J. BOOTH.

SPINNING-RING.

No. 184,138. Patented Nov. 7, 1876.

Fig. 1.

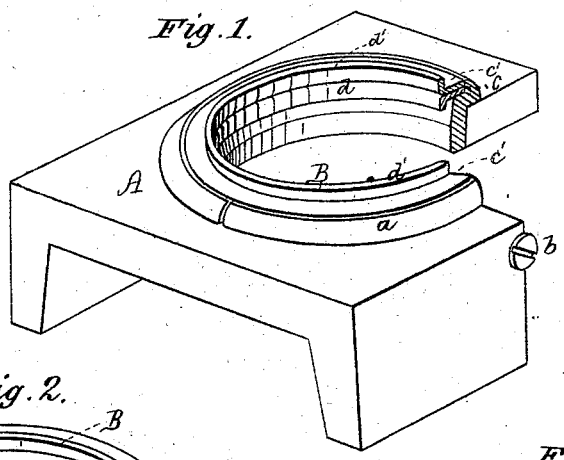


Fig. 2.

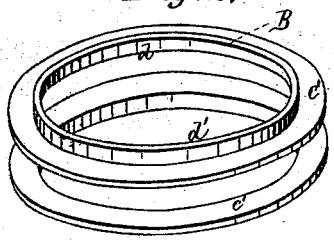


Fig. 3.

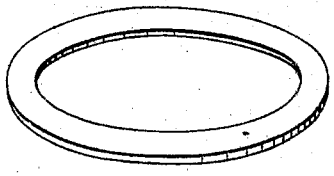


Fig. 4.

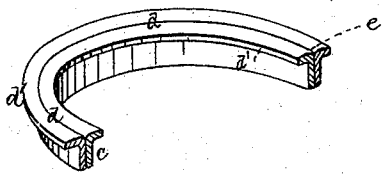


Fig. 5.

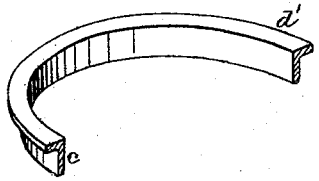


Fig. 7.

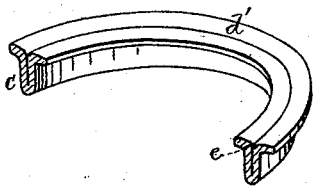


Fig. 6.

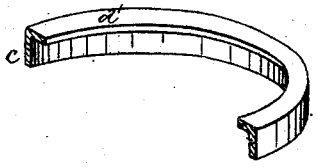
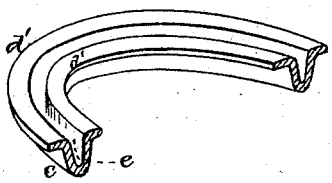


Fig. 8.



Witnesses:
Philip F. Larner
A. B. Cauldwell

Inventor:
John Booth,
By Munn & Co
Attorneys

UNITED STATES PATENT OFFICE.

JOHN BOOTH, OF LINCOLN, RHODE ISLAND.

IMPROVEMENT IN SPINNING-RINGS.

Specification forming part of Letters Patent No. **184,138**, dated November 7, 1876; application filed April 24, 1876.

To all whom it may concern:

Be it known that I, JOHN BOOTH, of Lincoln, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Rings; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a true and complete description of my invention.

My novel rings are made of sheet metal by a novel method, which constitutes the subject of a separate application for Letters Patent.

For the purpose of this specification it is only necessary to state that my rings are swaged by means of suitable dies and tools from blanks in the form of flat rings cut from rolled sheet metal of a suitable character.

The invention to which this application relates consists in a spinning-ring composed of one or more pieces of sheet metal, having a suitable holding flange or neck, and a ring-race composed of two separate flanges, which extend in opposite directions.

My invention further consists in a ring-race, which is centrally grooved or channeled.

