

B. THACKARA.

Sliding Drop-Lights for Chandeliers.

No. 151,171.

Patented May 19, 1874.

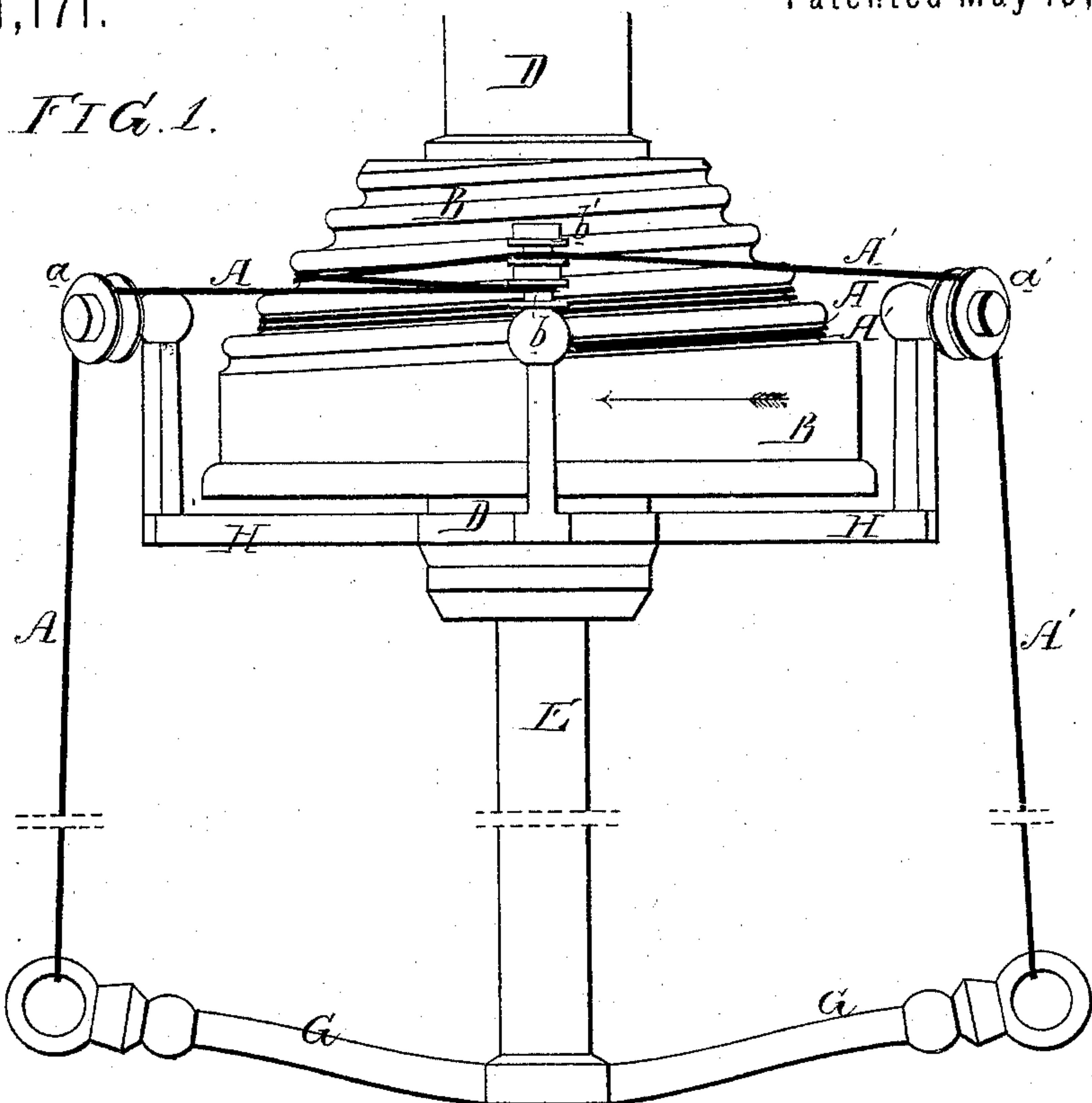
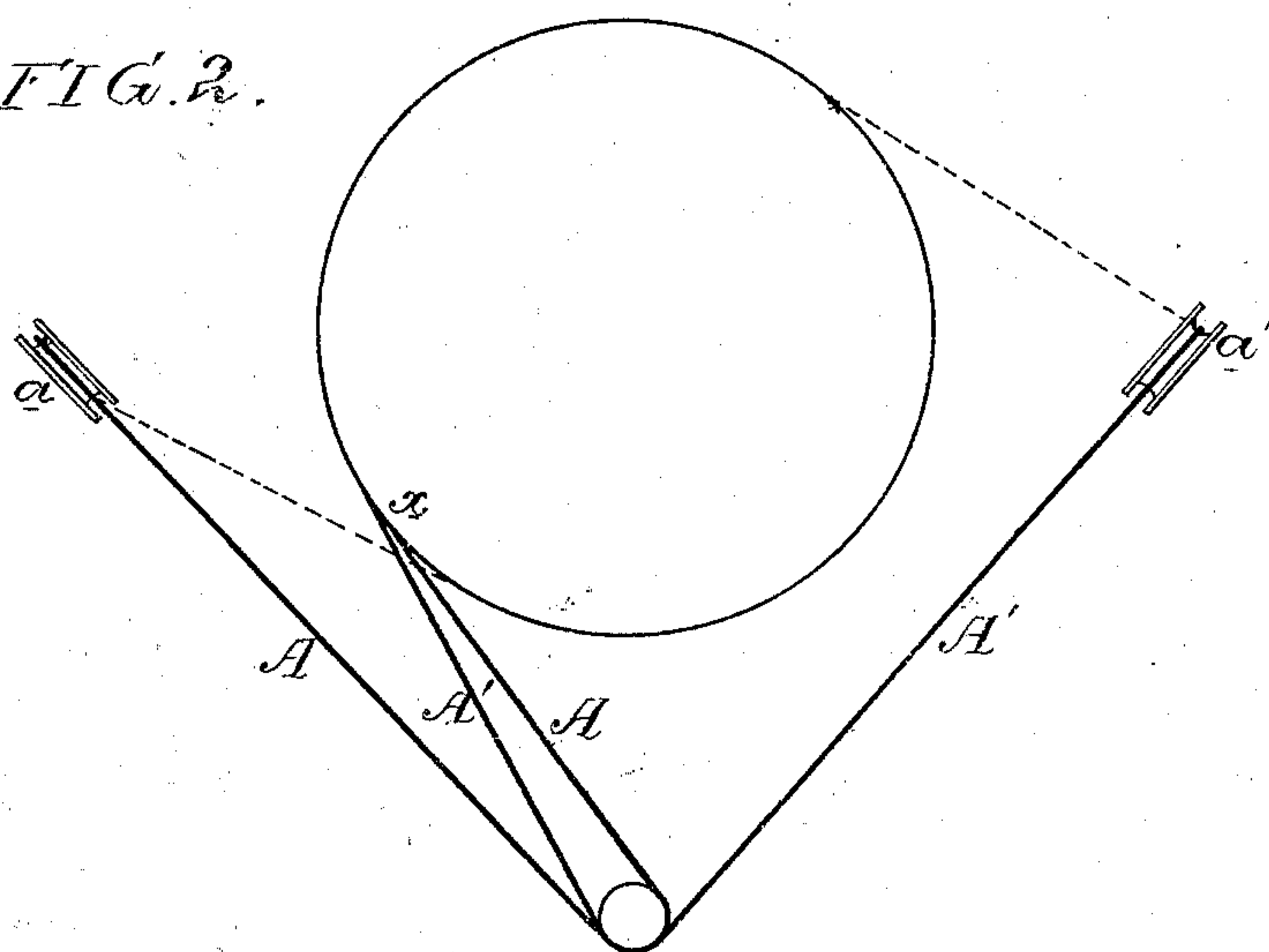


FIG. 2.



