

W. T. CARROLL.
SPINNING-RING.

No. 173,585.

Patented Feb. 15, 1876.

Fig. 1.

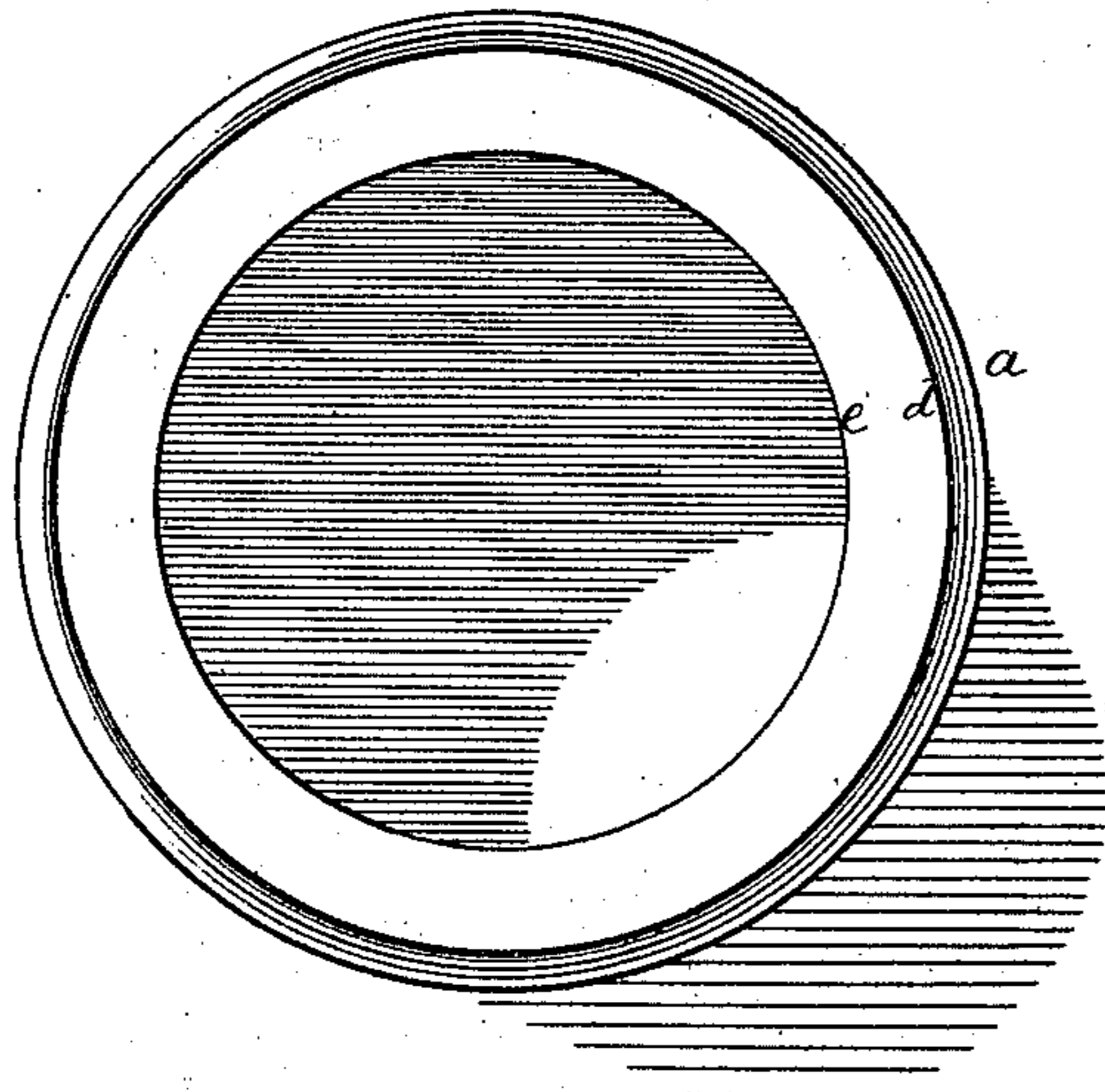
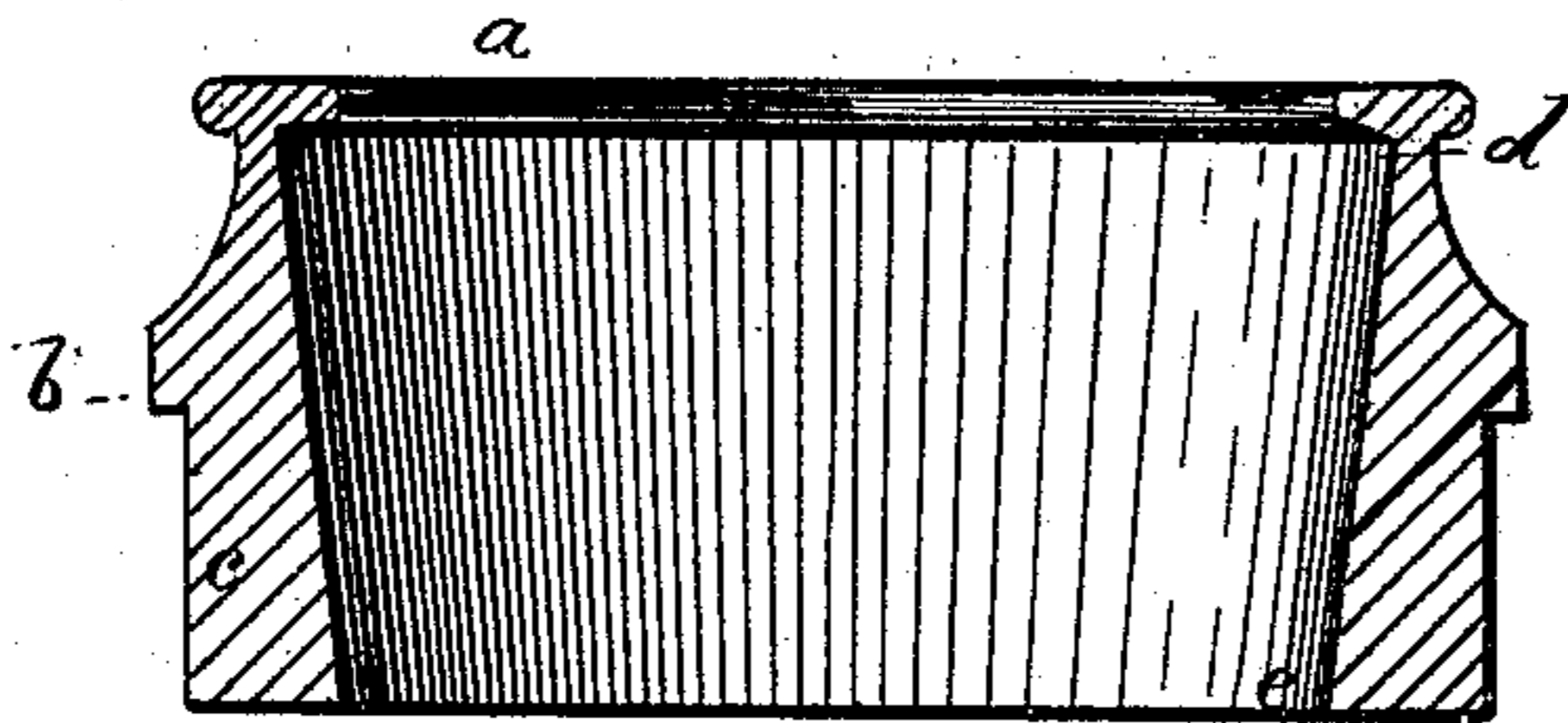


