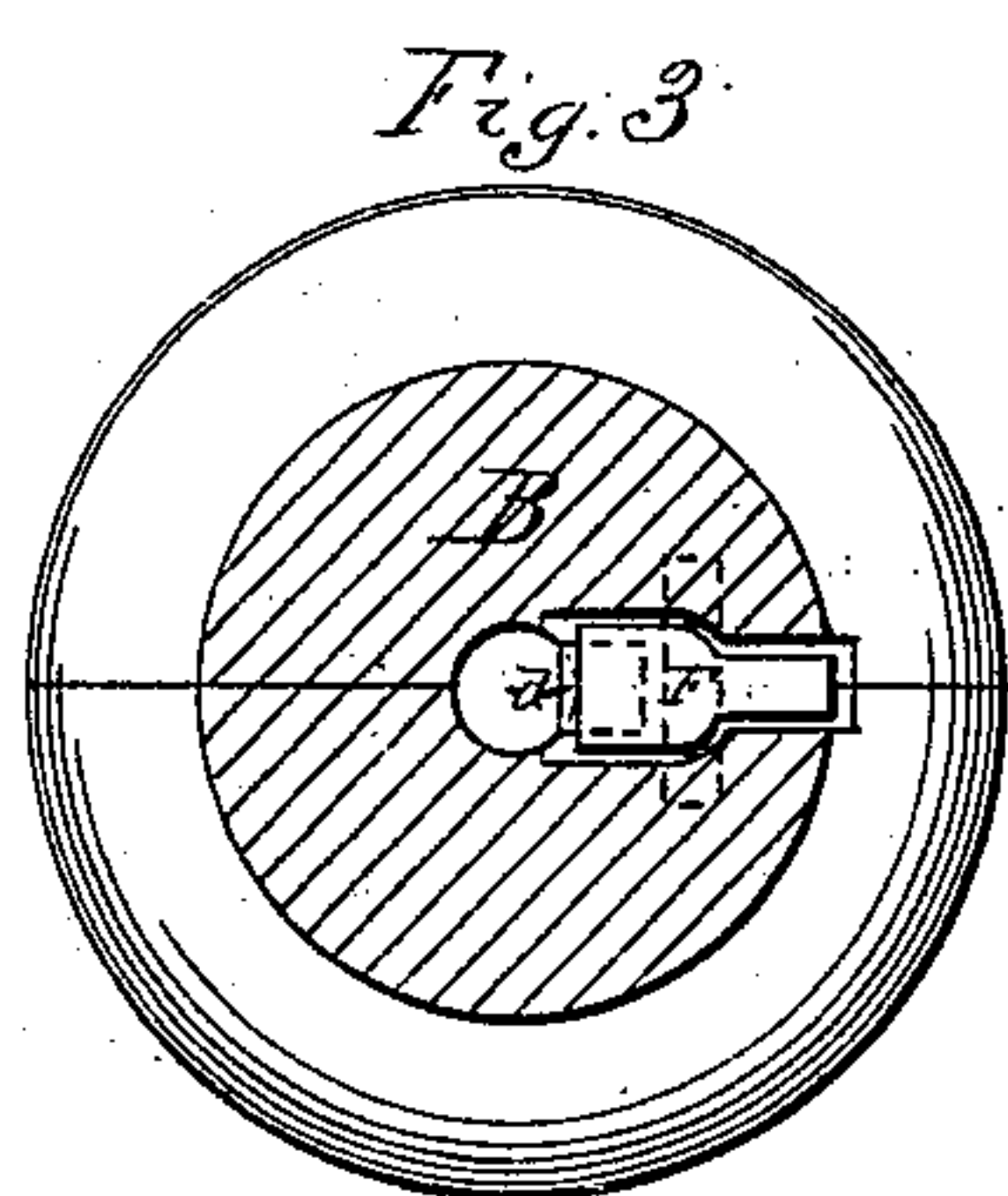
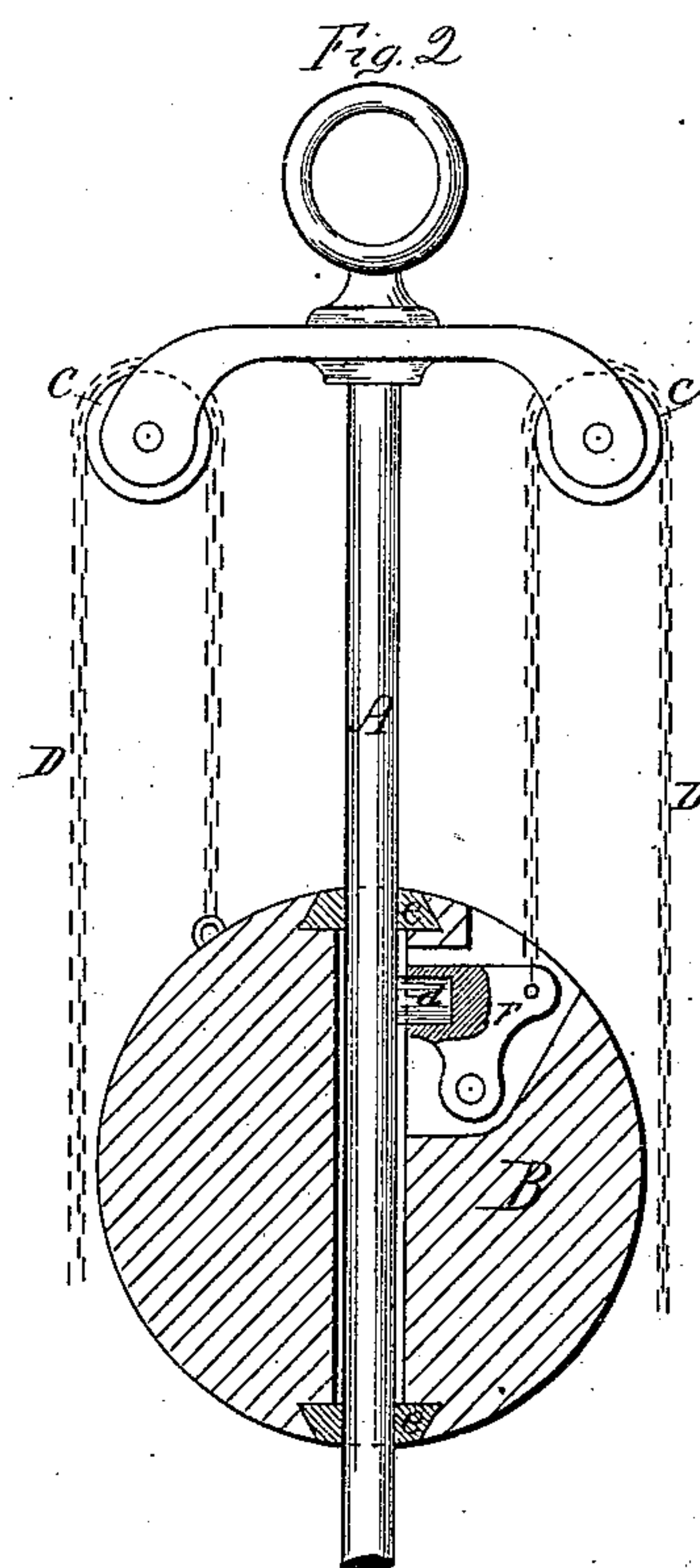
