

(No Model.)

L. C. DAVIS.

SAFETY DEVICE FOR MAINSPRINGS.

No. 331,774.

Patented Dec. 8, 1885.

FIG. 1.

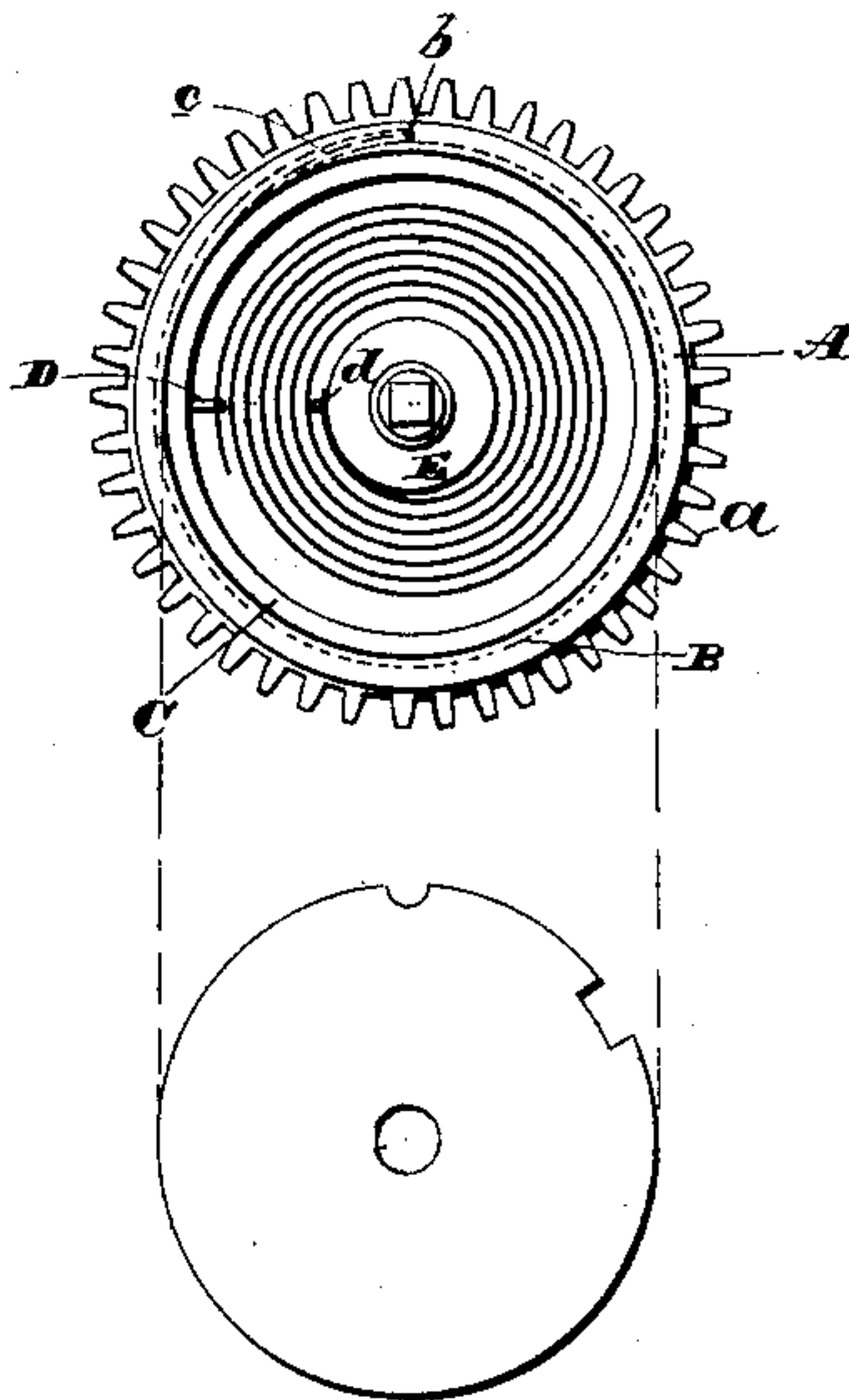


FIG. 2.

