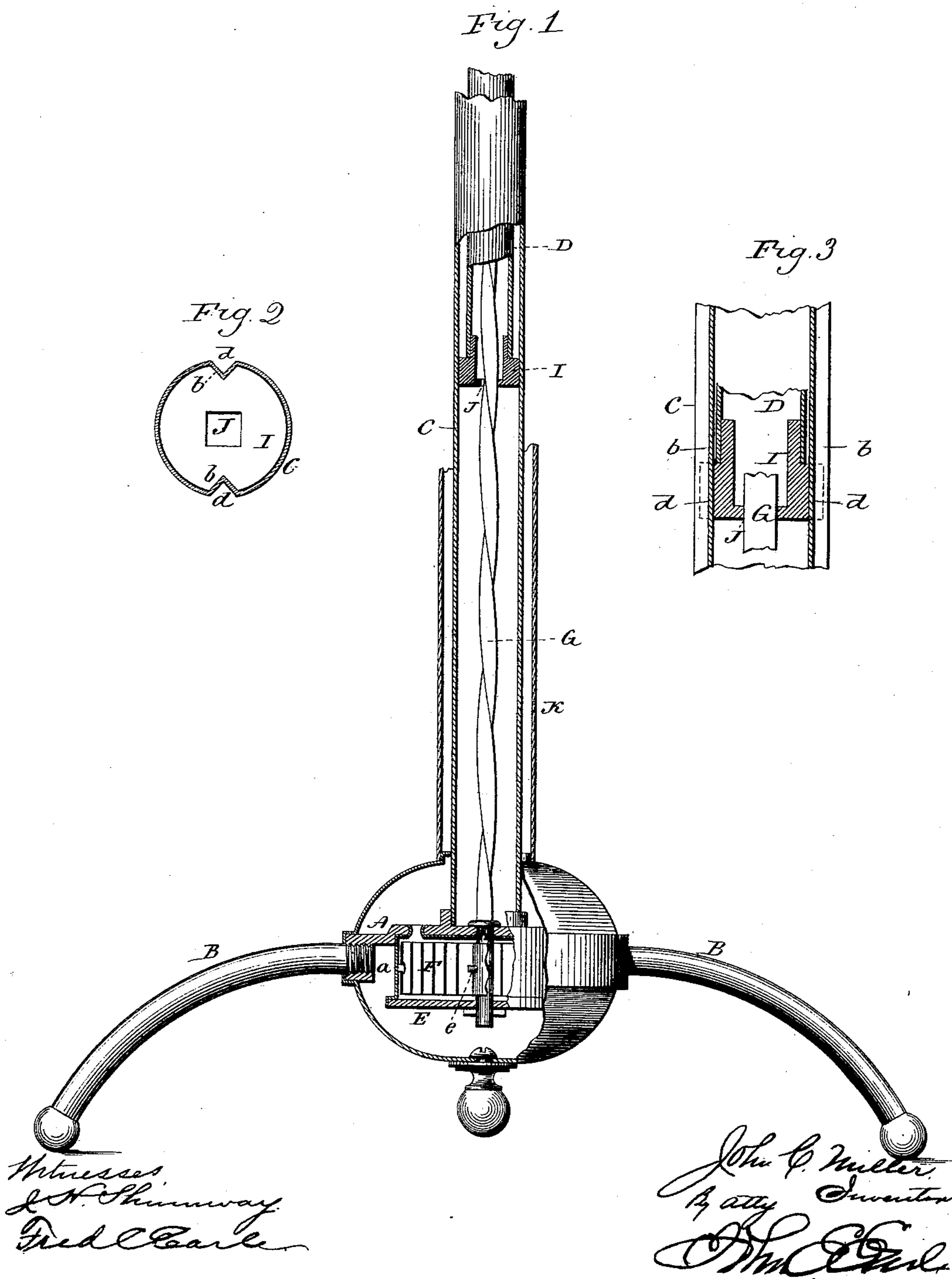


(No Model.)

J. C. MILLER.
STANDARD LAMP.

No. 407,100.

Patented July 16, 1889.



UNITED STATES PATENT OFFICE.

JOHN C. MILLER, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE MERIDEN BRONZE COMPANY, OF SAME PLACE.

STANDARD LAMP.

SPECIFICATION forming part of Letters Patent No. 407,100, dated July 16, 1889.

Application filed September 17, 1888. Serial No. 285,569. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. MILLER, of Meriden, in the county of New Haven and State of Connecticut, have invented new Improvements in Standard 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 central section of the standard; Fig. 2, a transverse section through the nut, enlarged; Fig. 3, a vertical section of the same, showing the ribs which engage the nut with the outer tube.

