Feb. 8, 1949. H. E. HERR 2,461,470

SPINNING RING AND TRAVELER

Filed Dec. 3, 1945

Fig. 1.

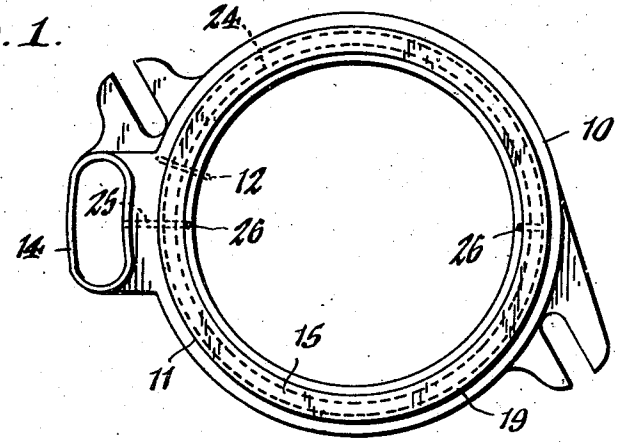


Fig. 2.

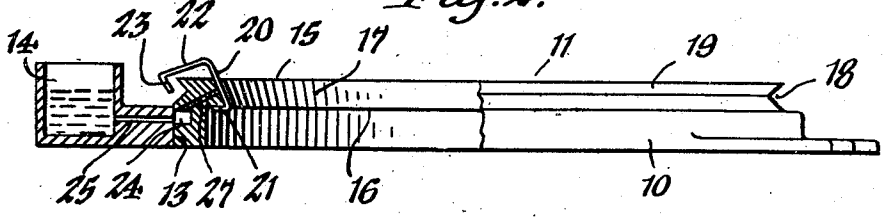


Fig. 3.

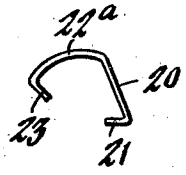


Fig. 4.

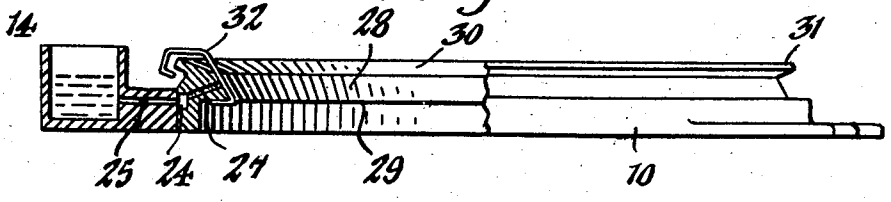
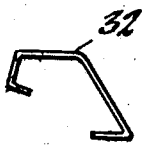


Fig. 5.



Inventor;
Harvey E. Herr,
by Walter P. Sayer
Attorney.

Patented Feb. 8, 1949 2,461,470

UNITED STATES PATENT OFFICE

2,461,470

SPINNING RING AND TRAVELER

Harvey E. Herr, Buffalo, N. Y., assignor to Herr Manufacturing Company, Inc., Buffalo, N. Y., a corporation of New York

Application December 3, 1945, Serial No. 632,319

4 Claims. (Cl. 57—120)

1

This invention relates to certain new and useful improvements in spinning rings and travelers employed in connection with spinning machines.

It has for one of its objects to so design and construct the ring and the traveler wherein the bearing faces of the ring are so disposed as to provide for an upward and outward thrust or pressure of the traveler against the ring at all times to counteract or eliminate any tendency of the traveler to jump up and down on the ring during the spinning operation and accordingly insure a smooth running traveler and uniform thread tension.

Another object of the invention is to provide a ring and traveler construction of this character wherein the traveler is so designed as to provide maximum thread room between it and the ring and wherein the weight of the traveler is so distributed as to obtain proper balance.

A further object is to provide the ring with improved self-contained means for feeding at all times a constant flow of lubricant to the inner bearing face of the ring to effect maximum lubrication with a minimum of oil consumption.

Other features of the invention reside in the construction and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a top plan view of the improved ring and traveler in place on the ring-holder. Figure 2 is an enlarged sectional side elevation thereof. Figure 3 is an enlarged side view of a modified form of the traveler. Figure 4 is a section side elevation similar to Figure 2, but showing a modified form of the invention. Figure 5 is an enlarged side view of the traveler employed in such modification.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring to the form of my invention shown in Figures 1–3, inclusive, 10 indicates the holder which is adapted to be mounted on the traverse bar of a spinning machine, and 11 indicates the spinning ring which is detachably applied to the holder and upon which the traveler 12 revolves. The holder may be ring-like in form with its opening 13 adapted to receive the lower portion of the spinning ring in a snug fit, and it has slotted attaching flanges projecting outwardly therefrom for detachably securing the holder to the traverse bar. Formed integrally with the holder at one side thereof is a lubricant-receiving well 14.

The upper or traveler-engaging portion of the ring is preferably of the cross section shown in

2

Figure 2, wherein the top and bottom faces 15 and 16, respectively, are substantially parallel to each other in horizontal planes with the bottom face in approximately the same plane as the top side of the holder or at right angles to the axis of the ring. The inner bearing face 17 of the ring is straight and oblique to the horizontal, being flared upwardly and outwardly or of inverted frusto-conical shape, while the outer portion 18 thereof may be substantially V-shaped, as shown, to provide an outwardly-flaring rim 19. The top side of the ring is substantially flat.

