

(No Model.)

S. HARTSHORN.
SHADE ROLLER.

No. 516,486.

Patented Mar. 13, 1894.

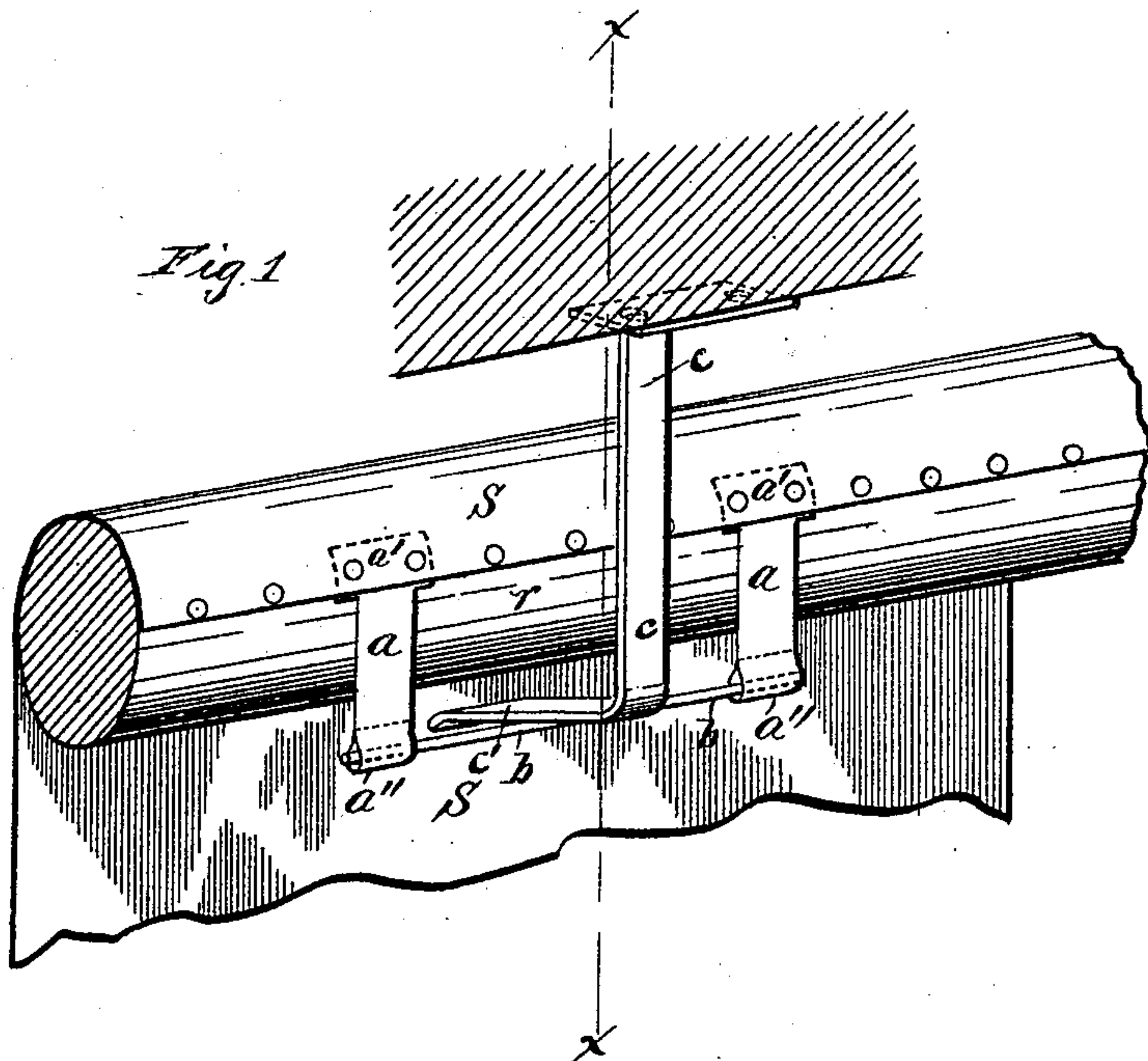


