

(No Model.)

L. T. LAWTON.
EXTENSION CHANDELIER.

No. 311,078.

Patented Jan. 20, 1885.

Fig. 1.

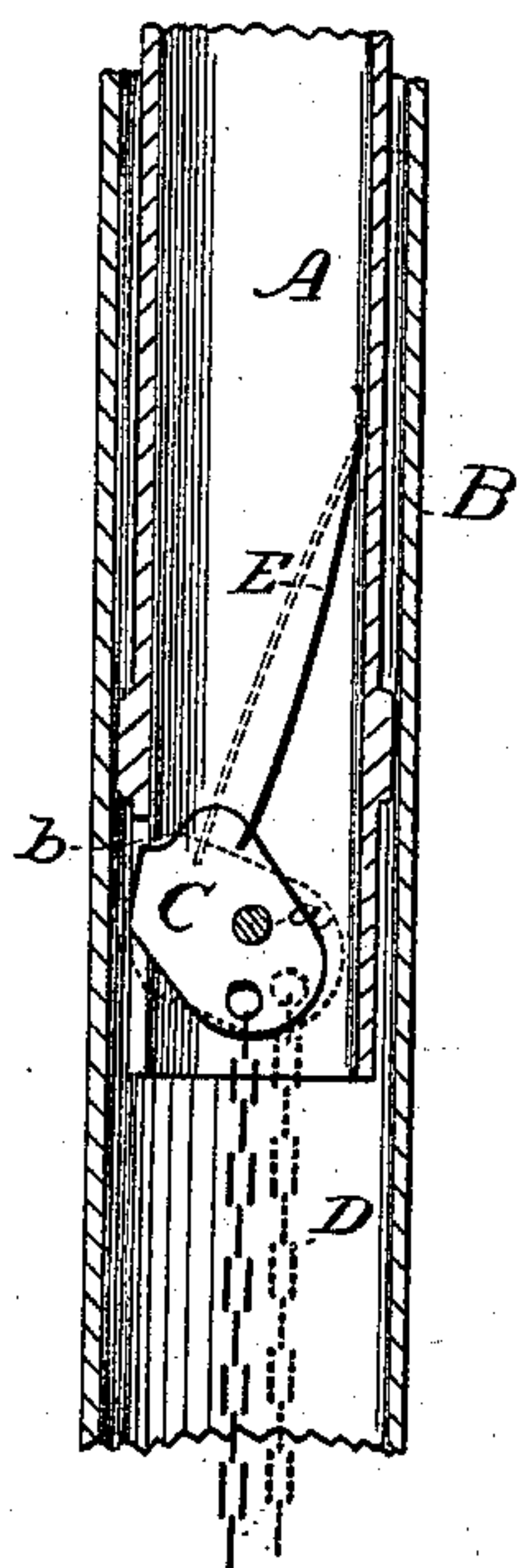


Fig. 2.

