(No Model.)

S. WILLIAMS.

ART OF MAKING BASES FOR RINGS OF WATCH CASE COLUMNS.

No. 284,526. Patented Sept. 4, 1883.

Fig. 1.



Fig. 2.

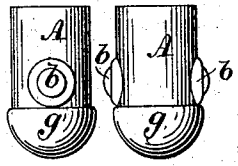


Fig. 3.

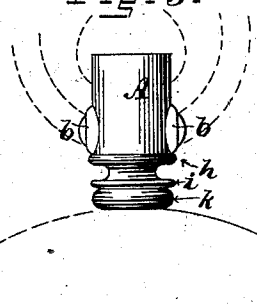


Fig. 4.

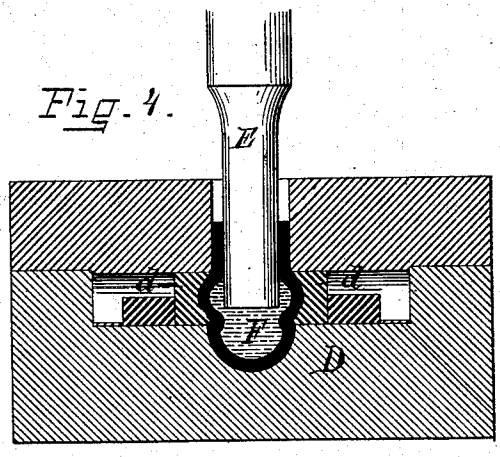


Fig. 5.

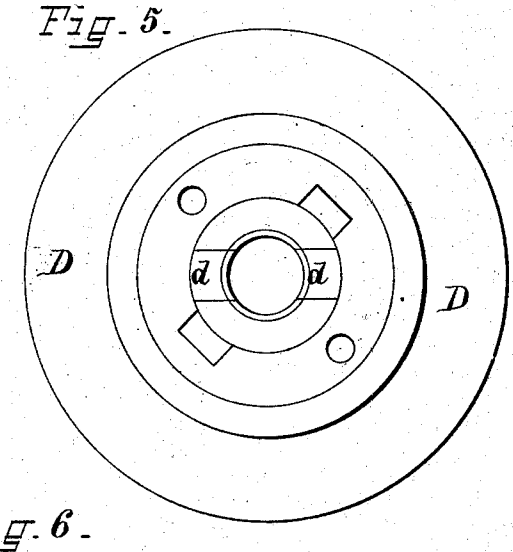
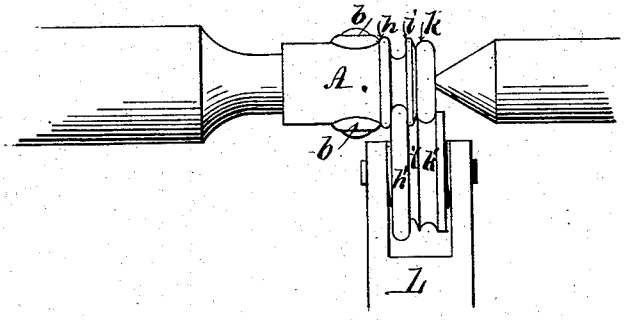


Fig. 6.



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ART OF MAKING BASES FOR RINGS OF WATCH-CASE COLUMNS.

SPECIFICATION forming part of Letters Patent No. 284,526, dated September 4, 1883.

Application filed April 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, SHELDON WILLIAMS, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in the Construction of Ring-Columns for Watch-Cases; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improved method or process for constructing the columns or posts projecting from a watch-case, and in which the ring to which the watch-chain is secured is pivoted.

The invention consists in producing such columns in one piece, without soldering, by forcing the ears outward in dies, and finishing the column by spinning up the end, as will be more fully set forth hereinafter.

Figure 1 is a view of a drawn tube with concaved end, such as have been drawn from a circular blank and from which the column for watch-cases is to be made. Fig. 2 represents two views of the column after the same has been subjected to the improved process and the ears have been formed on the same. Fig. 3 represents the completed column and its connection with a watch-case and ring, which are shown in broken lines. Fig. 4 is a sectional view of the die and plunger, showing the method for forcing out the metal of the post to form the ears. Fig. 5 is a top view of the die. Fig. 6 is a view of the column and the compound tool for spinning the head onto the same.

In the drawings, A is a tubular column, used as an extension on a watch-case, to which the ring is secured, and in which the shaft of the stem-winder is placed.

b b are the projections or ears forming the pivotal bearing for the ring. These pieces have heretofore been secured to the column by solder, and it required considerable skill and also labor and time to secure the same accurately in their proper place exactly opposite to each other.

The first part of my invention consists in making the ears on these columns out of the solid stock of the same by forcing the metal outward in a proper die, as is shown in Fig. 4, by partially filling the cup-shaped column with a liquid, a semi-liquid, or a soft metal—such as water, oil, paraffine, wax, or lead.

Referring again to the drawings, C is the tube from which the column is to be formed. D is the die, and *d d* are the dies forming the ears.

E is the plunger, closely fitting the interior of the tube, and F is a liquid or a metal softer and more mobile than the metal of the tube C. By forcing the plunger E into the tube the metal of the tube is driven in every direction until it meets the dies, by which it is then shaped so as to conform to their surface. The columns shown in Fig. 2 are thus formed, making a stronger column at less cost and without the employment of the skilled labor heretofore required. The column has now to be ornamented by spinning the members or base-rings *h*, *i*, and *k*, as shown in Figs. 3 and 6. These have heretofore been produced separately, one at a time; but I find that they can be spun by means of the rollers shown in Fig. 6, held so as to rotate in the holder L, all at the same time—that is to say, the convex protuberance *g* is of such form when it leaves the die D that the member *h'* of the roller will enter the form, and, forcing the metal outward, will nearly form the member *h* before the member *i'* comes in contact with the metal, *k* being the last member formed. It will be seen, therefore, that owing to the form produced in the die, the whole column can be more readily produced than was heretofore possible, and without the costly skilled labor heretofore required, at the same time producing a superior column made in one piece of metal and without joint.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The improvement in the art of making the base-rings of watch-case columns, which consists in inserting a cup-shaped or tubular blank in suitable die or dies and subjecting it to internal pressure to form the protuberance *g*, then spinning the protuberance *g* to

the desired shape by means of the spinning-tool L, as described.

2. The improvement in the art of making watch-case columns, which consists in inserting a cup-shaped or tubular blank in suitable die or dies and subjecting it to internal pressure to form the ears or ring-bearings and the protuberance *g*, then spinning the protuberance *g* to the desired shape by means of the spinning-tool L, as described.

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