(No Model.)

W. C. HOMAN.

LAMP STANDARD.

No. 403,841. Patented May 21 1889.

Fig. 1

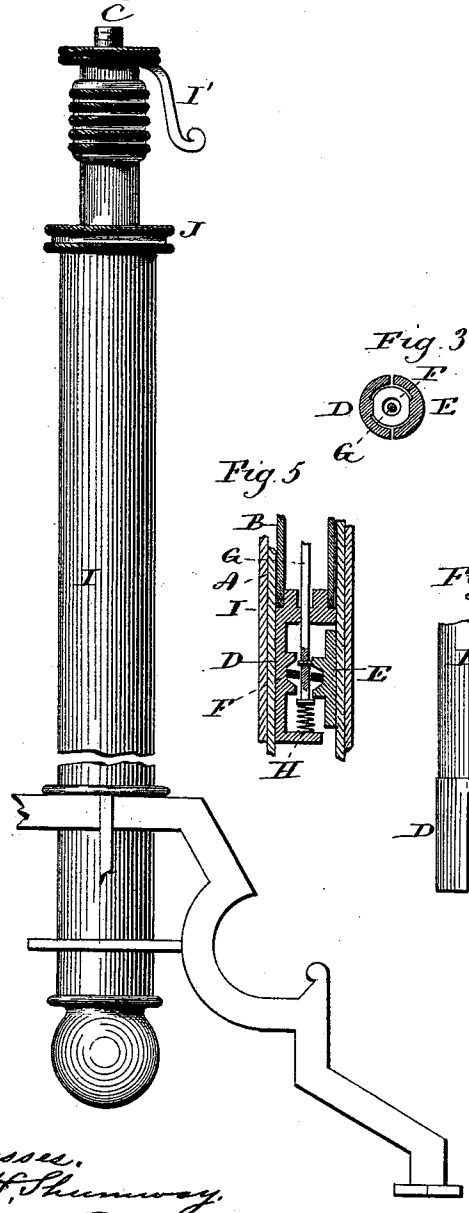


Fig. 2

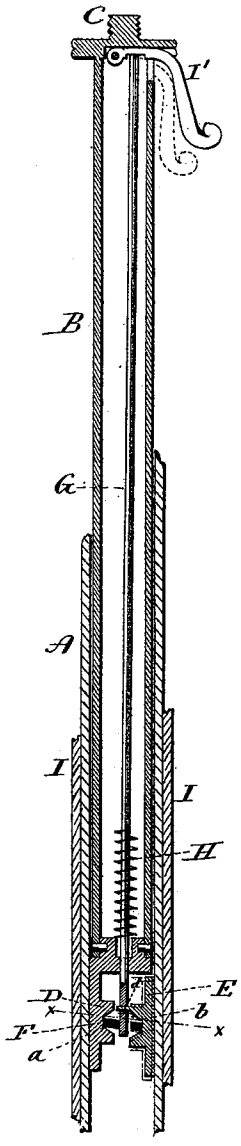


Fig. 3

Fig. 5

Fig. 4

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William C. Homan,
By atty. Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM C. HOMAN, OF MERIDEN, CONNECTICUT, ASSIGNOR TO EDWARD MILLER & COMPANY, OF SAME PLACE.

LAMP-STANDARD.

SPECIFICATION forming part of Letters Patent No. 403,841, dated May 21, 1889.

Application filed February 4, 1889. Serial No. 298,590. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. HOMAN, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Lamp-Standards; 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 side view of so much of the standard as necessary to illustrate the invention; Fig. 2, a vertical central section showing the mechanism; Fig. 3, a transverse section on line *x x* of Fig. 2, looking downward; Fig. 4, a side view of the lower portion of the inner tube, showing the two shoes; Fig. 5, a modification in the arrangement of the spring.

This invention relates to an improvement in the construction of the standard of that class of lamps which are designed to be supported from the floor and known in the trade as "piano-lamps." These standards are made adjustable in length, so that the lamp may be set at various elevations. The standard is usually composed of tubes, arranged telescopically, one fixed to the base and the other adjustable therein, carrying the lamp upon its upper end. Some device is necessary between the telescopic tubes, so as to engage one tube with the other, that the lamp may be firmly supported at the desired elevation, yet it must be of such a character that adjustment to different elevations is easily made.

The object of my invention is to produce a simple and effective device, which will permit the adjustable tube to be raised with considerable freedom to any desired point, yet so engaged as to prevent its accidental descent except by mechanical manipulation, or the application of a considerable force thereto; and it consists in the construction as hereinafter described and particularly recited in the claim.

