Jan. 31, 1956 J. J. KEYSER 2,733,020

CARRIER FOR CONDENSER BOBBINS

Filed April 21, 1952 3 Sheets-Sheet 1

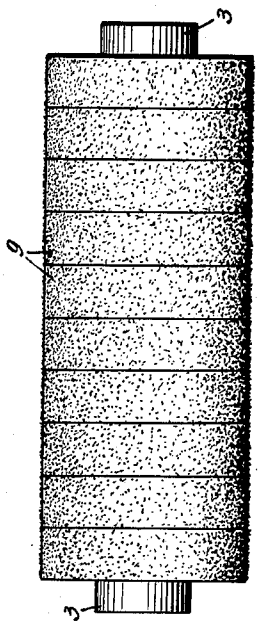


FIG. 1

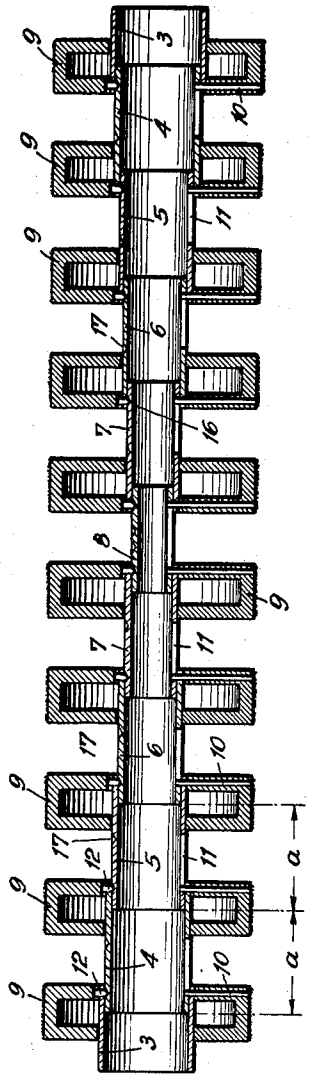


FIG. 2

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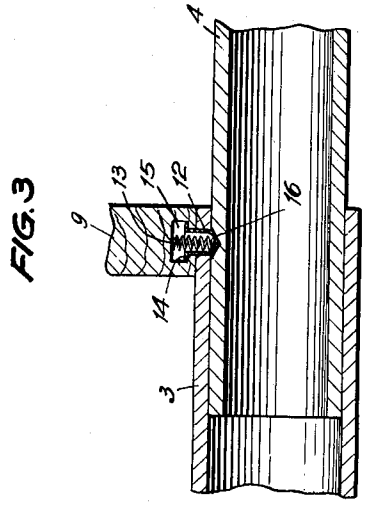


