

No. 746,097.

PATENTED DEC. 8, 1903.

H. E. KEELER.
CURTAIN FIXTURE.

APPLICATION FILED JULY 21, 1903.

NO MODEL.

Fig. 1,

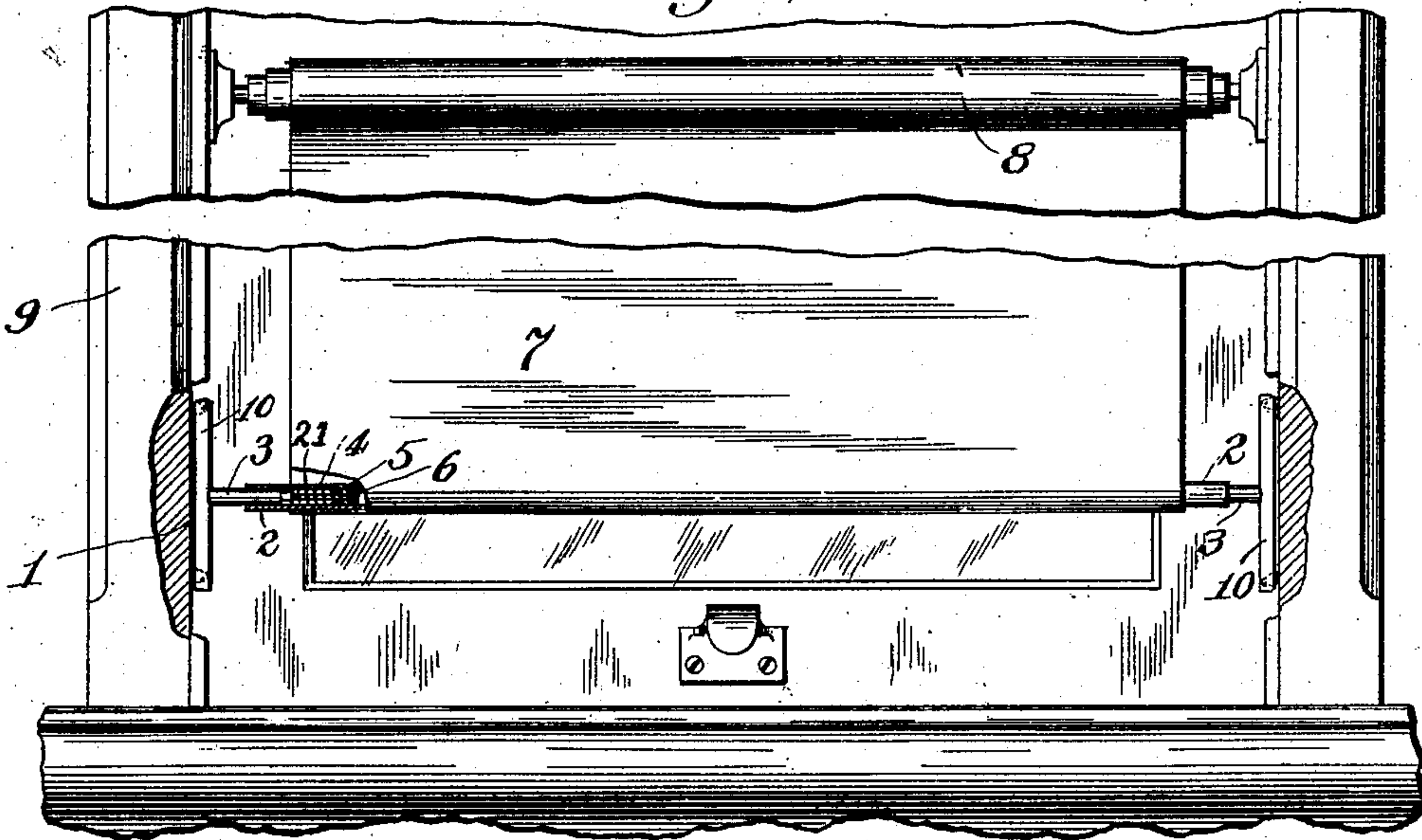


Fig. 2,

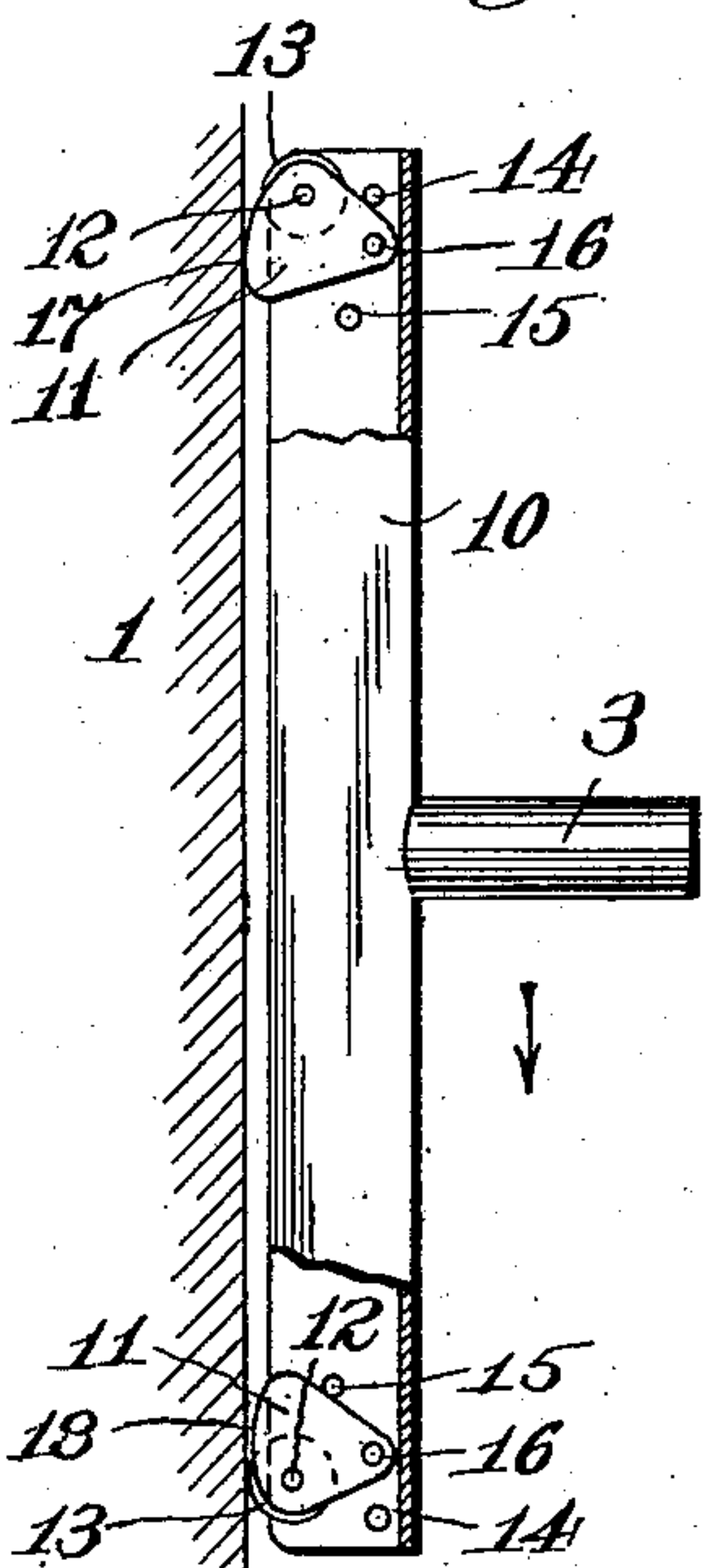
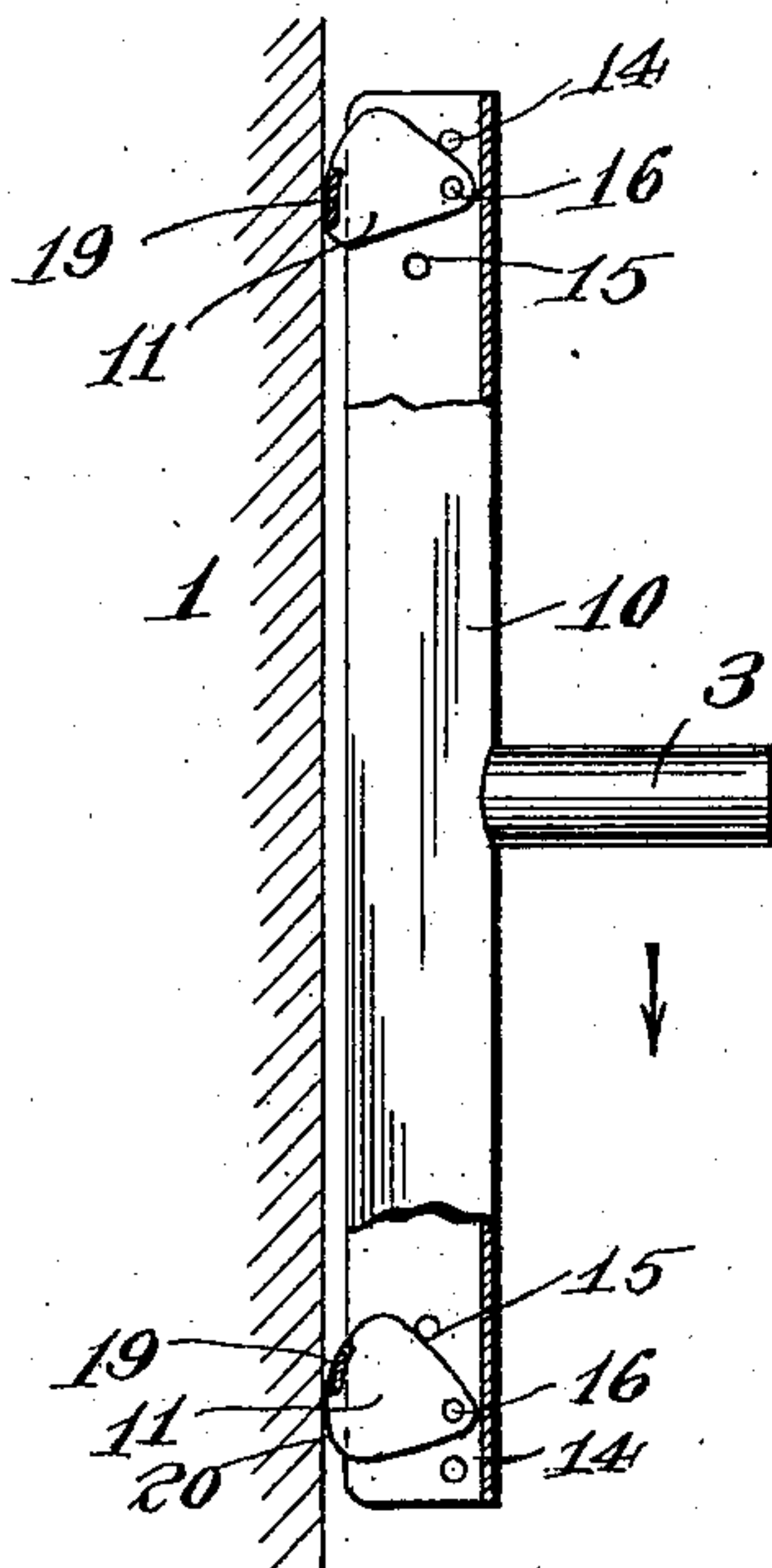


Fig. 3,



Witnesses:

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CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 746,097, dated December 8, 1903.

