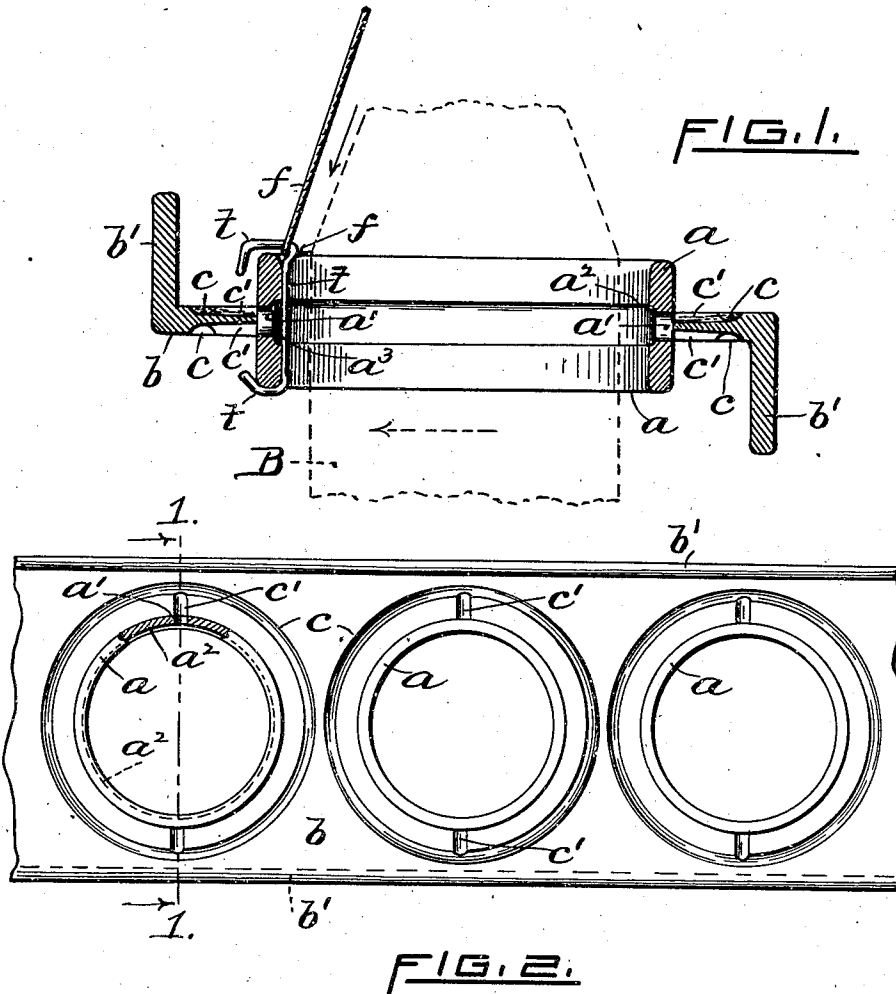


J. PEARSON.
SPINNING RING.
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906,155.

Patented Dec. 8, 1908.



WITNESSES.

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JAMES PEARSON, OF PAWTUCKET, RHODE ISLAND.

SPINNING-RING.

No. 906,155.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES PEARSON, a citizen of the United States of America, and a resident of Pawtucket, 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 relates to certain improvements in rings and ring-rails for spinning and twisting frames, and it consists, essentially, of a flangeless reversible vertical spinning-ring having a comparatively wide and shallow circumferential central recess formed in its inner or concave face and one or more suitably located holes extending transversely through the wall of the ring and being in continuous open communication with said recessed part.

It also consists in providing the upper surface of the ring-rail, in which said ring is seated, with a narrow groove disposed concentrically with the ring, and short channels or ducts freely communicating with said groove and holes, all as more fully hereinafter set forth and claimed.

The object I have in view is to provide the rings and ring-rails of spinning and twisting frames with a simple, inexpensive and thoroughly efficient system for effecting the lubrication of the rings and travelers. By means of this invention or improvement the lubrication of the said parts is or may be automatically accomplished while the machine is in operation; the working friction of the members is materially reduced, owing to the more perfect lubrication and the presence of the recessed part of the ring, therefore the machine may be run with less power; and the net product or output of yarn or thread is increased owing to the lessened stopping of the machine and also to the fact that the yarn is cleaner since it is less liable to become soiled by the oil or lubricant used.

