

D. HOYT.  
WINDOW SHADE FIXTURE.  
APPLICATION FILED JAN. 16, 1906.

928,864.

Patented July 20, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

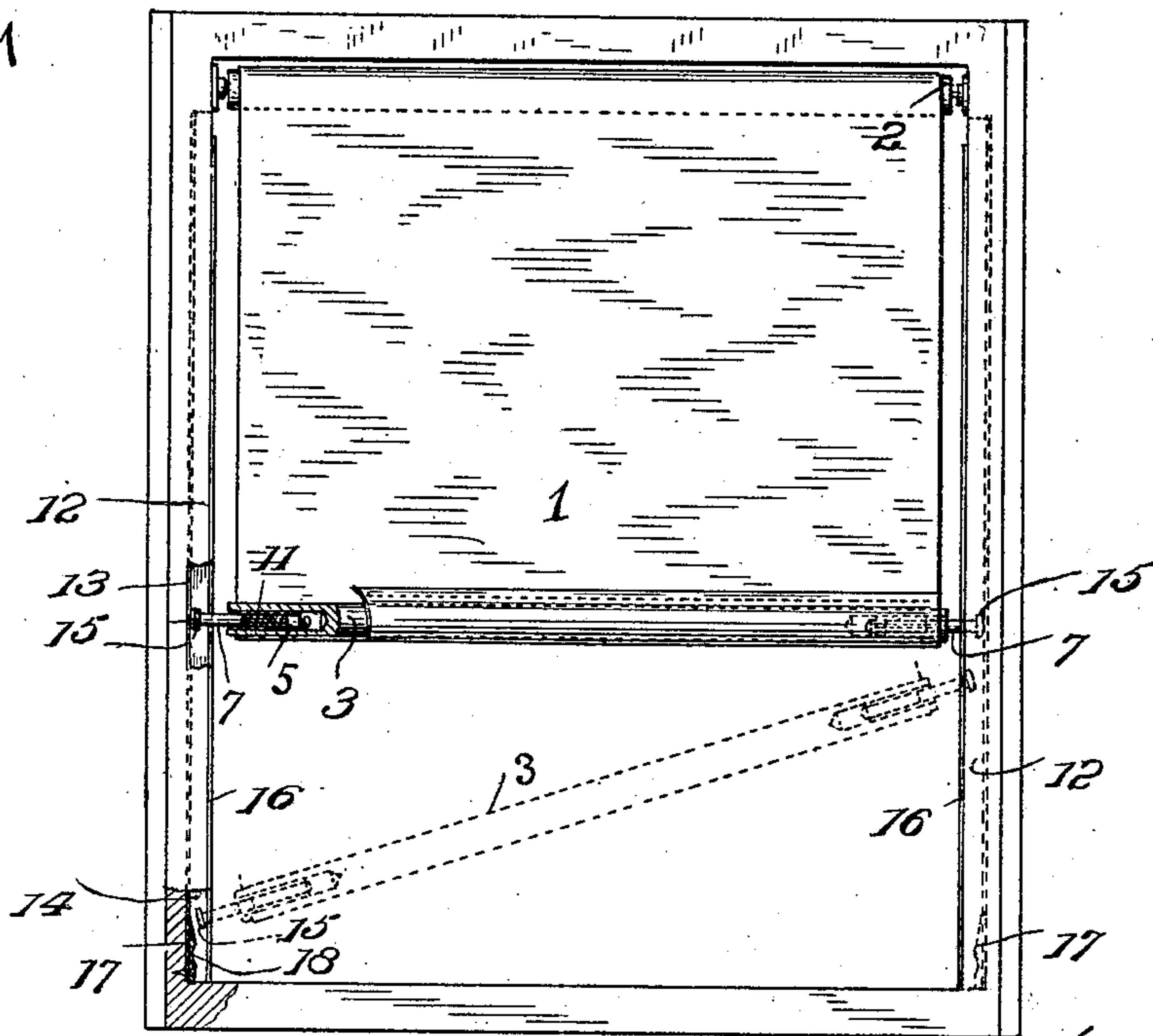


Fig. 3.

