

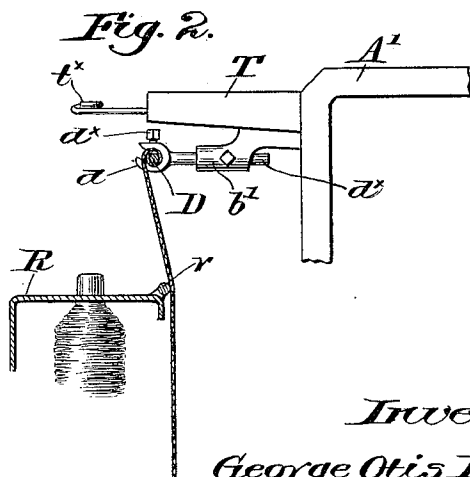
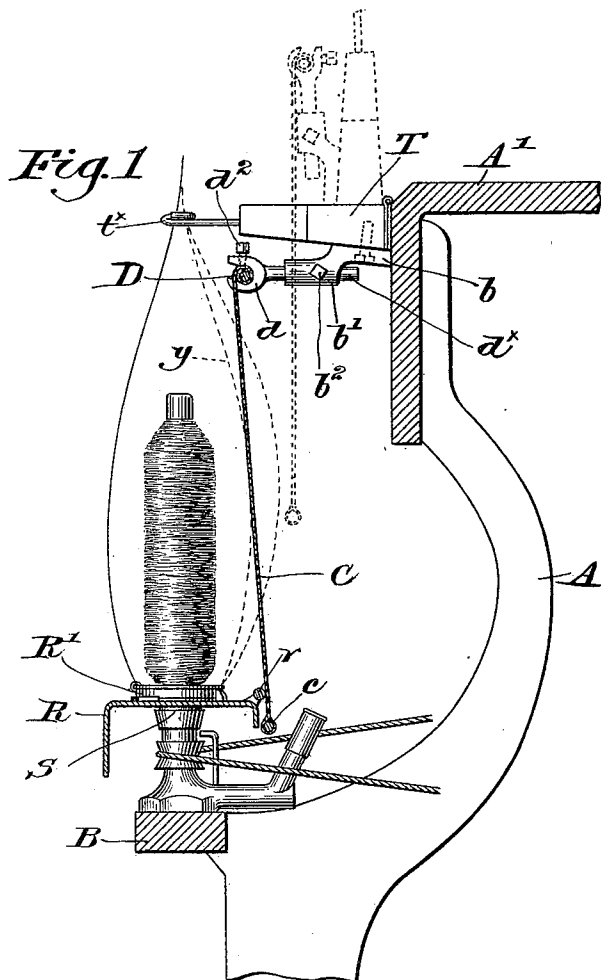
No. 622,180.

Patented Mar. 28, 1899.

G. O. DRAPER.
RING SPINNING MACHINE.

(Application filed June 4, 1898.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE O. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE
DRAPER COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

RING-SPINNING MACHINE.

SPECIFICATION forming part of Letters Patent No. 622,180, dated March 28, 1899.

Application filed June 4, 1898. Serial No. 682,538. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. DRAPER, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Ring-Spinning Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to ring-spinning machines, and has for its object the production of an improved separator of the general type shown and described in United States Patent No. 599,539, dated February 22, 1898.

15 It is well known that in ring-spinning machines the yarn between the traveler and the guide above the spindle is thrown out or balloons, and the yarn of one spindle is apt to interfere with the yarn of the adjacent spindle.

20 In the patent referred to the means to prevent excessive ballooning consists of a curtain mounted back of the spindles and against which the yarns whip and are prevented from ballooning sufficiently to interfere with each other, the curtain being connected at its lower edge with the ring-rail to rise and fall therewith. This curtain also protects the yarn on its passage to the spindle against air-currents and the lint or other impurities carried thereby. In actual practice the curtain referred to always exposes the same portion of its surface to the action of the yarn, so that the repeated action of the yarn is very apt to smooth or glaze the curtain, interfering with its proper
30 action.

