

(No Model.)

S. HARTSHORN.

SHADE ROLLER.

No. 322,713.

Patented July 21, 1885.

Fig. 1.

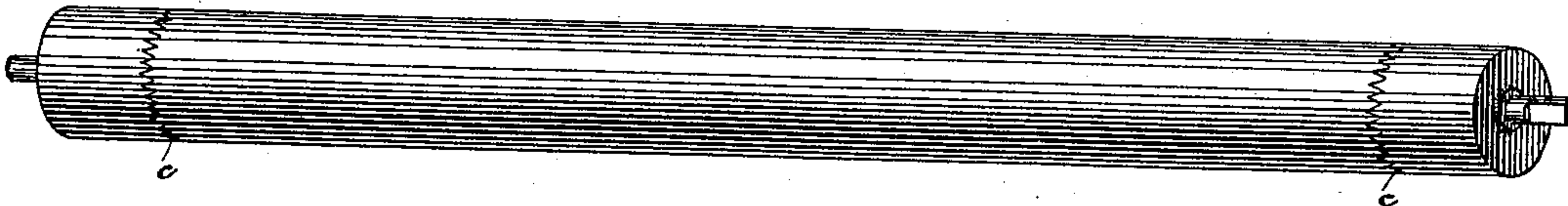


Fig. 2.

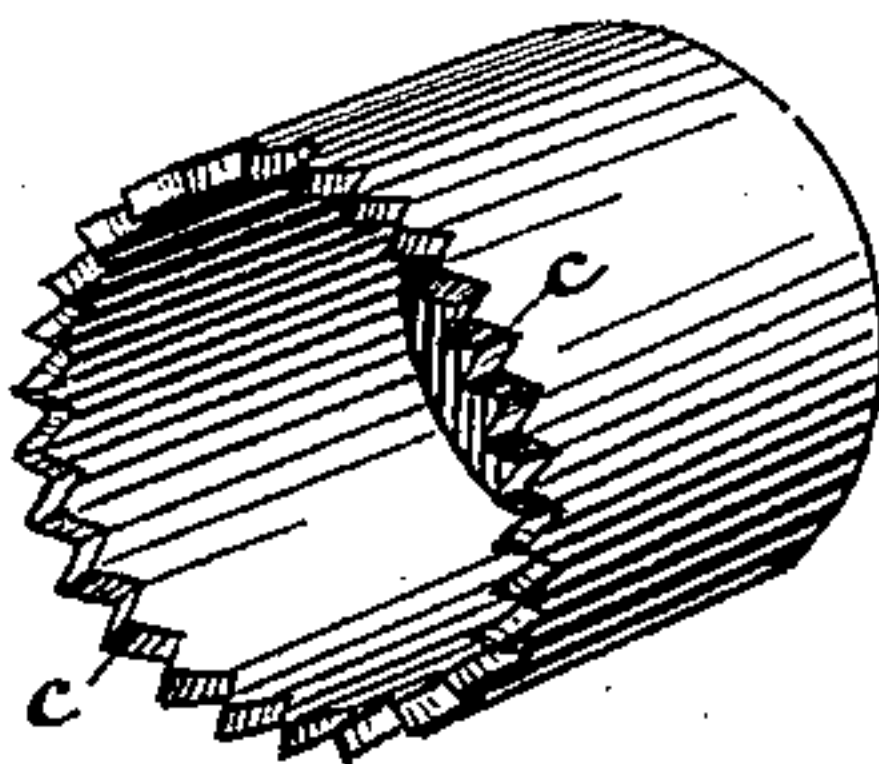


Fig. 3.