This invention relates to an improvement in that class of standards for lamps which consist of two tubes arranged telescopically one within the other, the outer tube being vertically supported in a base at its lower end, the inner tube carrying a lamp at its upper end, and so that the lamp may be raised or lowered, as circumstances may require. In this class of standards some engagement is necessary between the stationary and adjustable portion of the standard, so that the lamp may be supported at any desirable point of elevation. In some cases this is a positive lock of some character between the outer and the inner tube. In other cases frictional devices are applied, which permit the standard to be raised or lowered, depending upon the friction to hold the adjustable tube. In some cases this friction is constant and works the same both in the upward and downward movement of the adjustable tube. In other cases the friction is relieved when drawn upward but applied on the descent. It is to this latter class of standards that my invention particularly relates, it having for its object to produce a friction which is not only relieved as the adjustable tube ascends, but so that the friction-producing device may to some extent aid in raising the adjustable tube.

To this end the invention consists in the construction and arrangement of parts, as hereinafter described, and particularly recited in the claim.

A represents a base supported upon legs B or otherwise, according to the taste of the

manufacturer or the requirements of the trade.

C represents the outer stationary tube, which is made fast in the base and stands in an upright position, in the usual manner for this class of lamps.

D represents the inner tube, which is adjustable vertically in the outer tube and at its upper end carries the lamp, in the usual manner, the lamp not being shown.

In the base a spring-drum E (stationary) is arranged in a horizontal plane, and within the drum is a coiled spring F, substantially as in the usual construction of spring-drums. The outer end of the spring is fixed to the drum, as indicated at *a*, the inner end being fixed to the axle. Within the tubes a vertical rod G is arranged, which extends downward through the spring-drum and forms an axis H therein. It is supported in the drum so that it may revolve freely, but yet be prevented from vertical or longitudinal movement. The rod G is of spiral or screw-like shape, preferably made from a rod square in transverse section and twisted. In the lower end of the inner tube D is a nut or collar I, having an opening J through it (see Fig. 2) corresponding in shape to the shape of the spiral rod. This collar is made fast to the inner tube and works upon the spiral rod. The inner tube and its nut I are prevented from rotation preferably by forming one or more vertical grooves *b* in the collar and corresponding ribs *d* in the outer tube, these ribs being produced, as seen in Fig. 2, by making a longitudinal depression on the tube from the outside inward, but so that the inner tube and the collar may work freely up and down.

The lower end of the rod G—that is, the axle H—is connected with the inner end of the spring by the usual connection *e*, so that any rotation imparted to the rod G in one direction will correspondingly wind the spring and then the reaction of the spring will impart forced rotation to the rod G. This completes the construction.

The operation is as follows: The inner tube with its collar being set over the spiral or twisted rod G and prevented from rotation, an up or down movement of the inner tube with its collar will impart rotation to the rod

G, corresponding to the twist or spiral lines of the rod, the collar working on the rod as a nut on a screw, it being understood that the pitch of the twist or screw of the rod is such
 5 that the vertical movement of the nut or collar I on the rod will impart rotation to the rod. The arrangement of the twist or screw-thread of the rod with relation to the spring is such that as the inner tube is forced down-
 10 ward the rotation imparted to the rod G will operate to rewind the spring. The rotation of the rod is therefore resisted by the spring, and the descent of the rod meets this resistance to rotate, because the inner tube can
 15 only descend as the rod rotates, and this resistance is sufficient to support the inner tube and the lamp it carries at any point to which it may be adjusted. As the inner tube is raised, it permits the rotation of the rod under the reaction of the spring. The rod then
 20 acts as a screw in the nut or collar, its rotation tending to raise the inner tube, and to the extent of the power of the spring through the spiral rod thus induced the forced rotation of the rod aids in raising the inner tube
 25 and the lamp it carries.

It will be understood that the resistance of the spring may be increased or diminished in the usual manner for increasing or diminishing the power of coiled springs of this character.
 30

K represents a jacket which is usually arranged outside the standard to increase the size of the standard and as ornamentation therefor.
 35

I do not wish to be understood as claiming, broadly, an extension device having a coil-

spring the axis of which is at right angles to the movement of the adjustable portion and in which a spiral rod is engaged with said
 40 spring, so that the rotation of the said rod in one direction will wind the spring, and the said rotation of the rod imparted by the movement of the extensible portion of the fixture, as such, I am aware, is not new. 45

I claim—

In a standard lamp, the combination of a base supported upon legs and adapted to rest upon the floor, a vertical tube C, stationary on said base and constructed with inwardly-
 50 projecting vertical ribs *b*, a second tube D, vertically adjustable in said tube C, a nut I, fixed to the lower end of the said tube D and constructed with grooves to engage the said ribs *b* in the tube C as a guide for the vertical movement of said tube D and so as to
 55 prevent its rotation, a coiled spring F, arranged in the base, its axis vertical, one end of said spring stationary in the base, and a vertical screw-rod G, supported in the base, held against vertical movement, but so as to permit its rotation, and extending centrally through the said coiled spring, the inner end
 60 of the said spring attached to the said rod, the said rod extending upward through the said nut and so that the vertical movement of the said tube D will impart rotative movement to the said rod, substantially as and for the purpose described. 65

JOHN C. MILLER.

Witnesses:

JOHN E. EARLE,
 FRED C. EARLE.