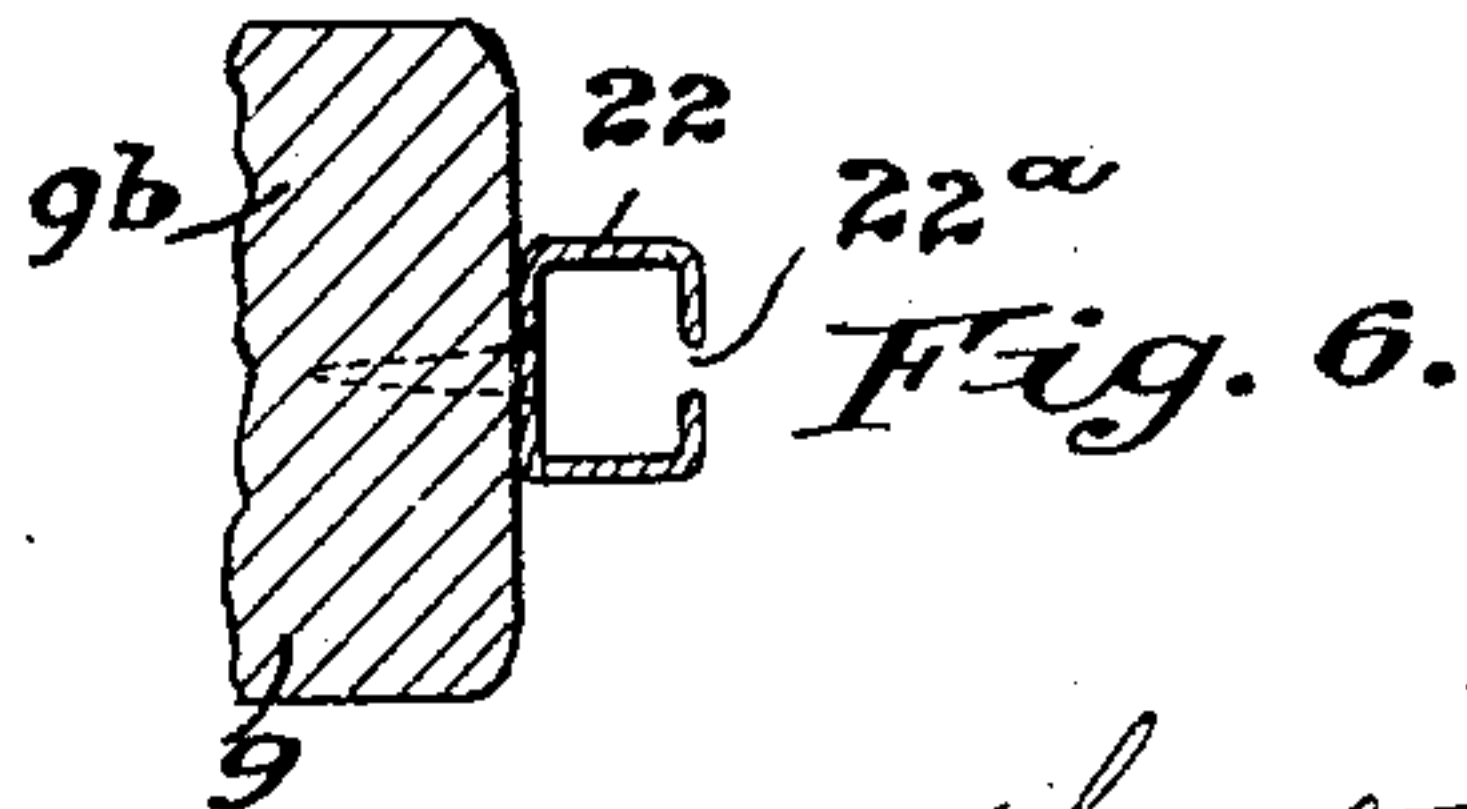
