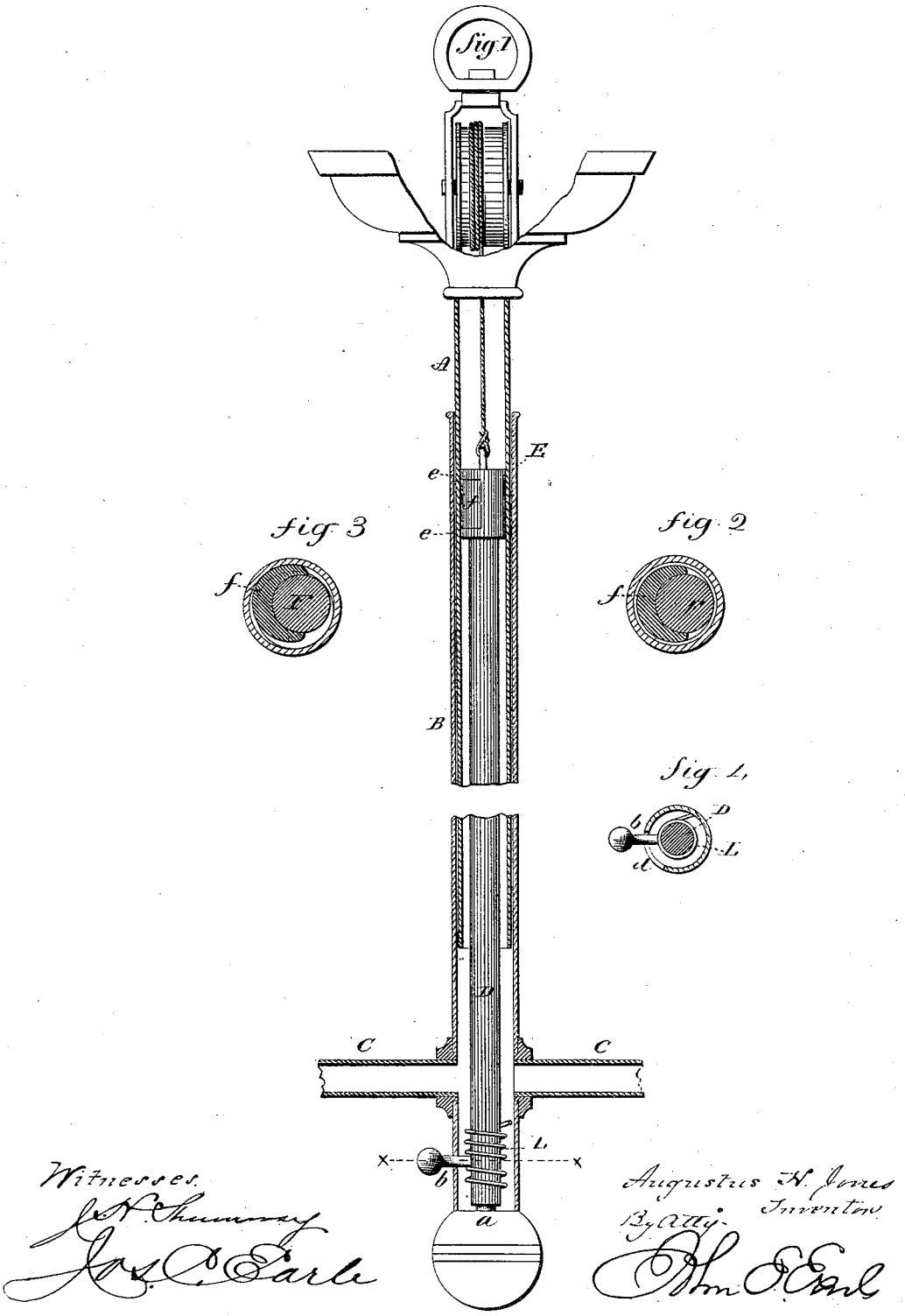
(No Model.) 2 Sheets—Sheet 1.

A. H. JONES.

EXTENSION LAMP FIXTURE.

No. 262,598. Patented Aug. 15, 1882.



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(No Model.) 2 Sheets—Sheet 2.

