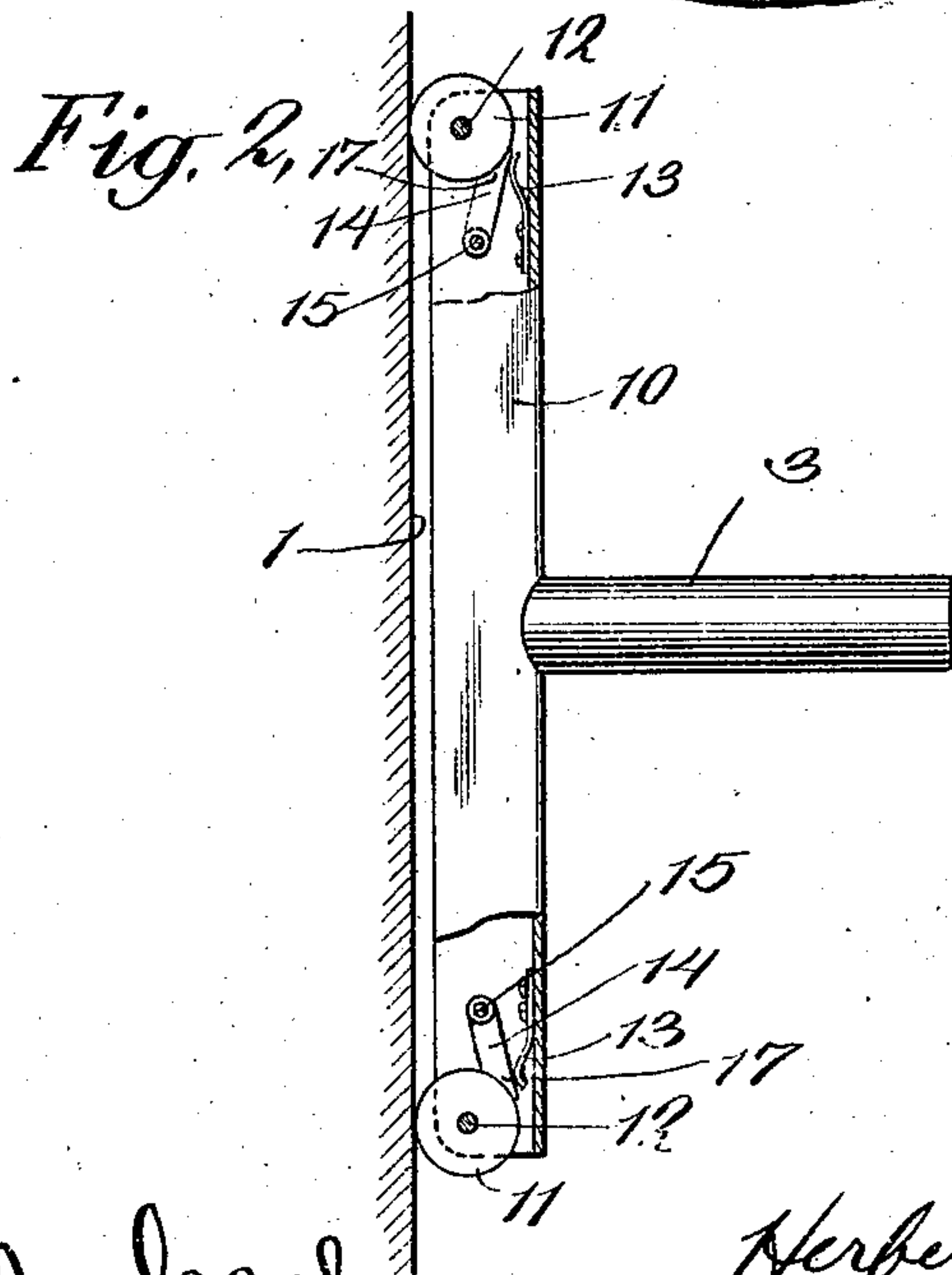
