Aug. 13, 1940. R. V. OLSON 2,211,730

BRAIDER CARRIER

Filed May 6, 1939

Fig. 1.

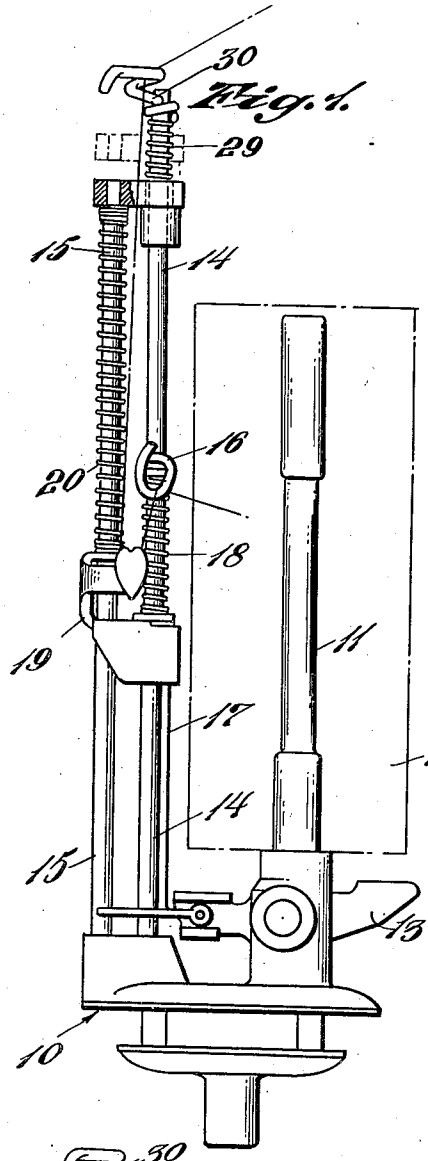


Fig. 2.

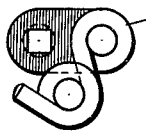


Fig. 3.

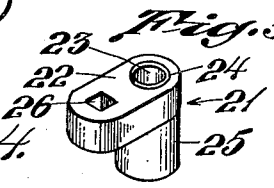


Fig. 4.

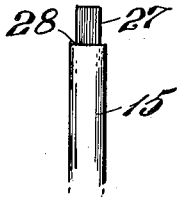


Fig. 5.

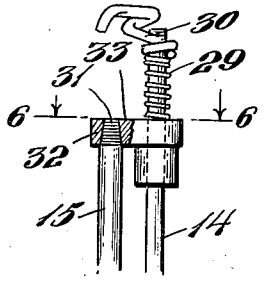


Fig. 6.

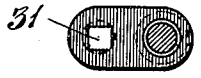


Fig. 7.

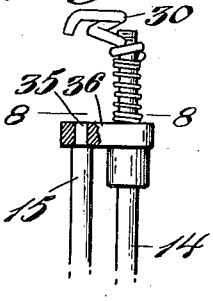


Fig. 8.

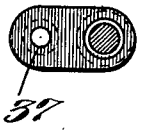


Fig. 9.

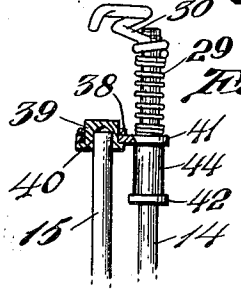
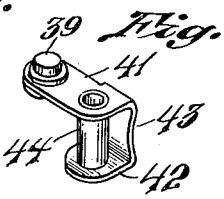


Fig. 10.



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UNITED STATES PATENT OFFICE

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BRAIDER CARRIER

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Application May 6, 1939, Serial No. 272,130

9 Claims. (Cl. 96—15)

This invention relates to a braider carrier and has for one of its objects to provide an improved connecting link at the upper ends of the guide standards carried by such braider carrier.

Another object of this invention is to provide a connecting link at the upper ends of the guide standards of a braider carrier which will maintain these guide standards so that their axes are parallel through their extent at all times and prevent any weaving to and fro of such guide standards even though heavy tensions are used in the operation of the carrier.

Another object of the invention is to provide guide standards which will permit of a free operation of the tension weight and braider machine stop which slide along the guide standards and which will be deferred from free operation should a weaving or bending movement of the standards occur to move their axes out of parallel relation.

