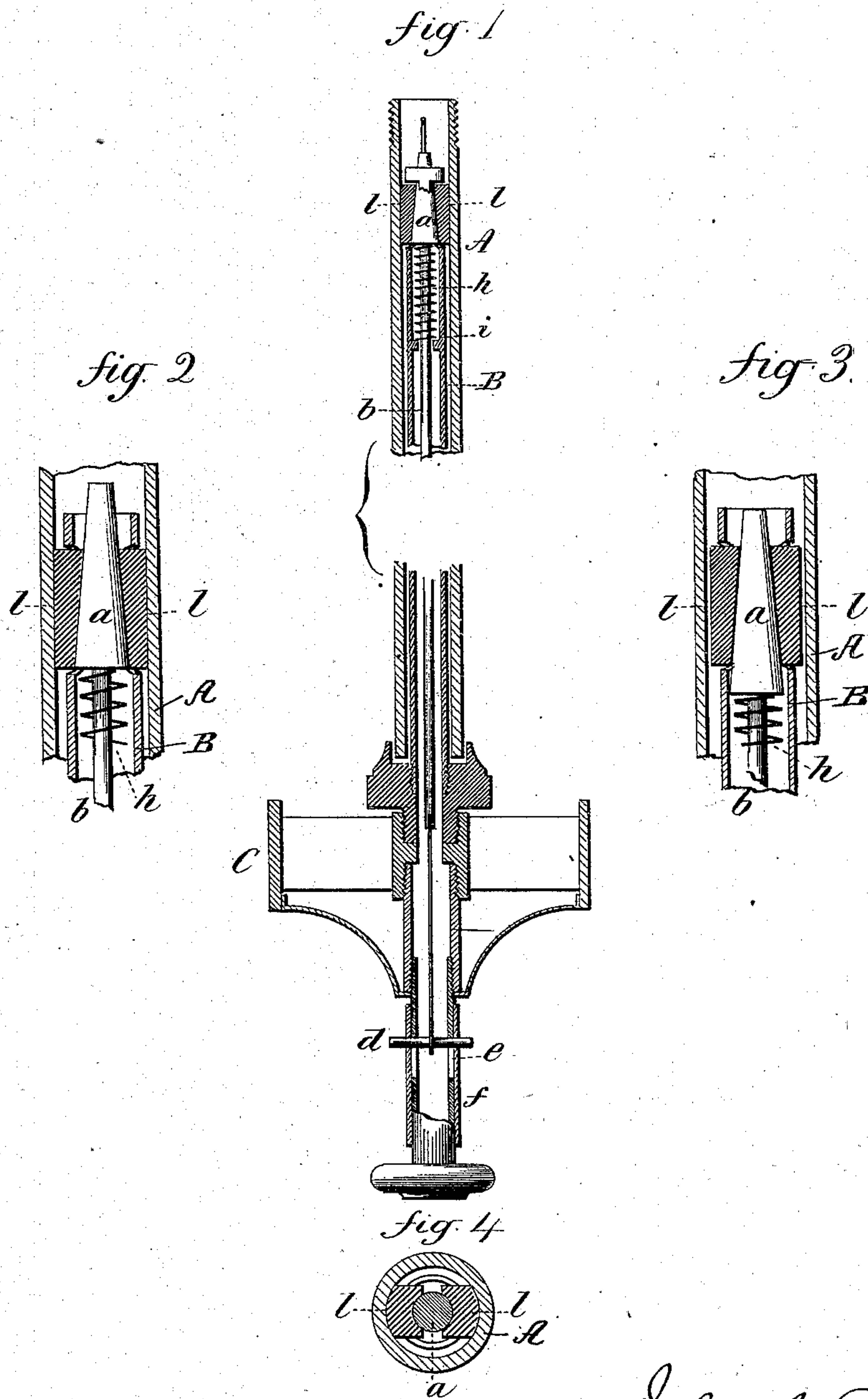


(No Model.)

J. A. EVARTS.
EXTENSION LAMP FIXTURE.

No. 258,038.

Patented May 16, 1882.



Witnesses
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JOHN A. EVARTS, OF MERIDEN, CONNECTICUT, ASSIGNOR TO BRADLEY & HUBBARD MANUFACTURING COMPANY, OF SAME PLACE.

EXTENSION LAMP-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 258,038, dated May 16, 1882.

Application filed December 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. EVARTS, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Extension Lamp-Fixtures; and I do hereby declare the following, when taken in connection with the 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, vertical central section; Figs. 2 and 3, vertical central sections of the clamping device enlarged; Fig. 4, a transverse section of the same.

