T. A. MATHEWSON.

Bobbin-Holders for Spooling Machines.

No. 158,382. Patented Jan. 5, 1875.

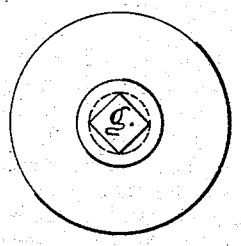

FIG. II.

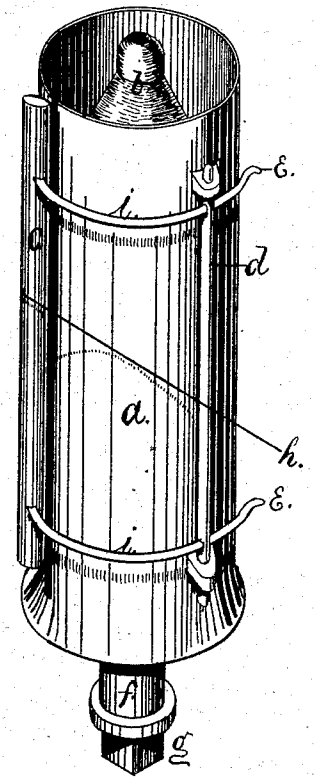

FIG. I.

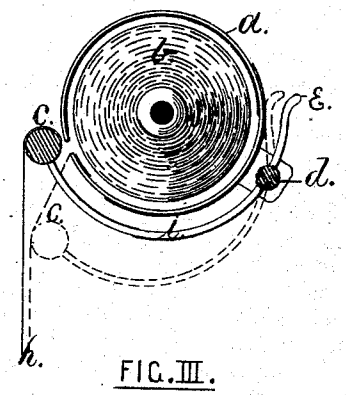

FIG. III.

WITNESSES

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THOMAS A. MATHEWSON, OF PAWTUCKET, RHODE ISLAND.

IMPROVEMENT IN BOBBIN-HOLDERS FOR SPOOLING-MACHINES.

Specification forming part of Letters Patent No. **158,382**, dated January 5, 1875; application filed December 12, 1874.

To all whom it may concern:

Be it known that I, THOMAS A. MATHEWSON, of the town of Pawtucket, county of Providence, State of Rhode Island, have invented a new and useful Improvement in Bobbin-Holders; 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 drawings forming part of this specification:

Figure I is a perspective view of my improved bobbin-holder. Fig. II is a view of the bottom of the same. Fig. III is a top view.

Similar letters of reference indicate corresponding parts.

The object of this invention is to construct a bobbin-holder for spooling, winding, and twisting machines, in which the bobbin is held while the thread or yarn is unwound, which shall be adjustable so as to give any required tension to the yarn. Another object of this invention is to attach to a bobbin-holder a weighted self-adjusting tension.

The nature of the invention consists in the application of an adjustable cylindrical case, and a hinged and weighted tension-bar, as more fully described herein.

In the drawings, A is a cylindrical case or receptacle for the bobbin *b*. This receptacle is secured to the frame of the spooling or winding machine by the stud *f* and screw *g*. This cylindrical case is divided from the top to near its bottom by a slit through which the yarn or thread of the bobbin is passed. The cylindrical case turns freely on the stud *f* when the screw *g* is loose, but is firmly held when the screw is tightened, and as different kinds of yarn require more or less tension to secure the even winding of the same on spools, any required amount of tension can be readily obtained by turning the cylindrical case A, and thus increase or decrease the frictional contact of the yarn with the outside surface of the case A. The cylindrical case is more cheaply made than bobbin-holders made of two or more pieces. It is strong and durable, gives perfect protection to the bobbin, can be adjusted with great facility to any tension required, and is not liable to get out of order. When fine loosely-twisted yarn or thread, or yarn made of short and inferior staple, is to be wound from the bobbin, an unyielding tension or frictional surface is liable to injure the same. When such yarn is to be spooled, I place on the cylindrical case or bobbin-holder the weighted and hinged pressure-bar C. This bar is secured to the hinge-bar *d* by the wires *i i*, the ends of which form stops E E, having sufficient spring to yield when the weighted bar C is raised by the yarn, but they also increase the pressure on the yarn, as is shown in Fig. III in broken lines. The weight of the tension-bar C allows the yarn to be wound freely without any undue strain, as the weight of the bar can be made such as will keep the yarn in tension without causing serious strain, while the bar may give freely to any sudden strain, raising and lowering with the variation of the strain on the yarn, thus producing a positive but yielding tension, adjusting itself to all the conditions, and allowing the yarn to be unwound from the bobbin and wound on the spool evenly and uniformly.

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

1. The combination of the cylindrical bobbin-receptacle A open at one end, and having a slit along one side, with the stud *f* and screw *g*, by which the same is secured to the frame of the machine, and by which the same can be adjusted to give any required frictional tension, substantially as and for the purpose herein described.

2. In a bobbin-holder, the combination, with the cylindrical and adjustable receptacle A, of the hinged tension-bar C, substantially as and for the purpose set forth.

THOMAS A. MATHEWSON.

Witnesses:

JAMES C. RICHARDSON,

JOSEPH A. MILLER.