Fig. 3

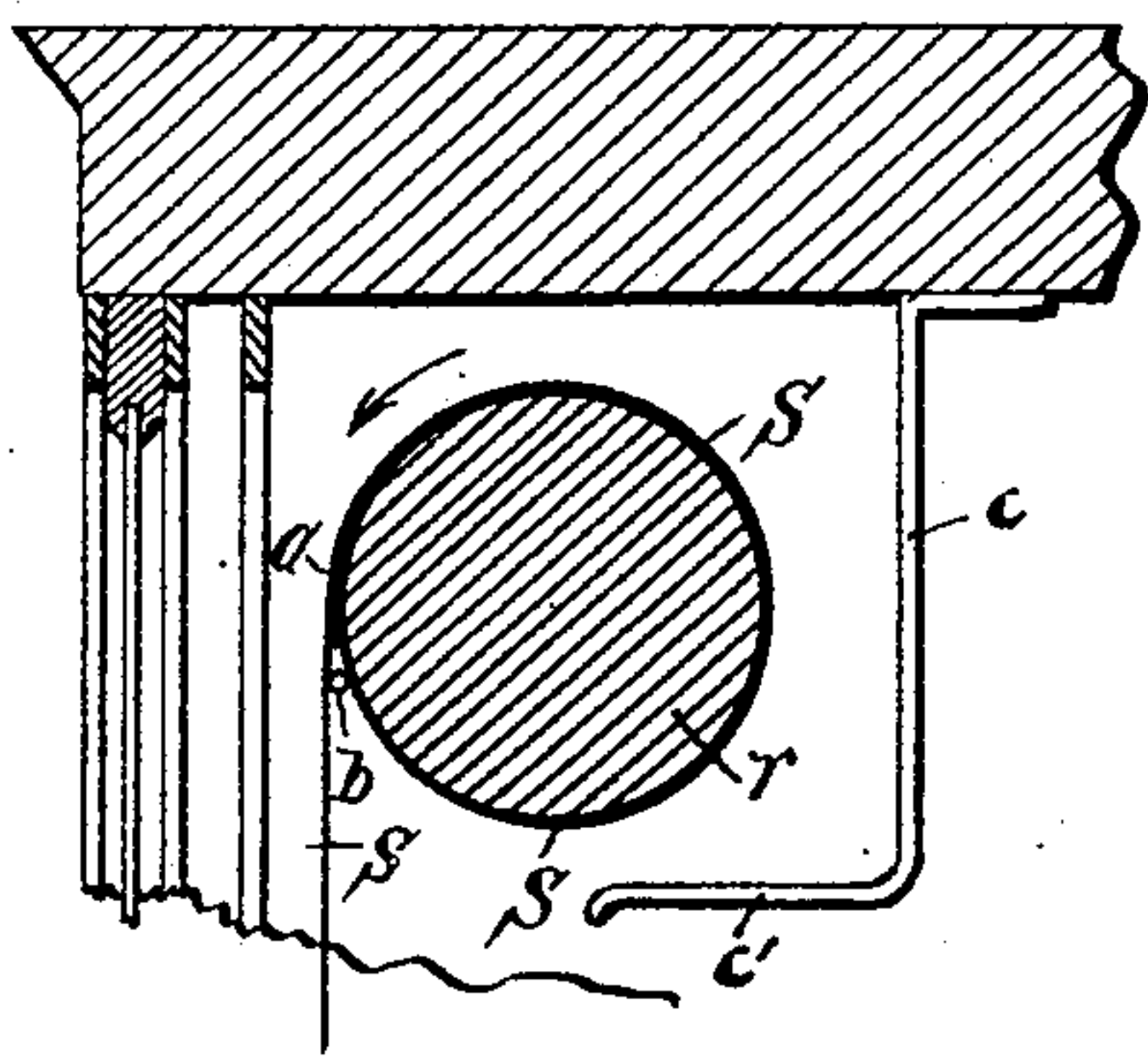
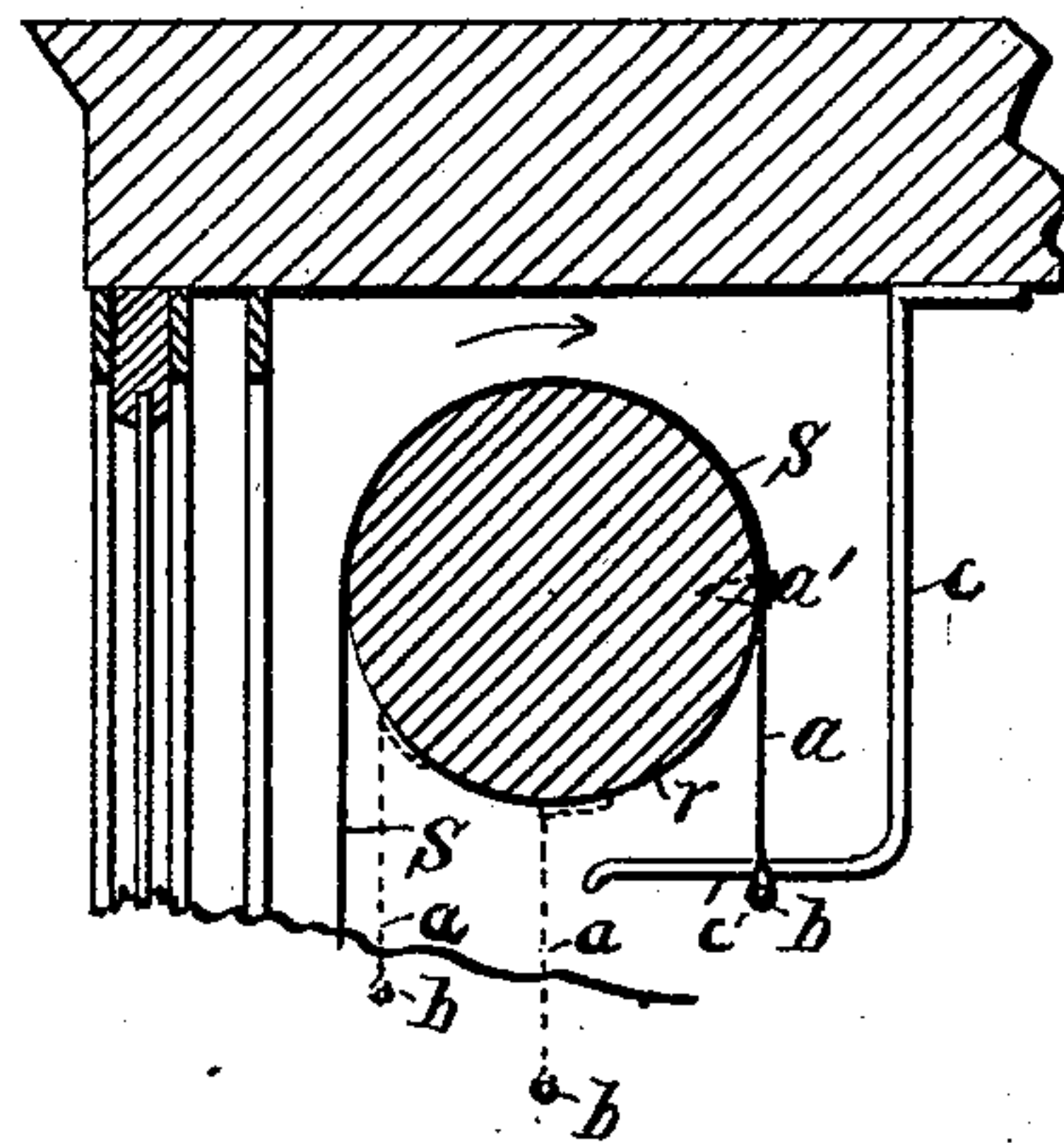