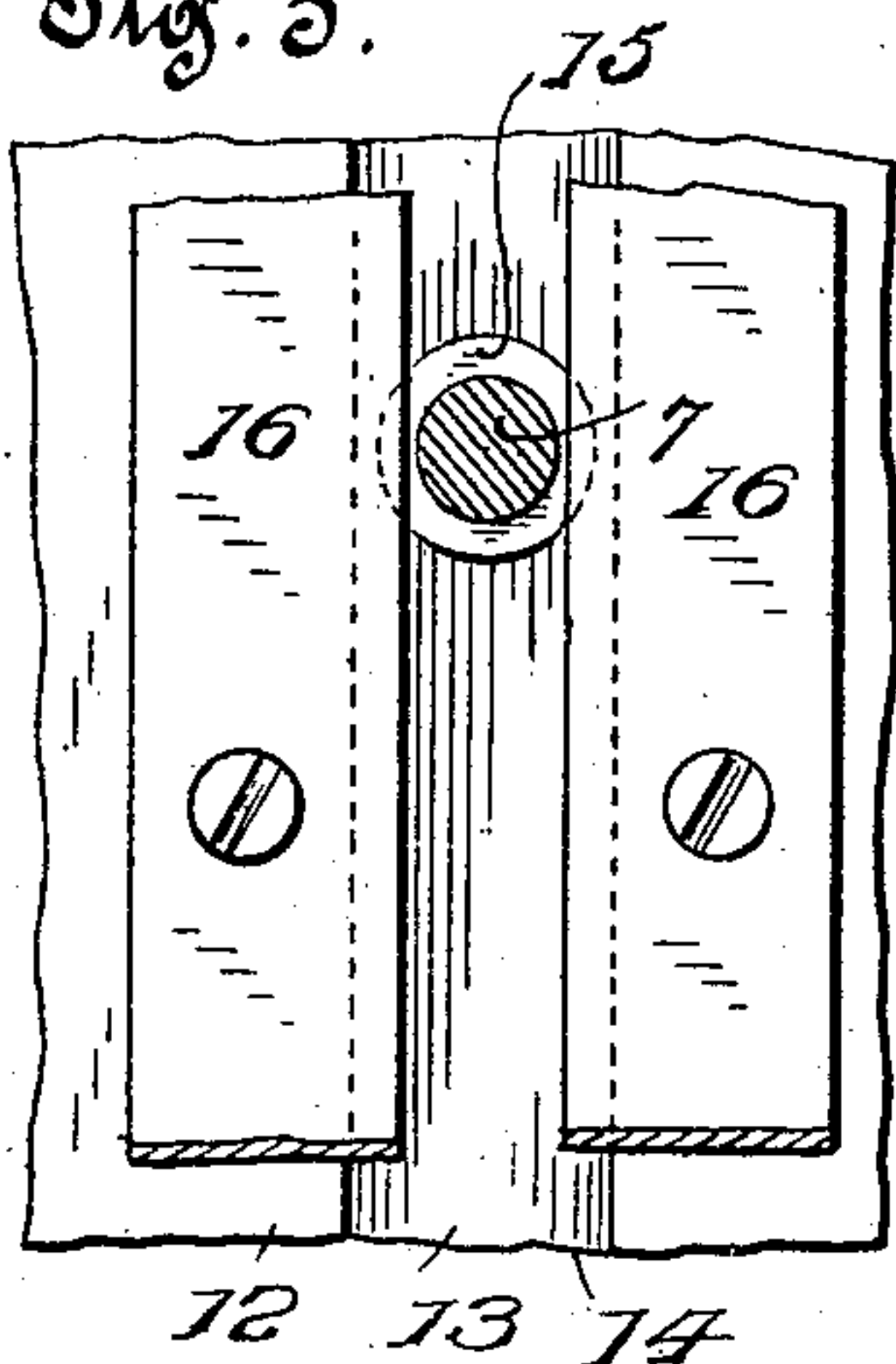


Fig. 2.