FIG. 3

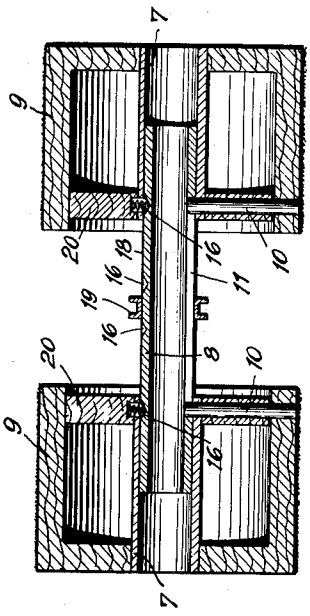


FIG. 5

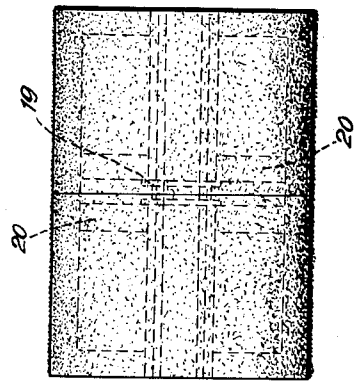


FIG. 4

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FIG. 6

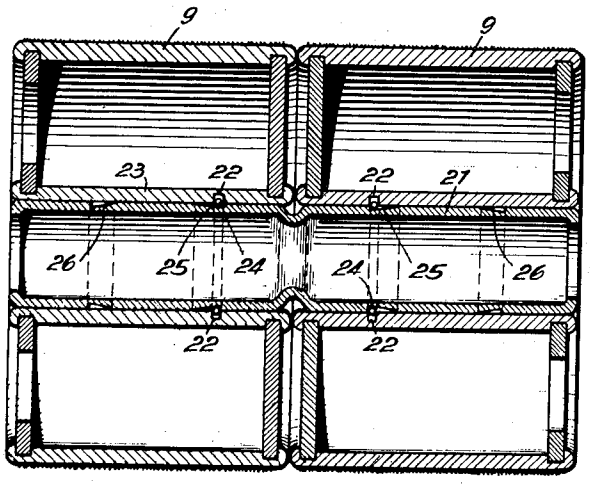
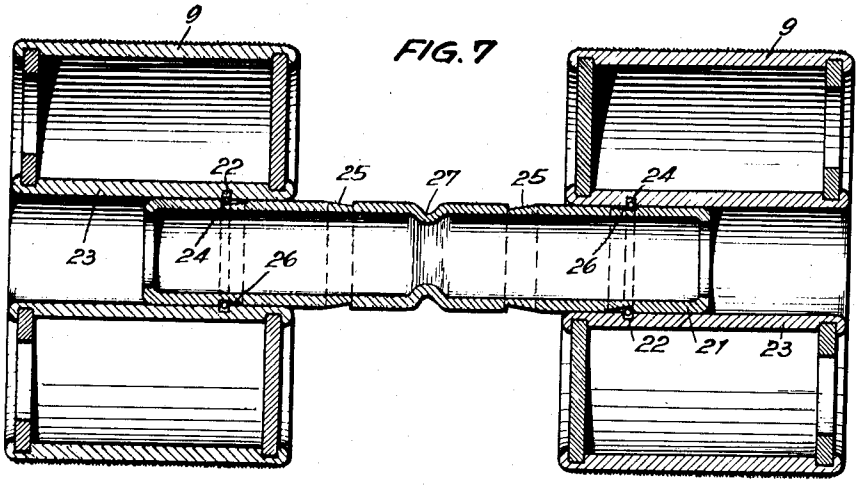


FIG. 7



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CARRIER FOR CONDENSER BOBBINS

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Claims priority, application Switzerland April 24, 1951

1 Claim. (Cl. 242—68)

The present invention relates to a carrier or support for a condenser bobbin for use in connection with spinning machines, particularly ring spinning machines.

In order to reduce the angle at which the sliver or roving moves into the drawing frame, it has already been suggested to split the plural thread feed into two equal sections and to move the said two sections, each containing half the number of the total roving laps, apart to two sides. This results in halving the angles at which the threads run into the drawing frame but these angles are different for each spindle. Aside from the irregularity in the running off of the roving, which irregularity is caused thereby and is not desired, this arrangement has the further drawback that considerable losses in the roving occur with regard to the undivided plural thread feed, because the laps end differently. Furthermore, losses in the output occur because only after all laps have been unwound, a new loading is effected, and the machine has to run until the last lap has been spun off.

It is, therefore, an object of this invention to provide an arrangement which will overcome the above mentioned drawback.

It is another object of this invention to provide an arrangement which will make it possible that the angle at which the sliver or roving of all laps of a plural thread feed will be fed into the preparing machine will be the same for each working station, for instance, each spindle.

It is still another object of this invention to provide a carrier for a plurality of condenser bobbins which will make it possible selectively to move the bobbins thereon together or to support the bobbins in spread apart position.

These and other objects and advantages will appear more clearly from the following specification in connection with the accompanying drawings in which:

Figure 1 illustrates a view of a carrier for a condenser bobbin according to the invention, the bobbins being shown in their moved together position.