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

STEWART HARTSHORN, OF SHORT HILLS, NEW JERSEY, ASSIGNOR TO
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SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 516,486, dated March 13, 1894.

Application filed January 29, 1891. Serial No. 379,481. (No model.)

To all whom it may concern:

Be it known that I, STEWART HARTSHORN, of Short Hills, county of Essex, and State of New Jersey, have invented a new and useful
5 Improvement in Shade-Rollers, of which the following is a specification.

My improvement relates to rollers on which window shades, maps and other articles are mounted, and refers to an improved device
10 for preventing the shade or other article from being accidentally torn, or pulled off the roller when completely unwound from the roller.

In the drawings illustrating my improvement, Figure 1 is a view of my complete de-
15 vice showing the position of the parts when in engagement to prevent the further unwinding of the shade. Fig. 2 is a sectional view of Fig. 1 through the line $x x$. Fig. 3 is the same as Fig. 2, but showing the parts out of engage-
20 ment and the shade wound on the roller.

When the shade or other article is completely unwound from the roller or pulled all the way down so that the strain or force of the pull comes directly on the tacks or other
25 fastening device by which it is attached to the roller, there is danger that the shade may be torn off or separated from the roller.

My improvement is designed to prevent the complete unwinding of the shade and hence
30 the direct strain or pull of the shade on the tacks or attaching device, and consists of an attachment applied to the roller which engages with a device fastened to the frame or casing of the window in such a manner that
35 the further turning of the roller in unwinding the shade is impossible, the parts being applied substantially as hereinafter specified whereby a yielding of the parts is obtained when the stopping mechanism is thrown into
40 action and the tendency to break the parts by them not yielding when brought into engagement is overcome.

