(No Model.)

C. MASCHMEYER.

LAMP STANDARD.

No. 366,014. Patented July 5, 1887.

Fig. 1

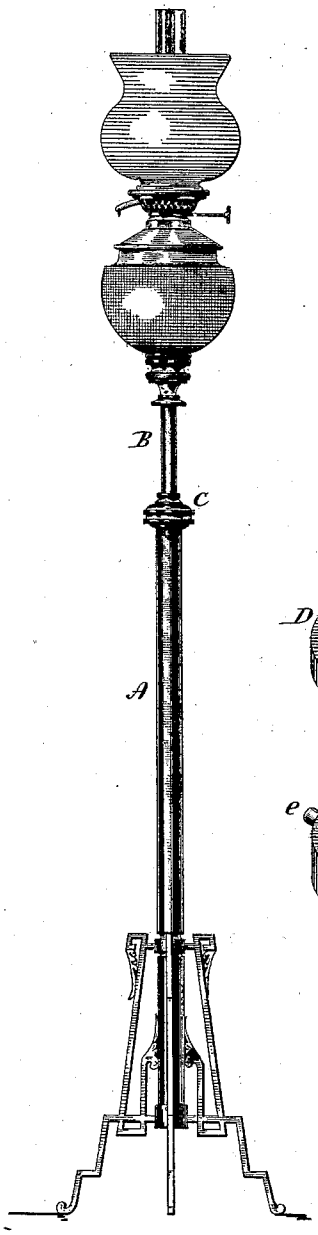


Fig. 2

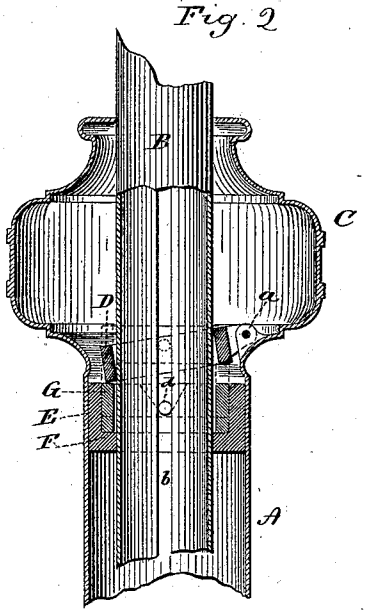


Fig. 3

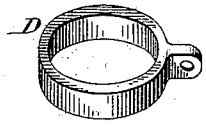


Fig. 4

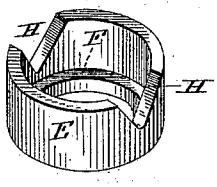


Fig. 5

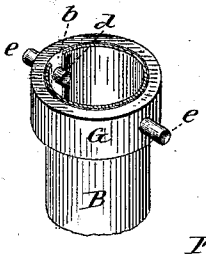


Fig. 6

Fig. 7

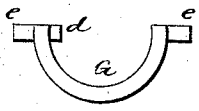
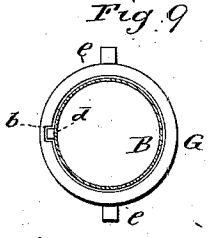


Fig. 8

Fig. 9



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UNITED STATES PATENT OFFICE.

CHARLES MASCHMEYER, OF MERIDEN, CONNECTICUT, ASSIGNOR TO EDWARD MILLER & CO., OF SAME PLACE.

LAMP-STANDARD.

SPECIFICATION forming part of Letters Patent No. 366,014, dated July 5, 1887.

Application filed March 30, 1887. Serial No. 232,961. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MASCHMEYER, 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 the standard and lamp complete; Fig. 2, a vertical central section through the upper part of the outer tube, showing the inner tube and the clamping devices; Fig. 3, a perspective view of the clamp D detached; Fig. 4, a perspective view of the support E detached; Fig. 5, a perspective view of the ring G detached, showing the inner tube; Figs. 6, 7, 8, and 9, modifications.

This invention relates to an improvement in that class of supports for lamps which are designed to stand upon the floor and support the lamp as upon a column, commonly called "standard lamps."

