

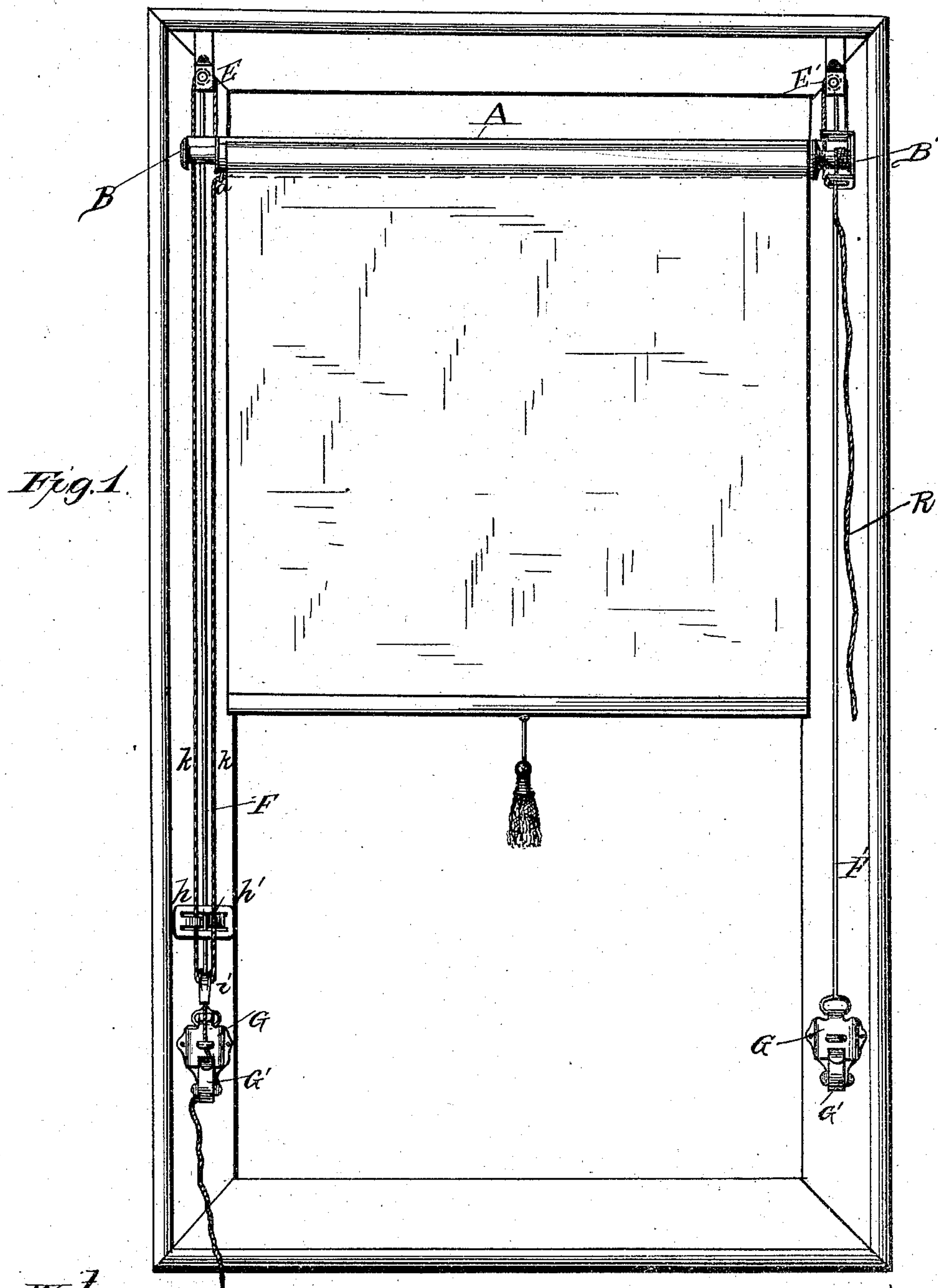
(No Model.)

3 Sheets—Sheet 1.

P. B. SMITH.
Curtain Fixture.

No. 241,743.

Patented May 17, 1881.