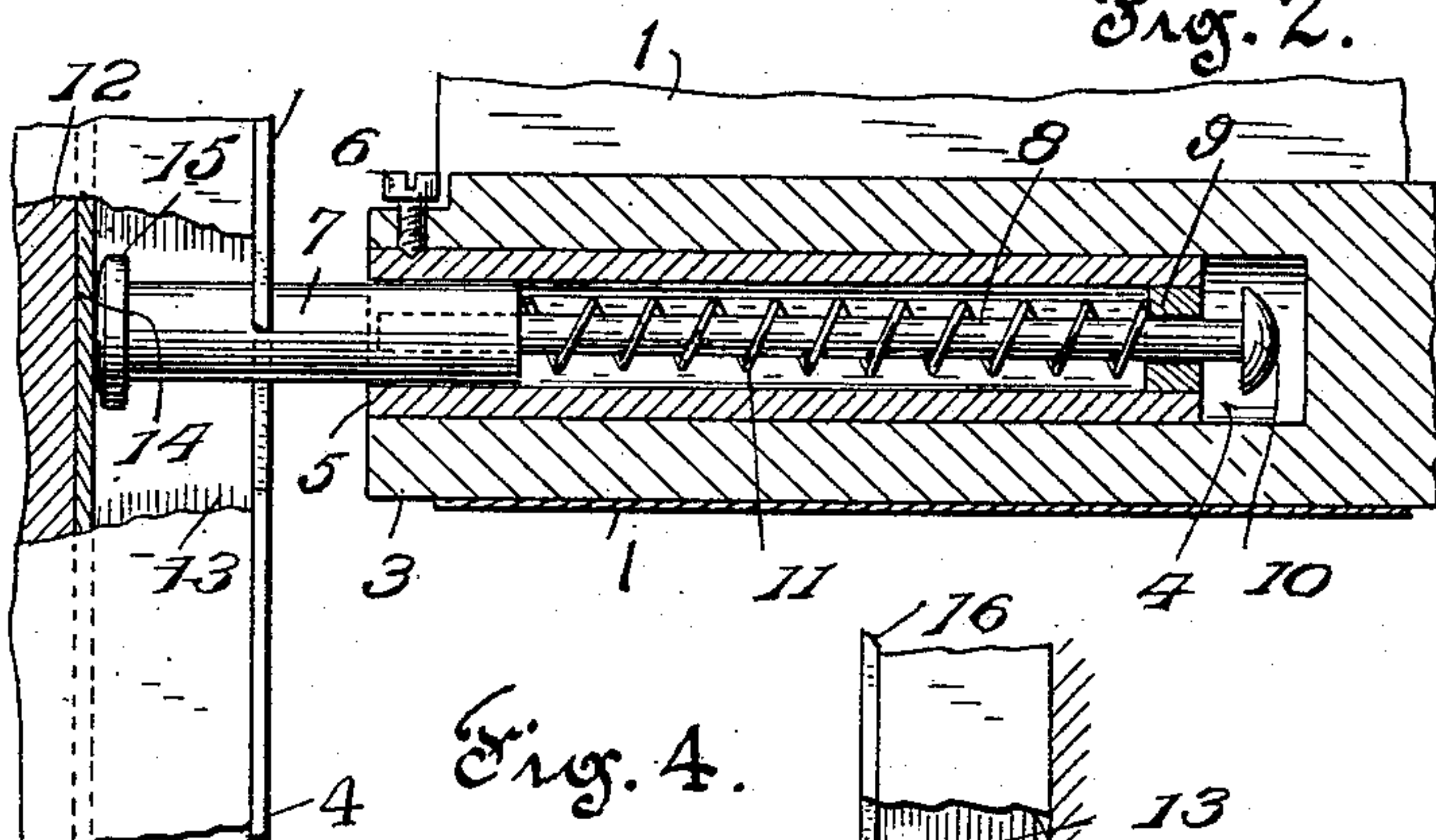
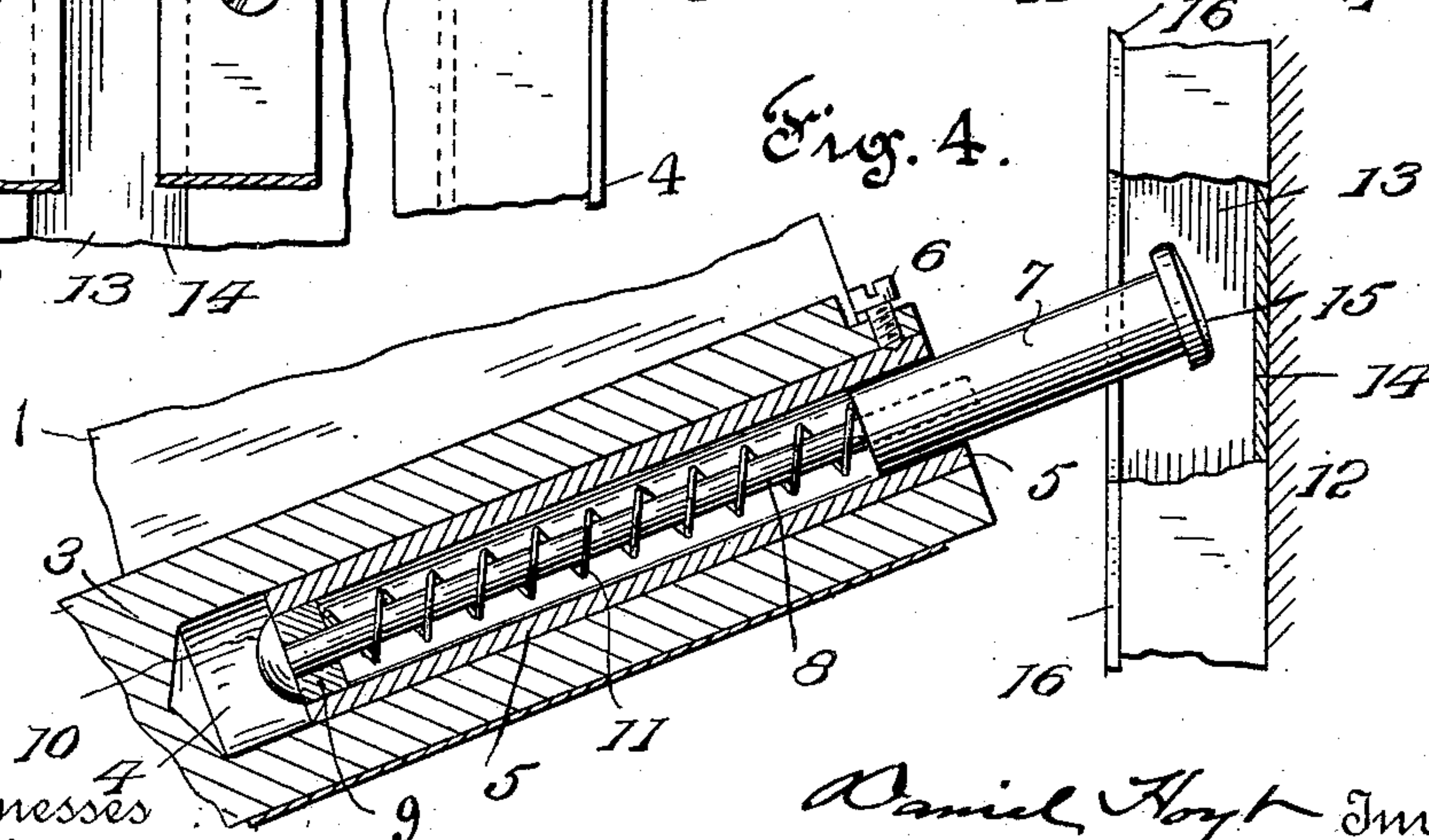


