

(No Model.)

C. BUCKLEY.
CURTAIN FIXTURE.

No. 282,840.

Patented Aug. 7, 1883.

fig. 1

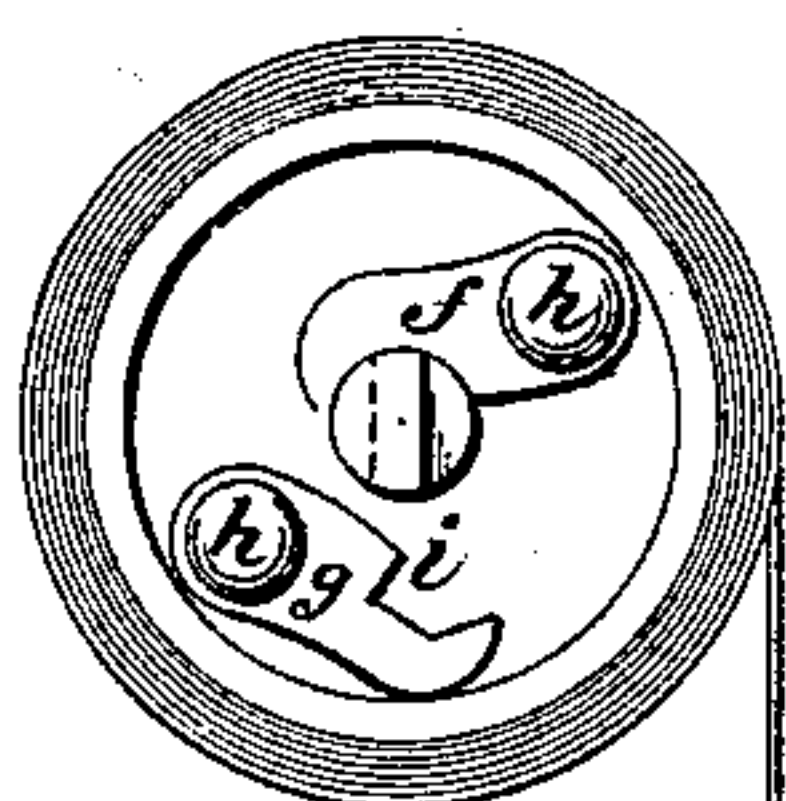


fig. 3

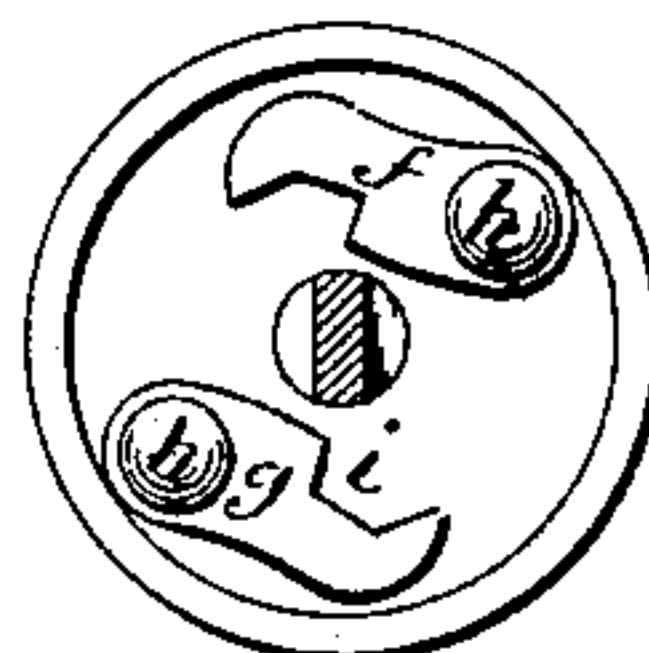


fig. 2

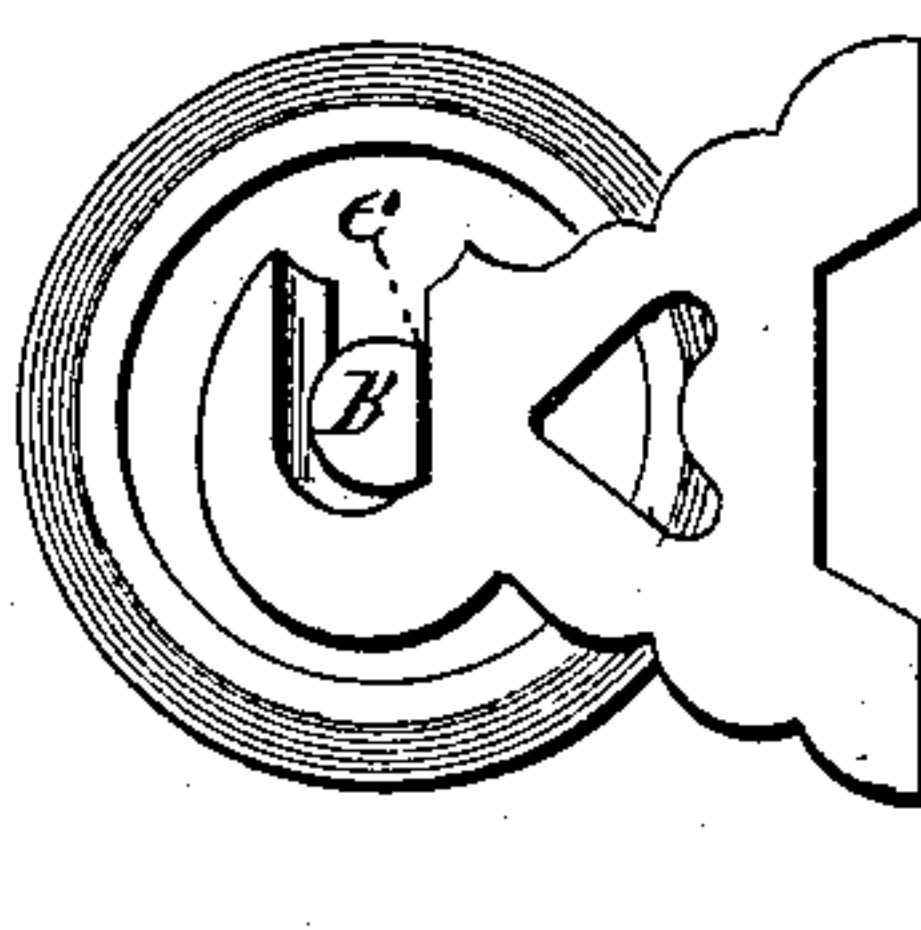


fig. 4

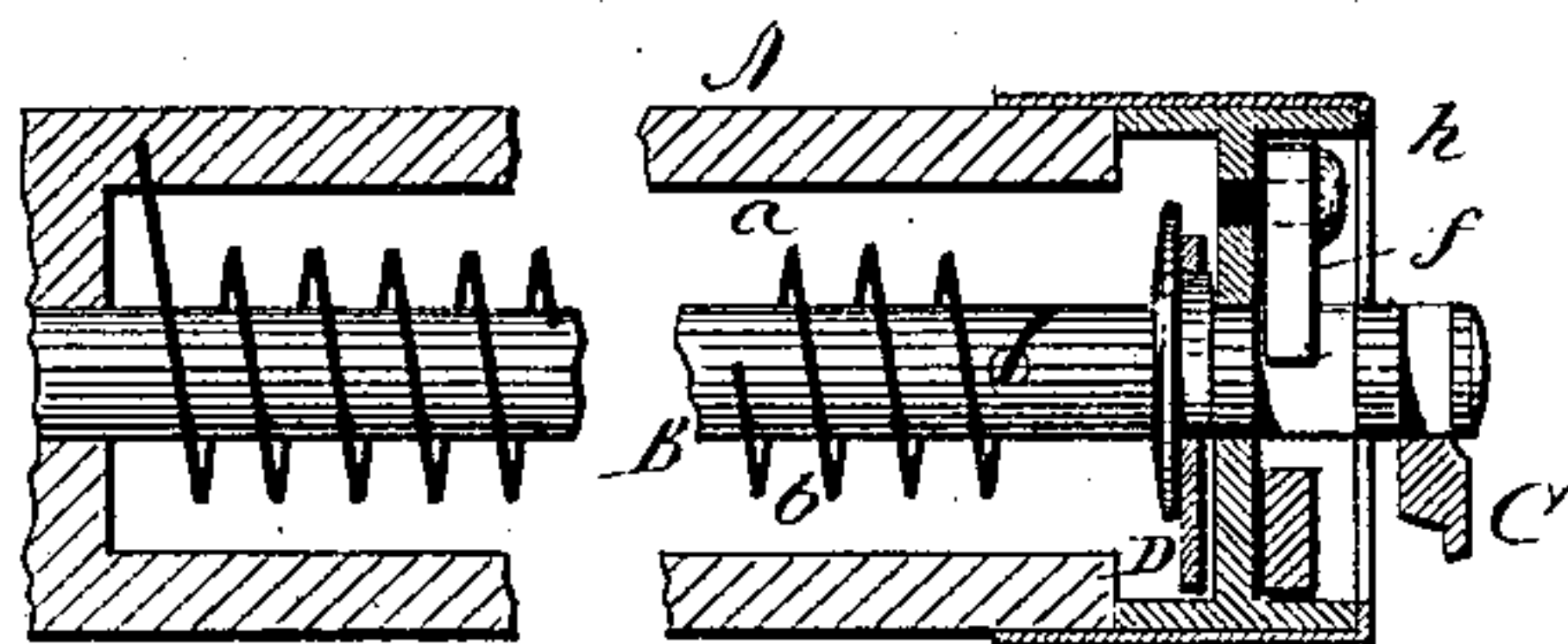


fig. 5

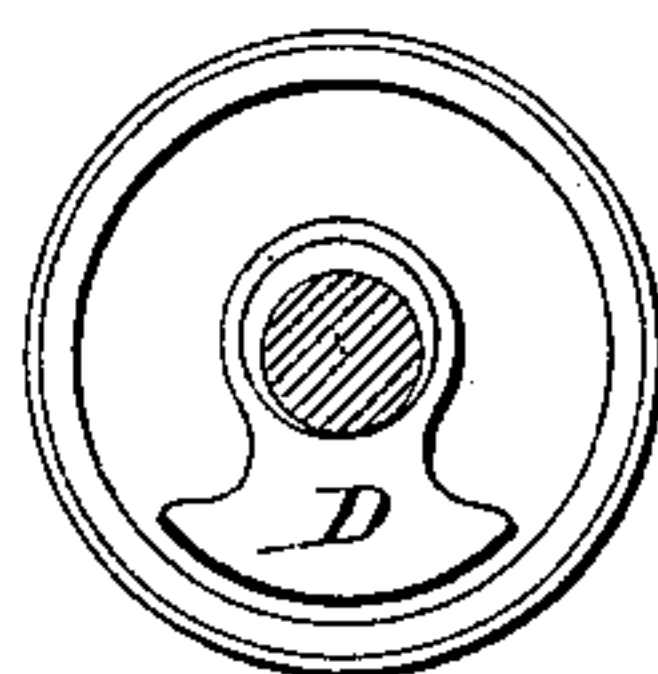


fig. 6

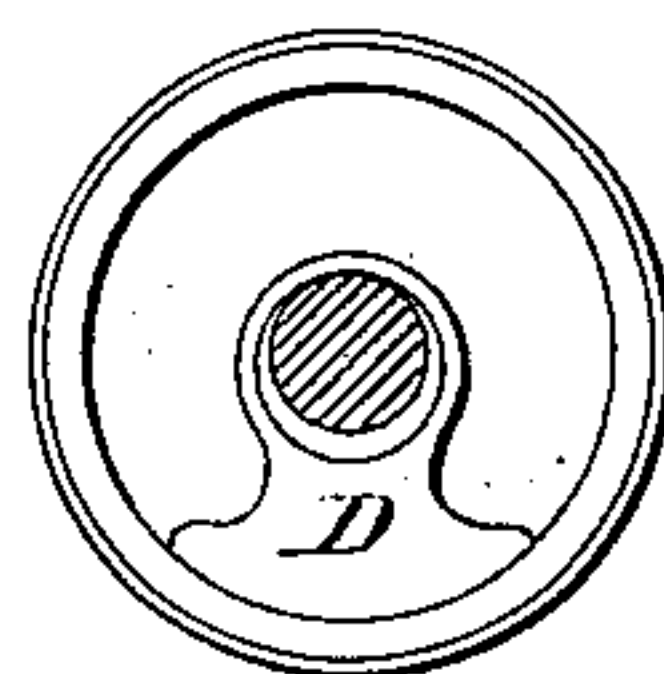


fig. 8

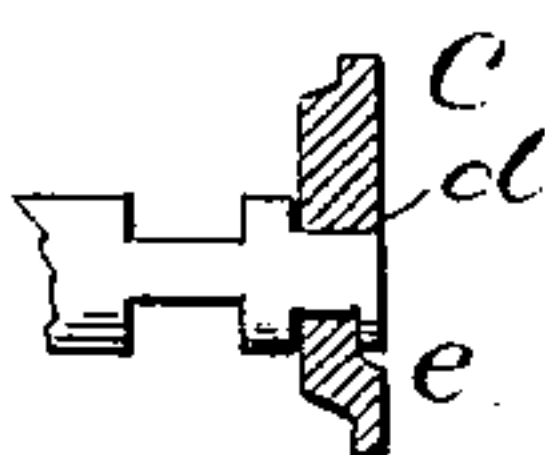
