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ADAPTER FOR BRAIDER CARRIER

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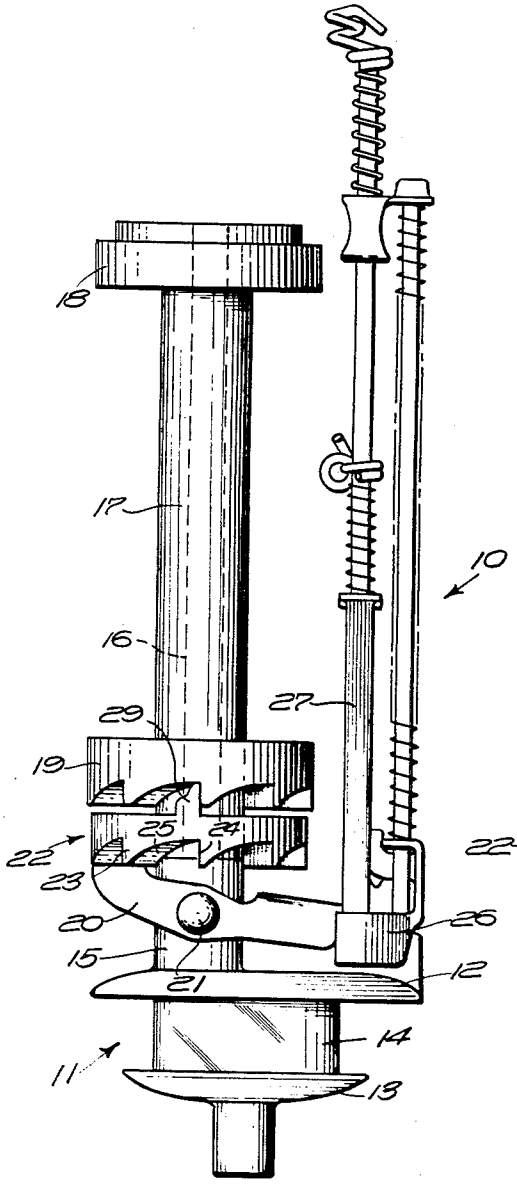


FIG. 1

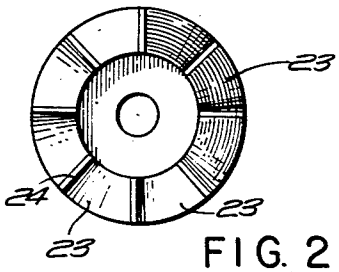


FIG. 2

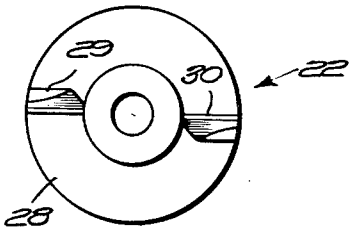


FIG. 3

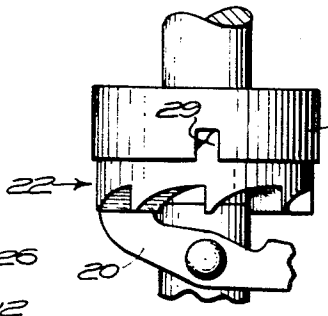


FIG. 4

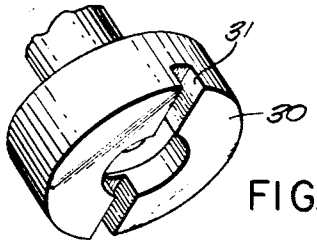


FIG. 5

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ADAPTER FOR BRAIDER CARRIER

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1 Claim. (Cl. 87—56)

This invention relates to a braider carrier and more particularly to the base of a bobbin on a carrier where it engages the ratchet letoff mechanism.

The yarn supply is located in a braider carrier which manipulates the yarn in the braiding operation. This yarn is wound upon a bobbin usually having opposite heads with the head adjacent the base of the carrier provided with ratchet teeth with which the latch of the carrier engages to control the letoff of the yarn as the carrier proceeds in its operation. Bobbins are usually of wood and as the latch continually rubs from one tooth to another on the wooden head, the edge of the tooth becomes worn and rounded, and as this wearing proceeds, the bobbin head finally becomes so worn that the teeth will not be held by the latch as the letoff mechanism operates, and there will be skips which are detrimental. When such wear occurs, the bobbin must be discarded and a new one used or the wooden teeth are cut off and replaced with a part having fresh teeth. This is an expensive operation.

One of the objects of this invention is to provide an adapter which may be utilized by just dropping it in place over the carrier spindle so that the worn out bobbin may be continued to be used.

Another object of this invention is to provide an adapter which may be used with a new bobbin and thus will protect the teeth of the new bobbin from wear by preventing continual rubbing engagement with the latch.

