

No. 896,915.

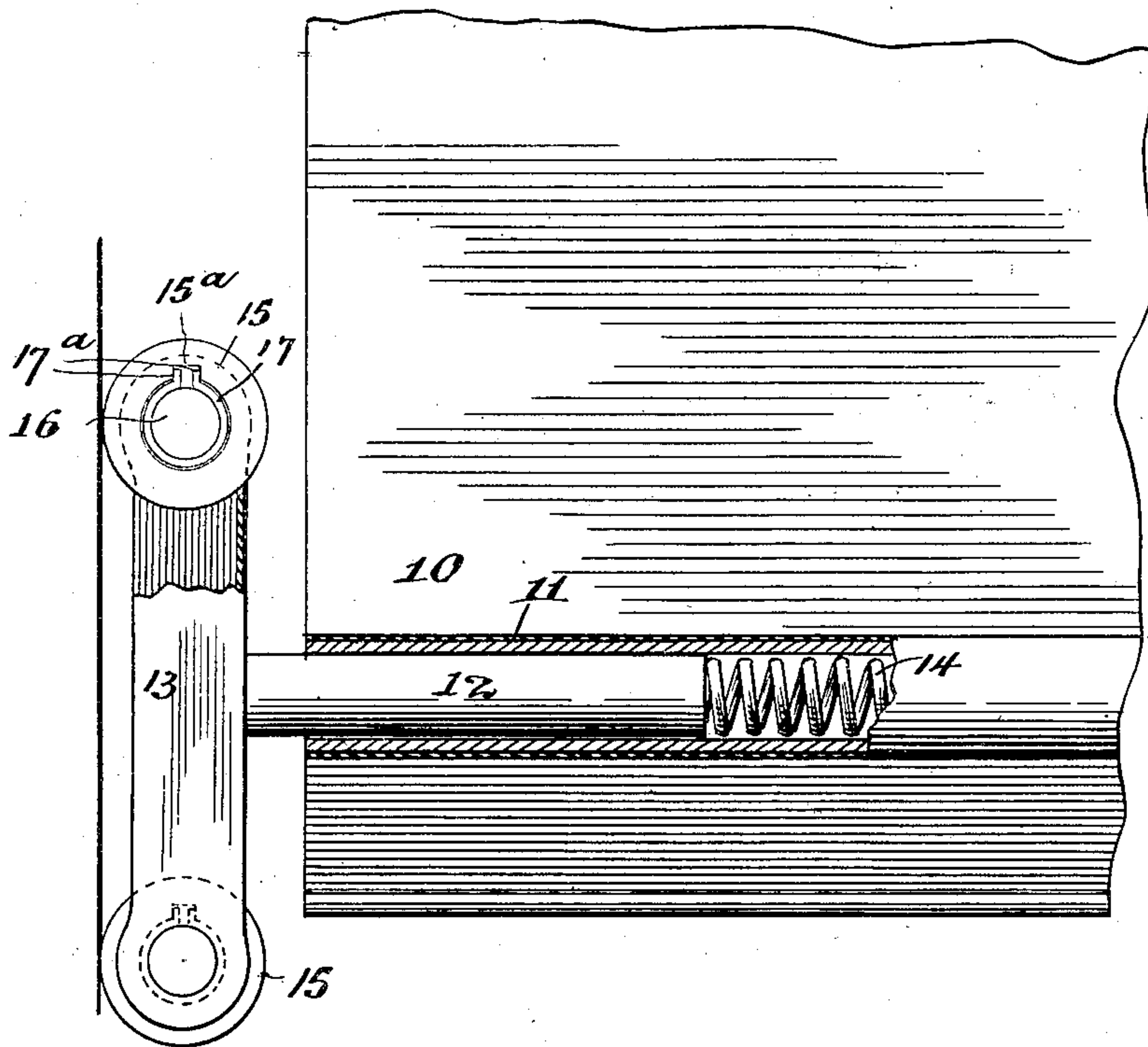
PATENTED AUG. 25, 1908.