Fig. 4.



Witnesses  
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2 SHEETS—SHEET 2.

Fig. 8

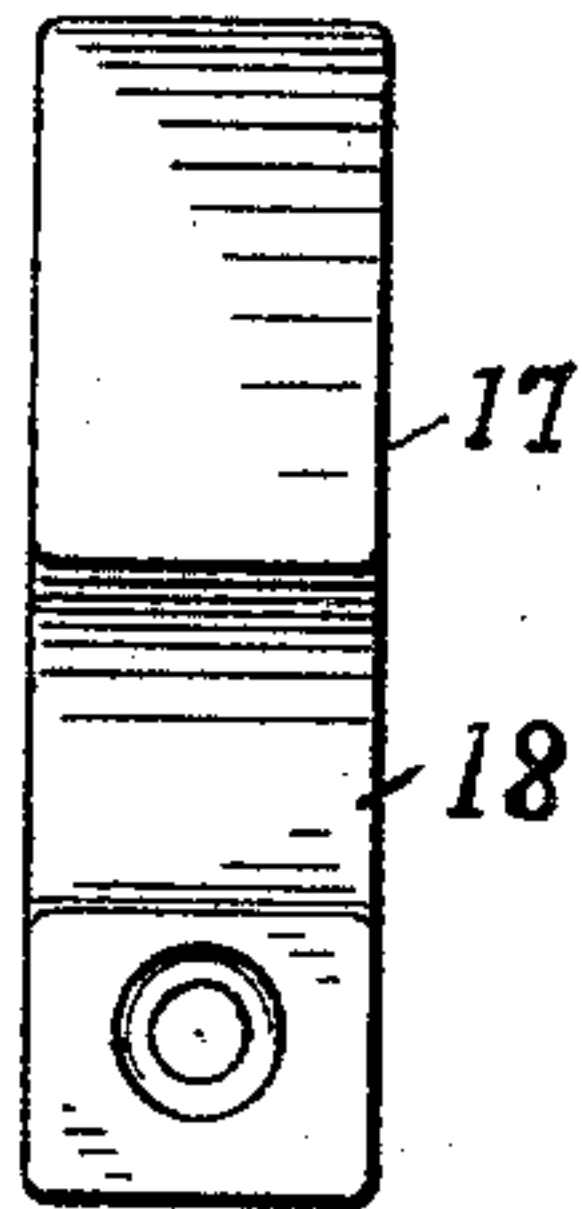


Fig. 7.



Fig. 5.

