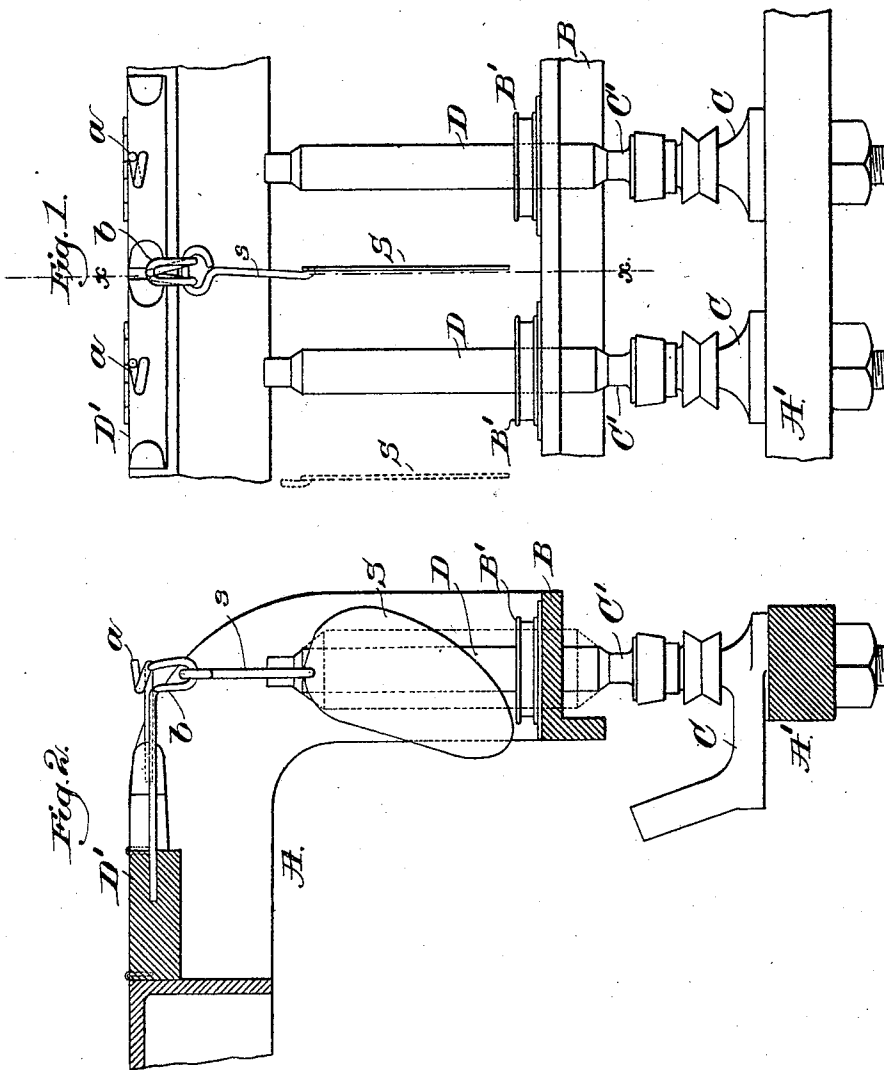


(No Model.)

T. H. SPEAKMAN.
YARN SEPARATOR FOR SPINNING MACHINES.

No. 459,713.

Patented Sept. 15, 1891.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS H. SPEAKMAN, OF WARE, ASSIGNOR TO GEORGE DRAPER & SONS,
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YARN-SEPARATOR FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 459,713, dated September 15, 1891.

Application filed March 7, 1891. Serial No. 384,090. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. SPEAKMAN, of Ware, county of Hampshire, State of Massachusetts, have invented an Improvement in Yarn-Separators for Spinning-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the modern spinning of yarn the high speed at which the spindles are run causes the yarn to balloon, so that where several spindles are running side by side the yarn being spun on adjacent bobbins is likely to whip together and break the ends. To overcome this difficulty, various forms or varieties of separators have been interposed between adjacent spindles to confine the yarn going to each spindle within proper limits. It is important that these separators do not interfere with the motion of the ring-rail and that they should be out of the way during the operation of doffing. Where these separators have not been attached directly to the ring-rail devices more or less complicated and expensive have been employed to actuate them. I have devised a separator consisting of a blade, plate, or finger pivotally or loosely suspended or hinged above the level of the upper limit of the traverse of the ring-rail, and my improved separator is so shaped that the action of the ring-rail swings it either forward or back, and the power required to actuate the separators does not interfere with the motion of the ring-rail. To those conversant with the art of spinning it will be obvious that when the ring-rail is near the top of the bobbin the yarn, having less length in which to balloon, does not need the separator to the same extent as when the rail is down; in fact it does not need it at all; so if the separators are swung out of the way at the top of the traverse of the ring-rail they yet are operative at the proper time. I have shown the separators as suspended from the guide-board. This in practice is usually hinged so as to be raised when doffing. As shown, when raised the separators will fall back, so as not to impede the operative when taking the bobbins from the spindles.

My invention in its scope is intended to

comprehend and include any form of separator supported above the highest point of traverse of the ring-rail, in order that the separator will hang pendent in the path of the ascending ring-rail.

Figure 1, in front elevation, shows a sufficient part of a ring-spinning frame with a separator embodying my invention in one practical form; Fig. 2, a section in the line *x*, looking to the right.

The frame A, the step-rail A', the ring-rail B, the rings B', the bolster or supporting-cases C, the sleeve whirl-spindles C', the bobbins D, the hinged guide-board D', and guide-eyes *a* are and may be all as usual and be actuated in the usual manner common to ordinary ring-spinning frames.

In this instance of my invention the support *b* for the separator S is carried by the hinged guide-board, so that the separator may be lifted when the guide-board is lifted for the purpose of doffing the bobbins. The separator S is shown as a metal blade, plate, or finger having at its upper end a preferably rigid finger or extension *s*, which hangs from or is suspended from below the said support. The particular shape of the separator and the particular material of which it is composed are not essential so long as the separators hang in position to be struck by the ring-rail as it rises to push the separators gradually from between the rings.

This invention is not limited to the exact shape shown for the separator or its shank or arm or of its supports, as the same may be variously modified and yet be suspended from a point above the highest traverse of the ring-rail, so as to be pushed aside by the ring-rail. It will be observed that each separator hangs independently of the other, whereas in all other plans known to me a series of separators are connected to one rail or rod or bar and are moved together, and I have shown the support for the separator and its shank so constructed that the separator may be taken from or put upon the support at will.

I claim—

1. A spinning-frame containing the following instrumentalities, viz: a ring-rail, a separator-support situated over the said rail and above the highest point of its traverse, and

a separator hung upon and so as to swing with relation to the said support as the ring-rail is raised and lowered, substantially as described.

- 5 2. A series of independently-pivoted separators, combined with a rising and falling ring-rail, substantially as described.

3. A guide-board and a separator-support carried by it, combined with a pivoted sep-

arator pendent from said support, substantially as described. 10

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

THOMAS H. SPEAKMAN.

Witnesses:

SYLVANUS H. BOWEN,
W. H. MORGAN.