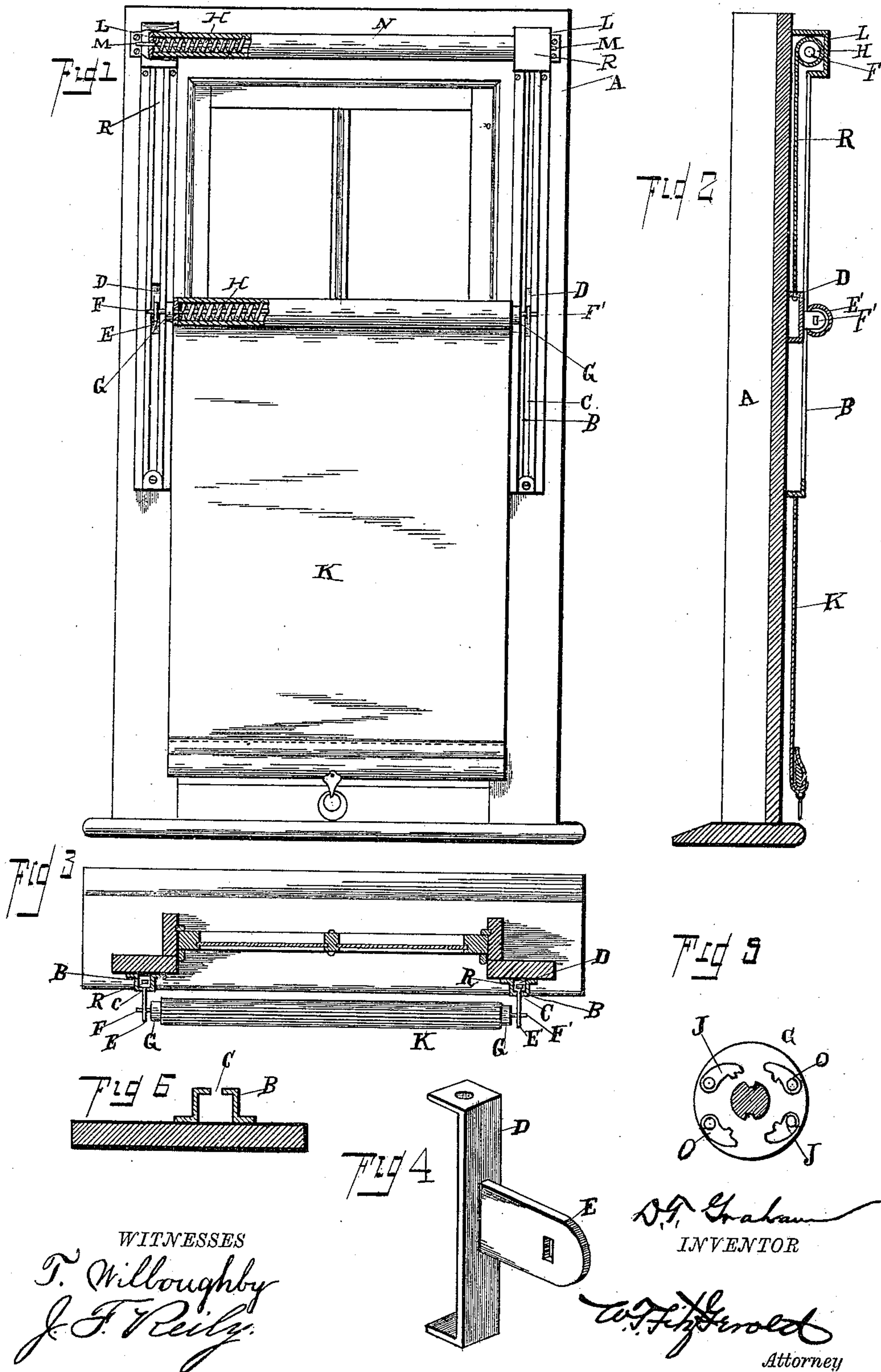


D. T. GRAHAM.  
CURTAIN FIXTURE.

No. 441,550.

