

No. 875,997.

PATENTED JAN. 7, 1908.

C. L. HOPKINS.
CURTAIN HOLDING DEVICE.

APPLICATION FILED OCT. 30, 1905.

2 SHEETS—SHEET 1.

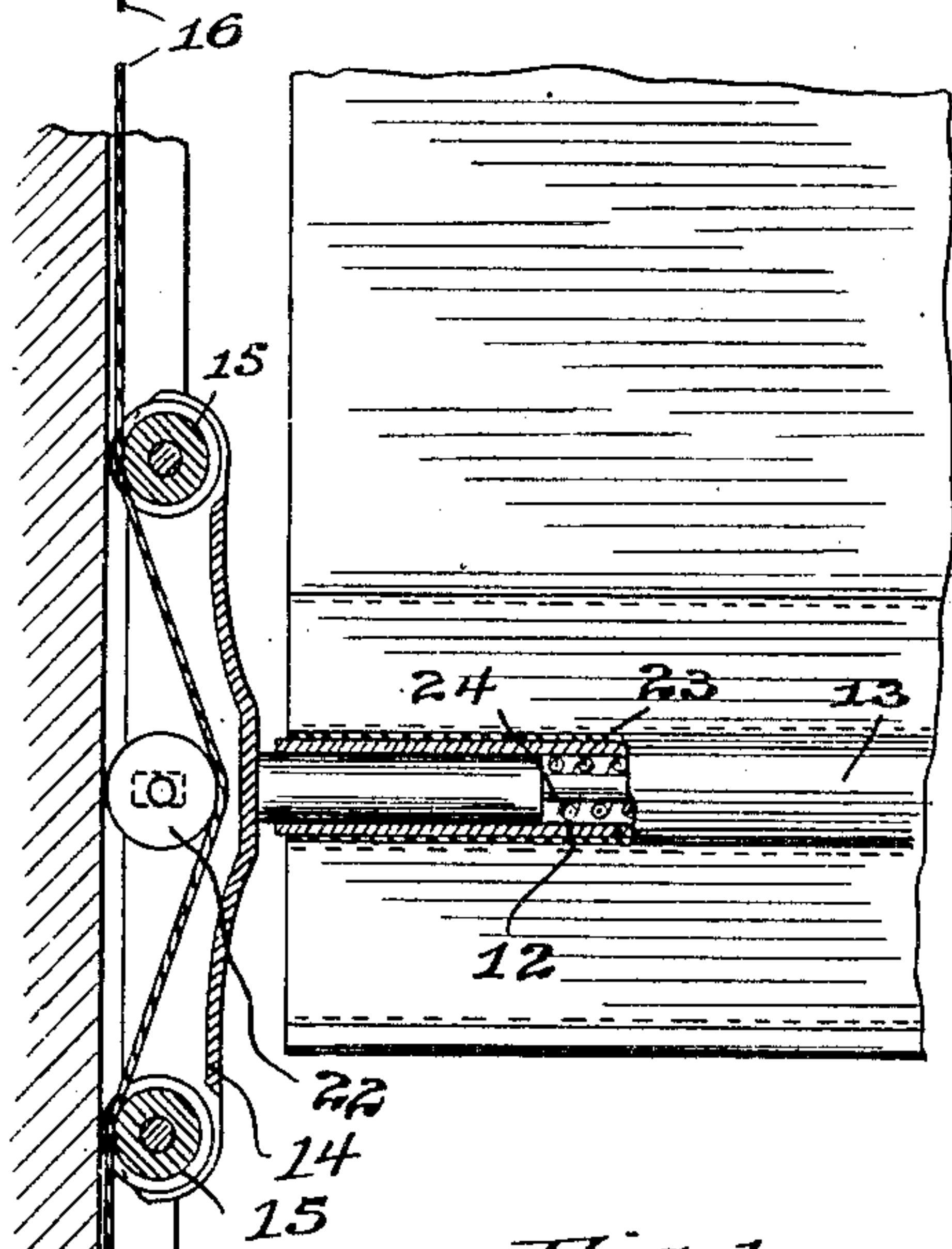