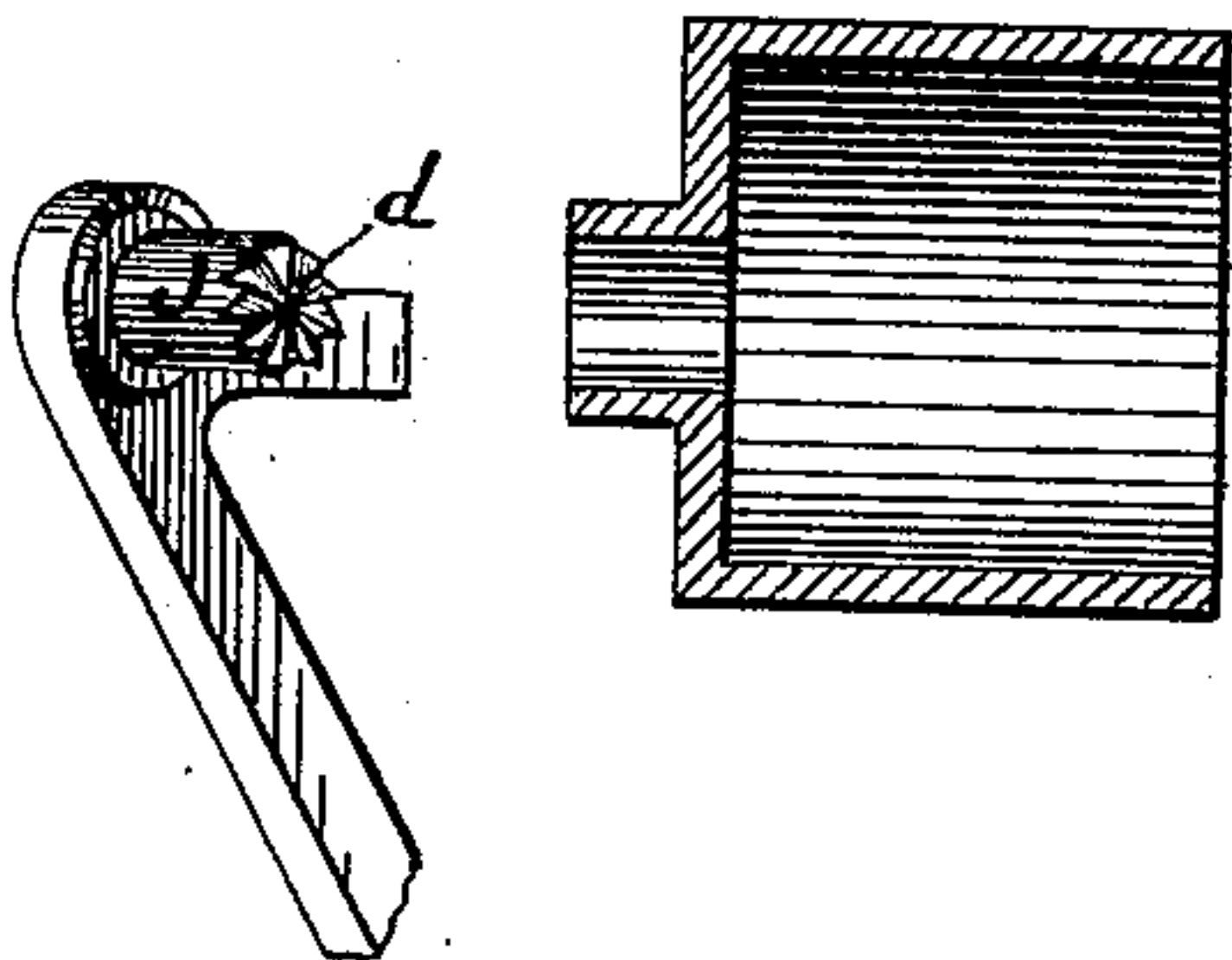