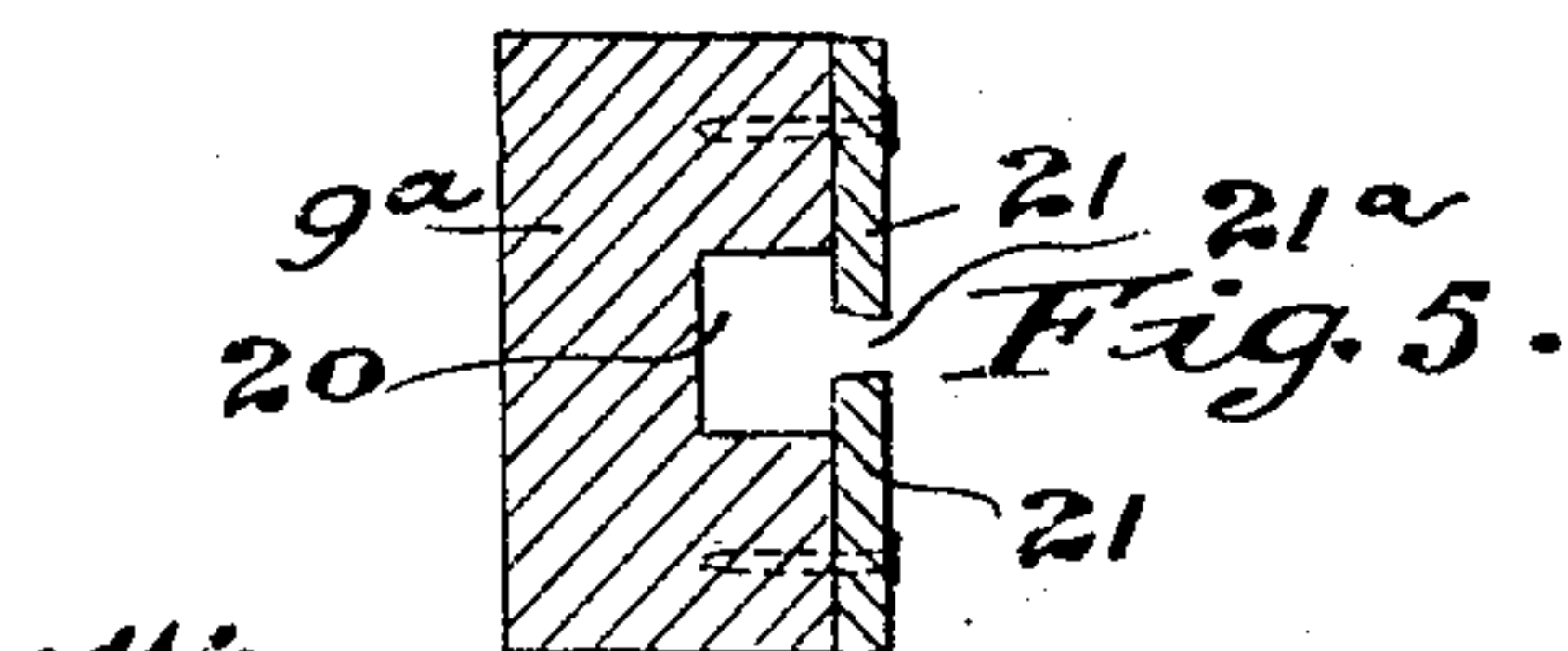
