April 14, 1942. H. E. HERR ET AL 2,279,707

SPINNING RING AND TRAVELER THEREFOR

Filed Nov. 9, 1940 2 Sheets-Sheet 1

Fig. 1.

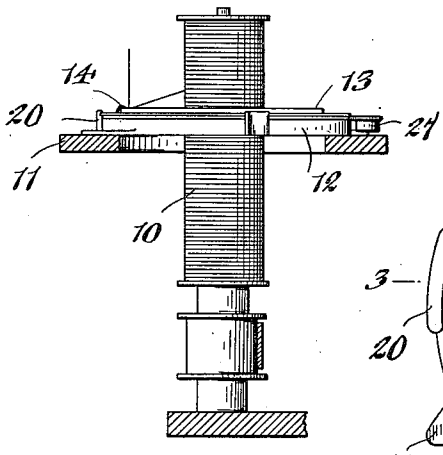


Fig. 2.

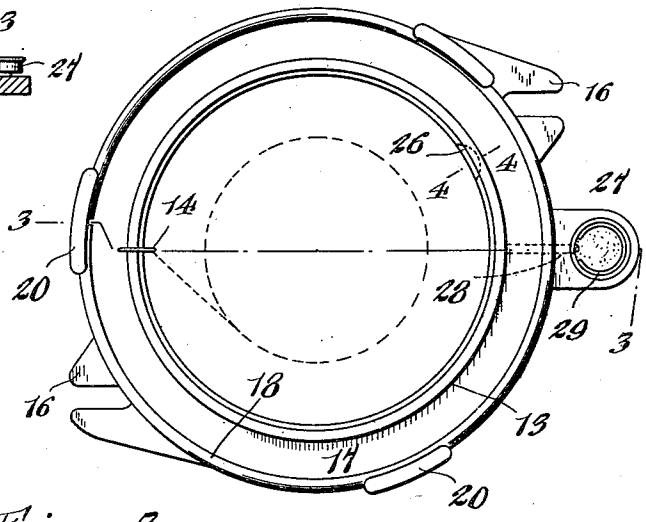


Fig. 3.

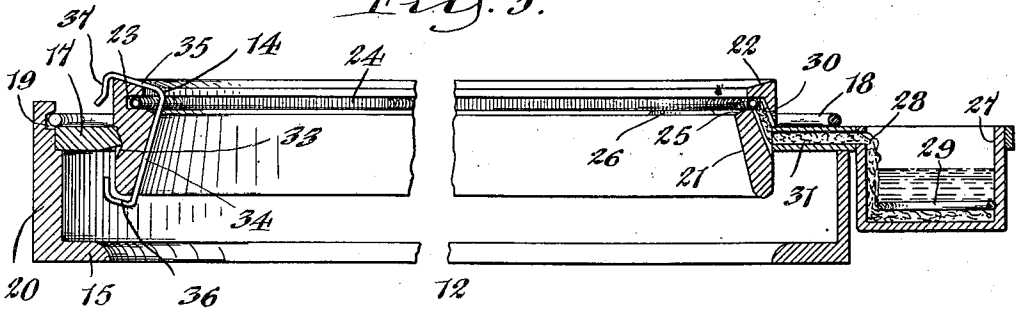


Fig. 5.

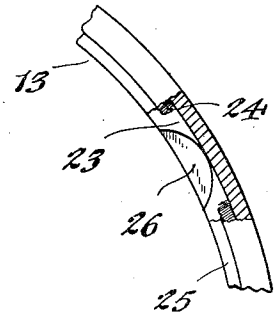
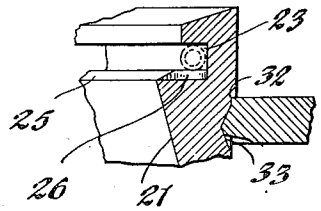


Fig. 4.



Inventors,
Harvey E. Herr,
Charles Fillinger,
by Walter P. Geyer
Attorney.

April 14, 1942. H. E. HERR ET AL 2,279,707

SPINNING RING AND TRAVELER THEREFOR

Filed Nov. 9, 1940 2 Sheets-Sheet 2

Fig. 6.

