J. DERMOND

SPINDLE AND FLIER.

No. 7,081 Patented Feb. 12, 1850.

Fig. 1.

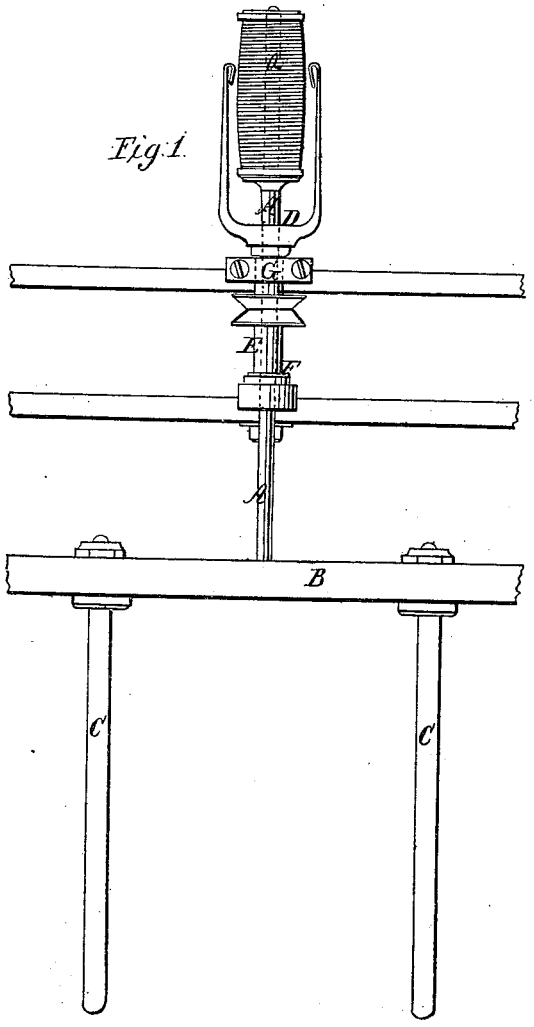



Fig. 2.

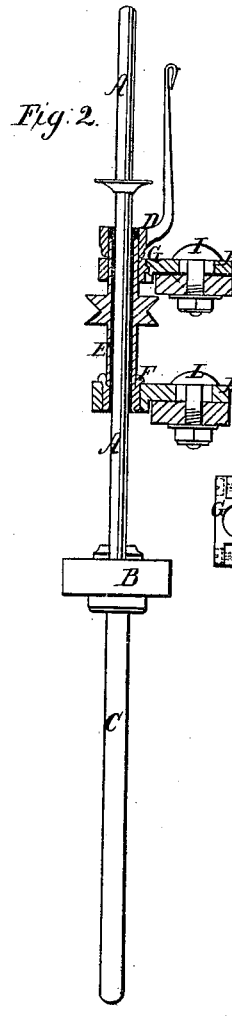
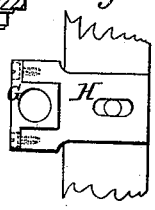



Fig. 3.



# UNITED STATES PATENT OFFICE.

JOHN DERMOND, OF PATERSON, NEW JERSEY.

## ARRANGEMENT OF FLIERS AND SPINDLES.

Specification of Letters Patent No. 7,081, dated February 12, 1850.

*To all whom it may concern:*

Be it known that I, JOHN DERMOND, of Paterson, in the county of Passiac and State of New Jersey, have invented a new and useful Improvement in the Construction and Arrangement of Spindles and Fliers used in Throstle, Spinning, and Roving Machinery; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1, is a front elevation of the spindle bobbin and fliers as attached to a throstle or spinning machine. Fig. 2, is a vertical section, the bobbin being removed. Fig. 3, is a plan of the movable collar or guide for adjusting the tube.

Similar letters refer to the same parts in each of the figures.

My invention consists in bolting or in any other way firmly securing the spindle to the step or foot rail of the machine, and in having the tube to which the flier is attached, with its inner diameter greater than the diameter of the spindle, so that it revolves outside the spindle concentric with it. The spindle and tube are entirely independent of each other and do not touch each other while working. This arrangement will obviate the inconvenience generally found to arise from the vibration of the spindle when it revolves with the fliers attached, and will preserve an uniform drag on the threads while it is being twisted. The lower end of the tube rests in a step bearing attached to the frame of the machine and is kept in a vertical position by means of a guide near its upper end. This guide and also the step bearing are capable of adjustment should the tube deviate from a vertical position.

To enable others skilled in the art to make and use my invention I will now describe its construction and operation.

A, is the spindle on the upper end of which the bobbin *a*, is placed as seen in Fig. 1.

B, is the step by which the spindle is carried.

C, C, are guides attached to the step on its lower side, for the purpose of preserving the vertical position of the spindles while being raised and depressed as required in the action of the machine. D, is the flier; E, the tube; F, a step bearing attached to the frame of the machine in which the tube works; G, a movable collar or guide attached to the frame for keeping the tube in a vertical position. H, is an arm attached to the frame of the machine which carries the movable collar or guide G which is fitted to it and secured by screw bolts. This arm has a slot in it, I, is a bolt passing through the slot in the arm, H, for the purpose of securing it to the frame of the machine. The slot allows the arm to be moved in any required direction to adjust the spindle in a vertical position.

The step bearing F is carried by an arm, K, and secured to the frame by a bolt L and is capable of the same adjustment as the arm, H, already described.

The operation of my machine is as follows. The thread is brought through the eye of the flier to the bobbin which is stationary on the spindle, a rotary motion is communicated to the flier by means of an endless band working on a pulley on the tube E. The revolution of the flier gives the required twist to the thread and at the same time winds it on the bobbin. When the flier has been running for some time it is obvious that it will wear loose in its guide G, and lose its precise vertical position or "get out of plumb"; the movable collar G may with little trouble, be taken out and a new one substituted in the arm H which may be again adjusted in the manner described.

What I claim as my invention and desire to secure by Letters Patent is—

The manner of suspending the flier separate from the spindle by the flier being connected to, and forming a part of the tube, E, the lower end of which revolves in a socket bearing, allowing the spindle of the bobbin to pass and move through it without touching it, so that however great the speed of the flier may be it will be prevented from vibrating the spindle.

JOHN DERMOND,

Witnesses:

THOS. D. HOXSEY,

JOSEPH C. TODD.