

No. 720,268.

PATENTED FEB. 10, 1903.

C. E. LOVEJOY.
RING SPINNING FRAME.
APPLICATION FILED JUNE 11, 1902.

NO MODEL.

Fig. 1.

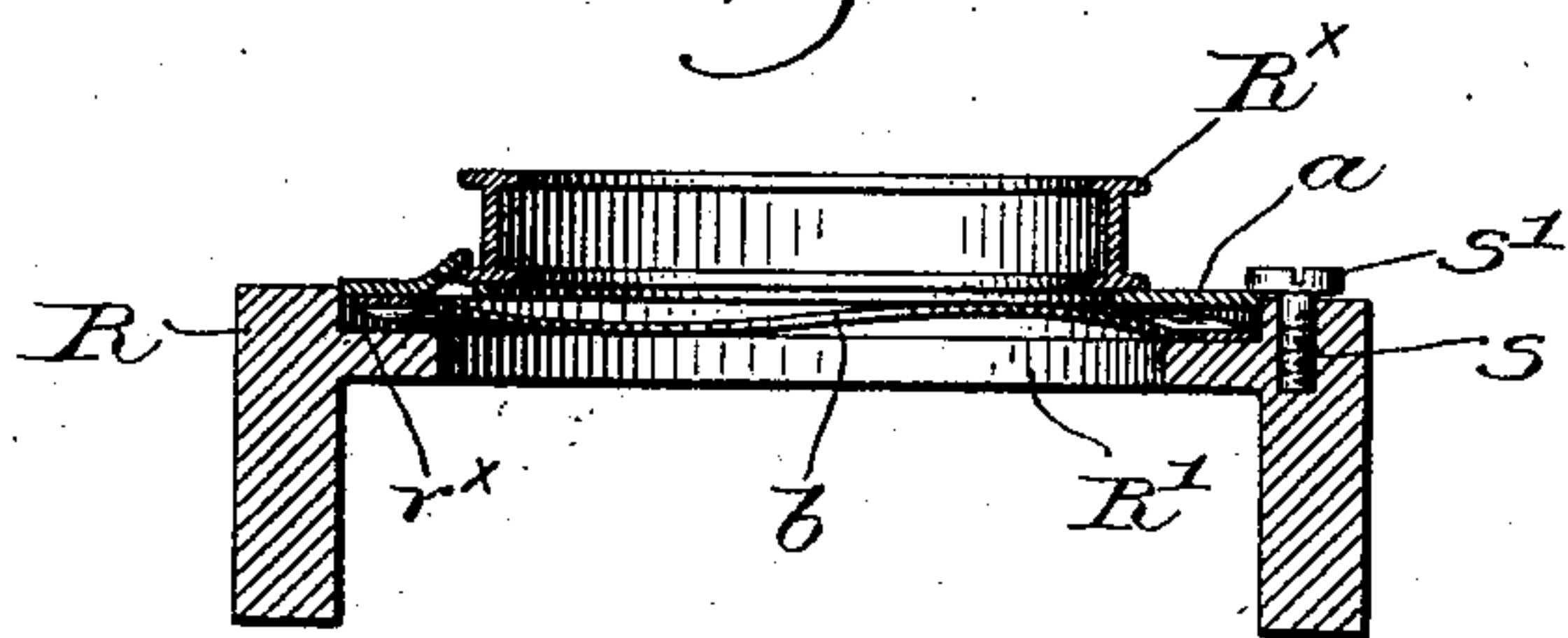


Fig. 2.

