C. BUCKLEY & L. L. SAWYER.

Curtain-Fixtures.

No. 217,578. Patented July 15, 1879.

fig. 1

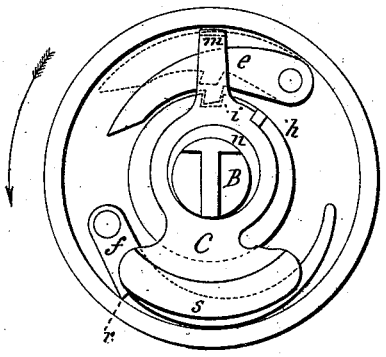

fig. 2

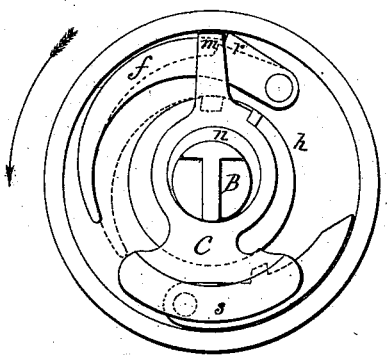

fig. 2a

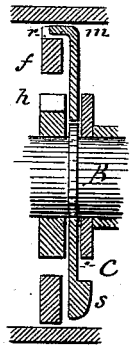

fig. 3

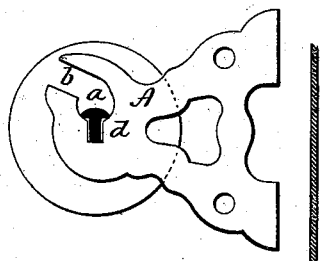

fig. 5

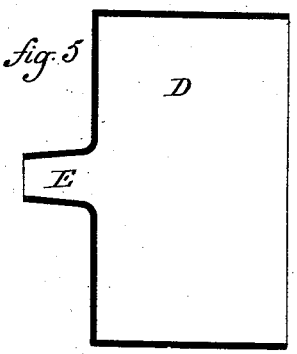

fig. 4

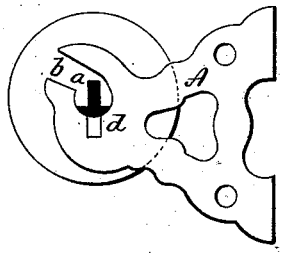

fig. 6

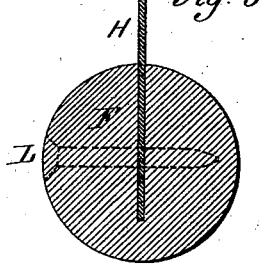

fig. 7

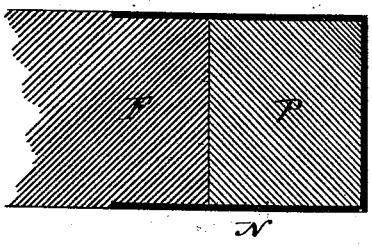

fig. 8

Witnesses.

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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. **217,578**, dated July 15, 1879; application filed March 17, 1879.

To all whom it may concern:

Be it known that we, CHAUNCY 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, and which said drawings constitute part of this specification, and represent, in—

Figure 1, end view with the slow-motion pawl engaged; Fig. 2, end view with the quick-motion pawl engaged; Figs. 3 and 4, end views of the bracket; Fig. 5, longitudinal section of the gudgeon for the free bearing; Fig. 6, transverse section of the curtain-slats; Fig. 7, longitudinal section, showing the weight as applied to the slats.

This invention relates to an improvement in that class of curtain-fixtures in which the roll is tubular, and with a spiral spring arranged therein, the tendency of which is to impart to the roll a revolving movement to roll the curtain thereon, parts of the invention being applicable to other classes of fixtures.

The invention consists in the construction and combination of parts, as hereinafter described, and particularly recited in the claims.

