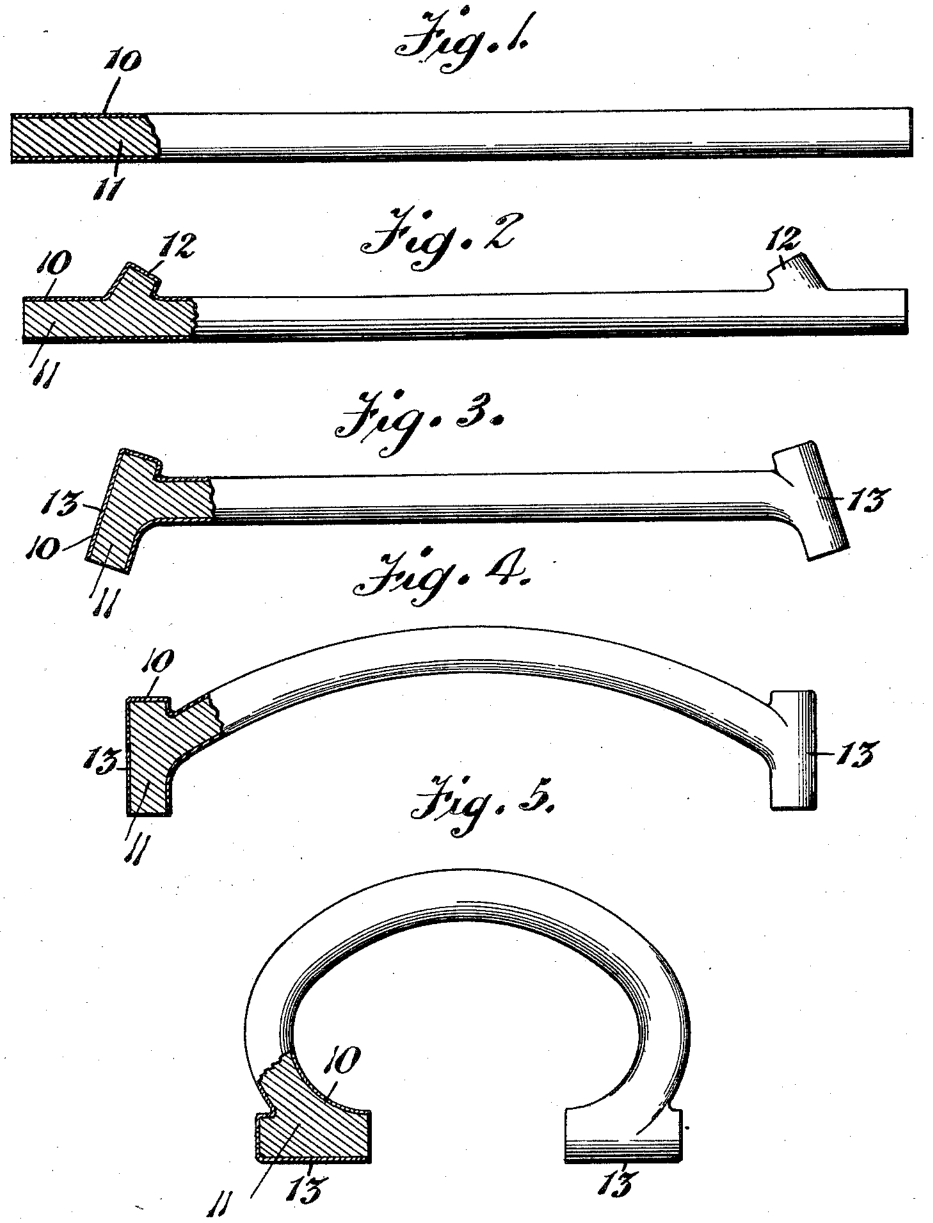
W. E. GIBBS.

PROCESS OF MAKING SWISS WATCH BOWS.

APPLICATION FILED JAN. 26, 1911.

1,019,316. Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.



Witnesses:
H. H. Knight.
Ray J. Ernst.