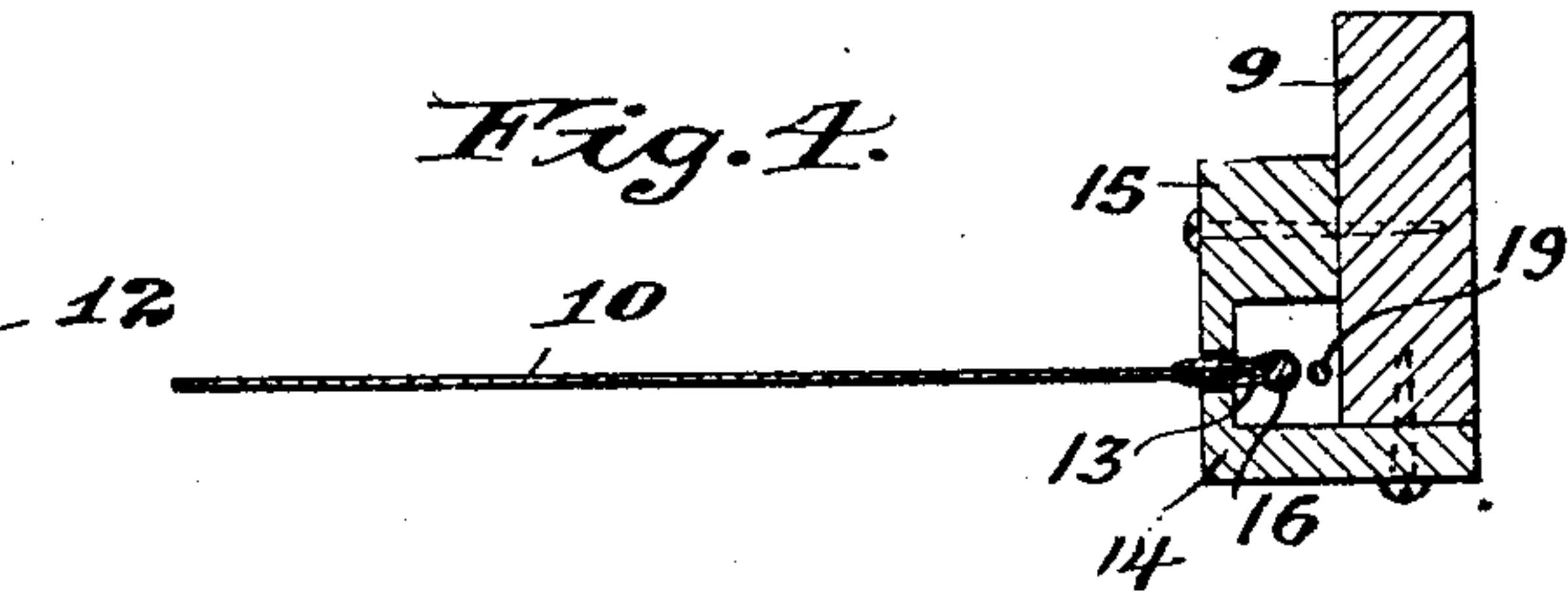
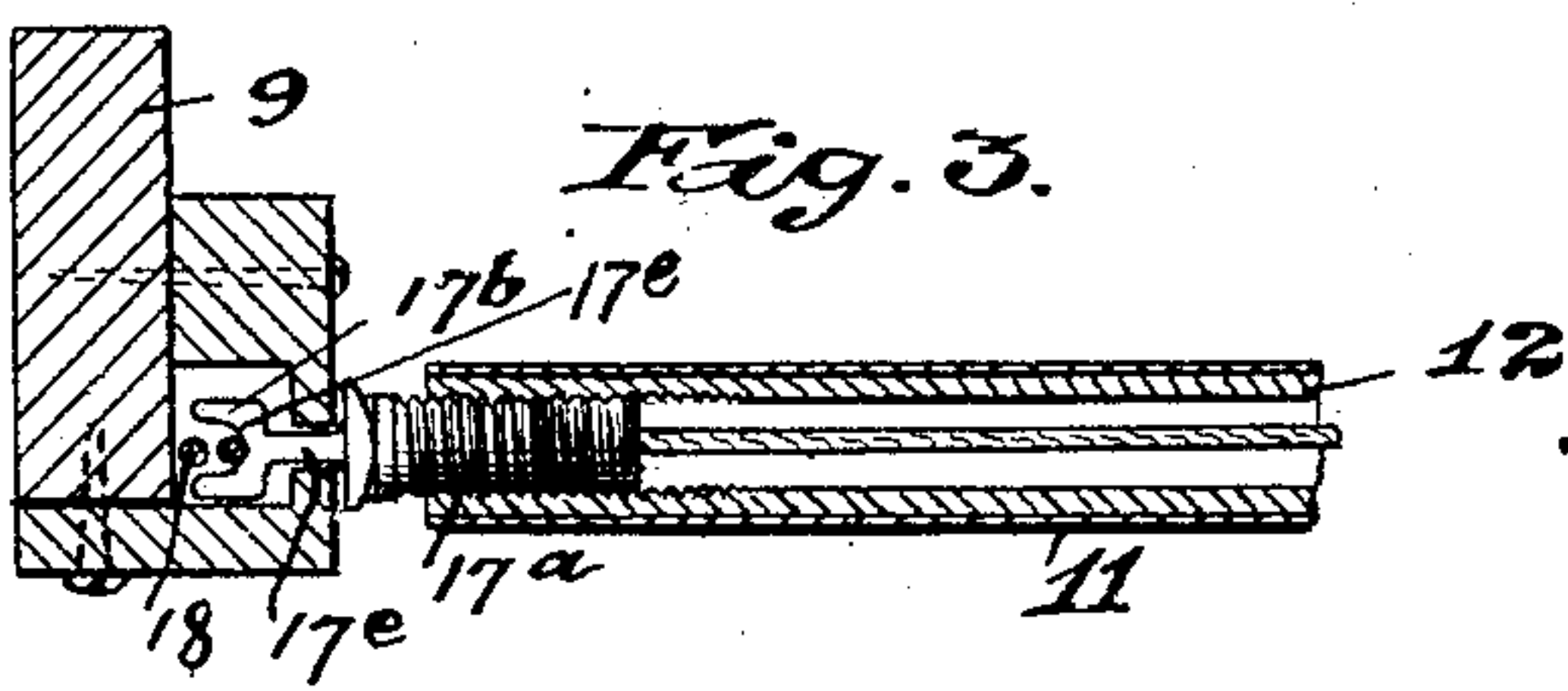