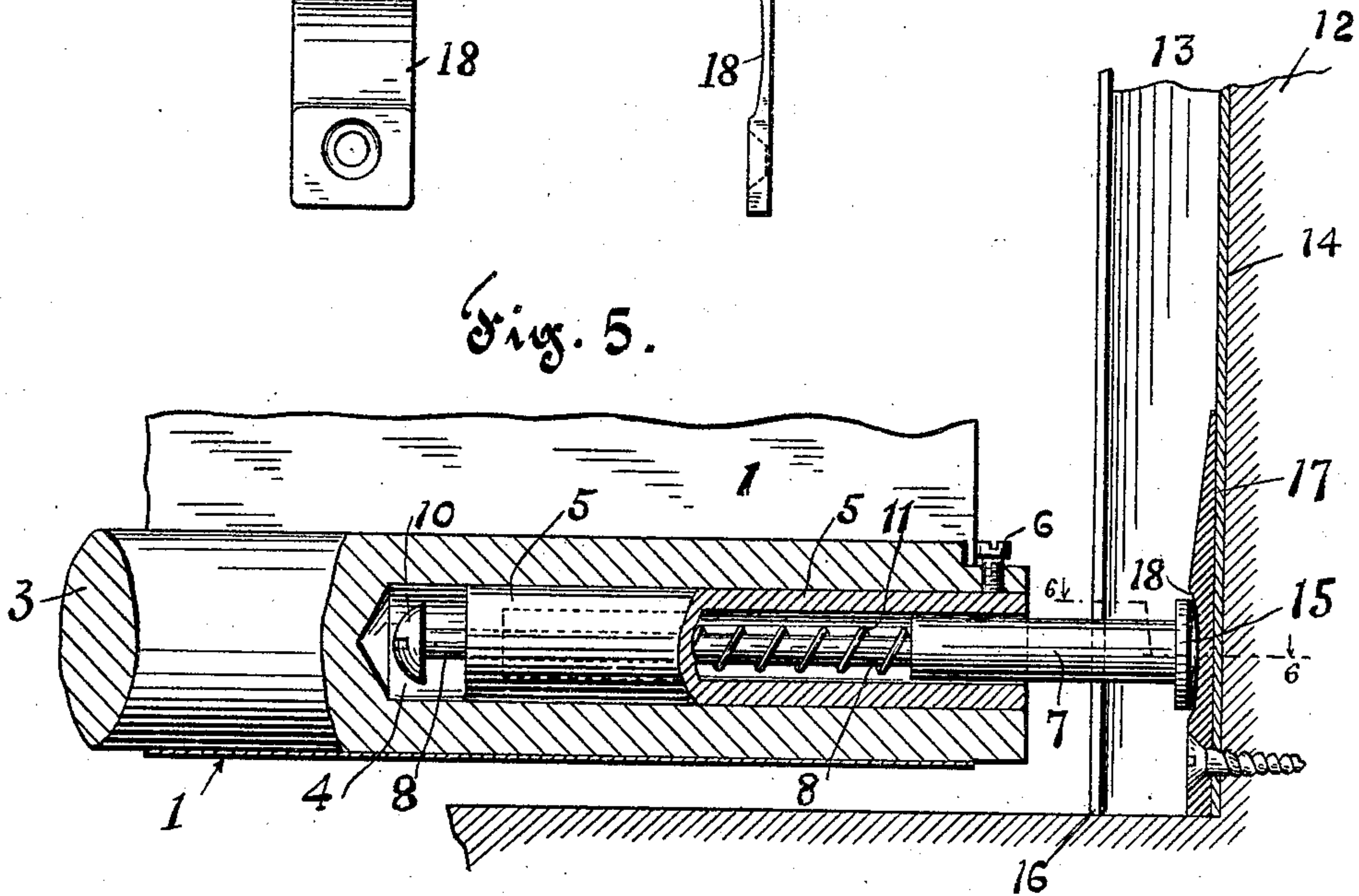


Fig. 6.