Another object of the invention is to provide a connecting link between the guide standards of a braider carrier and yet permit easy removal of the parts carried or guided by the guide standards, thus making it unnecessary to remove the guide standard for the removal of such parts carried or guided by it.

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 side elevation of the braider carrier equipped with my improvement.

Fig. 2 is a top plan view of the guide standard portions of the carrier.

Fig. 3 is a perspective view of the improved link.

Fig. 4 is an elevation of the upper end portion of the tension guide standard.

Fig. 5 shows a modified arrangement of link and fragmental portion of guide standards upon which it is mounted.

Fig. 6 is a view looking on the line 6—6 of Fig. 5.

Fig. 7 is a side elevation of a different modified form of connecting link and showing fragmentally the upper ends of the guide standards upon which it is mounted.

Fig. 8 is a sectional view on line 8—8 of Fig. 7.

Fig. 9 is a view similar to Figs. 5 and 7 illustrating a still different modification of connecting link.

Fig. 10 is a perspective view of a modified form of connecting link.

In the use of a connecting link such as shown in the Mossberg Patent 1,970,390, the connecting link is so mounted upon the longer of the two guide standards with raised projection to limit its movement, that if the thread-eye, the latch lift, or its tension spring, are desired to be removed, it is necessary to remove the guide standard for the removal. Further, there is nothing to prevent the weaving or moving of the rods out of axial parallelism; that is, their upper ends may weave or swing when heavy tensions are employed, thus deterring the desired free operation of the tension weight or sometimes referred to as the braider machine stop and in order to avoid these undesirable effects, I provide a link which may be easily lifted and swung from position or which may be slid completely from the longer of the guide standards leaving an unimpaired uniform diameter of guide rod for the removal of the parts carried by this longer guide standard and I also provide such an arrangement that relative rotation of the link in one of the guide standards, primarily the shorter guide standard, cannot occur, thus maintaining the desired axial parallelism of the standards throughout their length, and the following is a more detailed description of the present embodiment of this invention, illustrating the preferred means by which these advantageous results may be accomplished.

With reference to the drawing, 10 designates the base of the carrier with the package spindle 11 extending upwardly therefrom. The yarn package shown in dotted lines at 12 is controlled by the latch 13 in a usual manner. A longer guide standard 14 and a relatively short guide standard 15 extend upwardly from the base 10, providing a means for mounting the yarn thread-eye 16 and guide for the latch lift 17 with its tension spring 18, also for mounting and guiding the weight or braider machine stop 19 and its tension spring 20.

At the upper ends of these rods 14 and 15 I provide a connecting link designated generally 21 shown in perspective in Fig. 3, comprising a portion 22 of sufficient size to have an opening 23 inwardly from its periphery into which another part in the form of a brushing or sleeve 24 may extend to provide an increased bearing by extending as at 25 below the portion 22 for embracing and sliding along the longer guide standard 14. An opening 26 is also provided in this portion 22 which is shown as square in cross-section, altho any section out of round may be provided.

This opening 26 receives the reduced square end 27 of the guide standard 15 which is of a size and shape to closely fit the opening 26 and

as this squared end 27 is of a size smaller than the diameter of the standard 15, shoulder 28 will be provided so as to limit downward sliding movement of the link 21 on the standard 15 or on the standard 14. A spring 29 is positioned on the standard 14 above the link where it abuts the pig-tail guide 30 and tends to force the link downwardly against this shoulder as a stop. This spring 29 will be of a tension greater than the tension in the spring 20 so that the link may form an abutment for this spring 20. If it is desired to remove spring 20 to change it for a spring of different tension, it is merely necessary to slide the link upwardly into the dotted line position shown in Fig. 1 and swing the link to one side about the rod 14 as an axis, remove the spring 20 and replace it with another, and then swing the link back permitting the squared section 27 to enter the square opening 26 and move until the shoulder 28 is engaged to limit the movement of the link under the action of the spring 29.

If it is desired to remove any of the parts carried by the standard 14, it is merely necessary to remove the pig-tail guide 30, slide the tension spring 29 and link upwardly from the rod 14, thus leaving standard 14 free at its end to have the parts carried and guided by it passed over this end, thus making it unnecessary to remove the rod 14 from its position.

In Fig. 5 I have illustrated a modification in which the upper end of the rod 15 is tapered as at 31 and the opening 32 in the link 33 is tapered to fit this opening. This taper is a frustro-pyramidal shape in both instances whereby relative rotation of the parts is prevented and a downward limit of the movement of the link is provided.

