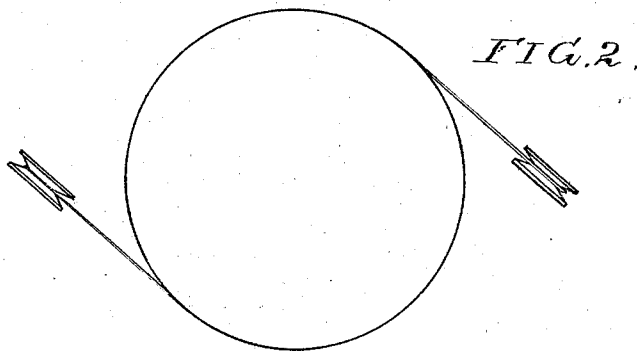
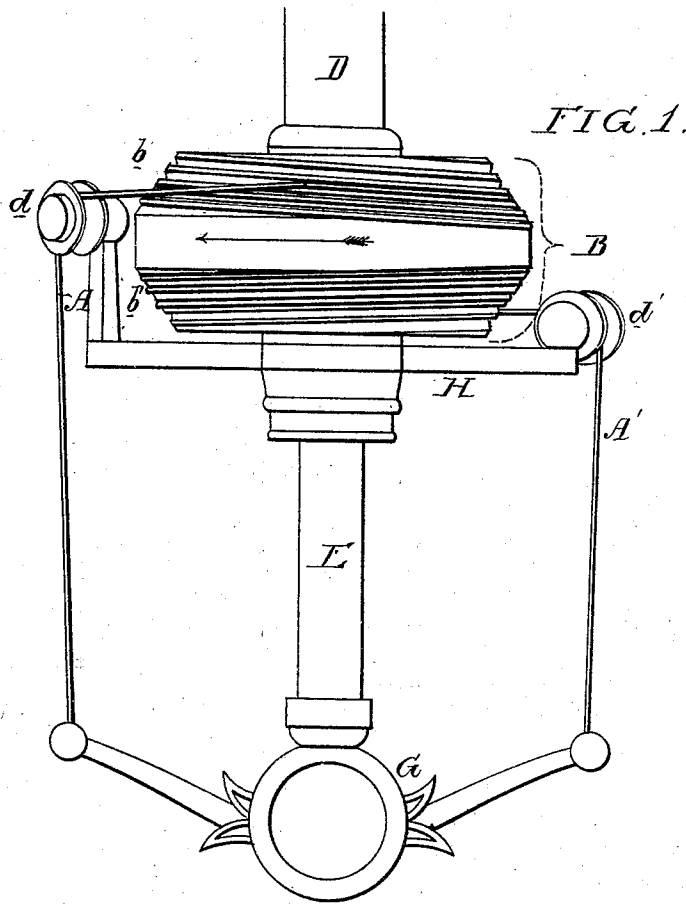


W. J. BUCK.

Sliding Drop-Lights for Chandeliers.

No. 151,083.

Patented May 19, 1874.



Witnesses, Hubert Howson,
Thomas M. Swan

Wm J. Buck
By his Atty.
Howson and Son.

UNITED STATES PATENT OFFICE.

WILLIAM J. BUCK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
BENJAMIN THACKARA, WILLIAM J. BUCK, JOHN H. SOUTHWORTH,
CHARLES THACKARA, AND BYRON H. BUCK, OF SAME PLACE.

IMPROVEMENT IN SLIDING DROP-LIGHTS FOR CHANDELIERS.

Specification forming part of Letters Patent No. 151,082, dated May 19, 1874; application filed
April 27, 1874.

To all whom it may concern:

Be it known that I, WILLIAM J. BUCK, of Philadelphia, Pennsylvania, have invented an Improvement in Sliding Drop-Lights for Chandeliers, of which the following is a specification:

My invention relates to an improvement in that class of chandeliers which have vertically-adjustable drop-light tubes; and the object of my invention is to accurately balance and guide the said tube, so that it will always retain the position to which it is adjusted, and so that it will slide in a direct course within, and parallel with, the fixed tube.

This object I attain by combining the cords A A', which support the sliding tube, with a double spring-fusee, B, having a left and right handed helical groove, as shown in the side view, Figure 1, of the accompanying drawing. D is a portion of the fixed tube of a chandelier, and E part of the sliding drop-light tube, to which is secured a cross-bar, G, and to the latter are attached the suspension-cords A A', the cord A being directed by a guide-pulley, *d*, to the upper helical groove *b* of the double spring-fusee B, the cord A' being directed by a pulley, *d'*, to the lower helical groove *b'* of the same fusee, and both pulleys being carried by a frame, H, which is secured to the fixed tube D.

The double fusee contains a coiled spring, one end of which is secured to the fixed tube, and the other to the casing of the fusee, the spring being wound up by the depression of the sliding tube, and when thus wound up having a tendency to turn the fusee in the direction of the arrow.

As the sliding tube is moved upward, the tendency of the spring to elevate it is exerted through a constantly increasing leverage. As the power of the spring decreases, both cords are wound simultaneously round grooves, gradually decreasing in diameter as the spring is uncoiled; hence this loss of power in the spring is compensated for by increased leverage, and, consequently, if the spring is made to balance the drop-light tube, the latter must remain in whatever position it may be adjusted to, there being no departure from the proper balance as the sliding tube is raised or lowered.

The two helical grooves are precisely alike, excepting that one is right and the other left handed, and one cord is connected to one groove, at one side of the fusee, at a point similar to that where the other cord is connected to the other groove at the opposite side of the fusee, and, therefore, when the sliding tube is raised or lowered, one cord must move at precisely the same speed as the other, and the movement of the sliding tube in a direct course parallel with the fixed tube is insured.

I claim as my invention—

The combination of two reversed fusees arranged on one spring-cylinder, pulleys *d d'* at opposite sides of the cylinder, and cords A A', passing from the fusees to the pulleys, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. J. BUCK.

Witnesses:

WM. A. STEEL,
HARRY SMITH.