Rings embodying my invention are less costly than those heretofore made, and much more durable, because the sheet metal of which they are composed is well condensed, and is rendered still finer in grain and harder by reason of the swaging operations essential in their manufacture.

The centrally-grooved ring-race has a specific value, in that the ring-traveler used therewith has a bearing only at the outer edges of the ring-race, and, therefore, undue frictional contact with the traveler is obviated, which is incident to the flat or convex-surfaced ring-race possessed by rings as heretofore made.

To more particularly describe my invention I will refer to the drawings, in which—

Figure 1 represents, partially in perspective and partially in section, a ring-rail, a holder, and one of my novel rings. Fig. 2 represents, in perspective, the two parts of which the ring shown in Fig. 1 is composed. Fig. 3 represents a blank cut from sheet metal, from which one of the parts of my ring is formed. Figs. 4, 5, and 6 represent, in perspective and section, my novel rings, of a slightly-different construction. Figs. 7 and 8 represent, in perspective and section, another form of ring embodying my invention.

A, in Fig. 1, represents the ring-rail of a spinning-machine. The spring ring-holder is shown at *a*, and a screw for securing it to the rail is shown at *b*. The spinning-ring at B has a holding neck or flange at *c*, which is horizontal, while the ring-race *d* is vertical. It is composed of two counterparts, which are shown in Fig. 2. Each part has a neck-flange at *c'* and a race flange or lip, *d'*, and when placed with the faces of the neck-flanges in contact these two parts constitute a perfect ring, and they may be united by rivets, or both may be held in proper relative positions by the spring-holder. A ring thus constructed is reversible, and can therefore be used either side up.

In Figs. 4, 5, and 6 the holding flange or neck *c* is shown to be vertical, and the ring-traveler race *d* horizontal. This ring is composed of two parts, which are not counterparts. One part is a ring with an outwardly-projecting race-flange, *d'*, and the other part is a ring of smaller diameter, with an inwardly-projecting race-flange. In Figs. 7 and 8 a ring is shown of the same general character as that shown in Fig. 4, and has a horizontal race and a vertical neck. The ring shown in Figs. 7 and 8 is, however, not composed of two pieces or parts. For making this ring a blank is used like that shown in Fig. 3, but, of course, it is a little more than twice as wide as one which is designed for making one-half of the spinning-ring. The race-flanges *d'* are, however, separate, as before described, and they extend in opposite directions, as in Fig. 4; but the holding flange or neck *c* is solid at the lower end, the metal forming the neck being flatly bent and folded, as indicated in Fig. 8, wherein the two sides of the neck are still separated.

Regardless of the particular manner in which these rings are made, they will embody the distinctive features of my invention, if they are made of sheet metal, and have the race-way composed of two separate flanges, which project in opposite directions. In bending the race-flanges the corner at the junction of

race and neck is seldom truly rectangular or full, and, therefore, when the two race-flanges are joined the central groove *e* in the raceway is thereby formed. Should this groove be not sufficiently well defined, it may be attained by means of well-known tools and a lathe.

Spinning-rings, as heretofore made, have been forged and then turned up in a lathe; but it is impossible, by that method, to get finely-grained and well-condensed metal. My novel rings require the usual high finish, and the sheet metal is so fine grained and so thoroughly condensed that a high degree of finish can be attained with but little cost of tools and labor.

As before stated, my rings are less expensive than any heretofore made, are more durable, and, by reason of the central channel or groove in the raceway, they afford less frictional surface for contact with the traveler than is the case with rings, as heretofore made with a flat or a convex ring-race.

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

1. A spinning-ring composed of sheet metal, having a suitable holding flange or neck, and a raceway formed by two separate flanges, which project in opposite directions, substantially as described.

2. In a spinning-ring, a raceway, centrally channeled or grooved, substantially as described.

JOHN BOOTH.

Witnesses:

GEORGE FULLER,

HENRY W. ALLEN.