J. P. LINDEN.

LOCKING DEVICE.

APPLICATION FILED MAY 29, 1919.

1,343,733.

Patented June 15, 1920.

Fig. 2.

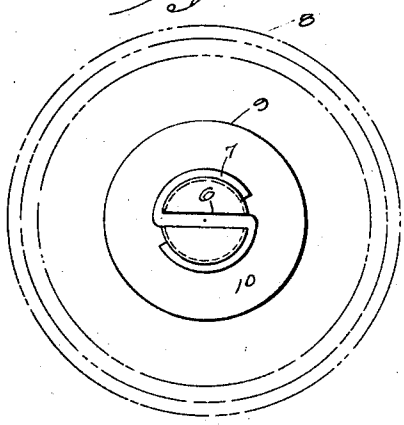


Fig. 1.

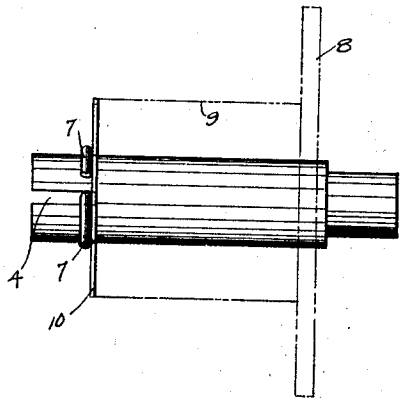


Fig. 4.

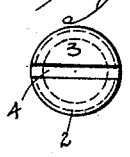


Fig. 3.

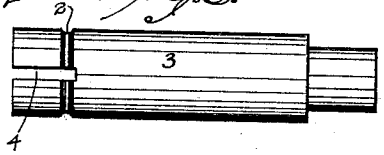


Fig. 6.

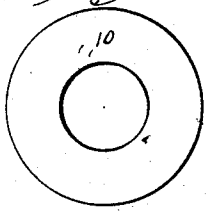
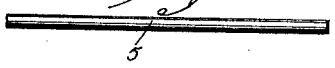


Fig. 5.



Inventor
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Attys

UNITED STATES PATENT OFFICE.

JOHN P. LINDEN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO WATERBURY CLOCK CO., OF WATERBURY, CONNECTICUT, A CORPORATION.

LOCKING DEVICE.

1,343,733. Specification of Letters Patent. Patented June 15, 1920.

Application filed May 29, 1919. Serial No. 300,594.

To all whom it may concern:

Be it known that I, JOHN P. LINDEN, 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 Locking Devices; 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 side elevation of a clock wheel and pinion mounted upon an arbor in accordance with my invention, the wheel and pinion being shown in broken lines.

Fig. 2 a view thereof in end elevation.

Fig. 3 a detached view on an enlarged scale of the stud.

Fig. 4 an end view thereof.

Fig. 5 a detached view of the locking-wire.

Fig. 6 a detached view of the washer.

My invention relates to an improvement in locking devices primarily designed for use in the construction of clocks whereby their wheels and pinions are secured in place upon their studs, the object being to provide simple, convenient and reliable means for this purpose.

With these ends in view, my invention consists in certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I form a circumferential groove 2, which I locate at a pre-determined distance from one end of, and at a right angle to the axis of a stud 3 which is also formed with a longitudinal slot 4 the bottom or extreme inner end of which intersects opposite points in the said groove. With this construction I employ a non-resilient locking-wire 5 adapted in diameter to fit into the groove 2 and slot 4, and in length to pass transversely through the groove and project sufficiently beyond the ends thereof, to be sharply bent in opposite directions as shown in Fig. 2, into the groove by which it is retained in place and so as to form a straight central reach 6 and curved retaining-arms 7, which respectively lie in the halves of the groove formed by the intersection thereof by the slot in the stud. The said arms are bent over the corners formed by the intersection of the edges of the slot in the stud with the groove in the stud, these corners being located exactly in the same plane.

In using my invention, the stud 3 is secured in place in one of the clock-plates in the ordinary manner. The wheel 8 and pinion 9 are now slipped over the stud and a washer 10 is placed against the outer end of the pinion. The coupling wire 5 is then inserted into the bottom of the slot 4, whereby it is brought into alinement with the groove 2. The projecting ends of the wire are then bent in opposite directions into the groove by which it is held against lateral play. As thus bent, the wire consists of the reach 6 and the arms 7. When so bent the wire engages with the outer face of the washer and holds the same, and the wheel and pinion upon the stud without interfering with their rotation thereupon. It is obvious that my improvement has a wide range of application to clock parts and to mechanisms employing kindred trains. I would therefore have it understood that although I have described my invention as an improvement in clocks, its use is not so limited, though it will probably have its largest field in that application.

I claim:

1. The combination with a stud formed at a pre-determined distance from one end with a circumferential locking-groove lying in a plane at a right angle with respect to the axis of the stud, and with a longitudinal slot the extreme inner end or bottom of which intersects the said groove at opposite points therein, of a non-resilient locking-wire passed transversely through the bottom of the slot and having its projecting ends sharply bent in opposite directions over the corners formed by the intersection of the groove and slot to form curved arms lying in the bottom of the respective halves of the groove, whereby the wire is held in place therein for the retention of running parts mounted upon the stud.

2. The combination with a stud formed at a pre-determined distance from one end with a circumferential locking-groove lying in a plane at a right angle to the axis of the stud, and with a longitudinal slot the bottom of which intersects the said groove at opposite

points therein, of a wheel and pinion mounted upon the stud, and a non-resilient locking-wire passed transversely through the bottom of the said slot and having its projecting ends sharply bent in opposite directions over the corners formed by the intersection of the said groove and slot to fit into the respective halves of the said groove in which the wire is thus retained against lateral movement upon the stud for holding the wheel and pinion mounted thereon against outward displacement.

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

JOHN P. LINDEN.

Witnesses:
J. R. PUTNAM,
C. T. ILLING.