

(No Model.)

W. A. PENFIELD.

STANDARD LAMP.

No. 373,376.

Patented Nov. 15, 1887.

Fig. 1

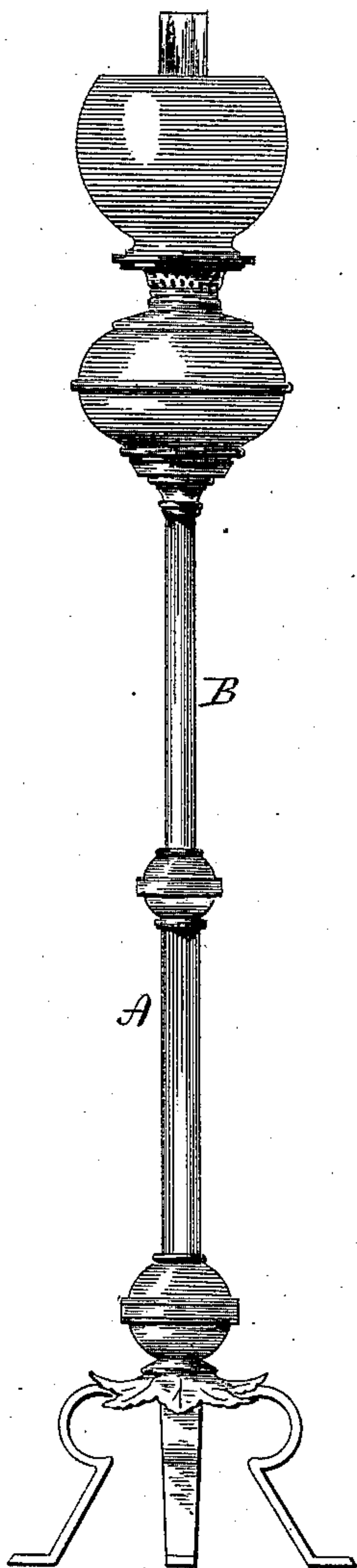


Fig. 2

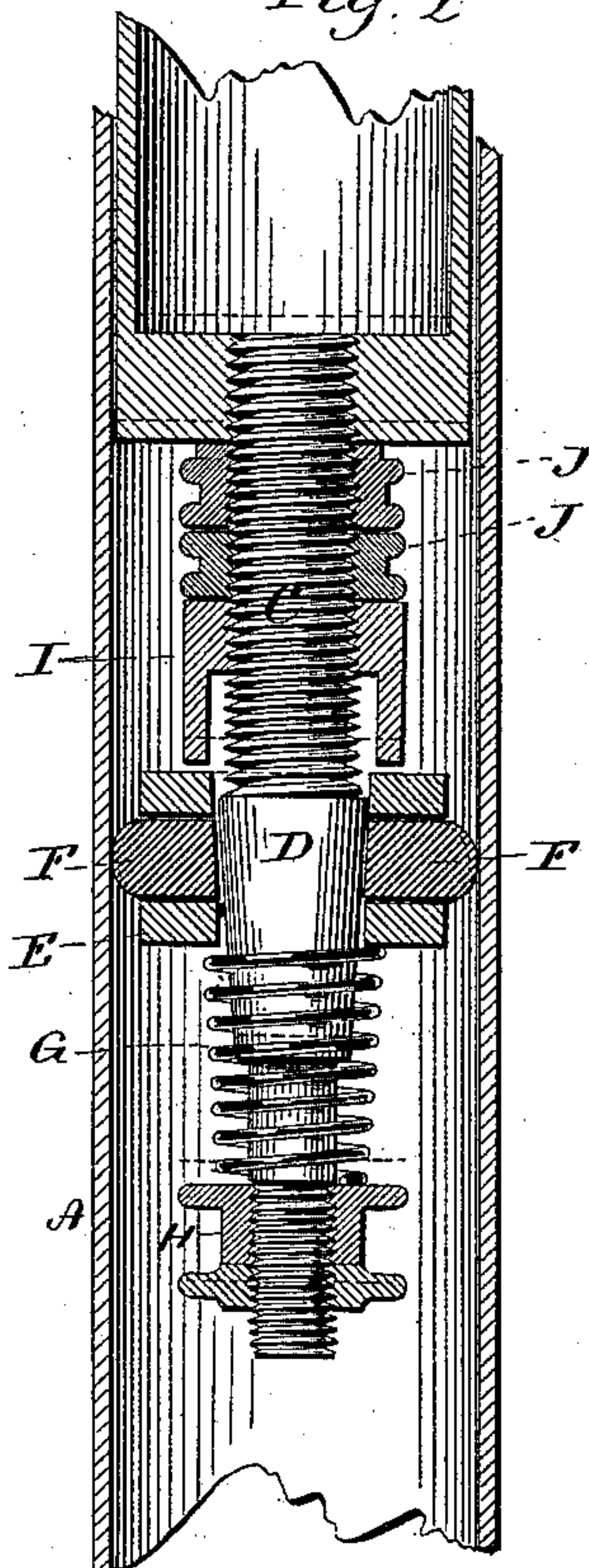
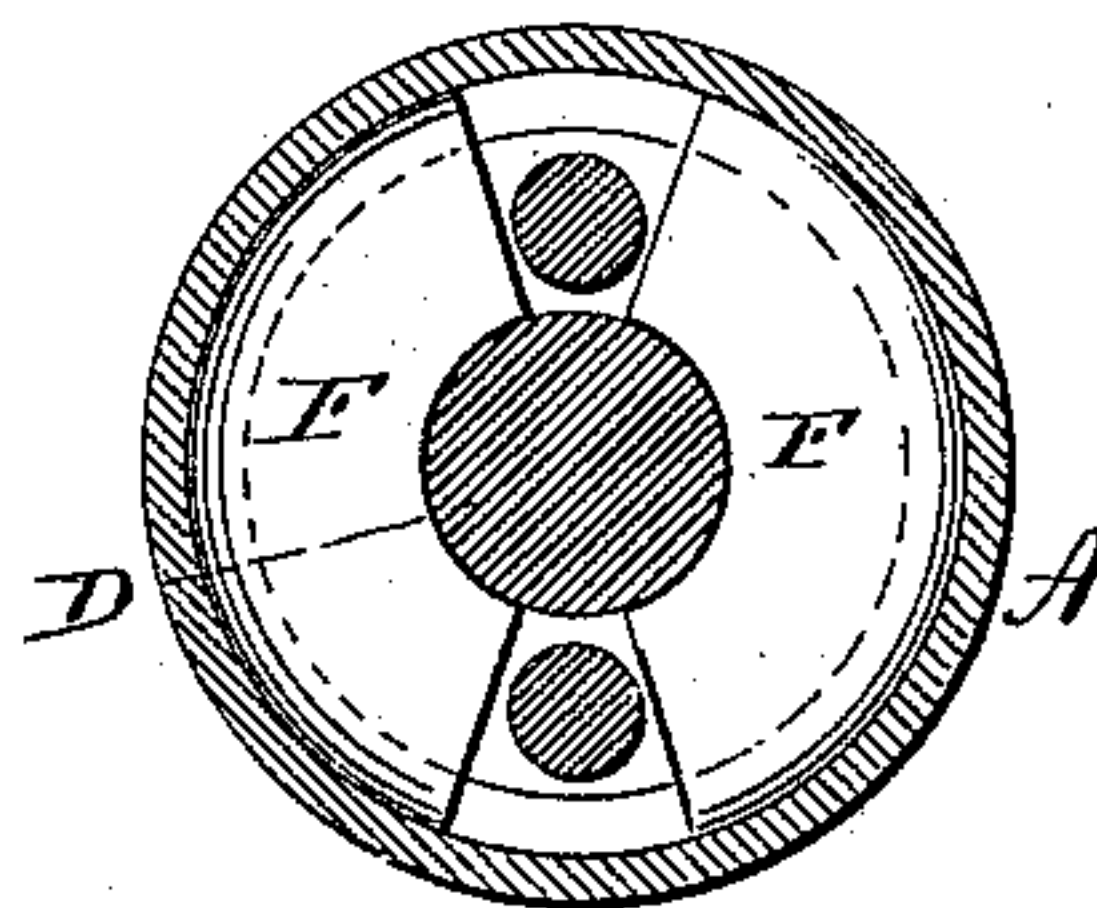


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. PENFIELD, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE
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STANDARD LAMP.

SPECIFICATION forming part of Letters Patent No. 373,376, dated November 15, 1887.

Application filed May 16, 1887. Serial No. 238,301. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PENFIELD, of Meriden, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement 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,
10 and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of a lamp complete; Fig. 2, a vertical central section through the engaging device; Fig. 3, a transverse section
15 through the collar E and the frictional ring or segments.

This invention relates to an improvement in that class of lamps which are designed to stand upon the floor, the lamp being supported
20 upon a vertical rod and the rod made adjustable as to height, so that the lamp may be adjusted to different elevations, and such as commonly called "standard" or "piano" lamps. In this class of lamps the shaft which supports
25 the lamp is made telescopic—that is, one tube fixed to the base with a second rod within it, to which the lamp is fixed, and so that the lamp, with the inner rod, may be raised or lowered as occasion may require. It is neces-
30 sary that when adjusted the lamp shall be firmly supported, so as to prevent its accidental descent.