Figure 2 is a longitudinal section through the carrier for the condenser bobbin shown in Figure 1 but with the bobbins spread apart.

Figure 3 illustrates a detail of the bobbin on a scale larger than the scale used in Figures 1 and 2.

Figure 4 is a view of a further embodiment according to the invention.

Figure 5 represents a longitudinal section through the bobbin of Figure 4 but with the bobbins moved apart.

Figure 6 is a longitudinal section through a still further embodiment of the invention.

Figure 7 shows the embodiment of Figure 6 with the bobbins moved apart.

General arrangement

The object to feed the thread from each lap at approximately the same angle into the preparing machine has been materialized according to the present invention by spacing the individual roving feeds according to the respective working width of the machine, for instance, according to the spindle distances. To this end, the lap sleeves or bobbins may individually be arranged on tube sections of substantially the same length which length is in conformity with the working width of the machine or the spindle distance. The lap sleeves or bobbins are moved apart so as to engage respective abutments which are so arranged as to secure an even distance between the said lap sleeves. The lap sleeves or bobbins may be connected to the respective tube sections in such a manner that they can be moved apart together with the respective tube section up to the abutment determining the desired distance. However, if desired, the said lap bobbins may also yieldably be connected with the tube sections in such a manner that they will snap into stop catches determining the desired distances.

In the first-mentioned instance, each tube section, and, in the second-mentioned instance, each lap bobbin, may at least in its moved out position be held by a yieldable arresting member.

According to a special embodiment of the invention, the lap sleeves or bobbins are arranged symmetrically at both sides of a single carrier which is common to the said two sleeves or bobbins. If desired, the tube section between two sleeves or bobbins may be provided with means which will prevent a lateral movement of the lap. In order to secure the winding up of each individual bobbin at the proper distance from the adjacent bobbin, the lap sleeves or bobbins are preferably provided with a catching or roughened surface.

Structural arrangement

Referring now to the drawing in detail and Figs. 1 to 3 thereof in particular, the carrier for condenser bobbins shown therein comprises a plurality of tube sections **3**, **4**, **5**, **6**, **7** and **8** which sections have substantially the same length. The outermost sections **3** may, without affecting the invention, be of a shorter length than the remaining sections as is shown by way of example in the drawing. The length of the individual tube sections is preferably so dimensioned that the distances *a* between the center lines of the lap bobbins **9** connected to the tube sections correspond to the working width of the respective machine, for instance, to the spindle distance of a ring spinning machine. In this way, the roving moves into the working devices of the machine only at a very small angle corresponding to the width of the lap bobbins.

The diameters of the individual sections are so selected that, starting from the central section and proceeding outwardly, all sections fit tightly into the respective following section and that one section may be telescopically moved relative to the other section without edging. Each tube section is provided at that end thereof, which faces the intermediate vertical plane of symmetry of the entire carrier, with a bobbin **9** of the same outer diameter but with a different inner diameter, corresponding to the tube section pertaining thereto. Each bobbin **9** is connected to the respective tube section in such a manner that, when the tube sections are spread apart, the bobbins will be moved into an end position which will secure the distances *a* between said bobbins. The bobbins may be held in this end position by yieldable arresting members. The maintaining of the distances *a* may also be effected by these means. According to the embodiment shown in Figures 1 and 2, each bobbin **9** is non-rotatably connected to the respective tube section by means of a pin **10** or the like which radially passes through that end of the bobbin **9** which faces the intermediate vertical plane of symmetry of the entire carrier. These pins **10** penetrate the respective tube section and respectively engage a longitudinal slot **11** provided in the next following tube section which fits into the tube section carrying the respective bobbin. In this way the movement of the said next following

tube section is limited so that the inner tube section can be pulled out of the outer tube section only by a length determined by said slot 11. In order to arrest the bobbins of this embodiment in the moved together position (Figure 1) or the pulled apart position (Figure 2), yieldable clamping members 12 are provided which are shown in Figure 2 merely diagrammatically but are more clearly illustrated in Figure 3. These clamping members may consist, for instance, of caps 12 which are under the influence of pressure springs 13. These caps are provided with flanges which abut the bottom of a larger bore 15 provided in the bobbins 9. In this way the said caps are prevented from falling out. The clamping or arresting members 12 cooperate with depressions 16 in the tube sections so as to arrest the tube sections in their pulled out positions. The clamping or arresting members 12 also cooperate with depressions 17 in order to arrest the tube sections in their moved together positions. In this way the tube sections are arrested relative to each other in both positions.