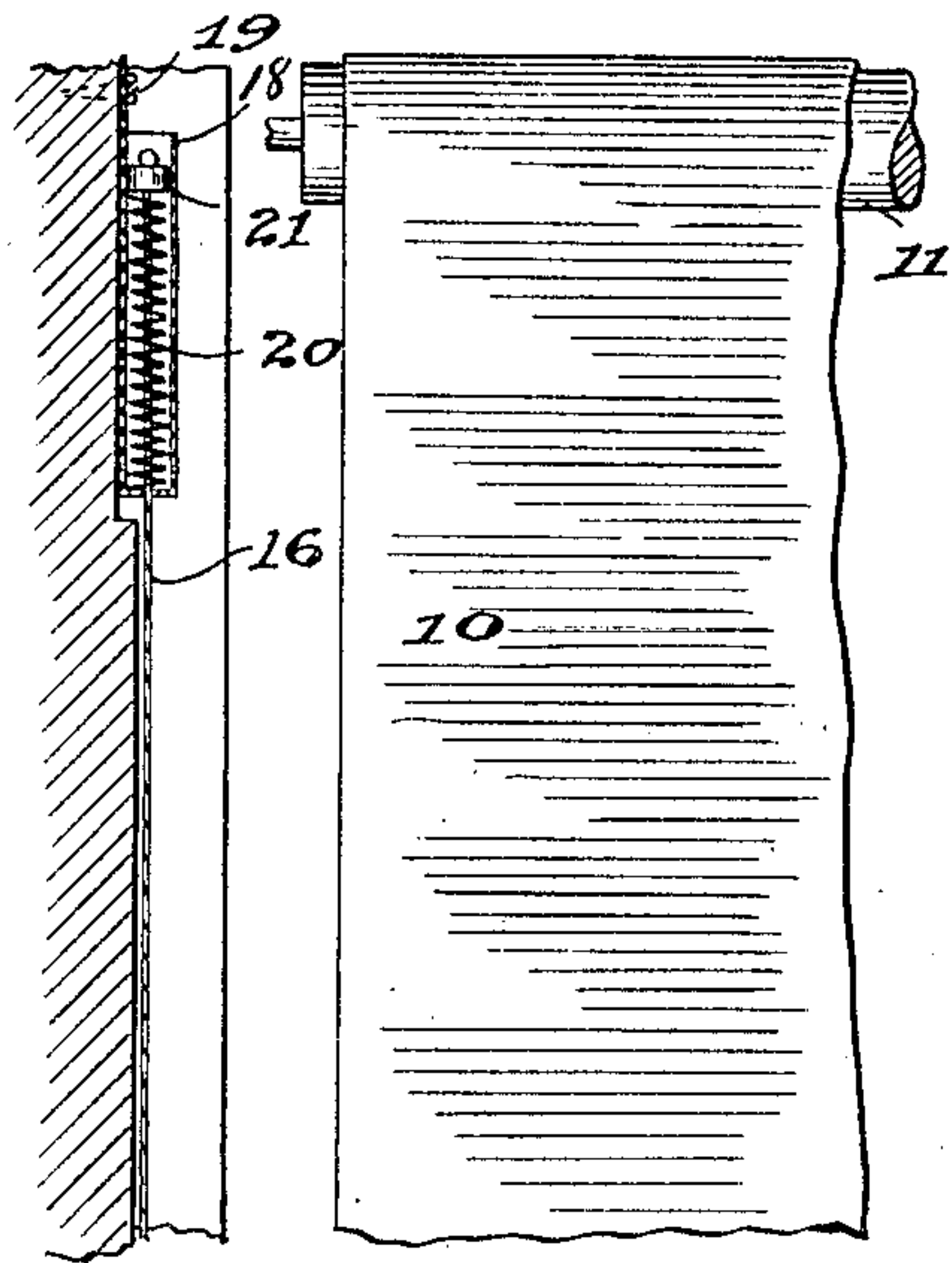
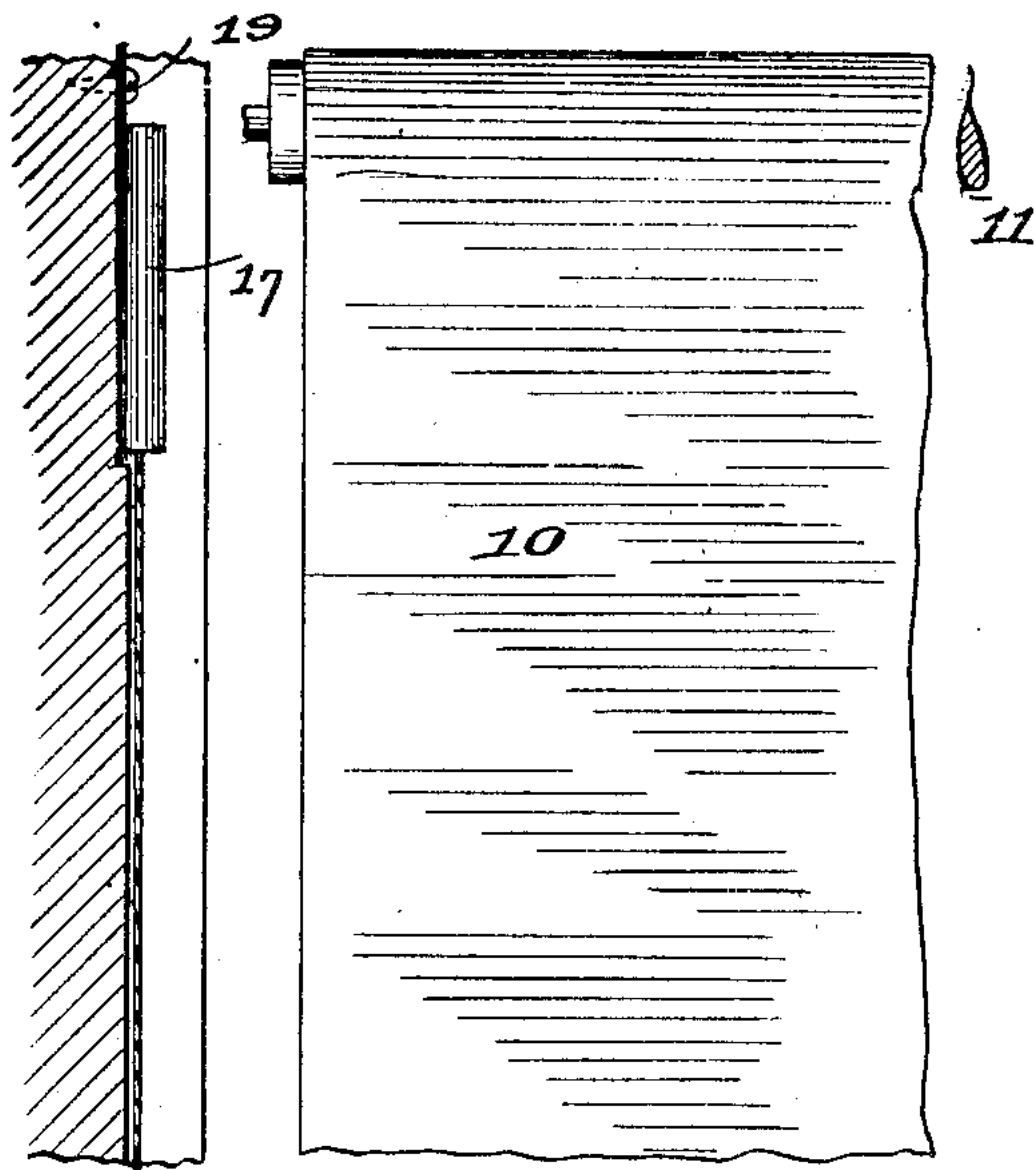