The object of my invention is to provide a means which will permit the inner rod, with
35 the lamp, to be readily raised, and to so automatically engage the outer tube that when the proper point of elevation is reached the inner rod, with the lamp, will be firmly supported at that point, but yet so that the engaging device
40 will yield under sufficient force for the descent of the inner rod and lamp.

A represents the outer tube, which is fixed to the base in the usual manner; B, the inner rod, which is usually made from tubing, as
45 represented in Fig. 2, which is vertically adjustable within the outer tube and carries the lamp at its upper end, as seen in Fig. 1, and so that the lamp with the inner rod may be raised or lowered, as occasion may require.
50 To the lower end of the inner rod, B, a spindle, C, is fixed in the axial line of the rod, and so

as to project downward therefrom. At a point below the lower end of the rod B a portion of the spindle D is made of conical shape, tapering downward. Around this portion of the
55 spindle is a loose collar, E, capable of moving up and down on this conical portion of the spindle.

In the collar segments F, more or less in number, are arranged, which lie free in the
60 collar for transverse or radial movement. These segments fit closely against the surface of the conical portion D of the spindle, as seen in Fig. 3, and so that the segments will be forced outward or permitted to slide inward,
65 accordingly as they stand in the plane of a larger or smaller diameter of the conical portion D. The exterior or periphery of the segments adapts them to bear against the inner surface of the outer tube, as indicated in Fig.
70 2. Around the spindle, beneath the collar E, is a suitable spring, G, the tendency of which is to force the collar E upward and onto the larger diameter of the conical portion D of the spindle. The lower end of the spring is sup-
75 ported by a nut, H, on the lower end of the spindle, by which the pressure of the spring upon the collar may be adjusted.

The spindle C, above the conical portion, is screw-threaded, and onto this screw-threaded
80 portion a collar, I, is placed, so that it may be adjusted up or down, as occasion may require. This collar forms a stop against which the collar E may strike, so as to limit the extent of pressure of the conical portion D of the
85 spindle upon the segments—that is, it permits the spindle to descend to a greater or less extent into the collar. Set-nuts J are provided on the spindle to prevent the accidental rotation of the collar I.
90

Standing as seen in Fig. 2, which is the normal position of the parts, the weight of the inner rod and the lamp forces the spindle downward, the conical portion D of which acts
95 as a wedge between the segments and forces them outward into engagement with the inner surface of the tube, producing sufficient friction to firmly support the lamp in that position. If it is desired to raise the lamp from this position, the hand is placed upon the rod
100 B or the lamp, and lifting upon the rod B raises the spindle, as indicated in broken

lines, Fig. 2. The frictional engagement between the segments causes them to adhere to the inner surface of the tube until the conical portion of the spindle has been so far withdrawn from the segments as to permit them to recede or contract. The spring G yields for this upward movement of the spindle independent of the collar; but so soon as the friction between the segments and the outer tube has been thus released the collar, with the segments, will follow upward with the rod until the desired elevation is attained. Then, the power which raised the lamp being removed, the rod, with the lamp, will be left free to descend; but the spring G bears the collar upward with the segments in frictional contact with the rod, so that the tendency of the collar is to remain, while the rod B, with its spindle, descends. The conical portion D, moving downward like a wedge between the segments, forces them outward into firmer contact with the inner surface of the outer tube, and so as to surely arrest the descent at that point. If it is desired to place the lamp at a lower position, the hand is applied to the rod or lamp and pressed downward with sufficient force to overcome the friction between the segments and the inner surface of the tube. Then the lamp, with all its parts thereto attached, descends until the desired position is reached.

The collar I comes into action on the downward movement of the lamp—that is to say, when the rod is pressed downward the collar I first strikes the collar E; then they move together as one; but the friction between the segments and the inner rod should be suffi-

ciently great to support the lamp before the collar I reaches the collar E.

I claim—

1. The combination of an outer tube with an inner rod telescopically arranged, a spindle extending axially from the inner end of said inner rod, the said spindle constructed with a conical portion, D, a collar, E, around said conical portion, an expansible frictional ring, F, arranged in said collar and surrounding said conical portion D of the spindle, a collar on said spindle at the larger end of said conical portion and adapted to bear upon that side of the said collar E, and a spring supported on said spindle and adapted to bear upon the other side of said collar E, the tendency of said spring being to force said collar E onto the larger diameter of the said conical portion, substantially as described.

2. The combination of the outer tube, A, the inner rod, B, the spindle C, extending axially from the inner end of said rod B, the said spindle constructed with a conical portion, D, a collar, E, loose upon said spindle and around said conical portion, expansible ring F in said collar and surrounding said conical portion, the adjustable collar I on said spindle on one side of the collar E, and the spring G, supported by said spindle and adapted to bear upon the other side of said collar E, substantially as described.

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