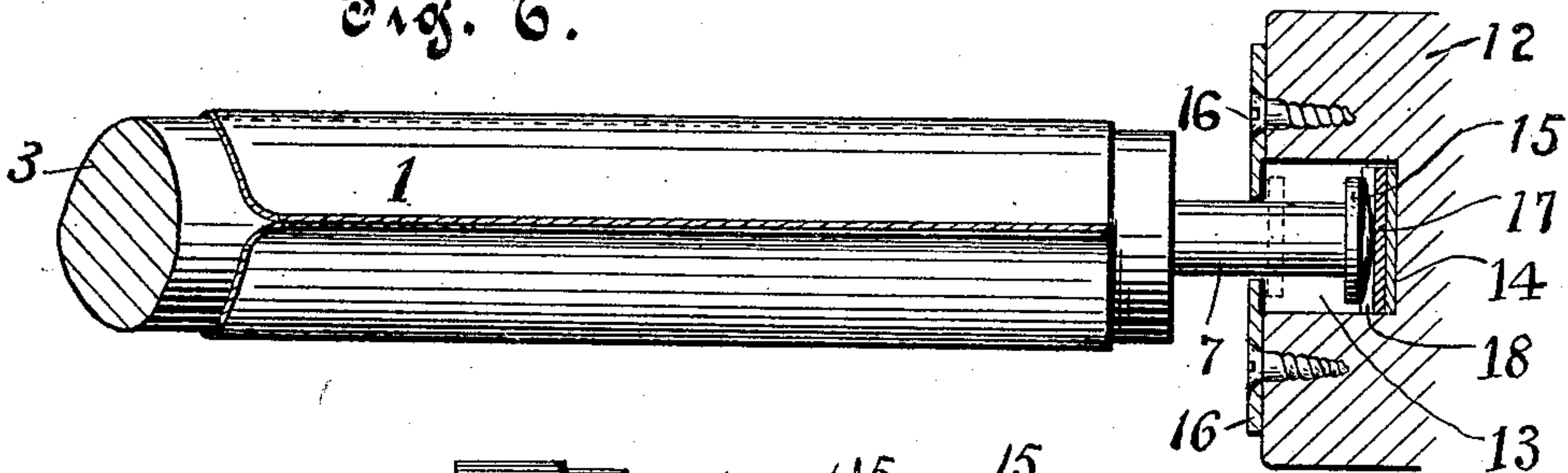


Fig. 9.

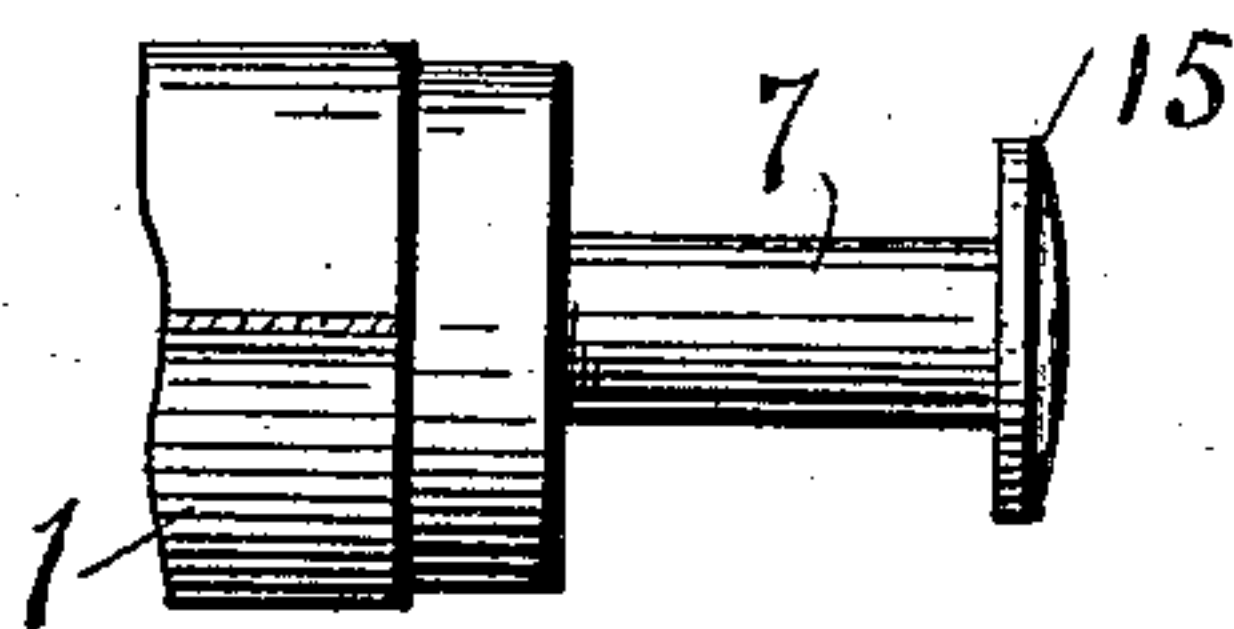


Fig. 10.

Witnesses  
Charles Hanimann  
Katherine Foltner

Daniel Hoyt Inventor  
By His Attorney  
Rex A. Forbes



# UNITED STATES PATENT OFFICE.

DANIEL HOYT, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO THE NATIONAL LOCK WASHER COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## WINDOW-SHADE FIXTURE.

No. 928,864.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed January 16, 1906. Serial No. 296,343.

*To all whom it may concern:*

Be it known that I, DANIEL HOYT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Window-Shade Fixtures, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to curtain fixtures and it consists of certain novel parts and combinations of parts pointed out in the claims concluding these specifications.