Witnesses.
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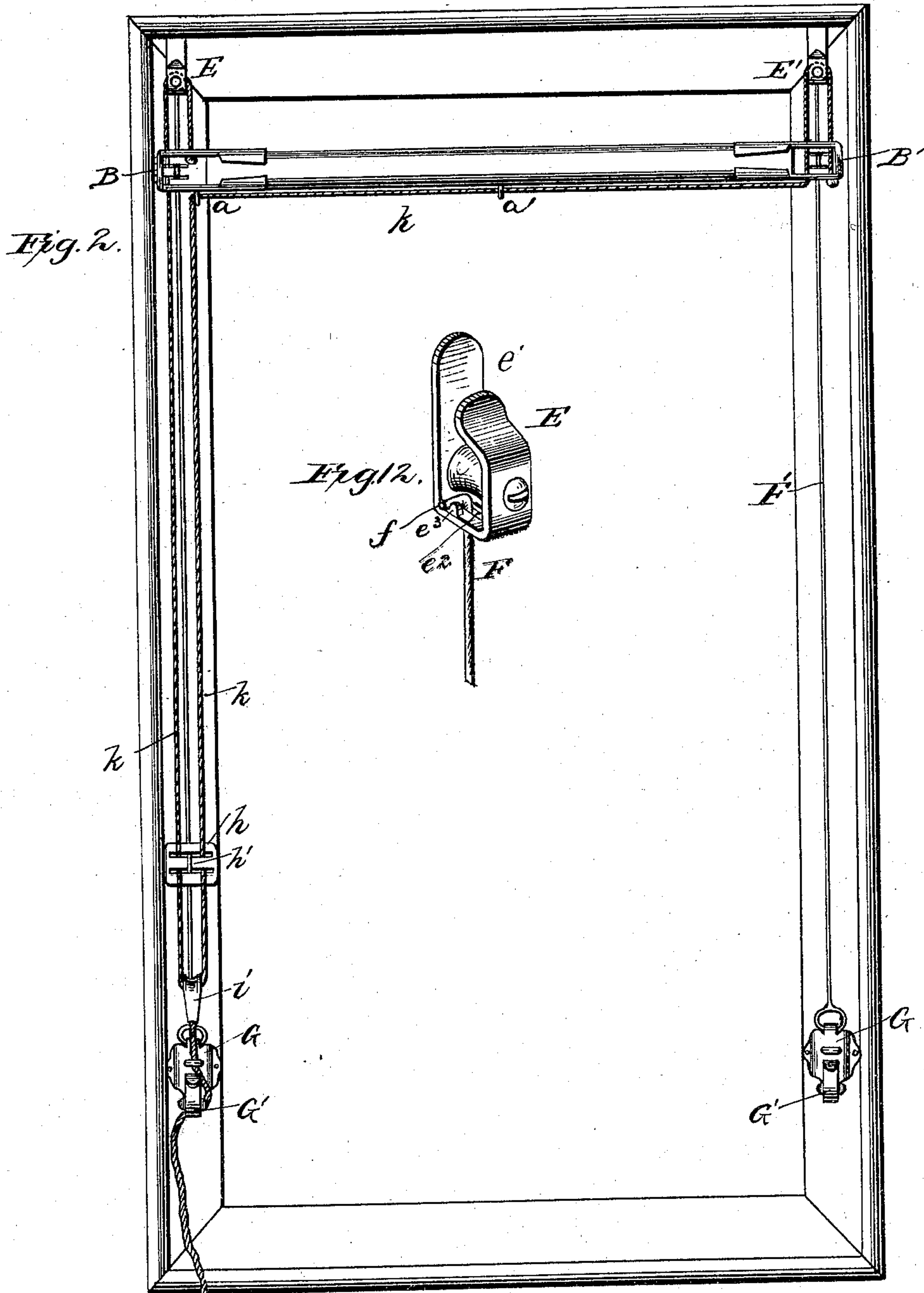
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