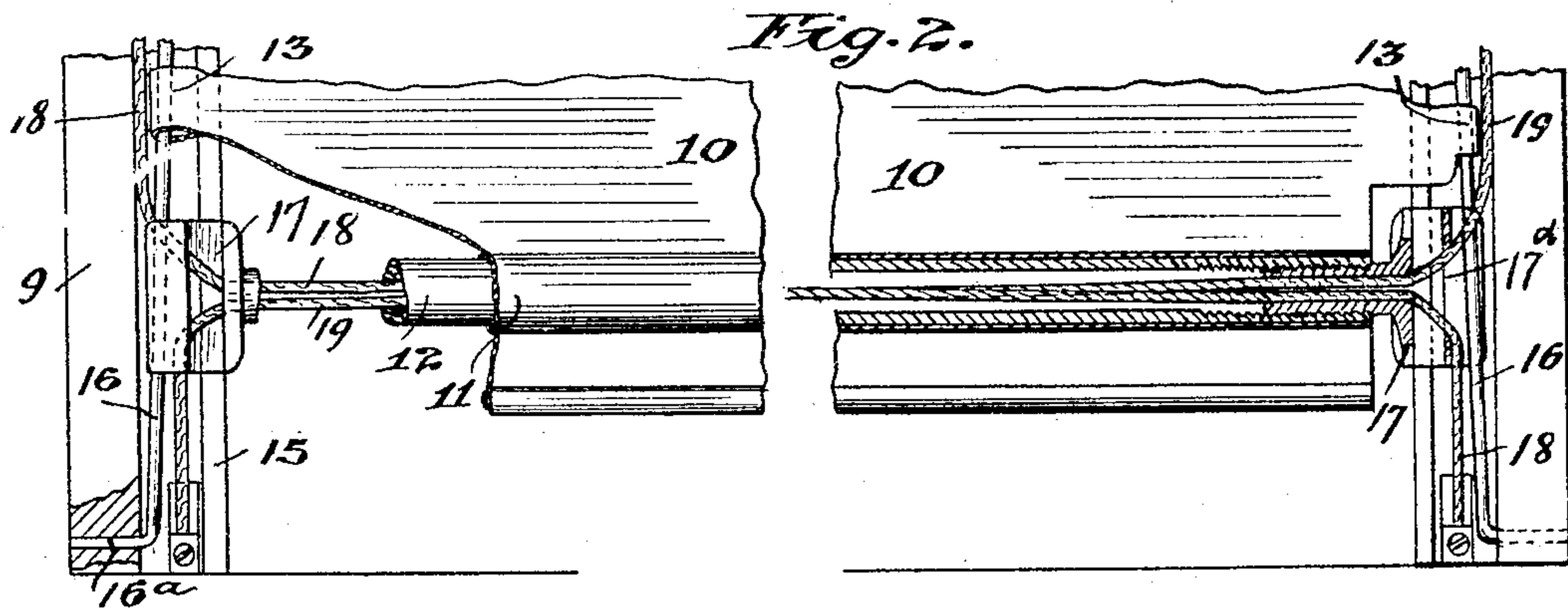