The arrangement may also be such that two bobbins are symmetrically arranged with regard to the middle plane of a carrier common to both of them and may be pulled out or moved together symmetrical to the said plane. In this way there are obtained two laps of wheel set-like shape which may be used advantageously in connection with such devices where a frequent change of the laps occurs. In such instances, it is advantageous, as shown in Figures 4 and 5, to provide holding means 19 in the plane of symmetry of the common carrier 18. This holding means may be engaged by a fork or the like (not shown) which is connected to the machine in order to prevent the lap from laterally moving away on the output device. The pulling apart and moving together of such wheel set-like lap is effected in the same manner as described in Figures 1 to 3. Also in this instance the bobbins 9 will be arrested by means of spring-urged pins 12 or the like which snap into corresponding depressions 16 of the carrier 18 when the bobbins have reached their outermost or innermost position.

With the construction of the carrier as shown in Figures 4 and 5, it is advantageous to arrange those lateral walls 20 of the bobbins 9 which face the holding means 19, toward the inside of the bobbin to such an extent that, when the bobbins 9 are moved together, the holding means 19 will be housed within the space between the said walls 20 as is indicated by dash lines in Figure 4.

Figures 6 and 7 illustrate a simplified embodiment of the present invention. According to this structure, again two lap bobbins 9 are slidably arranged on the tubular carrier 21. The connection of the bobbins 9 to the tubular carrier 21 is effected by spring rings 24 arranged in grooves 22 of the inner bobbin tube 23. These spring rings engage wedge-shaped grooves 25 and 26 on the outside of the tubular carrier 21 in such a manner that

the spring rings 22 snap into the grooves 26 when the bobbins 9 are moved together, and snap into the grooves 25 (Figure 6) when the bobbins are moved apart. The tubular carrier 21 has again in its central plane of symmetry holding means which in this instance has the shape of a circular groove 27. It will be evident that, when selecting the length of the tubular carrier 21 according to the circumstances involved and when selecting a corresponding distance between the grooves 25 and the grooves 26, the lap bobbins 9 may again be pulled apart so that the distance between their vertical central axes equals the desired working width or spindle distance of the machine.

In order to achieve that the individual lap bobbins, when the roving is wound thereupon, will at one and the same time get the roving running out from the preparing machines without sliding off from the bobbins, the individual lap bobbins are provided with a rough or catching cover of appropriate character, for instance, felt material, emery cloth or the like. Of course, if desired, the surface of the lap bobbins 9 may also be roughened or made catching in any other way, for instance, by knurling or the like.

It is, of course, understood that the present invention is, by no means, limited to the particular constructions shown in the drawings but also comprises any modifications within the scope of the appended claim.

What I claim is:

A carrier for condenser bobbins for spinning and preparing machines, particularly for ring spinning machines, which comprises in combination: a plurality of bobbins, two sets of a plurality of tube sections telescopically engaging each other with the tube sections of each set increasing in diameter from one end to the other end of each set, each of said tube sections having connected thereto one of said bobbins, a connecting tube section having an outer diameter smaller than the inner diameter of the tube sections of smallest diameter of each set and telescopically interconnecting the tube sections of smallest diameter of said two sets, each of said tube sections of each of said sets being movable individually away from the adjacent tube section by a predetermined distance so as to space each two adjacent bobbins of each set from each other by a distance substantially corresponding to the spacing of two adjacent spindle axes of the respective spinning or preparing machine decreased by substantially the width of one of the adjacent bobbins.

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