Inventor
William E. Gibbs
By his Attorneys Knight & Bro

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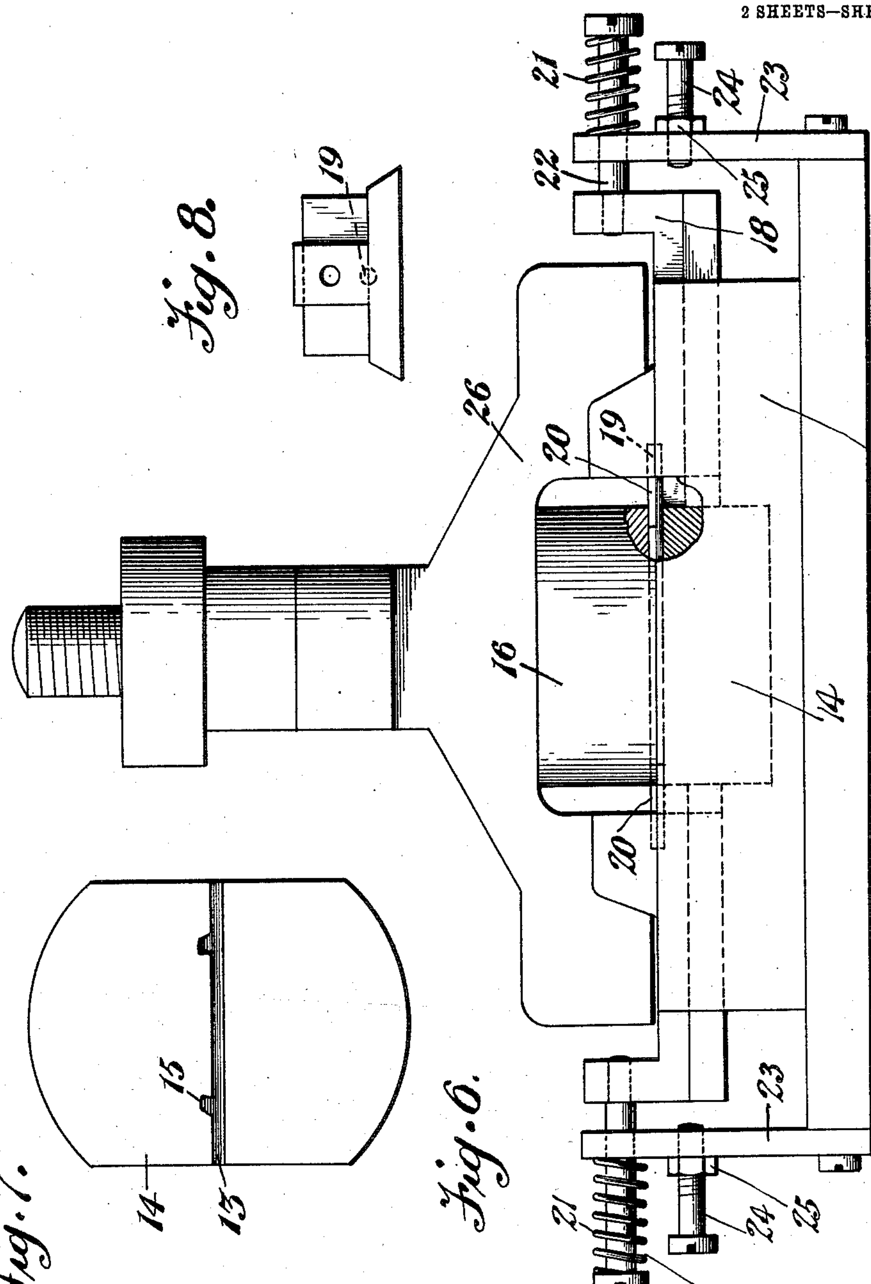

Fig. 8.

Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM E. GIBBS, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO JOSEPH FAHYS & CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PROCESS OF MAKING SWISS WATCH-BOWS.

1,019,316. Specification of Letters Patent. Patented Mar. 5, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM E. GIBBS, a citizen of the United States, and residing in the city of Plainfield, county of Union, and State of New Jersey, have invented certain new and useful Improvements in Processes of Making Swiss Watch-Bows, of which the following is a specification.

My invention relates to a process for making what is known and commonly termed by the trade as a Swiss or French bow for watch cases; that is, a bow comprising a bow proper and a bar formed on each of its two free ends, turned inwardly toward each other to form an axis upon which the bow is secured in place.

Attempts have been made to manufacture Swiss or French bows of filled stock, but these have met with so little success, due to the difficulty of preventing the occurrence of the inner or non-precious metal at the surface, occasioned by the operations to which the filled stock is subjected in the course of manufacture; that, at the present time, solid gold is practically always used for Swiss or French bows on gold-filled watch cases.

By my present invention, gold filled stock may be successfully employed for the manufacture of Swiss or French watch case bows due to the treatment to which I subject the stock in the process of manufacture. The entire exposed surface consists of precious metal, the only uncovered inner or non-precious metal being at the inner ends of the bars where the bow is fitted into the pendant.