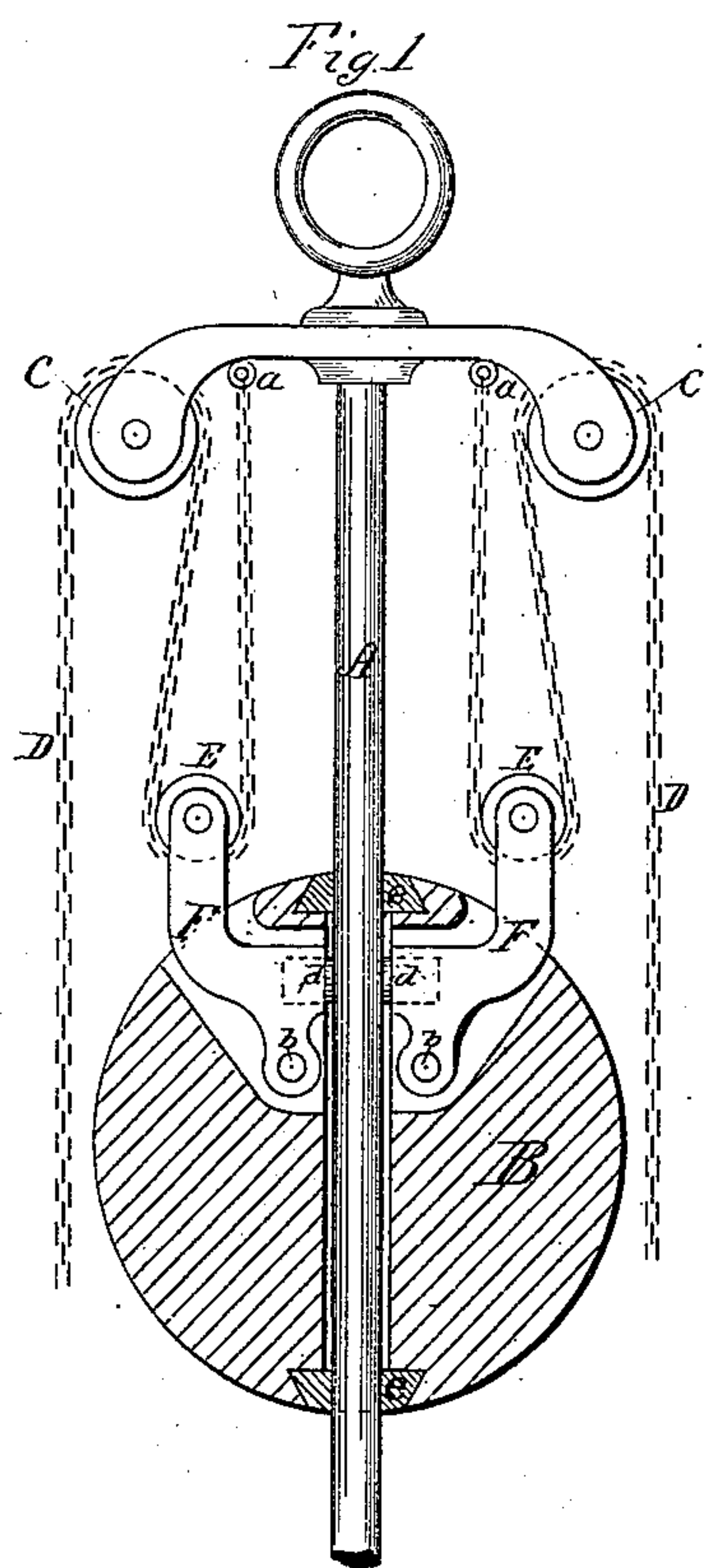