Witnesses, Hubert Howson
Thomas McElvain

Benjamin Thackara
by his attys.
Howson and Son.

UNITED STATES PATENT OFFICE.

BENJAMIN THACKARA, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, 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. **151,171**, dated May 19, 1874; application filed April 23, 1874.

To all whom it may concern:

Be it known that I, BENJAMIN THACKARA, 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 in which some of the burners are fixed and one or more are connected to a vertically-adjustable sliding tube; and the object of my invention is to accurately balance and guide the said sliding tube so that it will retain the position to which it may be adjusted, and so that it will slide in a direct course parallel with the fixed tube.

This object I attain by the employment, in connection with the cords A A', which support the drop-light tube E of a spring-fusee, B, shown in the side view, Figure 1, of the accompanying drawing, the force exerted by the spring, through the said fusee, on the cord being uniform, or nearly so, owing to the decreasing power of the spring, as it is uncoiled, being compensated for by an increased leverage.

The two suspension-cords are directed to the same tangential point on the fusee, and are wound round and unwound from the same simultaneously, so that precisely the same movement may be imparted to both cords, a direct sliding of the drop-light tube being thereby insured.

D is a portion of the fixed tube of a chandelier, and E part of the internal adjustable tube, to which is secured a cross-bar, G; and to the ends of the latter are attached the suspension-cords A and A', and which are directed, by pulleys, in the manner described hereafter, to the fusee B, both cords being attached to the latter. This fusee consists of a casing, the lower cylindrical portion of which contains the usual coiled spring, one end of the latter being secured to the fixed tube D, and the other to the fusee, on the

conical portion of which a helical groove is formed for the reception of the cords A and A'. The cord A is carried upward and over a pulley, *a*, hung to a pin on the frame H, which is secured to the fixed tube D, the cord passing horizontally from the said pulley *a*, round the guide-pulley *b*, and thence to the groove of the fusee, and the cord A' passing upward and over the pulleys *a'* and *b'*, hung to the same frame H, and thence to the groove of the fusee.

On pulling down the sliding tube E the spring will be wound up, and will tend, when the tube is released, to move the fusee in the direction of the arrow, Fig. 1.

As the spring becomes gradually uncoiled, its force as gradually diminishes, but, to compensate for this diminution of force, it is exerted to elevate the tube through a constantly-decreasing leverage, owing to the cords being ing wound round a fusee which gradually decreases in diameter; but the spring is so regulated as to balance the tube E and its burners, and this it will do, no matter what the position of the tube may be, as the power exerted by the spring on the cords, through the medium of the fusee, is always the same, or nearly so.

In order to avail myself of this equalized balancing effect of the spring-fusee, I direct to the same the two cords, in the manner illustrated in the drawing, both cords coming in contact with the fusee at the same tangential point and being wound round and unwound from the fusee simultaneously.

The advantage of this arrangement will be best understood by supposing the guiding-pulleys *b b'* to be absent, and the cords to be directed to the fusee in the manner illustrated by dotted lines in Fig. 2, where the cords reach the fusee at opposite tangential points.

In this case the cords would not traverse at the same speed and would not exert equal

force on opposite ends of the cross-bar G, and consequently there would be a lateral strain on the sliding tube E, a difficulty which is effectually obviated by directing the cords in the course pointed out above.

I claim as my invention—

The combination of the fixed tube, spring-fusee B, its two contiguous cords; A A', and pulleys, arranged to separate the cords after passing together from the fusee, and to direct

them downward, at each side of the fusee, to the sliding tube, all as set forth.

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

BENJAMIN THACKARA.

Witnesses:

WM. A. STEEL,
HARRY SMITH.