Fig. 2.



Witnesses.

L. H. Latimer.

W. G. Pratt.

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Wm. T. Carroll

per Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

WILLIAM T. CARROLL, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN SPINNING-RINGS.

Specification forming part of Letters Patent No. 173,585, dated February 15, 1876; application filed August 5, 1875.

To all whom it may concern :

Be it known that I, WILLIAM T. CARROLL, of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improved Spinning-Ring, of which the following is a specification :

This invention relates to rings for use in ring spinning-frames, the rings being fitted to the openings in the ring-rail in any well-known way; and the invention consists in a ring having its interior commencing at or near the under side of the race, and extending to the base of the ring-shank tapered, making a circular opening, which decreases gradually in size from at or near the under side of the race to the bottom of the shank.

Figure 1 is a top view, and Fig. 2 is a section, of this improved ring.

The ring is made of iron or steel, turned or otherwise formed into the shape shown. The race *a* receives the traveler; the shoulder *b* rests on the top of the ring-rail, and the shank *c* extends into the spindle-passage in the ring-rail, all as usual.

Rings with shanks, as now commonly made, have a deep annular groove in the interior portion of the ring immediately below the race, one end of the traveler moving in such groove; but this is objectionable, as the small fibers of the cotton adhere to the traveler and to the surface of the ring within this groove, and cause the groove to fill up, interfering with the free movement of the traveler, which is very detrimental to the spinning action, and it is frequently necessary to stop a machine and remove this accumulated fibrous material and "fly" from the groove in the interior of the ring; and rings have also been made with vertical inner faces, as in Patent No. 117,676. In my improved ring the inner wall is made tapering, being largest at the point *d*, at or near the under side of the race *a*, and growing gradually smaller to the point *e*, the lower end of the shank.

In applying ordinary shanked rings to my rails, it is aimed to make the openings in the rail as small as possible, so as not to unnecessarily weaken the rail, and at the same time the shank is made of sufficient strength to be held firmly by the ring-confining screw with-

out breaking, and in these ordinary rings the diameter of the interior of the ring immediately under the race is greater than the interior diameter of the ring at the shank, and in most of these rings, if the interior wall was for its whole length cut to equal the diameter of the interior of the ring under the race, the shank would be so reduced in thickness as to be worthless. In these ordinary rings the traveler moves in a circular path of greater diameter than the interior of the shank of the ring. Now, if it was desired to remove from a ring-rail one of these ordinary rings, and to substitute for it a ring with a vertical wall, as in Patent No. 117,676, the race of the substituted ring would be of a less diameter than the ring removed—that is, if the necessary thickness of shank was preserved. A ring constructed as shown and described by me, enables me to produce a ring that may be substituted for an ordinary ring of equal size at its race, and enables me to thereby improve an ordinary ring spinning-frame in two particulars, viz: to afford an inclined wall over which loose or wasted fibers may easily pass, and also to make the base of the ring stronger. Rings are commonly held in the ring-rails by screws, the points of which are screwed firmly against the outside of the shanks, and if the shanks are made thin and weak by cutting the interior of the shanks away, the screws quickly bend the shanks out of shape, and frequently break through the shanks, whereas by this ring with its inner wall tapered, the shank is left thick and strong, and cannot be injured by the ring-holding or adjusting screws.

I claim—

A spinning-ring having its inner wall tapered, as described, the inner circular opening of the ring decreasing gradually in size from below the race to the bottom of the shank, all as and for the purpose set forth.

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

WILLIAM T. CARROLL.

Witnesses :

E. D. BANCROFT,
F. J. DUTCHER.