Sept. 1, 1942. W. G. HARRISON 2,294,453

RING AND TRAVELER FOR SPINNING AND TWISTING FRAMES

Filed Nov. 19, 1941

Fig. 1.

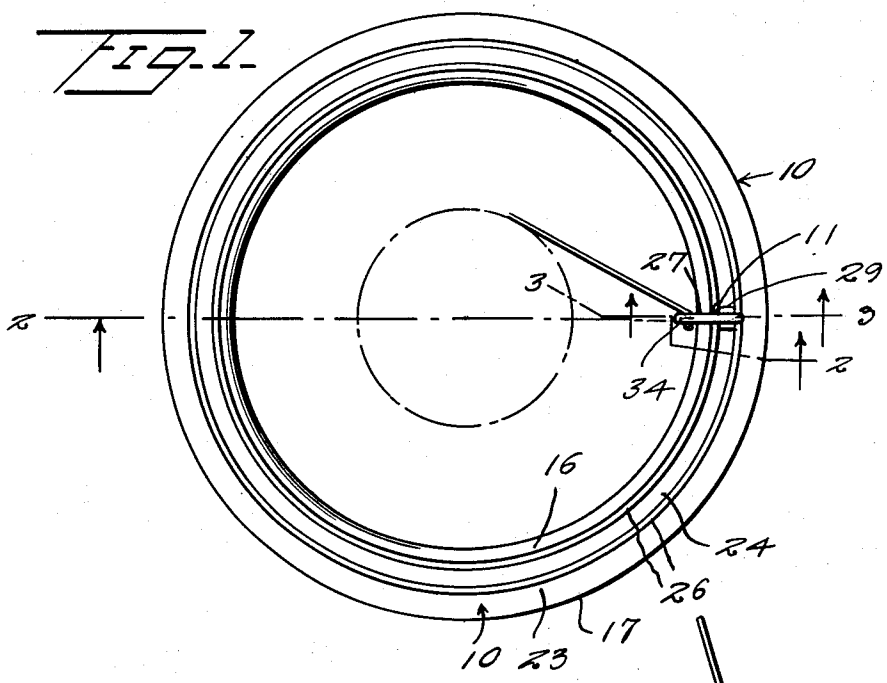


Fig. 2.

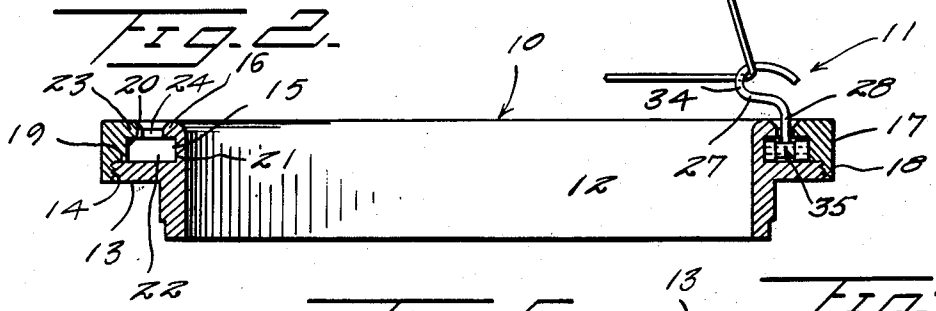


Fig. 3.

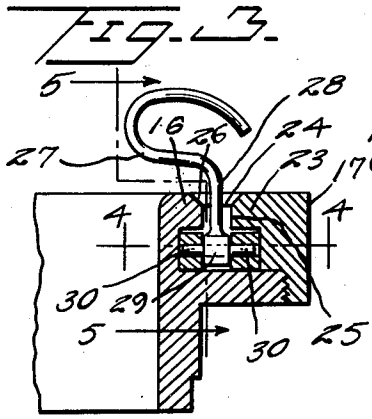


Fig. 5.

