

No. 685,711.

Patented Oct. 29, 1901.

G. A. BERLINGHOF.
WINDOW SHADE ROLLER.

(Application filed Feb. 12, 1900. Renewed Sept. 10, 1901.)

(No Model.)

Fig. 1.

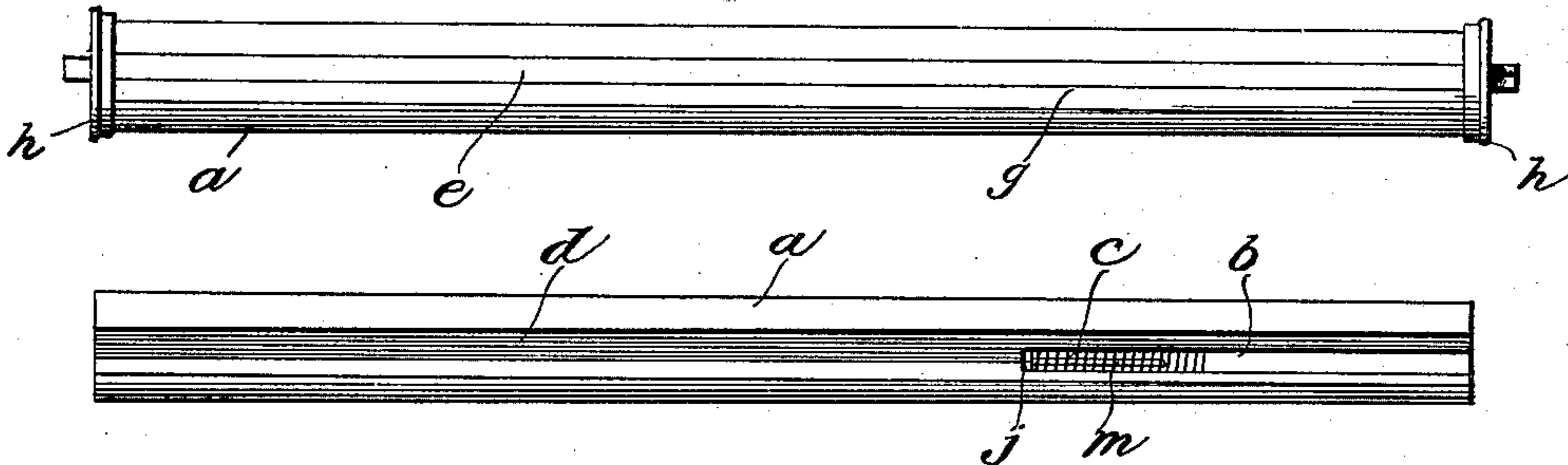


Fig. 2.

