E. H. HORN.

MAIN WHEEL UNIT FOR TIMEPIECES.

APPLICATION FILED AUG. 18, 1920.

1,378,866. Patented May 24, 1921.

Fig. 1.

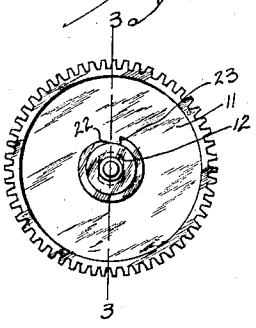


Fig. 2.

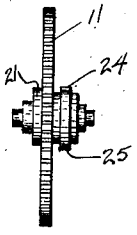


Fig. 9.

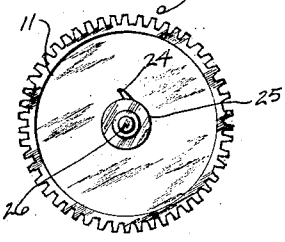


Fig. 10.

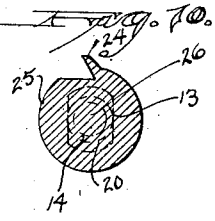


Fig. 3.

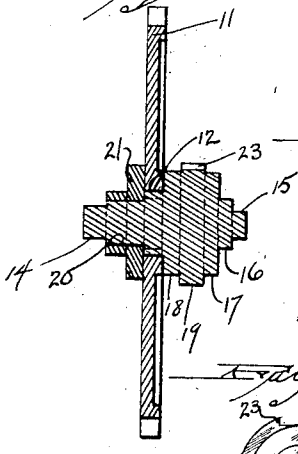


Fig. 8.

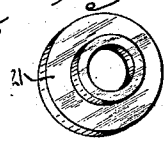


Fig. 4.

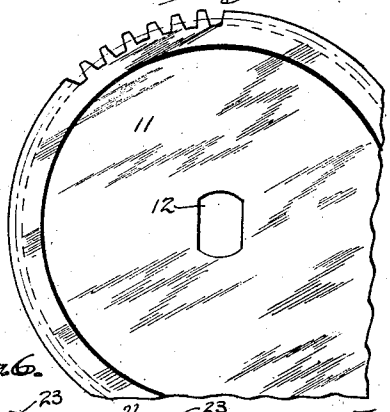


Fig. 5.

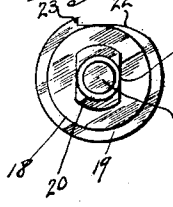


Fig. 6.

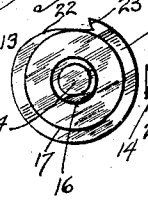
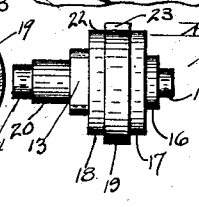


Fig. 7.



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Attys.

UNITED STATES PATENT OFFICE.

ERNEST H. HORN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO WATERBURY CLOCK CO., OF WATERBURY, CONNECTICUT, A CORPORATION.

MAIN-WHEEL UNIT FOR TIMEPIECES.

1,378,866. Specification of Letters Patent. Patented May 24, 1921.

Application filed August 18, 1920. Serial No. 404,313.

To all whom it may concern:

Be it known that I, ERNEST H. HORN, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Main-Wheel Units for Timepieces; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1, a view in elevation of main-wheel unit embodying my invention.

Fig. 2, an edge view thereof.

Fig. 3, an enlarged view thereof in transverse section on the line 3—3 of Fig. 1.

Fig. 4 an enlarged, detached broken view of the main wheel.

Fig. 5, a detached view in elevation of the main-wheel arbor.

Fig. 6, a reverse view thereof.

Fig. 7, a view thereof in side elevation.

Fig. 8, a perspective view of the assembling-collet.

Fig. 9, a view in elevation of one of the modified forms which my improved main-wheel unit may assume.

Fig. 10, an enlarged view in transverse section of the arbor thereof.

My invention relates to an improved main-wheel unit for time-pieces, the object being to produce at a low cost of manufacture, a true, durable, convenient and efficient unitary part constructed with particular reference to avoiding any deformation of the main-wheel in mounting it upon its arbor and to providing an arbor adapted to be hardened and then polished by rolling without injury.

With these ends in view my invention consists in a main-wheel unit for time-pieces, having certain details of construction and combination of parts as will be hereinafter described and pointed out in the claim.

In carrying out my invention as herein shown, I employ a main-wheel 11 having its central assembling-opening 12 formed with flat sides to adapt it to be firmly held against rotation upon the complementary flat-sided assembling-shoulder 13 of a one-piece arbor having trunnions 14 and 15, a spacing-shoulder 16, shoulders 17 and 18, an intermediate spring-attachment shoulder 19 located between the shoulders 17 and 18 and a wide collet-receiving shoulder 20 located between the flat-sided shoulder 13 and the trunnion 14, all as shown in Fig. 7.

The wheel 11 having been applied to the shoulder 13 of the said arbor, is held in place thereupon by means of a friction-collet 21 driven over the wide shoulder 20 thereof, whereby the wheel is solidly mounted upon the arbor without any danger of being deformed in the process, whereas the staking of a main-wheel upon its arbor, which is the common practice, often results in deforming the wheel and putting it out of true.

For the attachment of the main-spring (not shown) a sloping transverse cut 22 is formed in the shoulder 19 of the arbor for the production of a spring-hook 23 as clearly shown in Figs. 5 and 6, the inner coil of the said spring bearing upon the said shoulder 19. By constructing the arbor in the manner described, I am enabled to harden it after producing the cut 22 and then polishing it by rolling it in a tumbling barrel.

In the modified construction shown by Figs. 9 and 10, a spring-hook 24 is formed by upsetting a portion of a shoulder 25 formed upon the arbor 26, the inner coil of the main spring (not shown) resting upon the shoulder 25.

I claim:

A main-wheel unit for timepieces, comprising a main-wheel having a flat-sided assembling-opening, an arbor having an integral, flat-sided assembling-shoulder conforming in shape to the said opening, and a collet driven upon the said arbor and brought to a bearing upon the said wheel, to hold the same in place upon the said shoulder, the said arbor being also formed with an integral hook for the attachment of the main-spring.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ERNEST H. HORN.

Witnesses:

GEORGE O. ALLEN,

EARL M. BARNUM.