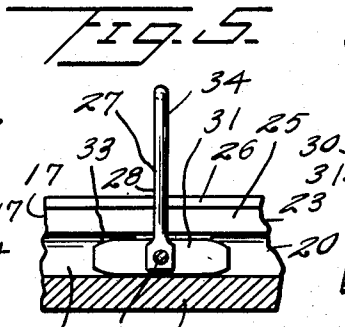
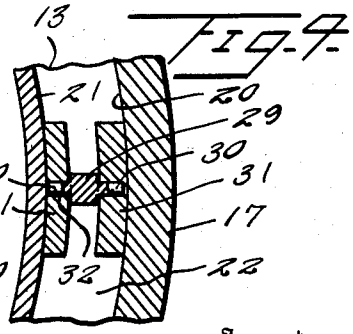


Fig. 4.



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RING AND TRAVELER FOR SPINNING AND TWISTING FRAMES

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Application November 19, 1941, Serial No. 419,792

7 Claims. (Cl. 57—119)

This invention relates to an improved ring and traveler for spinning and twisting frames and more particularly to a traveler having a base or tail piece adapted to run in a groove of a spinning ring and which groove is so arranged that it will hold oil for lubricating the tail piece or base, and in which the oil will be so confined as to prevent the yarn being damaged thereby.

Another object of the invention is to provide an improved construction of spinning ring formed of threadedly connected sections and provided with an upwardly opening groove for receiving the tail piece or base of a free running traveler; said groove having a restricted upper portion through which a part of the yarn engaging portion of the traveler loosely extends, and its base portion or tail piece being removable from said groove only by disconnecting the ring sections.

Still another object of the invention is to provide a novel construction of traveler including a yarn engaging portion forming a strand of wire bent into hook shaped form and having trunnions at the shank end thereof, and a pair of fibre shoes having openings for loosely receiving the trunnions and which are adapted to slidably engage the annular groove of the spinning ring.

Other objects and advantages of the invention will hereinafter become more fully apparent, from the following description of the drawing, which illustrates a preferred embodiment thereof, and wherein:

Figure 1 is a top plan view of the spinning ring and traveler,

Figure 2 is an enlarged transverse vertical sectional view taken substantially along the plane of the line 2—2 of Figure 1,

Figure 3 is an enlarged transverse vertical sectional view taken substantially along the plane of the line 3—3 of Figure 1,

Figure 4 is a horizontal sectional view of a portion of the ring and traveler taken substantially along a plane as indicated by the line 4—4 of Figure 3, and

Figure 5 is a vertical sectional view of the same taken substantially along a plane as indicated by the line 5—5 of Figure 3.

Referring more particularly to the drawing, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally the improved spinning ring and 11 designates generally the improved free running traveler.

The spinning ring 10 includes an inner section 12 which is relatively wide from top to bottom or axially, and which is provided, substantially intermediate of its top and bottom edges, with an outwardly projecting annular flange 13. Flange 13 has a threaded periphery 14. Above the flange 13, the outer side of the ring 12 is provided with an annular recess 15 which terminates below the upper edge of the ring section 12 to form thereabove an outwardly projecting annular flange 16 which extends substantially to the periphery of the outer side of the section 12. The spinning ring 10 also includes an outer ring section 17 having an enlarged internally threaded lower portion 18 which engages the threads 14. The section 17 is provided with an inwardly extending downwardly facing shoulder 19, above the portion 18, which is adapted to rest flush against the upper side of the outer portion of the flange 13. Section 17 has an inwardly facing annular wall 20, above the shoulder 19 which is disposed in opposed relationship to the inner wall 21 of the groove 15, and which is spaced outwardly therefrom to form an annular groove 22. Above the wall 20 and at the top of the section 17, said section is provided with an inwardly extending annular flange 23 which is spaced outwardly from the flange 16 and which is disposed in opposed relationship thereto to form therewith an annular passage 24 which opens at its bottom into the groove 22 and which opens at its top, outwardly of the top of the ring 10. The flanges 16 and 23 have corresponding opposed walls 25, defining the sides of the passage 24 and which are provided with outwardly bevelled upper portions 26 which enlarge the upper part of the passage 24.