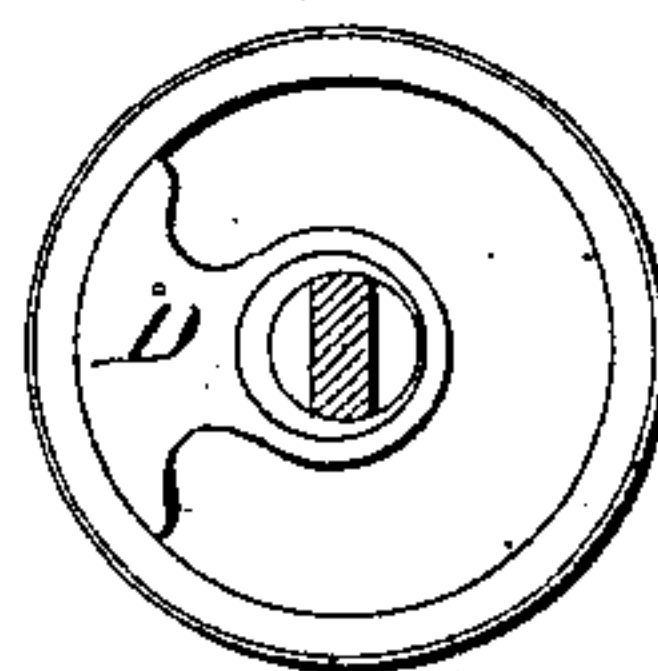


fig. 7



Witnesses
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UNITED STATES PATENT OFFICE.

CHAUNCEY BUCKLEY, OF MERIDEN, CONNECTICUT.

CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 282,840, dated August 7, 1883.

Application filed July 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHAUNCEY BUCKLEY, of Meriden, in the county of New Haven and State of Connecticut, have invented new Improvements in Curtain-Fixtures; and I do hereby declare the following, when taken in connection with 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, an end view of the roll as detached from the bracket, showing the shade as partially wound thereon; Fig. 2, end view in the bracket; Fig. 3, end view of the roll, showing the mechanism as under a rapid revolution; Fig. 4, longitudinal central section of the roll as in the bracket; Fig. 5, transverse section, showing the mechanism to engage the roll and spindle when out of the bracket, but in position as when in the bracket; Fig. 6, the same locking mechanism as in position out of the bracket; Fig. 7, the position which the mechanism will assume when the roll is replaced in the bracket; Fig. 8, top view of the bracket and the end of the spindle in the slot.