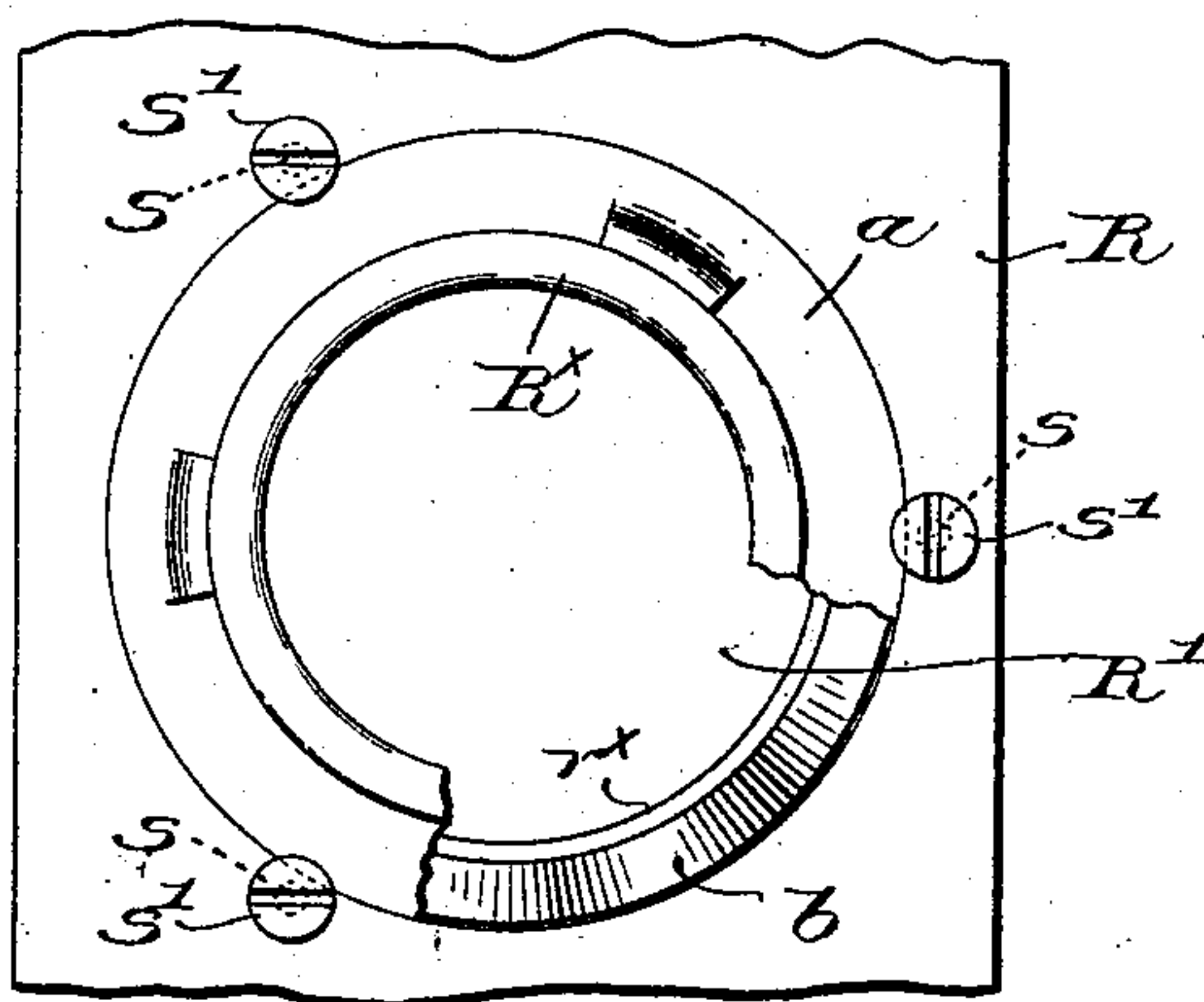
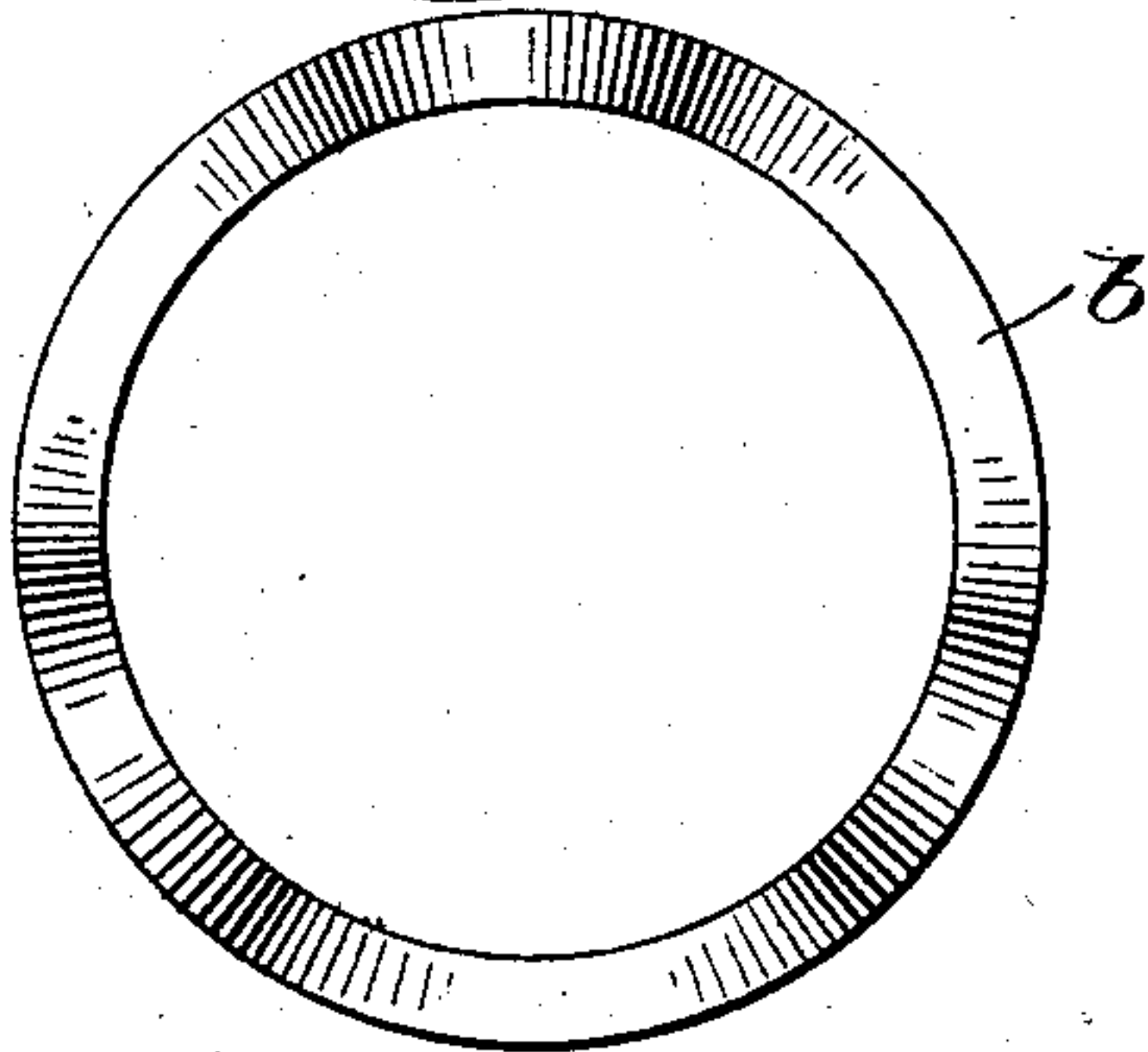


