C. BUCKLEY & L. L. SAWYER.
Curtain-Fixture.

No. 219,386. Patented Sept. 9, 1879.

fig. 1

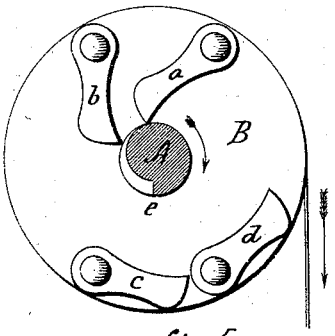


fig. 2.

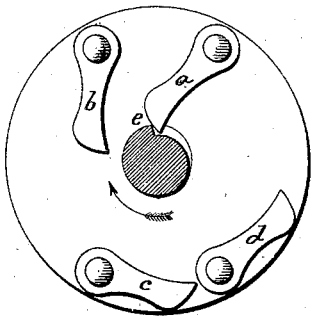


fig. 5

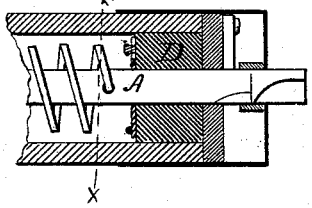


fig. 6

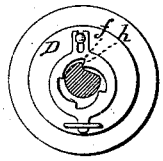


fig. 3

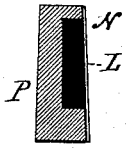


fig. 7

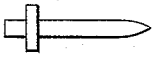


fig. 4.

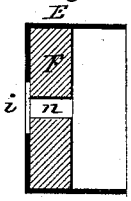
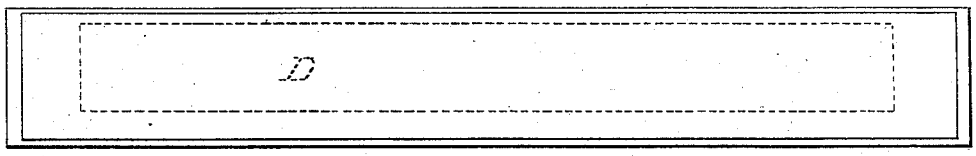


fig. 8



Witnesses.
J. N. Shumway
Jos. C. Earle

Chauncey Buckley & Lodowick L. Sawyer
Inventors.
By atty.
Wm. C. Earle

UNITED STATES PATENT OFFICE.

CHAUNCEY BUCKLEY AND LODOWICK L. SAWYER, OF MERIDEN, CONN.

IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. **219,386**, dated September 9, 1879; application filed April 9, 1879.

To all whom it may concern:

Be it known that we, CHAUNCEY BUCKLEY and LODOWICK L. SAWYER, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Curtain-Fixtures; and we do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, which said drawings constitute part of this specification, and represent, in—

Figures 1 and 2, end views in different positions; Fig. 5, longitudinal section; Fig. 6, transverse section on line *x x*, Fig. 5, looking toward the outer end; Fig. 3, transverse section of the slat; Fig. 4, longitudinal section of the roll-cap; Fig. 7, the gudgeon; Fig. 8, side view of the slat.

This invention relates to an improvement in that class of curtain-fixtures in which the roll is tubular, with a spiral spring therein, one end attached to the roll, the other to a fixed spindle, and so that drawing down the curtain tends to wind the spring and the action of the spring serves to roll the curtain.

Parts of the invention are applicable to other classes of fixtures.

In its normal condition the spring must be wound sufficiently to give the minimum power to operate upon the roll, which is when the curtain is completely rolled up. Some device is necessary to retain the spring in this minimum-of-force position, so that the roll may be conveniently placed in the bracket, there being some connection between the bracket and spindle to hold the spindle stationary when placed therein; and such a device is also necessary to engage and hold the spring or spindle when for any purpose it is removed from the bracket.

Various devices have been made for attaining this result, but all more or less complicated.

The object of this invention is principally to produce a simple and surely-acting device; and it consists in the construction, as hereinafter described, and particularly recited in the claims.

In Fig. 1, A represents the spindle in its stationary position in which it is held in the bracket; B, the roll. At any convenient place in the roll, but preferably at one end, several pawls, *a b c d*, are hung so as to swing perfectly free, but extending inward from their hinging point toward the spindle, and of a length a little greater than from the hinging point to the spindle, and so as to run freely around the spindle when the curtain is drawn down or run upward.

At a point, *e*, on the spindle, and which will be near its lowest point when held rigidly in the bracket, we make a notch or shoulder, *e*, in the plane of the pawls. When in working condition the pawls pass clear of this shoulder. The pawls are arranged in number and distance from each other, so that there will always be one resting on the surface of the spindle at or near the top. If now the roll be taken from the bracket so as to free the spindle, the reaction of the spring will turn the spindle in the direction denoted by the arrows, which will bring the shoulder *e* into contact with the nose of one of the pawls *a*—that is, the one which is upward—and this will engage the spindle with the roll, so as to hold the spindle as if a part of the roll.

