(No Model.)

L. HORNBERGER.

EXTENSION CHANDELIER.

No. 290,883. Patented Dec. 25, 1883.

Fig. 1

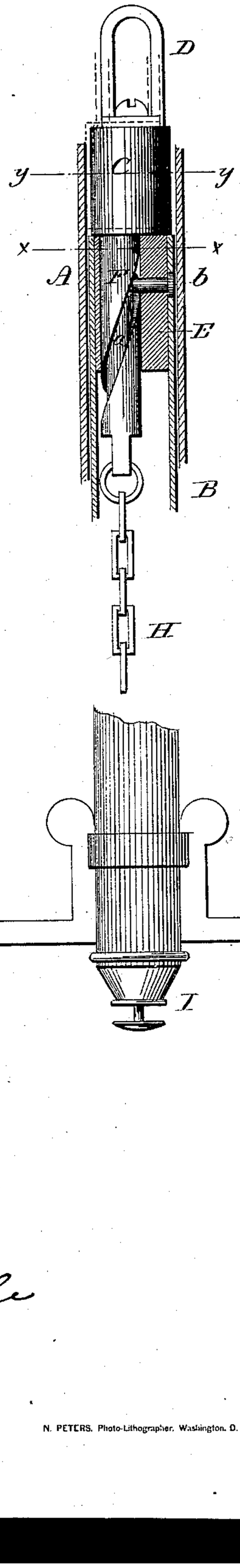


Fig. 2

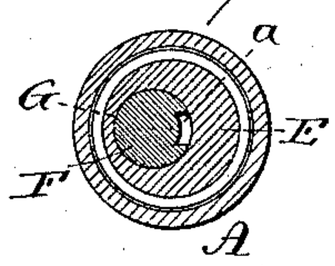


Fig. 3

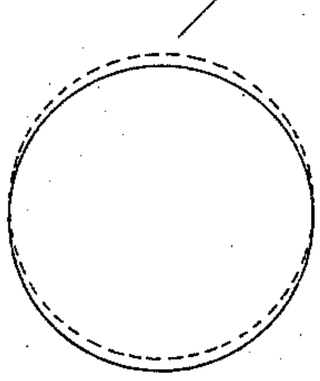
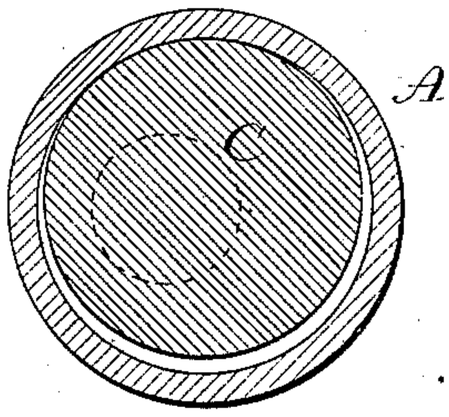


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

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EXTENSION-CHANDELIER.

SPECIFICATION forming part of Letters Patent No. 290,883, dated December 25, 1883.

Application filed September 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, LOUIS HORNBERGER, 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 sectional side view; Fig. 2, a transverse section on line *x x;* Fig. 3, diagram, and Fig. 4 transverse section on line *y y*, the last two figures enlarged to more clearly illustrate the operation of the invention.

This invention relates to an improvement in that class of chandeliers which are made extensible by telescopic tubes, one of which is fixed, the other movable and carrying the arms, and with special reference to a clamping device to secure the movable part at any point of elevation to which it may be adjusted, and particularly to that class of such clamping devices which consist of an eccentrically-hung cam, the axis of which is parallel with the telescopic tubes, and in which the clamping is produced by a partial rotation of said eccentrically-arranged cam; and it consists in a substantially cylindrical block of about the diameter of the inner tube and arranged at the end of the inner tube within the outer tube, the block constructed with a spindle extending longitudinally from it into a corresponding hole in the end of the tube, the spindle and hole being eccentric to the axis of the tube, the spindle and hole being constructed the one with a spiral groove and the other with a corresponding fixed stud extending into said groove, and whereby a longitudinal movement imparted to the tube or block will cause a partial rotation of the said block to throw it into an eccentric position with relation to the inner tube, and so as to take a bearing upon the inner surface of the outer tube and force the inner tube against the opposite inner side of the outer tube, as more fully hereinafter described.