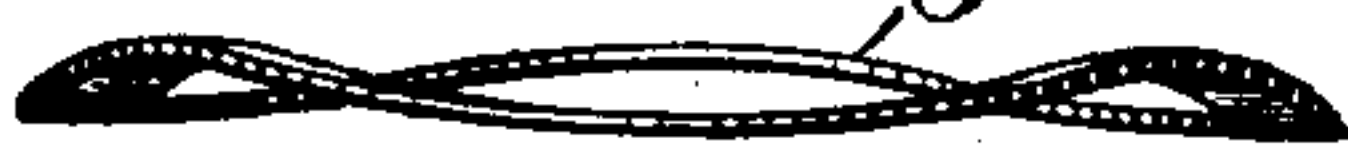
Fig. 3.



Witnesses,
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Inventor,
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attys.

Fig. 4.



UNITED STATES PATENT OFFICE.

CHARLES E. LOVEJOY, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

RING-SPINNING FRAME.

SPECIFICATION forming part of Letters Patent No. 720,268, dated February 10, 1903.

Application filed June 11, 1902. Serial No. 111,108. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. LOVEJOY, a citizen of the United States, residing at Lowell, county of Middlesex, State of Massachusetts, have invented an Improvement in Ring-Spinning Frames, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The ring-rails of spinning-frames are apt to become sprung, twisted, or otherwise distorted sufficiently to throw a series of rings thereon out of true, so that the yarn will not be properly and uniformly delivered to the several spindles. In order to overcome this defect, it is now customary to level the rings, or those of a set which are not level, by inserting one or more thicknesses of paper, cardboard, &c., between the top of the rail and the bottom of the ring-holder at the low side to bring the ring to a level. This method of leveling is unmechanical, slow to accomplish, and often very unsatisfactory in its results; and my present invention has for its object the production of simple and effective means whereby the individual rings of a set can be accurately and quickly leveled and maintained in adjusted level condition.