Original application filed March 7, 1902, Serial No. 97,105. Divided and this application filed July 21, 1903. Serial No. 166,439. (No model.)

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.

In the accompanying drawings, in which the same reference-numeral refers to similar parts in the several figures, Figure 1 shows a curtain-fixture embodying this invention applied to a spring-actuated curtain. Fig. 2 is a view on a larger scale, partly in section, showing one form of shoe. Fig. 3 is a similar view showing another form of shoe.

This application is a division of my application filed March 7, 1902, Serial No. 97,105.

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 in the usual manner to the spring-roller 8 of ordinary construction, and the lower end of this curtain carries the tube 2, which extends transversely across the free end of the curtain. This curtain-tube serves to support the shoes 10, which are mounted to reciprocate therein and which are preferably spring-pressed outward to cooperate with the guideways 1 on either side of the curtain. Each shoe comprises the spindle 3, which fits loosely within the end of the curtain-tube, so as to guide the shoe as it reciprocates longitudinally of the curtain-tube. The spindle may be held within the tube by the rod 4, secured to the same, which passes loosely through the stop 5 and which is provided with a nut or other fastening device 6 at its free end. The spring 21 is located between the stop 5 and the end of the spindle, so as to constantly force the shoe outward. Instead of mounting the shoes in the curtain-tube, as has been described, they may be

mounted in any other desired way which allows them to cooperate properly with the guideways.

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 under 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 guiding members 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 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, a slight canting of the shoe takes place, tending to release the trailing tip of the shoe from engagement with the guideway, the shoe at once has an increased freedom of movement along the guideway, while if there is a tendency to release the leading guiding member from 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 has a very beneficial 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 tends to remove the upper or trailing guiding member from engagement with the guideway. Then since the lower or leading guiding member has a very much 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. 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 tend 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 sufficiently vary the freedom of movement of the ends of the curtain, so 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 horizontal position. In order to accomplish this result, the shoes may be formed as indicated in Fig. 2, in which the spindle 3 is shown rigidly connected with the shoe-casing 10. The guiding members 11 are movably mounted within the shoe and are preferably pivoted thereto by the pivots 16 indicated, so that the guiding members are allowed a limited swinging or oscillating movement between the stop-pins 14 and the releasing-pins 15 in the shoe. These movable guiding members are adapted to engage the guideway 1 and are preferably provided with a movable guiding portion therein which when it comes into engagement with the guideway is adapted to increase the freedom of movement of the guiding member along the guideway. This relatively movable portion

may take the form of the roll 13, shown as pivoted in the guiding member 11 by the pivot 12, about which it may rotate. If the shoe is moved downward along the guideway in the direction of the arrow, the guiding members 11 will tend to swing into the positions indicated in Fig. 2, the upper guiding member swinging against the stop-pin 14 to bring the portion 17 of this guiding member into engagement with the guideway. The lower guiding member under these conditions tends to swing into engagement with the releasing-pin 15, so as to bring the guide-roll 13 into engagement with the guideway, the portion 18 of this guiding member being indicated as removed from contact with the guideway. Under these conditions, therefore, the upper or trailing guiding member has a less freedom of movement than the lower or leading guiding member. It will of course be manifest that the movement of the shoe in either direction along the guideway automatically varies the freedom of movement of these guiding members, so that the leading guiding member is always allowed the greater freedom of movement.

It is not necessary in all cases to form the guiding members with the movable guiding portion therein. Fig. 3 indicates a construction in which the guiding member is formed with a face or portion of gripping material 19, the other portion 20 of the guiding member being formed of such material as to allow an increased freedom of movement along the guideway when it is in contact therewith, thus operating in a similar manner to the guide-roll. The guiding members are in this instance mounted in the shoe, so that when the movement of the shoe brings the trailing guiding member into engagement with the stop-pin 14 the gripping portion of this guiding member engages the guideway and allows this guiding member to have a less freedom of movement along the guideway than the leading guiding member, in which the portion 20 is indicated as in engagement with the guideway, this leading guiding member being shown as swung into contact with the releasing-pin 15.

