S. F. COBB.

SPOOLERS.

No. 183,906. Patented Oct. 31, 1876.

Fig. 1.

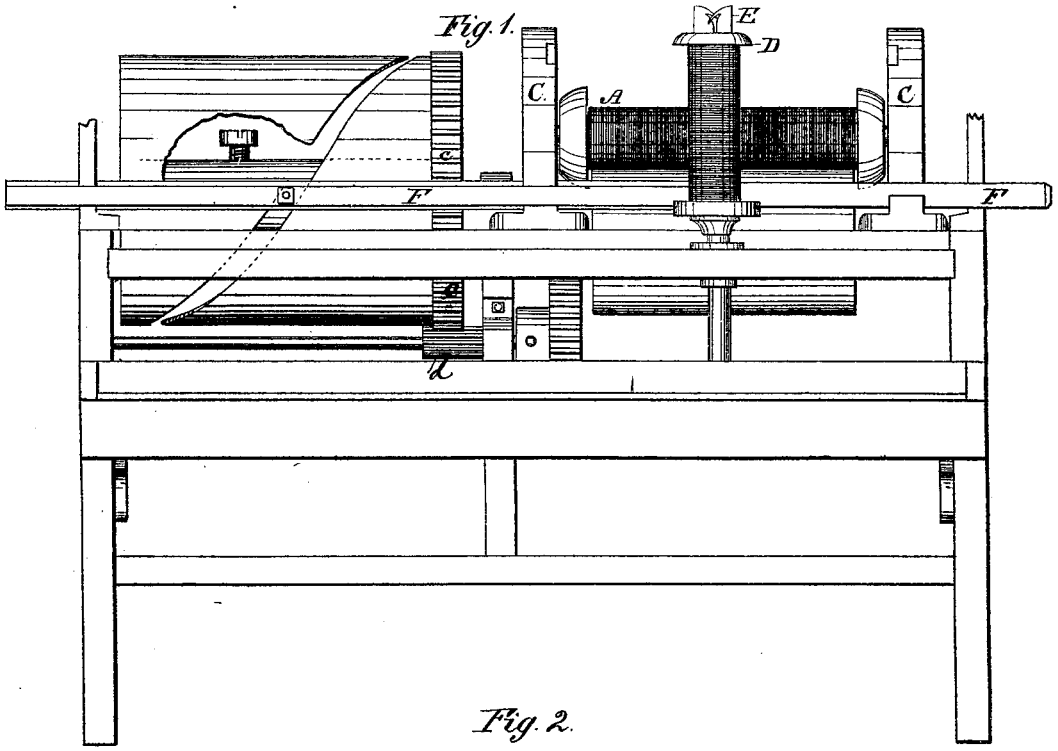


Fig. 2.

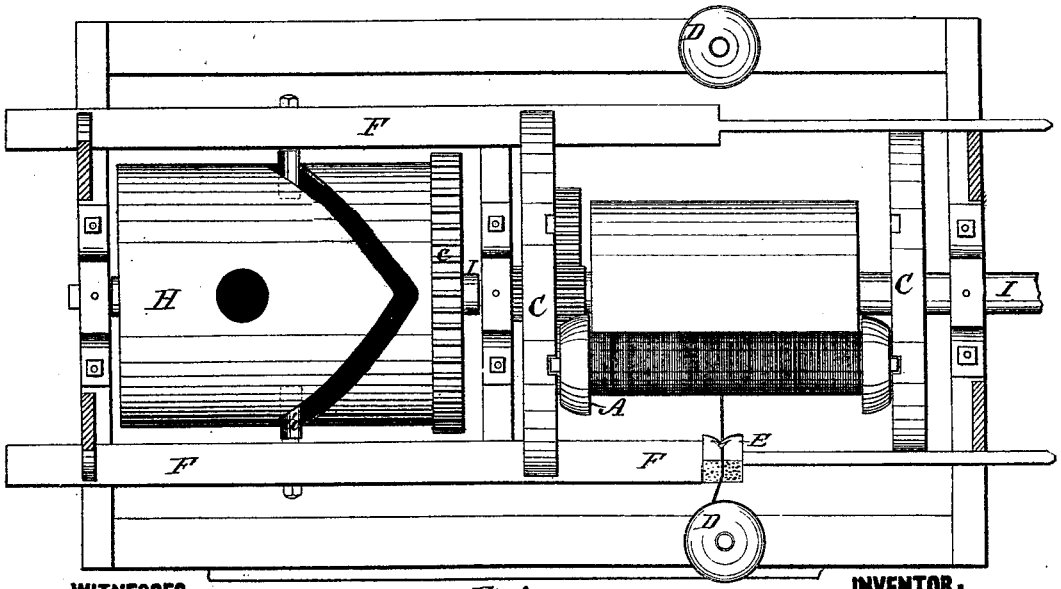
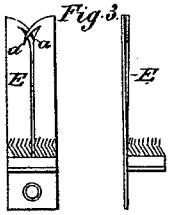


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL F. COBB, OF ALBERTON, MARYLAND.

