J. GARRETT.

YARN GUIDE AND CLEANER FOR SPOOLING-MACHINES.

No. 187,120. Patented Feb. 6, 1877.

Fig. 1.

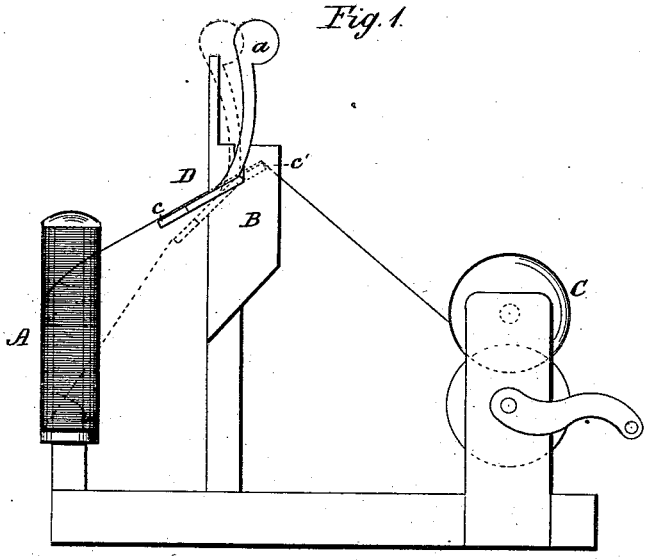


Fig. 2.

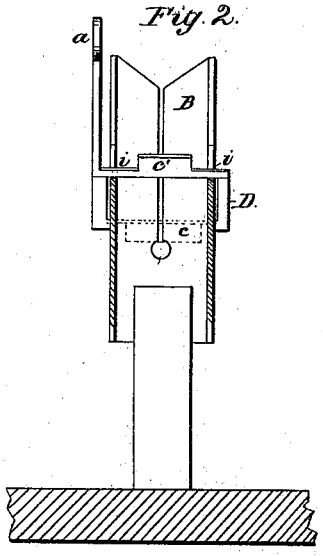


Fig. 3.

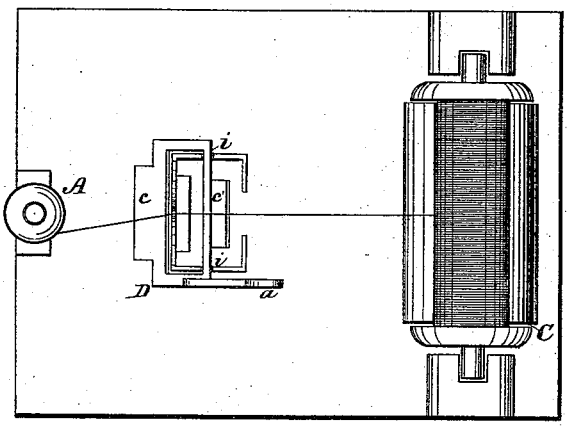


Fig. 4.

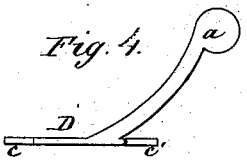
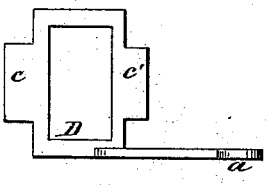


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH GARRETT, OF CHESTER, PENNSYLVANIA.

IMPROVEMENT IN YARN GUIDES AND CLEANERS FOR SPOOLING-MACHINES.

Specification forming part of Letters Patent No. **187,120**, dated February 6, 1877; application filed November 27, 1876.

To all whom it may concern:

Be it known that I, JOSEPH GARRETT, of Chester, in the county of Delaware and State of Pennsylvania, have invented a new and Improved Yarn Guide and Cleaner for Cotton-Spooling Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of the invention is to provide a cheap, durable, and efficient device for use in connection with the yarn-guides of cotton-spooling machines, for the purpose of preventing the yarn passing through the guide-slot always in the same place, so that the yarn will not be broken by the accumulation of dirt, seeds, &c., on the guide, as hereinafter fully explained.

In the accompanying drawing, forming part of this specification, Figures 1 and 3 are, respectively, a side elevation and plan view of the device as applied in practice. Fig. 2 is a vertical section of the slotted guide, with the cleaning device attached. Figs. 4 and 5 are, respectively, side and plan views of the cleaning device.

A indicates a bobbin; B, a slotted yarn-guide; and C, a spool, placed horizontally, and rotated by frictional contact with a rotating roller, as usual in cotton-spooling machines. The yarn-guide B is constructed in box form or as a square tube, and provided with notches in its upper end, to form bearings for the cleaning device D. The latter is essentially in the nature of a rectangular frame, having a weighted arm, *a*, the latter projecting from one corner of the same. The frame is, however, provided with wings or extensions *c c'* at opposite points on its two larger sides. Those parts of the frame immediately contiguous to the extension *c'* constitute the journals *i*, by which the device is supported in the notched bearings of the guide B, as shown.

The operation of the device is as follows: One of the functions of the guide B is to remove dirt, lumps, seeds, &c., which adhere to the yarn; but since the yarn tends to pass through the slot of the guide always in the same place, the dirt, lumps, and seeds adhere to and accumulate on the guide at the same point, so that the slot becomes frequently choked or obstructed, thus preventing the free passage of the yarn and causing it to break.

The function of the device D is to prevent such accumulation of dirt, &c., at the same point on the guide-slot, and obviate the necessity of frequently removing the same from the guide by hand or otherwise. The function is performed by the vibrating or oscillating movement of the device D on its journals, and such movement is caused by the variation in the tension of the yarn. The latter passes transversely across the wings *c c'*, as shown, and, by its tension, maintains the device in a nearly-horizontal position, or slightly inclined, (Fig. 1,) to the face of the guide B.

The reaction of the device against the thread is due to its being pivoted at one side of its center. The weighted arm *a* is set at such an angle as to increase the gravity of the device on the side contiguous to the face of the guide, so that, if unrestrained by the pressure exerted by the yarn, the device D would assume the inclined position shown in Fig. 2. But since the tension of the yarn continually varies, this pressure is changed correspondingly; and hence the device vibrates constantly within narrow limits, thus causing the yarn to rise and fall as it passes through the slot of guide B, so that, as before stated, the dirt, lumps, seeds, &c., adhering to it are prevented accumulating at one point on the guide, and hence the yarn is not thereby obstructed and broken.

It is also to be noted that a considerable portion of the dirt, seeds, &c., adhering to the yarn is removed by the friction or scraping action of the wings *c c'* on the yarn, so that the liability of the guide-slot becoming obstructed is thereby greatly lessened, independently of the rising and falling of the yarn in the slot, as before described.

What I claim is—

1. The device D, consisting of a rectangular frame, having the weighted arm *a*, the

wings or extensions *c c'* located at opposite points, and the journals *i* placed contiguous to said wings, as shown and described, whereby the device is adapted to be suspended or supported by any suitable means, and to operate in the manner described.

2. The combination, with the box-guide B, having notched bearings, of the device D, weighted at one side, as shown and described, to operate as specified.

JOSEPH GARRETT.

Witnesses:
PETER BEAUMONT,
SEBASTIAN HAAS.