(No Model.)

J. A. EVARTS.
EXTENSION LAMP.

No. 312,194.

Patented Feb. 10, 1885.



Witnesses
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L. O. Crocker

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UNITED STATES PATENT OFFICE.

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

EXTENSION-LAMP.

SPECIFICATION forming part of Letters Patent No. 312,194, dated February 10, 1885.

Application filed September 1, 1884. (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-Lamps; 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 sectional side view showing the invention as applied to a double run of suspending cords or chains; Fig. 2, a vertical sectional side view showing a single cam-lever entirely within the weight with its run of chain attached; Fig. 3, a sectional top of view of the weight; Fig. 4, a face view of the cam-lever.

This invention relates to an improvement in that class of hanging lamps in which the lamp-holding devices are made adjustable to different elevations, and in which the counterbalance for the support of the lamp is a central weight, running upon a central rod, chains, or cords extending from the weight up over pulleys above, thence down to the lamp-holding device below, now commonly known as "library-lamps."

The weight of the movable part of the fixture varies according to what it is to carry—that is to say, in some cases a porcelain shade is employed. These shades vary in weight to a considerable extent. Again, ornamental devices are provided, which may or may not be attached to the fixture—such, for instance, as prism-rings, and these vary according to the prisms hung thereon. If the weight be made to counterbalance all that may be applied to the movable part of the fixture, then it must be very heavy, and too heavy for a fixture in which no such appliances are employed, for it is desirable that the lamp shall stand at any point of elevation to which it may be adjusted; hence, if the weight be too heavy, it will hold the lamp only in its highest position, or, if it be too light, the lamp is supported only in its lowest position.