In the particular form of my improvement shown in the drawings, the attachment to the
45 roller consists of two short bands $a a$ of suitable textile fabric or flexible material which are fastened by one end a' to the side of the roller, preferably on a line with the attachment of the shade S , so as to hang down tan-
50 gentially from the roller opposite to the shade, as shown in Figs. 1 and 2. The lower ends

a'' of these bands or tapes a are connected by a rod b which should be heavy enough to cause the bands to fall and hang down when released by the shade, as hereinafter de- 55 scribed.

When the shade is rolled on the roller the bands or tapes a with the bar b are rolled around the roller with the shade, being held between the roller and the wrap of the shade, 60 as shown in Fig. 3.

When the shade is unwound or pulled down from the roller far enough to uncover or free the band a , the latter will at once drop down from the roller, as is seen in Figs. 1 and 2. 65

The part of my stopping device attached to the frame or casing of the window, consists of a metal hook $c c'$ which, in the particular construction illustrated in the drawings, is secured to the frame above the roller, and 70 projects down in front of the latter, or, next to the side opposite to that from which the shade hangs, and then bends so as to come under the roller as at c' , Figs. 1 and 2. This hook $c c'$ is situated on the frame with re- 75 spect to the position of the part $a b$ on the roller so that the hook c' will be immediately above the bar b , or so that the bar as it hangs from the roller will come in contact with the lower side of the bar as the roller is turned 80 in the direction of the arrow in Fig. 3 in unwinding the shade. By locating the projection on the window casing at a point intermediate of the two ends of the shade roller and placing the stop carried by the roller at 85 a point to engage said projection between the ends of the roller, there will be a yielding of the parts by reason of the spring action of the roller when the stop and the projection come together and the tendency to break the parts 90 or cause them to separate which exists when the stopping device is located at the end of the roller where it is rendered rigid and unyielding, is overcome. The advantage of locating the parts as provided for in this in- 95 vention will therefore be apparent.

The operation of my device is as follows: As the shade is wound around the roller, the bands a and bar b are under the wrap of the shade and against the roller, as shown in Fig. 100 3. When the shade is pulled down so as to unwind from the roller and thus uncover the

bar *b* and bands *a*, the bar will drop and hang down from the roller; and as the latter turns in the direction indicated by the arrow in Fig. 3, the bar *b* will come under and engage with the hook *c'*, as in Figs. 1 and 2. The revolution of the roller is at once checked and the unwinding of the shade stopped.

As will be understood from Fig. 1, the bands *a* are fastened to the roller at such a position with respect to the attachment of the shade, that when the revolution of the roller is stopped by the engagement of the bar *b* with the hook *c'*, a portion of the shade will still be wound on the roller. The complete unwinding of the shade is thus prevented and the direct force of the pull does not come on the tacks or other fastening by which the shade is attached to the roller, and hence the shade is not torn off or separated from the roller. The hook *c c'* should give or yield slightly when the bar comes in contact with it, to prevent a too sudden stopping of the roller.

As the roller turns in winding up the shade, in the direction indicated by the arrow in Fig. 2, the bar *b* drops down from under the hook, and coming against the shade is wound up with the latter, as will be seen by the dotted lines in Fig. 2.

As will be evident, the particular form of device may be varied and any form of hook or any form of attaching device may be used that is found suitable.

What I claim is—

1. In a shade roller, a stopping device consisting of a projection secured to a support at a point intermediate of the two ends, of the shade roller, and a stop thrown into and out of operative position by the unwinding and winding of the shade, said stop being carried with the shade-roller and sustained by it at a point intermediate of its two ends remote from both ends and in position to en-

gage said projection whereby when said projection and stop come into engagement the parts will yield and the liability of the parts to break is overcome, substantially as and for the purposes described.

2. In a shade roller, a stopping device consisting of a projection secured to a support, and a stop thrown into and out of operative position by the unwinding and winding of the shade, said stop being carried with the shade roller at a point to engage said projection at a predetermined point before the shade is entirely unwound, one of the two members composed of the projection and the stop being elastic to permit a yielding of the parts when the stop and projection come into engagement whereby the liability of the parts to break is obviated, substantially as and for the purposes described.

3. In shade rollers, a stopping device consisting of a piece supported from the roller by a flexible band so as to hang down below the same when released by the unwinding of the shade, and a projection secured to the casing so as to engage with the hanging piece, substantially as described.

4. In shade rollers, a stopping device consisting of the piece *b* supported from the roller by a flexible band so as to hang down below the same when released by the unwinding of the shade, and the hook *c* attached to the window casing and arranged to extend transversely to the length of the roller and to lie between it and the piece *b* to engage said piece, substantially as described.

5. In combination, a shade roller, a shade connected therewith, a bar *b*, bands *a*, and a hook *c* fastened to the window casing, substantially as described.

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Witnesses:

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