This invention relates to an improvement in that class of curtain-fixtures in which a spring is arranged in a chamber at one end of the roll, one end of the spring engaging a spindle axially arranged in said chamber, the other end of the spring fixed to the roll, the spindle engaged with the bracket so as to prevent its rotation, and so that pulling down the shade winds the spring, and, then left free, the reaction of the spring revolves the roll in the opposite direction to draw up the shade, and particularly to those fixtures of this class in which the reaction of the spring is arrested, when the revolution of the roll does not exceed a certain velocity, by means of an automatic engagement between the roll and spindle, but so that, if the roll revolve to exceed this certain velocity, said automatic engagement will not take place; but the revolution continue until it be reduced so as to permit such automatic engagement. In this class of fixtures, if the engagement has been made between the spindle and roll, the roll may be taken from the bracket without necessarily breaking the connection between the spindle and roll, and

if that connection be not broken, then the spring will remain in its wound condition, so that when replaced in the bracket it will be in proper condition to operate; but if this engagement be not positively made when the roll is taken from the bracket, then the spindle is free to revolve so soon as it is disengaged from the bracket, and will, under the reaction of the spring, revolve until the spring has entirely unwound or run down, and before the roll can be returned to the bracket it will be necessary to rewind the spring. Great care is therefore necessary to be exercised in removing the roll from the bracket to prevent such running down of the spring, and which inexperienced persons are not liable to exercise, and such inexperienced persons do not, as a general thing, understand the mechanism of the roll sufficiently to permit them to properly rearrange the spring before replacing the roll in the bracket, and in their hands the fixture becomes useless. In another arrangement in this class of fixtures—such as shown in Patent No. 275,987, where the device for engaging the roll on slow revolution is arranged on the bracket—an independent device is applied between the roll and spindle, which will automatically engage the roll with the spindle so soon as the spindle is disengaged from the bracket. This arrangement in that class of fixtures prevents the accidental displacement of the mechanism of the fixture hereinbefore referred to.

The object of my invention is to apply to the class of fixtures hereinbefore referred to, and in which the automatic engagement on the slow revolution is made between the roll and spindle, an auxiliary device between the roll and spindle, whereby an engagement is made between the roll and spindle independent of the device which engages the roll and spindle when in the bracket, and so that when removed from the bracket under any condition the automatic engagement between the roll and spindle is sure to be made; and my invention consists in the construction as hereinafter described, and more particularly recited in the claims.

A represents the roll, which is of usual or common construction, and with an internal concentric longitudinal chamber, *a*, at one end,

in which the longitudinal central spindle, B, is arranged in the usual manner, combined with a helical spring, *b*, around the spindle, one end attached to the spindle and the other to the roll, in the usual manner for this class of fixtures, too well known to require detailed description in this specification, but so that, the spindle being held, the revolution of the roll in one direction winds the spring, then left free, the reaction of the spring revolves the roll in the opposite direction. The shade is attached in the usual manner, so that pulling down the shade winds the spring; then the power of the spring thus wound serves to revolve the roll and wind the shade upon it.

The bracket C is constructed with a narrow vertical slot, *d*, and the spindle B, at the outer end, is flattened upon one side, as at *e*, so that when the spindle is passed into the slot in the roll an engagement will be made between the bracket and spindle to prevent the rotation of the spindle, and so that when in the bracket the spindle is stationary, but the roll free to revolve.

The attachment here represented as provided to engage the roll and the spindle when in the bracket, so as to hold the shade at any desired point of elevation, consists of two pawls, *f g*, hung in a recess at the end of the roll upon pivots *h*, their noses extending inward from the pivots toward the spindle. Each of these pawls has a shoulder, *i*, which will engage a corresponding shoulder on the spindle, as seen in Fig. 1, provided the pawl be permitted to fall upon the shoulder of the spindle.

The rapid revolution of the roll under the action of the spring tends to throw the pawls outward by centrifugal force, as seen in Fig. 3, and away from the spindle and under this condition the roll is free to revolve, and will continue to revolve until the reaction of the spring has ceased; but, if running below the certain velocity, the pawl, when above, will fall upon the spindle and engage it, as seen in Fig. 1, the pawl *f* being shown as thus engaged, and this engagement will prevent the rolling up of the curtain; but the opposite side of the pawl is beveled; or so as to readily pass the spindle without engagement, so that the shade may be drawn down when thus engaged, the pawls passing the spindle; but when permitted to return at a slow rate of speed, then the upper pawl will fall upon and engage the spindle. Two pawls are shown as being more convenient, from the fact that the engagement will be made within a half-revolution of the roll, whereas were there but one pawl a whole revolution might be required before the pawl would engage.