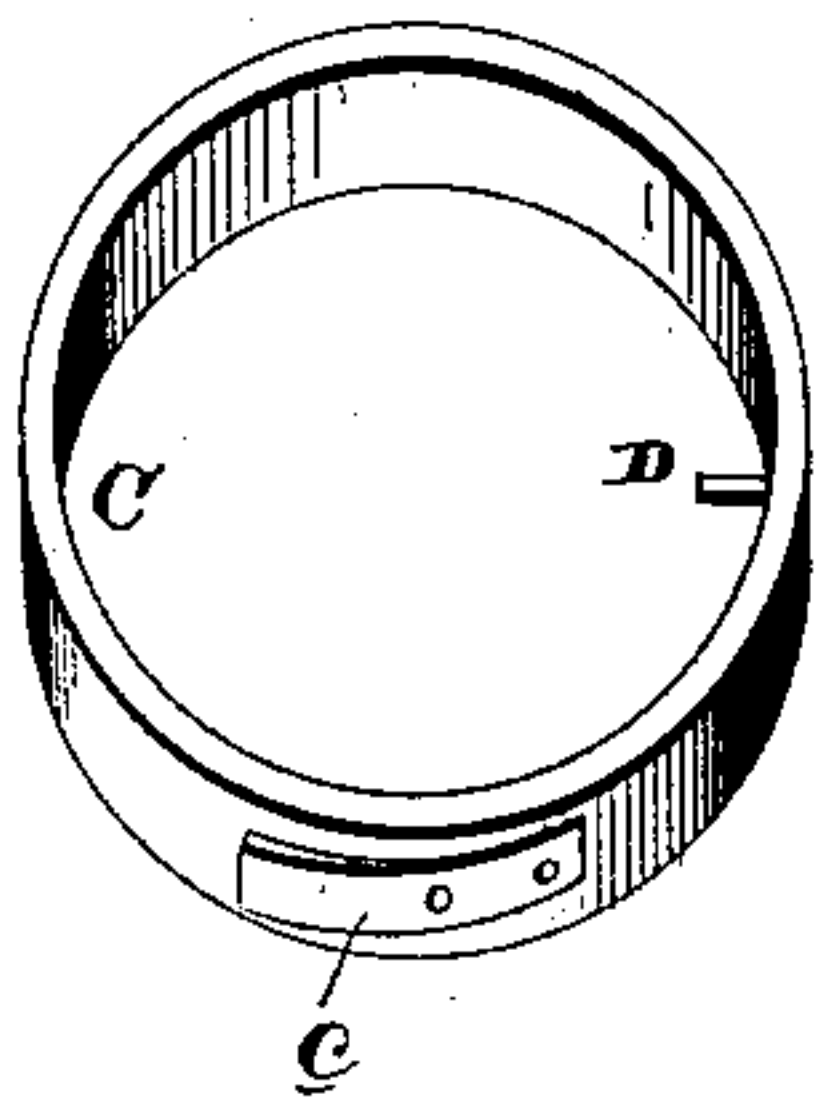


FIG. 4.

