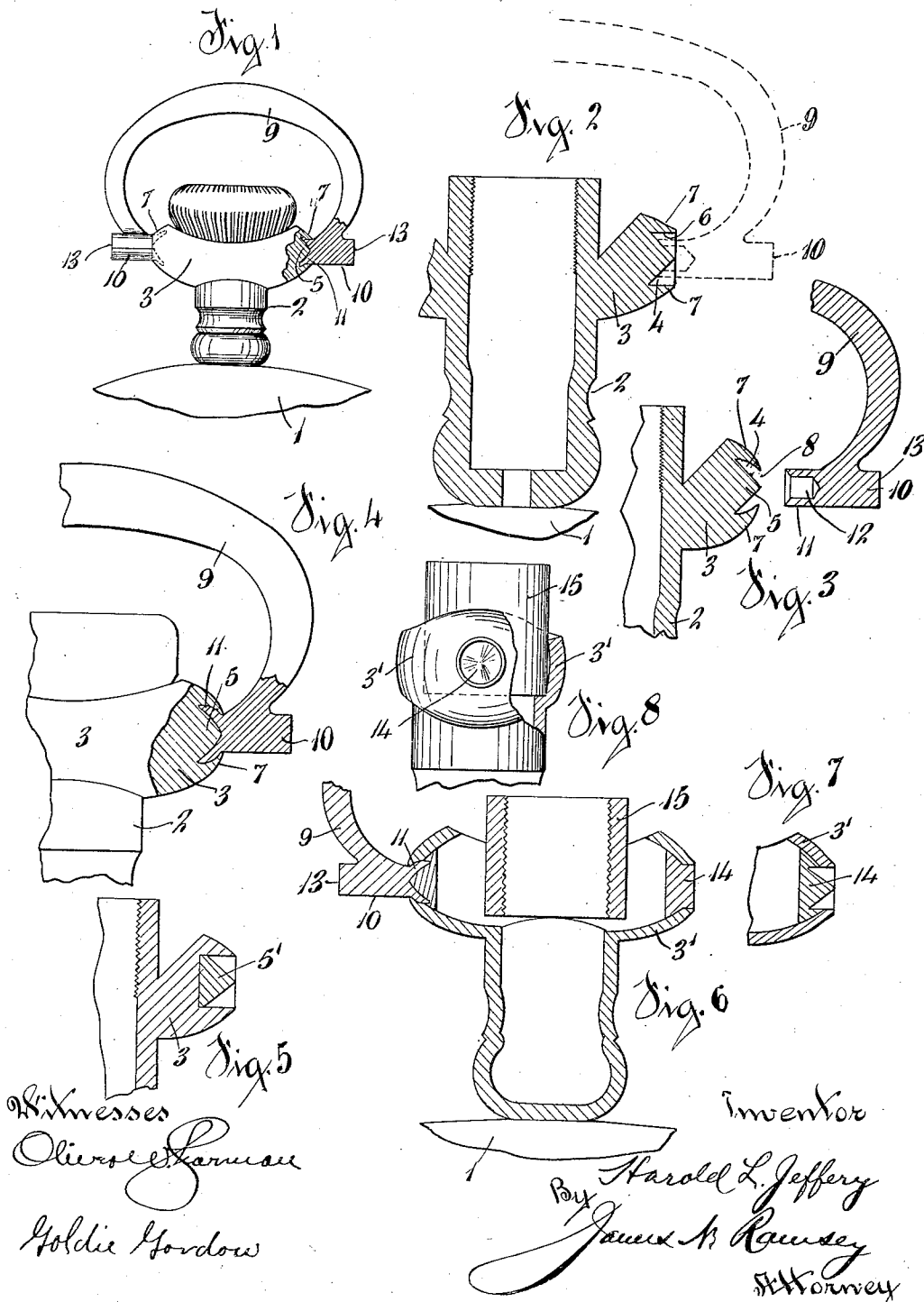


H. L. JEFFERY.
 SELF RIVETING NON-DETACHABLE BOW.
 APPLICATION FILED MAR. 11, 1912.

1,062,652.

Patented May 27, 1913.



UNITED STATES PATENT OFFICE.

