No. 865,759. PATENTED SEPT. 10, 1907.

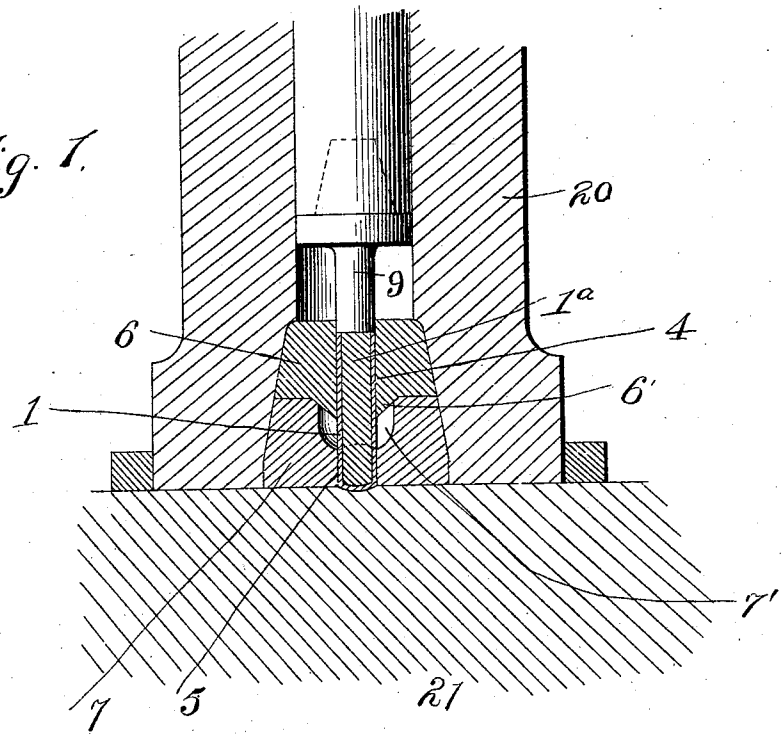
C. W. BUTTS.

METHOD OF MAKING WATCHCASE PENDANTS.

APPLICATION FILED SEPT. 27, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
J. L. Sines
C. Knights

Charles W. Butts
Inventor
By his Attorneys Knight Bros

THE NORRIS PETERS CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

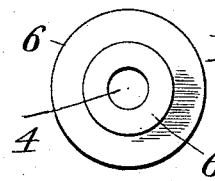


Fig. 2.



Fig. 4.

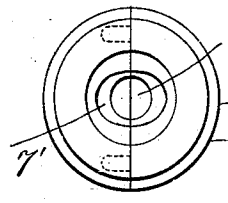


Fig. 3

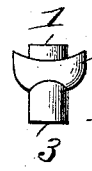


Fig. 5.



Fig. 6.

Fig. 7

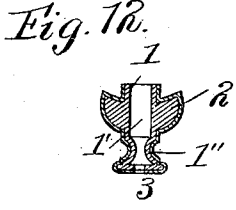
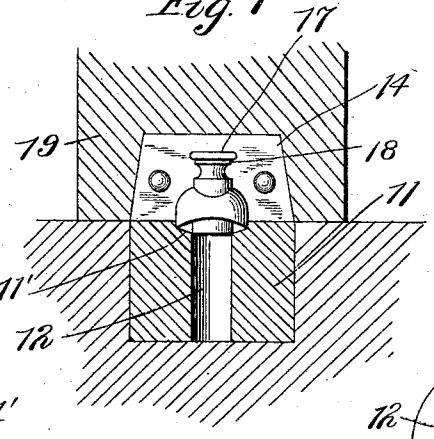


Fig. 12.



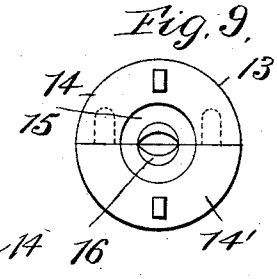


Fig. 9.

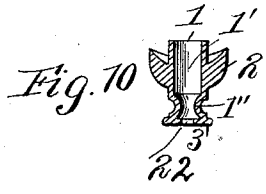


Fig. 10



Fig. 11.

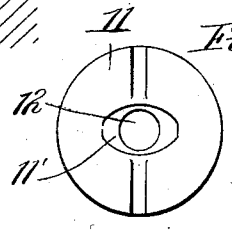


Fig. 8.