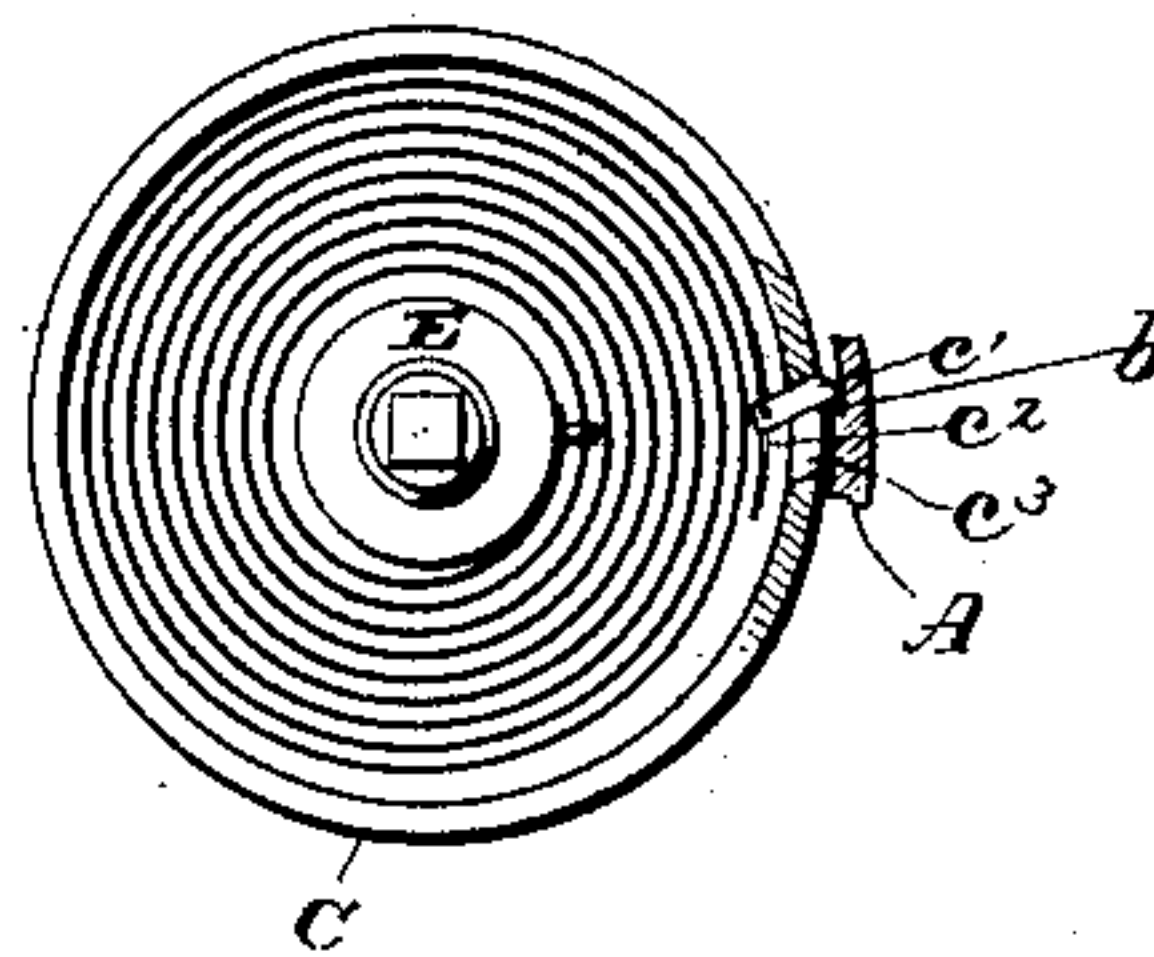
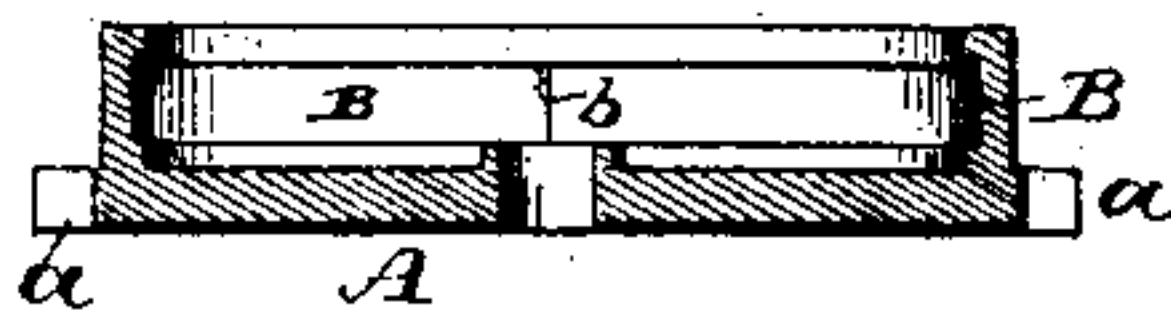


FIG. 3.



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SAFETY DEVICE FOR MAINSPRINGS.

SPECIFICATION forming part of Letters Patent No. 331,774, dated December 8, 1885.

