Thomas Stibbs.

Spindle for Twisting Yarn.

116881 PATENTED JUL 11 1871

Fig. 3.

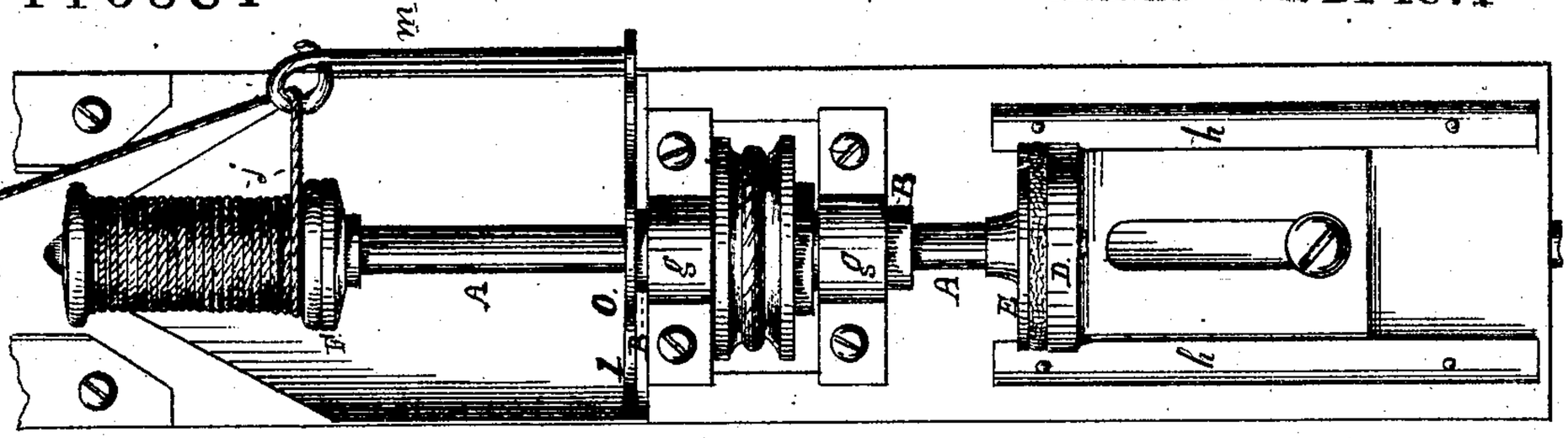


Fig. 2.