Witnesses
J. J. Linet
C. Knight

Charles W. Butts
Inventor
By his Attorneys Knight Bros

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES W. BUTTS, OF SAG HARBOR, NEW YORK, ASSIGNOR TO FAHYS WATCH CASE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

METHOD OF MAKING WATCHCASE-PENDANTS.

No. 865,759. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed September 27, 1904. Serial No. 226,139.

To all whom it may concern:

Be it known that I, CHARLES W. BUTTS, a citizen of the United States, and residing at Sag Harbor, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Methods of Making Watchcase-Pendants, of which the following is a specification.

This invention relates to improvements in method of making watch case pendants.

The object of the invention is to form what is known as antique watch case pendants, in such manner, that the completed pendant will be composed wholly of one piece, the foot of said pendant being of oval shape, thereby doing away with much of the wear on said foot and still have it remain strong and large enough to meet the present requirements and where pendants are made of what is commonly known as "filled" metal, that is, gold covering a base metal, the base metal will not be exposed after the pendant is formed. This is accomplished by employing dies of such shape and design that when a straight tubular blank, preferably having a core therein, is placed within said dies and pressure brought upon the blank and core it will cause the metal of the blank and core to flow out into the cavities in the die and form a pendant of the desired shape. The pendant is then removed from the die, a central vertical opening bored therein, and, by means of rolls or other suitable tools the lower part of the body of said pendant is depressed and a foot and bead, formed thereon. The final formation is accomplished by placing the pendant after the foot and bead have been formed thereon within a die and pressure exerted upon said die in such manner that the foot of the pendant will receive the desired oval shape.

Heretofore, in the formation of antique watch case pendants the pendant has generally been made of two pieces,—that is,—the body and foot of the pendant have been formed of one piece, while the oval cap has been separately formed of another piece, and then by brazing, soldering or the like the cap has been fastened to the body of the pendant. Pendants made in this manner are not satisfactory for the reason that in forming the cap separate from the body of the pendant the base metal is necessarily exposed in some places and a pendant formed which does not meet the requirements of the manufacturer of articles of this kind. Uniformity of formation cannot be attained when the pendant is constructed in two parts and then fastened together.

The present invention obviates the above described objections and provides a pendant that is always uniform in formation and does not at any point on said pendant expose the base metal. These are important features in the construction of watch case pendants, inasmuch as said pendants are subject to a great deal of wear and strain.

With the above described advantages and improvements in view I have devised a method of making watch case pendants, which will first be explained as to detail and then specifically pointed out in the annexed claims.

In the accompanying drawings, Figure 1 is a vertical section through a pair of cap forming dies with a blank containing a core in position to be operated upon. Fig. 2 is a plan view of the engaging face of the upper die shown in Fig. 1. Fig. 3 is a plan view of the engaging face of the lower die shown in Fig. 1. Fig. 4 is a detail view of one of the blanks from which my pendant is made. Fig. 5 is a similar view of the same after said blank has been operated upon by the dies shown in Fig. 1. Fig. 6 shows the blank after the foot and bead have been formed thereon. Fig. 7 is a vertical section through the foot forming dies showing one of the pendants therein. Fig. 8 is a plan view of the engaging face of the lower foot forming die shown in Fig. 7. Fig. 9 is a plan view of the engaging face of the upper foot forming die shown in Fig. 7. Fig. 10 is a vertical section through a finished pendant made from a bar of a single metal. Fig. 11 is a bottom plan view of the same. Fig. 12 is a vertical section of a pendant showing how it can be formed of two kinds of metal.

A finished pendant comprises a tubular body 1 preferably cylindrical at its upper or crown end, and having a cap 2 which is oval in shape and of greater diameter than the body, and provided at its upper portion with a concavity 2′ which receives and holds the crown (not shown) in proper position. The body portion below the cap 2 is reduced in diameter so as to form a foot 3, said foot being oval in shape and having formed above it an oval bead 3′. By making the foot and bead of oval formation the wear thereon is reduced to the minimum.