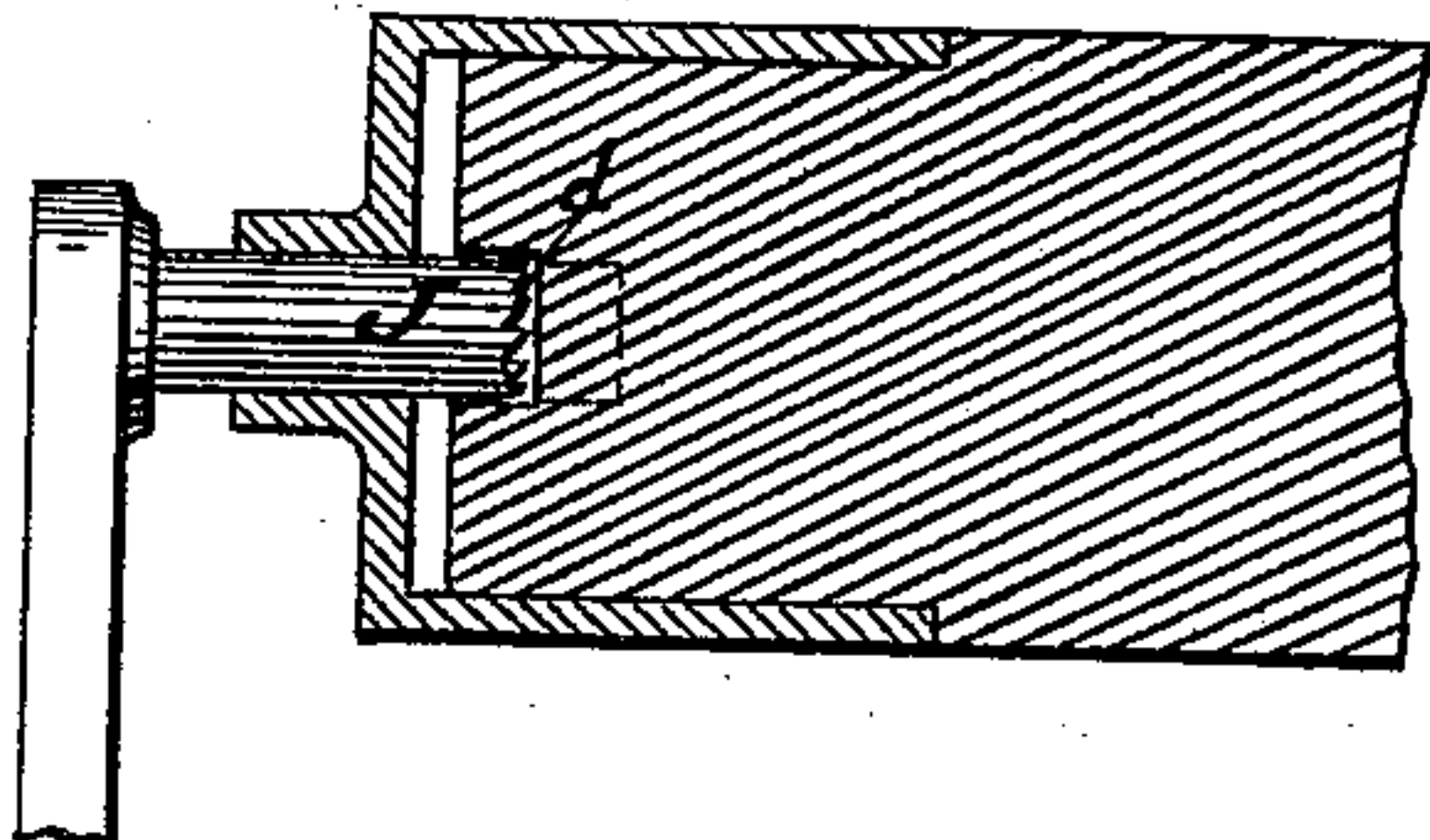