Patented Nov. 25, 1890.



(No Model.)

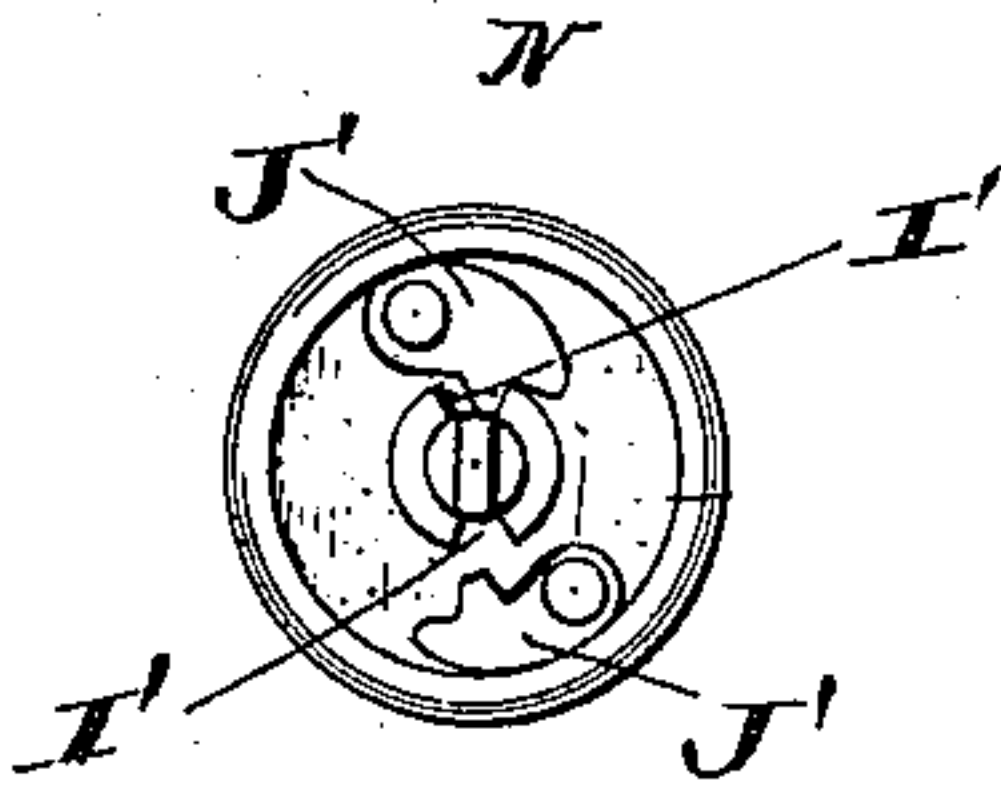
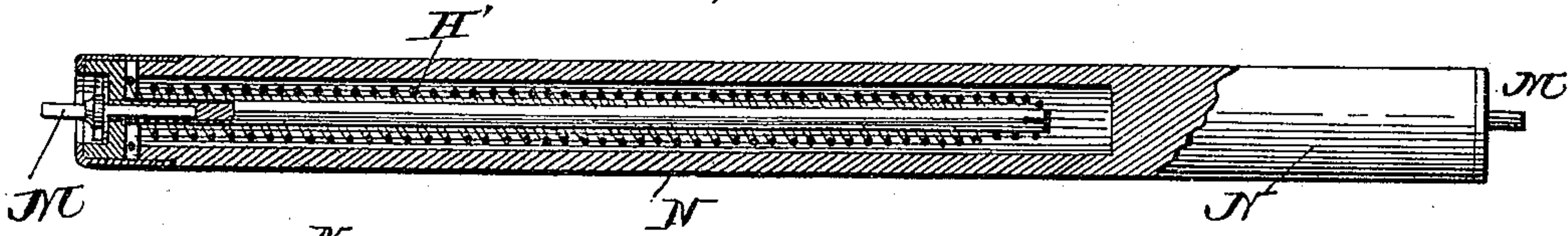
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