The method of making the pendant thus described is as follows: The tubular blank 1, which is made wholly of a precious metal, or a base metal covered with a precious metal, is filled with a core 1^a of base metal and then inserted through central openings 4 and 5 in dies 6 and 7 respectively. By filling the blank with a core of base metal the precious metal is caused to more equally and evenly flow into the cavities of the die and at the same time relieve the strain upon the precious metal while the cap of the pendant is being formed. Die 7 (Figs. 1 and 3) is provided with a central concavity 7′ surrounding the opening 5; and die 6 is provided with a central convexity 6′ surrounding opening 4. These dies are held in position on a suitable base 21 by a block 20 which is hollowed to fit over said dies, as shown in Fig. 1. After the blank is placed in

dies 6 and 7, a plunger 9 enters the opening 4 in die 6 and engages the top of the blank and core in the manner shown in Fig. 1. Plunger 9 is then forced downwardly and that portion of the blank and core in the plane of the central concavity 7′ is forced to upset or flow outwardly, the core 1^a preventing the wall of the blank from collapsing inwardly. When the plunger 9 has reached the limit of its downward movement the walls of the blank 1 will be forced against the walls of the concavity 7′, and said concavity filled with metal, the metal contained therein being pressed into practically a solid mass. Upon completion of the above operation the blank 1 is removed from the cap forming dies shaped as shown in Figs. 5 and 11. The core 1^a having completely filled the blank 1 after the above described operation it is necessary to bore the central opening 1′ therein, as shown in Figs. 10 and 12. The blank is then placed between rollers or other suitable tools and the base or the body thereof, below the oval cap, is spun to become reduced in diameter, as shown at 1″, to form the foot and bead thereon. Inasmuch as it is customary to form watch pendants with a circular foot and bead, the means for doing the same have not been illustrated. After the foot and bead have been formed on the lower portion of the body, the blank is inverted and placed so that the oval cap 2 will rest within the depression 11′ in the die 11, in the position shown in Fig. 7, that is, so that the body thereof will project into the central opening 12 in the die 11. A die 13, made in two parts 14 and 14′, when placed together, form circular concavities 15 and 16 which receive therein the oval cap 2 and the body portion of the pendant below the oval cap. Deeper within the die 13 are oval cavities 17 and 18 into which the foot and bead portion of the pendant are placed to give the said foot and bead their final shape. Owing to the fact that the foot and bead of the blank are circular and the cavities 17 and 18 oval the two parts 14 and 14′ of die 13 will remain slightly apart, but are drawn together when the block 19 is forced into the position shown in Fig. 7. When the pendant is removed from the base forming die 13 the tube or blank 1 is shaped as shown in Fig. 10. In order to provide for the winding stem of the watch the foot 3 of the pendant is provided in any suitable manner after the pendant has been completed with a perforation 22.

From the foregoing it will be seen that a pendant is provided all of the parts of which are integral and that the same is made by an improved method involving three operations, namely, the cap forming operation, the foot and bead forming operation, and the oval foot and bead forming operation.

In Fig. 12 the pendant is shown formed of what is termed "filled" metal, that is, a foundation of inferior metal covered with a precious metal. It will be observed that the precious metal will flow evenly with the formation assumed by the foundation metal and will not break nor crack or expose the base metal at any point. This is a very important feature in the construction of watch case pendants, inasmuch as it adds greatly to the wearing and lasting qualities of the same.

I do not wish to be understood as limiting myself to the formation of the cap and foot of the pendant in the exact shape shown, since the shapes of the same may be modified at pleasure by changing the shapes or configurations of the concavities in the dies 7 and 13. In the case of the pendant shown in the drawings I have formed what is termed an "antique" pendant, wherein the cap and foot of the same are oval and conform in general contour.

Having thus described my invention, the following is what I claim as new therein, and desire to secure by Letters Patent:

1. The herein described process of making integral watch case pendants, which consists in first upsetting a cylindrical blank to form a non-cylindrical cap and a cylindrical base, then perforating the product, then spinning the base to form a cylindrical bead and foot thereon, and finally compressing the foot and the bead into non-cylindrical shape.

2. The herein-described process of making filled watch case pendants which consists in first inserting a metal core snugly into a metal tube and then upsetting the blank by endwise pressure to force the tube and core outwardly at the place of upsetting.

3. The herein-described process of making filled watch case pendants which consists in first inserting a core of a base metal into a tube of precious metal to substantially fill the tube, and then upsetting the blank by endwise pressure on the tube and core to force the tube and core outwardly at the place of upsetting.

CHARLES W. BUTTS.

Witnesses:
PETER DIPPEL,
E. ARTHUR HALL.