IMPROVEMENT IN SPOOLERS.

Specification forming part of Letters Patent No. **183,906**, dated October 31, 1876; application filed July 28, 1876.

To all whom it may concern:

Be it known that I, SAMUEL F. COBB, of Alberton, in the county of Howard and State of Maryland, have invented a new and Improved Spooler; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention relates to cotton-spooling machines—more particularly to the construction of the thread-guide, and the construction of the cam-gear by which motion is imparted to the said bars, as hereinafter described.

In the accompanying drawing, forming part of this specification, Figure 1 is a side elevation of my improved spooler, part of the cam-cylinder being broken out to show the application of the set-screw for adjusting the cylinder. Fig. 2 is a plan. Fig. 3 is a detail view of the barbed thread-guide.

It should be understood at the outset that, while the drawing represents but one spool and bobbin, there will be in practice any required number arranged in a similar manner.

The spool A is revolved in the usual way, by frictional contact with a rotating drum, B, and the ends of its spindle enter vertical guide-grooves in the arches or transverse frames C, so that as the spool becomes gradually filled with thread, wound thereon from the bobbin D, it will rise in said grooves, until the ends of the spindle fall into lateral recesses communicating with the grooves, thus indicating that the winding operation is complete, and the spool filled ready for removal. The thread passes intermediately of the spool and bobbin through the slotted guide E, which is attached to the traversing-bar F.

The said guide differs from those ordinarily used in spooling-machines, in that the respective arms of the same are provided with barbs or hooks *a* projecting inward from their upper ends, and caused to press together by reason of their own elasticity, the object being to prevent the thread being raised or lifted out of the guide by the attendant. The frequent temptation to the attendant to thus remove the thread from the guide arises from the formation of bunches or knots in the thread, which are two large to pass through the guide, and should be cut out, and the thread neatly spliced. But as the splicing requires time, labor, and careful manipulation, the tendency is to avoid it, and this can be readily done by raising the thread out of the guide as ordinarily constructed, and holding it so raised, till the rotation of the spool has wound the knot upon the spool. My construction of guide effectually prevents this, and compels the operator to remove the bunch or knot, and splice the thread so that it may continue to be drawn through the guide.

The traversing-bar F is arranged to work in guides formed by slotting the sides of the arches C, to receive the bar as shown, thus bringing the bar close alongside the cam H. The cam is in the form of a hollow cylinder having an endless slot, which extends diagonally nearly the length of the cylinder on two sides, thus having a **V** shape at the point where the groove returns, or passes from one side of the cylinder to the other. An arm, *a'*, carrying a friction-sleeve, projects from the traverse-bar and works in the said groove. The bar is caused to reciprocate or traverse a distance of the length of the spool A between its heads, thus laying the thread thereon evenly and perfectly. A traverse-bar, F, is arranged on each side of the cam, the form of the slot, causing the respective bars to reciprocate in opposite directions, and winding the thread upon two different sets of spools operated simultaneously by the same drum.

The cam is secured upon a short shaft, I', by means of a set-screw, Fig. 1, so that it may be adjusted longitudinally as required by the wear of the edges of the cam-groove, or the guide, or other cause. A spur-gear, *c*, is formed on the inner end of the same, and meshes with a pinion, *d*, which forms part of the gearing, by which motion is communicated to the cam. I thus avoid the necessity of a separate gear to transmit motion from the driving-shaft to the cam-shaft, and thereby to the cam itself, and likewise secure a more compact arrangement of gearing, greater economy in the manufacture of the machine, and less friction in its operation. The adjustment of the cam-cylinder, and its attached gear *c* (by means of the set-screw) is provided for by the pinion *d* being made about twice the length of the width of the gear *c*.

I do not claim, broadly, the features of invention hereinbefore set forth; but

What I claim as my improvement in spoolers is—

1. The thread-guide formed of a slotted plate, having hooks *a* formed on the extremities of its arms, projecting inward across the slot, and pressing against each other laterally, as shown and described.

2. The slotted or cam cylinder H, having the gear *c* attached, and made adjustable on its shaft, the long pinion *d* arranged beneath the gear, and meshing therewith, all combined as shown and described.

The above specification of my invention, signed by me this 25th day of July, 1876.

S. F. COBB.

Witnesses:

A. W. HART,

AUG. M. TANNER.