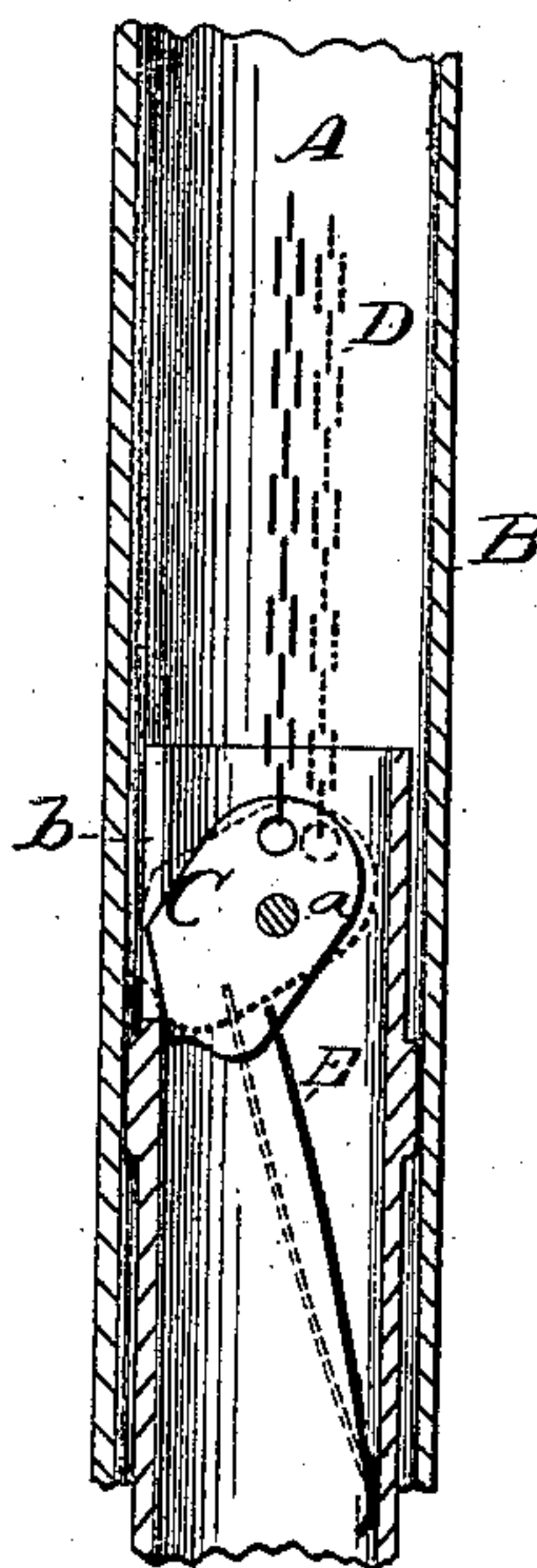
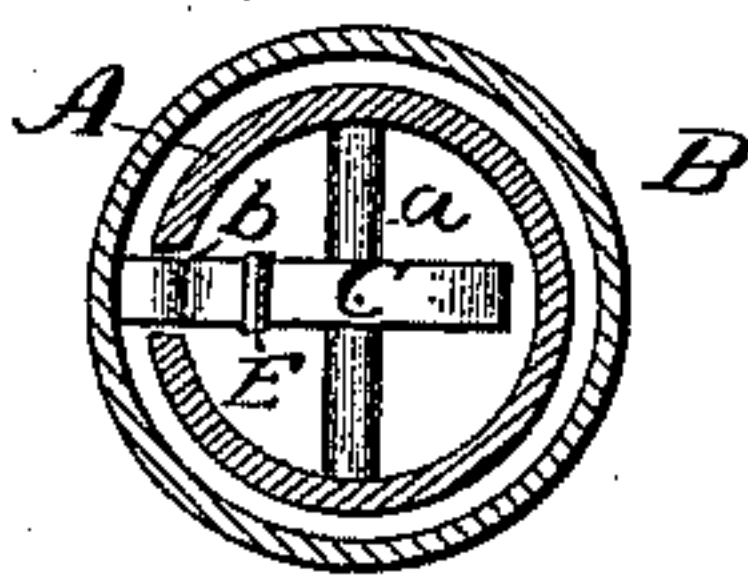


Fig. 3.



Witnesses
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LYMAN T. LAWTON, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE
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EXTENSION-CHANDELIER.

SPECIFICATION forming part of Letters Patent No. 311,078, dated January 20, 1885.

Application filed August 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, LYMAN T. LAWTON, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Extension-Chandeliers; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a vertical central section in which the suspending-spring is arranged in the movable part of the fixture below, and showing the safety attachment; Fig. 2, a vertical section showing the attachment as applied to a fixture in which the suspending-spring is above and stationary; Fig. 3, a transverse section above the cam.

This invention relates to an improvement in that class of illuminating-fixtures which consist of a telescopic rod, one part fixed to the ceiling, the other part movable and carrying the lamp-supporting devices below, and so that the said movable part of the fixture may be drawn down or raised to support the lamps at different elevations, and particularly to such fixtures of this class as have a counterbalancing-spring arranged to support the movable part of the fixture, and which is wound as the movable part is drawn down, the reaction of the spring serving to aid in raising that part. The connection between the spring and movable part is usually made by a chain or cord one end of which is attached to the spring-barrel and the other to the movable part of the fixture, and so that the movable part is practically suspended by such cord or chain. In nearly all this class of fixtures a locking device is employed to prevent the reaction of the spring, except at such times as it is desirable to raise the movable part. The movable part of the fixture being thus suspended entirely by the cord or chain, if that cord, chain, or spring breaks, the movable part of the fixture is free and without support and must therefore fall, rendering this class of fixtures liable to accidents and serious results therefrom.

