

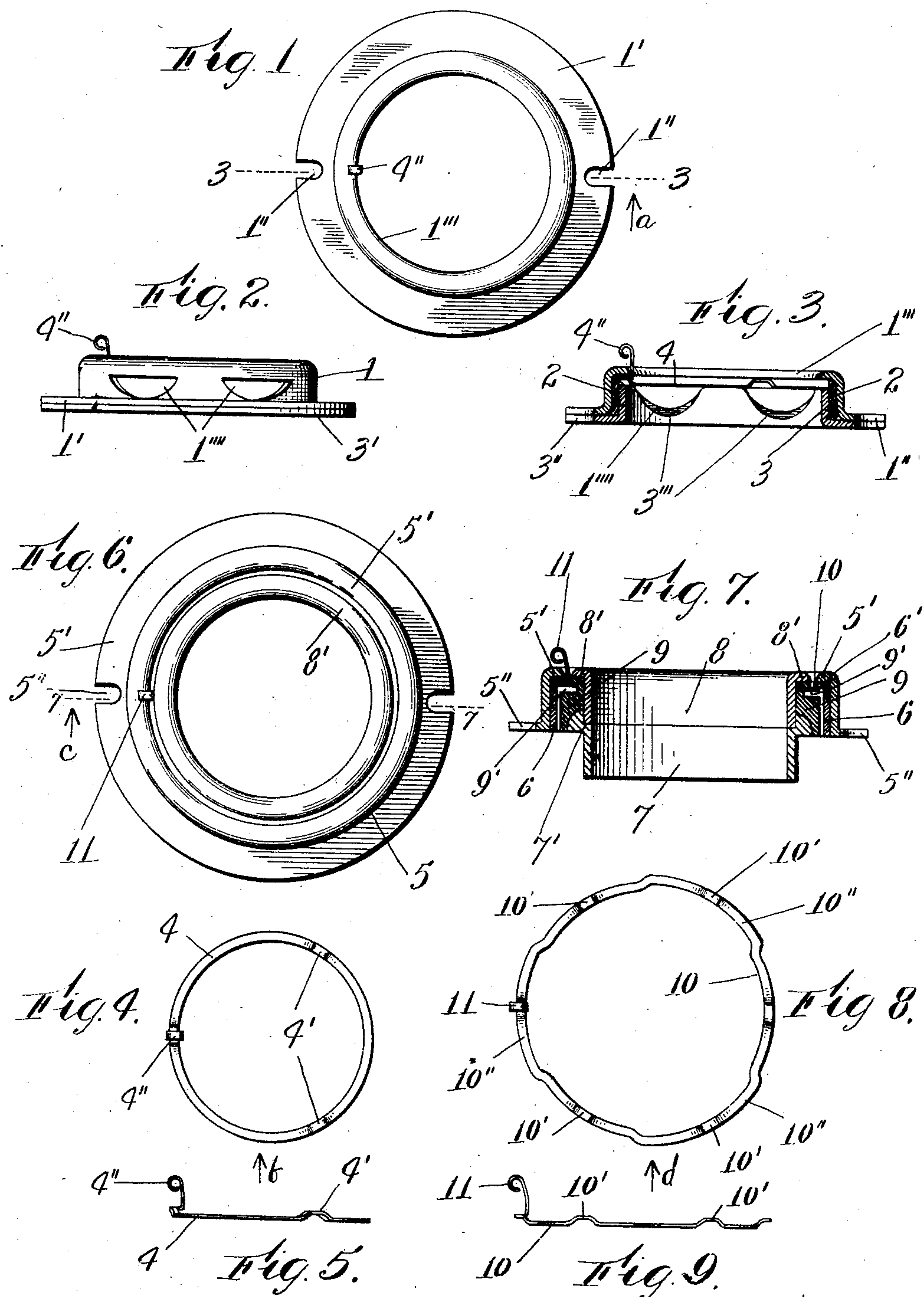
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PATENTED JULY 19, 1904.

H. B. HOYLE.
SPINNING RING.

APPLICATION FILED FEB. 24, 1904.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

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SPINNING-RING.

SPECIFICATION forming part of Letters Patent No. 765,241, dated July 19, 1904.

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To all whom it may concern:

Be it known that I, HARRISON B. HOYLE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Spinning-Rings, of which the following is a specification.

My invention relates to spinning-rings, and particularly to that class of spinning-rings in which a metal traveler-ring is used which extends and travels within the outer case of the spinning-ring.

The object of my invention is to improve upon the construction of spinning-rings of the class referred to as ordinarily made, and more particularly to reduce the area of the bearing-surface of the traveler-ring, so as to reduce the friction, and thus increase the speed of the traveler-ring.

In my improvements I preferably make the traveler-ring with one or more corrugations or indentations therein, forming bearing points or surfaces out of the plane of the main portion or body of the ring.

My invention consists in certain novel features of construction of my improvements, as will be hereinafter fully described.

Referring to the drawings, Figure 1 is a plan view of a spinning-ring and traveler-ring embodying my improvements. Fig. 2 is a side view of the parts shown in Fig. 1 looking in the direction of arrow *a*, same figure. Fig. 3 is a section on line 3-3, Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 4 shows a plan view of the traveler-ring shown in Fig. 3 detached. Fig. 5 is an edge view of the traveler-ring shown in Fig. 4 looking in the direction of arrow *b*, same figure. Fig. 6 is a plan view of a modified construction of the spinning-ring shown in Fig. 1. Fig. 7 is a section on line 7-7, Fig. 6, looking in the direction of arrow *c*, same figure. Fig. 8 is a plan view of the traveler-ring shown in Fig. 7, detached; and Fig. 9 is an edge view of the traveler-ring shown in Fig. 8 looking in the direction of arrow *d*, same figure.

