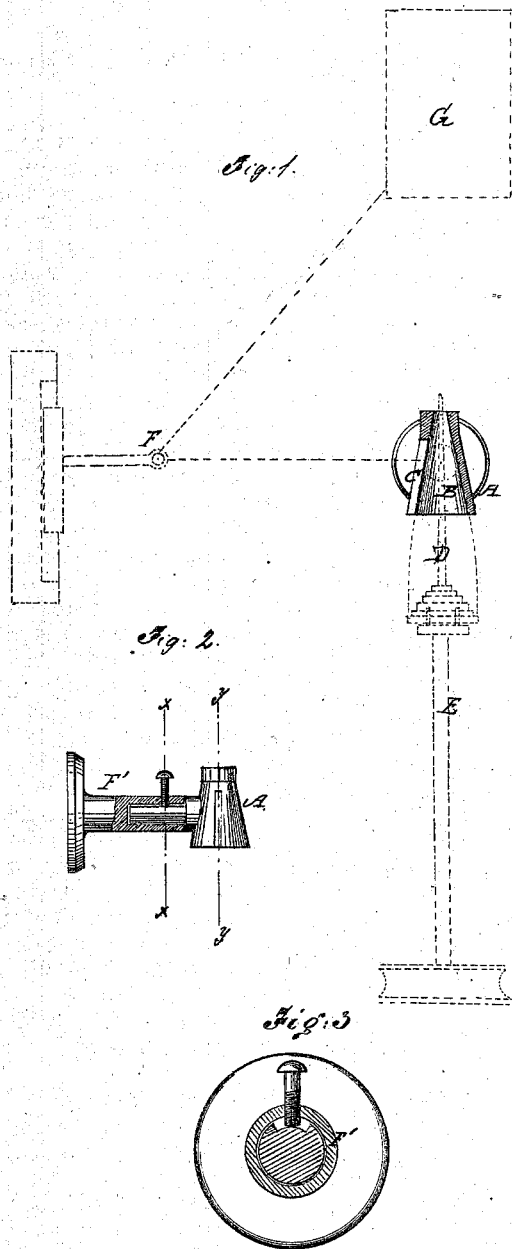


JOHN W. VAUGHAN.

Improvement in the Cups of Bobbin Winding-Machines.

No. 115,393.

Patented May 30, 1871.



Witnesses:

Chas. Nida
L. J. Nabee

Inventor:

J. W. Vaughan
PER *Munnell*
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN W. VAUGHAN, OF NEW YORK, N. Y.

IMPROVEMENT IN THE CUPS OF BOBBIN-WINDING MACHINES.

Specification forming part of Letters Patent No. 115,393, dated May 30, 1871.

To all whom it may concern:

Be it known that I, JOHN W. VAUGHAN, of the city, county, and State of New York, have invented a new and Improved Cup for Winding Shuttle-Bobbins; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in the arrangement of the cups used in winding shuttle-bobbins; and it consists in mounting the said cups so that they may vibrate on a horizontal axis, the said vibrations being in the plane of the line of the yarn. The object is to allow the cup freedom to be moved by the thread, and thereby relieve the friction on the side wall of the slot and greatly lessen the heat, which is very frequently so great as to scorch the yarn, especially when highly colored with metallic substances.

Figure 1 is a sectional elevation of a cup such as commonly used in winding shuttle-bobbins, and an elevation in dotted lines of the winding-spindle, bobbin, traversing thread-guide, and the spool of yarn to be wound upon the bobbin, all showing the arrangement in the machine for winding; Fig. 2 is a side view of the cup and its support, the latter being partly sectioned; and Fig. 3 is a section through the support on the line *x x* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A represents a glass or metallic cup, such as commonly used in winding-bobbins, having the funnel-shaped vertical hole B and the slot C—the latter through the side—said cup being placed over the bobbin D, as shown, for guiding the thread as it is wound on the bobbin, the thread being drawn, by the turning of the bobbin with the spindle E, through the guiding-slot C and vertically-traversing eye F from the spool G, while the spindle moves slowly downward as the bobbin is made, the same being done in the ordinary way, beginning at the base, and winding on in the conical form established at the beginning of the

winding by the form of the base of the bobbin. Heretofore these cups have been immovably attached to their supports D, which project horizontally from the frame of the machine, to which I consider the great heating of the thread, so common, to be mainly due, partly because the friction of the thread, especially of the lumps or knots, is greater when the cup cannot yield, and partly because of the stagnant state of the air surrounding the cup. I therefore propose to mount these cups loosely in the supports F', so that they may oscillate around the axis of the said support, whereby they are allowed to move back and forth according to the friction of the thread on them, and in a great measure relieve it from the sudden shocks it encounters when the knots or lumps strike against the walls of the slots C. The stem of the cup A is shouldered and segmentally recessed, as shown in Fig. 3 of drawing. Through the tubular support F', and into the recessed part of the stem of the cup, passes a screw, which thus allows the cup a slight play in the arc of a circle. I have found, in practice, that when mounted in this way they are kept in such rapid vibration as to agitate the air and induce currents, which, acting against the said cups, take away the heat to a great extent, so much so that I have no difficulty in winding the most highly-colored threads, which, up to this time, it has been exceedingly difficult, if not impossible, to wind without scorching or greatly damaging them by heat.

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

The tubular support F' and set-screw, combined with cup A having the segmentally-recessed arm, applied as and for the purpose specified.

The above specification of my invention signed by me this 13th day of September, 1870.

JOHN W. VAUGHAN.

Witnesses:

GEO. W. MABEE,
T. B. MOSHER.