A represents the outer tube, and B the inner tube as usually arranged in telescopically-adjustable lamp-chandeliers.

C is a clamping-block, which is preferably cylindrical in shape and of substantially the same diameter as the inner tube, or little less. At the upper end it is provided with a loop, D, from which a chain or cord extends to the counterbalancing device, which may be spring or weight, and such as usually employed in extension-chandeliers, and which is too well known to require illustration or description.

From the lower end of the block C a spindle, F, extends downward, and is in an eccentric position with relation to the inner tube, the axis of the spindle, block, and inner tube being parallel. The upper end of the tube B is filled, say, with a plug E, which is made fast in that end of the tube, and through which a hole, G, is made, corresponding in diameter to the spindle F, and of substantially the same eccentricity with relation to the tube.

In the surface of the spindle F is a spiral groove, *a*, into which a stud, *b*, fixed in the tube, extends, as seen in Fig. 1, and so that a vertical or longitudinal movement of the block C, tending to draw the spindle from its hole, will impart to the block a rotation corresponding to the pitch of the groove *a*. The spindle being in a position eccentric to the tube, it follows that when the block C stands in a position concentric with the inner tube, as seen in Fig. 3, and is rotated from that position, it will be thrown into a position eccentric to the tube, as indicated in broken lines, Fig. 3, and so that a portion of its surface will project beyond the periphery of the inner tube. The arms of the chandelier are attached to the inner tube, B, in the usual manner, and down through the tube a chain or cord, H, extends, one end attached to the lower end of the spindle, and to the other a pull, I, is attached below the bottom of the chandelier, and so that a person may apply, say, two fingers to the pull, and with the thumb may bear up against the bottom of the chandelier, so as to force the two from each other. The weight of the movable part of the chandelier being upon the tube B tends to draw that downward away from the clamping-block C, that block being held, as before stated, by counterbalancing devices. Such drawing down of the chandelier, therefore, tends to rotate the block C and turn it into an eccentric position, so that one side will bear against the inner surface of the outer

tube, and thereby force the inner tube against the opposite side, as seen in Fig. 4. The weight of the chandelier, hanging by the tube, tends to force the tube and block into firm frictional contact with the outer tube, whereby the adjustable portion will be held firmly within the stationary part, and thus held. If it be desired to readjust the chandelier, the person places his two fingers upon the pull I, and, with his thumb against the bottom of the chandelier, draws upon the pull or raises the movable part of the chandelier, as the case may be, which will cause the clamping-block C to approach the end of the tube, and in so doing will be returned from its eccentric position to its concentric position, and relieve the friction which held the adjustable part, and then the chandelier may be readjusted to the desired position, and when that is reached releases the pull I, to permit the weight of the chandelier to act to draw down the tube B, which will again cause the block and tube to separate, and in such separation will force the block to rotate into its eccentric position and clamp the parts as before.

It will be understood that while I have described the outer tube as the stationary tube and the inner tube as movable, this order may be reversed as in other clamping devices.

I have illustrated the clamping device as operated by the pull I, below the chandelier; but the pull may be applied in any of the known constructions for producing a downward pull upon the clamp.

While I prefer the stud *b* to extend into the spiral groove *a*, the hole may have a spiral rib formed in it corresponding to the groove, or the spindle may have a quick screw-thread cut upon it, and the hole have a corresponding thread, or there may be a spiral groove made in the surface of the hole and a stud on the spindle, it only being essential to my invention that there shall be a spiral cam-like groove on one part and corresponding projection on the other part, whereby a longitudinal movement of either part will impart corresponding rotation to the clamping-block.

I claim—

In an extension-chandelier, the combination of the outer tube, A, and inner tube, B, the one fixed and the other movable, the clamping-block C, constructed with an eccentric spindle, F, and the inner tube with a corresponding eccentric hole within which said spindle will work, said spindle and hole having the one a spiral groove and the other a corresponding projection, whereby the longitudinal movement of either will impart corresponding rotation to said clamping-block, the clamping-block connected at one end with the counterbalancing device and at the other provided with mechanism, substantially such as described, whereby the said longitudinal movement may be imparted to the inner tube or block, substantially as described.

LOUIS HORNBERGER.

Witnesses:

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