This invention relates to an improvement in that class of fixtures for supporting lamps which are designed to be attached to the ceiling, and which are made extensible, so that the lamp may be adjusted to different elevations, commonly called "extension-fixtures." Usually these fixtures are counterbalanced, and with a locking device which will lock them against accidental upward movement, but free to be pulled down. In such construction the counterbalance must be considerably heavier than the fixture, in order to insure its being retained at its proper elevation, or so that it will not accidentally slip down, because the weight of the fixture is variable—that is to say, when several founts are employed the oil which they contain, if full, is so much heavier than when the oil is nearly exhausted, or in changing founts, chimneys, or shades, great variation is unavoidable. Hence the counterbalance must be at least equal to the greatest possible weight, to prevent accidental slipping down. Devices have been arranged for rigidly locking the fixture at different points of elevation, but such devices are generally so complicated as to make them impracticable—such, for instance, as a clamping device which will force the inner tube into frictional contact with the outer tube. This necessitates making the inner surface of the outer tube and the outer surface of the inner tube smooth, in order to have the movement properly free; or if not so smooth, then the working is so rough as to be entirely unsatisfactory.

The object of this invention is to make a

clamping device substantially independent of the inner tube, and which shall be arranged within the inner tube, having its opposite sides inclined with a spring arranged to impart vertical movement to the said slide, combined with a pair of clamps arranged upon the inclines of the said slide and held in their proper relative position to the said slide, so that the vertical movement of said slide will force the said clamps outward to engage the inner surface of the outer tube with frictional contact, as more fully hereinafter described.

A represents the outer tube, which is secured to the ceiling in the usual manner. Within this stationary tube A is the inner tube, B, to which the fixture is attached below—say to the ring or center C, which is attached to the lower end of the said inner tube. The inner tube is movable freely up and down within the outer tube, in the usual manner for this class of fixtures. Vertically through the inner tube, and preferably near its upper end, is a slide, *a*, its sides inclined, the widest part preferably being downward, as shown. From this slide a rod, *b*, (or wire or chain,) extends down through the inner tube to near the bottom of the fixture, and is there attached preferably to a cross-piece, *d*, extending through a slot, *e*, in the inner tube. Over the inner tube is a sleeve, *f*, with which the cross-piece *d* is connected. A spring, *h*, is arranged on a seat, *i*, in the inner tube to force the slide *a* upward. To draw the slide downward the person takes hold of the lower end of the fixture and with the finger or fingers grasps the cross-piece *d* and pulls down thereon, which will draw the slide *a* down against the pressure of the spring *h*, as from the position in Fig. 2 to that seen in Fig. 3. Through openings in the inner tube a pair of clamps, *l l*, project, one upon each side the inclined slide *a*, the external surface corresponding to the interior of the outer tube, as seen in Fig. 4. The inclined slide *a* works between the said two clamps as a wedge, the force of the spring driving this wedge-like slide between the two clamps forcing them asunder and into close frictional contact with the inner surface of the outer tube. When so engaged, if an attempt be made to draw the inner tube downward, it will tend to draw the

clamps downward upon the inclined slide *a*, the action of the spring being to force the slide upward. On the contrary, if the attempt be made to force the inner tube upward, the slide
 5 *a* holds firmly, the pressure upward upon the spring only tending to make that more strong, so that engagement with the clamps of the upper tube is substantially rigid against a downward pull or an upward push, the inner
 10 tube being substantially free as to its movement within the tube while the clamps are so engaged—that is to say, the clamps do not depend upon the inner tube for their engagement, or no frictional contact whatever is made
 15 between the inner tube and the outer tube; but when the slide *a* is drawn down, as before described, then the clamps are loose and the inner tube is free to be moved up or down so long as the slide is held down from applying
 20 its force between the two clamps.

The slide *a* may be inverted with its spring, so that the pressure of the clamp will be downward. In that case it will require a push upward to relieve it, instead of a push downward,
 25 as before described. I therefore do not limit my invention to the arrangement of the incline of the slide *a*.

While I prefer to make recesses on the opposite sides of the inner tube through which the
 30 clamps *l* will operate, that being a simple means for so doing, they may be arranged within a stirrup attached to the upper end of the tube and accomplish the same result, it only being essential that there shall be such a connection

between the tube and clamps that the clamps 35 and tube may move together up and down within the outer tube.

I am aware that extension lamp-fixtures have been constructed with a clamping device and an internal central rod by which said clamping 40 device may be operated to adjust the fixture to different elevations, and therefore do not claim broadly such device.

I claim—

1. In an extension-fixture, the combination 45 of the outer and inner tube or parts, *A B*, the inclined slide *a*, the clamps *l l*, the spring to force said clamps asunder and into contact with the inner surface of the outer tube, and means, substantially such as described, to re- 50 lieve said clamps from the force of the inclined slide, substantially as and for the purpose described.

2. The combination of the outer stationary tube, the inner movable tube, the clamps *l l*, ar- 55 ranged in recesses in said inner tube, the inclined slide *a* and its spring arranged to force said slide between said clamps and said clamps into frictional contact with the outer tube, and a connection, substantially such as described, 60 from said slide to near the bottom of the fixture, whereby said slide is withdrawn from between the clamps, substantially as described.

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Witnesses:

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