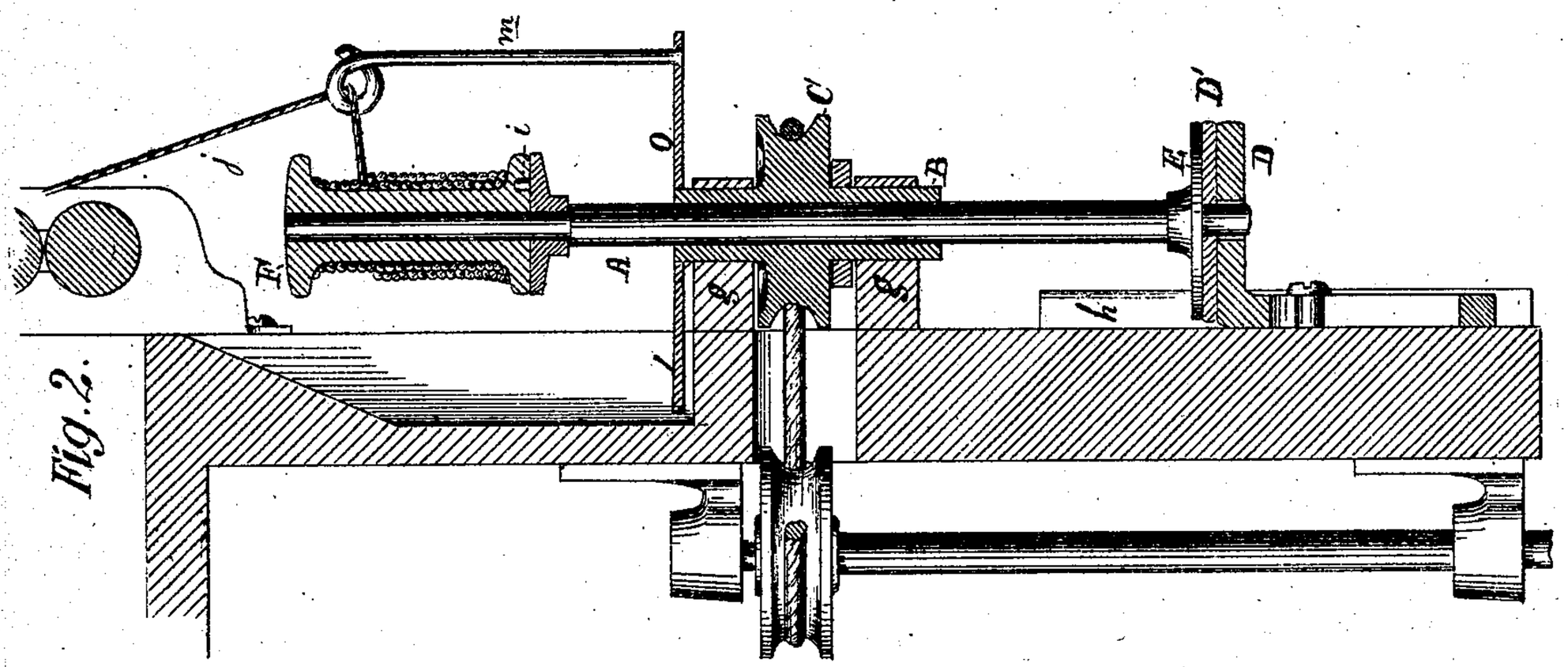
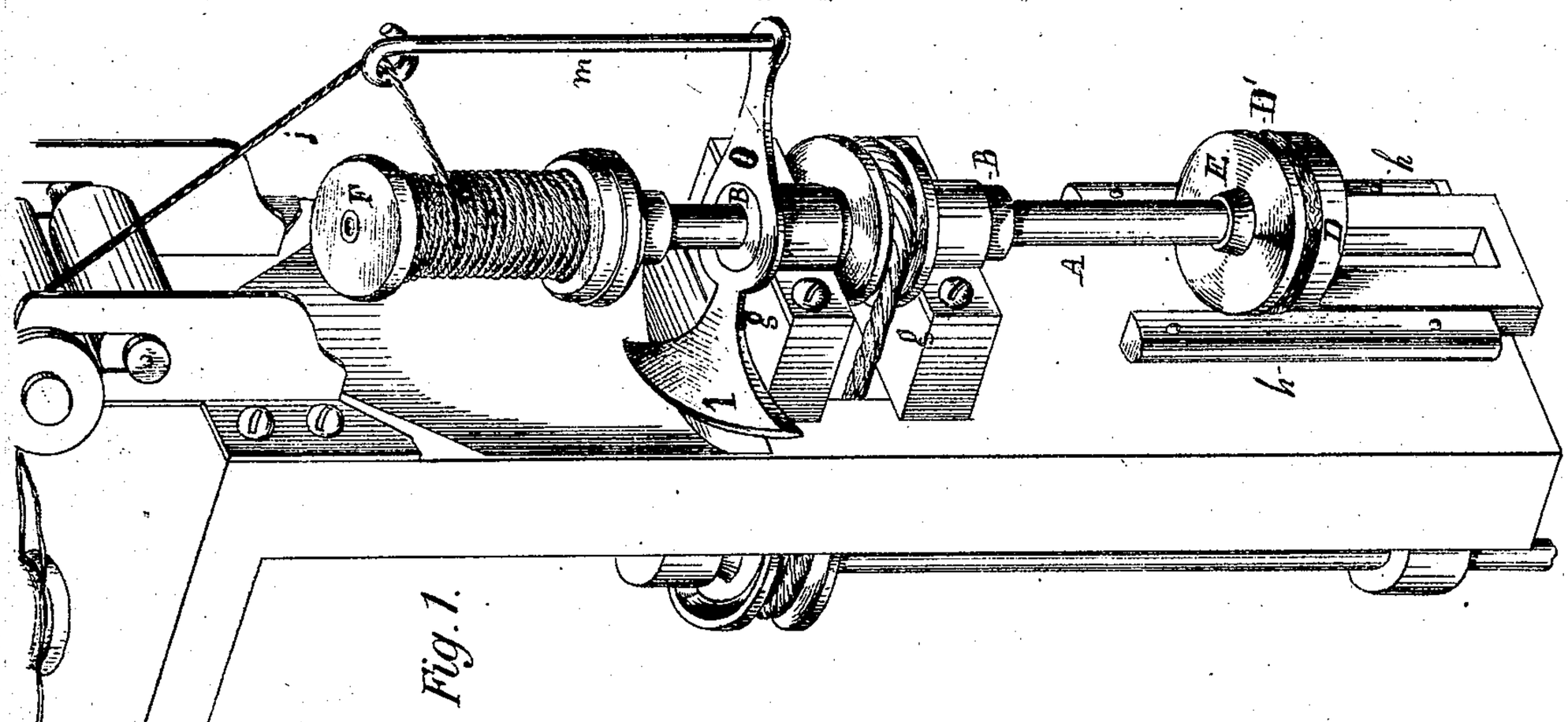