HAROLD L. JEFFERY, OF FORT THOMAS, KENTUCKY, ASSIGNOR TO THE WADSWORTH WATCH CASE COMPANY, OF DAYTON, KENTUCKY, A CORPORATION OF KENTUCKY.

SELF-RIVETING NON-DETACHABLE BOW.

1,062,652.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed March 11, 1912. Serial No. 683,135.

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 Self-Riveting Non-Detachable Bows, of which the following is a specification.

My invention relates to improvements in means for attaching watch case bows or rings to the watch case pendant or other part of the watch case.

The object of my invention is to provide a bow which can be easily attached to the watch case or pendant thereof without any extraneous fastening means, and to provide a bow which cannot be accidentally disengaged or detached under ordinary conditions.

Another object of my invention is to pivotally connect a watch case bow to the watch case or pendant thereof by means of a self-riveting process.

My invention consists in a watch case or pendant thereof, having a pocket the entrance to which is smaller than the interior of the pocket, and a bow the end of which is enlarged after being inserted within said pocket so that it cannot be removed from the pocket through said entrance without damaging the pendant or bow.

My invention also consists in a watch case pendant, or equivalent structure, having a pocket the entrance of which is smaller than the interior of the pocket, a conical bottom in said pocket projecting toward said entrance, a bow having a recessed end adapted to be inserted into said pocket and to engage said conical bottom whereby the end of said bow is spread under pressure and caused to fill said pocket, thereby forming a self-riveting non-detachable bow.

In the drawings, which serve to illustrate the construction, application and use of my invention: Figure 1 is a front elevation of a portion of a watch case having my improved pendant and bow mounted thereon in connection with the usual type of crown, part of said pendant and bow being broken away upon one side to show the form of connection, and being dotted upon the other side for the same purpose. Fig. 2 is a vertical section through the pendant showing the shape of one end of the elongated pendant bulb recessed and provided with a conical

projection therein preparatory to contracting the rim to form a pocket the entrance of which is smaller than the interior of the pocket, and showing by dotted lines the position of the recessed bow upon said conical projection; Fig. 3 is a vertical section of said bulb after the rim has been contracted to reduce the entrance to the pocket whereby said entrance is smaller than the base of said conical projection, and also of a portion of the recessed bow ready to be inserted in said pocket; Fig. 4 is an enlarged detail view similar to Fig. 1 showing the bow pivotally and non-detachably secured in said pocket by means of my self-riveting process; Fig. 5 is a vertical section of a portion of the pendant showing a modified construction; Fig. 6 is a vertical section showing a bow pivotally and non-detachably connected to a hollow pendant bulb by means of my self-riveting process; Fig. 7 is an enlarged vertical section of the corresponding end of the bulb in Fig. 6 after it has been recessed to form a conical projection therein; and Fig. 8 is a view of the pendant bulb partly broken away to show the position of the material collar and also showing an interior view of the pocket before the entrance thereto has been contracted or reduced in size.

In the embodiment of my invention as illustrated and which shows preferred constructions, 1 represents a portion of a watch case having suitably mounted thereon a pendant 2 provided with an elongated bulb 3 in each end of which I provide a pocket 4 having a conical bottom or projection 5 therein. The pocket 4 is first formed with a straight interior wall 6 as shown in Fig. 2. The tapering rim 7 is then contracted or transformed into the shape shown in Fig. 3 to form the reduced opening or entrance 8 which is smaller than the interior of said pocket. The ring or bow 9 embodying my invention may be constructed of any exterior style or design desired but for the purpose of illustration I have shown a popular type commonly known as the Swiss or French bow which has a bar 10, the inner end 11 of which I provide with a recess 12 as shown in Fig. 3. The periphery of the end 11 is preferably adapted to enter and snugly fit the wall of the entrance 8 and the conical projection 5 is adapted to partially enter the recess 12 so that when pressure is applied upon the outer end 13 of the bar 10

or other exterior portions of the bow as said inner end 11 is forced inwardly said conical projection 5 will spread the inner end 11 of said bow and the combined action of said projection and the pressure exerted upon said bow will transform the metal in the end 11 of the bow 9 from the form shown in Fig. 3 to that shown in Fig. 4 so that it will completely fill said pocket and thus produce an interior self-riveting flange of larger area or dimensions than the entrance 8 whereby said bow 9 is rendered self-riveting and non-detachable.

