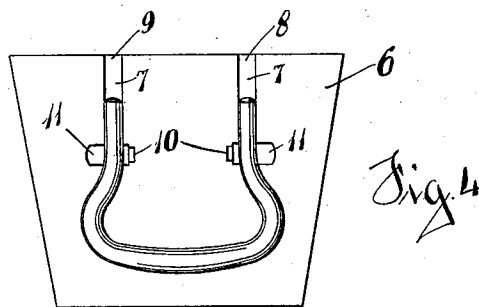
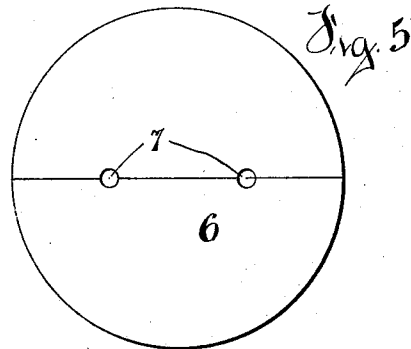
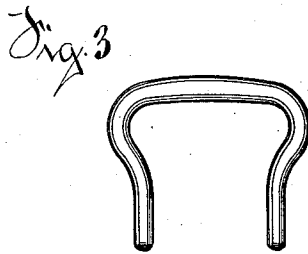
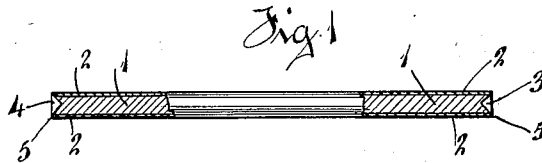


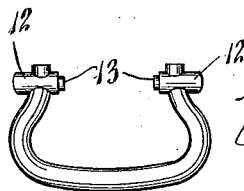
H. L. JEFFERY.
METHOD OF PRODUCING WATCHCASE BOWS.
APPLICATION FILED NOV. 10, 1911.

1,061,080.

Patented May 6, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

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METHOD OF PRODUCING WATCHCASE-BOWS.

1,061,080.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed November 10, 1911. Serial No. 659,597.

To all whom it may concern:

Be it known that I, HAROLD L. JEFFERY, a citizen of the United States, residing at Fort Thomas, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in the Method of Producing Watchcase-Bows, of which the following is a specification.

My invention relates to a novel method of forming watch case bows.

The object of my invention is to make a filled watch case bow, including cross bars and nibs, of one piece by a single operation without having any base metal exposed at any point and also to make a solid watch case bow of one piece, including cross bars and nibs, at a single operation.

My invention consists in the process as herein set forth and claimed.

In the drawing: Figure 1 shows a filled bar or wire of metal partly in elevation and partly in section; Fig. 2 is a view of the same showing precious metal swaged or drawn over the ends to completely cover the filling; Fig. 3 shows the wire bent in shape to be placed in the die; Fig. 4 is a side view showing one-half of the mold with the wire placed therein; Fig. 5 is a top view of the die with the wire placed therein as shown in Fig. 4; and Fig. 6 is a side elevation of the bow after it has been compressed to conform to the shape of the die.

In order to produce watch case bows in accordance with my invention, I make filled wire consisting of base metal 1 covered with precious metal or gold 2 except at the ends and then counter-sink the ends of same so as to remove some of the base metal as shown at 3 and 4, leaving a sharp gold edge 5 to the wire, as shown in Fig. 1. I then swage this gold edge so that it entirely covers the ends of the wire as shown in Fig. 2. I next bend this wire to suitable shape as shown in Fig. 3 and place it in a split die 6, as shown in Figs. 4 and 5, said die being made of any suitable shape which can be any shape desired by the trade. This die is provided with a cavity 7 having outer openings 8 and 9 and internal lateral recesses 10 and 11, said recesses conforming to the shape of the cross bars and nibs respectively. The two parts of the die are securely held together in fixed relation and pressure is simultaneously applied to each end of the wire and the surplus length of said wire is

caused to flow into said cavity and recesses in said split die thus forming the bow including the cross bars 12 and nibs 13, complete ready for polishing at a single operation. I am thus enabled to produce an entirely new design in watch case bows at a single operation. This bow differs from all other filled watch case bows inasmuch as there is absolutely no portion which is not covered by gold or other precious metal. While the object is to make a filled watch case bow out of one piece, the same process may also be used to make bows of solid gold or other precious metals.

