Nov. 27, 1934. B. N. BAVIS 1,981,896

BRAIDER BOBBIN CARRIER

Filed May 6, 1932

Fig. 1.

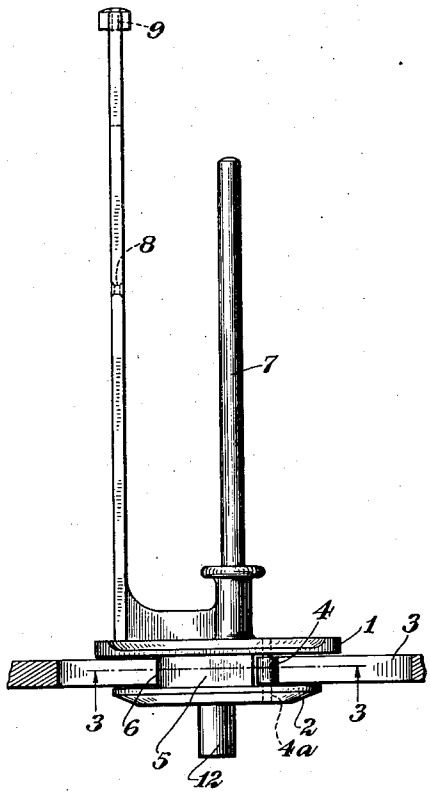


Fig. 2.

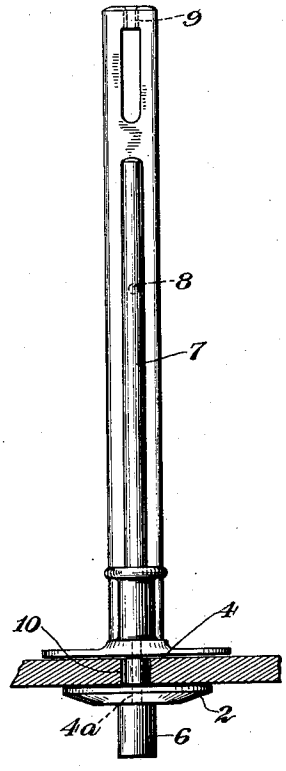


Fig. 3.

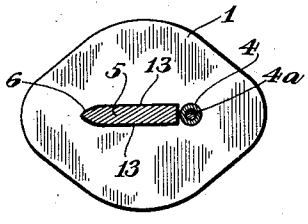
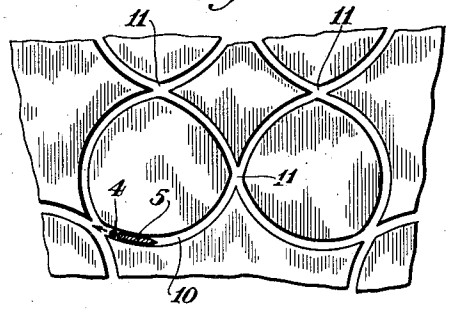


Fig. 4.



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BRAIDER BOBBIN CARRIER

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Application May 6, 1932, Serial No. 609,642

2 Claims. (Cl. 96—13)

This invention relates to an improved braider bobbin carrier and particularly to one in which the fin, that travels in a slot in the carrier platform, is protected at the forward end by an antifriction roller or another readily replaceable member.

Bobbin carriers to which the present application is applicable are used in making braided articles, of which braided asbestos products are examples. In the braiding operation there is used a mechanism comprising bobbin carriers, often called travelers, and a carrier platform or plate that supports the bobbin carriers and is provided with slots, sometimes called the traverse, which guide the bobbin carriers. The bobbin carriers are provided with spaced plates and a connecting member that is movably engaged in the slots or traverse of the carrier platform. The connecting member is usually a sturdy, elongated bar or fin that is pointed at both ends. The end that is forward as the fin moves in the traverse is the forward or lead end.

As the carrier is moved rapidly in an undulatory course in the guide slots of the carrier platform, the lead point of the fin becomes either broken or gradually dulled. The result is that it is necessary to replace the bobbin carriers at intervals. Also, the lead point may break the platform, particularly at the points where the various slots cross each other, that is, at the so-called cross-overs.

Attempts to improve upon the fin member have resulted in structures that are expensive, not adapted to withstand the shocks to which the structures are subjected as the carriers undergo change of direction, and/or inclined to wabble somewhat in the slot of the carrier platform in which the carriers move.

The present invention provides means of preserving the inexpensive, sturdy, and desirable fin construction while protecting it against injury at the forward or lead portion. Further, the invention provides a structure in which the wear is minimized or in which such wear as is not avoided is caused to occur mostly upon an inexpensive and readily replaceable element.

A preferred embodiment of the invention is illustrated in the drawing.