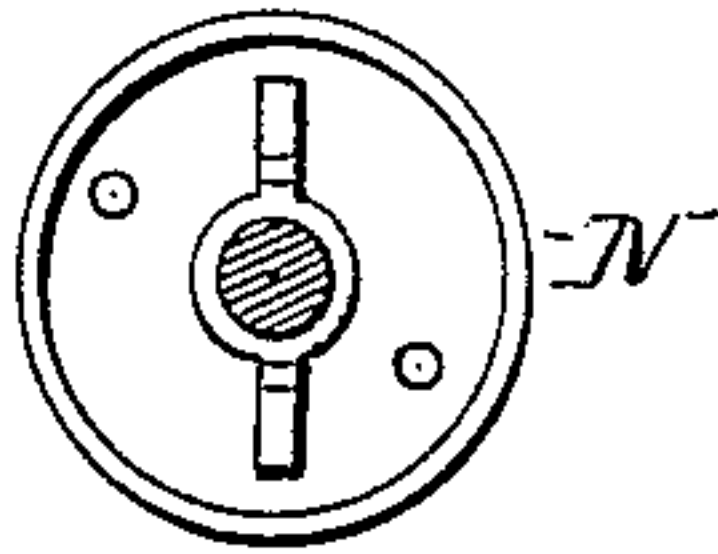
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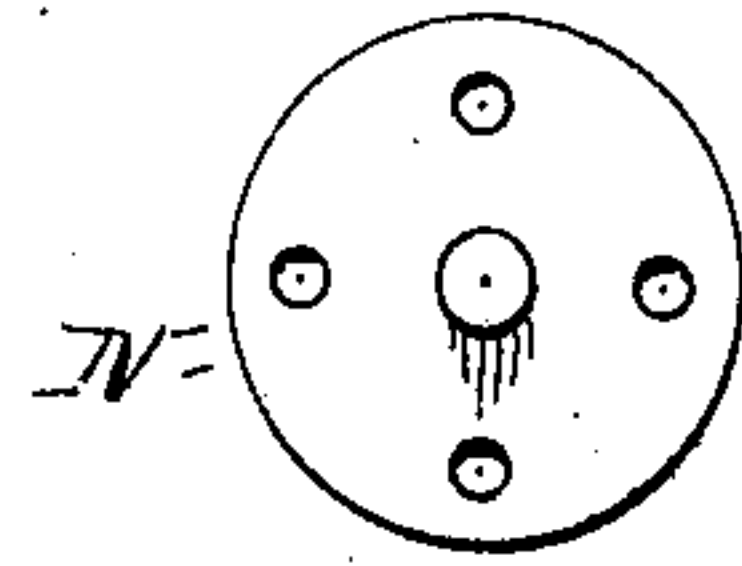
*Fig. 7.*