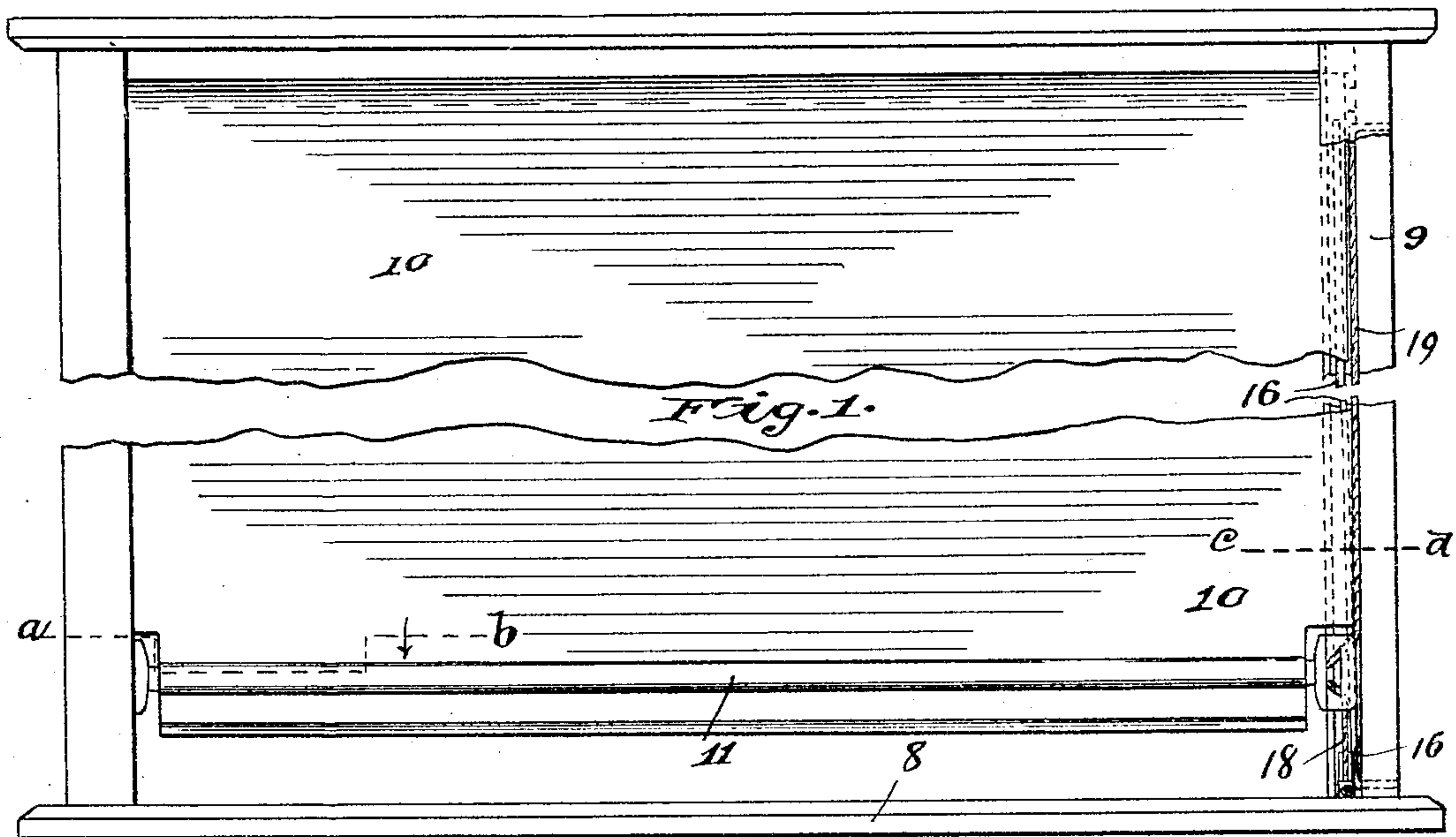