P. A. HOUGHTALING.
CURTAIN FIXTURE.

APPLICATION FILED MAR. 20, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

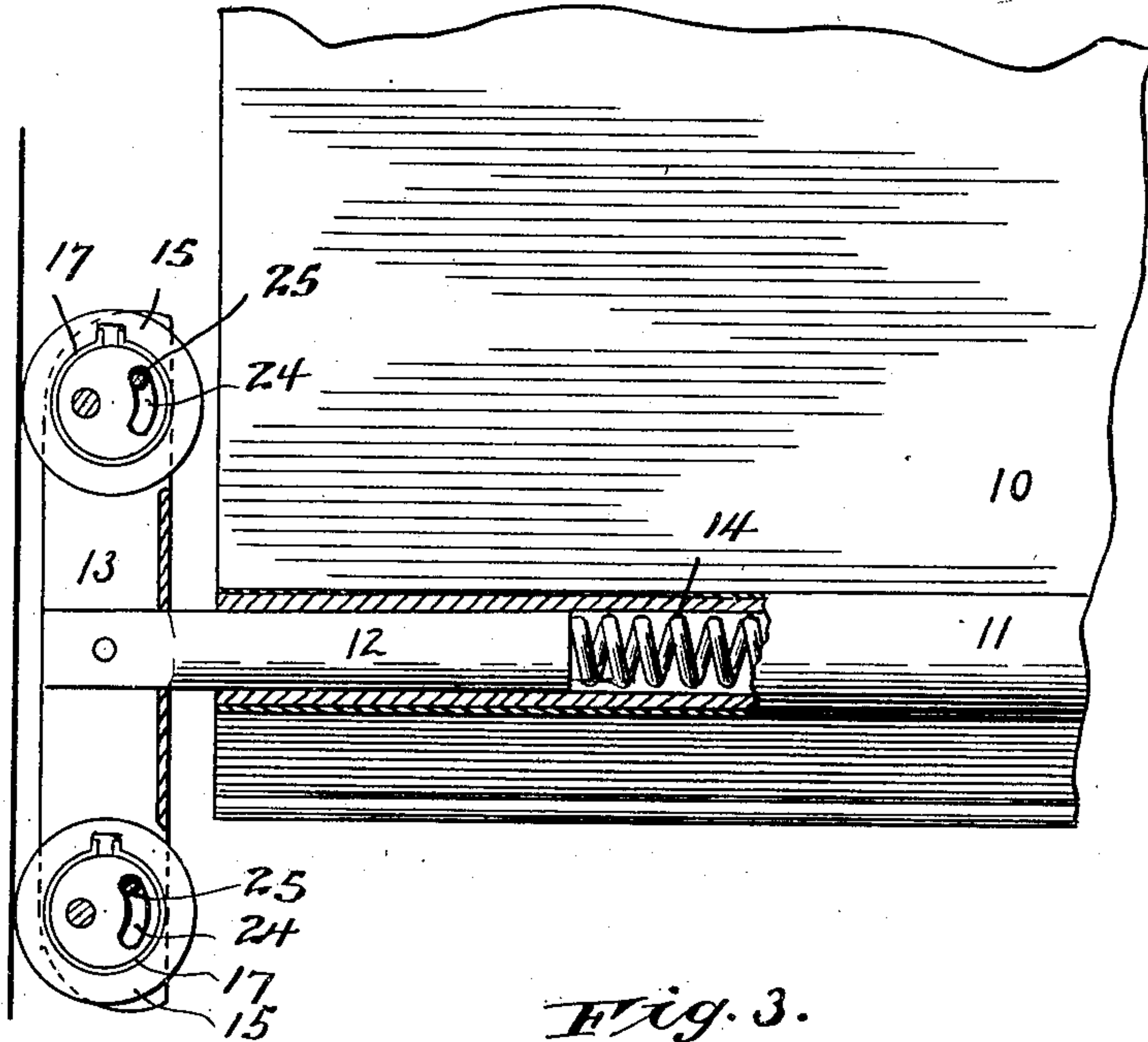
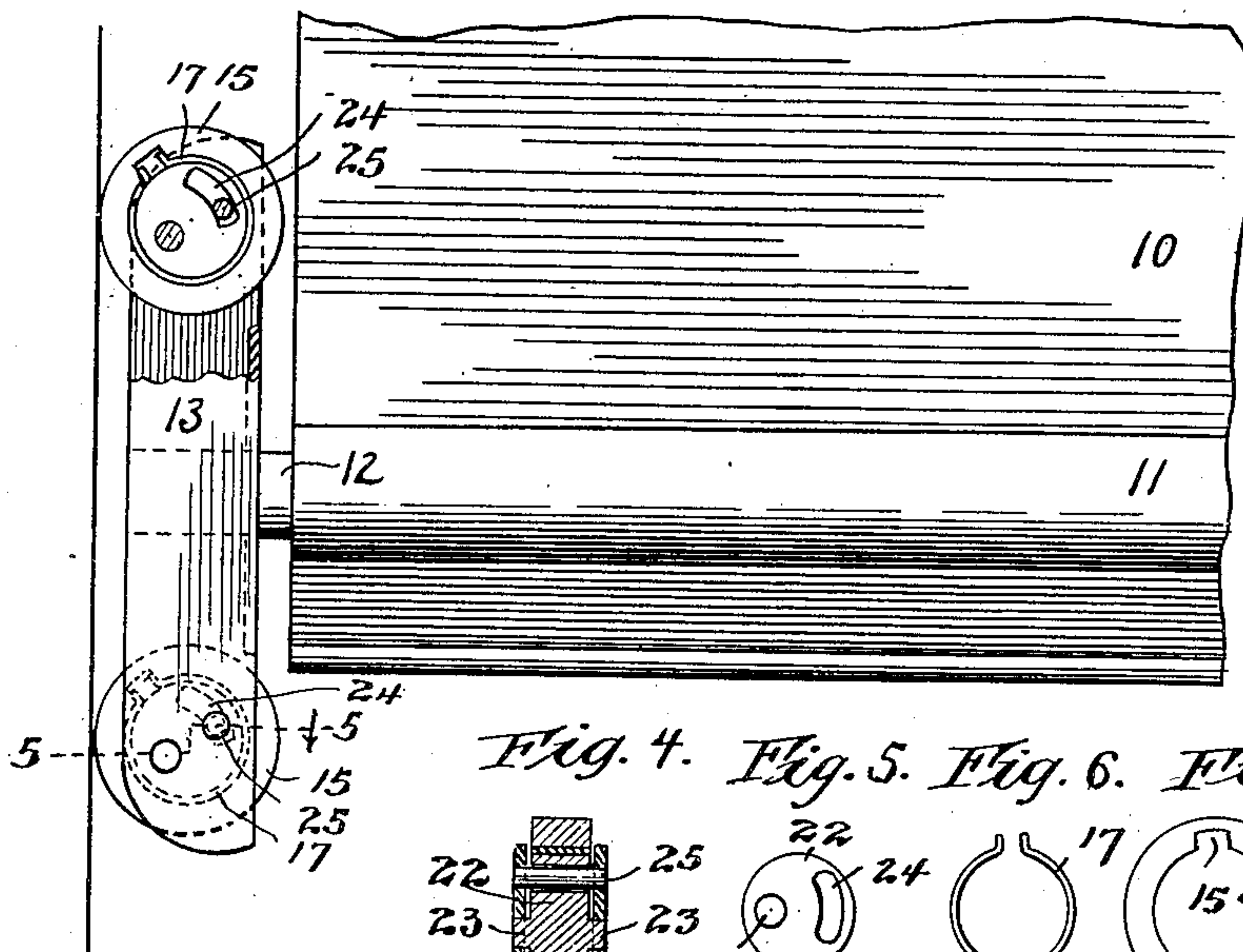