In the accompanying drawings, Figure 1 is a transverse sectional view, in enlarged scale, taken on line 1—1 of Fig. 2, clearly representing the invention in use as applied to a flangeless vertical and reversible ring and a reversible ring-rail, and Fig. 2 represents, in smaller scale, a plan view of a portion of the said ring-rail and rings.

While various forms of spinning-rings may be provided with my improvement I prefer to employ a straight vertical ring without flanges, the wall of which is substantially

uniform in thickness throughout. A ring of this class as well as the ring-rail itself are readily reversible or capable of being inverted, the rings being simply forced in the rail until they stand centrally of its web, that is the center of the ring midway of its length is located midway of the web's thickness.

In the accompanying drawings *a* designates my improved spinning-ring as a whole, having suitable length or height, its outer and inner sides being substantially straight and concentric with each other. The inner or concave face of the wall is cut away to form a shallow recess *a*², the latter being located centrally of an extending say about one-third of the ring's height or length, and having one or more holes *a*¹ drilled transversely through the wall and being in continuous direct open communication with said recess.

The traverse or ring-rail *b*, represented in the drawings, is of the reversible type, that is the two longitudinal front and rear edges thereof have each a rib or flange *b*¹ arranged at right angles with the web part of the rail, the ribs being oppositely disposed. The said web and flange members are substantially uniform in thickness. The rail *b* is provided with suitably spaced holes arranged to receive the rings *a*; the latter are maintained in place by forcibly pressing them endwise until they stand centrally of the web, see Fig. 1. Contiguous to and concentric with the ring the top and bottom plane surfaces of the rail are provided each with a shallow groove *c* intersected by short radial channels *c*¹ leading to the said openings *a*¹ of the ring.

Assuming now that a spinning or twisting frame be equipped with the improved ring-rail *b* and rings *a*, and that wire travelers *t* are mounted and arranged on the latter substantially as usual, the operation is practically as follows:—The yarn or thread *f* as it passes downwardly to and under the traveler is wound upon the rapidly revolving bobbin *B* (shown by dotted lines), the traveler being freely carried around with it; at the same time, too, the rail is adapted to be slowly reciprocated in a vertical direction in a well-known manner. It will be seen, referring to Fig. 1, that the recess *a*² serves to reduce the contacting area of the traveler with the inner surface of the ring and also forms a space *a*³ for holding more or less of the lubricant. This latter, which I prefer to use in a slightly fluid state, is supplied from the annular res-

ervoir or groove c and its ducts c^1 of the upper side of the rail. The lubricant or grease softens sufficiently to pass through the said open holes a^1 registering with the ducts and into the recess a^2 of the ring. The traveler in its movements comes in contact with the lubricating material contained in said recess thereby acting to automatically lubricate the adjacent surfaces of the ring engaging with the traveler, the quantity of lubricating material used by my improved system during a day's work being exceedingly small and being distributed without stopping the machine.

I claim as my invention, and desire to secure by United States Letters-Patent:—

1. The reversible integral flangeless spinning-ring herein described having a single narrow and shallow annular recess formed in its concave surface for containing lubricant, the wall of the ring being further provided with oil-holes extending transversely there-through and being in direct communication with said recessed part.

2. The reversible cylindrical-shaped spinning-ring herein described, the same comprising a flangeless annular integral wall having rounded edges, a narrow and shallow circumferential recess formed in the concave side of said wall and disposed centrally thereof for containing lubricant, and orifices extending transversely through the wall into the recess; said ring adapted to be pressed into a ring-rail and retained therein by friction, and when in use having said orifices of the ring

arranged to register with the upper surface of the ring-rail.

3. A ring-rail having its web part provided with a hole adapted to receive a spinning-ring, a groove formed in the upper surface of the rail's web for holding lubricant, and short ducts leading from the groove to said hole, in combination with a flangeless spinning-ring removably seated in said hole of the ring-rail, said ring having an inner circumferential shallow recess and transverse openings, the latter being in direct communication with said ducts and recess, substantially as described.

4. The combination of a flangeless spinning-ring provided with an inner circumferential shallow recess and transverse openings extending through the wall of the ring into the recess, a traveler member having a substantially straight shank supported on the ring and adapted to bear against the latter both above and below the said recessed part, and a rail having said ring removably seated therein, the upper surface of the rail being grooved and provided with branch ducts leading therefrom to said transverse openings of the ring, substantially as hereinbefore described and for the purpose set forth.

Signed at Providence, R. I., this 16th day of December, 1907.

JAMES PEARSON.

Witnesses:

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HENRY P. STONE.