July 2, 1940. P. C. WENTWORTH 2,206,591

TWISTER TRAVELER

Filed Aug. 19, 1939

Fig. 1

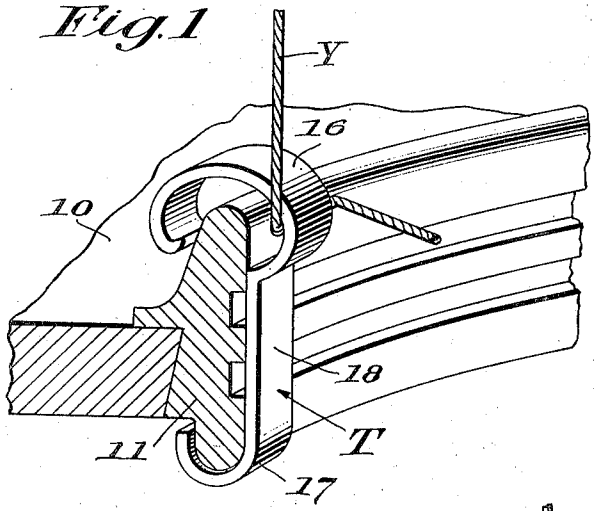


Fig. 2

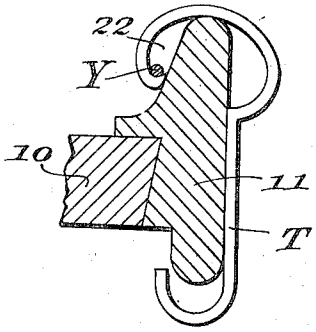


Fig. 7

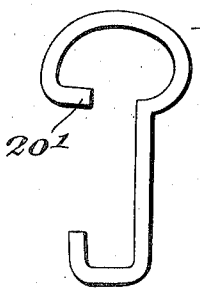


Fig. 3

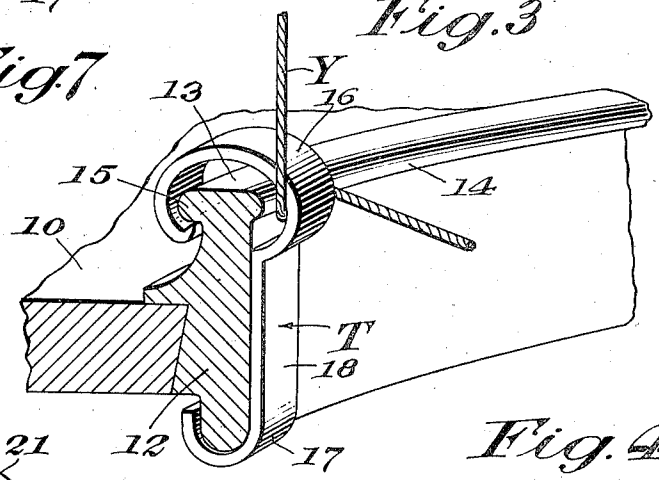


Fig. 5

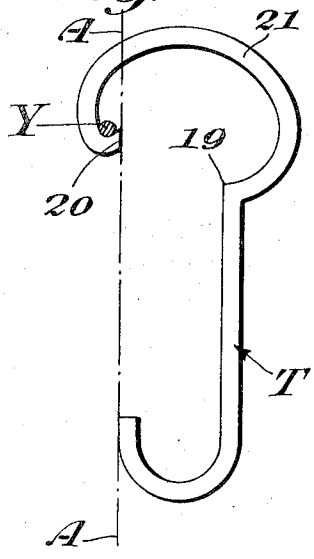


Fig. 6

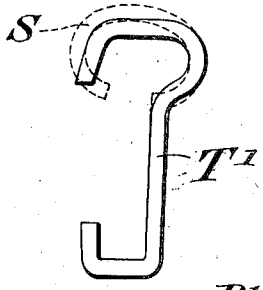
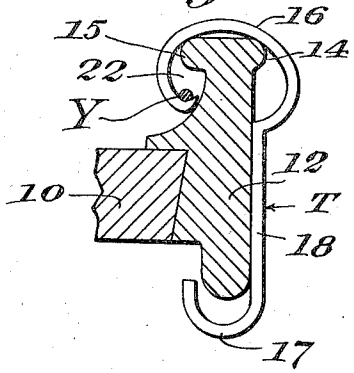


Fig. 4



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TWISTER TRAVELER

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6 Claims. (Cl. 57—119)

This invention relates to twister travelers.

In recent years, the introduction of the automatically lubricated twister ring has made higher spindle speeds possible, and there has also been an increasing use of such fibres as rayon, celanese, silk, worsted, wool and mohair, and mixtures thereof.

The twisting of these newer yarns at the increased spindle speeds now prevailing imposes new responsibilities on the traveler which it is not capable of meeting as now designed.

In order to adapt the traveler to meet these new responsibilities, and especially in order to overcome the tendency of the traveler to become unthreaded when the twister frame is doffed, which tendency is particularly noticeable when the old style traveler is run with the newer yarns at the increased spindle speeds, I have redesigned the traveler.

