

UNITED STATES PATENT OFFICE.

LEE A. MILLER, OF MILWAUKEE, ASSIGNOR OF ONE-HALF TO SAMUEL B. FULLER, OF WATERTOWN, WISCONSIN.

SPOOL-HOLDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 475,511, dated May 24, 1892.

Application filed January 23, 1892. Serial No. 419,029. (No model.)

To all whom it may concern:

Be it known that I, LEE A. MILLER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Spool-Holders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide for the free revolution of spools on sewing-machines, as well as to prevent the breaking or entanglement of the thread that may unwind from such spools faster than it can be utilized.

To this end the said invention consists in certain peculiarities of construction and combination of parts to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a sectional elevation of my spool-holder in connection with the arm of a sewing-machine, and Figs. 2, 3, and 4 detail perspective views of the parts constituting my device.

Referring by letter to the drawings, A represents the arm of a sewing-machine, provided with a screw-threaded circular opening for engagement with a correspondingly-threaded boss *b*, depending from a preferably circular plate B, the latter being the support for a thread-spool, as shown in Fig. 1. The plate B and boss *b* forming part of the same, are bored out in the center to form a shouldered opening screw-threaded at the lower and larger portion thereof to engage with a correspondingly-threaded enlargement *c* on a pin C, and said enlargement is shown as provided with a screw-driver slot *d* and a flange *e*, the latter coming against the plate-boss to prevent the pin from being run too far up; but as the flange is not absolutely necessary it may be omitted at times without departure from my invention. Loosely arranged on the pin C is a sleeve D, that is closed at its upper end and provided at its lower end with a flange *f*, that comes between the enlargement *c* on said pin and the shoulder portion *g* of the opening in the plate B and stud *b*, that depends from the same, said sleeve being of such length as to be always out of contact with the

pin enlargement and normally out of contact with said shoulder portion of the plate-opening, as shown in Fig. 1. The sleeve has its sole bearing on the conical or rounding point of the pin C, it being desirable that there shall be the least possible amount of friction, and as the plate-shoulder *g* opposes the flange *f* on said sleeve the latter is limited as to movement in an upward direction and cannot be displaced without the removal of said pin.

In practice a spool of thread is slipped onto the sleeve to rest upon the plate B, and this plate being flat and horizontally disposed said spool has a full bearing thereon. If the material on the spool unwinds faster than it can be utilized and comes under said spool, it will tend to wind on the sleeve D, but as the latter is free to rotate the winding of said material thereon will have no effect on the tension, and therefore the aforesaid material will feed from said sleeve as readily as from the spool. The plate B is of sufficient dimensions as to support a very considerable quantity of the material that may unwind from the spool, and thus the said material, instead of becoming entangled with any portions of the machine, is free to work under the spool to come against the sleeve D and feed free to the point of utilization. As an opening is usually made in a sewing-machine arm for the purpose of admitting access to certain of the working parts, it is only necessary to give said opening the proper contour and cut a screw-thread in order to provide for the attachment of my improved spool-holder, the expense of this construction being immaterial in the manufacture of said machine.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A sewing-machine spool-holder comprising a plate having a shouldered and screw-threaded opening therein, a sleeve loosely engaging the plate-opening and provided with a flange in opposition to the shouldered portion of the same, and a pin that supports the sleeve and is provided with a screw-threaded enlargement engaging the correspondingly-threaded portion of said plate-opening, substantially as set forth.

2. A spool-holder comprising a plate having a screw-threaded boss that, with said plate, is provided with a screw-threaded and shouldered opening, a sleeve loosely engaging the smaller portion of said opening and provided with a flange opposed to the shouldered portion of the same, and a pin that supports the sleeve and is provided with a screw-threaded enlargement engaging the correspondingly-threaded portion of the aforesaid opening, in combination with a sewing-machine arm having a screw-threaded opening engaging the plate-boss, substantially as set forth.

3. A sewing-machine spool-holder comprising a stationary horizontal plate, a vertical pin fast to the plate, and a loose sleeve that extends below the upper surface of the plate and has a closed upper end in opposition to

the corresponding end of the pin, substantially as set forth.

4. A sewing-machine arm, in combination with a stationary horizontal plate detachably connected thereto, a vertical pin fast to the plate, and a loose sleeve that extends below the upper surface of the plate and has a closed outer end in opposition to the corresponding end of the pin, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

LEE A. MILLER.

Witnesses:

H. G. UNDERWOOD,
N. E. OLIPHANT.