The traveler 12 is made from a single piece of wire and is of substantially V-shape, as shown in Figure 3, including a bearing leg 20 for straightwise engagement with the inner bearing face 17 of the ring and terminating at its free or lower end in an outwardly-bent lug or foot 21 for hook-like engagement with the bottom face 16 of the ring, and a complementary symmetrically and angularly-disposed leg 22 which, during the operation of the traveler, clears the top face 15 of the ring and jointly with the leg 20 provides a thread-engaging loop spanning the top side of the ring and with the vertex thereof positioned outwardly of the bearing face 17. At its free or outer end the leg 22 terminates in an inwardly-bent lug or foot 23 in correlation to the rim 19 of the ring and in opposing relation to the companion foot 21. In the operative running position of the traveler on the ring shown in Figure 2, it will be observed that the bearing leg 20 and its foot 21 snugly engage the corresponding bearing faces 17 and 16 of the ring to provide a true, uniform and steady guiding path for the traveler with the outwardly-flaring contour of the bearing face 17 exerting a constant upward and outward action or thrust on the traveler, resulting in an even and constant thread-tension and preventing any tendency of the traveler to jump up and down on the ring. During this action, the traveler leg 22 and its foot 23 are free from contact with the ring and thereby afford ample room or space for the travel of the thread and the self-cleaning of any lint or thread slivers therefrom. While possessing these advantages, the traveler is also free to rock laterally of the ring should conditions require it and with the foot 23 adapted to hook beneath the rim 19 of the ring to prevent accidental removal of the traveler. In applying the traveler to the ring it is sprung over the same in an obvious manner.

For the purpose of effectually lubricating the bearing face 17 of the ring, I preferably provide the lower portion of the ring 11 contained within the holder 10 with an annular lubricant-receiv-

ing channel 24 which communicates with the lower end of the well 14 through a duct 25 formed in such holder. Leading upwardly from this ring-channel 24 and intersecting the bearing face 17 of the ring approximately midway thereof are one or more discharge ports 26 each containing a wick 27 extending into the channel and of the proper density for regulating the feed of the lubricant to the bearing face.

If desired, as shown in Figure 3, the leg 22a of the traveler may be arched upwardly, instead of being straight, to thereby provide more space for the travel of the thread.

In the modified form of the invention shown in Figures 4 and 5, the upper portion of the spinning ring is of a cross section to provide an inner bearing face 28 which is straight and oblique to the horizontal and is flared upwardly and outwardly, while its lower bearing face 29 is horizontal and its top side or face 30 slopes inwardly toward the ring-axis. At its upper end the ring terminates in an outwardly-extending rim 31. The traveler 32 is substantially of the same shape as that shown in the previously-described construction, except that its vertex is more oblique and its upper leg is substantially at right angles to the ring-axis to bring the top portion of the traveler closer to the ring with the sloping top wall of the latter providing the desired clearance for the passage of the thread.

I claim as my invention:

1. A device of the character described, comprising a spinning ring having a lower bearing face at substantially right angles to the ring-axis and an inner bearing face extending upwardly and outwardly from the inner edge of the lower bearing face in oblique fashion to the horizontal, and a traveler of substantially V-shape mounted on said ring and having the legs thereof terminating in oppositely-bent feet, one of the traveler legs and its foot, during the operation of the traveler, engaging flatwise and coextensively along the inner and lower bearing faces of the ring, respectively, in contiguous fashion, and the complementary traveler-leg and its foot being clear of the top portion of the ring and with the vertex of the traveler positioned outwardly of said inner bearing face.

2. A device of the character described, comprising a spinning ring having a lower bearing face at substantially right angles to the ring-axis and an inner bearing face extending upwardly and outwardly from the inner edge of the lower bearing face in oblique fashion to the horizontal, and a traveler for said ring having angularly-disposed legs providing a thread-engaging loop at the vertex thereof disposed outwardly of said inner bearing face during the operation of the traveler, one of said legs straightwise engaging said inner ring-bearing face and terminating at its free end in a horizontally-extending foot engaging said lower bearing face, and the complementary leg clearing the top side of the ring and terminating at its free end in a foot in opposing relation to the foot of the other leg.

3. A spinning ring for a traveler, comprising a ring-body having a lower bearing face disposed at substantially right angles to the ring-axis and an inner bearing face extending upwardly and outwardly from the lower edge of said lower bearing face in oblique fashion to the horizontal.

4. A device of the character described, comprising a spinning ring having an upper face, a lower bearing face and an inner bearing face, the latter extending upwardly and outwardly from the inner edge of the lower bearing face to the companion edge of the upper face in oblique fashion to the horizontal, and a traveler for said ring having angularly-disposed legs defining a thread-engaging loop at the vertex thereof disposed outwardly of said inner bearing face during the operation of the traveler, one of said legs engaging flatwise and coextensively along the inner face of the ring and terminating at its lower end in an outwardly-facing and acutely-bent foot engaging the lower bearing face of the ring.

HARVEY E. HERR.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
491,962	Draper	Feb. 14, 1893
1,604,929	Merrill	Oct. 26, 1926
1,960,784	Kuwada	May 29, 1934
2,132,260	Fillinger	Oct. 4, 1938
2,205,916	Ziegler	June 25, 1940
2,279,707	Herr et al.	Apr. 14, 1942

FOREIGN PATENTS

Number	Country	Date
11,275	Great Britain	Aug. 18, 1887
370,597	Great Britain	Apr. 14, 1932