Figure 1 is a transverse sectional view of the ring-rail of a spinning-frame with a ring mounted thereon and with one embodiment of my present invention applied thereto. Fig. 2 is a top or plan view thereof, the ring and its holder being partly broken out to show the elastic support. Fig. 3 is a top or plan view of a very convenient, cheap, and simple form of ring-support; and Fig. 4 is an edge view thereof.

The ring-rail R, Figs. 1 and 2, the ring R^x, and the sheet-metal ring-holder a may be of substantially usual or well-known construction, save that herein the periphery of the ring-holder is not notched, as is the common practice. Ordinarily the ring-holder rests squarely upon the top of the ring-rail concentric with the spindle-opening R' therein and a plurality of holding-screws retain it securely in place. When it is necessary to level a ring, the screws are loosened and slips

of cardboard or paper are inserted beneath the holder at the proper place, and then the screws are set up again. This is a tedious and unsatisfactory method of leveling the ring, and I have herein provided novel and efficient means for effecting the leveling rapidly and accurately.

In accordance with my invention I interpose between the ring-rail and ring-holder an elastic support, the normal tendency of which is to lift the holder and the ring, and this tendency is overcome and the ring maintained in radial and vertical position by adjustable holding-screws. A simple form of support is an elastic or spring washer, shown as a ring b, of suitable spring metal, corrugated or waved, as shown, and in order to properly retain the support in operative position I prefer to make an annular seat r^x in the top of the ring-rail concentric with the opening R' therein. This seat is preferably of such an extreme diameter as to permit the ring-holder a to fit easily therein (see Fig. 1) and resting upon the top of the support r^x. I have herein shown three holding-screws s, mounted in threaded holes in the ring-rail just beyond the seat r^x and equidistant from each other, the heads s' of the screws projecting over the top of the ring-holder.

It will be manifest that the spring-support b will act to press the ring-holder up against the under sides of the screw-heads, and by vertically adjusting the latter the ring can be tipped in one direction or another to accurately level it, the support b being more or less flattened to correspond to the adjustment.

A very slight adjustment of the screws, one or more, is sufficient to level the ring, and the leveling is effected rapidly and with great accuracy.

It will be seen that by mounting the screws outside of the seat no notching of the holder is necessary and the screws have a firm and secure hold in the rail.

It will be manifest that while this invention is primarily designed to level the ring, presupposing that the longitudinal axis of the spindle is truly vertical, the same leveling

means can be operated with equal facility to adjust the ring so that its top will be in a plane at right angles to the longitudinal axis of the spindle should the latter be out of its proper vertical position.

Under ordinary working conditions the spindle-axis is supposed to be vertical; but if it is not it will sometimes be simpler to adjust the ring to it rather than to first adjust the spindle, the real object to be accomplished being to place the ring with its top surface in a plane absolutely at right angles to the longitudinal axis of the spindle.

My invention is not restricted to the precise construction and arrangement herein shown and described, for I have shown one practical embodiment of my invention without attempting to show or describe various changes or modifications which may be made by those skilled in the art without departing from the spirit and scope of the invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a spinning-frame, a ring-rail, a ring, an elastic support interposed between them, and adjustable means to depress the ring upon the support and thereby effect leveling of the ring.

2. In a spinning-frame, an apertured ring-rail, a concentrically-mounted ring, an annular, elastic support interposed between the ring and the rail, and adjustable means to depress the ring upon the support and thereby effect leveling of the ring.

3. In a spinning-frame, an apertured ring-rail having an annular seat concentric with

the aperture, a corrugated, elastic annular support in the seat, a ring, a ring-holder vertically movable in the seat and resting on the support, and a series of vertically-adjustable holding-screws engaging the ring-holder and acting oppositely to the support, to effect leveling of the ring.

4. In a spinning-frame, an apertured ring-rail, a ring and its holder, an annular, corrugated elastic support mounted on the rail concentric with the aperture, the ring-holder resting on the support, and vertically-adjustable screws engaging the ring-holder and adapted to depress it against the action of the elastic support, to level the ring.

5. In a spinning-frame, an apertured ring-rail having an annular, concentric seat in its top, a ring, an annular spring-washer held in the seat beneath and to support the ring, and vertically-adjustable means to depress the latter against the action of the spring-washer and thereby level the ring.

6. In a spinning-frame, a ring-rail, a ring and its attached holder, an annular elastic support interposed between the rail and the ring-holder, and vertically-adjustable retaining and leveling screws to engage and depress the holder in opposition to the action of the elastic support.

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

CHARLES E. LOVEJOY.

Witnesses:

GEORGE OTIS DRAPER,
ERNEST W. WOOD.