*Fig. 8.*

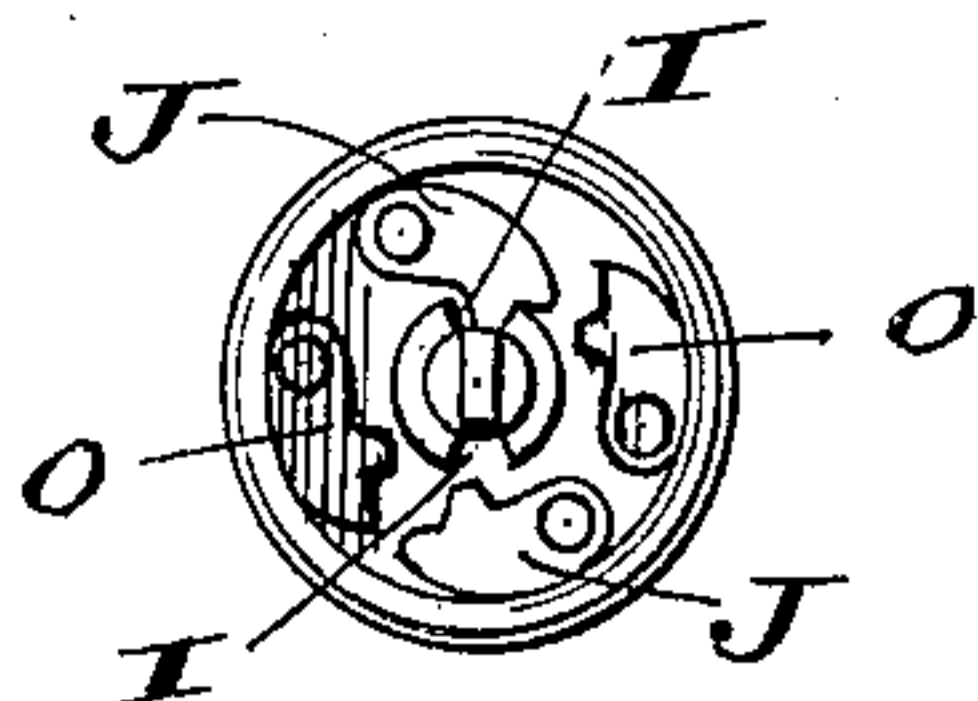
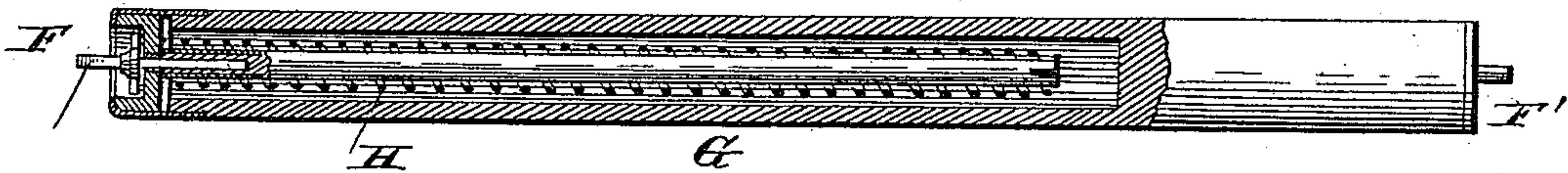