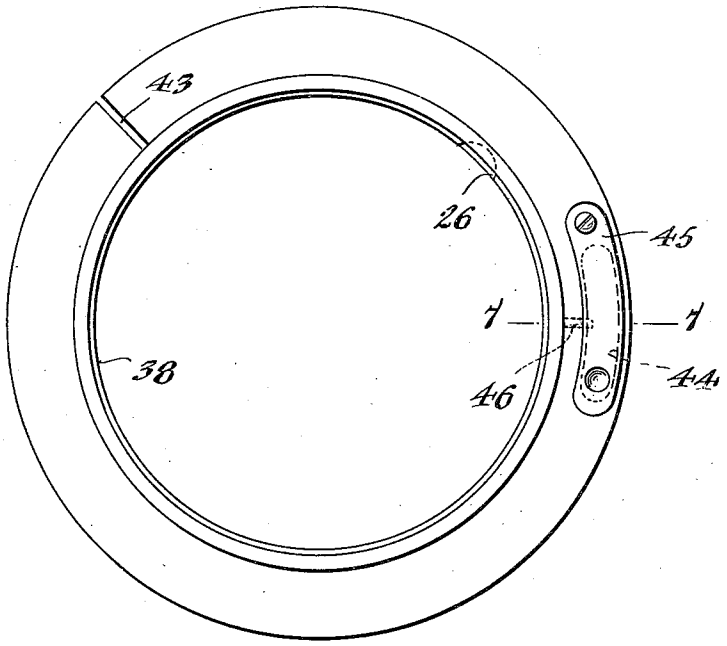
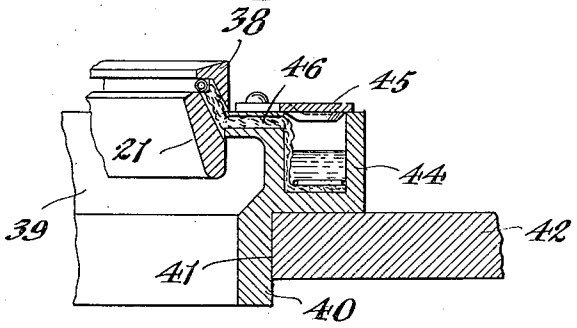


Fig. 7.



Inventors,
Harvey E. Herr,
Charles Fillinger,
By Coulter P. Goepel
Attorney.

Patented Apr. 14, 1942 2,279,707

UNITED STATES PATENT OFFICE

2,279,707

SPINNING RING AND TRAVELER THEREFOR

Harvey E. Herr and Charles Fillinger, Buffalo, N. Y., assignors to Herr Manufacturing Company, Inc., Buffalo, N. Y., a corporation of New York

Application November 9, 1940, Serial No. 365,094

4 Claims. (Cl. 57—120)

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

It has for one of its objects to provide a traveler and ring which are designed to provide for a uniformity of thread tension at all times and resist any tendency of the thread to exert an upward pull on the traveler during the spinning operation.

Another object of the invention is to provide a spinning ring having an improved means for lubricating the traveler and maintaining a uniform distribution of lubricant over the bearing face of the ring.

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 side elevation of a traverse bar and bobbin showing our improved spinning ring and traveler associated therewith. Figure 2 is an enlarged top plan view of the spinning ring and traveler mounted in place on the ring holder. Figure 3 is an enlarged cross section taken on line 3—3, Figure 2. Figure 4 is an enlarged fragmentary cross section of the ring taken in the plane of line 4—4, Figure 2. Figure 5 is a fragmentary top plan view of the ring, partly in horizontal section, showing the improved lubricant-receiving well. Figure 6 is a top plan view of a modified form of the invention. Figure 7 is an enlarged fragmentary cross section thereof taken on line 7—7, Figure 6.

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

Referring now to the drawings, particularly the embodiment of the invention shown in Figures 1–5, inclusive, 10 indicates the take-up spool of a spinning machine and traversing the same for reciprocation axially thereof is the usual traverse bar 11 upon which is mounted a holder 12 for receiving the spinning ring 13 upon which the traveler 14 revolves.

The holder 12 is substantially L-shaped in cross section, including a base flange 15 adapted to rest flatwise on the traverse bar and having slotted attaching flanges 16 projecting outwardly therefrom for detachably securing the holder to such bar. The spinner ring is detachably applied to the holder and for this purpose has an annular flange 17 projecting outwardly therefrom between its upper and lower ends for engagement at its marginal bottom side on the top edge of the upright flange of the holder. A clamping element, which may be in the form of a split ring 18, is engageable with the marginal top side of the ring-flange 17 and is detachably anchored in grooves 19 formed in the inner faces of the upstanding lugs 20 of the holder, as shown in Figures 2 and 3.

The main body or web portion of the ring 13 is preferably of the cross section shown in Figure 3, wherein the lower or oblique bearing face 21 is flared downwardly and outwardly, while the upper bearing face 22 thereof extends upwardly and outwardly at substantially right angles to the lower bearing face. These bearing faces are displaced in spaced horizontal relation by an intervening inwardly-opening annular groove 23 constituting a lubricant-receiving channel in which a suitable wick 24, preferably of coiled wire, is arranged for distributing the lubricant about the ring and thereby effectually lubricating the traveler during the spinning operation. It will be noted from Figures 3 and 4 that the upper edge of the lower bearing face 21 is displaced inwardly of the opposing lower edge of the upper bearing face 22 and that a beveled or champfered portion 25 connects the top edge of the lower bearing face with the bottom of the lubricant channel. Formed in the bottom of this lubricant channel is a recess-like well 26 which extends to and intersects the adjoining upper edge of the lower bearing face 21. This recess may be arcuate in plan, as shown in Figures 2 and 5, and any surplus oil dropped into this recess from the wick 24 finds its way to the upper edge of the lower bearing face of the ring to effectually assure its lubrication. While but one of these recess-like wells is shown in the drawings, it is to be understood that more may be provided if desired.