Fig. 1.

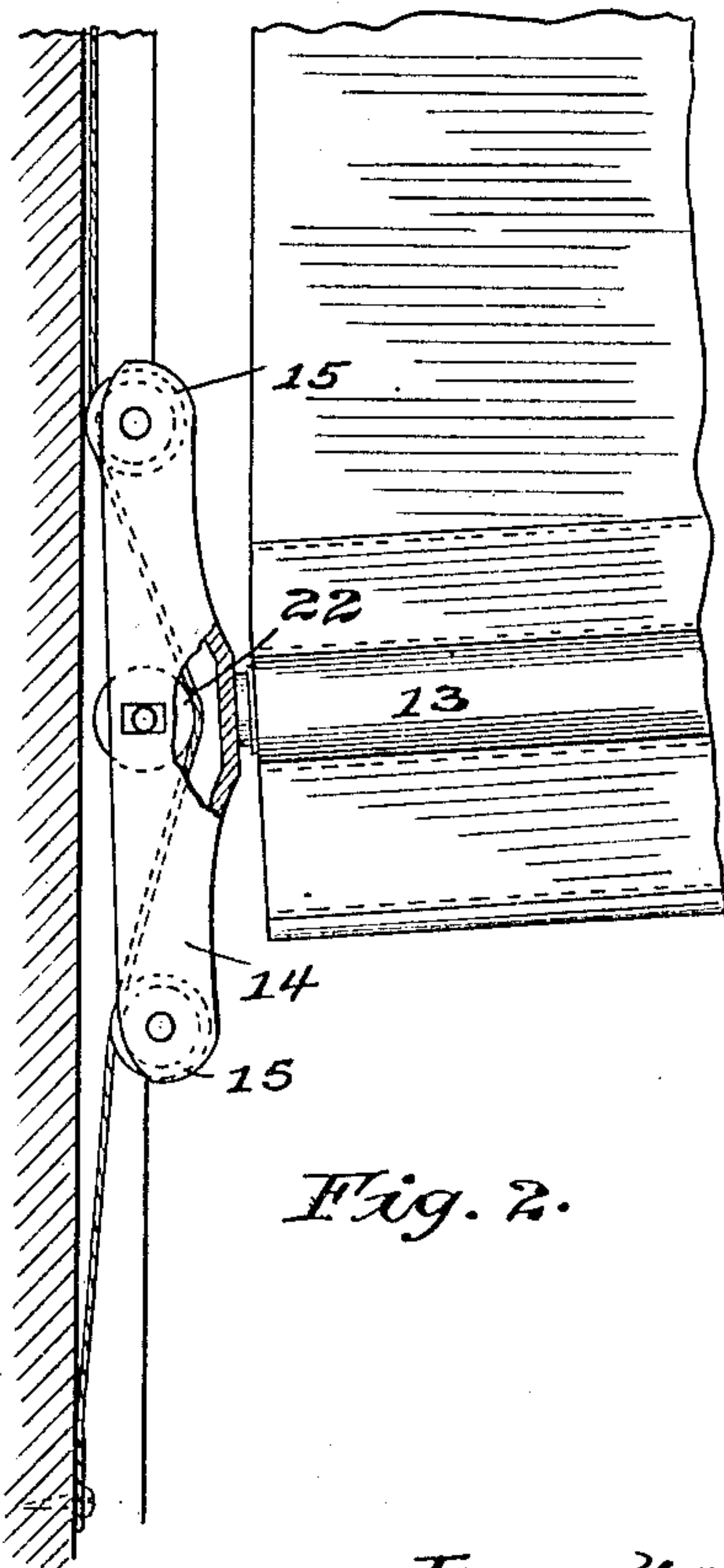


Fig. 2.

