Mar. 27, 1923. 1,449,928

A. K. ADDIS

SEPARATOR FOR RING SPINNING MACHINES

Filed June 17, 1922

Fig. 3.

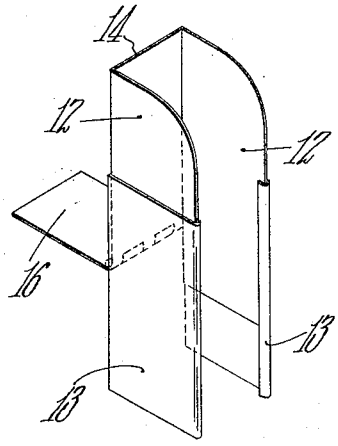


Fig. 2.

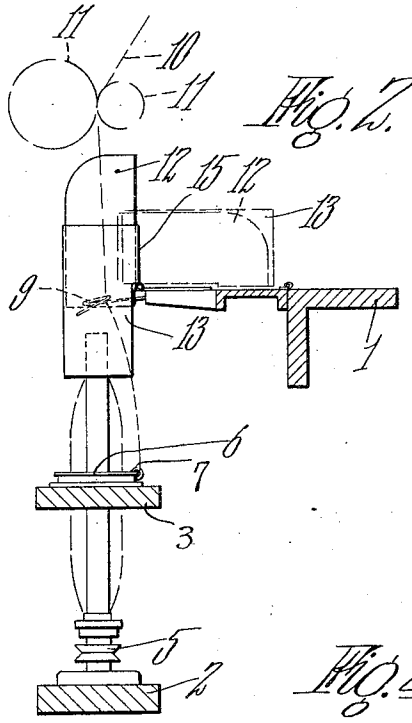


Fig. 1.

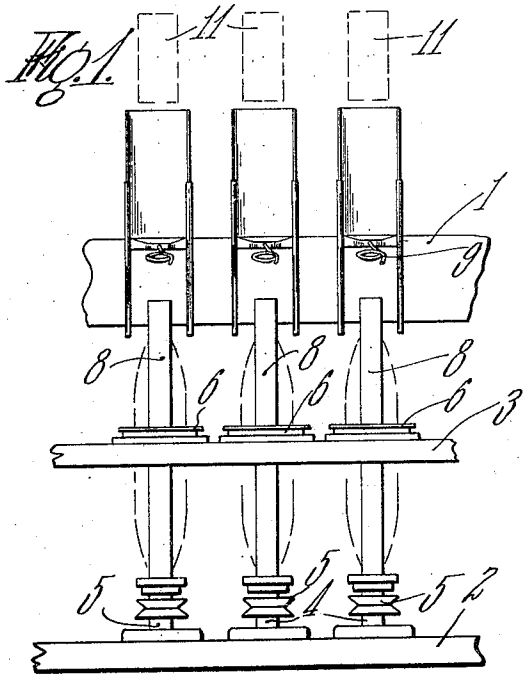
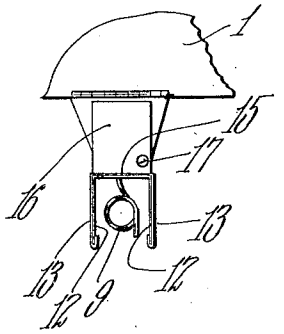


Fig. 4.



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UNITED STATES PATENT OFFICE.

ARTHUR K. ADDIS, OF LEEDS, MASSACHUSETTS, ASSIGNOR TO CORTICELLI SILK COMPANY, A CORPORATION OF CONNECTICUT.

SEPARATOR FOR RING-SPINNING MACHINES.

Application filed June 17, 1922. Serial No. 569,065.

To all whom it may concern:

Be it known that I, ARTHUR K. ADDIS, a citizen of the United States, residing at Leeds, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Separators for Ring-Spinning Machines, of which the following is a specification.

This invention relates to an improvement in separators more particularly for use on ring spinning frames. In ring spinning frames, in order to prevent too great ballooning of the yarns during the spinning operation with a consequent chance of breakage and also in order to prevent the yarns from becoming entangled with the yarns of adjacent spindles, it has been the practice to provide separators or guards between adjacent spindles.

The present invention is an improvement in such separators, with the object in view of extending the area of protection afforded by such separators and also of arranging the separators for easy and convenient manipulation in and out of working position whereby the operator may have ready access to different parts of the ring spinning machine for necessary adjustments and for doffing.

Referring to the drawings which show the preferred embodiment of the invention,—

Fig. 1 is a front view of so much of a ring spinning frame as is necessary to illustrate the connection of the present invention therewith;

Fig. 2 is a section of a portion of such a machine taken along a vertical plane midway between two of the bobbins shown in Fig. 1;

Fig. 3 is a perspective view of a pair of separators detached from the frame; and

Fig. 4 is a detail view looking from above upon a pair of such separators showing means of attachment to the frame.

Referring more particularly to the drawings, the portions of the ring spinning frame illustrated, comprise the top rail 1 of the spinning frame, the spindle rail 2 and ring rail 3. The spindles 4 are mounted in the usual way upon the spindle rail 2 and are adapted for rotation thereon by means of the whirls 5. The ring rail 3 carrying rings 6 and travelers 7 has the usual movement of traverse up and down with respect to the spindles 4. Bobbins 8 are shown mounted on the spindles. The guide eyes 9 of the usual pig tail form are shown mounted above the spindles and supported from the top rail 1, and above the guide eyes are the draft rolls 11. In Fig. 2 the yarn indicated at 10 is shown passing from the draft rolls 11 downwardly through said guide eyes 9 to the traveler 7.