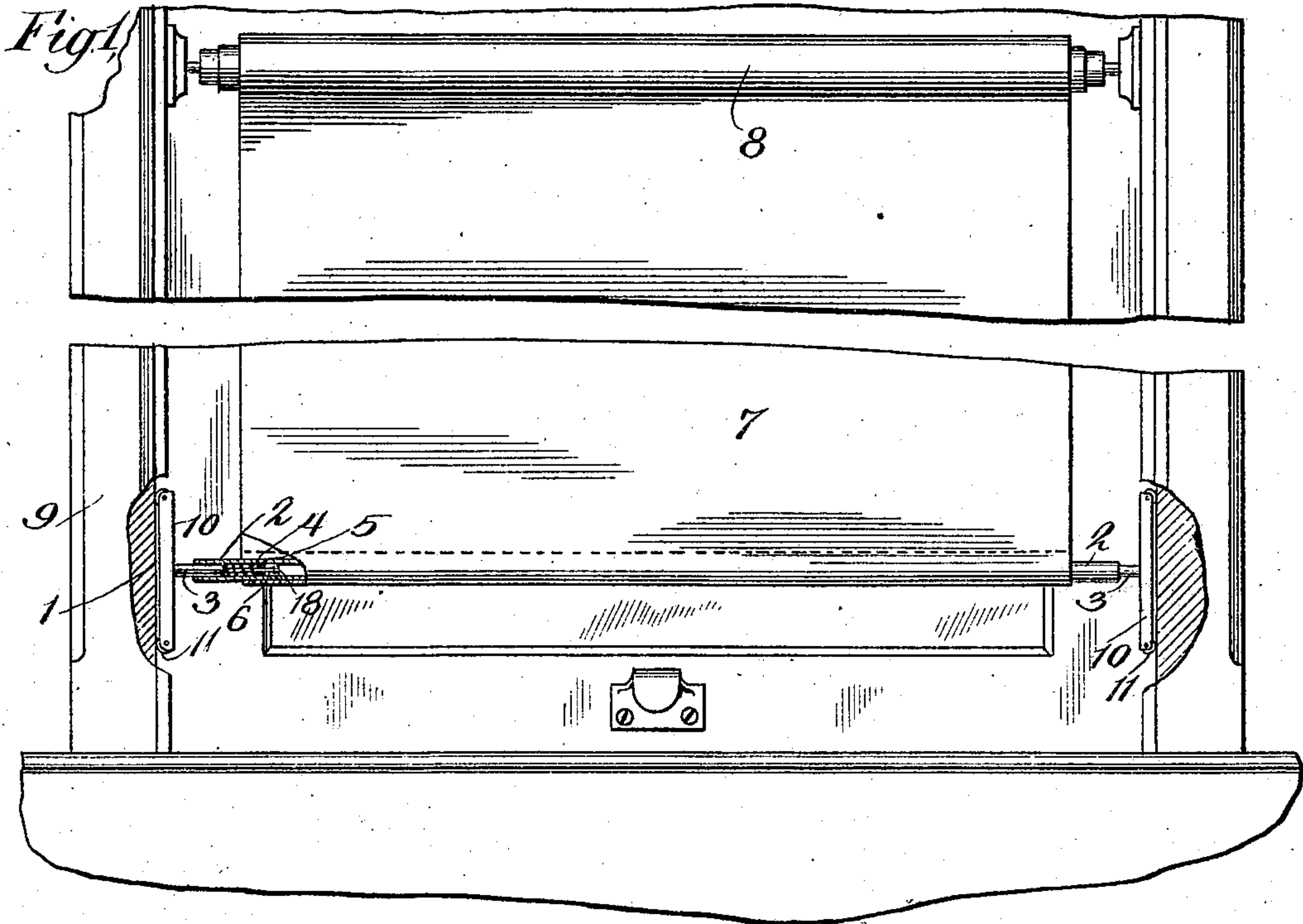