Application filed March 14, 1885. Serial No. 158,854. (No model.)

To all whom it may concern:

Be it known that I, LUCIEN C. DAVIS, of Colorado Springs, in the county of El Paso and State of Colorado, have invented certain
5 new and useful Improvements in Watch-Barrels; and I do hereby declare the following to be a full, clear and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use
10 the same.

My invention relates to an improvement in watch-barrels.

When, in the course of winding or at other times, the mainspring of a watch breaks—a not
15 unfrequent occurrence—the whole watch-movement gets the reverse force of the spring, which force is liable to break some part of the train, either a pinion, pivot, or jewel. Hitherto, to prevent this reverse force from acting
20 upon the train and the injury resulting therefrom, a center pinion has been provided, which, when the spring reverses its force, unscrews and thus relieves the works.

The object of my present invention is to
25 provide a watch-barrel which shall entirely relieve the works from the reverse force of a broken mainspring, and which shall be more simple, durable, and less expensive than the devices hitherto constructed.

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

In the accompanying drawings, Figure 1 is
35 a view of my improved watch-barrel, the cap being removed. Fig. 2 is a detached view of the supplementary barrel, and Fig. 3 is a cross-section of the barrel. Fig. 4 is a modification.

40 A represents a watch-barrel, having a spur-wheel, *a*, rigidly secured thereto. The inside of the barrel A is provided with an annular groove, B, and a shoulder, *b*, the inner surface being cut away for a short distance, forming
45 a gradual incline leading up to the face of the shoulder. Within the barrel A a supplementary barrel C fits, the latter consisting of a circular metal band, and having a spring-arm, *c*, secured on its outer face. The spring-
50 arm *c* is adapted to lie within the annular groove B and allow the band C to move around

freely in one direction; but the end of the spring *c* engages the shoulder *b* when the band C tends to move in the opposite direction, and locks the same against motion in that direc-
55 tion. The inside of the band C is provided with a stud, D, to which one end of the mainspring is secured, the other end of said spring being secured to a stud, *d*, on the face of the center smooth-faced pinion, E. 60

During the operation of winding, and when wound, the spring *c* engages the shoulder *b*, and the tension of the mainspring is thus exerted on the wheel *a*; but if the mainspring breaks its force is immediately exerted in the
65 opposite direction, and the band or supplementary barrel C, being free to move in this direction, spins around within the barrel A without endangering the train or itself in the slightest degree. 70

The modification represented in Fig. 4 consists in providing the outer end of the mainspring with a tongue, *c'*, which takes the place and performs the functions of the spring-arm
75 *c*. The tongue *c'* is pivotally secured to the mainspring in a slot, *c''*, formed therein, and extends backward from the end of the spring. The tongue *c'* passes through a slot, *c'''*, in the band C and engages the shoulder *b* in a manner similar to that described with reference to
80 the arm *c*. The inner face of the barrel A is not grooved in this instance, and when the spring breaks the reverse force draws the tongue through the slot *c'''* within the inner barrel or band C, and spins around without
85 affecting the works.

It is evident that slight changes may be made in the form and construction of the several parts herein described without departing from the spirit and scope of my invention. For
90 example, the spring *c* might be set in a recess in the face of the band C, and the annular groove B thereby dispensed with; or the spring *c* might be secured to the inner surface of the barrel A and the shoulder *b* formed on the
95 band C; hence I do not wish to limit myself strictly to the construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters
100 Patent, is—

1. The combination, with a watch-barrel

provided with an annular groove, and with a
shoulder or stop located within said groove,
of a supplemental barrel adapted to receive
the mainspring, and a yielding arm carried by
5 the supplemental barrel and adapted to rest
and move within the groove of the watch-
barrel.

2. The combination, with a watch - barrel
having an annular groove on its inner surface,
10 and a stop or shoulder located within said
groove, of a supplementary barrel adapted to

receive the mainspring, and a spring-arm se-
cured to said supplementary barrel and adapt-
ed to rest and move with the groove of the
watch-barrel.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

15

LUCIEN C. DAVIS.

Witnesses:

JUSTUS L. LANGBEHN,
THOS. S. WILSON.