35 In my present invention I maintain the curtain stationary, the ring-rail traversing, as is usual, so that the contact-surface of the curtain is changed as the position of the ring-rail changes, thereby presenting a very much extended acting surface of the curtain to the yarn.

40 Other features of my invention will be hereinafter described, and particularly pointed out in the claims.

45 Figure 1 is a transverse sectional view of a portion of a ring-spinning machine with one embodiment of my invention applied thereto, the ring-rail being shown at the bottom of its traverse. Fig. 2 is partial detail showing the ring-rail at the top of its traverse.

The end frame A of the machine, the bolster-rail B, supporting the sleeve-whirl spindles S, the ring-rail R, carrying the rings R', the front beam A', and the thread-board T, provided with pigtails or guide-eyes t^x , may be and are all of usual or well-known construction in ring-spinning machines. On the under side of the thread-board T, I mount a sufficient number of brackets b , provided with tubular sockets b' , which receive therein the shanks d^x of open jaws d , in which is mounted a rod D, extended in the direction of the length of the machine. Suitable set-screws b^2 enter the sockets b' and bear against the shanks d^x to retain the latter in adjusted position, whereby the rod D can be adjusted to vary the angle of the flexible curtain C. This curtain may be made of any suitable flexible material, such as cotton cloth, which will present a roughened surface, and at its upper edge it is attached to the rod D, which latter is retained in the jaws d by set-screws d^2 . The lower edge of the curtain is preferably weighted by inserting a metal bar c in a loop made in the curtain, and, as shown, the curtain hangs over the edge of the ring-rail, which may be provided with a roll r , if desired, to bear against the curtain and reduce friction.

By suspending the curtain from a point perpendicularly above the ring-rail itself the curtain is maintained in position to meet the yarn sooner, thereby reducing the ballooning, as shown by dotted lines y , Fig. 1.

It will be seen by reference to Fig. 1 that when the thread-board is raised into dotted-line position for doffing the curtain will be moved rearwardly away from and out of the way of the bobbins.

As it is sometimes necessary to vary the length of traverse of the ring-rail, I provide for this by turning the rod D in one or the other direction to wind up or let out the curtain, as desired, to accommodate the change in traverse. The set-screws d^2 hold the rod D in the jaws and also prevent it from rotating after the desired length of curtain is attained.

As the ring-rail ascends it travels past the front of the curtain, as shown in Fig. 2, and the latter will always follow closely the movement of the rail, owing to its point of support

being located over the rail itself. As the rail traverses one portion after another of the curtain is exposed to the impact of the yarn, so that the tendency to smooth or glaze the surface is entirely overcome.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a ring-spinning machine, the spindles, a reciprocating ring-rail, a stationary flexible curtain suspended and extending continuously from a support directly above and over the ring-rail and depending below one edge of the latter, to receive the impact of the yarn and prevent excessive ballooning, and a support for the curtain.

2. In a ring-spinning frame, the reciprocating ring-rail, a stationary curtain suspended from a fixed support above said rail and depending below the latter, and a weight at the lower edge of the curtain.

3. In a ring-spinning machine, the spindles, a reciprocating ring-rail, and a stationary curtain mounted on an adjustable support above the ring-rail and depending below one edge of the latter.

4. In a ring-spinning frame, the reciprocating

ring-rail, an extensible, stationary and depending curtain, an adjustable support vertically above the ring-rail and from which the curtain is suspended, and means to retain the support in position to maintain a fixed length of the curtain exposed, to correspond to the traverse of the ring-rail.

5. In a ring-spinning machine, the ring-rail provided with a roll at its rear edge, the thread-board, and a curtain fixedly mounted on the thread-board and depending therefrom in contact with the roll on the ring-rail.

6. In a ring-spinning-machine, a series of spindles, the reciprocating ring-rail, and a stationary curtain extended behind and longitudinally of the ring-rail, to receive the impact of the yarn and prevent excessive ballooning thereof, the said curtain depending below the top of the rail at all points of its traverse.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE O. DRAPER.

Witnesses:

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