Nov. 23, 1943. E. R. JEROME 2,335,121

RING TRAVELER

Filed May 19, 1943

Fig. 1

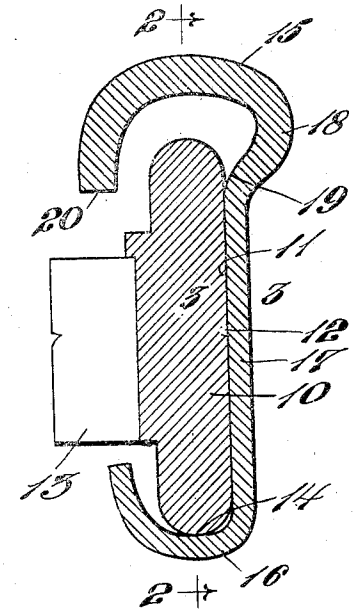


Fig. 2.

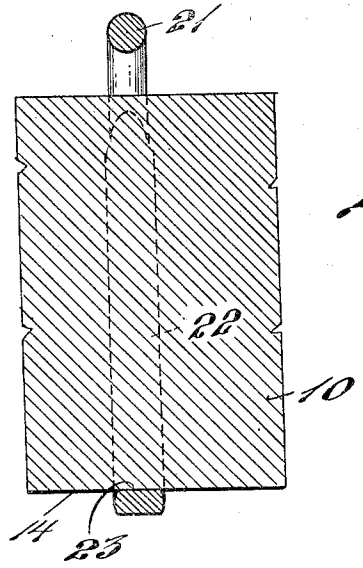


Fig. 3.



Fig. 4.

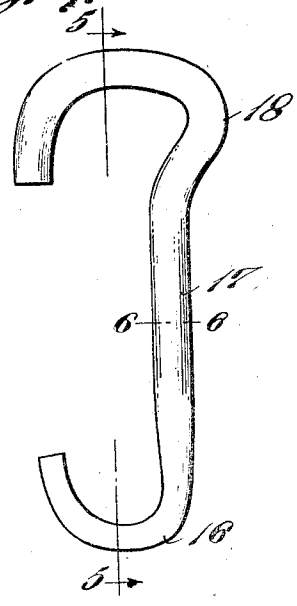


Fig. 5.

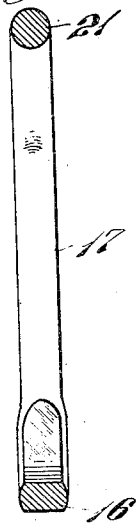


Fig. 6.



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RING TRAVELER

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Application May 19, 1943, Serial No. 487,601

4 Claims. (Cl. 57—125)

This invention relates to a ring traveler of the twisting, spinning or throwing type particularly designed to run in a vertical position about a twisting ring.

In this type of traveler it is desirable to maintain the traveler as near a uniform position as it moves about the ring as possible in order that even yarn may be obtained and also in order that friction or wear upon the traveler caused by movement will be maintained at a minimum. These factors are highly important in travelers which run upon machines at the high rates of speed now adopted in twisting. Also in the use of rayon it is highly important that the portion of the traveler which contacts the yarn shall be smooth and present no surface to the yarn which will be apt to break the filaments.

One of the objects of this invention is to so shape the surfaces of the traveler where they contact with the ring that the shape of these surfaces will tend to maintain the traveler in the position desired.

A more specific object of the invention is to maintain the traveler in a vertical position during its running about the ring.

Another object of the invention is to prevent the traveler from twisting about a vertical axis as it is maintained in a vertical position and as it is traveling about the ring.

A further object of this invention is to distribute the friction over a large portion of the surface of the traveler and to provide a broad bearing surface where the traveler contacts the ring.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a sectional view through the traveler and through a portion of the ring which it contacts;

Fig. 2 is a section on substantially line 2—2 of Fig. 1;

Fig. 3 is a section of the traveler on line 3—3 of Fig. 1;

Fig. 4 is an elevation of a traveler of a modified construction;

Fig. 5 is a section on line 5—5 of Fig. 4; and Fig. 6 is a section on line 6—6 of Fig. 4.

With reference to the drawing 10 designates a ring having a cylindrical inner surface 11 grooved as at 12 for lubricating purposes. This ring is suitably supported in the ring rail 13. The ring has a lower rounded edge 14 which is substantially in a single plane as shown in Fig. 2.