In general, my new traveler design is a combination of the conventional "regular circle" spinning traveler as to its bow and inturned horns and of the conventional twister traveler as to its back and foot.

The resultant traveler is one of new design and effect in that (1) the generally circular bow and inturned horns constituting the head of my traveler effectively retain the yarn at all the variant angles at which the traveler may run on the ring; (2) the curved bow also greatly reduces chafing of the yarn because the yarn has a wider latitude of movement; and (3) the outer horn of the bow terminates substantially in the vertical plane of the outer face of the traveler foot and when the traveler is running is normally spaced slightly away from the adjacent face of the twister ring so that when the twister frame is doffed, the yarn drops down on the horn of the traveler and is prevented from unthreading.

Referring to the accompanying drawing wherein I have illustrated my new design of twister traveler,

Fig. 1 is a fragmentary perspective of a conventional twister rail and ring (in section) showing my new traveler in running position thereon.

Fig. 2 shows the position of the traveler in reference to the ring when the bobbin is doffed.

Fig. 3 is a view similar to Fig. 1 but showing a modified form of twister ring.

Fig. 4 is a view similar to Fig. 2 of the ring and traveler shown in Fig. 3.

Fig. 5 is a diagrammatic study of the traveler indicating by the broken line A—A that the inner surface of the outer horn and the outer face of the traveler foot are disposed in substantially the same vertical plane.

Fig. 6 is a diagram showing a conventional twister traveler (in full lines) superposed upon a conventional "regular circle" spinning traveler (in dotted lines) to visualize the genesis of my new traveler, and

Fig. 7 is an edge view showing a slightly modified form of my new traveler.

In Figs. 1 to 4, inclusive, the ring rail is indicated at 10. In Figs. 1 and 2, a twister ring 11 of conventional form is shown. In Figs. 3 and 4, a modified form of twister ring 12 is shown, such ring differing from the ring of Figs. 1 and 2 only in that the upper portion thereof is flattened as at 13 and provided with oppositely rounded inner and outer edges 14 and 15 respectively.

My new traveler, indicated generally at T, consists of a head 16, foot 17, and back 18 connecting the head and foot.

As diagrammatically illustrated in Fig. 6, my traveler is a combination of the conventional twister traveler T' and the conventional "regular circle" spinning traveler S, its back and foot being substantially those of the conventional twister traveler and its head being substantially that of the conventional spinning traveler.

In such combination, the inner horn 19 of the conventional "regular circle" spinning traveler becomes the point of juncture of the head and back of my new traveler, the outer horn 20 thereof becomes the outer flange or horn of my new traveler, and the connecting bow 21 thereof becomes the head proper of my new traveler.

In Figs. 1 and 3, which show my new traveler in running position on the ring, the generally circular bow 21, in combination with the outer flange or horn 20 effectively retains the yarn Y at all the variant angles which the traveler may assume when running on the ring as well as minimizing chafing of the yarn.

When the twister frame is doffed, the yarn Y drops down on the horn 20 of the traveler (see Figs. 2, 4, and 5) and is prevented from unthreading.

By reference to Fig. 5 it will be noted that the inner surface of the horn 20 and the outer face of the traveler foot 17 are disposed in substantially the same vertical plane (see broken line A—A).

In the modification of Fig. 7, the outer horn 20' is turned substantially horizontally inwardly towards the outer face of the ring instead of curving downwardly and inwardly theretowards, as in Figs. 1 to 5.

In both forms, the outer horn 20 or 20' furnishes with the adjacent portion of the bow 21 and the adjacent face of the ring a pocket 22 within which the yarn is retained against unthreading when the bobbin is doffed and the yarn drops (see Figs. 2, 4, and 5).

What I therefore claim and desire to secure by Letters Patent is:

1. A twister traveler for use on a vertical ring, consisting of a member having a head, a foot, and a back connecting said head and foot, said head comprising inner and outer bent portions adapted to be disposed on either side of the ring and an intermediate connecting portion adapted to overlie the upper edge of the ring, said outer portion extending downwardly and then inwardly at an angle with said downwardly extending portion not exceeding 90° to form a yarn-catching and supporting horn or shelf which when the traveler is in normal running position on the ring is spaced slightly away from the outer surface of the upper edge of the ring but temporarily contacts the ring when the traveler drops in doffing to thereby define with said downwardly and inwardly extending portion and with the adjacent surface of the ring a pocket within which the yarn is positively retained against unthreading.

2. The traveler of claim 1, the inwardly extending portion of said horn or shelf being disposed at an angle of approximately 90° with said downwardly extending portion.

3. The traveler of claim 1, the intermediate connecting portion of the traveler head being substantially semi-circular.

4. The traveler of claim 1, the inner and outer portions of the traveler head being substantially oppositely curved.

5. The traveler of claim 1, the inner surface of said horn and the outer surface of said foot being disposed in substantially the same vertical plane.

6. The traveler of claim 1, the ring having oppositely curved inner and outer flanges, and the inner and outer portions of the traveler head being curved to substantially correspond to the curvature of said ring flanges.

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