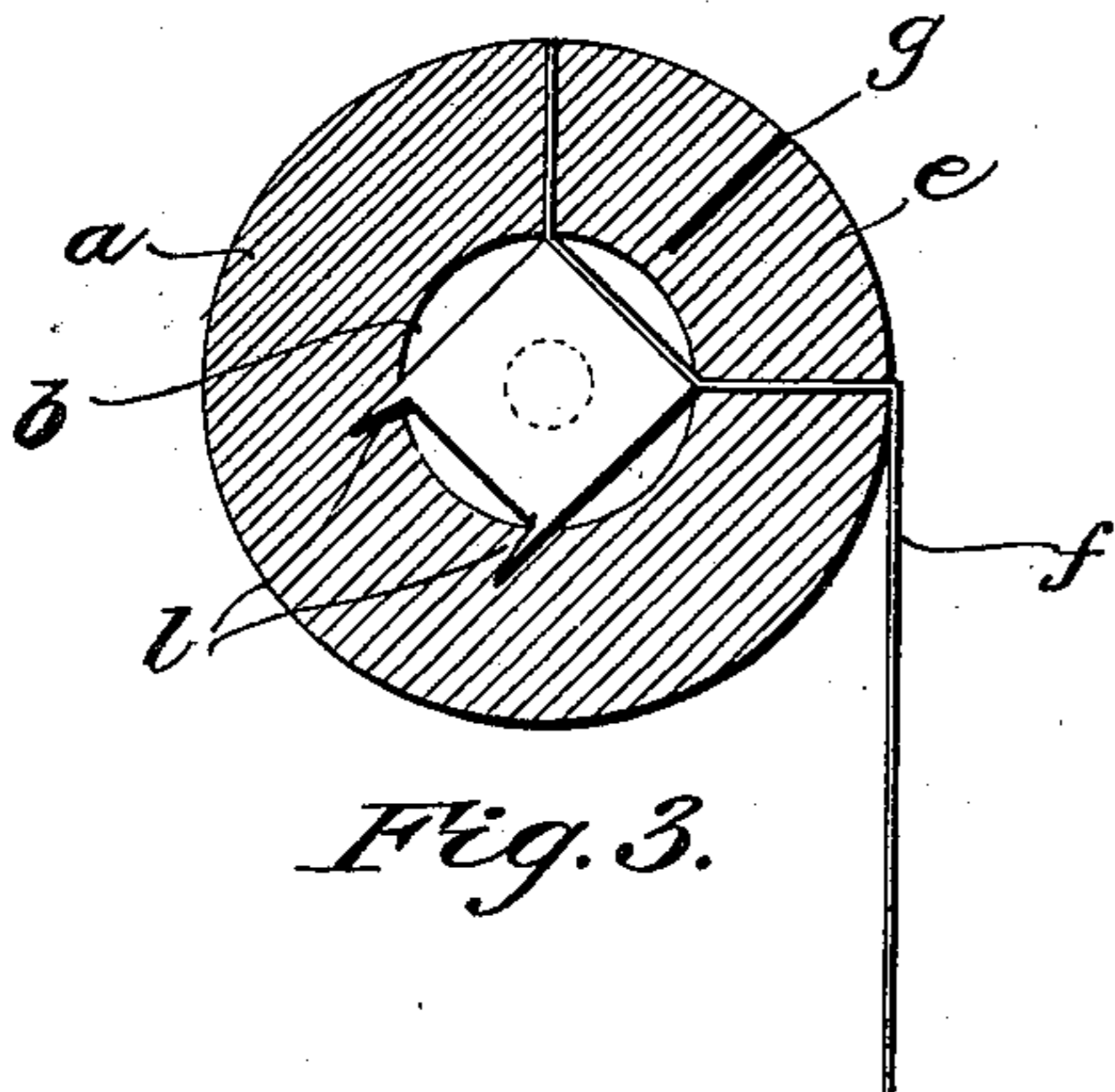


Fig. 3.

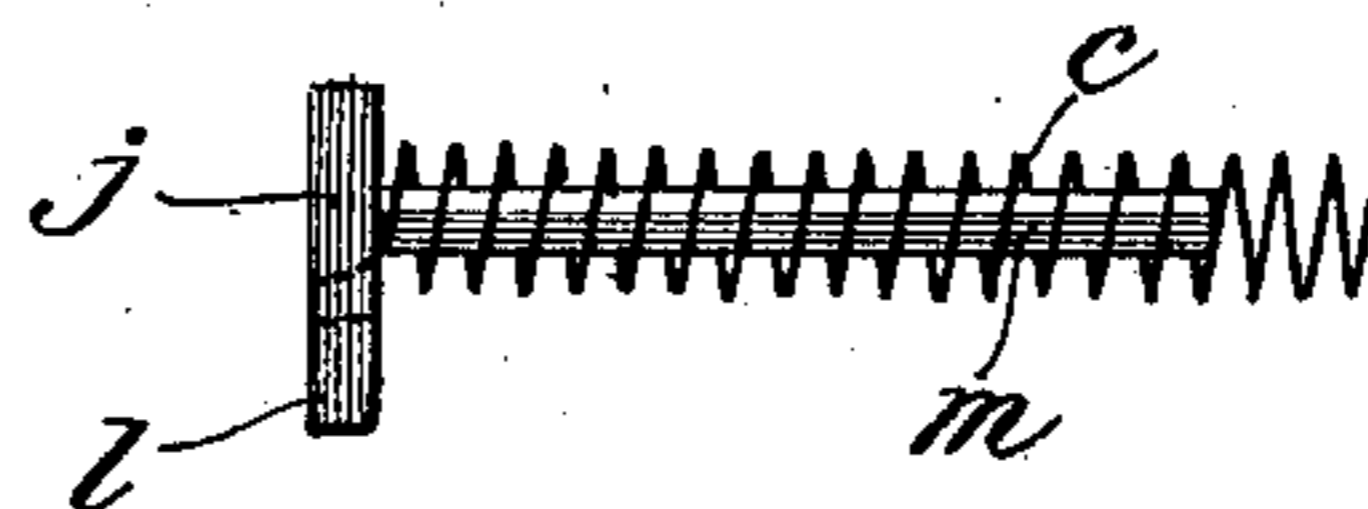


Fig. 4.