No. 785,806.

PATENTED MAR. 28, 1905.

C. L. HOPKINS.
CURTAIN FIXTURE.
APPLICATION FILED JUNE 13, 1904.



Witnessed,
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UNITED STATES PATENT OFFICE.

CHARLES L. HOPKINS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CURTAIN SUPPLY COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 785,806, dated March 28, 1905.

Application filed June 13, 1904. Serial No. 212,365.

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-Fixtures, of which the following is a specification.

This invention relates to improvements in curtains or shades wherein the curtain is mounted upon a spring-actuated roller tending to roll up the curtain and carries at or near its lower edge a device for guiding the curtain in its adjustment to positions of various heights. In the use of curtains of this class it is customary to provide a guideway extending vertically along the side post of the window-frame or the frame forming the opening to be closed by the curtain, this vertically-extending guideway consisting usually of a groove open at one side. This groove receives the end of the curtain-stick, which moves up and down therein as the curtain is raised and lowered. Curtains of this class are largely employed upon street and railway cars, and in some cases it is desirable that the space usually left open between the edge of the curtain and the side post of the window-frame be completely closed to exclude dust, wind, rain, or sunlight. It has been suggested to provide the groove in the window-frame with overhanging flanges to form what is known in this art as a "retaining-groove" and to extend the curtain into this groove, the edge of the curtain being provided with means for preventing its being withdrawn therefrom.

The object of the present invention is the improvement of curtains of this class.

A device of this character is shown in Patent No. 496,232, issued to J. M. Schatz, April 25, 1893. In the construction therein shown a retaining-groove is used, and within this groove is a vertical rod secured at its lower end only, this rod being of a diameter greater than the width of the opening between the flanges of the groove, the rod being thereby prevented from leaving the groove. The edge of the curtain is lapped over to form a pocket extending

substantially the length of the edge of the curtain. This pocket or doubled edge extends into the groove through the narrow slit-like opening between its overhanging flanges and embraces or incloses the rod, sliding up and down on the rod as the curtain is raised or lowered. This device, while effectually excluding dust, rain, wind, and sunlight, is, in common with all devices of this kind heretofore produced, so far as I am aware, open to the objection that if the curtain be raised and lowered by manipulation of the bottom thereof the curtain will bind and stick unless the curtain-stick be grasped at or near a point midway between its ends. It is customary with curtains of this kind to mount the curtain on what is known as a "self-acting" roller, this form of roller having dogs or catches to prevent rotation of the roller as distinguished from the continuously-acting roller usually employed with curtains for cars. The use of the self-acting roller is for various reasons objectionable when applied to any form of curtain for street or railway cars.