Another object of this invention is to use this adapter with a new bobbin so as to space the new bobbin further from the base of the carrier and thus prevent dirt which accumulates on the base of the carrier from being transmitted to the bobbin, thus providing a cleaner yarn operation.

Another object of this invention is to provide an adapter which although it may itself become dirty may be easily cleaned.

Another object of this invention is to provide an adapter which is of a simple shape and may be easily molded from plastic or the like which are easily cleaned.

Another object of this invention is to provide an adapter which may be used with a new bobbin with the new bobbin more simply formed by not requiring teeth to be formed in its head, but merely some sort of slots or an abutment which may engage the adapter and be controlled thereby.

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 claim.

In the accompanying drawings:

Figure 1 is a side elevation of a braider carrier illustrating a bobbin thereon and our adapter positioned beneath the bobbin;

Figure 2 is a bottom view of the adapter;

Figure 3 is a top view of the adapter;

Figure 4 is a fragmental view in side elevation illustrating a modified bobbin as engaging the adapter; and

Figure 5 is a perspective view of the head of a modified bobbin.

In proceeding with this invention, we have provided an adapter of circular form having an opening to fit over the spindle of the braider carrier with teeth formed in its lower face to engage the latch of the carrier, while on its upper face some abutments are provided which will engage the worn out teeth of a bobbin and by reason of the fact that it is unnecessary for the bobbin to move relative to the adapter, the bobbin operates as if the adapter was a part thereof in its operation. As teeth are no longer necessary on the bobbin, any abutments which will engage the abutments on the adapter will serve in place of such teeth.

With reference to the drawings **10** designates generally a braider carrier having a base **11** with flanges **12** and **13** to engage the upper and lower sides of the plate of the braiding machine while the web portion **14** travels in the serpentine raceway of the plate. A boss **15** extends upwardly from the base with a spindle **16** extending from the boss. A bobbin **17** is mounted on the spindle having an upper head **18** and a lower head **19**. A latch **20** is pivoted as at **21** on the boss **15** and engages the teeth of the bobbin in the usual performance of the carrier. However, we have interposed an adapter **22** which rests on top of the boss **15** and upon which rests the lower head **19** of the bobbin.

This adapter **22** is provided on its undersurface with a plurality of teeth **23**, each having a vertical abutment edge **24** and a sloping surface **25** up to that edge similar to the teeth usually found on the new head of the bobbin. The latch is controlled in the usual manner by the spring pressed weight **26** and linkage **27** to release the latch as the weight is drawn upwardly and thus let off yarn whereupon in taking up the slack thus formed, the weight again drops to cause the latch to engage the teeth.

On the upper surface of the adapter **22** designated **28**, a pair of abutments **29** and **30** are formed which are so located that they will engage diametrically opposite teeth and are so shaped as to fit nicely into the space between teeth as shown in Fig. 1 so that even though the teeth of the bobbin are worn as noted by their rounded ends, a good gripping engagement is had between the adapter and the bobbin. Thus, even though the teeth are rounded, they are no longer required to function by some part slipping over their rounded head and thus the bobbin may be used even in a more severely worn condition than here shown by the use of this adapter.

It is found, however, that this adapter may be very easily formed of a plastic material, such as nylon, by a molding operation and such a material is very easily cleaned. This adapter is in a location where dirt usually accumulates that is on the base of the carrier and heretofore was easily transferred to the yarn. This adapter, by spacing the bobbin from the base, serves to keep the bobbin cleaner as it will accumulate any such dirt on itself which would ordinarily accumulate on the bobbin. However, as this adapter is very easily cleaned, it may be removed from the carrier spindle and washed and then replaced and such a cleaning operation is much simpler than where it necessary to clean the entire bobbin.

A further use of this invention is that bobbins may now be constructed without the need for cutting teeth into them in their lower head, as with this adapter merely a slot is needed to receive an upstanding projection on the adapter which projection will engage some suitable abutting surface on the head such as shown in Figures 4 and 5. Here the bobbin head **30** is provided with a diametrically opposite slot **31** which is a much sim-

pler operation than the formation of teeth such as shown on the bobbin head **19**, and in this case the projection or abutment **29** and **30** may enter the slot **31** for control of the bobbin.

We claim:

In a braider carrier having a base, a bobbin spindle extending from the base, a latch pivoted on the base, a bobbin on said spindle having a head on the end nearest the base with teeth on its outer surface, and an adapter member on said spindle between the bobbin head and the base to reduce the wear on said bobbin head teeth, said member provided with abutments engaging the bobbin teeth, and teeth on its surface nearest the base over which said latch may slide from one tooth to another.

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