It will be apparent that while the process which forms the subject matter of my present invention is especially adapted to the manufacture of Swiss or French bows of gold filled stock, nevertheless the same operations may be applied to solid gold or any other stock with equal success, and therefore, that the invention is not limited to its application to gold filled stock. It will also be clear that the physical operations do not necessarily depend upon the chemical properties of the precious metal covering and the filling of baser metal, and therefore that the invention is not limited to its use with any particular material. For the sake of clearness and simplicity, however, I shall hereafter refer to a specific embodiment of my invention in which gold filled stock is employed.

In the accompanying drawing, Figure 1 is an elevation of a piece of gold filled stock with part in section to illustrate the inner or base metal. Fig. 2 is a similar view at the conclusion of the first operation, which strikes up the ears or nibs that are to form the outer ends of the bars. Fig. 3 is a similar view after the second operation, by which the ends of the stock are turned down to complete the general outline of the bars. Fig. 4 is a similar view at the completion of the third operation, in which the stock is slightly bowed and the bars further turned down. Fig. 5 is a similar view of the bow at the completion of the fourth operation, by which the stock is completely bowed into final shape, ready for planishing and finishing. Fig. 6 is an elevation with part in section, showing at the completion of its movement a die press suitable for effecting the first operation of striking up ears or nibs which are to form the outer ends of the bars. Fig. 7 is a face view of one of the paired die members, and Fig. 8 is an end elevation of one of the slides which operate the push-pins to be hereinafter referred to.

Referring now more specifically to the drawing, the gold filled stock is in the form of a wire comprising the inner or base metal 10, with a shell or tube of gold or other precious metal 11, completely inclosing the same, except at the two ends.

The first operation to which the stock is subjected is to strike up or coax up the ears or nibs 12, which are to form the outer ends of the bars. For effecting this operation, the stock is laid in the recess 13 of die plate 14 (Figs. 6 and 7), which it will be noted has extending from it at one side the recesses 15, corresponding to the shape which the ears or nibs 12 are to receive. A second die plate 16, with a recess which is complementary to the recesses 13 and 15, of the die plate 14, may be locked or otherwise held in place thereon with the stock disposed within the recess 13. These die plates 14 and 16 are suitably mounted in a base 17. In each side of the base 17 is provided a slide 18, having a recess 19 in alinement with the recess 13 of the die plate, for the reception of a push-pin 20, which projects therefrom and is adapted to be moved into the recess 13 to exert pressure against the ends of the stock. The slides 18 are normally held outward by a compression spring

21, surrounding the stud 22, which is fixed in the slide 18, and passes through a perforation in the side-plates 23 of the machine frame. A limit screw 24, with a lock nut 25, is also positioned in the side-plate 23, and may be adjusted to move toward or away from the slide 18 and locked in position to arrest the return of the slide 18 under the influence of its return spring 21 at the proper place. The slides 18 are operated in unison by the engagement of their inclined upper faces with correspondingly inclined under faces of the plunger 26, which in its descent engages both slides and forces them toward each other, thereby moving the push-pins 20 against the ends of the stock and forcing up the ears or nibs 12 into the recesses 15 which shape them. After the ears 12 have been formed on the stock, the ends may be turned downward into the position shown in Fig. 3, thereby forming the bar at each end of the stock. The third operation slightly bows the stock into the form shown in Fig. 4, and finally the stock is bowed into the position shown in Fig. 5, which is the finished shape of the bow. It will be noted that in this latter position the crossbars are in alinement with each other. The bow may now be planished or otherwise finished off to suit the particular requirements of its use.

The steps above indicated are referred to as the primary operations to which the stock is subjected in forming a French or Swiss bow for watch cases. The operations may however each represent a series of repeated or consecutive treatments by which the result noted is accomplished.

The shaping of the stock into the forms shown in Figs. 3, 4 and 5 may be carried out in any suitable apparatus familiar to those skilled in this art and hence is not specifically designated herein.

I claim:

1. The process of making French or Swiss watch case bows, which comprises preliminarily striking up ears or nibs on the straight stock to form the outer ends of the bars, and subsequently alining the bars and bowing the stock to form the completed bow.

2. The process of making French or Swiss watch case bows, which comprises preliminarily striking up ears or nibs on the straight stock to form an end of each bar, then bending the ends of the stock into alinement with the nibs or ears to complete the bars, and finally bowing the stock and bringing the two bars into alinement with each other to complete the bow.

3. The process of making French or Swiss watch case bows, which comprises preliminarily striking up ears or nibs to form the outer ends of the bars, then bringing the ends of the stock into alinement with the ears or nibs to complete the bars and subsequently bowing the stock to form the completed bow.

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