By means of the improvements herein shown I have produced a curtain having its edges confined in retaining-grooves, and which will not bind or stick if carelessly manipulated. I am also enabled to employ a continuously-acting roller.

While I prefer to use and show herein the form of curtain disclosed in the patent above referred to, I desire it understood that my invention may be employed in connection with curtains in which other means are used for retaining the edges of the curtain and excluding dust, rain, &c., from the car.

In the drawings, Figure 1 is a broken elevation of a window-frame having fitted therein a curtain embodying my invention, part of the stop forming the groove at one side of the window being broken away. Fig. 2 is a broken face view, partly in section, of the lower part of the curtain. Fig. 3 is a section on the line *a b*, Fig. 1, looking downwardly. Fig. 4 is a similar section on the line *c d*, Fig. 1. Fig. 5 shows a modified form of retain-

ing-groove, and Fig. 6 shows a retaining-groove in the form of a rectangular tube slotted along one side thereof.

In the drawings, 8 is the sill of the window-frame, and 9 the upright side posts.

10 is a curtain, having at its lower edge the usual pocket 11 for the curtain-stick 12. An elongated pocket 13 extends along the vertical edge of the curtain 10 and lies between the overhanging flanges of the strips 14 and 15, between which is formed the retaining-groove. 16 is a vertical rod within this groove. I preferably support this rod by bending a short portion 16^a of its lower end at right angles to its main portion and thrusting this short bent-over portion into a suitable hole bored in the side post 9. This rod 16 is unsupported at its upper end, but is prevented from leaving the groove by reason of its size.

The curtain-stick 12 is tubular and carries at each end thereof a head 17, which latter, to permit them to perform their expected functions in their travel within the guideways or grooves, are of peculiar configuration and structure to be hereinafter defined, enabling their employment and movement in slits constituting the mouths or entrance-slots of said ways or grooves, which slits are of necessity very narrow to prevent the escape there-through of the retaining-rods for the edges of the curtain or shade. Extending longitudinally through the tubular stick 12 are squaring-cords 18 and 19, these cords being crossed within the tube and issuing from the same through the heads 17. The opposite ends of a cord are secured at diagonally opposite corners of the window-frame. The operation of these cords in maintaining the stick level and in restraining the curtain against the upward pull of its spring-roller is well understood.

The head 17 I form with a cylindrical portion 17^a to fit into the end of the tubular stick. This portion 17^a I preferably form with screw-threads thereon to engage screw-threads on the interior of the stick. The portion 17^b of the head 17 located within the groove is enlarged and is of substantially the width of the portion 17^a. A reduced portion or neck 17^c is of substantially the width of the cords and slides up and down between the overhanging flanges of the guide-strips 14 and 15. This reduced portion or neck is also provided with an intermediate opening or passage-way 17^d for the cables or cords 18 19, while the enlarged portion 17^b is divided vertically, as at 17^e, to accommodate said cords, as also the retaining-rods 18 19. By the use of this construction of the head it is possible to use squaring-cords with a groove of the form herein shown. It will be seen that the rod for retaining the edge of the curtain within the groove and the cords or cables for main-

taining the stick in a horizontal position and for holding the curtain against the upward pull of the roller are both contained and concealed within the groove. As the entrance to this groove is a narrow slit, it will be seen that the device is less unsightly than the cable devices commonly in use. It may be in some cases desirable to use a confining-groove and the form of cable-fixture herein shown with a curtain unprovided with means for retaining the edges thereof.

