(No Model.)

# J. BOOTH.

## SPINNING RING.

No. 483,297. Patented Sept. 27, 1892.

FIG. 1.

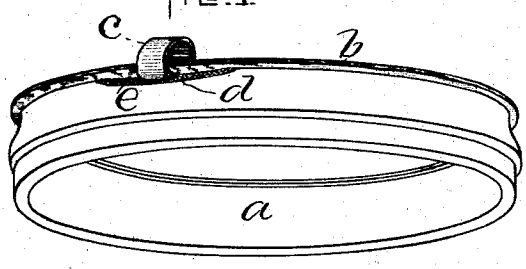



FIG. 2.

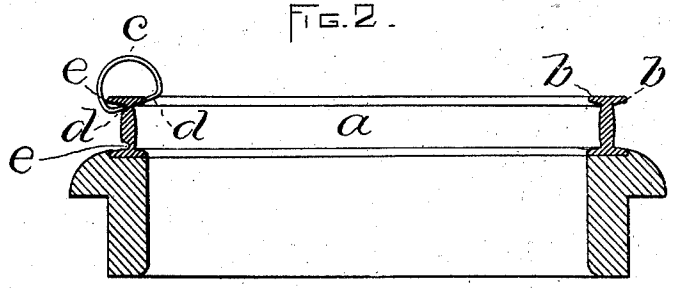



FIG. 3.

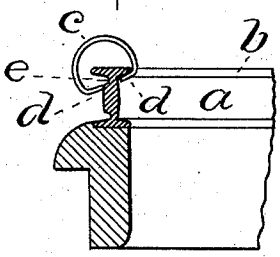
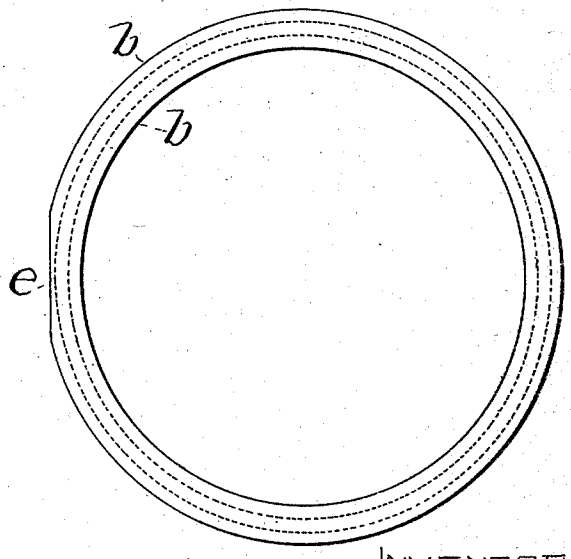



FIG. 4.




WITNESSES:
A. D. Harrison.
W. F. Long.

INVENTOR:
John Booth,
by Wright, Brown & Crossley,
Attys.

# UNITED STATES PATENT OFFICE.

JOHN BOOTH, OF CENTRAL FALLS, RHODE ISLAND.

## SPINNING-RING.

SPECIFICATION forming part of Letters Patent No. 483,297, dated September 27, 1892.

Application filed April 8, 1892. Serial No. 428,297. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BOOTH, of Central Falls, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Rings, of which the following is a specification.

My invention has relation to rings and travelers employed in ring-spinning frames; and it has for its object the provision of improvements which will greatly lessen the amount of wastage in the breaking down of ends, resulting from worn-out travelers slipping off the rings, greatly enhance the durability or life of the traveler, lessen the necessary weight of the traveler, avoid the breakage of rings, and enable the traveler to be more readily and quickly applied to the ring than the same can be done with rings as commonly constructed.

