J. F. BROWN.

Extension Chandelier.

No. 196,872. Patented Nov. 6, 1877.

Fig. 1.

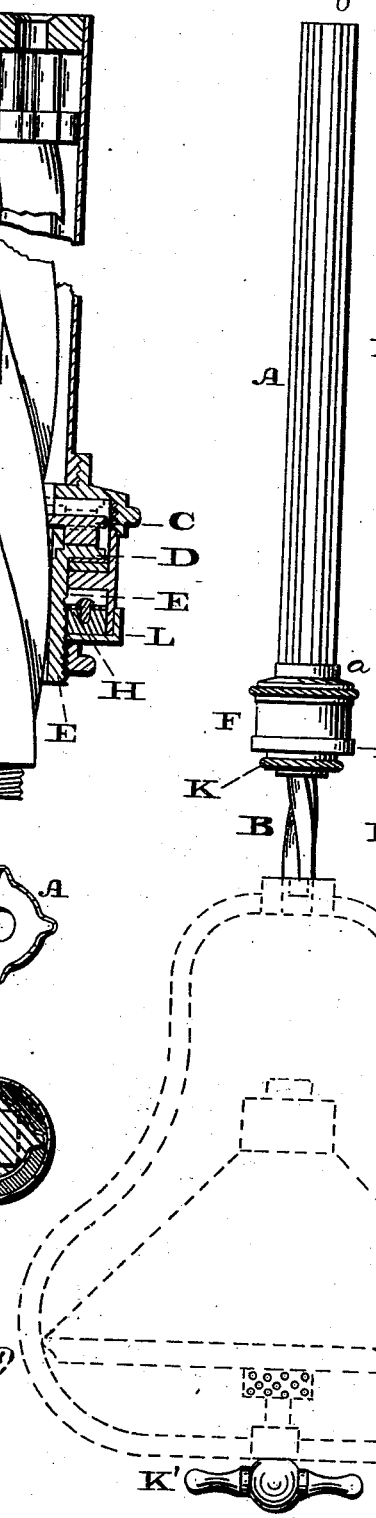


Fig. 2.

Fig. 4.

Fig. 5.

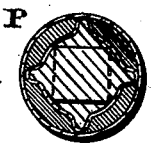


Fig. 7.

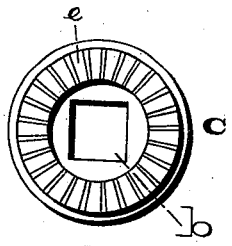


Fig. 6.

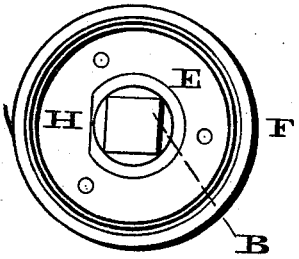


Fig. 8.

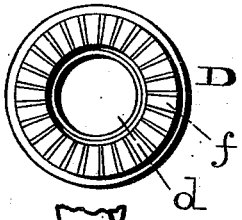


Fig. 3.

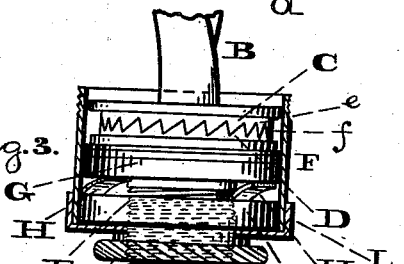
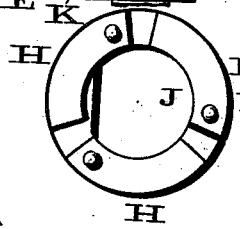


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN F. BROWN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO CORNELIUS & CO., OF SAME PLACE.

IMPROVEMENT IN EXTENSION-CHANDELIERS.

Specification forming part of Letters Patent No. **196,872**, dated November 6, 1877; application filed September 20, 1877.

To all whom it may concern:

Be it known that I, JOHN F. BROWN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Extension-Chandeliers or Slide-Lights, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of the chandelier or light embodying my invention. Fig. 2 is a central vertical section thereof, enlarged. Fig. 3 is a side view of a portion of Fig. 2, partly sectional. Figs. 4 and 5 are horizontal sections thereof. Fig. 6 is a view of the lower end thereof. Figs. 7 and 8 are face views of ratchets. Fig. 9 is a face view of the friction-collar.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of the extensible rod, bar, or portion of a chandelier or light restrained by friction mechanism of such construction that said rod may be retained at any desired height. For this purpose I employ a spiral rod, clutch, and friction-springs in connection with a box having an annular bed, on opposite sides of which are the springs and clutch, whereby the friction will be uniform throughout the length of the rod, the parts being easily applied and fitted in position.