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

STEWART HARTSHORN, OF MILLBURN, NEW JERSEY.

SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 322,713, dated July 21, 1885.

Application filed January 14, 1885. (No model.)

To all whom it may concern:

Be it known that I, STEWART HARTSHORN, residing in Millburn, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Shade-Rollers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification.

My invention is an improvement in rollers used for window-shades, and refers to the metallic shell or end cap used to cover the ends of the roller, and is designed to produce a shell that can be used on rollers of varying diameter, and has reference also to a novel method of constructing the gudgeon on which the roller revolves.

In the accompanying drawings, illustrating my improvements, in which like letters indicate like parts, Figure 1 is a view of a shade-roller having my improved shell or end cap on both ends. Fig. 2 is a view of my improved shell, showing the serrated edge or teeth. Fig. 3 is a view of my improved pin or gudgeon and of the shell or cap adapted to be used with the same. Fig. 4 is a sectional view of the end of the roller when resting on the gudgeon, showing the position of the various parts.

With the shells or end caps now used much difficulty is frequently experienced in fixing the shell on the end of the roller on account of the varying diameters of the latter. The rollers as turned out are apt to vary considerably in size, and as the shells or caps are made of a uniform diameter it follows that where the roller is larger than the shell the former must be reduced by cutting or otherwise before the shell will fit over the end. This involves extra labor, and it is not always easy or possible to reduce the roller so as to fit the shell accurately, and there is danger of cutting away so much of the roller that the shell or cap will be too large.

My improvement consists in serrating the inner edge of the metallic cap or shell, or forming it with a series of teeth or projections (shown at *c* in the drawings) so shaped that when the shell is turned on the end of the roller in the operation of mounting the teeth or projections will cut away or remove

the surplus wood of the roller and reduce the diameter of the latter to the diameter of the shell, and thus permit the shell to fit properly over the end of the roller. These teeth or projections may be of any form or shape found desirable, and may extend around the entire edge of the cap, as shown in the drawings, or a few teeth, either detached or together, may be used, as is desired. The teeth may be applied directly to the ordinary caps now in use, and to one of which is usually fixed the gudgeon or bearing revolving with the roller, or can be formed on the caps when the latter are made by stamping or otherwise without adding to the expense of manufacturing the same, and can be used on the shells on either end of the roller, as shown in Fig. 1. By my improved construction of shell, therefore, I avoid the trouble of first reducing the end of the roller to the same diameter as that of the shell, and form the shell so that it will itself cut away the roller as it is forced or placed on the end of the same, and just enough wood will be removed to allow the shell to fit over the end of the roller. This serrated or notched edge *c* not only cuts away the wood and allows the shell to go over the roller when the diameter of the latter exceeds the former, but bites into the wood and holds the shell firmly in place. To attach the shell still more tightly to the roller some or all of the projections or teeth may be bent or forced into the wood, and thus form a convenient and ready means of attaching the shell to the roller, if desired; but the serrated edge or projections are designed to be used for the purpose of cutting away the wood or reducing the end of the roller independently of the method of attaching the shell to the roller, and the same may be fastened in any manner found desirable.

The second part of my improvement consists in a novel construction of gudgeon or pin on which the roller revolves. This gudgeon takes the place of the free revolving gudgeon or pin which is ordinarily attached to the roller, as distinguished from that on the fixed spring-carrying shaft. The gudgeon is firmly attached to and forms part of the bracket, and when the roller is mounted upon the same rests in a cavity or hole in the end of the roller. In my improvement this cavity or

bearing on the roller which revolves around the gudgeon and in which the latter rests is formed by a hole in the shell or end cap itself, as shown in Figs. 3 and 4. To prevent all contact of the wood of the roller with the gudgeon a hole of larger diameter than the diameter of the gudgeon is made in the end of the roller, as shown in Fig. 4, and in case this hole is not made deep enough to clear the pin or gudgeon the latter is provided with a serrated or notched end, (shown at *d*, Figs. 3 and 4,) which as the roller revolves around the gudgeon cuts away any wood that may come in contact with the same, and allows the roller to revolve smoothly and easily.

What I claim is—

1. A shell or end cap for shade-rollers, having a serrated cutting-edge, as and for the purposes set forth.
2. In a shell or end cap for shade-rollers, the teeth for attaching the same to the roller, as and for the purposes set forth.
3. In spring-shade rollers, a gudgeon, *J*, forming part of the bracket and provided with the serrated or notched end, substantially as described, and for the purposes set forth.

Dated this 9th day of January, 1885.

STEWART HARTSHORN.

Witnesses:

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