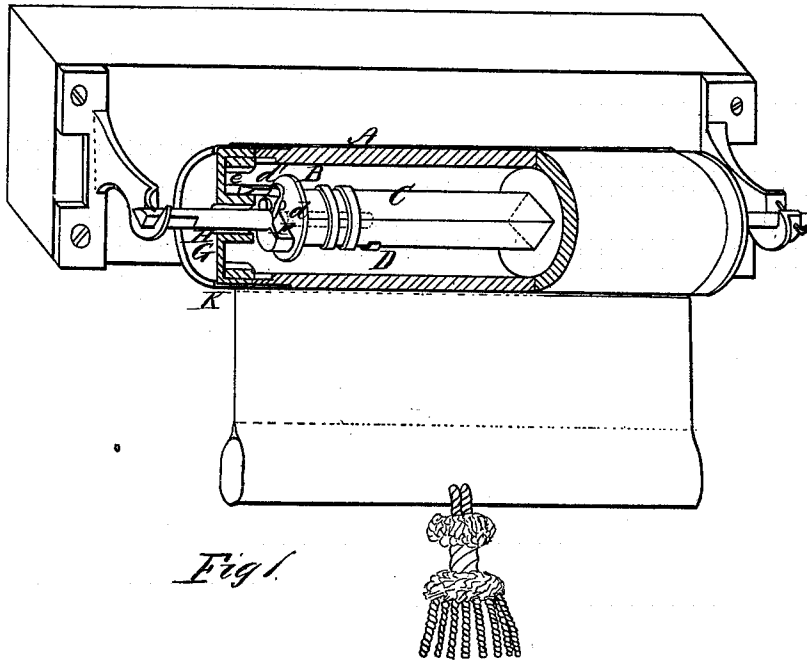


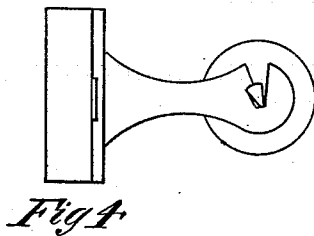
E. B. LAKE.  
CURTAIN-FIXTURES.

No. 176,434.

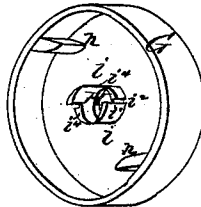
Patented April 25, 1876.



*Fig. 1*



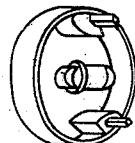
*Fig. 4*



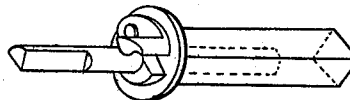
*Fig. 2*



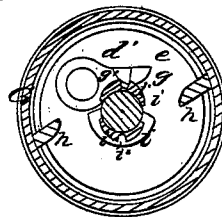
*Fig. 6*



*Fig. 5*



*Fig. 7*



*Fig. 3*

Witnesses  
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# UNITED STATES PATENT OFFICE.

EZRA B. LAKE, OF BRICKSBURG, NEW JERSEY.

## IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. **176,434**, dated April 25, 1876; application filed July 20, 1875.

*To all whom it may concern:*

Be it known that I, EZRA B. LAKE, of Bricksburg, in the county of Ocean and State of New Jersey, have invented a certain new and useful Improvement in Curtain-Fixtures; and I do hereby declare the following to be a full, clear, and exact description of the invention such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a perspective view and partial section of my improvement applied to a curtain-roller. Fig. 2 is a perspective view of the roller-cap. Fig. 3 is a vertical transverse section through roller-cap. Fig. 4 is a side view of roller-bracket. Figs. 5, 6, and 7 are detail views of modification.

This invention has relation to curtain-fixtures, and consists in the novel construction, combination, and arrangement of devices whereby the action of an automatic roller, receiving impulse from a coiled spring, is so controlled that the curtain will be raised at a moderate degree of speed only, the motion of the roller being arrested when it tends to revolve rapidly, or is restrained so that it can rotate but very slowly, through the agency of a pawl or dog, engaging with suitable stops located at the center and edge of the roller, when allowed to fall inwardly by its own weight, or thrown outward by centrifugal force respectively, as hereinafter more fully described.

Referring to the accompanying drawings, A designates a curtain-roller, having a chamber or cavity, B, to contain the shaft C, coiled spring D, and the other mechanism for regulating the movement of the roller. The shaft C is stationary, while the roller revolves around it. At *d* is formed a shoulder or disk, to which is pivoted a pawl or dog, *d'*, having a laterally-projecting weighted end, *e*, which governs the position of the pawl with reference to the stops, and serves also as a means of engagement with the latter. For the purposes of the latter function the weighted end of the pawl has two catches, *g g'*, one, *g*, projecting lengthwise of the pawl, the other, *g'*,

laterally, and from the rear edge of the weighted protuberance *e*, as shown. F is a recess in the shaft, formed to allow of the free movement of the pawl. G is a metallic cap, adapted to the end of the roller, and formed with a central aperture, H, for the passage of the shaft C. *h h* are oblique stops, projecting inwardly from the flange of the cap G, at points diametrically opposite each other. *i i* are studs projecting from the inner face of the cap G, and embracing the shaft C. These studs are prismoidal in form with curvilinear surfaces *i<sup>1</sup> i<sup>1</sup>*, channeled at their apices *i<sup>2</sup>* and rabbets at *i<sup>4</sup>*. K is a ferrule inclosing the cap G, and embracing the end of the roller.

The operation of the mechanism described is as follows: The spring being wound, the roller is locked by the pawl, the normal position of the latter being close to the shaft, with the catch *g'* in the channel *i<sup>2</sup>* of one of the studs *i*. Now, by drawing down the curtain slightly, the pawl will be released. Then being allowed to ascend with moderate swiftness, the pawl rides upon the studs *i* without impeding the rotation of the roller, but if the curtain be held the pawl will reengage with the stud *i*. If, however, while the roller is in operation the curtain be released, the former will begin to turn rapidly, whereupon the studs *i*, striking the pawl forcibly, will throw it outwardly, and cause it to engage with one of the stops *h h*. The first position of the pawl and studs *i* I term appropriately a working lock, and the last a safety-lock. By dispensing with the notches in the studs *i* and suitably changing the form of the pawl, the devices may act only as a safety-lock, as shown in modification.

Between the devices above described and those embraced in my patent of April 27, 1875, the difference may be stated as consisting chiefly in the arrangement of the pawl. In said patent the pawl is attached to the bracket, while in this application it is attached to the shaft, and may therefore be used with a stationary shaft and located within the recessed end of the roller.

Having described my invention, I claim—

1. In combination with a pawl or dog attached to the roller-shaft, the central and

outer stops attached to the roller, and controlling the motion of the same, substantially as described.

2. In combination with a curtain-roller, having the pawl attached to a stationary shaft, and having one or more studs to project said pawl outwardly, the studs *h h*, located outside said pawl and adapted to receive the same when thrown outward, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of June, 1875.

EZRA B. LAKE.

Witnesses:

M. DANL. CONNOLLY,  
JNO. A. BELL.