(No Model.)

W. N. WEEDEN.

ARBOR FOR CLOCKS, WATCHES, &c.

No. 387,469. Patented Aug. 7, 1888.

Fig. 1.

Fig. 2.

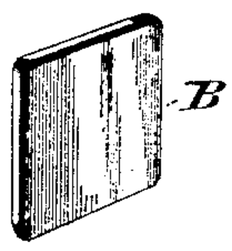


Fig. 3.

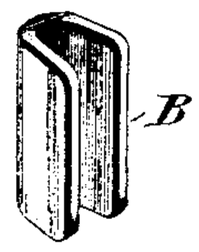


Fig. 4.

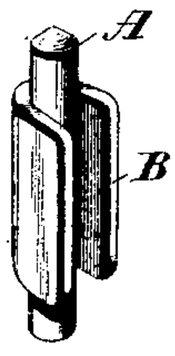


Fig. 5.

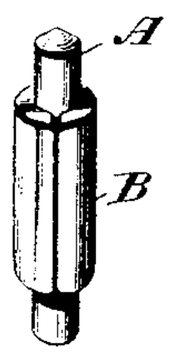


Fig. 6.

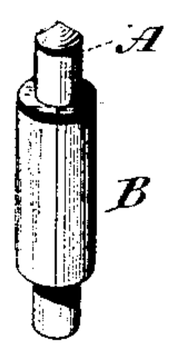
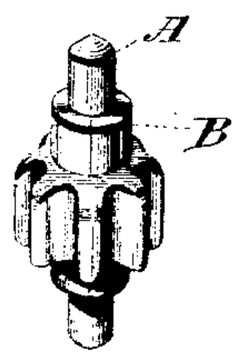


Fig. 7.



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Prindle and Russell, his Attys

UNITED STATES PATENT OFFICE.

WILLIAM N. WEEDEN, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR TO THE WEEDEN MANUFACTURING COMPANY, OF SAME PLACE.

ARBOR FOR CLOCKS, WATCHES, &c.

SPECIFICATION forming part of Letters Patent No. 387,469, dated August 7, 1888.

Application filed August 18, 1887. Serial No. 247,396. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. WEEDEN, of New Bedford, in the county of Bristol, and in the State of Massachusetts, have invented certain new and useful Improvements in Arbors for Watches, Clocks, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the core of my arbor. Fig. 2 is a like view of the blank prepared for forming the body of the arbor. Fig. 3 is a perspective view of said blank after having passed through the preliminary dies. Fig. 4 is a like view of the core and body-blank when combined for the action of the closing-dies. Fig. 5 is a perspective view of said parts after the action of the closing-dies. Fig. 6 is a like view of the same after having passed through the drawing-dies, and Fig. 7 is a perspective view of the completed arbor after having a pinion secured in place thereon.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to furnish arbors for watches, clocks, &c., which shall be more easily constructed and cost less than do the arbors heretofore used; to which end my said invention consists, principally, as a new article of manufacture, in an arbor which is composed of a straight round core or center and a superimposed body made of sheet metal, substantially as and for the purpose hereinafter specified.

It consists, further, as a new article of manufacture, in an arbor which has its center and pivots formed by a straight round piece of metal and its body formed by a plate of sheet metal that is bent around and caused to closely embrace said center, substantially as and for the purpose hereinafter shown.

In the carrying of my invention into practice I construct my arbor from a central part or core, A, and an external part or body, B. Said core is made by cutting from steel wire having a diameter suitable for the pivots of the arbor, a piece which has the required length and then rounding and smoothing its ends by any suitable means, preferably by the operation commonly known as "tumbling." For the body B, I take a rectangular piece of sheet metal which has a predetermined thickness a length equal to the distance between the movement-plates (if intended for use in a watch or clock) and a width equal to the circumferential length of the core A, and by means of suitable dies give to said blank the U shape seen in Fig. 3. Said core is now placed in position within said body-blank, as shown in Fig. 4, and by the action of dies the latter is closed down upon and caused to embrace the former, as seen in Fig. 5. The body B is next passed through a drawing-die, which, by its action, closes the metal firmly upon the core A, gives to said body the exact diameter required, and leaves its surface in a highly-polished state. The arbor thus constructed is complete, the projecting ends of the core forming pivots, and the ends of its body bearing shoulders, and is adapted to receive a pinion, as seen in Fig. 7, or to be used in any manner or for any purpose for which ordinary arbors are employed. For most purposes said shoulders will be sufficiently accurate as left by the dies; but, if necessary, they may be dressed off in a lathe at a trifling cost. This construction also permits of two dissimilar metals being used in combination, the hardened steel core giving durability to the pivots and strength to the arbor, while the softer brass permits of being readily swaged to a wheel, and also is better adapted to unite with solder, an advantage over the solid all-steel arbor made in the usual way.

While my arbor is in all respects equal to those made from a solid piece of metal, they can be manufactured for a fraction of the cost of the latter.

I am aware that it is not new to bend sheet metal around a shaft when it is desired to enlarge the same, and do not claim such, broadly.

Having thus described my invention, what I claim is—

1. As a new article of manufacture, an arbor which is composed of a straight round core or center and a superimposed body made of sheet metal, substantially as and for the purpose specified.

2. As a new article of manufacture, an arbor which has its center and pivots formed by a straight round piece of metal and its body formed by a plate of sheet metal that is bent around and caused to closely embrace said center, substantially as and for the purpose shown.

In testimony that I claim the foregoing I have hereunto set my hand.

WILLIAM N. WEEDEN.

Witnesses:

CHAS. E. BARNEY,

E. S. BROWN.