It also consists in combining with the above a nut for adjusting the friction.

Referring to the drawings, A represents a length of pipe or tube from which the chandelier or light will be suspended. Within the pipe A there is fitted a spirally-formed rod or bar, B, which is made extensible and prevented from separation therefrom by a cap, *a*, screwed or secured to the lower end of the pipe A.

On the spiral rod B there is placed a disk, C, having a quadrilateral opening, *b*, and also a disk, D, having a circular opening, *d*, and the adjacent sides of said disks are formed with ratchet-teeth *e f*, which engage and disengage after the manner of a clutch, so that when the upper disk is rotated in one direction it will impart rotation to the lower disk, and in the other direction it will ride freely over said lower disk.

E represents a screw-collar which is formed with or secured to the lower disk D, and it has a circular opening through which passes freely the spiral rod B.

The disks C D and a portion of the collar E are inclosed by a box, F, which is screwed to the cap *a*, and at or about the center of said box is secured an annular bed, G, through which passes freely the spiral rod B, and against the upper face of which the lower disk E has a bearing, a suitable washer or washers being interposed between said disk and bed. Against the lower face of the bed there bear one or more springs, H, which project upwardly from, and are secured to, a ring or band, J, encircling the collar E, and inclosed by the lower portion of the box F.

The collar E projects below the box F, and has there fitted to it a nut, K, which bears against a cap, L, interposed between the bottom of the box F and said nut.

It has been stated that the lower disk D receives rotation from the upper disk C; consequently the collar E will rotate with said lower disk.

In order to cause the springs H and the ring J to rotate with the collar E, a portion of the outer circumference of the collar and of the inner circumference of the ring is flattened, and the flat portions engage or lock. The chandelier or proper parts of the light will be secured to the lower end or portion of the spiral rod B, and a handle, K′, suitably connected thereto for convenient operation of the extension.

It will be seen that, when the chandelier or light is to be lowered, the handle K′ will be grasped and drawn on.

The spiral rod, owing to its connection with the pipe or tube A, cannot rotate, but as it descends it imparts rotation to the upper disk C. This rotates the lower disk D and collar E, but as the ring J and its springs H rotate with the collar E, and said springs bear against the lower side of the bed G, it is evident that the rotation of the disks is restrained by the friction of the springs. Consequently the spiral rod is controlled by said friction, which, however, can be overcome by the power exerted on the handle K′; wherefore the chandelier or

light may be adjusted to any desired height within the compass of the rod B, and when the handle K′ is let go said chandelier or light will readily rest in its adjusted position without liability of slipping or downward movement.

When the chandelier or light is being raised, the teeth of the upper disk C rise and ride freely over the teeth of the lower disk, whereby, by the non-rotation of the disk D, collar E, and ring J, the friction of the springs H renders no immediate service, and there is no resistance to the ascent of the rod B. When, however, the ascent is reached, the teeth of the disks again engage, and the friction restrains the descent of the tube and chandelier or light in the manner and for the purpose as has been stated.

In order to adjust the friction of the springs H to the weight of parts suspended from the tube, the nut K will be properly turned on the collar E, so that the degree of pressure of the springs on the bed G may be increased or decreased, according to requirements.

It will also be noticed that the clutch-disks and friction-springs are on opposite sides of the annular bed G, which projects horizontally on the inner face of the box F, and said springs are disconnected from the disks, whereby the springs may be readily slipped over the collar E, and their friction remains uniform throughout the entire extent of the rod or portion B. The cap L is loose, and forms the bottom of the box, besides providing the bearing for the adjusting-nut.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The spiral rod B and the box F, with annular bed G, in combination with the clutch-disks C D and friction-springs H, on opposite sides of said bed, substantially as and for the purpose set forth.

2. The spiral rod B, clutch-disks C D, and springs H, in combination with the adjusting-nut K, substantially as and for the purpose set forth.

3. The loose cap L, closing the bottom of the box F and forming the bearing for the adjusting-nut K, substantially as and for the purpose set forth.

4. The encircling-ring J, carrying the projecting springs H, and interposed between the annular bed G and bottom cap L, substantially as and for the purpose set forth.

5. The spiral rod B and clutch-disks C D, in combination with the screw-collar E, spring H, and adjusting-nut K, substantially as and for the purpose set forth.

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