*Fig. 9.*

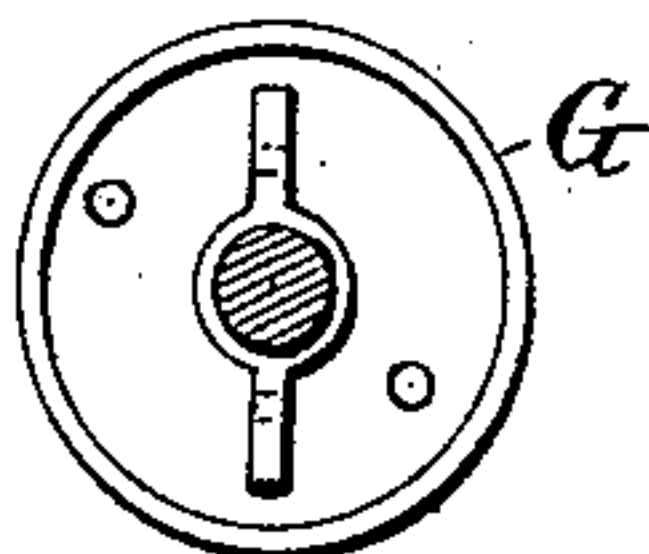


*Fig. 10.*

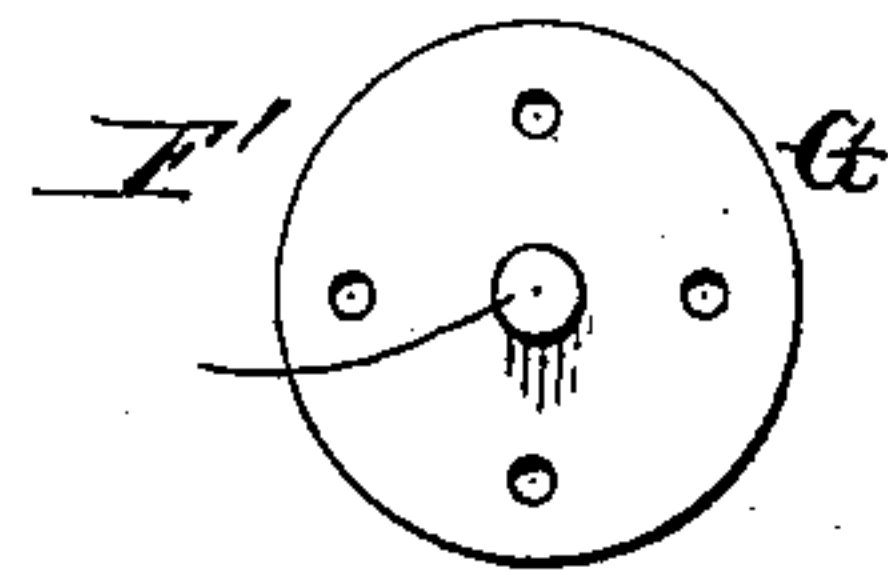
*Fig. 11.*



*Fig. 12.*



*Fig. 13.*



*Fig. 14.*

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# UNITED STATES PATENT OFFICE.

DAVID T. GRAHAM, OF TRENTON, MISSOURI.

## CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 441,550, dated November 25, 1890.

Application filed April 9, 1890. Serial No. 347,181. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID T. GRAHAM, a citizen of the United States, residing at Trenton, in the county of Grundy and State of Missouri, have invented certain new and useful Improvements in Curtain-Fixtures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in curtain-fixtures; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of my improved curtain-fixture, showing its position on a window. Fig. 2 is a vertical longitudinal section of the guides with the other parts in position. Fig. 3 is a horizontal section. Fig. 4 is a detail view of one of the slides. Fig. 5 is an end view of the lower roller, showing the arrangement of the reversed pawls. Fig. 6 is a view showing a modification of the guide. Fig. 7 is a sectional detail view of the upper roller. Fig. 8 is an end view of the roller. Fig. 9 is a detail view showing the end piece of the rod M, to which the inner end of the coiled spring H' is secured. Fig. 10 is a detail view of the end piece for the opposite end of the roller to that shown in Fig. 8. Fig. 11 is a sectional detail view of the lower roller. Fig. 12 is an end view of the lower roller. Fig. 13 is a detail view corresponding to Fig. 9, and Fig. 14 is a detail view of the end piece of the lower roller corresponding to Fig. 10.

Referring to the drawings by letter, A designates a window-frame of the usual or any preferred construction, to the front side of which I secure the guides B, which consist of tubes of any desired material and of any suitable size, having longitudinal slots C in their front sides, as clearly shown. Within the tubes or guides I provide the vertically-movable slides or sliding bearings D, which have the forwardly-projecting arms E E', in which the ends of the rods F and F' are mounted.

The shade K is secured to the roller G and winds upon the same in the usual manner. Above the guides B, I secure to the window-frame the bearings L, which may be made

in the form of caps, as shown, or may be simply ordinary brackets, and in the said bearings I mount an ordinary Hartshorn roller N, as shown.

Strips R of some flexible material—such as tape—have their upper ends secured to the roller N and pass downward therefrom through the guides or tubes B and have their lower ends secured to the slides or sliding bearings D. If the roller be very long and heavy, I may use a spring in each end, but the pawls are used at one end only.