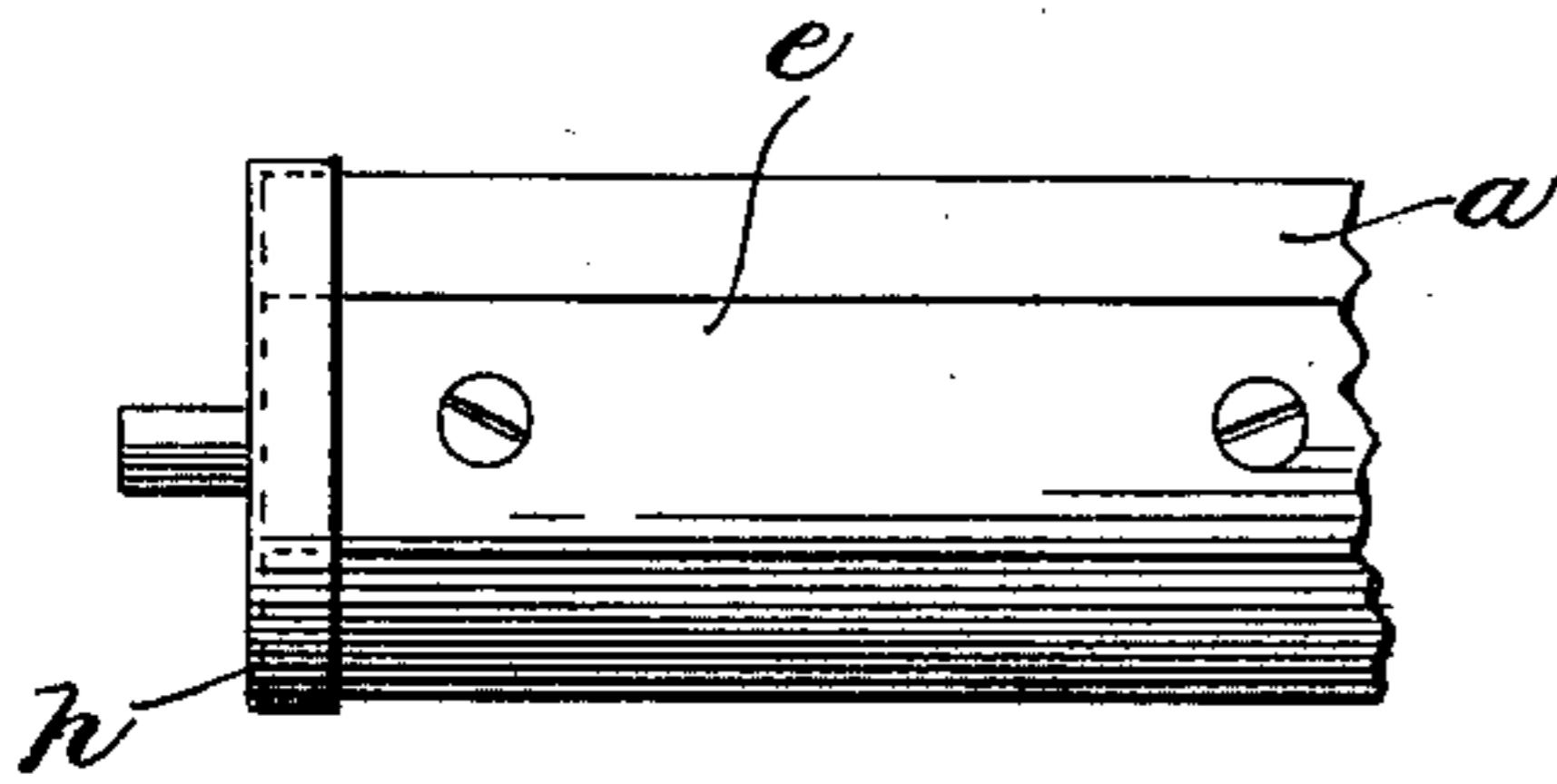


Fig. 5.