The traveler which is to move about this ring has a top head portion 15, a bottom foot portion 16, and a connecting shank portion 17 between the head portion 15 and the foot portion 16. The traveler is formed of solid wire stock formed into the desired shape.

The upper head portion has an offset 18 affording a space for the reception of the yarn therethrough and this head portion from a point adjacent the knee 19 to its end 20 is substantially circular in cross section as shown at 21 in Fig. 2. The shape, however, of the traveler below the knee 19 is such that there is provided a flat inner surface 22 in substantially a single plane so that the traveler will lie snugly against the inner cylindrical surface 11 of the ring as shown more clearly in the section of Fig. 1. This same cross section of the shank is extended into the bottom foot portion 16 so that the flattened area 23 (see Fig. 2) on the inner side of this foot portion will lie snugly against the lower rounded edge 14 of the ring. The outer surfaces of these shank and foot sections are also substantially flat but this outer surface is relatively unimportant and may be round if desired.

By reason of the above shape the yarn which lifts the traveler so that its foot portion contacts the lower edge of the ring, causes a flat surface 23 to come in contact with the horizontal edge 14 lying in a single plane and thus tends because of the pull upwardly of the yarn to cause this traveler to assume a vertical position such as shown in Fig. 2. The centrifugal force causes the traveler to move outwardly and is especially strong at the high rates of speed at which the traveler is designed to travel. This causes the flat surface 22 to engage the vertical although somewhat arcuate surface 11 of the ring and assists in preventing the traveler from rocking about a vertical axis such as might be assumed as a center line through the portion of the traveler shown in Fig. 2. Thus, a rocking of the traveler about a vertical axis is prevented by reason of the shaping heretofore described.

In some cases it is unnecessary that I provide the flat portion of the traveler along the shank as shown in 21 in the shank 17 and in Figs. 4, 5, and 6, I have illustrated the shank 17 as formed circular as at 25 although in this case I maintain the foot portion with the flat surfaces heretofore described for the purposes of maintaining the traveler vertical as described.

By reason of the vertical continuous position

of the traveler a better grade yarn is formed and less wear occurs causing the traveler to last longer and require less changing than heretofore.

I claim:

1. A ring traveler for twisting adapted to be run in a vertical position about a twisting ring comprising a single strip of stock formed to present a top head portion, a bottom foot portion, and a shank portion connecting said head and foot portions, said head portion having a rounded inner surface for engagement with the work and said foot portion having a flattened area in generally a plane at right angles to the center plane cutting the several portions for engagement with the lower edge of the ring to assist to maintain the traveler in a vertical position during operation and with its center plane radial to its direction of travel.

2. A ring traveler for twisting adapted to be run in a vertical position about a twisting ring comprising a single strip of stock formed to present a top head portion, a bottom foot portion, and a shank portion connecting said head and foot portions, and adapted to engage the inner surface of the ring, said head portion having a rounded inner surface for engagement with the work and said foot and shank portions having a flattened area in generally a plane at right angles to the center plane cutting the several portions for engagement with the inner surface and lower edge of the ring to assist to maintain the traveler in a vertical position during operation and with its center plane radial to its direction of travel.

3. A ring traveler for twisting adapted to be run in a vertical position about a twisting ring comprising a single strip of stock formed to present a top head portion, a bottom foot portion, and a shank portion connecting said head and foot portions, said foot portion having a flattened area in generally a plane at right angles to the center plane cutting the several portions for engagement with the lower edge of the ring to assist to maintain the traveler in a vertical position during operation and with its center plane radial to its direction of travel and said head portion having an outwardly bowed offset providing a clearance for accommodation of the yarn and of rounded cross section on the inner surface thereof.

4. A ring traveler for twisting adapted to be run in a vertical position about a twisting ring comprising a single strip of stock formed to present a top head portion, a bottom foot portion, and a shank portion connecting said head and foot portions, and adapted to engage the inner surface of the ring, said head portion having a rounded inner surface for engagement with the work and said foot and shank portions having a flattened area in generally a plane at right angles to the center plane cutting the several portions for engagement with the lower edge of the ring to assist to maintain the traveler in a vertical position during operation and with its center plane radial to its direction of travel.

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