The separators each comprise an upper portion 12 and a lower portion 13 interslidably mounted on said upper portion so as to be telescoped thereon. Preferably, the separators are arranged in pairs, the upper portions 12 being united by an integral back wall 14 and the lower portions 13 being united by a web 15 overlying the back wall 14. The front edges of the lower portions are provided with lips 13 which are turned over the front edges of the upper portions 12 to provide an intersliding fit therewith. Each pair of separators is provided with a common means of attachment. preferably to the top rail 1 of the spinning frame adjacent the guide eyes 9, which consists of an attaching plate 16 hinged to the lower edge of the back wall 14 and adapted to be secured to the top rail 1 by suitable fastening devices 17. It will be noted that the connecting web 15 of the lower portions 13 lies above the attaching plate 16 and serves as a stop to limit the lower position of said portions 13.

In use, the separators will stand vertically, one at each side of said guide eyes and between adjacent spindles. The upper portions 12 of said separators will extend upwardly from said guide eye approximately to the draft rolls 11 and the lower portions 13 of said separators will extend downwardly from said guide eyes to the tops of the spindles 4, or preferably, to a point slightly below the same as shown.

When the operator of the machine desires to reach in behind the spindles or to doff the spindles or for any other reason desires to have the separators out of the way, each pair of separators may be swung backwardly to the dotted line position shown in Fig. 2 whereby the rear wall 14 will rest upon the hinge plate 16 in horizontal position. At this time the lower portions 13 of each pair of separators may be slid backwardly into telescoping relation with the upper portions 12 as also shown at dotted lines in Fig. 2. It will be noted that the absence of a back

wall for the lower portions or extensions 13 below the hinge plate 16, enables the separators, even with the portions 13 in extended position, to clear the tops of the spindles when the separators are swung from vertical to horizontal position.

Although I have preferably shown a pair of separators mounted adjacent each guide eye of the ring spinning frame so as to provide partitions at each side thereof, this may not always be necessary since in some cases it will be sufficient to mount a pair of separators hung on its common supporting plate 16 adjacent each alternate guide eye since such an arrangement will provide a single partition between adjacent guide eyes and spindles.

It will be understood that various changes and modifications of the invention as illustrated may be made without departing from the spirit and scope of the invention as hereinafter claimed.

What I claim is:

1. In a ring spinning frame, a series of spindles, guide eyes located above said spindles, and separators located between adjacent spindles. each separator comprising an upper portion mounted on a stationary support adjacent said guide eyes, a lower portion interslidable upon said upper member and arranged to be telescoped therewith, and cooperating means on said interslidding portions for limiting intersliding movement thereof.

2. In a ring spinning frame, a series of spindles, guide eyes located above said spindles, and separators located between adjacent spindles, each separator comprising an upper portion hinged at its lower extremity upon a stationary support adjacent said guide eyes and a lower portion interslidable upon said upper portion and normally depending to a point below the top of said spindles.

3. In a ring spinning frame, a series of spindles, guide eyes located above said spindles, and separators located between adjacent spindles, said separators each comprising an upper portion having a hinged mounting on a stationary support adjacent said guide eyes and a lower portion interslidable upon the upper portion arranged to extend below the top of said spindles and means on said lower portion normally coacting with a portion of said hinged mounting to limit the sliding movement in one direction of said lower portion.

4. In a ring spinning frame, a series of spindles, guide eyes located above said spindles, draft rolls located above said guide eyes, and separators located between adjacent spindles, said separators each comprising an upper portion having a hinged mounting on a stationary support adjacent said guide eyes and arranged to extend approximately to said draft rolls, and a lower portion interslidable on said upper portion and arranged to extend below the top of said spindles, said separators arranged to be swung from a vertical position to a horizontal position with the lower portions telescoped upon said upper portions.

5. In a ring spinning frame, a series of spindles, guide eyes located above said spindles and separators located between adjacent spindles, said separators arranged in pairs, each pair comprising interslidable upper and lower portions, the upper portions of each pair having a common hinged mounting on a stationary support adjacent said guide eyes whereby said separators may be swung from a vertical to a horizontal position and the lower portions of each pair being connected by a web arranged to engage with stationary means to limit the downward sliding movement of said lower portions.

6. In a ring spinning frame, a series of spindles, guide eyes located above said spindles, draft rolls located above said guide eyes, and separators between adjacent spindles, each separator comprising an upper portion arranged to extend upwardly approximately to said draft rolls and a lower portion interslidable thereon, arranged to extend downwardly below the tops of said spindles, said separators arranged in pairs, each pair of upper portions having a common hinged mounting on a stationary support adjacent said guide eyes and arranged to be swung from a vertical position to a horizontal position with the pair of lower portions telescoped thereon.

7. In a ring spinning frame, a series of spindles, guide eyes located above said spindles, draft rolls located above said guide eyes, and separators between adjacent spindles each separator comprising an upper plate arranged to extend upwardly approximately to said draft rolls and a lower plate arranged to extend downwardly below the tops of said spindles, said separators being arranged in pairs, each pair of upper plates being united by an integral back wall and each pair of lower plates being connected by an integral web overlying said back wall, lips at the front edges of said lower plates turned over the front edges of said upper plates whereby said upper and lower plates are interslidably fitted together, and means for hingedly connecting each pair of upper plates to a stationary support whereby said separators may be swung from a vertical position to a horizontal position to permit free access to the spindles.

In testimony whereof I have affixed my signature.

ARTHUR K. ADDIS.