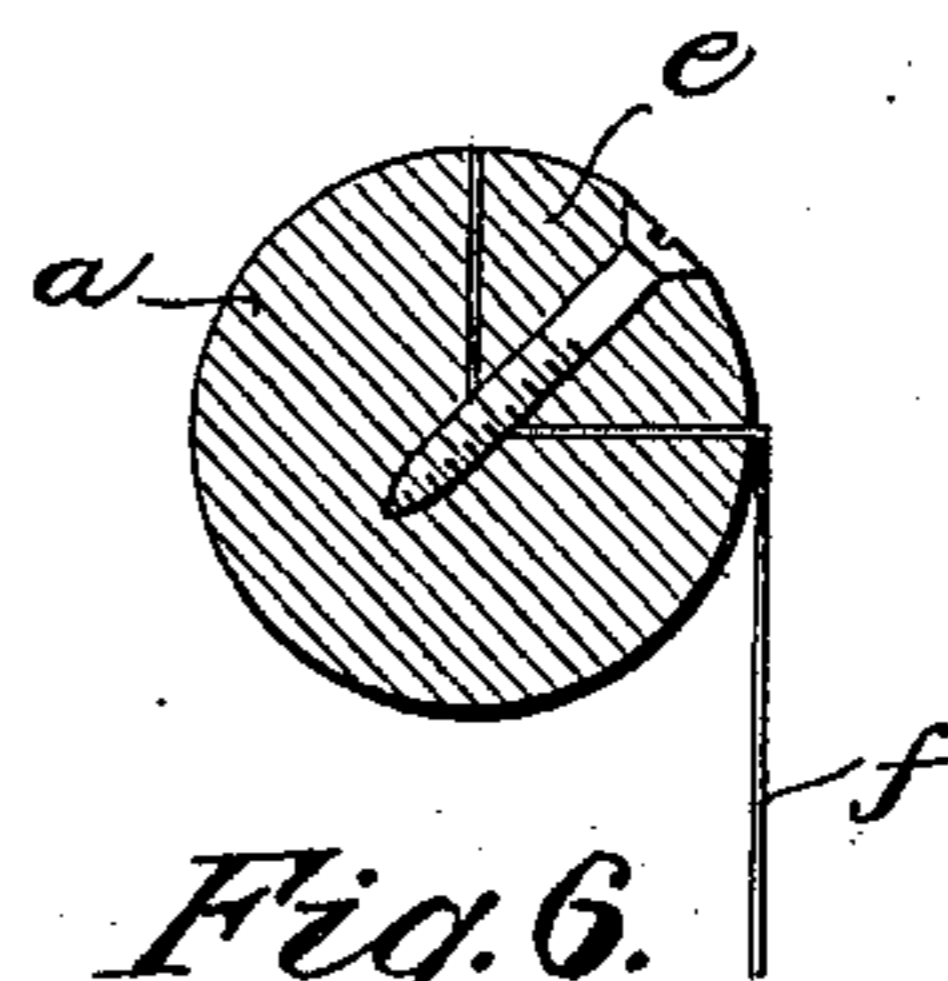


Fig. 6.

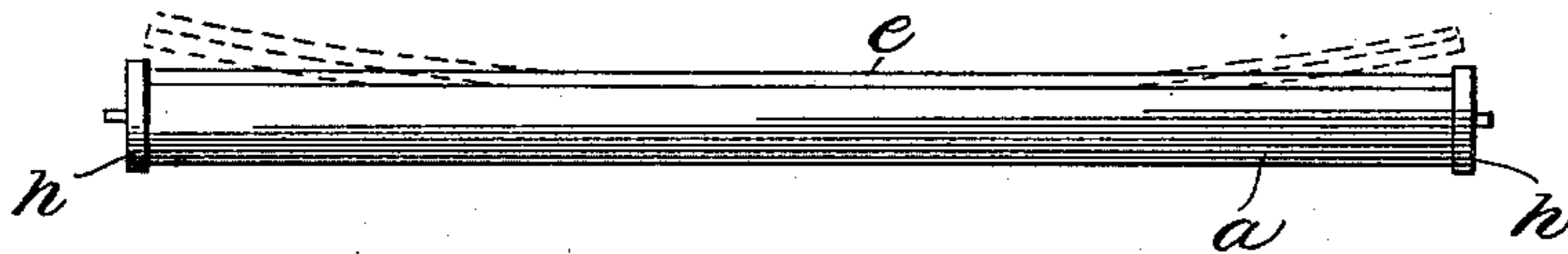


Fig. 7.

Witnesses:

G. L. M. Co.
F. S. Maguire

Inventor:

Geo. A. Berlinghof,
by M. S. Duwall,
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE A. BERLINGHOF, OF BEATRICE, NEBRASKA.

WINDOW-SHADE ROLLER.

SPECIFICATION forming part of Letters Patent No. 685,711, dated October 29, 1901.

Application filed February 12, 1900. Renewed September 10, 1901. Serial No. 74,908. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BERLINGHOF, a citizen of the United States, residing at Beatrice, in the county of Gage and State of Nebraska, have invented certain new and useful Improvements in Window-Shade Rollers; 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.

This invention relates to certain new and useful improvements in shade-rollers; and it has for its object the production of means whereby a shade may be readily secured to said roller without the use of extraneous fastenings of any kind.