Fig. 3.



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UNITED STATES PATENT OFFICE.

PAUL A. HOUGHTALING, OF RIVERTON, NEW JERSEY, ASSIGNOR TO THE CURTAIN SUPPLY COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CURTAIN-FIXTURE.

No. 896,915.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed March 20, 1905. Serial No. 251,081.

To all whom it may concern:

Be it known that I, PAUL A. HOUGHTALING, a citizen of the United States, residing at Riverton, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Curtain-Fixtures, of which the following is a specification.

My invention relates to improvements in curtain fixtures of that general type wherein a spring-actuated curtain or shade is provided at its lower end with a curtain stick carrying heads or shoes adapted to frictionally engage the sides of the casing or grooves therein to hold the curtain at any adjusted position against the pull of the curtain roller.

My invention has for its principal object the production of an improved and simplified fixture of that class wherein elongated heads at the ends of the curtain stick carry rollers adapted to engage the vertical side members of the window or other casing. Heretofore in such devices the heads have usually been provided with frictional holding devices which are pressed into holding engagement with the bottom or side walls of grooves in the casing, in order to hold the shade in adjusted position against the upward pull of the curtain roller spring. In some cases braking devices carried by the head and applied to the rollers under the outward thrust of the curtain stick springs have been proposed to convert the rollers from anti-friction devices into frictional holding devices. My present invention is an improvement upon this latter type, being chiefly distinguished by the omission of braking devices operating externally of the roller or rollers, and employing in place thereof means whereby the free rotation of the roller on its bearing is frictionally retarded, whereby sufficient friction is created between the periphery of the roller and the wall of the casing or its groove to hold the fixture against the pull of the curtain roller spring.