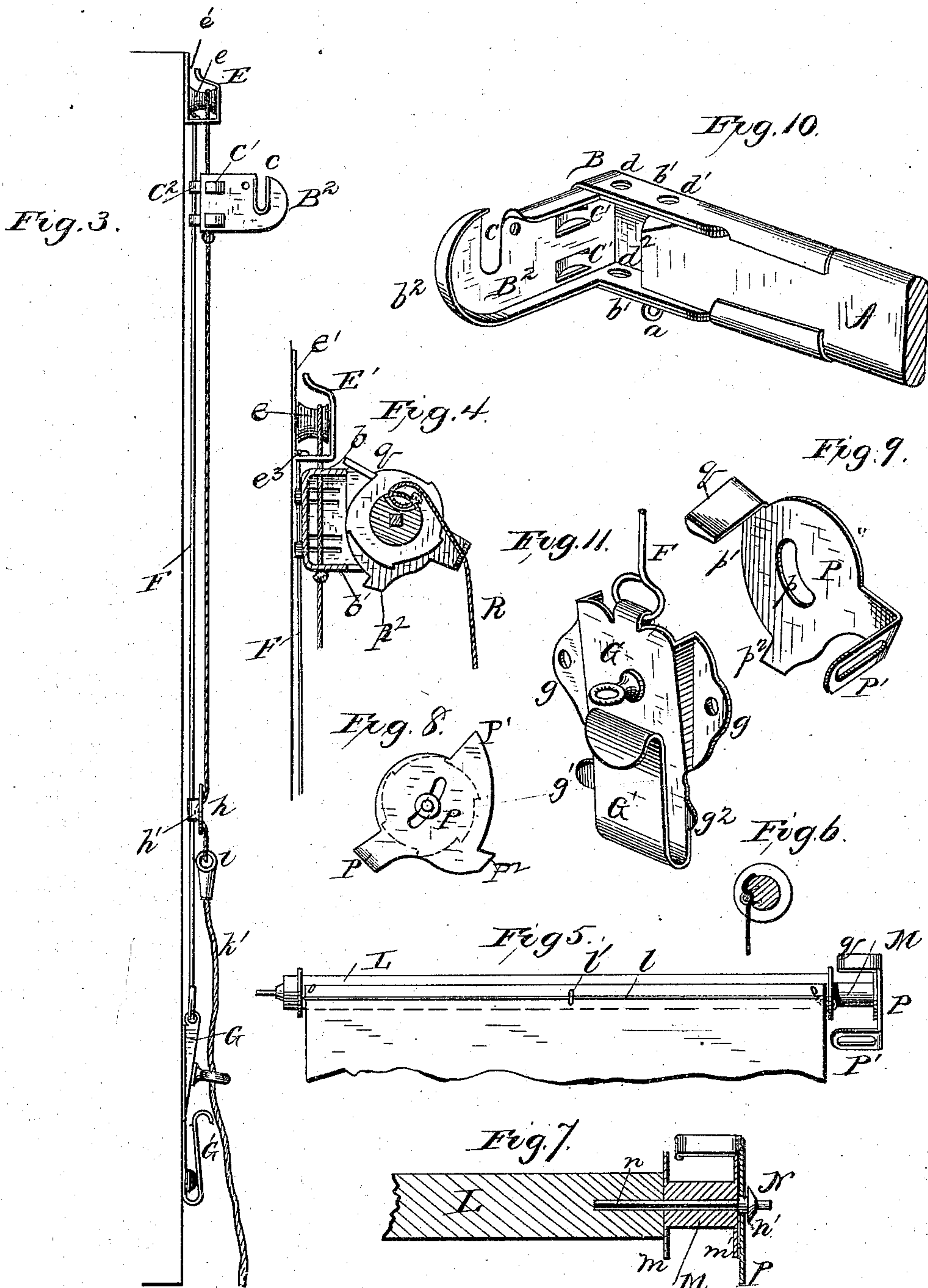
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UNITED STATES PATENT OFFICE.