No. 847,584.

PATENTED MAR. 19, 1907.

H. E. KEELER.  
CURTAIN FIXTURE.

APPLICATION FILED OCT. 27, 1903.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## CURTAIN-FIXTURE.

No. 847,584.

Specification of Letters Patent.

Patented March 19, 1907.

Original application filed March 7, 1902, Serial No. 97,105. Divided and this application filed October 27, 1903. Serial No. 178,734.

*To all whom it may concern:*

Be it known that I, HERBERT E. KEELER, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Curtain-Fixtures, of which the following is a specification, taken in connection with the accompanying drawings, annexed to and forming part of the same.

This invention relates to curtain-fixtures such as are especially adapted to be used in connection with spring-actuated curtains to hold the curtain in any desired position and in which the curtain is maintained in parallel position as it is raised and lowered, so as to be self-aligning.

This application is a division of my co-pending application, Serial No. 97,105, filed March 7, 1902, and is based upon the disclosure therein.

In the accompanying drawings, in which the same reference-numerals refer to similar parts in the several figures, Figure 1 shows a fixture of this character applied to a spring-actuated curtain. Fig. 2 is a view on a larger scale, showing a shoe coöperating with a guideway, parts being indicated in section in the figures.

In the embodiment of this invention indicated in the drawings the window-frame 9 is formed with suitable guideways 1 of ordinary construction, by which the free end of the spring-actuated curtain 7 is guided. The upper end of this curtain is connected to the spring-roller 8 of ordinary construction and mounted at the upper end of the window-frame in the usual manner. The tube 2 is fastened in a suitable pocket in the lower end of the curtain 7 and serves to support the shoes 10, which coöperate with the guideways, these shoes being mounted so as to reciprocate in the tube and being preferably spring-pressed into coöperation with the guideways on either side of the curtain. Each shoe comprises the spindle 3, rigidly attached thereto and fitting loosely within the end of the curtain-tube, so as to accurately guide the shoe as it reciprocates longitudinally of the tube. The rod 6 is secured to the spindle and projects through a suitable stop 5, secured to the tube in any desired manner. The rod and spindle are held in the tube by the nut 18 upon the inner end of the rod, which allows a sufficient freedom

of movement, and, as indicated, the spindle is normally pressed outward by a suitable spring 4, so that the guiding members 11 of the shoe engage the guideway with the desired degree of force. Instead of mounting the shoes in the curtain-tube, as has been described, they may be mounted as is set forth in the patent to Keeler and Duncan, No. 689,195, December 17, 1901, or, indeed, the shoes may be secured to the curtain in any desired way.

In order to secure the best operation of a curtain-fixture of this class, it is necessary that the curtain be securely held in any position and that it move up and down readily, while the lower end of the curtain is maintained in all conditions in a horizontal position. As these curtains are ordinarily operated it is very common that the curtain-tube or adjacent parts of the curtain are grasped near one side of the curtain. If the curtain is operated in this manner, it will be evident that there is a tendency to cant the curtain out of horizontal position.

This invention relates particularly to means by which this undesirable action is prevented and by which the curtain is self-aligning, so as to be maintained at all times in proper engagement with the guideways. To accomplish this result, the ends of the shoes are provided with guide-rolls in engagement with the guideways, which as the shoes are moved in either direction have a varied freedom of movement along the guideways. The guiding member or roll in the forward end or tip of a shoe always has a greater freedom of movement along the guideway than in the trailing or rear tip. If, therefore, the trailing tip of a shoe of this character is raised out of engagement with the guideway, the shoe at once has an increased freedom of movement along the guideway, while if the trailing guiding member alone is in engagement with the guideway the shoe has a decreased freedom of movement along the guideway. The freedom of movement of the guiding members is automatically varied, so that as soon as the movement of the shoe takes place in either direction the leading tip at once has a greater freedom of movement along the guideway than the trailing tip. This construction gives a very desirable action, since it will be seen by reference to Fig. 1 that if the curtain-rod is grasped at the



right-hand end of the same and moved downward that side of the curtain and the right-hand shoe are positively moved downward to the proper extent, while the other side of the curtain and the left-hand shoe connected to the same have a tendency to remain in their original position, so that the curtain tends to assume an inclined position. Since, however, the shoes are quite accurately supported by their spindles in the curtain-tube, as soon as the curtain-tube assumes a slightly-inclined position the left-hand shoe is tilted to such an extent as to remove the upper or trailing guiding member from engagement with the guideway. Then since the lower or leading guiding member has a greater freedom of movement along the guideway the left-hand side of the curtain and the shoe attached to the same at once move downward until the curtain once more assumes a horizontal position, this action being of course assisted by the weight of the parts of the fixture. The spring-actuated roll attached to the curtain assists in restoring the curtain-tube to proper position, since as soon as one side of the curtain moves downward a greater upward pull is at once exerted by the spring-roller upon this side of the curtain, which tends to restore the curtain to a proper position. If the right-hand side of the curtain is moved in an upward direction, a similar action will take place, since under these conditions the upper guide member of the opposite shoe will be the leading member and will have a greater freedom of movement along the guideway than the lower or trailing guide member. Therefore as soon as the left side of the curtain assumes too low a position, so as to tilt the trailing guide member out of engagement with the guideway, the greater freedom of movement of the leading guide member allows that side of the curtain to move upward until both guide members again come into engagement with the guideway.