In the preferred embodiment of the underlying principle of the invention the roller is mounted on its spindle or bearing through the intermediate agency of a split ring or similar elastic clamping member which is secure within the roller and hugs the spindle of the latter with sufficient friction to retard the rotation of said roller and produce a frictional

instead of a rolling engagement of the periphery of the roller upon the casing. 55

My invention, in several approved mechanical embodiments thereof, is illustrated in the accompanying drawings, wherein—

Figure 1 is an elevational view partly broken out and in section, of a portion of a curtain carrying one end of a fixture embodying my invention in a simple form; Fig. 2 is a similar view showing a still further modification of the invention, the parts of the fixture being shown in the positions assumed thereby on a downward pull of the fixture; Fig. 3 is a view like Fig. 2 with the parts of the fixture shown in the relative positions assumed thereby under the upward pull of the curtain roller spring when the fixture has been released; Fig. 4 is a detail transverse sectional view of one of the friction rollers and its mounting; Fig. 5 is a detail end view of the roller bearing, more particularly showing the slotted eccentric portion thereof; Fig. 6 is a detail view of the elastic clamping ring or spring serving to secure a frictional bearing of the roller on its journal; and Fig. 7 is a detail side view of the roller itself. 60 65 70 75

Referring to the drawings, 10 indicates a fragment of the lower portion of a window or other curtain, in and transversely of which is mounted the usual hollow curtain stick 11, the latter carrying in each end a shank 12 of a hollow head 13 normally pressed outwardly by the curtain stick spring 14. In each end of the head is a friction roller 15 so mounted as to frictionally retard rotation on its bearing. This may be accomplished in a variety of ways. 80 85 90

In Fig. 1, 16 designates a pin fixed in and between the parallel side walls of the head and constituting the journal of the roller. Surrounding this pin is a split ring 17 of elastic material, and of such diameter relatively to the diameter of the bearing as to hug the latter with considerable friction when applied thereto. The meeting ends of the ring 17 are bent outwardly or radially at the joint, as shown at 17^a; such outwardly bent ends engaging a notch 15^a formed in the inner periphery of the roller 15; whereby, when said roller is fitted over and engaged with said ring, the two are rendered relatively non-rotatable. 95 100 105

In operation, the split ring 17 clasps the

journal of the roller under considerable pressure, thereby creating a considerable degree of friction between the inner periphery of the ring and the surface of the journal, which retards the free rotation of the roller on its journal; such retardation being sufficient to prevent the rolling contact of the roller against the casing or the usual groove therein, and the friction between said parts created thereby sufficing to hold the curtain or shade stationary in adjusted position against the upward pull of the curtain roller spring.

Figs. 2 to 7, inclusive, illustrate a still further modification, wherein a limited free rolling movement of the roller is permitted, in connection with means whereby the outward thrust of the curtain-stick spring is augmented during such limited free rotation of the roller, thus producing a frictional engagement of the roller upon the casing of increased power at the limit of such free rotative movement. Referring to said figures, 15 may designate the roller and 17 the split elastic ring; these parts being the same as in the construction of Fig. 1. Instead, however, of employing a fixed journal, as in Fig. 1, I provide a journal loosely or rotatably mounted in and between the side walls of the head, said journal comprising an intermediate enlarged circular portion 22, and on either side thereof short eccentrically disposed trunnions 23 rotatably mounted in the side walls of the head. The intermediate circular portion 22 of the bearing is surrounded and elastically clamped by the split ring 17, in the same manner as in Fig. 1, and this portion is also provided with an arc-shaped slot 24 formed therethrough, said slot being struck from the axis of the trunnions 23 as a center, and being engaged by a stop pin 25 passed therethrough and secured at its ends in the side walls of the head. The details of the parts last described, in separated relation, are shown in Figs. 5, 6 and 7. Fig. 2 shows the relative positions assumed by the parts when the lower end of the curtain is drawn downwardly in opposition to the upward pull of the curtain roller spring. During such movement the peripheries of the rollers 15 roll down the wall of the casing until the pins 25 are struck by the upper ends of the slots 24, after which, in case of further downward pull, the rollers are either retracted from the wall of the casing by the usual pinch handles (not shown); or, in case the latter are omitted, the rollers move down the wall of the casing with either a rolling movement on the latter and a frictional rotary sliding movement around the periphery of the bearing 22, or with a sliding frictional movement against the wall of the casing and an absence of relative movement between the roller and its bearing, or yielding pressure at both its periphery and bearing, according to the relative friction at such