The lamps are supplied to the market so that the various attachments, shades, prism-rings, &c., may be applied, or varying weights

of lamp-founts. It is necessary, therefore, to provide the fixture with some device by which a standard weight may be adapted to the great variations necessary in the movable part of the fixture.

The object of my invention is such a construction of or application of devices to the weight as will adapt it to the varying weight of the movable part of the fixture and yet run freely.

To this end my invention consists in providing the weight with a cam or cams, and to which one or more of the suspending chains or cords are attached, and so that the weight of the movable part of the fixture on said suspending cord or chains will tend to force the cam into frictional bearing with the central rod, over which the weight runs, and thereby hold the movable part of the fixture at any point to which it may be set, the said frictional cam yielding as the fixture is raised, and as more fully hereinafter described.

A represents the vertical central rod, which is fixed at the point from which the lamp is suspended; B, the weight, constructed to run freely up and down upon the said rod.

As illustrated in Fig. 1, I show the invention as applied for what is called a "double run" of chains—that is to say, an arrangement of chains whereby the movement of the weight is but one-half that of the movable part of the fixture.

C C represent pulleys hung at the point of suspension, and over which the cords or chains D run from the movable part of the fixture, thence down around pulleys E E, attached to the weight, thence up and the ends fixed, as at a.

In the weight a lever, F, preferably one for each double run of cords or chains, is arranged. As seen in Fig. 1, two such levers are shown. They are each hung upon a pivot or fulcrum, b, below, and, extending upward, their outer end is outside the pivots, so that the lifting tendency upon the levers is to throw the pulleys E E, or points upon which the chains or cords are attached, inward toward the central rod, A. The levers F are each provided with a frictional surface, d, which bears against the central rod, A.

When the fixture is at rest, the weight hangs

suspended, and its own weight, together with that of the fixture, tends to throw the frictional surfaces *d* inward and against the rod A, the bearing being in proportion to the weight of the fixture and of the weight itself, but when the movable part of the fixture is raised, as by the application of the hand thereto for the purpose, the levers F F are relieved from the weight of the fixture itself; consequently the friction between the levers and the rod is accordingly reduced, and the fixture rising, the weight will readily fall to aid in such movement of the fixture, and when the power which raised the fixture is removed the weight of the fixture again comes upon the levers F F and produces friction upon the rod, which, in addition to the power of the weight itself, is capable of supporting the movable part of the fixture under the extreme variation of weight.

At the upper and lower center of the weight I introduce a collar, *e*, to form a bearing upon the rod independent of the weight itself, and so that the opening through the weight may be considerably larger than the rod, and prevent the possible contact or rubbing of the weight upon the rod. These collars are best made from some elastic or flexible material.

In Fig. 2 I illustrate the invention as applied to a single run of chain, and with the cam-lever entirely within the weight. In this representation I show a single cam and one of the chains only attached thereto, the other chains being attached to the weight in the usual manner.

The best construction of weight is to make it in two parts divided vertically, and in casting the weight form a recess in the parts to receive the cam-lever.

The frictional bearing-surface *d* is best made by casting the lever with a central cavity, and introducing into that cavity a piece of flexible or elastic material, as leather or rubber.

A single cam-lever will serve the object of the invention; or there may be as many cam-levers as there are suspending cords or chains, each lever corresponding and attached to its respective suspending-chain.

This construction of frictional device is so simple and cheap as to add very little to the cost of the construction, as by it the weight may be even lighter than would support the fixture at its minimum weight, and yet be sufficient to hold the fixture at its maximum weight.

I claim—

1. The combination of the central rod of an extension-lamp fixture, a weight movable on said rod as a guide, and a lever hung to said weight and constructed with a frictional surface to bear against said rod, and also for connection with the suspending cord or chain, substantially as described.

2. The combination of the vertical central rod of an extension-lamp fixture, the weight movable on said rod as a guide, cam-levers hung in said weight corresponding to the respective suspending-chains, and constructed for attachment to said chains, and also with a bearing-surface against said rod, substantially as described.

3. The combination of the central rod of an extension-lamp fixture, a weight arranged to move vertically on said rod, cam-levers hung in said weight corresponding to the suspending-chains, said levers constructed to bear upon said rod with frictional contact, and each lever carrying a pulley under which suspending cords or chains run, substantially as described.

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Witnesses:

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