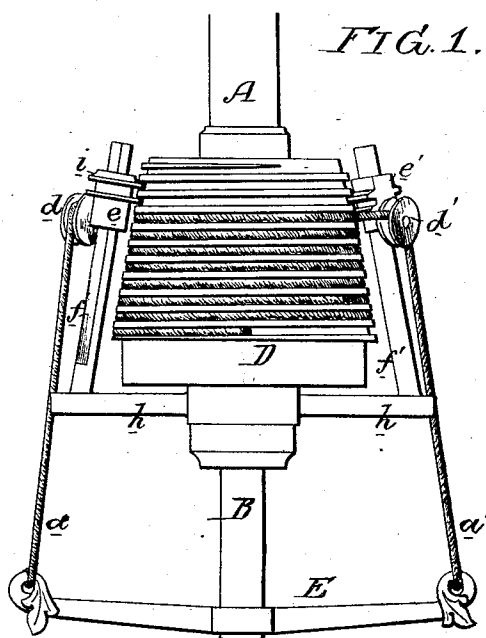
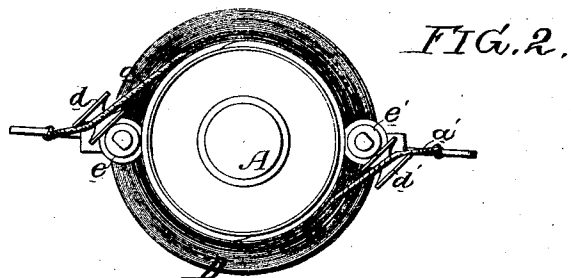


B. H. BUCK & D. H. CLOAK.

Drop-Light Chandeliers.

No. 155,065.

Patented Sept. 15, 1874.



Witnesses, *Hubert Houston*
Harry Smith

Bjorn H. Buck
and Daniel H. Cloak
by their attys.
Sporn and Son.

UNITED STATES PATENT OFFICE.

BYRON H. BUCK AND DANIEL H. CLOAK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO B. THACKARA, W. J. BUCK, C. THACKARA, AND BYRON H. BUCK, OF SAME PLACE, AND J. H. SOUTHWORTH, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN DROP-LIGHT CHANDELIERS.

Specification forming part of Letters Patent No. **155,065**, dated September 15, 1874; application filed August 10, 1874.

To all whom it may concern:

Be it known that we, BYRON H. BUCK and DANIEL H. CLOAK, of Philadelphia, Pennsylvania, have invented an Improvement in Drop-Light Chandeliers, of which the following is a specification:

Our invention relates to that class of chandeliers in which the fixed tube carrying the permanent burners is provided with a sliding drop-light tube, balanced by means of a coiled spring in connection with cords and pulleys; and the object of our invention is to insure the perfect balance and easy working of the sliding drop-light tube by the guiding and disposal of the cords in the manner which we will now proceed to explain, reference being had to the side view, Figure 1, and plan view, Fig. 2, of the accompanying drawing, in which—

A represents the fixed tube of the chandelier, and B the sliding drop-light tube. On the tube A is a barrel, D, containing a coiled spring, one end of which is secured to the said tube A, and the other end to the barrel, the upper portion of which is, by preference, made of the tapering form represented. The tapering portion of this barrel has two separate grooves or threads, one for receiving the cord *a*, and the other for the reception of the cord *a'*, the lower ends of these cords being attached to the cross-bar E on the sliding tube B. The cord *a* passes upward and over a pulley, *d*, hung to a pin on a carrier, *e*, which can slide freely but not turn on a guide-bar, *f*, projecting from a cross-piece, *h*, secured to the fixed tube A. In like manner the cord *a'* passes over a pulley, *d'*, on a carrier, *e'*, adapted to the guide-bar *f'* on the same cross-piece *h*.

As above remarked, the barrel D has two separate spiral grooves, one for one cord, and the other for the other cord, and this is an important feature of our invention, for although the cords act in unison, they cannot crowd on or interfere with the free movements of each other.

It will be observed that each of the carriers *e* and *e'* has projections or flanges *i*, which engage in the spiral grooves or threads of the barrel, and these projections are so arranged

in respect to the pulleys that the latter must always guide each cord in a direct course to or from the groove in which it has to be coiled, or from which it has to be uncoiled. If the drop-light tube B be pulled down, for instance, the cords will so turn the barrel D as to wind up the spring; at the same time they will be uncoiled from their grooves, and as they are thus uncoiled the pulley-carriers with their pulleys will be moved down the guide-rod, owing to the action of the spiral grooves of the barrel on the said carriers; or, in other words, these carriers, being under the control of the spiral grooves of the barrel, will descend as the cords are unwound from, and ascend as the cords are wound onto, the said barrel; hence the cords, guided by the pulleys, will always be maintained in their grooves, and will also be directed in such a course that they cannot bear against the edges of the grooves, and cause that undue friction which would take place if the pulleys revolved on fixed pins, for, in that case, the cords would be directed to and from the grooves at different inclinations.

We do not claim, broadly, the combination, with a spring-barrel, of traveling grooved pulleys, which serve to guide cords coiled upon the barrel to their proper positions; but

We claim—

1. The combination, in a drop-light chandelier, of the sliding tube B, its guided cords *a* *a'*, and the spring-barrel D, having a double thread, forming two parallel grooves, one for each cord, all substantially as described.

2. The combination of the spirally-grooved spring-barrel D, the pulley-carriers *e*, controlled by the said spiral grooves, and adapted to guides *f*, with the cords *a* and *a'*, attached to the drop-light tube, substantially as specified.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

BYRON H. BUCK.
DANIEL H. CLOAK.

Witnesses:

WM. A. STEEL,
HARRY SMITH.