It will be understood, of course, that only a very slight canting of the curtain is necessary in order to remove the guide members sufficiently from their engagement with the guideway to vary the freedom of movement of the ends of the curtain to such an extent that it is restored to parallel position. A very slight variation in the pressure with which the guide members bear on the guideway is enough to bring about this result, and in consequence the curtain-fixture is self-aligning and automatically keeps the lower end of the curtain in substantially horizontal position under ordinary conditions of use. The construction of shoe by which the rotary guiding members have this freedom of movement along the guideway is illustrated in Fig. 2. The spindle 3 is indicated in that figure as rigidly secured to the shoe, which may be given the channeled form indicated,

if desired. A rotary guiding member is indicated as mounted in the lower end of the shoe to cooperate with the guideway, and this guiding member, which may take the form of a cylindrical guide-roll, is engaged by a relatively moving grip mounted in any desired way in the shoe, so as to move toward and from the guiding member or roll so as to vary its freedom of movement along the guideway. The guide-roll 11 may be mounted to rotate about the pivot 12, fixed in the shoe, and the grip may be mounted in any desired way in the shoe so as to move toward the roll and to engage the same in such manner as to have an automatically-wedging action and to allow the roll to rotate more freely in one direction than in the other. The grip 17 is indicated as mounted upon the arm 14, which is pivoted about the pin 15, this grip being normally held in engagement with the periphery of the roll 11 by the spring 13, by which it is forced into engagement to the desired extent. The grip engages the periphery of the roll at a place adjacent the line connecting the centers of the pin and roll pivot and in this manner exerts a toggle action due to the proportion of the parts, so that when the roll at the lower end of the shoe rotates in a left-handed direction the engagement of the grip tends to increase the pressure between the grip and the roll and to retard the rotation of the roll to a much greater extent than when the roll rotates in the other direction. The rotation of the roll in a right-handed direction tends to release the grip, which thus has an automatic toggle or wedging action. A suitable guiding member is provided at the other end of the shoe, and, if desired, this guiding member may also be in the form of a rotary guiding member or of a roll with which an automatically-wedging grip cooperates. Fig. 2 indicates such an arrangement, the grip and arm being so arranged that the grip is normally spring-pressed against the periphery of the roll, so as to have a toggle action in connection therewith, and tends in the manner just described to allow the roll a much greater freedom of rotation in a left-handed direction than in a right-handed direction. With this construction it will be seen that as the shoe moves up the guideway the lower or trailing guide-roll will tend to rotate in a left-handed direction and will be allowed a less freedom of movement along the guideway than when moving downward, the automatic wedging action of the grip tending to retard its rotation. During the upward movement of the shoe also the upper guiding member, if a roll and wedging-grip are employed, as indicated, will tend to rotate in a left-handed direction and will under these conditions be allowed a greater freedom of movement than when the shoe is moving downward. The leading guide-roll is therefore



allowed a greater freedom of movement than the trailing guide-roll, and this is always true whether the shoe is moving upward or downward by reason of the automatically-wedging action of the grips.

It is of course understood that those familiar with this art may make many variations in the form, number, and proportions of parts of this device, parts of the same may be employed without using all of this device, and parts may be used in connection with other devices without departing from the spirit of this invention or losing the advantages of the same. I do not, therefore, desire to be limited to the details of the disclosure which has been made in this case; but

What I claim as new, and what I desire to secure by Letters Patent, is set forth in the appended claims:

1. In curtain-fixtures, a spring-actuated curtain, guideways adjacent said curtain, a curtain-tube secured in the lower end of said curtain, shoes mounted to reciprocate in either end of said tube and spring-pressed outward into coöperation with said guideways, rotating guiding members in said shoes to engage said guideways and spring-pressed pivoted grips in said shoes relatively movable toward said guiding members, said grips having an automatic toggle action on said guiding members to vary the freedom of movement of said guiding members along said guideways.

2. In curtain-fixtures, a spring-actuated curtain, guideways adjacent said curtain, shoes mounted to reciprocate in the lower end of said curtain and coöperate with said guideways, rotary guiding members in said shoes to engage said guideways and grips mounted in said shoes out of contact with said guideways and movable toward said guiding members to have an automatic wedging action on said guiding members to vary the freedom of movement of said guiding members along said guideways.