If at any time it be desired to remove the roll from the bracket, and the person so desiring exercises care to be sure that the pawl is engaged with the spindle, as seen in Fig. 1, and handles the roll so as to prevent disengagement of the pawl, then the roll may be taken from the bracket and the spindle held

so as to prevent the reaction of the spring upon the spindle to cause it to revolve until the spring be run down, which will be the result should the pawl not be so engaged with the spindle, or if it should be accidentally removed therefrom, and this accident is liable to occur in handling the roll. To overcome this difficulty I hang upon the spindle a friction-clutch, D, the bearing on the spindle for the clutch being eccentric thereto, as seen in Fig. 5, the longest radius of the eccentric being up when the roll is in the bracket, and as seen in Fig. 5, so that the face of the clutch D is out of engagement with the inner surface of the chamber in which it hangs, as seen in Figs. 4 and 5, and therefore cannot possibly engage the roll while in the bracket, but removed from the bracket, if not otherwise engaged by the pawl *f*, the spindle will revolve, and by its eccentricity will throw the clutch radially toward the inner surface of the chamber in which it is arranged, and into contact with that surface, as seen in Fig. 6, and thereby make a frictional clamping engagement between the roll and spindle, from which the spindle cannot be accidentally turned; but when the spindle is again placed in the bracket it will, because the flat side of the spindle is in a plane parallel with the longer radius of the eccentric, assume its position in the relation to the bracket as before, and the clutch will be turned to one side, as seen in Fig. 7, and will there remain still holding the roll in connection with the spindle until such time as the roll be turned upon the spindle, as in drawing down the shade. This rotation of the roll will carry with it the clutch until the eccentric on the spindle draws the clutch from contact with the roll; then the clutch, by its own gravity, will fall into the position seen in Fig. 5, and out of engagement with the roll. Thus I provide an automatic engagement between the roll and spindle when the roll is removed from the bracket, and which cannot be automatically interfered with, and yet the roll may be locked at any desired position of elevation.

While I prefer the mechanism shown and described for locking the fixture when in the bracket, and also the clutch arrangement shown and described for locking the roll and spindle when out of the bracket, yet any of the known devices for either of these purposes may be substituted for the corresponding mechanism herein described, it being understood that I do not claim, broadly, a curtain-fixture having the spindle rigidly held in the bracket, and mechanism in connection with the roll to automatically engage the roll and spindle when the roll is being wound up at a slow rate of speed, and escape such engagement when running rapidly. Neither do I claim, broadly, a mechanism between the roll and spindle which will engage the two when the roll is removed from the bracket, but disengage the two when placed in the bracket, as such, I am aware, is not new; but

What I do claim is—

1. The combination of a roll having a longitudinal chamber at one end, a spindle in said chamber, a helical spring around said spindle, 5 one end engaged with the spindle and the other with the roll, a bracket constructed to receive the end of the spindle and engage it so as to prevent its rotation, mechanism, substantially such as described, to automatically interlock the roll and spindle under a slow 10 rate of revolution when in the bracket, or be free therefrom under a rapid revolution, and a mechanism, substantially such as described, independent of said last-named engaging mechanism, to interlock the roll and spindle when 15 removed from the bracket, substantially as described.

2. The combination of a roll having a longi-

tudinal chamber at one end, a spindle in said chamber, a helical spring around said spindle, 20 one end engaged with the spindle and the other with the roll, a device, substantially such as described, to automatically interlock the roll and spindle and prevent the reaction of the spring when out of the bracket, with a 25 bracket to receive the end of the spindle, the spindle constructed with one flat side to engage the corresponding side of the bracket, and mechanism, substantially such as described, to engage the roll with the spindle 30 when in the bracket and running at a slow speed, substantially as described.

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Witnesses:

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