In the accompanying drawings, Figs. 1 to 4, inclusive, 1 is the outer case of the spinning-ring, which preferably has a flat external annular flange 1' with open end slots 1'' in

its opposite edges for attaching screws. (Not shown.) The upper edge of the case 1 is bent inwardly to form an internal annular flange 1''' around the central opening. Extending within the case 1 is in this instance ring 2, preferably of non-metallic material, as wood. The ring 2 fills the space between the internal flange 1''' and the lower edge of the case 1. Extending within the ring 2 is a ring 3, preferably of metal and having a flat external annular flange 3', which extends under the flange 1' on the case 1 and has open end slots 3'' therein for attaching screws. (Not shown.) The upper edge of the ring 3 is preferably provided with recesses or cut-out portions 3''', as shown in Fig. 3, and there is a space or clearance between the upper edge of the ring 3 and the internal annular flange 1''' on the case 1, as shown in Fig. 3, for the traveler-ring 4 to rotate in. The traveler-ring 4 is preferably made of flat metal; but it may be made of wire, and is mounted and adapted to rotate within the outer case of the spinning-ring. The traveler-ring 4 has one or more corrugations or indentations 4' therein, which extend above the plane of the traveler-ring proper, as shown, and the thread-eye 4'' preferably extends up from one of these corrugations. When the traveler-ring 4 is in operation, the rotary speed of the ring lifts it from its support on the upper edge of the ring 2 and brings the upper surface of the corrugations 4' into contact with the internal flange 1''' on the case 1, and these corrugations or indentations 4' on the traveler-ring 4 in the rotation of the traveler-ring within the case of the spinning-ring are the only parts of the traveler-ring which come in contact with the internal flange 1''' on the case 1, so that the friction between the traveler-ring and the internal flange 1''' is very much reduced. The outer case 1 may have openings 1'''' cut through the vertical wall thereof, as shown in Fig. 2, to correspond with the recesses 3''' in the ring 3, and thus allow of the free passage of lint, dirt, &c., from under the traveler-ring 4 through the recesses in the ring 3 and the openings 1'''' in the case 1. Corresponding openings (not shown) are made in the ring 2.

In Figs. 6 to 9, inclusive, I have shown a modified construction of the parts shown in Figs. 1 to 5, inclusive, and above described. The case 5 corresponds substantially to the case 1, previously described, and has an external annular flange 5', with open end slots 5'' therein for attaching screws. (Not shown.) Extending within the case 5 is a ring 6, preferably of non-metallic material, as wood, which has an inwardly-extending annular flange 6' at its upper edge. 7 is a metal ring secured to the frame and having an internal annular recessed portion 7' at its upper edge to receive the lower edge of a ring 8, which is held in the recess 7'. The upper edge of the ring 8 has an external annular flange 8' thereon in the same plane as the flange 5' on the ring 5. There is an annular opening between the adjoining edges of the flange 5' and the flange 8'. A ring 9, preferably of non-metallic material, as wood, surrounds the ring 8 and is secured thereto. The ring 9 has a recess or opening 9' in its outer edge, forming a track or way for the traveler-ring 10. The traveler-ring 10 is preferably made of flat metal, but may be made of wire, and it has one or more corrugations or indentations 10' therein and a guide-eye 11, extending, preferably, from one of said convolutions 10'. The traveler-ring 10, in addition to the corrugations or indentations 10', has also an irregular conformation as to its outer edge, as shown in Fig. 8—that is, a portion of its outer edge, as shown at 10'', extends out beyond the rest of the outer edge of the ring. The corrugations or indentations 10' in the traveler-ring 10 correspond to the corrugations or indentations 4' in the traveler-ring 4, as shown in Fig. 4, and are for the same purpose. The irregular conformation of the traveler-ring 10 on its edge reduces the bearing-surface of the ring against edges of the track in the upper part of the ring 9 in the case 6.

The advantages of my improvements will be readily understood by those skilled in the art.

By making the traveler-ring with the corrugations or irregular surfaces therein, as above described, I reduce very much the bear-

ing-surface of the ring and greatly increase the speed of the ring.

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

1. A traveler-ring for a spinning-ring of flat metal, and having surfaces thereon out of the plane of the main body of the ring, which form bearing-surfaces for the ring, substantially as shown and described.

2. A traveler-ring for a spinning-ring, of flat metal, and having one or more corrugations or indentations therein, forming bearing-surfaces out of the plane of the main body of the ring, substantially as shown and described.

3. In a spinning-ring, a traveler-ring mounted and adapted to rotate within the case of the spinning-ring, and having one or more corrugations or indentations therein, forming bearing-surfaces out of the plane of the main body of the ring, substantially as shown and described.

4. In a spinning-ring, the combination with the outer case, having openings in its vertical wall, the inner ring having recesses in its upper edge corresponding to said openings, of a traveler-ring having one or more corrugations or indentations therein, forming bearing-surfaces out of the plane of the main body of the ring, and adapted to rotate within the outer case, substantially as shown and described.

5. In a spinning-ring, the combination with the outer case, and the inner ring, and a ring between the same, forming a way for the traveler-ring, of the traveler-ring having one or more corrugations or indentations therein forming bearing-surfaces, and said ring adapted to rotate in said way, and having a thread guide-eye thereon extending through an annular opening between the outer case and the inner ring, substantially as shown and described.

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