In this class of curtain-fixtures it is necessary that the spindle be prevented from revolving—that is, that it be held rigidly in the bracket. The spindle in this class of fixtures is arranged so that when the roll is taken from the bracket an engagement will be forced between the spindle and the roll, so as to prevent the revolution of the spindle independent of the roll, which revolution, if permitted, unwinds the spring.

When the roll is replaced in the bracket it must be set so that the spindle will engage with the bracket.

In the usual construction this engagement is required to be made by the person introducing the roll to the bracket, requiring careful manipulation.

The object of this part of the invention is to make the engagement automatic and avoid the usual care. To this end a seat, *a*, is made in the bracket A, circular in form, and of a diameter corresponding to the diameter of the spindle, with an opening, *b*, through the bracket for the insertion of the spindle. The end of the spindle is cut away in its two sides, making a transverse section at the end of T shape, or, as seen in Figs. 3, 4, and 8, the upper side of the T preserving the cylindrical shape of the spindle, and so that that side with the opposite end will take a bearing in the seat *a* and revolve therein, substantially as if a full cylinder. At the bottom of the seat in the bracket a notch, *d*, is cut, which corresponds to the tail part of the T-shaped end of the spindle.

The operation of this construction is as follows: Suppose the roll to be placed in the bracket, leaving the spindle inverted in the seat *a*, as seen in Fig. 4, the broad side of the T rests in the seat, and the upper side will practically fill the seat, so that, were it not for the notch *d* below, the roll could be revolved, the spindle revolving in the seat *a* as if a complete cylinder; but because of the notch *d*, the tail part of the T-shaped spindle will drop into that notch so soon as it is turned in line with it, as seen in Fig. 3. Therefore, after the spindle is introduced into the bracket, as in Fig. 4, by simply drawing down upon the curtain the spindle will be revolved, and will automatically find its place in the notch *d*, because carefully guided thereto by the corresponding shape of the seat *a* in the bracket.

In the usual construction of this class of fixtures they are provided with a catch which will engage the roll and spindle, so as to prevent the roll from winding the curtain, but yet when permitted to revolve with considerable velocity the engaging device is prevented from making engagement until the velocity is reduced; hence, if in adjusting the curtain it accidentally slips from the hand it will invariably run to the roll, because, under the velocity which it is permitted to attain, it is impossible for it to stop until completely wound.

It is understood that the engaging device here referred to is actuated by centrifugal force to prevent engagement; hence it is only when running slow that engagement can be made. To overcome this difficulty we arrange two pawls, *e* and *f*, the two hinged to the roll, the one *e* to work around a disk, *h*, fast upon

the spindle B. In the disk *h* is a notch, *i*, and on the pawl *e* a corresponding tooth, the notch being on the upper side of the disk when the roll is resting in the brackets; hence when the roll is drawn down the tooth of the pawl *e* will escape or freely pass the notch *i;* but when returning in the direction denoted by the arrow, Fig. 1, the pawl *e* will drop upon the upper surface of the disk *h*, causing the tooth of the pawl to engage in the notch *i* of the disk, and thus arrest the reaction or winding tendency of the spring; but if a considerable velocity be permitted to the roll before the pawl *e* shall have made such engagement, then the pawl will be thrown outward by centrifugal force, and so as to pass the notch without engagement. This is substantially the usual construction before referred to.

On the spindle B is a fixed eccentric, *n*, and on this eccentric is hung a cam, C, weighted so as to hang in the vertical position, as seen in Figs. 1 and 2. At the upper end an arm, *m*, is turned inward, as seen in Fig. 2ª. The pawl *f* is constructed with a tooth or notch, *r*, on its outer surface. If revolving at a slow or medium velocity the pawl *f* will ride over the disk *h* and rest upon it, as seen in broken lines, Fig. 2, and so that the tooth or shoulder *r* will pass beneath the projection on the arm *m;* but if the velocity be sufficient to throw the pawl *f* outward, as seen in Fig. 2, then the shoulder *r* will engage the arm *m* of the cam, and continuing its revolution will carry the cam around until its lower edge, *s*, bears against the inner surface of the cylinder within which these parts are hung, as indicated in broken lines, Fig. 2, the eccentric *n* causing the cam-surface *s* to come in contact with the cylinder on a partial rotation.