My improved method of forming the bow, including the cross bars and nibs, at a single operation in the die, greatly reduces the cost of construction and renders the work more accurate and perfect and dispenses with the cost of skilled labor for this purpose. The advantages which I obtain from this method of constructing the bow are rapidity, simplicity and economy in its construction, entirely covering the composition or base metal with the gold or other precious metals, forming the cross bars and nibs into shape after the bow has been otherwise bent into proper shape or making the metal flow into the form of cross bars and nibs after the main body of the bow has been shaped, thus forming the nibs to enter the pendant and hold the bows in place thereon and at the same time forming an integral cross on each end of the bow.

In the formation of the bow according to my process, the pressure or force for forming the cross bars and nibs is applied directly upon the ends of the bow after it is given its final form with the exception of the cross bars and this force or pressure causes the metal to flow into cavities which produces said integral crosses and nibs at a single operation and completes said bow for use with the exception of polishing. All other watch case bows having integral cross bars are bent into shape after said bar has been formed. My bows will be of absolute uniformity because of the fact that they will be absolutely finished in the die with the exception of polishing. In all bows formed by bending or cutting or both there is a great variation in the shape of the finished bow.

In the construction of bows in accordance with my invention, the wire is first bent to

substantially the proper shape so that it can be readily placed in the die, as shown in Fig. 3. The pressure or force applied to the ends of the bow not only causes the metal to flow to fill the cavities for the cross bars 12 but also compresses the metal of the entire bow to give it the exact shape of the die, which operation has a tendency to stiffen or planish the bow and it also insures uniformity of size and shape of each bow in its completed form. Forming the nibs 13 in the die during the operation of forming the cross bars, dispenses with the requirement of any skill or accuracy on the part of the operator. Furthermore, this method of forming the nibs insures uniformity of length and diameter of the same so as to fit the hole in the pendant snugly and avoid the liability of accidental disengagement with the pendant and thereby prevents damage to the watch case or movements therein, whereas when the projections or nibs are formed by cutting away, there is danger and liability of cutting away too much so as to cause a certain amount of play between the nibs and the socket of the pendant, thus reducing the size of the nibs to such an extent that under slight stress or strain it will readily disengage or spring from the socket. Another advantage of my invention over one depending upon the skill of the operator is that the operator often becomes careless and fails to cut away the metal to form the nibs of sufficient length, thereby making it easy to twist the bow from the socket of the pendant.

Another advantage which I secure by this method of forming the bow is a novel and peculiar formation of the design in which the ends of the bow appear to extend through the cross bar 12 at substantially right angles thereto in such a manner as to produce a very ornamental effect.

It will be noted that my method enables me to construct the device complete at a single operation including the exact formation and shape of the bow, cross bars and nibs and in the case of a filled bow all the exterior parts including the nibs which enter the pendant are covered with precious metal.

My invention is capable of some modification without departure from its spirit or scope and I do not desire to be confined to the exact method described, but

What I claim as new and desire to obtain by Letters Patent is:

The herein described method of forming a watch case bow which consists in making a filled wire, counter-sinking its ends, swaging said ends to entirely cover the filling, bending said wire, placing it into a die and exerting pressure upon the ends of said wire whereby the metal is caused to flow into the shape of the cavity of the die and forming the bow, cross bars and nibs at a single operation, substantially as set forth and for the purposes specified.

HAROLD L. JEFFERY.

Witnesses:

JAMES N. RAMSEY,
ARTHUR W. WADSWORTH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."