Curtain fixtures of the type under consideration, in which the curtain is attached at the top to a constantly acting spring-roller and is provided at the bottom with spring-pressed tips frictionally engaging with the window-frame, are well known. Among others, two difficulties have been experienced in the use of such fixtures. These are the liability, through improper handling, to become set in a tilted position and to become disengaged from the window frame. To overcome these difficulties various forms of self-righting fixtures have been devised, but these have not been positive and certain in their action; and means have been provided to prevent the curtain stick being forced into a tilted position, but these have resulted in binding and breakage, if undue force were exerted.

By one feature of my present invention the desired self-righting function is effected by a mode of operation which is entirely new; and by another feature of my invention the accidental disengagement of the fixture from the grooves and the binding of the fixture in the grooves, are rendered practically impossible.

Figure 1 is a view in elevation, partly in section, illustrating a shade provided with my improved holding means, the relative position of the devices when the shade bar is in inclined position being shown in dotted lines. Fig. 2 is an enlarged sectional detail, partly in elevation, illustrating the means in holding position. Fig. 3 is a face view in elevation illustrating particularly the groove in the window casing, the shank of the holding head being shown in section. Fig. 4 is a view similar to Fig. 2, the parts being shown in the position assumed when the shade bar is at an angle to the horizontal. Fig. 5 is a view similar to Fig. 2, the holding

means being shown at the lowest limit of movement of the shade bar with a locking block fixed within the guiding groove of the casing. Fig. 6 is a section on line 6—6 of Fig. 5, the shade bar being shown in elevation. Figs. 7 and 8 are edge and face views respectively of the locking block. Figs. 9 and 10 are side and end views of the head 15 showing a modified form of the same.

Referring to the drawings, wherein similar reference numerals indicate like parts throughout the several views, a shade 1 is wound about a suitably supported shade roller 2, and the shade bar 3 fixed to the lower end of the shade. This bar is preferably weighted, such a bar being described in my Patent No. 742,989, dated November 3, 1903.

The holding means of the present invention is designed for connection with the respective ends of the shade bar 3, and being in exact duplicate at each end of the bar, a description of one of such means will suffice for both. The end of the bar 3 is longitudinally cored to receive a sleeve 5, fixedly secured relative to the bar through the medium of a set screw 6. A shank 7 is mounted for reciprocatory movement in the sleeve 5, being provided at its inner end with a reduced stem 8, adapted to extend longitudinally of the sleeve and through an opening centrally formed in the block 9, closing the remote or inner end of said sleeve. The bore in the shade bar and the sleeve 5 are of such relative lengths that when said sleeve is in position therein, a free space 4 is provided between the rear of the sleeve and the proximate wall of the core. The stem extends beyond the block 9, and is terminally provided with a head 10, adapted for movement in the free space 4 above referred to, and of a size to contact with the block 9, and thereby limit the movement of the shank 7, in one direction. A spring 11 is coiled about the stem between the inner end of the shank 7 and the block 9 said spring being of a tension to normally maintain the shank at its limit of outward movement.

The casing 12 of the window frame is formed with a longitudinal groove 13, which may be lined or faced with metal plate 14, providing a guide way for the play of the shank 7, which is designed for movement in the guide way 13, and provided at its outer or free end with a friction head 15, designed



to bear upon the bottom of the guide way to hold the shade in adjusted relation to the casing.

The face of the window casing is provided with plates 16 arranged in parallel spaced relation longitudinally of the guide way with their proximate edges overlying the edges of said guide way, the distance between said edges of the plates being approximately that of the diameter of the shank 7. By this construction free movement of the shank is permitted between the plates without liability of the disengagement of the shanks therefrom, as the space between the edges of the plates is less than the diameter of the head 15.

At the lower end of the guide way I secure a locking block 17 overlying and projecting from the bottom of the groove, said block being formed near its lower end with a depression 18, adapted to receive the head 15 of the shank 7, the surface of the block above said depression inclining toward and terminally coinciding with the bottom of the guide way 13, whereby to avoid obstruction in the movement of the head 15. The depression 18 is rounded to receive the rounded head 15, the plane of curvature of said depression being of greater radius than that of the head to permit disengagement of the head therefrom under comparatively slight pressure.

It will be observed that the locking block 17 projects inwardly from the bottom of the groove in the casing and that the depression 18 is offset from the bottom of the groove. This feature of the construction of the locking block 17 reduces the distance between the bearing points of the heads 15 when the heads engage with the depressions and increase the holding power of the springs 11.

In the use of my invention the pressure of the springs 11 will force the head 15 into engagement with the bottom of the guide ways and secure the shade in adjusted relation to the casing through frictional contact. The shade may be adjusted to different heights by a simple pull or pressure upon the shade bar 3, the extreme tension of the spring of the shade roller being effective when the shade is at its lowest limit of movement, and is there safely held by the engagement of the heads 15 with the depression 18 in the locking blocks 17 under the increased power of the outwardly thrusting springs 11.