A further object is to provide a simple and inexpensive spring-roller in which the spring is securely retained in position and is at the same time readily accessible for repairs and the like.

Various other objects and advantages of the invention will hereinafter appear, and the novel features of the invention will be particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is an elevation of a window-shade roller embodying my invention, the same being of the spring-actuated style. Fig. 2 is a similar view with the shade-retaining strip removed and exposing the actuating-spring. Fig. 3 is a transverse sectional view of the roller back of the spring and illustrating the spring-retaining device in end elevation. Fig. 4 is a detail of the spring-retaining device and the spring. Fig. 5 is an elevation illustrating a simple manner of holding the retaining-strip in position, and Fig. 6 is a sectional view thereof. Fig. 7 is a view similar to Fig. 1, showing retaining-strip before securing.

Similar letters of reference indicate similar parts in all the figures of the drawings.

In the style of shade-roller that is designed to be spring-actuated and which is the style now in common use the roller *a* is first bored longitudinally, as at *b*, and, as is usual, the bore extending from one end of the roller to an intermediate point a sufficient distance to accommodate the spring *c*. The second step or what would be the first step in styles of rollers wherein the springs are not employed

is to slit the roller longitudinally at two different points along its circumference and upon radial lines, so as to produce a V-shaped longitudinal recess or groove *d* and a retaining-strip *e*, the same being formed by the removed stock. In the style of roller other than spring-actuated the roller is now completed, with the exception of the usual end fixtures, which latter may be tacked in position on the ends of the roller. A window-shade, as *f*, is now placed in the recess or groove *d* and the retaining-strip replaced in its original position. Of course the presence of the window-shade in the recess renders the latter slightly smaller than originally, and the strip may be either forced therein and held in position by tacks, screws, spring-clamps, or any other extraneous devices, or the said slit may be kerfed along its longitudinal center, as at *g*, so as to render it capable of contracting transversely, and therefore be sprung into position, to subsequently expand and be self-retaining. Another simple way of retaining the strip immovable in the recess is to spring the same slightly at the middle, whereby the ends are adapted to be sprung under confining-collars *h*, which may be formed on the end fixtures.

The roller-actuating spring *c* may be secured in any convenient manner in the bore of the roller; but it is preferred to employ the device herein shown, which consists of a head *j*, preferably square, and which is provided at two or more points with driving-points *l*, and having a pintle *m*, projecting from its center at one side. The spring may be conveniently fastened to the head or pintle and surrounds the latter, extending therebeyond, as shown, the opposite end of the spring being secured to the curtain-fixture of the pawl-and-ratchet construction usually employed. The spring-retainer is located at the inner end of the bore in the roller and is of such dimensions as to fit the same, the driving-points being forced into the roller, whereby the parts are thus retained against removal. In this latter construction it will be observed that the bore being first formed the retaining-strip will be recessed to agree therewith. It will also be noted that in the event it becomes necessary to repair the

spring or any of its adjuncts the parts can be quickly exposed for inspection by removing the retaining-strip.

In practice the operation of inserting the window-shade and securing it in position is the same as before described, and there may be utilized the extraneous securing devices of any well-known construction, the kerf for permitting of the contracting and expanding of the strip and the retaining-collars of the end fixtures, or a combination of any or all of these features.

It will be seen that the sides of the retaining-strip and also the sides of the V-shaped recess or groove are perfectly smooth and devoid of any grooves, ribs, or other objects that could offer any possible obstruction to an application of the strip in a transverse manner. It will also be noted that the invention can be practiced in a very cheap and economic manner, which renders the same highly practicable.

Having described my invention, what I claim is—

25 1. A window-shade roller having an angular groove formed longitudinally therein; and a retaining-strip angular in cross-section and adapted to be fitted into the same transversely, said strip having its outer side pro-

vided with a longitudinally-disposed kerf, whereby the strip may be compressed to permit of insertion in said groove and to subsequently expand. 30

2. A window-shade roller having a groove formed longitudinally therein; a retaining-strip sprung at an intermediate point and having a longitudinal kerf, whereby said strip may be transversely compressed for subsequent expansion; and sliding collars provided with flanges for receiving the ends of said strip and confining the same. 40

3. A curtain-shade roller having a longitudinal bore and provided with a longitudinally-disposed angular groove intersecting said bore, a retaining-strip recessed to fit said groove, means for retaining the same within said groove, a spring located in said bore, and a retaining device having a pintle engaging said spring and provided with points adapted to be driven into the walls of said bore, substantially as set forth. 50

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. A. BERLINGHOF.

Witnesses:

E. G. DRAKE,

G. H. FROLICK.