It is desirable in this class of lamps that the standard should be adjustable, so as to set the lamp at different elevations. To this end the standards are usually made of telescopic character—that is to say, a tube rises from a base, and within that tube is a second tube or rod, arranged to slide up and down in the outer tube, the lamp being supported upon the upper end of the inner tube or rod. Some device is necessary to hold the inner or direct lamp-supporting rod at any point of elevation to which it may be desired to set the lamp, yet such securing device should be simple, or so as not to require any considerable amount of ingenuity to work it. For a successful lamp the adjusting device should be of such a character that it will positively hold the lamp at any position to which it may be desired to set it, and yet so as not at any time to fully release the rod, for the reason that, suppose the central rod to be raised and set at such raised position, if upon the release of the device by which it is set the rod is freed it will instantly and forcibly descend under the weight of the lamp, and from such securing devices accidents frequently occur, so that it is desirable, if not necessary, that the securing device shall be of such a character that it automatically maintains a control of the sliding rod or tube.

To produce such an adjusting device is the object of my invention.

A represents the outer tube, which rises from a base, the base being adapted to rest upon the floor and support the standard in the usual manner; B, the inner tube, which is vertically adjustable in the outer tube, and which carries the lamp upon its upper end.

To the outer tube, and preferably in the casing C at its upper end, I arrange the clamp D. This clamp is best made in the form of a ring, (see Fig. 3,) the internal diameter of which is somewhat greater than the inner tube, B. It is hung to the outer tube upon a pivot, *a*, at one side of the ring, the axis of the pivot being at right angles to the axis of the tubes, and so that the clamp may swing up and down. The ring being thus hung to the tube A, the inner tube, B, is passed down through the ring and into the tube A. If the clamp D be left free, it naturally falls of its own weight, turning upon its pivot into an inclined position, as seen in Fig. 2, and the clamp in so turning upon its pivot comes to a bearing upon the inner tube upon opposite sides, as seen in Fig. 2, the points of bearing being in a vertical central plane at right angles to the pivot on which the clamp is hung, and because of assuming this inclined position and coming to a bearing against the inner tube the inner tube is grasped between the opposite sides of the ring, and so held against possible farther descent, because whatever force or weight may be applied to the rod or tube B only tends to further turn the ring downward upon its pivot and make the clamp or resistance to the descent of the rod stronger.

Upon lifting the rod or tube B the friction between the clamp and the ring will be sufficient to raise the ring to such an extent as to offer no resistance to the rising of the inner tube, as seen in broken lines, Fig. 2, and so that while the inner tube may be freely raised the clamp engages the inner tube or rod upon the instant of its being released, so as to prevent possible accidental descent.

Below the clamp D a collar, E, is fixed upon the inside of the outer tube, having an inwardly-projecting shoulder, F. This collar is substantially concentric with the inner tube. Within the collar E, and adapted to rest on the shoulder F, is a collar, G, the internal diameter of which is slightly larger than the inner tube, B, and so that the tube may work freely up and down within the said ring G. The tube B is constructed with a vertical groove, *b*, upon one side, and upon the inside of the ring G is an inwardly-projecting stud, *d*, adapted to work in the groove *b*, and so as to engage the ring G with the tube circumferentially, yet so as to allow the tube B to freely move up and down; but any rotation of the inner tube or rod, B, will be imparted to the ring G. This ring G lies directly below the clamp D, as seen in Fig. 2. In its normal condition the ring rests upon the flange F, or any suitable rest provided for it within the outer tube.

The ring G is constructed with radially-projecting trunnions *e e*, preferably at diametrically-opposite points, and the surrounding collar E is constructed with V-shaped recesses H in its upper edge, in which the said trunnions will stand when the parts are in the normal condition, and as indicated in Figs. 2 and 4. The recess H is open upward and the sides diverge, so as to present inclined planes to the respective trunnions; hence, if the ring G be rotated in either direction, the result will be that the trunnions will ride up the inclines in the stationary collar E, causing the ring G to rise, and if the ring G rises, as indicated in broken lines, Fig. 2, it will strike the lower side of the clamp D, and cause that to rise accordingly, as also indicated in broken lines, Fig. 2.