Fig. 1 is a side elevation of an improved bobbin carrier constructed in accordance with the invention and a portion of the braider platform in position adjacent to the fin of the carrier.

Fig. 2 is a front elevation of the carrier and a portion of the carrier platform adjacent to the said fin.

Fig. 3 is a horizontal section on line 3—3 of Fig. 1, in the direction of the arrows.

Fig. 4 is a plan view of a portion of the carrier platform and a horizontal sectional view of the fin and protecting member, in position, in a slot of the carrier platform.

In the various figures like reference characters denote like parts. Thus, the bobbin carrier comprises spaced, horizontal plates or members 1 and 2. The upper plate 1 rests upon the top surface of the carrier platform 3, whereas the lower plate 2 is beneath and adjacent to the lower surface of the said carrier platform.

Connecting the two spaced plates 1 and 2 and suitably integrally united or cast therewith, is a fin member 5, consisting preferably of a metal bar that is continuous and elongated in the general direction of the length of the slot 10 through which it moves. This slot 10 in the carrier plate is not straight but is curved or undulatory as illustrated in Fig. 4. The fin has two oppositely disposed plane surfaces 13 of substantial length that coact with the sides of the slot 10 to minimize wabbling of the bobbin carrier. Also, the fin may be more or less wedge-shaped at one end, as illustrated at 6, which is the rear end as the carrier moves in the traverse. The other, forward or lead end of the fin is suitably not tapered. This forward or lead end is protected, as by a single antifriction roller 4, which is suitably of diameter approximately as great as the width of the fin, as illustrated in Fig. 3. To adapt the roller to extend through the slot in the carrier platform, the roller should be not substantially wider than the fin. The roller is removably mounted upon a removable drive-fit pin 4*a* which extends through the roller and through appropriately placed holes in plates 1 and 2. The position of mounting of the roller on the pin is such as to bring the roller adjacent to the forward end of the pin. The roller, so placed, takes the shocks as the carrier travels along the carrier platform, particularly at the cross-over positions 11. As the roller becomes worn, it may be replaced very readily by driving the pin 4*a* from its engagement in the hole in one of the plates 1 or 2 and in the roller, to free the roller, inserting a new roller, and restoring the pin to its original position.

It will be seen that the fin in the structure illustrated has a length that is substantially greater than the width and is equal at least to

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the distance between the spindle 7 and the stem provided with the elements 8 and 9, and that the carrier includes a fin of conventional type modified by the replacement of the forward portion thereof by the rotatable protecting element described.

The carrier may be provided with conventional parts such as the spindle 7, for holding the bobbin (not shown) and a stem provided with eyelets 8 and 9 for directing the strand of yarn (not shown) that has been unrolled from the bobbin. Also, the carrier may have a cylindrical member 12 extending downwardly below the plate 2, for engagement with the driving mechanism. The driving mechanism, including gears and the like, is not shown in the figure. The driving mechanism and also a complete braiding mechanism including carrier platform and bobbin carriers, to which the present invention is applicable, are described in U. S. Patent 1,742,126 to Blaisdell, issued December 31, 1929.

Braider carriers of conventional type that are no longer usable may be recovered and made usable, by conversion to the structure of the present invention. Thus, an old discarded carrier, with the lead point of the fin broken or blunted, may be filed to remove enough of the forward portion of the fin to leave space for a roller. Then holes may be bored through the plates of the carrier, to receive a pin, as illustrated in Figs. 1–3. The pin and roller may then be installed. After this simple installation is made, the carrier is not only salvaged but also improved over its original utility.

The material of construction of the carrier may be one that is usual in bobbin carriers or braiding machines, as, for example, cast iron. However, the protecting element or roller may consist of less readily breakable material, such as steel or an alloy of composition conventionally used in roller bearings.

The details that have been given are for the purpose of illustration and not restriction of the invention. It is to be understood that many variations from those details may be made without departing from the scope of the invention.

What I claim is:

1. A braider bobbin carrier, adapted for use with a slotted bobbin carrier platform, comprising a spindle for holding the bobbin, a stem for directing the strand unrolled from the bobbin, a pair of spaced members adapted to engage opposite sides of the said platform, an elongated continuous fin connecting the said members, adapted to extend through and ride in the slots in the said platform, and being of length at least substantially equal to the distance between the said spindle and stem, and a rotatable protecting element disposed adjacent to the forward end of the fin and in line therewith.

2. A braider bobbin carrier, adapted for use with a slotted bobbin carrier platform, comprising a pair of spaced members adapted to engage opposite sides of the said platform, an elongated continuous fin connecting the said members and adapted to extend through and ride in the slots in the said platform, and a rotatable protecting element replacing the forward portion of the fin and being not substantially wider than the fin, the fin being substantially greater in length than in width and being conventional except for the said replacement of the forward portion by the protecting element.

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