3. In curtain-fixtures, a curtain, guideways adjacent said curtain, shoes mounted in the lower end of said curtain to coöperate with said guideways, rotary guiding members in said shoes and grips mounted in said shoes movable toward said guiding members, said grips being out of contact with said guideways and having an automatic wedging action on said guiding members to vary their freedom of movement along said guideways.

4. In curtain-fixtures, a spring-actuated curtain, guideways adjacent said curtain, shoes mounted in said curtain to coöperate with said guideways, a plurality of guide-rolls mounted in each of said shoes to engage said guideways and grips mounted in said shoes to be movable toward said guide-rolls, said grips having an automatic wedging action on said guide-rolls to allow the leading guide-rolls to have a greater freedom of

movement along said guideways than the trailing guide-rolls.

5. In curtain-fixtures, a shoe to coöperate with a guideway, rotary guiding members in said shoe to engage said guideway and spring-pressed pivoted grips mounted in said shoe relatively movable toward said guiding members, said grips having an automatic toggle action on said guiding members to allow the leading guiding member to have a greater freedom of movement along said guideway than the trailing guiding member.

6. In curtain-fixtures, a shoe to coöperate with a guideway, rotary guiding members mounted in said shoe to engage said guideway and grips mounted in said shoe to be movable toward said guiding members, said grips having an automatic wedging action on said guiding members to allow the leading guiding member to have greater freedom of movement along said guideway than the trailing guiding member.

7. In curtain-fixtures, a shoe having guiding members to engage a guideway, said guiding members comprising a guide-roll mounted in said shoe and a pivoted spring-pressed grip in said shoe relatively movable toward said guide-roll to have an automatic toggle action on said guide-roll to allow said guide-roll to move more freely along said guideway in one direction than in the other direction.

8. In curtain-fixtures, a shoe having guiding members to engage a guideway, said guiding members comprising a rotary guiding member mounted in said shoe and a grip mounted in said shoe out of contact with said guideway movable toward said guiding member, said grip having an automatic wedging action on said guiding member to allow said guiding member to move more freely along said guideway in one direction than in the other direction.

9. In curtain-fixtures, a shoe having guiding members to engage a guideway, said guiding members comprising a rotary guiding member mounted in said shoe and a movable grip mounted in said shoe out of contact with said guideway to engage said guiding member, said grip having an automatic action to restrain the rotation of said guiding member more in one direction than in the other direction.

10. In curtain-fixtures, a shoe to coöperate with a guideway, a rotary guiding member mounted in said shoe to engage said guideway and be rotated thereby and a movable grip in said shoe out of contact with said guideway to engage said guiding member, said grip having an automatic wedging action on said guiding member to restrain the rotation of said guiding member more in one direction than in the other direction.

11. In curtain-fixtures, a shoe, a rotating guiding member mounted in said shoe to engage a guideway, a movable grip mounted in



said shoe out of contact with said guideway to engage said guiding member, said grip having an automatic action on said guiding member to restrain its rotation in one direction more than in the other direction.

12. In curtain-fixtures, a curtain, shoes mounted in said curtain to coöperate with guideways adjacent said curtain, rotary guiding members in said shoes and movable grips mounted in said shoes to engage said guiding members, said grips being out of contact with said guideways and having an automatic action on said guiding members to restrain their rotation more in the one direction than in the other direction.

13. In a shade-holding device, in combination with a stick, a head at the end of the stick, a wheel journaled in said head having a brake in contact therewith at all times and adapted to prevent rotation of the wheel in one direction only, and a spring carried by the stick thrusting said head and wheel outwardly, for the purpose described.

14. In a shade-holding device, in combina-

tion with a stick, an elongated spring-pressed head at the end of the stick having a wheel journaled therein and a swinging member pivoted in said head adjacent to said wheel and adapted to be held in contact with the wheel and to normally prevent rotation of the wheel, whereby said wheel may act as a friction device to hold the shade against its upward tendency, and means for holding the said swinging member in contact with the wheel.

15. In a shade-holding device, the combination of a stick, a head at the end of the stick, a wheel journaled in said head, a brake in contact with the wheel having power to resist rotation of said wheel in one direction only, a spring carried by the stick for forcing the head outwardly, and a spring within said head for pressing the brake against the wheel, substantially as described.

HERBERT E. KEELER.

Witnesses:

HARRY L. DUNCAN,  
JESSIE B. KAY.