PRESLEY B. SMITH, OF KEYSER, WEST VIRGINIA.

CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 241,743, dated May 17, 1881.

Application filed March 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, PRESLEY B. SMITH, of Keyser, county of Mineral, State of West Virginia, have invented certain new and useful Improvements in Curtain-Fixtures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of a window-frame and curtain or shade with my improved fixtures applied. Fig. 2 is a similar view with the curtain removed to show the adjustable curtain-holder and the appliances for adjusting the same. Fig. 3 is a side elevation of the devices shown in Fig. 2. Fig. 4 represents a vertical transverse section taken through the cord sheave or pulley. Fig. 5 is a front view of the grooved roller, showing the means for fastening the shade thereto; and Fig. 6 represents the same in section. Fig. 7 represents a section through the roller-sheave and its attachments in line with the roller pivot or shaft. Figs. 8 and 9 are detail views, showing the cam and ratchet disks. Fig. 10 is a perspective view of one of the roller-brackets applied to the adjustable bar or holder. Fig. 11 is a perspective view of one of the guide-rod brackets; and Fig. 12 is a similar view of one of the pulley-brackets, to which the guide-rods are also attached.

My invention relates to a novel means for adjusting the curtain-holder, whereby the curtain-roller can be adjusted and held at any desired height upon the window-casing, and to the means for effecting the adjustment of the shade or curtain itself; and it consists, first, in a novel arrangement of guides in the adjustable curtain-holder, in connection with a single cord for adjusting the same simultaneously at both ends, whereby said cord is made to cross the window through and to move in guides in the holder; second, in a novel means for adjusting the cord for preserving the horizontal relation of the adjustable curtain-holder, or, in other words, for adjusting the height of said holder at either end; third, in a novel construction of brackets for supporting and stretching the guide rods or wires on which the adjustable curtain-holder moves; fourth, in a novel construction of the sliding roller-brackets, whereby they are adapted to be used

either on the outer face of the casing or upon the inner opposite walls thereof, and with any of the roller-fixtures in common use, whether cord or spring roller, and also in connection with the specific curtain-adjusting devices hereinafter described; and, lastly, in a novel construction of roller sheave or pulley and of the pawl-and-ratchet devices connected therewith, all as hereinafter described.

In the accompanying drawings, A represents the adjustable bar or holder, to the ends of which the supporting-brackets in which the shaft or pivot of the curtain-roller works are secured. The left-hand or slotted bracket is shown in Fig. 3, and in perspective view, Fig. 10, at B, and is similar in form to the right-hand bracket B', except that the latter is merely perforated to form a bearing for the roller-pivot at that end, while the bracket B is slotted to facilitate the removal and replacing of the roller. These brackets are by preference stamped up from thin metal into the required form, having sockets formed in their adjacent ends for the reception of the ends of bar A, and horizontal or curved flanges on their upper and lower edges at b b' b^2 , which form stiffening-ribs, the two, b b' , on the longitudinal part of the bracket serving also as ledges to act on the cam-pawl plate or disk, hereinafter described. The bracket is made in the angular or bell-crank form represented in Fig. 10, the part B^2 projecting forward from and at right angles to the part secured to the bar A, as shown, and the bearings therein for the roller-pivots are similar to those used in connection with the ordinary or spring roller, either of which may be used, if desired, the slot at c serving as a bearing for the roller-pivot to hold the flattened shank on the end of a spring-roller against rotation where the latter is used.

The outer faces of the angular bracket, both in the longitudinal part and in the part at right angles thereto, have perforated lugs or ears c' c^2 formed upon them, preferably by cutting parallel horizontal slits in the metal and forcing or stamping the metal between said slits outward, forming guiding loops or eyes, as shown, the arrangement of the loops at the back and also at the ends of the brackets being for the purpose of adapting them to be applied either to guide-rods on the outer

face of the window-casing or between the jambs, as may be required. The flanges *b* have perforations formed in them at *d d'* *d*² for the retention and passage of the adjusting-cord, also
5 formed to adapt the bracket to be used in either relation to the window-casing, as will be explained.

To the window-casing, either on its outer face, as shown, or between the jambs, are secured
10 two pulley-brackets, E E', bent into the quadrangular form shown in Figs. 3, 4, and 12, so as to nearly surround the pulley *e*, leaving an opening between the side against the casing and the outer end at *e'* to facilitate the removal
15 and replacing of the cord, while at the same time the form of the bracket prevents accidental displacement of said cord, the ends of the grooved sheave or pulley fitting snugly against the vertical walls of the bracket in which the
20 pulley-shaft has its bearings. The lower horizontal part of the bracket has a longitudinal slot, *e*², formed in it, through which a hook or pin, *f*, on the upper end of the guide rod or wire F, is inserted, and the rod is then turned
25 so as to bring the hook or pin at right angles to the slot and behind a small spur, *e*³, which serves to hold the rod engaged with the bracket.