Fig. 5 shows in cross-section a side post 9^a of sufficient thickness to permit the formation of the guide-groove 20 in the inner face thereof, the narrow entrance 21^a to the latter for the accommodation of the neck 17^c of the head 17 being formed by strips 21, secured to the inner face of said post and at their adjacent edges overhanging the side walls of the groove 20. Fig. 6 shows a post 9^b, in connection with which the groove for the accommodation of the head is secured by means of a rectangular tube 22, secured to the inner face thereof, said tube having a contracted longitudinal slot 22^a in its inner face for the accommodation of the neck of the head.

I claim—

1. The combination of a curtain-stick, a guideway adjacent to the curtain-stick having overhanging retaining-flanges, a head carried by the stick having an enlarged portion within the guideway and a reduced portion between the flanges of said guideway, and a squaring-cord having a portion of its length within the guideway and adapted to enter the stick.

2. The combination of a stick, a groove adjacent to the end thereof having overhanging flanges, a head at the end of the stick extending into the groove between the flanges and having an enlarged portion within the groove, and squaring-cords for preventing tilting of the stick.

3. The combination of a stick, a groove adjacent to the end thereof having retaining-flanges, a head at the end of the stick extending into the groove between the flanges thereof and having an enlarged portion within the groove, and squaring-cords for maintaining the stick in a horizontal position.

4. The combination of a stick, a guideway adjacent to the end of the stick having overhanging retaining-flanges, a head at the end of the stick extending into the guideway, said head having an enlarged portion within the guideway and a reduced portion between the flanges of said guideway, and flexible guiding members for guiding the stick.

5. The combination of a curtain-stick, a guideway adjacent to the curtain-stick having an overhanging retaining-flange, a head carried by the stick having an enlarged portion within the guideway and a reduced portion adjacent to the flange of said guideway, and a squaring-cord having a portion of its length

within the guideway and adapted to enter the stick.

6. The combination of a stick, a groove adjacent to the end thereof having a retaining-flange, a head at the end of the stick extending into the groove and having an enlarged portion within the groove, and squaring-cords for maintaining the stick in a horizontal position.

7. The combination of a stick, a guideway adjacent to the end of the stick having an overhanging retaining-flange, a head at the end of the stick extending into the guideway, said head having an enlarged portion within the guideway and a reduced portion adjacent to the flange of said guideway, and flexible guiding members for guiding the stick.

8. The combination of a curtain-stick and curtain, a guideway adjacent to the curtain-stick having an overhanging retaining-flange, a head carried by the stick having an enlarged portion within the guideway and a reduced portion adjacent to the flange of said guideway, a squaring-cord having a portion of its length within the guideway and adapted to enter the stick, and means for preventing withdrawal of the edges of the curtain from the guideway.

9. The combination of a stick and a curtain, a groove adjacent to the end thereof having a retaining-flange, a head at the end of the stick extending into the groove and having an enlarged portion within the groove, squaring-

cords for maintaining the stick in horizontal position, and means for preventing withdrawal of the edges of the curtain from the guideway.

10. The combination of a stick and curtain, a guideway adjacent to the end of the stick having an overhanging retaining-flange, a head at the end of the stick extending into the guideway, said head having an enlarged portion within the guideway and a reduced portion adjacent to the flange of said guideway, flexible guiding members for guiding the stick, and means for preventing withdrawal of the edges of the curtains from the guideway.

11. In combination with a guideway, a curtain, a rod engaging the side edge of the curtain to prevent its withdrawal from the guideway, and a squaring-cord for preventing uneven movement of the lower edge of the curtain, said guideway being formed for the reception of both said rod and squaring-cord.

12. In combination with a curtain, instrumentalities for preventing withdrawal of the side edge thereof from its guideway and for preventing uneven movement of the lower edge of the same, and the guideway formed for the reception of said instrumentalities.

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Witnesses:

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FREDERICK C. GOODWIN.