When the operation of the shade is attempted by grasping the curtain bar near either end, the result is a tilting of said bar, as the manual movement is necessarily faster on one side of the curtain than can be compensated for by the shade roller with relation to the opposite side of the curtain. In devices of this character as heretofore constructed the tilting referred to has resulted in binding the holding means in said guide ways in those cases where means to prevent their disengagement have been provided. In the

use of my invention, however, those objections are wholly avoided. Under the tilting movement of the shade bar the heads 15 prevent disengagement of the holding means from the guide ways; and the binding referred to is also prevented, as, when the bar 3 is in inclined position the heads 10 of the stems 8 contact with the blocks 9 and limit the outward or engaging movement of the shanks 7, so that the heads 15 are held out of frictional contact with the guide ways. The greatest dimensions of the circular heads 15 as shown in Figs. 1 to 8, inclusive, is less than the depth of the guide ways, so that when the bar is tilted there is no possibility of the heads binding between the bottom walls of the guide ways and the plates 16, nor when made of a vertical diameter not substantially greater than the depth of the guide ways, as shown in Figs. 9 and 10. From the construction described, therefore, it will be noted that a shade provided with my invention is adapted for free and easy adjustment and that said shade may be readily adjusted under practically any inclination of the shade bar, it being understood that said shade bar will gravitate to the normal horizontal position when the operating force is released.

It is undesirable to have the shade bar of a curtain fixture remain in a tilted position after it has been, by improper handling, placed in such position, because the bar in this position is unsightly and the curtain which is always held horizontal at the top is thereby wrinkled. The object of self-righting mechanisms in curtain fixtures is to automatically return the shade-bar to the horizontal position after it has been thus tilted. It is, however, obvious that it is quite immaterial whether the shade-bar be, at any time, mathematically horizontal or not, so long as it is not tilted sufficiently to be attended by the undesirable results above referred to. The term "practically in a tilted position" employed in the claim is, therefore, used to define such departures from the horizontal position of the shade bar as are attended by such undesirable results.

What I claim and desire to secure by Letters Patent is:—

1. In a self-righting holding mechanism for spring-actuated shades, the combination with a window casing formed with guide ways, of a shade mounted in such casing having a weighted shade bar at the lower end and holding means carried by said bar having a yielding longitudinal movement and adapted to frictionally engage the bottom walls of the guide ways, said holding means being so limited in outward movement as to prevent simultaneous holding engagement with the bottom walls of both guide ways when the shade bar is practically in a tilted position whereby the shade bar is automatically re-



turned to the horizontal position after being tilted.

2. In a self-righting holding mechanism for spring actuated shades the combination  
5 with a window casing formed with guide ways made wider than their face openings, of a shade having a shade bar at its lower end, and holding means carried by the bar having heads adapted for frictional engagement  
10 with the bottom walls of the guide ways, said heads being of a vertical diameter not substantially greater than the effective depth of the guide ways to prevent binding of the  
15 the guide ways when the shade bar is in a tilted position.

3. The combination with a window casing formed with guideways having face openings of less width than the width or depth of the  
20 guideways, of a shade for the casing having a weighted shade bar at the lower end, holding means carried by the bar and including heads adapted for frictional engagement with the bottom walls of the guideways, said  
25 heads being greater in horizontal diameter than the face openings of the guideways, and said holding means being so limited in outward movement as to prevent simultaneous holding engagement with the bottom walls  
30 of both guideways when the shade bar is in a practically tilted position.

4. The combination with a window casing formed with guide ways made wider and

deeper than their face opening, of a shade  
having a shade bar at its lower end, holding 35  
means carried by the bar and having heads greater in horizontal dimensions than the face opening, and adapted for engagement with the outer walls of said guide ways, means to so limit the outward movement of 40  
said heads as to prevent simultaneous holding engagement with the respective outer walls of the guide ways when the shade is practically in a tilted position, and said  
heads being of a vertical diameter not sub- 45  
stantially greater than the effective depth of the guide ways, to prevent binding between the bottom and inner walls of the guide ways when the shade bar is in a tilted position.

5. The combination with a window casing 50  
formed with guide ways, of a shade having a shade bar at its lower end and holding means carried by the bar having heads adapted for engagement with the outer walls of the guide ways, and locking blocks secured in the guide 55  
ways provided with depressions to receive the ends of the respective heads, the holding surfaces in said depressions being projected beyond the surfaces of the outer walls of the  
guide ways. 60

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL HOYT.

Witnesses:

CHAS. W. FORBES,  
KATHERINE FOLTMER.