The lower ends of the guide-rods F F' have each a loop formed upon it, which passes
30 through an eye in the upper end of a tension-bracket, G. This bracket G is made in form substantially as shown in Fig. 11—that is to say, with flanges or feet *g*, through which it is secured to the casing, and which serves to hold
35 the lower end of rod F at the required distance from the window-casing. The lower end of this bracket is made in the form of a flat spring recurved upon itself, as shown, and provided on its inner portion with laterally-projecting out-
40 wardly-inclined spurs *g'* *g*², behind which the adjusting-cord hereinafter referred to is wedged against the casing for securing the curtain-holder at any desired height, the recurved end of the spring G' also serving to grasp and hold
45 the cord when passed around and behind it. The rods F are first passed through the eyes *c'* or *c*² in the roller-bracket B, then engaged with the sheave-brackets E, as explained, after which the brackets G are forced downward un-
50 til the rods F are drawn straight and taut, so as to properly guide and steady the holder A, and then secured to the casing.

The cord *h*, for adjusting the holder when the guide-rods are secured upon the outer face
55 of the casing, as shown, is secured at one end to the right-hand bracket, B', and passes up through the perforation therein corresponding to the perforation *d* in the left-hand bracket shown in Fig. 10; thence up over the pulley
60 in bracket E', and down through the perforations corresponding to *d'* to the lower face of bar A, through guiding-eyes *a a'* or grooved friction-rollers thereon to the opposite or left-hand bracket, B, and down through an adjust-
65 ing plate or buckle, *h*, to and under a friction-roller or through an eye, *i*, with which the hand

rope or cord is connected, as shown; thence up through the adjusting-buckle *h* again, and thence up through the perforations *d*, over the pulley E, and down through the perforation *d'*,
70 where its end is secured to the roller-bracket B. By this arrangement it will be seen that the one cord is carried from end to end of the holder, passing through guides in said holder, the horizontal portion crossing the window,
75 traveling up and down with and hidden by said holder, instead of being carried across on the window-frame, as heretofore, and a single cord is made to adjust both ends of the bar simultaneously.
80

The pendent loop passing through the eye or hand-piece *i* is adjusted for raising or lowering the holder A by means of a pendent cord, *k'*, which may be caught upon the spurs *g'*, and spring G', as explained, for securing the holder
85 at any desired adjustment.

The buckle *h* consists of a slotted plate having three transverse bars, and the cord passes through the slots or openings between said bars, over or in front of the outer and behind
90 the inner one, which crimps and binds the cord, so as to hold the loop in the cord when adjusted in the hand-piece or eye *i*, for raising or lowering either end of the bar A. The middle bar, *h'*, has an eye or loop formed upon or in it, in
95 which the guide-rod F rests, the buckle moving on said rod.

The curtain-roller L has a longitudinal groove formed in it extending from end to end, and within this groove is fitted a small rod or wire,
100 *l*, stretched tightly between the end disks on which the roller-pivots are formed and secured thereto or in the ends of the roller in any convenient way. In securing the curtain to the
105 roller the rod is forced outward sufficient to allow the end of the curtain to be passed under it, as shown, and one or more small staples, *l'*, are then driven through the curtain into the roller astride the rod *l*, and serve to cause the
110 latter to clamp the end of the curtain firmly throughout its entire width. This method of securing the curtain to the roller prevents the tearing away of the curtain, so common where the usual method of securing by tacks is employed.
115

M is the sheave or spool on which the cord which actuates the roller is wrapped, one end of the cord being secured to the spool by passing through an eye therein, as shown in Fig. 4. The spool is by preference made in a single
120 piece, having the end flanges, *m m'*, and the squared axial perforation for the reception of the square shank *n* of the roller-pivot N, said squared shank passing through the spool or sheave into the roller, as shown in Fig. 7, and
125 insuring the rotation of the latter with the sheave and shaft. The pivot N, outside of the squared portion, is rounded, and a shoulder at the junction of the rounded with the squared portion abuts against the outer end of the spool,
130 and at a short distance from said end the pivot has a collar, *n'*, formed upon it, between which

