D. W. De Forest,

Curtain Fixture.

No. 101,440. Patented Apr. 5. 1870.

Fig. 1.

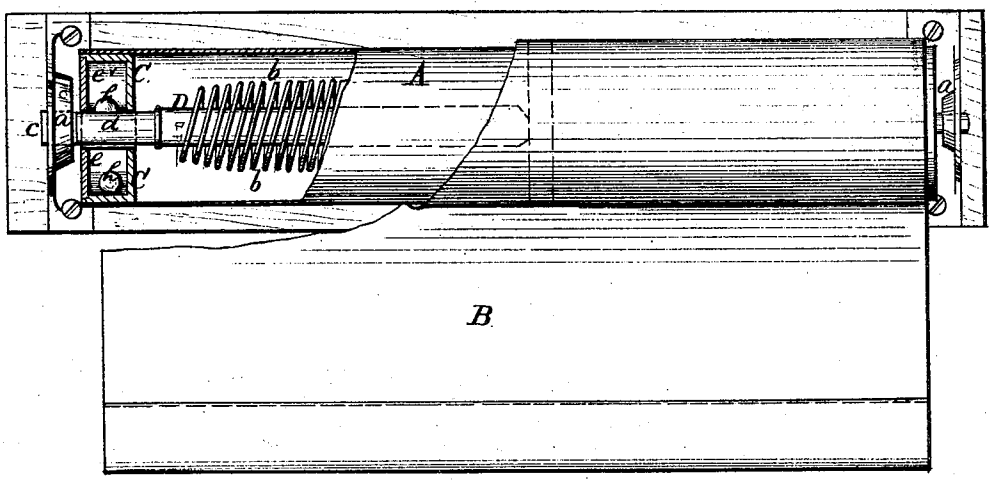
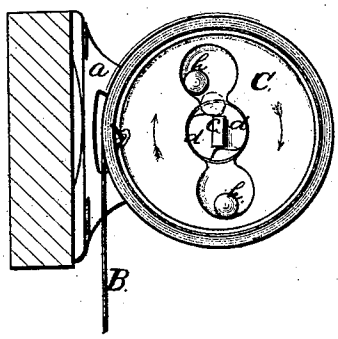


Fig. 2.



Witnesses:
H. C. Uppeman
W. Burris

Inventor.
David W. De Forest.
By his Atty G. B. Fowle

United States Patent Office.

DAVID WILLIAM DE FOREST, OF BROOKLYN, NEW YORK, ASSIGNOR TO RICHARD OLIVER, OF SAME PLACE.

Letters Patent No. 101,440, *dated April* 5, 1870.

IMPROVED WINDOW-SHADE FIXTURE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DAVID WILLIAM DE FOREST, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Window-Shade Fixtures; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a view of window-shade showing a part of the cylinder, to which shade is attached, broken away in order to show the devices for raising and holding it.

Figure 2 is an end view.

Like letters in both figures of the drawing indicate like parts.

My invention relates to that class of window-shade fixtures in which the shade is attached to a cylinder, having a shaft suitably arranged therein with a coiled spring on it, and consists in the head of the cylinder having concave recesses provided with balls, in combination with the cam-shaped end of the shaft and spring, so that the balls will adjust themselves in such manner with the cam of the shaft as to avoid the liability of the shade being checked too quickly while raising it.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the cylinder, suspended from fixtures *a a*, and having the shade B attached thereto in the usual manner.

C is the head of the cylinder through which the shaft D passes.

The shaft is placed in the cylinder with a steel spring, *b*, coiled around it, having one end attached to a block made fast on the inside of the cylinder, and the other to the shaft.

The end of the shaft is made square, and is slipped in an opening of the fixture when hanging the shade, so that it cannot turn while drawing the shade down, the cylinder turning on the shaft and on its pivotal connection with the fixture at the opposite end.

The shaft, at the point where it passes through the head C, is made of a cam-shape, *d*, having a hollow on either side to permit of the balls entering therein when desiring to check the shade while being let up.

The head C is made with concave recesses, *e e*, which are provided with the balls *h h*, each recess having a ball, the mouth of the recesses being contracted just enough to let the balls drop freely in the hollow of the cam. The ball, when in the hollow of the cam, projects across the mouth of the recess, (see ball in dotted lines, fig. 2,) so that it is impossible for the cylinder to turn unless the shade is slightly pulled down and quickly let up, when the ball will be thrown into the recess. Hence it follows, if the shade is let up slowly, or in such a way as to let the ball in the hollow of the cam, it may be stopped at any point desired; but it is obvious that the balls will easily adjust themselves in and out of the hollow of the cam so as not to catch thereon in any way, thus avoiding the liability of the shade being checked while raising it. This does not seem to be the case in those shade-fixtures where the ratchet and pawl or wedge is used, as they catch so quickly sometimes as to check the shade before it is fairly let up, rendering it necessary to jerk or manipulate it before it can be released. The object of my invention, therefore, is to remedy this difficulty by using balls instead of the devices herein named.

Claim.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent, is—

The head C of the cylinder, having concave recesses *e e* provided with balls *h h*, in combination with the cam *d* of the shaft and spring, constructed substantially as and for the purpose set forth.

As evidence that I claim the foregoing as my invention, I have hereunto set my hand in the presence of two witnesses.

DAVID WM. DE FOREST.

Witnesses:

W. BURRIS,

E. P. GOODWIN.