The pawl *f* is relatively heavier than the pawl *e*, so that a little greater centrifugal force will be required to throw the pawl *f* into engagement with the cam C than is required to throw the pawl *e* out of engagement with the disk *h* or the spindle, and so that between these two velocities the roll will revolve freely to wind the curtain.

A stationary projection is made near the letter *h*, or some equivalent therefor, in the path of the swinging cam C, and so as to prevent its swinging too far in the wrong direction.

By the combination of the two pawls the revolution of the roll will be arrested on either a slow or quick revolution, and consequently the running away of the curtain is impossible.

The gudgeon for the free end of the roll is usually made by a stud inserted in the roll or by a plate with the gudgeon projecting therefrom. In either case it is difficult to make the gudgeon exactly concentric with the roll. To avoid this difficulty we make from sheet metal a cup-shaped cap, D, to fit on over the end of the roll, and at the center of the closed end of the cap we strike out a tubular-shaped projection, E, which forms the gudgeon. The cap, being made of a diameter to fit exactly the roll, causes the gudgeon to be exactly concentric with the roll when the cap is placed on the roll, and the cap serves as a simple and easy method of attaching the gudgeon, as well as giving a neat finish to the end of the roll.

The usual method of attaching the slat to the curtain is to form a pocket in the curtain by doubling the curtain and stitching the edge.

In many classes of curtains this stitching soon causes a break at that point. To obviate this difficulty, and to avoid the pocket entirely, we construct the slat F with a longitudinal slit from the upper edge downward, and so as to receive the lower end of the curtain H, as seen in Fig. 6; then insert screws transversely through the slat to draw the two sides of the slit together, so as to securely clamp the slat to the curtain.

In this class of curtain a weight or counterbalance is necessary on the curtain. To apply this weight we construct a cap, N, so as to fit over the end of the slat F, and into this cap we introduce lead or other weight P between the end of the slat and the inner end of the cap, as seen in Fig. 7. These caps, in addition to holding the weight, make a neat and tasteful finish for the end of the slat.

It will be readily understood that a single pawl may be made to serve the same purpose as the two described, constructed so as to engage by the inner edge on a slow motion, and by its outer edge on a quick motion, running free at intermediate velocity; but the two are preferred. We wish it to be understood, therefore, that in defining two pawls we include a single pawl constructed for the two engagements.

We do not in this application broadly claim the T-shaped end of the spindle, or the notch in the bracket to engage said spindle, as this is found in a patent previously granted to us.

We also do not broadly claim the pawl *e* or notch *i*, as such, we are aware, are not new; but

What we do claim, and desire to secure by Letters Patent, is—

1. The combination, in a curtain-fixture, of the spindle, constructed at its bearing end in substantially T shape, but preserving the cylindrical outline at its extremities, and a bracket having a seat formed therein of a diameter corresponding to the diameter of the spindle, and so that the T-shaped end will revolve therein, with an opening for the introduction of the spindle, and a notch downward from the seat to receive the tail part of the T when it is turned into line therewith, substantially as described.

2. The combination, in a curtain-fixture, of a pawl hung upon and so as to revolve with the roll with a cam hung upon said spindle, with which the said pawl will engage by an outward movement produced by centrifugal force, substantially as described.

3. The weight for curtain-slats, consisting of the cap and weight P, the said cap being set on over the end of the slat, substantially as described.

4. The combination, in a curtain-fixture, of a cam hung eccentrically to, but not revolving with, the roll, and a pawl hung so as to revolve with the roll and engage said cam by centrifugal force, produced by the rapid revolution of the roll, and thereby stop the revolution of the roll, substantially as described.

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Witnesses:
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