(No Model.)

J. S. & A. J. BAKER.

CANNON PINION FOR WATCHES.

No. 543,325. Patented July 23, 1895.

Fig. 1.

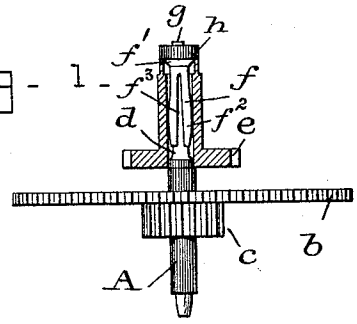


Fig. 2.

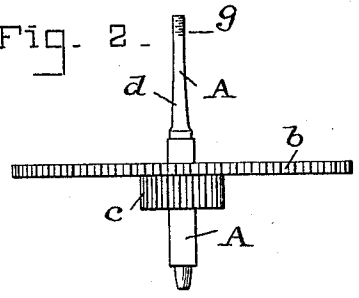


Fig. 3.

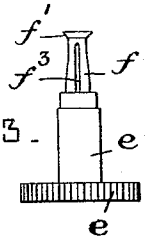


Fig. 4.

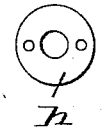


Fig. 5.

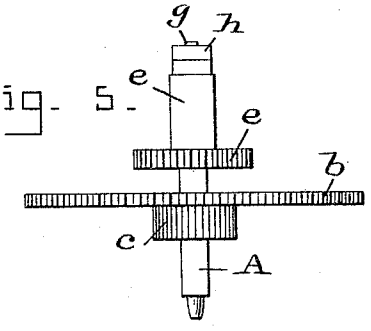
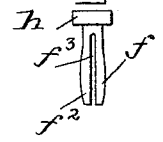


Fig. 6.



WITNESSES:—

L. I. Van Horn,

Charles B. Mann Jr.

INVENTORS:

J. S. Baker

A. J. Baker

By Chas B. Mann

ATTORNEY

UNITED STATES PATENT OFFICE.

JACOB S. BAKER, OF GLEN ROCK, AND ALLEN J. BAKER, OF STEWARTSTOWN, PENNSYLVANIA.

CANNON-PINION FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 543,325, dated July 23, 1895.

Application filed April 9, 1895. Serial No. 545,055. (No model.)

To all whom it may concern:

Be it known that we, JACOB S. BAKER, residing at Glen Rock, and ALLEN J. BAKER, residing at Stewartstown, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Cannon-Pinions for Timepieces, of which the following is a specification.

Our invention relates to an improvement in securing the cannon-pinion to the center arbor of timepieces.

The object of the invention is to provide for a definite degree of friction between the cannon-pinion and the center arbor, on which it is mounted, in order to prevent the hands of the timepiece from becoming loose.

The invention is applicable to both clocks and watches.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the center arbor, wheel, and pinion, a section of the cannon-pinion, and shows the friction device interposed between the center arbor and cannon-pinion. Fig. 2 shows the center arbor, wheel, and pinion. Fig. 3 is a side view of the cannon-pinion and the improved friction device partly inserted into the same. Fig. 4 is a top view of the nut. Fig. 5 is a side view of the parts shown in Fig. 1. Fig. 6 shows a modification in which the friction device and nut are in one integral piece.

The letter A designates the center arbor, *b* the center wheel, and *c* the center pinion. The end *d* of the center arbor whereon the cannon-pinion *e* is placed is tapered, as shown.

The improved friction device consists of a partly-split sleeve *f*, which takes on the tapered end *d* of the center arbor and is interposed between the bore of the cannon-pinion and said arbor. The sleeve or tube *f* in Figs. 1 and 3 has at its top end a slight lateral or outward flange *f'*, at its lower end a slight contraction or inward-curved flange f^2, and a longitudinal split f^3, which splits the said lower end. Thus constructed the partly-split sleeve may be pulled apart a little at its split end and act as a spring, so as to remain normally sprung open. The extremity of the tapered part of the center arbor has a screw-thread *g*, and a nut *h* is employed to take thereon.

The parts are assembled in the following manner: The split end of the sleeve *f* is first inserted into the bore of the cannon-pinion *e*, as indicated in Fig. 3. This pinion, with the friction-sleeve within it, is then placed on the tapered end *d* of the center arbor, with the effect that the lower end f^2 of the sleeve is made to grip the arbor, and as the pinion and sleeve are forced on the arbor the taper of the latter spreads or expands the sleeve and causes its exterior to fill the bore of the cannon-pinion, thus producing a degree of friction which prevents the cannon-pinion from turning freely or loosely. As the cannon-pinion cannot with this friction device remain motionless while the "movement" of the timepiece is running, the hands are sure to turn. The cannon-pinion and split sleeve are both retained on the center arbor by a suitable screw device. In the present instance a nut *h* is employed to engage the threaded end of the center arbor.

We may modify the form of our invention in some of its details, as shown, for instance, in Fig. 6, where we have united the split sleeve and the nut so that the nut is integral with the upper end of said sleeve.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The center arbor; a sleeve on the arbor and split at one end; a cannon pinion around said split sleeve; and a screw device engaging the extremity of the arbor to retain both the cannon pinion and sleeve.

In testimony whereof we affix our signatures in the presence of two witnesses.

JACOB S. BAKER.
ALLEN J. BAKER.

Witnesses:
CHARLES B. MANN, Jr.,
C. CALVERT HINES.