Projecting outwardly of and depending from the periphery of the ring-supporting flange 17, and assuming a position outwardly of the holder 12, is a lubricant-receiving cup or well 27 which is adapted to contain a supply of lubricant and in which is immersed one end of a supply or feed wick 28 held within the cup by a split ring 29. This wick extends from the cup 27 to the ring groove 23 and for this purpose the ring has a port 30 leading from the lubricant groove to the exterior side of the ring, and the ring-flange 17 has a port 31 communicating with the ring-port, the feed wick 28 being threaded through these connecting ports in the manner shown in Figure 3, whereby the ring-bearing wick 24 is continuously supplied with lubricant.

The supporting flange 17 of the ring 13 is made separate from the latter but is securely and frictionally held as a unit thereon. For this purpose the lower portion of the ring is somewhat smaller in exterior diameter than is its upper portion to provide a downwardly-facing shoulder 32 against which the top face of the flange 17 is adapted to abut, as shown in Figures 3 and 4. Immediately below this shoulder the outer side of the ring has a plurality of depressions 33 therein and after its application the adjoining inner portion of the flange 17 is forced upwardly and inwardly into the depressions, as clearly shown in Figure 4 to thereby firmly anchor the supporting flange on the ring and with the wick-receiving ports 30 and 31 in proper registering alinement.

The traveler 14 is made of a single piece of wire and includes an oblique bearing leg 34 for engagement with the companion face 21 of the ring 13, and upper and lower head and toe portions or bars 35, 36, respectively, which are disposed at right angles to the bearing leg 34 and extend outwardly from the upper and lower ends thereof. The head portion 35 hooks over the upper bearing face 22 of the ring while the toe 36 likewise hooks over and extends freely about the lower edge of such ring. The head portion, which is somewhat longer than the toe portion, terminates at its outer end in a downwardly and outwardly bent lug 37 which extends freely about the upper edge of the ring. It will be noted from Figure 3 that the various bent portions of the traveler are substantially square so that there is no objectionable interference between the various portions of the traveler and the ring, and the square-shaped toe 36 always assures a full bearing of the traveler leg 34 on the ring bearing face 21.

In the modified form of the invention shown in Figures 6 and 7, the same is designed for use with short filament threads such as cotton, while the ring structure previously described is intended for use with long filament threads such as silk and rayon. In this form of the invention, 38 indicates the ring which is substantially the same in cross section as that of the previously-described construction, but which is attached directly to a holder 39 having a depending collar 40 adapted for engagement with a companion opening 41 in the traverse bar 42. This holder is split radially, as shown at 43, to permit its contraction for ready application and removal to and from the traverse bar, the ring 38 constituting a unitary structure with the holder. In this embodiment of the invention, the holder is provided with a lubricant-receiving cup or well 44 which is normally closed by a laterally-swinging closure plate 45. A wick 46 is employed for feeding the lubricant from the cup through the groove in the ring, all as set forth in the previously described construction.

We claim as our invention:

1. A device of the character described, comprising a spinning ring for a traveler having a traveler-engaging bearing face thereon containing a lubricant channel for receiving a wick, the bottom of said channel having a recess therein forming a lubricant-receiving well.

2. A device of the character described, comprising a spinning ring for a traveler having a traveler-engaging bearing face thereon containing a lubricant channel for receiving a wick, the bottom of said channel having a recess therein extending from the inner wall thereof to and in intersecting relation with the adjoining top edge of said bearing face.

3. A device of the character described, comprising a spinning ring for a traveler having a traveler-engaging face extending outwardly and downwardly from adjacent the upper end thereof, said ring being provided with an annular lubricant channel therein for receiving a wick, the bottom of said channel substantially intersecting the upper edge of said traveler-engaging face and having a lubricant-receiving recess therein facing inwardly and extending to the adjoining top edge of said traveler-engaging face.

4. A device of the character described, comprising a spinning ring for a traveler having upper and lower bearing faces extending upwardly and outwardly and downwardly and outwardly, respectively, from a plane between the upper and lower edges of the ring, and having an annular, inwardly-facing lubricant channel in such plane and containing a wick, the bottom of said channel having a lubricant-receiving, recess-like well therein extending to and intersecting the adjoining upper edge of said lower bearing face.

HARVEY E. HERR.
CHARLES FILLINGER.