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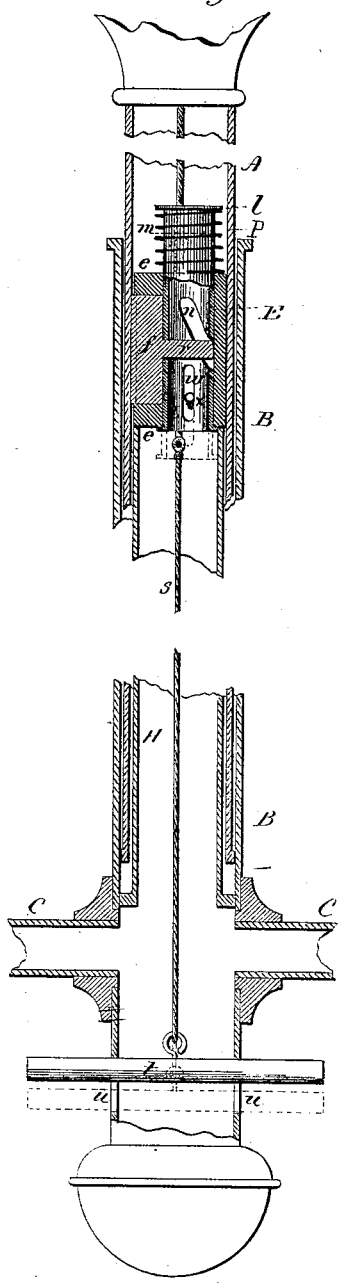
Fig. 5



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UNITED STATES PATENT OFFICE.

AUGUSTUS H. JONES, OF MERIDEN, CONNECTICUT.

EXTENSION LAMP-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 262,598, dated August 15, 1882.

Application filed May 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS H. JONES, of Meriden, in the county of New Haven and State of Connecticut, have invented an Improvement in Extension Lamp-Fixtures; 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; Fig. 2, a transverse section in the unlocked position; Fig. 3, a transverse section in the locked position; Fig. 4, a transverse section on line *x x;* Fig. 5, a modification.

This invention relates to an improvement in that class of lamp-chandeliers which are made adjustable, so as to set the lamps to different elevations, and particularly to that class which consist of a tube pendent stationary from the ceiling and a surrounding tube to which the lamps are attached, the other tube moving freely up and down on the inner tube as a guide.

In the use of this class of fixtures some device is necessary to lock the moving tube or part into engagement with the stationary tube when the fixture is set at the required elevation. Various devices have been employed for this purpose, operated generally by a rod or chain extending down to near the bottom of the fixture, where, in order to operate it, the person adjusting the fixture must either pull or push upon the chain or rod. Such movement generally requires a vertical movement of the clamping device, which is in frictional contact with the tube.

In many of this class of adjustments the locking is produced by clamping the outer tube upon the inner, or vice versa. This, too, is objectionable, because of the rubbing which follows the clamping of the two tubes together.

The object of this invention is to overcome these difficulties; and it consists in a head within the stationary tube attached to the movable part of the fixture below, combined with a shoe eccentrically arranged on said head, so that by the rotation of the head or shoe a clamping together of the two parts is made, as more fully hereinafter described.

A represents the stationary tube, which is attached to the ceiling in the usual manner; B, the outer tube, arranged to move up and down in the inner tube in the usual manner, and carrying at its lower end the arms C, or other device by which the lamp or lamps are attached to the said outer tube, and so as to move up and down with it. Within the outer tube is a vertical rod, D, arranged in a suitable bearing, *a*, at the bottom, and provided with an arm, *b*, which extends outward through a horizontal slot, *d*, in the lower part of the tube B, so that the person taking hold of the lower end of the fixture with one hand may place his thumb upon the arm *b* and readily impart a rotative movement to the rod D. The rod D is held by the arm *b*, or otherwise, so as to have no vertical movement independent of the outer tube, but so as to move up and down with that tube. The rod D extends up within the inner tube, and at its upper end is provided with a head, E. This head is slightly less in diameter than the internal diameter of the tube A, and so as to move freely within that tube. This head is recessed upon one side, and so as to form an eccentric, F, in the head, leaving a flange, *e*, above and below. Into the recess in the head a shoe, *f*, is fitted upon the eccentric, as seen in Fig. 2, and so that when in the unlocked position, as seen in Fig. 2, the surface of the shoe lies within the circumference of the head. Now, if the rod be turned, it will turn the eccentric part of the head toward the shoe and force that to the opposite side, as seen in Fig. 3. The shoe being forced hard against the tube on that side will force the head hard against the opposite side of the same tube. Thus the head is clamped firmly within the inner tube, and because of such clamping the rod D is immovable within the tube, and that rod, being in connection with the movable part of the fixture, holds the fixture in the position to which it may have been so clamped.