When it is desirable to lower the elevation of the lamp, take hold of the inner tube or rod, B, and give to it a rotative movement, which rotative movement will, through the groove *b* in the tube B and the stud *d* in the ring G, impart a corresponding rotation to the ring G, causing it to rise from its seat and raise the clamp, as indicated in broken lines, Fig. 2. This operation will raise the clamp and leave the rod free to be moved downward so long as the tube or rod B is retained in the position to which it was turned to raise the ring G; but if the tube or rod B be released then the ring G will be free to fall to its seat, thereby leaving the clamp D also free to fall, and engagement is instantly made between the clamp and inner tube or rod, so that unless the tube or rod B be held in its rotated position sufficient to maintain the ring G in its elevated position the clamp will be free to engage, and descent of the inner rod or tube is impossible. The rotation of the inner rod or tube necessary for thus releasing the clamp can only be intentionally produced; hence there is no liability to accidental releasing of the inner tube, and accidents due to such accidental releasing of the rod are avoided.

The clamping and releasing mechanism leaves the inner rod or tube free to be raised by a simple vertical movement, the clamp having no effect to resist raising of the inner rod or tube.

The casing which incloses the clamp may be made an ornament upon the standard, and in fact some such case is desirable upon the upper end of the fixed tube.

While I prefer to make the clamp in the form of a ring, as I have described, it will be evident that it does not necessarily surround the tube; but may be made, as seen in Fig. 6, to partially surround the tube, so as to come to a bearing upon opposite sides of the tube. I wish, therefore, by the term "ring shape" to be understood as including a clamp which so surrounds the inner tube as to take a bearing on the tube at opposite points, said bearing-points being nearly at right angles to the axis of the pivot upon which the clamp is hung.

The releasing device G, while preferably made in the form of a ring, may be made as a segment, as seen in Fig. 7, it only being necessary that it shall surround the tube B sufficiently to retain its relative position.

I have represented the cam-like action between the ring G and its fixed support in the outer tube as produced by a V-shaped groove in the surrounding ring E and trunnions on the ring G, and this I prefer, as being a simple construction; but the cam-like action between the ring G and its support, whereby, under rotation of the tube B, vertical movement is imparted to the ring G, may be otherwise produced—say, as by constructing the ring G with an incline upon its lower edge, and the support E with a corresponding incline, as seen in Fig. 8, there being a like incline at opposite points between the two parts, and so that as the ring G is rotated in either direction it will ride up one incline or the other, according to the direction in which it is turned. I therefore do not wish to be understood as limiting the releasing device to a specific construction of the rotative ring G and its support in the outer tube, it only being essential that the ring G and its support shall present between them a circumferentially-inclined bearing-surface, so that under the rotation of the ring G it will by such inclined surface be forced to rise.

While I prefer to make the groove in the tube or rod B and the projection in the ring G to work in the groove *b*, this order may be reversed, as seen in Fig. 9—that is, the rib made on the tube and groove in the ring—it only being essential that the inner rod or tube and the ring G shall be so united as to permit the tube or rod to work up and down freely through the ring G, yet so as to couple the two that any rotation imparted to the rod B will be imparted to the ring G.

I claim—

1. In a lamp-standard, the combination of an outer tube and a tube or rod vertically arranged within said outer tube, the one fixed and the

other adjustable, a clamp of substantially ring shape hung in the outer tube, so as to swing in a vertical plane, and through which clamp the vertical tube passes, the said clamp being adapted to engage the inner tube, and a ring, G, surrounding the inner tube and supported within the outer tube, the said ring G and the inner rod or tube, B, constructed the one with a radial projection and the other with a corresponding groove, whereby the two are coupled against rotary movement, but free vertically, the ring G and its fixed support constructed the one with a circumferentially-inclined bearing-surface and the other with a corresponding-working surface, all substantially as described, and whereby under the rotation of the inner tube both rotary and vertical movement will be imparted to said ring G to release said clamp.

2. The combination of the outer tube, A, the inner tube, B, the ring-shaped clamp D, hinged to the tube A at one side of the inner tube, the said inner tube adapted to work up and down through the said clamp D, a ring, G, supporting said clamp, supported in the outer tube, the said inner tube and ring G, the one constructed with a groove and the other with a corresponding projection, whereby the two will be united as to rotation, but free vertically, the said ring G constructed with radially-projecting trunnions *e*, and the support E, for the ring G, constructed with V-shaped recesses, H, in which said trunnions stand, substantially as and for the purpose described.

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