In the practice of the art of ring-spinning prior to my invention the traveler has generally been applied to the ring by springing it over the flange of the latter, and in the case of large rings and heavy travelers it necessitated a blow of a mallet or other instrument upon the traveler in order to spring it over the flange. This mode of applying the traveler to the ring rendered it necessary that the steel out of which the traveler was made should be quite soft, so that it should have high resilient properties, as otherwise it could not be sprung and given the desired bearing upon the flange of the ring. The necessarily soft character of the traveler rendered it susceptible of rapid wear and made it short-lived, so that in use it soon became so worn as to be pulled or slip from the flange of the ring, with the result of breaking down ends and causing serious wastage. In cases where the traveler was sprung upon the ring by the blow of a mallet it not infrequently happened that the ring was broken.

In cases where it has been proposed to construct the ring or the traveler so that the latter might be easily applied to the ring it has been found to invariably pull off with greater frequency than where sprung upon the ring, thus aggravating the mischief or damage resulting from travelers leaving their rings.

By my improvement the objections mentioned are entirely overcome and several important advantages are gained, the said improvement consisting in cutting away or reducing the ring at a suitable point in the circumference of the ring, either in the neck or vertical wall of the ring or in the edge or base of the flange, just sufficient to allow the traveler to be placed upon the ring at such point without appreciably spreading the traveler and to become locked upon the ring after passing in either direction beyond such point, all as will more fully appear hereinafter.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specifiation, the same letters designating the same parts or features, as the case may be, wherever they occur.

In the drawings, Figure 1 is a perspective view of a spinning-ring and traveler, showing my improvement. Fig. 2 is a vertical central sectional view of a reversible ring held in a ring-holder, illustrating the mode of applying a traveler to a ring constructed in accordance with my invention. Fig. 3 is a sectional view through a ring, showing the position of the traveler with respect to the ring in the operation of spinning. Fig. 4 is a plan view of a modified form of the invention.

In the drawings, *a* designates a spinning-ring provided with the usual flanges or lips *b*.

*c* is the traveler, which may be of the ordinary loop form, the ends *d* projecting inward on a substantially straight line, so as to afford a bearing of sufficient extent on the under surface of the lips *b*.

*e* designates a point where the ring is reduced or cut away to an extent sufficient to permit the traveler to be placed over the flange of the ring without springing or spreading the ends apart, as is indicated in Fig. 1 and at the left in Fig. 2.

In Figs. 1 and 2 the reduced point is shown as a groove made in the neck of the ring directly below the outside lip, while in Fig. 4 it is shown as formed by cutting away a portion of the outer lip. Either of these forms or any other suited to the purpose will fall within the scope of my invention, the essential feature of which is the reduction of the ring at a suitable point where it will not interfere with the operation of the traveler, so that the latter may be applied to the ring without spreading or opening the same or springing it there-

over, and so that after the traveler passes this reduced point in either direction it will become locked upon the ring and cannot be removed without being considerably spread. By this means I am enabled to make travelers of the greatest hardness, so as to be capable to a maximum extent of resisting wear and without any liability of breaking them or the ring in their application to the latter.

By enhancing the wearing properties of the traveler I am enabled to effect a substantial saving not only in rings and travelers themselves, but in wastage resulting from the breaking down of ends by reason of worn-out travelers slipping from their rings. I am furthermore enabled to make travelers of other material than metal—such, for example, as glass and other vitreous and very hard substances—reducing the friction and wear of both the traveler and the ring.

It will be understood that my invention contemplates the reduction or cutting away of the ring at a point in its circumference, so as to permit the traveler to be applied at such point, the ring being enlarged in its circumference beyond such point, so that the traveler becomes locked after it passes in either direction beyond such point. With this construction, in addition to what has already been said, the full strength of the ring is preserved and there is no liability of the traveler pulling off or leaving the ring, as would be the case if the ring were reduced throughout its circumference.

Having thus described my invention and explained a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its employment, I declare that what I claim is—

A spinning-ring having a point in its circumference at which it is reduced or cut away to permit the traveler to be applied without spreading, the ring beyond such reduced or cut-away point being of normal or enlarged size, whereby the traveler may become locked on the ring after passing the reduced point, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 2d day of April, A. D. 1892.

JOHN BOOTH.

Witnesses:
ARTHUR W. CROSSLEY,
A. D. HARRISON.