and the end of the spool is a cam plate or disk, P, having a curved central slot at p , adapting it to move laterally relatively to the pivot N. This plate has two eccentric formations or cams, p' and p^2 , on its rear face or edge, the one, p' , moving in contact with the upper flange, b , on the roller-bracket and serving to crowd the cam-plate forward for forcing a pawl or stop, q , thereon into engagement with a ratchet-disk, which, in this instance, is the outer flange, m' , of the roller-sheave. The other cam, p^2 , faces in the reverse direction, and acts against the lower flange, b' , for raising the cam-plate and forcing the stop q away from the ratchet-disk m' . The plate P has an angular arm or lever on its forward edge, the portion P' thereof overhanging the sheave M being slotted to permit the passage of the cord R from the sheave through it, as shown in Fig. 4. By this arrangement it will be seen that by pulling down on the cord the cam-plate will be crowded back, forcing the cam p^2 against the flange b , when, by the rotary movement of the cam due to the action of the cord, the stop q will be lifted out of engagement with the ratchet-disk m' , and the roller can be actuated for raising or lowering the shade, as desired, after which, by slacking or drawing outward on the cord R the movement of the cam-plate P is reversed, and the cam p' , riding against the flange b , wedges the stop q outward into engagement with the ratchet-disk m' for holding the roller with the shade at the desired adjustment.

By the construction and arrangement of parts, as described, it will be seen that the curtain-roller can be adjusted and held at any desired height on the window-casing, and that the adjustment of the curtain can be readily effected under any adjustment of the curtain-holder.

The several brackets and cam and ratchet plates are preferably stamped up into the required form from thin metal, as described; but they may, if desired, be cast, the former plan, however, giving the required strength with the least weight of metal.

I am aware that a slotted pawl-plate has been arranged on the roller-pivot and fulcrumed in front of said pivot on a pin or spur formed on the end bracket, upon which it was vibrated with a rocking movement to lift the pawl out of engagement with the ratchet-disk; but in such construction its movement was necessarily imparted to the roller, backing the same before the pawl could clear the ratchet-disk; whereas in my construction the slotted plate, besides being permanently secured to and made removable with the roller, as explained, is operated by a lifting-cam formed upon it in rear of and below the roller-pivot, and operates by sliding on a flange on the bracket, as explained, to directly lift the pawl out of engagement with the ratchet-disk, and thus avoid, to a great extent, the backing of the curtain-roller prior to releasing it. In the construction referred to it was necessary also

that the slotted plate should be arranged always in the same close proximity with the end bracket; whereas in mine its distance from the end bracket may vary without interfering with its operation, as the flange on the bracket may be of any desired length, while the pin or spur referred to must necessarily be short to avoid interference with the roller-sheave.

Having now described my invention, I claim—

1. The adjustable shade-holder provided with guides for the adjusting-cord, adapting the latter to cross the window-frame on said holder, substantially as described.

2. The single cord connected with both ends of the sliding holder to which the curtain-roller brackets are connected, in combination with the slide or buckle for adjusting the ends of the holder.

3. The adjustable roller-brackets provided with guiding loops or eyes on both their rear faces and ends, whereby they are adapted to move on guide rods or ways applied either to the inner face of the casing or to the adjacent opposing sides thereof, substantially as described.

4. The flanged and perforated sliding roller-bracket B, provided with the guiding loops or eyes on its rear face and end and with the open slotted bearing, substantially as described, as a new article of manufacture.

5. The angular slotted brackets in which the pulleys over which the cord works for adjusting the sliding curtain-holder are mounted, in combination with the guide-rods on which said holder moves, having hooks or spurs for engaging them with said brackets, substantially as described.

6. The brackets to which the lower ends of the guiding-rods for the sliding curtain-holder are secured, provided with the recurved spring and spurs for securing the cord through which said holder is adjusted, substantially as described.

7. The slotted cam-plate pivoted upon the roller-shaft and attached to the roller-sheave, and provided with the lifting-cam arranged and operating substantially as described.

8. The cam-plate pivoted on the roller-shaft and provided with a stop or pawl for engaging the ratchet-disk on said shaft, and with the lifting-cam and the arm or lever, whereby its pawl is thrown out of engagement with the ratchet-disk by tension on the cord actuating the roller-shaft, substantially as described.

9. The combination of the flanged roller-brackets, the ratchet-disk on the roller-sheave, and the cam plate or disk having the stop or pawl and the cam for forcing said stop into engagement with the disk, arranged and operating substantially as described.

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