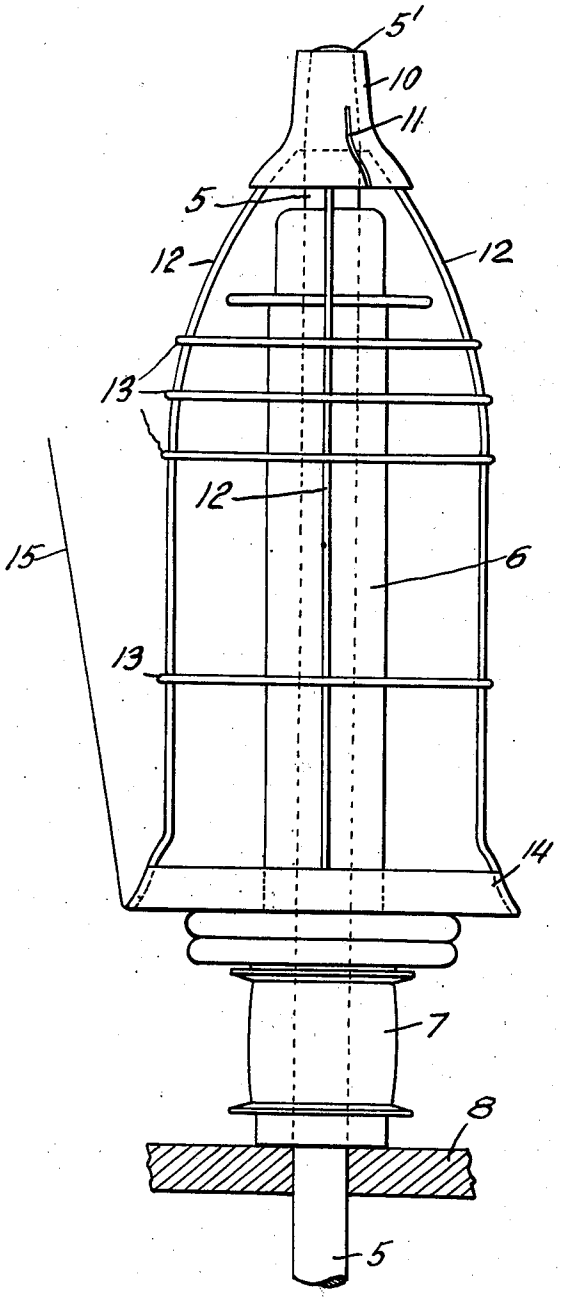
Oct. 27, 1936. E. G. ARCHER ET AL 2,058,393

CAP AND THREAD GUIDE FOR CAP SPINNING MACHINES

Filed Jan. 5, 1935



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Patented Oct. 27, 1936

2,058,393

UNITED STATES PATENT OFFICE

2,058,393

CAP AND THREAD GUIDE FOR CAP SPINNING MACHINES

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Application January 5, 1935, Serial No. 494

2 Claims. (Cl. 118—62)

This invention relates to cap and thread guides for cap spinning machines and has for its object the provision of an improved cap and thread guide for such machines. More particularly, the invention aims to provide an improved cap and thread guide for cap spinning machines used in the manufacture of artificial silk, especially of the cellulose acetate variety.

In the cap spinning process, a stationary cap or bell is used to guide the thread or yarn onto the spinning bobbin. The bobbin is generally rotatably mounted on a stationary vertical spindle and in addition to its rotary motion reciprocates vertically on the spindle. A bell-shaped cap is attached to the upper end of the spindle and its substantially closed side wall surrounds the bobbin in spaced relation therewith. The thread guide is carried at the bottom of the cap and directs the thread in smooth convolutions upon the bobbin. The bobbin is fully visible at the bottom of its reciprocating stroke, but at the top of the stroke the bobbin is practically invisible, being covered by the cap or bell.

The improved cap and thread guide of the invention is an open framework permitting full visibility of the spinning bobbin at all times during the doffing period. The operator is thus able to see at a glance if the cap is correctly located with respect to the spinning bobbin, particularly at the beginning of the doff. The open or skeleton framework is advantageously made of wire or the like and supports the thread guide at its lower end, while its upper end is provided with suitable means for convenient attachment to the top of the spindle.

The single figure of the accompanying drawing is an elevation of a cap and thread guide embodying the invention.

As illustrated in the drawing, the cap and thread guide of the invention is applied to a cap spinning machine having a stationary vertical spindle 5. A spinning bobbin 6 is rotatably mounted on the spindle 5. A belt-driven pulley 7 is secured to the lower end of the bobbin 6 for rotating the bobbin on the spindle. A transverse motion bar 8 is operatively associated with the bobbin for reciprocating the bobbin vertically on the spindle, as will be well understood by those skilled in the art.

The cap and thread guide of the invention, as illustrated in the drawing, comprises a cap or attachment member 10 bored to a taper to fit the upper end 5' of the vertical spindle. The member 10 has a saw-cut or slit 11 in the lower part of its side in order to develop a spring-like grip on the spindle when pressed into engagement therewith.

A plurality of wire-like members 12 depend from the attachment member 10 in spaced relation with one another. A plurality of circumferential wire-like members or rings 13 are united to the depending members 12 at appropriate points in the length of the depending members. A thread guide 14 is secured to the lower ends of the depending members 12. The attachment member 10 may advantageously be made of corrosion-resisting metal, and the members 12 and 13 may be made of corrosion-resisting wire or the like. The thread guide is preferably in the form of a tubular rim or flange constructed of steel or other suitable material. The various members of the cap may be united by soldering or the like.

In its operating position, the cap and thread guide of the invention is held stationary by reason of its gripped engagement with the top of the stationary spindle 5. The open wire framework surrounds the bobbin (in its uppermost position) in appropriately spaced relation therewith. The bobbin 6 is rotated by the pulley 7 and at the same time is vertically reciprocated on the spindle 5 by the transverse motion bar 8. The yarn or thread 15 is drawn downwardly from the usual source by the winding action of the bobbin under the lower smooth edge of the guide member 14.

The open character of the skeleton framework permits visibility of the bobbin at all times during its reciprocating motion. The operator is thus able at any time to observe the manner in which the guide directs the thread onto the bobbin. This is of particular advantage at the beginning and end of the doffing operation. In addition to the complete visibility of the spinning operation provided by the cap and thread guide of the invention, the construction of the cap is simple and inexpensive.

We claim:

1. A cap and thread guide comprising an attachment member, a plurality of wire-like members depending from said attachment member in spaced relation with one another, a plurality of circumferential wire-like members uniting said depending members into a skeleton framework, and a circular thread guide secured to the lower end of said depending members.

2. A cap and thread guide for a cap spinning machine having a vertically reciprocating spinning bobbin rotatably mounted on a stationary spindle, comprising an attachment member adapted to be held on the spindle in gripped engagement, a plurality of wire-like members secured to and depending from the attachment member in spaced relation with one another, and a circular thread guide secured to the lower ends of the depending members.

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