In winding the spring to give it its initial or minimum power, the roll is held firmly in one hand and the spindle turned to wind the spring. The upper pawl serves in that case as a stop to hold the spindle to take a new hold.

Other devices equivalent to the pawls may be employed to make the same engagement with the spindle.

It will be understood that there may be a disk or collar placed upon the spindle with a tooth or notch corresponding to the shoulder *e;* but in that case it would be practically a part of the spindle, and is to be so understood in this specification.

Preferably these pawls are arranged at the end of the roll and inclosed within a cap, as seen in Fig. 5; but they may be arranged at any point along the length of the spindle.

In this class of fixtures there should be a resistance to drawing down of the curtain, which should be removed when the curtain is being drawn up on the roll. In our improved way of producing and relieving we arrange upon the spindle A, Fig. 5, a loose collar, D, which fits into the end of the roll, but so that

the roll may turn thereon. This collar is provided with a pawl, *f*, to engage with a tooth or notch, *h*, in or on the spindle when the roll is turned in the direction for drawing down the curtain, but so as to pass the said notch if in the opposite direction. Therefore, when the collar D is engaged with the spindle, as in Fig. 6, the collar cannot turn when the curtain is pulled downward; hence the collar will remain stationary and form the bearing on which the roll will revolve, and that bearing is so large and fits so closely as to produce the desired resistance to the running down of the curtain.

If the roll be turned in the opposite direction, the collar D is free to revolve on the spindle, and that bearing is so small and the fit so light that the friction is very much less than that between the collar and the roll, hence in turning in that direction the roll and collar will turn together as one, the spindle forming the bearing. Thus is produced a simple relief-friction for this class of fixtures.

It will be understood that the collar may be placed at any point on the length of the spindle, and perform the same function—as, for instance, it may be placed at the extreme inner end of the spindle and form the bearing at that point as well as to support the spindle, and in that case the usual inner support of the spindle may be dispensed with.

In fixing the gudgeon for the other end of the roll a difficulty is experienced in arranging it concentric with the roll or in an axial line. To overcome this difficulty we construct a cup, E, of an internal diameter corresponding to the diameter of the roll, with a concentric opening, *i*, in the closed end, and into this cup we introduce a closely-fitting block, F, having a concentric perforation, *n*, the length of this block being sufficient to give axial alignment to the gudgeon as well as to centrally locate it. This cup with its block is fixed to the end of the roll, and the gudgeon placed through the opening, and, guided thereby, is driven into the roll. The gudgeon may be of any desirable form, that shown in Fig. 7 being the usual shape.

In this class, as well as in other classes of fixtures, it is desirable that the slat which is placed at the bottom of the curtain should be heavier than can be made from wood alone. To give it the required weight metal is used in some form; but in our improved slat (shown in Figs. 3 and 8) the weight L (denoted in solid black, Fig. 3) is made in the form of a bar, shorter, narrower, and thinner than the slat P, and on the side of the slat a groove is made corresponding to the said weight-bar L, and into this groove the bar is placed, and over the surface of the bar a covering, N, of cloth or other suitable material, is glued or pasted, and extending onto the surface of the slat so as to adhere firmly thereto, which may serve to secure the bar in the slat and prevent the surface of the bar coming in contact with the curtain, which is the prime object of this covering.

We claim—

1. In a curtain-fixture of the class known as "spring-fixtures," the combination of several pawls hung to the roll at different points circumferentially, and the spindle provided with a shoulder in a position relative to the said pawl, that when the spindle is rigidly in its bracket the pawls will pass around the spindle without engagement, but when the spindle is free from its bracket it will engage one of the said pawls by the reaction of the spring on the spindle, substantially as described.

2. In a curtain-fixture of the class known as "spring-fixtures," the combination of the tubular roll, stationary spindle, and spring thereon, with a collar around said spindle and within the roll, and a device to engage the said collar with the spindle in one direction, so that the roll will revolve on the said collar, and in the opposite direction the said collar will be free to revolve on the spindle, substantially as described.

3. The centrally-perforated cap E, with its concentrically-perforated block F, substantially as and for the purpose specified.

4. The combination of the slat P, weight-bar L, arranged in a groove in the side of the said slat, and a covering, N, over the surface of the said bar, substantially as described.

CHAUNCEY BUCKLEY.
LODOWICK L. SAWYER.

Witnesses:
MORGAN R. KAVANAGH,
RALPH A. PALMER.