points. When the curtain is released and drawn upwardly by the spring at the upper end thereof, the rollers at first roll a limited distance on the side wall of the casing, until the lower ends of the slots 24 strike the stop pins 25, whereupon free rotation of said rollers is prevented, and the peripheral friction created between said rollers and the casing prevents further upward rise of the curtain. During such limited upward rolling movement of the rollers the eccentric bearing 22 tends to crowd the head inwardly against the thrust of the curtain-stick spring 14, thereby increasing the thrust of the latter and in the same proportion increasing the frictional contact of the rollers at their peripheries against the casing and the consequent holding power of said rollers.

Believing myself to be the first to disclose a frictional holding device carried by the head of a curtain fixture wherein the frictional retarding effect is created by elastic means between the roller and its bearing, I do not limit the invention to the specific form or parts herein shown and described, except to the extent indicated in specific claims, since the principle of the invention is capable of embodiment and use in a variety of forms other than those herein shown. However, I prefer the construction shown, as it is cheaper and permits the roller to be made of material having a high coefficient of friction, irrespective of its elastic qualities.

I claim:

1. In a curtain fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a roller carried by said head and having a resilient bearing in contact with its journal and serving to retard the free rotation of said roller, substantially as described.

2. In a curtain fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a roller mounted in said head, and a split ring made fast with said roller and elastically embracing the journal of the roller, whereby rotation of said roller is retarded, substantially as described.

3. In a curtain fixture, the combination with a curtain stick and a spring pressed head mounted on the end thereof, of a roller carried by said head, an eccentrically movable bearing member or journal on which said roller is mounted, and means for mounting said journal on the head.

4. In a curtain fixture, the combination with a curtain stick and a spring pressed head, mounted on the end thereof, of a roller carried by said head, a bearing member or journal for said member itself rotatable eccentrically in said head, means for mounting the bearing member on the head, and means for limiting the rotary movement of said bearing member.

5. In a curtain fixture, the combination

with a curtain-stick and a spring-pressed head mounted on the end thereof, of a roller carried by said head, an eccentrically mounted bearing member or journal on which said roller is mounted, and a spring frictional connection between said roller and said bearing member, whereby the rotation of the roller on the latter is retarded, substantially as described.

6. In a curtain fixture, the combination with a curtain-stick and a spring-pressed head mounted on the end thereof, of a roller carried by said head, and an eccentrically mounted journal a resilient bearing on the journal for the roller whereby the free rotation of the roller is retarded, substantially as described.

7. In a curtain fixture, the combination with a curtain-stick and a spring-pressed head mounted on the end thereof, of a roller carried by said head, an eccentrically mounted journal for said roller itself rotatably mounted in said head, a spring frictional connection between said roller and its journal serving to retard the free rotation of said roller, and a stop limiting the rotary movement of said journal, substantially as described.

8. In a curtain fixture, the combination with a curtain-stick and a spring-pressed head mounted on the end thereof, of a roller carried by said head, an eccentrically mounted journal for said roller rotatably mounted in said head, a split ring frictionally embracing

said journal and engaged with said roller, and a stop for limiting the rotary movement of said journal, substantially as described.

9. In a curtain fixture, the combination with a curtain-stick and a hollow spring-pressed head mounted on the end thereof, of a roller carried between the side walls of said head, an eccentric slotted journal for said roller rotatably mounted in and between the side walls of said head, a split ring embracing said journal and made fast with said roller, and a stop pin secured in the head and engaging the slot of said journal whereby to limit the rotation of the latter, substantially as described.

10. In a curtain fixture, the combination with a curtain stick and a spring pressed head at one end thereof, of a roller carried by said head, a bearing member for the roller secured to the head and eccentrically movable relative thereto, and means for limiting the rotary movement of said bearing member.

11. In a curtain fixture, the combination with a curtain stick and a head mounted at one end thereof, of a roller carried by said head, and a device located in the roller and acting by constriction to retard the free rotation of said roller.

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Witnesses:

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