In Fig. 8 a simple form of reduction is provided. Here the rod 15 is reduced in circular form as at 35 and the link 26 is also provided with a circular hole 37 to receive it. In this form the relative rotation of the link and standard 15 is not prevented.

In Figs. 9 and 10 the link 38 is shown as provided from a piece bent U-shape having an upper plate 41 and a lower plate 42 with a connection 43 between them, also a standard encircling sleeve 44 for embracing the guide rod. The end of the standard 15 is permitted to remain in its formed round cross section throughout its extent and the link 38 is provided with a cup 39 to set into the upper plate 41 and provide a recess 40 for the reception of the end of the standard 15 whereby the movement of the link along the standard 15 is prevented. In this case, also, I have not shown any means of preventing relative rotation of the link and the short standard, although clearly this might be provided. A different form of abutment to limit the movement of the link along the standard 14 is shown.

It will be apparent from the above that various arrangements may be provided to limit the movement of the link on the guide rod and also to prevent relative rotation of the parts as between the squared sections mentioned above.

From the various forms above shown it will be apparent that I may freely remove the link from the standard 15 by lifting and swinging the same or the link may be removed from the standard 14 by the removal of the tension spring 29 and the pig-tail guide 30. A stop is provided between the short standard and the link in such a manner that when the link is removed, the standard is free to permit of the tension spring or any other part guided or carried thereby to be removed.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. In a braider carrier, a base, a pair of standards extending upwardly from said base, one being of greater length than the other, a link having an opening through which the longer standard extends to slidably mount the link on the longer standard, said link being provided with means to receive the end of the shorter standard, the link and shorter standard having cooperating engaging portions so formed and arranged as to limit sliding movement of the link axially of the longer standard and leave the shorter standard clear upon lifting of the link for removal of a spring on said shorter standard.

2. In a braider carrier, a base, a pair of standards extending upwardly from said base, one being of greater length than the other, a link having an opening through which the longer standard extends to slidably mount the link on the longer standard, the shorter standard being reduced at its upper end to provide a shoulder, said link being provided with an opening to receive said reduced end and engage said shoulder to limit the movement of said link along said standards but leaving the shorter standard clear upon lifting of the link for removal of a spring on said shorter standard.

3. In a braider carrier, a base, a pair of standards extending upwardly from said base, one being of greater length than the other, a link having an opening through which the longer standard extends to slidably mount the link on the longer standard, said link being provided with a recess to receive the end of the shorter standard, said recess having abutment to engage the end of the standard and limit the movement of the link but leaving the shorter standard clear upon lifting of the link for removal of a spring on said shorter standard.

4. In a braider carrier, a base, a pair of standards extending upwardly from said base, one being of greater length than the other, a link having an opening through which the longer standard extends to slidably mount the link on the longer standard, the tip of said shorter standard being tapered and said link being provided with a tapered recess to receive the end of the tapered shorter standard.

5. In a braider carrier, a base, a pair of standards extending upwardly from said base, a link connecting said standards, the connection of said link to one of said standards being of a construction and arrangement to prevent relative rotation of said link and standard and said link being slidably mounted on the other standard.

6. In a braider carrier, a base, a pair of standards extending upwardly from said base, a link connecting said standards, said link having an opening to receive one of said standards, said opening and the standard received thereby being of such cross section as to prevent relative rotation of said received standard and link and said link being slidably mounted on the other standard.

7. In a braider carrier, a base, a pair of standards extending upwardly from said base, a link

connecting said standards, the upper end of one of said standards being square in cross section and said link being provided with a square opening to fit the square end of said standard and said link being slidably mounted on the other standard.

8. In a braider carrier, a base, a pair of parallel cylindrical standards extending upwardly from said base, one being of greater length than the other, a link having an opening through which the longer standard extends to slidably mount the link on the longer standard, a spring urging said link downwardly, said shorter standard being reduced in size with an out of round cross section, said link having an opening of a corresponding cross section to receive said reduced out of round tip.

9. In a braider carrier, a base, a pair of parallel cylindrical standards extending upwardly from said base, one being of greater length than the other, a link having an opening through which the longer standard extends to slidably mount the link on the longer standard, a spring urging said link downwardly, said shorter standard being reduced in size with an out of round cross section, and providing a shoulder, said link having an opening of a corresponding cross section to receive said reduced out of round tip and engage said shoulder to limit movement of the link under action of the spring.

ROBERT V. OLSON.