, (the baser metal being shown at *x* in the several figures,) the act of pulling the stock or bar entirely through this die-hole serving to cause the edges *a a* to plane or shave off or scrape away the gold from the desired part in grooves of a predetermined depth, and this depth should ordinarily be substantially of the ultimate depth to which the metal is to be removed. All of the edge of hole 1 excepting the sharp edges *a a* is made blunt enough to avoid its scraping or removing any gold, excepting by the agency of those sharp edges. The bar, having been pulled entirely through this hole 1, has grooves plowed out of it at the side or part desired, leaving it substantially as shown in Fig. 5. Next the bar is pulled entirely through the hole marked 2, and this causes the straight cutting-edges marked *b b* to plane, shave off,

or scrape away the unreduced or ridged portions *r* of the bar which were left remaining or not removed by the cutting-edges *a a*, for it will be observed by a glance at the holes 1 and 2 that the relative positions of cutters *a* and *b* are such as to be alternate with each other, each of the set *b* removing that part of the portion to be cut away which the cutters *a* avoided. The mouth of hole 2 is, like hole 1, blunt, except at the cutting-edges *b b*. The cutters *b*, however, cut to the same depth as the cutters *a*. Next the bar is pulled through the hole 3 in the plate, and this hole has its only sharp or cutting straight edge *c* continuous or uniform—that is, it has no cutting-teeth projecting so as to cut beyond the cutting-line of the other cutters—and this serves to smoothly trim off any irregularities left by the cutters *b*. Such or a similar cutter-plate, it will be seen, may be used for shaving wire stock of any length and at any stage of the manufacture of jewelry which may be most economical or desirable, and of course it must be understood that the die-holes may be of any desired shape for bars of any desired shape in cross section, so long as they have the feature of cutters or cutting-edges, which shall, as the bar is pulled through, remove the desired part of the metal to make one part thinner and leave the remainder thicker.

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

As before intimated, when the plated wire to be treated is of different form in cross-section of course the holes in the plate must be adapted to such shape, and the number and sizes of the cutting portions or edges must of course be also varied as may be requisite; but the important and essential feature is that the holes in the plate shall have portions of their edges sharp enough to serve as scrapers, planers, or cutters, while the remainder allows the

pulling of the plated-wire stock or bar through these holes without removing the gold.

The plate may have its die-holes such in size or shape or relative sizes and shape as to shave off the gold while the wire stock is larger and when it is 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 desired ultimate general shape in cross-section; and it will be evident that the less the bar is drawn down from its original thickness of plate the greater will be the durability of the articles fabricated from it, while the parts to be thinned down by the cutters may be cut away to any degree desired, dependent solely on the depth to which the cutters may plane away the gold.

While my series of cutting die-holes might be all made resembling that marked 3—that is, with a single continuous cutting-edge to pare away the gold, each hole of the series having its edge adapted to cut deeper than its preceding one into the gold plate—yet I prefer to make them as shown, so that the die No. 1 shall cut grooves of the desired depth, that die No. 2 shall remove the ridges or non-reduced parts left by No. 1, and that No. 3 shall smooth or finish the entire part thus reduced, and for the reason that this preferred partial surface cutting is not liable to injure the gold plate or strain too much in cutting or to cut unevenly.

With my improved plates I can make much better and far more durable goods with the same amount of gold, as they are thicker where most wear comes, and at about the same cost as for inferior goods, which have all the gold plate too thin and uniformly thin.

I claim—

In the manufacture of gold-plated-wire stock, a plate having a series of die-holes provided with one or more sharp edges, as set forth, adapted for removing a portion of the gold.

JOHN S. PALMER.

Witnesses:

GILMAN E. JOPP,
EBEN U. WATERHOUSE.