A represents one tube, which is fixed to the base so as to maintain its upright position in the usual manner; B, the second or inner tube, adjustably arranged within the stationary tube, and is fitted at its upper end to carry the lamp, (here represented as a screw, C,) by which the lamp-fount may be made fast to the upper end of the tube. The inner tube is of somewhat less external diameter than the outer tube, and so as to work freely therein. To the lower end of the inner tube a shoe, D, is secured as a permanent part of the tube, and may be an integral part of the same. This shoe presents a semi-cylindrical surface, corresponding to the inner surface of the outer tube, but so as to move with the inner tube. Opposite the permanent shoe D is a shoe, E, detached from the tube, and which is of also substantially semi-cylindrical shape, corresponding to the inner surface of the outer tube. The two shoes together are adapted to bear against the inside of the outer tube upon opposite sides; but the diameter of the two shoes in the direction of their bearing is less than the diameter of the outer tube, and so that when bearing there will be a slight space between the two shoes, as shown, and so that the detached shoe may be drawn toward the other shoe to relieve any pressure which might otherwise exist between the shoes and the outer tube.

Upon the inside of the shoe D a seat, *a*, is formed, (here represented as a transverse V-shaped recess,) and in the shoe E is a like recess, *b*. The recesses *a b* form seats, into which a strut, F, is set, of a length greater than the diametrical distance between the two seats, and so that the strut necessarily assumes an inclined position, as seen in Fig. 2.

Within the inner tube, B, a rod, G, is arranged vertically, which extends down between the two shoes, and is supported at some point by a spring, H, the tendency of which is to raise the rod G. The movable shoe E is in connection with the lower end of the rod G, (here represented as by a pin, *d*,) which projects from the shoe through a corresponding hole in the rod, and so that any vertical movement imparted to the rod G must be communicated to the movable shoe E. The spring tends to lift the shoe E, and thereby cause the strut F to approach a horizontal position, and in thus approaching the horizontal

position the strut acts upon the two shoes D E to force them asunder and hard against the inner surface of the outer tube, as seen in Fig. 2; but if the rod be depressed, and so as to force the shoe E downward, as indicated in broken lines, Fig. 2, the inclination of the strut F is correspondingly increased, and so as to reduce the pressure between the two shoes, and so that the shoe E may recede from its contact with the internal surface of the outer tube. At some convenient point a lever, I′, or other suitable device, is arranged, so that, through pressure upon it or movement of it, as indicated in broken lines, Fig. 2, the rod will be depressed, and this depression releases the force between the two shoes; or, if the handle device be left free, then the spring reacts to draw the shoes into the bearing position. When the shoes are in the bearing position, sufficient friction is produced between the shoes and the interior of the outer tube to support the inner tube at any point to which it may be adjusted.

The weight upon the inner tube tends to force the tube with its fixed shoe D downward; but the shoe E, being in firm frictional engagement with its side of the outer tube, resists a corresponding descent. Consequently the descending shoe D acts upon the strut F with a tendency to force it to its horizontal position, and thereby increase the pressure between the two shoes to force them against their respective sides of the outer tube; hence the greater the weight or force applied to produce the descent of the inner tube will correspondingly increase the friction between the inner and the outer tube to resist such descent; but when the shoe E is forced downward by means of the rod, as before described, then the inner tube is free from such frictional engagement with the outer tube and may be moved up or down at will.

As here represented, the outer tube is inclosed by a jacket, I, as usual in standard-lamps, and the upper ends of the outer tube and jacket are provided with a collar, J, through which the inner tube works as a suitable guide and bearing, also in the usual manner.

I do not wish to be understood as limiting myself to the employment of a lever as the means for operating the rod G, as any of the known devices for imparting vertical movement to the said rod may be employed; nor do I wish to be understood as limiting the arrangement of the spring so as to act directly upon the rod, as it may be arranged to act directly upon the shoe E, as seen in Fig. 5; but

What I do claim is—

In a lamp-standard, substantially such as described, consisting of two tubes, one stationary and the other telescopically adjustable within the stationary tube, the combination therewith of a shoe attached to the lower end of the inner tube and so as to take a bearing upon the inner surface of the outer tube at one side, a corresponding shoe detached from the inner tube, but arranged opposite the attached shoe, the said two shoes constructed with seats upon their inner sides, a strut arranged in said seats, but of greater length than the distance between the said two seats of the shoe when in operation and so that the said strut lies in a diagonal plane, a rod within the inner tube, its lower end in connection with the said detached shoe, the rod extending upward to a convenient point above the outer tube, with means, substantially such as described, to force the said rod downward, and a spring the tendency of which is to yieldingly raise the said detached shoe, substantially as described.

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Witnesses:
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