Witnesses,
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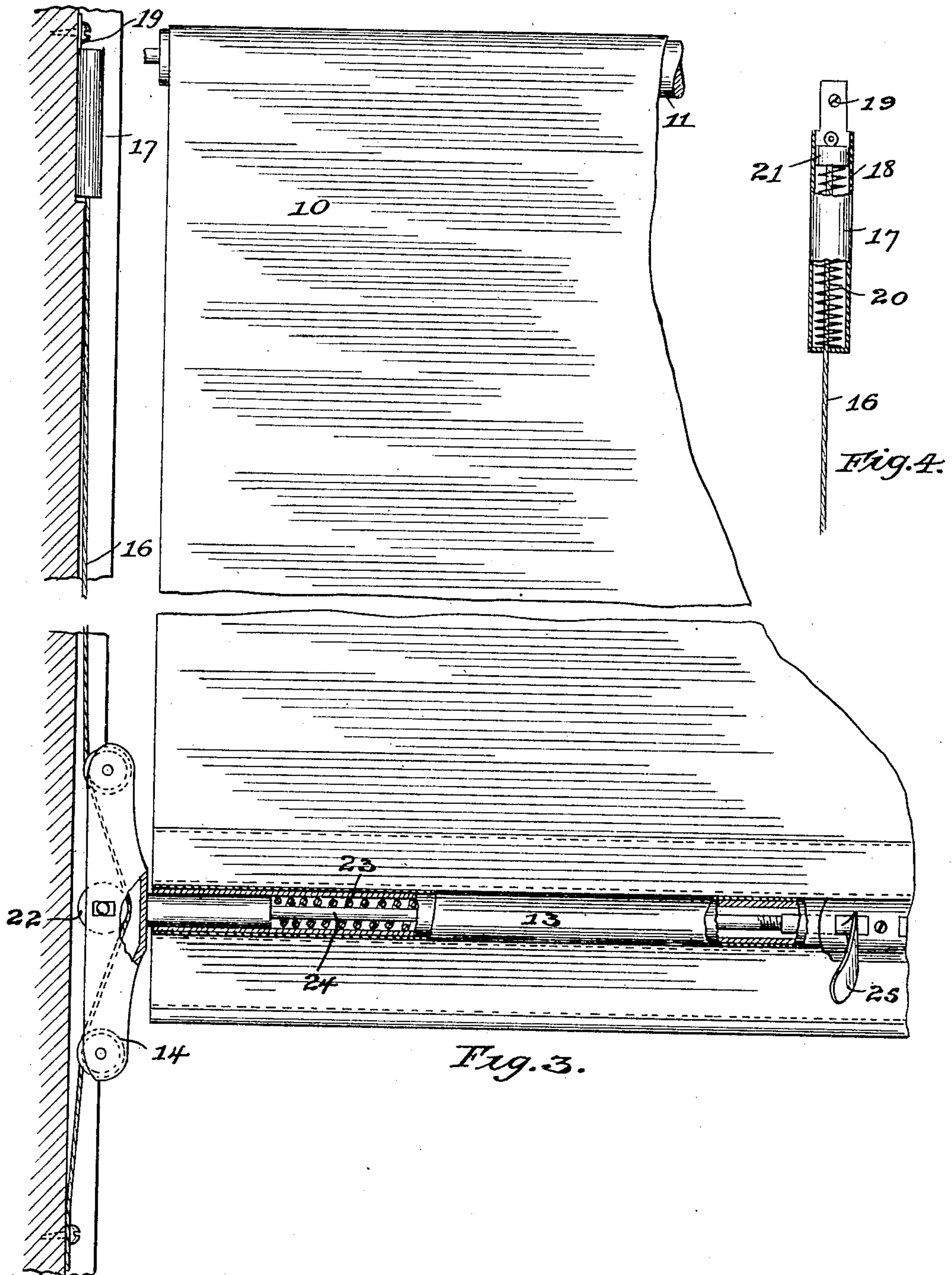
Inventor,
Charles L. Hopkins,
By Offield, Towle & Lathrop
Attys.

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2 SHEETS—SHEET 2.



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Inventor,
Charles L. Hopkins
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UNITED STATES PATENT OFFICE.

CHARLES L. HOPKINS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CURTAIN SUPPLY COMPANY,
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CURTAIN-HOLDING DEVICE.

No. 875,997.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed October 30, 1905. Serial No. 285,027.

To all whom it may concern:

Be it known that I, CHARLES L. HOPKINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Curtain-Holding Devices, of which the following is a specification.

This invention relates to that class of devices which are employed in connection with a spring-actuated curtain, to guide the latter and to hold it at any point at which it may be left, and more particularly, to that class of curtain-guiding and holding mechanisms wherein a curtain stick is provided at its ends with heads adapted to travel along grooves on or in the window frame as the curtain is raised or lowered.