The traveler 11 includes a strand of wire or a rod 27 the upper portion of which is bent into hook shaped form. The strand of wire 27 is provided with a depending shank 28, a portion of which is loosely disposed in the passage 24 and the lower end of which is provided with an enlarged head 29 which is disposed in the groove 22. The head 29 is provided with trunnions 30 which project from opposite sides thereof and laterally of the groove 22. A pair of elongated fibre shoes 31 are connected to the trunnions 30. The fibre shoes 31 are provided with transverse openings 32, intermediate of their ends, for receiving the trunnions 30, which are turnably mounted therein and for positioning the head 29 between the shoes 31. As best seen in Figure 4, the shoes 31 are curved longitudinally with the outer side of the inner shoe 31 curved to conform to the curvature of inner wall 21 and

the outer side of the outer shoe 31 curved to conform to the curvature of the outer wall 20 of the groove 22, which said aforementioned sides are adapted to slidably engage. As best seen in Figure 5, the shoes 31 are tapered at their ends by being bevelled on their upper and lower sides as seen at 33. The hook shaped upper portion of the wire or rod 27 extends inwardly of the ring 10 and the intermediate part 34 thereof forms the yarn engaging portion of the traveler 11. The hook portion of the wire or rod 27 opens in a direction outwardly of the ring 10

The traveler 11 is adapted to revolve around the ring 10 by the pressure of the yarn on the yarn engaging portion 34 when the yarn is wound onto the bobbin, in a conventional manner. The shoes 31 run freely in the groove 22 and are retained therein by the flanges 16 and 23. Head 29, trunnions 30 and shoes 31 combine to form the base or tail piece of the traveler 11, designated generally 35, which is to be lubricated from time to time by a few drops of oil inserted into the groove 22 through the passage 24. As the groove 22 opens upwardly the oil will be retained therein and some of the oil will be absorbed or will impregnate the fibre shoes 31 so that said shoes will lubricate the surfaces of the groove 22 with which they come in contact. Connection of the trunnions 30 with the shoes 31 will allow the wire or rod 27 to rock longitudinally of the shoes and said shoes are disposed sufficiently loose in the groove 22 to permit a limited lateral rocking movement of the traveler 11.

Various modifications and changes are contemplated and may obviously be resorted to, provided they fall within the spirit and scope of the invention as hereinafter defined by the appended claims, as only a preferred embodiment thereof has been disclosed.

I claim as my invention:

1. A spinning ring having an annular upwardly opening groove, a traveler having a yarn engaging portion disposed above the ring and a base portion slidably disposed in the groove, said base portion including elongated shoes, slidably disposed in the groove, and trunnions connected to the yarn engaging portion and turnably engaging the said shoes to permit the shoes to rock independently of one another relatively to the yarn engaging portion.

2. A spinning ring having an annular upwardly opening groove, a traveler having a yarn engaging portion disposed above the ring and a base portion slidably disposed in the groove, and the base portion of the traveler including fibre shoes to each of which the yarn engaging portion is turnably connected, said shoes being curved longitudinally to conform to the curvature of the groove, in which they are disposed.

3. A spinning ring comprising an inner ring section having an outwardly projecting annular flange intermediate of its upper and lower ends and an outwardly projecting annular flange at its upper end, said first mentioned flange extending outwardly beyond the last mentioned flange and having a threaded periphery, an outer ring section having a threaded lower portion for engaging said threaded periphery and having an upper portion concentric with the upper portion of the inner ring section, the upper portion of the outer ring section having inwardly extending annular flange at its upper end, concentric with the upper flange of the inner ring section and spaced therefrom, said ring sections combining to form an annular groove of which the first mentioned flange forms the bed, and said last mentioned flanges combining to form the annular, restricted open upper portion of the groove, said groove adapted to be slidably engaged by a portion of a free running traveler.

4. A spinning ring as in claim 3, said last mentioned flanges being bevelled on their upper sides for enlarging the upper portion of the annular opening formed thereby.

5. A free running traveler for use with spinning rings comprising a hook shaped strand of wire forming the yarn engaging portion of the traveler, the shank end of said strand of wire being provided with a head, trunnions projecting outwardly from said head, and shoes turnably connected to said trunnions and adapted to slidably engage the groove of the spinning ring, said head, trunnions and shoes combining to form the base or tail piece of the traveler.

6. A traveler as in claim 5, said shoes being formed of fibre.

7. A free running traveler for use with a spinning ring comprising a hook shaped yarn engaging member, and a tail piece including two shoes swivelly connected to portions of the yarn engaging member and movable independently of one another relatively thereto, and adapted to slidably engage a groove of a spinning ring.

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