When it is desired to change the elevation of the fixture the person turns the rod by means of the arm *b* or any equivalent device, so as to turn it to the position seen in Fig. 2, which relieves the clamping-pressure between the tube and head, and then the fixture may be adjusted to the required elevation, and when so adjusted the rod may be returned to reproduce the clamping engagement between the tube and head.

Preferably I make the engagement between the head and tube automatic by the application of a torsion-spring, L, around the rod D within the tube B, one end being attached to the rod and the other to the tube in such manner that the spring will automatically rotate the rod in the direction of clamping and hold it in that position, so that the person will turn the rod against the pressure of the spring to release the clamp, and holding it in that position until the required position is attained, then, releasing the rod, the spring will throw it into the clamping position.

Instead of the rotation of the head E, so as to produce the clamping effect, the head may remain stationary and the shoe revolve, as seen in Fig. 5. In this arrangement, instead of a rod, D, extending up and terminating in the head E, a tube, H, is attached to the outer tube, B, below the inner tube, and so as to extend up into the said inner tube, and to this tube H the head E is rigidly fixed, so that it will move up and down with the fixture. The shoe *f* is arranged on the head in the same relation as before described. Through the head is a tube, P, with a flange below to take a bearing on the under side of the head and extend up above the upper end of the head, and is there fitted with another flange, *l*, and between that flange and the upper end of the head a spring, *m*, is arranged, the tendency of which is to hold the tube P up against the lower end of the head. This tube has a spiral slot, *n*, formed in its surface, and from the shoe *f* a stud, *r*, extends through an opening in the head into the said spiral slot. A cord, *s*, or equivalent device is attached to the lower end of the tube and runs down to near the bottom of the fixture, where it is attached to a cross-piece, *t*, extending outward through slots *u* in the outer tube. The tube P is prevented from rotation in the head by a straight vertical slot, *w*, into which a stud, *x*, extends from the head E. The head E is connected to the spring above, as before described.

When it is desired to adjust the fixture the person places his fingers over the cross-piece *t* and his thumb upon the part of the fixture below, then draws down the cross-piece *t*, which correspondingly draws down the tube P in the head, and in so drawing down the head the spiral slot *n* therein imparts rotation to the shoe *f* to withdraw it from its clamping effect on the outer tube; then, when the cross-piece is relieved the spring *m* reacts and draws up the tube, which returns the shoe *f* into its clamping position. Thus I produce the same rotative or eccentric clamping movement as first described. The automatic action prevents accidents, which might occur if the movement of the rod depended upon the person who adjusted the fixture; but other locking devices may be employed and the spring dispensed with.

In the illustration I have shown the fixture as counterbalanced by a spring at the top, the chain or cord from the spring extending down from the top and taking hold of the upper end of the rod. This is a device for counterbalancing too well known to require detailed description in this specification. By this construction the clamping is made upon the inner or stationary tube entirely independent of the outer tube, there being no engagement between the two tubes or their adjacent surfaces, the outer tube being always free of the inner tube.

I claim—

1. In an extension lamp-fixture, the combination of the inner stationary tube, the outer tube adjustable thereon and carrying the lamp-support, the head arranged within said stationary tube and connected to the movable part of the fixture below, said head constructed with a recess eccentric to the inner tube, and a shoe arranged in said eccentric recess, mechanism, substantially such as described, to impart rotation to the head or shoe, whereby the eccentricity of the head produces through the shoe an engagement with the inner tube, substantially as described.

2. In an extension lamp-fixture, the combination of the inner stationary tube and outer adjustable tube, to which the lamp is attached, a rod within the outer tube, arranged for rotation, but without vertical movement, independent of the outer tube, extending up within the inner tube, provided at its lower end with means for rotating the rod, and at its upper end, within the inner tube, constructed with an eccentric rotated by said rod, and a shoe which, with the said eccentric, forms a clamp within the inner tube to hold the fixture, substantially as described.

3. In an extension lamp-fixture, the combination of the inner stationary tube and outer adjustable tube, to which the lamp is attached, a rod within the outer tube, arranged for rotation, but without vertical movement, independent of the outer tube, extending up within the inner tube, provided at its lower end with means for rotating the rod, and at its upper end, within the inner tube, constructed with an eccentric rotated by said rod, and a shoe which, with the said eccentric, forms a clamp within the inner tube to hold the fixture, and a spring arranged to automatically turn said rod and eccentric into the clamping position, substantially as described.

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Witnesses:
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