The objects of this invention are to provide a device of the class described in which the heads or tips are prevented from leaving the grooves by flexible bands extending vertically along the window frame, which is of simple construction, and which will not get out of order when manipulated by inexperienced persons.

To this end I provide a curtain stick carried in a pocket in the lower part of the curtain in the usual manner. At each end of the stick I provide a head adapted to project into the groove and to travel along the latter as the curtain is raised or lowered. I also provide a flexible band, which may consist of a round cord or cable, extending vertically along the groove and having its ends secured above and below the curtain stick. This band is kept constantly under longitudinal strain by suitable instrumentalities, preferably spring means. Mounted in the head is a rotary member, preferably a wheel. The flexible band passes through the head, behind the wheel, and tends, by reason of the arrangements of the head and the fact that the band is subjected to a lengthwise pull, to hold the wheel against the bottom of the groove. The latter is thus confined between the band and the bottom of the groove. Now it will be seen that any force tending to move the head along the groove, such as the upward pull of the spring roller, will tend to rotate the wheel in one direction by reason of its being in contact with the bottom of the groove on one side, and in the opposite direction because of its being in contact with the band on the other side. Manifestly the

wheel cannot rotate in both directions at the same time, and the device will remain stationary. If a force greater than that for which the device is adjusted be applied to the device to move it along the grooves, the wheel will slip, either on the bottom of the groove or on the band. The curtain may thus be raised or lowered by grasping the stick and simply pushing it up or pulling it down. Means are also provided whereby when the device is canted into an abnormal position, the wheel will be drawn out of engagement with the bottom of the groove and may freely rotate to permit the device to right itself.

In the accompanying drawings I have shown a preferred form of my invention.

Figures 1 and 2 are broken views, partly in section, of a window frame and parts of a curtain fitted with this holding device. In Fig. 1 the head is shown in its normal position. In Fig. 2 the head is shown in the abnormal position which it will assume when the curtain stick is canted into an inclined position; Fig. 3 is a broken elevational view, partly in section, of parts of a curtain and one half of the curtain holding device. In this figure the device is represented as released to permit the curtain to ascend or to be drawn down without friction on the bands, and the means whereby this may be accomplished are shown and will be described below; and Fig. 4 is an enlarged view, partly in section, of a device for maintaining the band under tension.

In the several figures 10 is the curtain winding upon the spring-actuated roller 11. This roller is of the type usually employed with curtains for street and railway cars and exerts a constant tendency upon the curtain to wind up the latter. The curtain stick 12 is carried in a pocket 13 formed in the material of the curtain as usual. At each end of the stick 12 is a head 14, preferably adapted to have reciprocatory movement in the end of the stick. The head is extended above and below the stick and is provided with an anti-friction roller 15 at each end upon which the head may rock when the device is canted into an angular position. These rollers are grooved so that they may straddle the cable 16 and bear upon the bottom of the groove. The cable 16 is secured at one end, preferably the