By constructing the pocket with the conical bottom or projection 5 the metal in the end of the bow is caused to flow or spread more easily and uniformly and to fill said pocket with less pressure than otherwise. This conical projection or bottom 5 together with the converging rim 7 provides a bearing surface of maximum dimensions between the engaging parts of the pendant and bow so that the possibility of any play or looseness between the parts is reduced to a minimum and there is no possible chance for the parts becoming disengaged under ordinary usage. A feature of advantage in this particular construction and arrangement is that the conical projection accurately, definitely and permanently centers the cooperating end of the bow and even though there should be some wear of the rim 7 due to long and continuous frictional use of the parts the conical projection in engagement with the corresponding recess in the end of the bow would still hold and maintain the correct position of the bow relatively to the pendant.

The conical projection 5 may be formed integral with the bulb 3 as shown in Fig. 2 or may consist of a separate cone 5' of metal such as steel suitably hardened or tempered as shown in Fig. 5.

My invention as thus far described relates particularly to the form of bulb illustrated in Figs. 1 to 5, inclusive.

In Figs. 6 to 8 inclusive I have illustrated my invention as applied to pendants of very light construction having bulbs 3' the ends of which are formed hollow. I reinforce these ends by inserting and securing therein plugs 14 in which I form the pockets 4 in the manner above described. My self-riveting bow is then inserted and pivotally and non-detachably secured therein as shown in Fig. 6 as above set forth.

In the construction of pendants shown in Figs. 6, 7 and 8 the plugs 14 are inserted and secured therein before the material collar 15 is inserted and secured in place in the pendant.

It is important and desirable to non-detachably pivot the bow directly to the pendant without any separate parts to hold said bow in place and in order to accomplish this

in the most efficient, convenient and economical manner the pocket should first be given its final form and the exterior surface finished and then the end of the bow inserted and expanded therein to form the non-detachable pivotal connection with the pendant for the reason that it is easier to do this than it is to first place the end of the bow in the pocket and bend or spin the edge or rim of the exterior surface of the pendant over the same and finish the surface of the pendant after it is so placed.

My invention enables me to make a neater, stronger and more economically constructed pivotal connection between the bow and the watch case than otherwise while still maintaining the conventional or customary appearance of the bow and pendant and without the necessity of making any objectionable shapes in the outward appearance of the bow to accomplish the desired result and enabling me to obtain the same graceful and pleasing lines to which the trade has been accustomed.

My invention is capable of some modification without material departure from the spirit or scope thereof as for instance while I prefer to use the conical projection in the pocket and the recess in the bow to effect quick and convenient spreading and enlarging of the end of the bow within the pocket either or both of these features may be omitted and the pocket given such other form as may be desired so that its interior is larger than the entrance thereof and other slight changes and modifications in the structure may be resorted to if desired.

I claim:

1. A watch pendant having a tapering lug, a bow having a hollow end spread open to receive said tapering lug, said pendant further having an outside bearing embracing said hollow expanded bow end.

2. A watch case pendant having an internal projecting part constituting a pivot, a bow having a hollow end embracing said pivot to rotate thereon, and said pendant further having an outside bearing embracing said hollow bow to constitute relatively inside and outside pivot bearings interlocking the pendant and bow together.

3. The combination with a pendant member, of a bow member pivotally secured thereto, the pivoting means including relatively inside and outside bearings for said bow whereby a non-detachable pivotal working fit between the pendant and bow is obtained the inside bearing consisting of a conical base portion on one member engaging a complementary recess in the other member and the outside bearing consisting of a tapered rim forming with the base a pocket having a contracted opening, and a complementary flaring portion on said other member confined within said pocket.

4. The combination with a pendant member, of a bow member pivotally secured thereto, the pivoting means including relatively inside and outside bearings for said bow whereby a non-detachable pivotal working fit between the pendant and bow is obtained, the inside bearing consisting of a conical base portion on one member engaging a complemental recess in the other member, and the outside bearing consisting of a tapered rim forming with the base a pocket having a contracted opening, and a complemental flaring portion expanded by said conical base portion into said pocket.

HAROLD L. JEFFERY.

Witnesses:

JAMES N. RAMSEY,

GOLDIE GORDON.

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