It is of course understood by those familiar with this art that many modifications may be made in the construction of these devices without departing from the spirit of this invention. Variations may be made in the number, size, and proportions of parts, parts may be omitted, and parts may be used in connection with other devices without losing the advantages of this invention. I do not, therefore, desire to be limited to 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 self-aligning curtain-fixtures, a spring-actuated curtain, guideways adjacent said curtain, spring-pressed shoes mounted on said curtain to cooperate with said guideways,

swinging guiding members mounted in said shoes and guide-rolls mounted in said guiding members, said guiding members being automatically engaged at various portions by
 5 said guideways as said curtain-fixture is operated, said guide-rolls allowing a greater freedom of movement along said guideway when in contact therewith than other portions of said guiding members.

10 2. In self-alining curtain-fixtures, a spring-actuated curtain, guideways adjacent said curtain, spring-pressed shoes mounted on said curtain to cooperate with said guideways, swinging guiding members in said shoes to
 15 be automatically engaged at various portions by said guideways as said curtain-fixture is operated, portions of said guiding members being formed to allow a greater freedom of movement along said guideway when in con-
 20 tact therewith than other portions of the said guiding members.

3. In self-alining curtain-fixtures, a spring-actuated curtain, guideways adjacent said curtain, spring-pressed shoes mounted on said
 25 curtain to cooperate with said guideways and movable guiding members in said shoes to be automatically engaged at various portions by said guideways as said curtain-fixture is operated, portions of said guiding members be-
 30 ing formed to allow a greater freedom of movement along said guideway when in contact therewith than other portions of said guiding members.

4. In self-alining curtain-fixtures, a guide-
 35 way, a shoe to cooperate with said guideway and freely-movable swinging guiding members in said shoe to be automatically engaged at various portions by said guideway as said shoe is operated, portions of said guiding
 40 members being formed to allow a greater freedom of movement along said guideway when in contact therewith than other portions of said guiding members.

5. In self-alining curtain-fixtures, a guide-
 45 way, a shoe to cooperate with said guideway, movable guiding members in said shoe to be automatically engaged at various portions by

said guideway as said shoe is operated, portions of said guiding members being formed to allow a greater freedom of movement along
 50 said guideway when in contact therewith than other portions of said guiding members.

6. In self-alining curtain-fixtures, a guide-
 way, a shoe to cooperate with said guideway, movable guiding members provided with a
 55 relatively movable portion and mounted in said shoe to be automatically moved in said shoe by contact with said guideway, said relatively movable portions allowing a greater
 60 freedom of movement along said guideway when in contact therewith than other portions of said guiding members.

7. In self-alining curtain-fixtures, a guide-
 way, a shoe to cooperate with said guideway, movable guiding members in said shoe, a
 65 guide-roll mounted in each of said guiding members to be automatically brought into engagement with said guideway and allow a greater freedom of movement along said
 70 guideway when in contact therewith than other portions of said guiding members.

8. In self-alining curtain-fixtures, a shoe to cooperate with said guideway, a swinging guid-
 ing member in said shoe to be automatically moved in said shoe by contact with said guide-
 75 way and having a relatively movable portion to allow a greater freedom of movement along said guideway when in contact therewith than other portions of said guiding member.

9. In self-alining curtain-fixtures, a guide-
 80 way, a shoe to cooperate with said guideway, a guiding member movably mounted in said shoe to be automatically engaged at various portions by said guideway as said shoe is operated, portions of said guiding member be-
 85 ing formed to allow a greater freedom of movement along said guideway when in contact therewith than other portions of said guiding member.

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Witnesses:

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