Fig. 1.



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UNITED STATES PATENT OFFICE.

THOMAS STIBBS, OF WOOSTER, OHIO.

IMPROVEMENT IN FLIERS FOR SPINNING, &c.

Specification forming part of Letters Patent No. 116,881, dated July 11, 1871.

To all whom it may concern:

Be it known that I, THOMAS STIBBS, of Wooster, in the county of Wayne and State of Ohio, have, as I believe, invented new and useful Improvements in Spindles for Twisting or Spinning Yarn; and I do hereby declare the following to be a full and exact description of the same, reference being had to the drawing that accompanies and forms a part of these specifications.

The object of my invention is to provide improvements in those parts of spinning machinery which twist the yarn and wind the same upon spools. My invention consists of a peculiar construction of the thread-carrier or flier, using one arm only, whereby more room is afforded for the hand in applying and removing the spool and enlarging the cross-bar at the end opposite to that to which the arm is attached, to counterbalance and steady the motion of the said arm.

Figure 1 is a perspective view of our spindle and its attachments; Fig. 2, a vertical section; Fig. 3, a front view, the spindle being more elevated than in the other figures, and the yarn winding upon the lower portion of the spool.

A represents the spindle running loosely in the tubular shaft of the whirl; B, the whirl-shaft, extending a considerable distance above and also below the whirl and acting to steady the spindle; C, the whirl proper, united firmly to the shaft B; D, the spindle-step, adapted for a vertical movement; D′, a bearing for the foot of the spindle, of cloth, leather, or other suitable material, and resting upon and forming the upper face of the step D; E, a wide disk-shaped foot to the said spindle A, having a plain, smooth under surface, and of a size such as to secure sufficient friction on its step D to keep the thread between the drawing-rolls and the spool always tight and render the winding certain and uniform; F, the spool in position upon the spindle and partially filled with the twisted yarn; *g*, blocks providing the bearing for the shaft B; *h*, guides between which the step D is moved up and down by properly-applied power, carrying the spindle with it, in order that the yarn may be wound upon the full length of the spool; *i*, a pin, rising from the spool-step and entering the spool-head, (see Fig. 2,) causing it to turn with the spindle; *j*, the thread made up of several strands; *m*, the flier-arm, having loop at its upper end; *o*, a bar lying horizontally across and attached to the upper end of whirl-shaft B, as represented in the drawing, and constructed and arranged so as not only to support and bear the arm *m*, but also to balance it by means of the enlargement 1 on the bar *o*. The mechanism just described will be applied to each of all the spindles in a frame.

The operation of my device is as follows: The spool being in position on the spindle, and the strands attached thereto and running through the loop, and rapid rotation being given to the whirl C, the arm *m* will be as rapidly carried around, twisting the several strands into one. This thread draws upon and causes the spindle to rotate also, but, in a measure, less rapidly than the thread-carrier, as the friction of the spindle-foot upon its step retards the motion of the spindle and spool so that the thread may be wound up. The instant the thread slackens, the speed of the spindle lessens, and the slack is taken up so promptly that the thread is always sufficiently tight. Moreover, it entirely obviates the trouble and expense of the lubrication of the spindle at its foot-bearing.

The advantages of my invention—that is, the steadying of the spindles by means of the tubular shaft and of the thread carrier by means of the enlarged end 1 of the bar *o*—are freedom from trembling and unsteady motion under any speed, high or low.

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

The horizontal bar *o* and its enlargement 1, in combination with the thread-carrier *m*, whirl-shaft B, and whirl C, all constructed and arranged as and for the purposes set forth.

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

THOMAS STIBBS.

Witnesses;
ISAAC JOHNSON,
J. G. TROUTMAN.