Upon the left-hand end of the lower roller G are pivoted at the points shown two reversed pawls O O. (Clearly shown in Figs. 5 and 12 of the drawings.) When it is desired to unroll the shade, a quick pull on the shade will disengage the pawls J from the recesses or notches I of the lower roller G, and this roller is then free to rotate, so as to permit the unrolling of the shade after the manner of the usual Hartshorn roller. When it is desired, however, to raise or lower the lower roller G, a slow pull on the lower shade causes the reversed pawls O O to engage the grooves I, thereby locking the lower roller against rotation, when the force of the pull will be transmitted through the flexible straps R to the upper roller, so as to disengage the pawls J' from the slots or recesses I' of the spring-rod M of the upper roller, when the spring H' will rotate the said roller, so as to draw the lower roller up by winding up the flexible straps R around the upper roller. If it is desired to lower the lower roller, it is drawn downward against the tension of the spring H' in the upper roller after locking the reversed pawls O, as will be readily understood.

The spring H' of the upper roller N is preferably slightly stronger than the spring H of the lower spring-roller G, so that a quick pull on the shade will act first on the slightly-weaker spring of the lower roller, while when a slow pull is made, locking the reversed pawls O O in the grooves I against rotation, the force of the pull is transmitted to the upper roller, as before stated. The reversed pawls are therefore a most important feature of my invention.

My invention will be operative and useful if the guides are dispensed with, because the lower spring-roller may be grasped by the



hand and pulled down, carrying with it the curtain, or may be raised in the same manner.

From the foregoing description, taken in connection with the accompanying drawings, 5 it will be seen that I have provided a very simple and efficient curtain-fixture by which the shade can be easily and readily adjusted to any desired point of the window, so as to shut off the light from one portion of the same 10 and admit the light through another portion; or it may be drawn entirely to the top of the window and then unrolled, so as to cut off the light from the entire window. It will be seen 15 that the curtain proper can be readily drawn downward out of the way when it is desired to lower the upper sash for ventilation or for other reasons. The tubes or guides give the sliding bearings a true vertical movement, so 20 that the lower roller is prevented from twisting, and the even adjustment of the shade thereby insured, and the shade will be securely held in the position to which it may be adjusted. The flexible straps wind readily 25 very little space, so that the device may be made to present an ornamental appearance, and there is very little wear on the straps.

It will be understood, of course, that in this present application I make no claim, broadly, 30 to a spring-roller, as such has been heretofore employed in curtain-fixtures. Particular stress, however, is laid on the arrangement of pawls or stops at the ends of the lower or curtain roller. It will be observed that these 35 pawls are arranged reversely to each other, so that the pawls O O lock the roller to cause its vertical adjustment, while pawls J J hold the curtain or shade at any point to which it may be drawn.

40 In Fig. 6 I have shown a varied form of construction of the tube or guides. Instead of a

solid tube provided in its face with a longitudinal slot, as shown, two strips of sheet metal may be used after having been bent so 45 as to present in cross-section two right angles, so arranged along and secured to the window that they will lie parallel with each other, though a sufficient distance apart to form a slot for the outward projection of the slides, 50 as will be readily understood.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is--

1. In a curtain-fixture, an upper spring-roller, a lower movable spring-roller carrying 55 a shade and having the positive and reversed end pawls J J and O O, and flexible straps connecting the upper and lower rollers and adapted to be wound upon the upper roller, 60 substantially as set forth.

2. The combination of an upper spring-roller, bearing-slides, flexible straps connecting said slides with the upper roller and 65 adapted to be wound upon said roller, and the lower spring-roller carrying a shade and having positive pawls J J and the reversed pawls O O, substantially as set forth.

3. The combination of the upper spring-roller, the vertical guides, the bearing-slides, 70 the flexible straps connecting said slides with the upper roller and adapted to be wound upon said roller, and the lower spring-roller carrying a shade mounted in the said bearing-slides and having the positive pawls J J and 75 the reversed pawls O O, substantially as set forth.

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

DAVID T. GRAHAM.

Witnesses:

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C. A. HOFFMAN.