The object of my invention is to provide an engaging device which will be held in suspen-

sion by the cord and weight of the movable part of the fixture so long as all parts are in their proper working condition, but so that should the spring, chain, or cord break, then the device so held in suspension, being free by such accidental breaking, will come into action and engage the movable and fixed part of the fixture, so as to arrest the descent or fall of the movable part; and the invention consists in a lever-like cam hung upon a fulcrum in one part of the fixture, the suspending cord or chain attached upon one side of the pivot to apply the weight of the fixture upon that side, and a spring the tendency of which is to turn the cam in the opposite direction, to be held in suspension by the weight of the movable part of the fixture, and so that the weight of the fixture will compress the spring and hold the said cam within that part of the fixture in which it is hung, but so that should the cord or counterbalancing-spring break, then the reaction of the spring on the cam will force it to turn into engagement with the other part of the fixture, and as more fully hereinafter described.

A represents the inner tube, which is fixed to the ceiling above; B, the outer tube movable freely upon the inner tube, and which extends downward to carry the lamp-supports in the usual manner.

In the construction shown in Fig. 1 the suspending-spring is below and in the movable part of the fixture—a common and well-known arrangement of spring.

Within the fixed part A is a cam-lever, C, hung upon a pivot or fulcrum, *a*, and so as to swing in a vertical plane. To the cam on one (the lower) side of the fulcrum the suspending-cord D is attached, the cord extending down and engaged with the spring in the usual manner. The opposite or upper end of the cam is of greater length from the pivot to the end than the distance from the pivot *a* to the inner side of the outer tube, B, and in one side of the inner tube, A, is a slot, *b*, through which the nose or upper arm of the cam C may work.

E is a spring applied to the cam, the tendency of which is to turn its nose outward and downward.

The weight of the movable part of the fix-

ture coming upon the cord D hangs directly upon the cam C, serving to throw the nose or upper arm inward away from the inner surface of the outer tube, B. This suspended weight compresses the spring E. This is the normal condition of the cam, and while so held the movable part of the fixture may be raised or lowered at will without effect upon the cam C; but should the suspending-cord or counterbalancing-spring break or give way, then the weight is taken from the cam C, leaving the spring E free to react, and in such reaction the nose of the cam is thrown outward through the slot b and into engagement with the inner surface of the outer tube, as seen in broken lines, Fig. 1, thus forming a dog to engage the movable part with the fixed part, so as to prevent the descent of the movable part of the fixture after such engagement with the cam, and this engagement must occur instantly upon the breaking or giving way of the cord or counterbalancing-spring.

In Fig. 2 I represent the check or brake mechanism as applied to a fixture in which the suspending-spring is above. In that case the outer tube, B, is the fixed tube, and the inner tube, A, the movable tube, carrying the lamp-supporting devices below. In this case the cam C is hung in the movable tube instead of the fixed, as before, the suspending-cord D attached to the upper arm of the cam and the spring E to the opposite end, the action of the cam being the same as in the first illustration—that is to say, the weight of the fixture, being suspended by the cord D through the cam C, turns the nose of that cam inward and out of possible engagement with the outer tube and compresses the spring, as seen in Fig. 2. Should the cord or spring in this case break or give way, the reaction of the spring

will turn the cam, as before, and force engagement with the outer tube, and thus will arrest the descent of the fixture.

I do not claim, broadly, combining with the telescopic tube of an extension lamp-fixture a spring-clamping device held in suspension by the weight of the fixture, but liberated upon the breaking or giving way of the suspending devices, and so that upon such breaking or giving way of the suspending devices the spring-clamp will come into action and engage the movable with the fixed part, to prevent the descent of the movable part of the fixture, as such, broadly considered, I am aware is the invention of another, and constitutes the subject of a prior application for Letters Patent.

I claim—

In an extension lamp-fixture, the combination of the telescopic tube A B, the one part fixed, the other movable and arranged to carry the lamps, a cam-lever, C, arranged upon a fulcrum in the inner tube and so as to swing in a vertical plane, a suspending-cord, D, attached to one arm of said cam and so as to hold the other arm or nose within the inner tube, and a spring in connection with said cam, the tendency of which is to turn the nose of the cam outward through a slot in the inner tube, but held in suspense by the suspending cord or chain, substantially as described, and so that should the suspending cord or device give way the reaction of said spring will force the nose of the said cam into engagement with the outer tube and prevent the descent of the movable part of the fixture.

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Witnesses:

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