lower end, to the window frame and is provided at its opposite end with a spring device 17 secured to the window frame and adapted to exert a lengthwise pull upon the cable. A convenient and simple form of device for this purpose is shown, consisting of a hollow cylinder 18 secured to the window frame by a screw 19 and containing a spring 20. A plunger or piston 21 slides up and down in the cylinder and is perforated to receive the end of the cable, the latter being passed therethrough and secured by tying a knot in its end. In the head and midway between the anti-friction rollers 15, is a wheel 22 adapted to rotate and to have a slight movement in the head in a direction parallel to the axis of the stick. The flexible band 16 passes through the head 14 in front of the anti-friction rollers 15 and behind the wheel 22. By reason of the endwise pull exerted upon the band by the spring device 17 the band 16 tends to straighten itself and to force the wheel 22 against the bottom of the groove, at the same time tending to force the anti-friction rollers, and consequently the head, back or into the tubular stick. Within the stick is a spring 23 tending to force the head outwardly. This spring 23 is sufficiently strong to hold the anti-friction rollers firmly against the bottoms of the groove, the result being that the wheel 22 is firmly gripped between the cable and the bottom of the groove. The upward pull of the spring roller 11 tends to rotate the wheel in one direction by reason of its being in contact with the bottom of the groove and in the opposite direction by reason of its being in contact with the cable. As the wheel cannot rotate in both directions at the same time the fixture and curtain are held stationary. If sufficient force be applied to raise or lower the curtain the wheel will slip, either on the bottom of the groove or on the cable and the device may be forced along the groove. A device of this character, to be of practical value, should be capable of maintaining itself in a horizontal position. In the present invention this is accomplished as follows: A slight tilting of the fixture draws the wheel 22 out of engagement with the bottom of the groove, as shown in Fig. 2. The wheel is then free to rotate and will act as an anti-friction roller. A slight tilting of the device, therefore, releases the holding mechanism of the heads, permitting the device to right itself under the influence of the spring roller in a manner well understood by those skilled in this art.

If preferred, the head may be provided with the rod 24 extending inwardly to about the middle of the stick and with a pinch handle or pendant 25 at the inner end of the rod as shown in Fig. 3. When so provided the device may be released by pinching the handles together when it is desired to raise

or lower the curtain. The curtain would be manipulated in this manner by most of the persons using a device of this character. This would prevent wear upon the cable. I prefer, however, to provide this spring, as it tends to cause the fixture to right itself more quickly and makes it more difficult to force the fixture into a canted position.

The device herein shown is easily applied and contains no parts likely to wear or get out of order. The flexible bands do not pass around or over sharp curves and consequently do not tend to crystallize rapidly.

I claim:

1. In a curtain holding device, the combination of a curtain stick, a head at the end of the stick having movement longitudinally of the stick, a flexible band extending along the window casing and passing through the head, spring means secured to the window frame and adapted to maintain the flexible band in a tense condition, and rotary means in the head in engagement with the band upon one side of its center of rotation and adapted to engage the window frame upon its opposite side.

2. In a curtain holding device, the combination of a flexible band extending along the side post of a window frame, a stick carried by the curtain, a head at the end of the stick, a rotary member mounted in the head adapted to engage the window frame upon one side of the center of rotation and to engage the flexible band upon its opposite side, and spring means for maintaining the band in a tense condition, for the purpose set forth.

3. The combination of a curtain stick, a head at the end of the stick, a rotary member in the head, a flexible band extending along the window frame and passing through the head, and spring means for tensioning the flexible band, said flexible band engaging the rotary member and holding the latter in engagement with the window casing, substantially as and for the purpose set forth.

4. In a curtain holding device, the combination of a stick, a head at the end of the stick, a rotary member mounted in the head, a flexible band secured at one of its ends to the window casing, means at the other end of the band for maintaining the latter in a tense condition, said band passing through the head, the rotary member in the head normally engaging the window casing and being engaged by the band and thereby prevented from rotating, but adapted to be moved out of engagement with the window frame and thereby permitted to rotate when the stick is canted, so that the device may right itself.

5. The combination with a window frame, of a stick, a head, a band passing through the head, rotary means in the head over which the band passes, spring means for keeping the band taut and adapted to normally hold the rotary member in engagement with

the window frame, and means for retracting the stick whereby to move the rotary member out of contact with the window frame so that the curtain may be raised or lowered.

5 6. The combination with a window frame, of a stick, a head at the end of the stick, a band passing through the head, a rotary member in the head in engagement with the band and window frame, and spring means
10 outside the device for exerting an endwise pull upon the band, the members being so arranged that the pull of the said spring means upon the band tends to force said rotary members against the window frame and
15 thereby retard or prevent rotation of the ro-

tary member and hold the curtain against the pull of the spring roller.

7. The combination with a window frame, of a stick, a head at the end of the stick, a band passing through the head, a rotary 20 member in the head in engagement with the band and the window frame and adapted to be braked by both of the latter, and spring means secured to the window frame adapted to hold the band in braking engagement with 25 the rotary member.

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Witnesses:

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