(No Model.)

H. A. BATES.

THREAD COP FOR SEWING MACHINE SHUTTLES.

No. 521,080. Patented June 5, 1894.

Fig. 2.

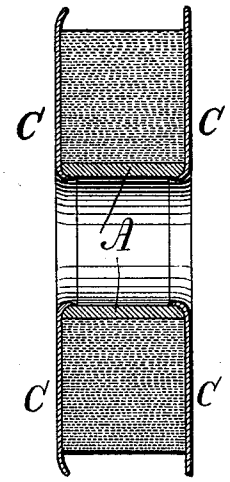
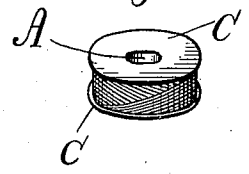


Fig. 1.



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HENRY A. BATES, OF YONKERS, NEW YORK.

THREAD-COP FOR SEWING-MACHINE SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 521,080, dated June 5, 1894.

Application filed September 11, 1893. Serial No. 485,217. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. BATES, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented an Improvement in Thread-Bobbins for Sewing-Machine Shuttles, of which the following is a specification.

Sewing machine shuttles have been made with a metallic spool upon which thread is wound, and in some instances the spool has been made of paper or other suitable material, and in other cases a bobbin of thread has been wound upon a paper tube, the thread being laid in diagonally or zig-zag and between heads, and the winding has been sufficiently tight for the threads to remain in position after the heads have been removed, and in this shape the thread bobbins have been sold upon the market, but when the thread bobbin is put into the shuttle the thread is liable to draw off either edge of the bobbin and come against the axis in the shuttle upon which the paper tube is supported, and thereby the shuttle thread is broken.

The object of the present invention is to support the threads in such a manner as to prevent the thread drawing off at one end of the bobbin and coming in contact with the axis or support for the bobbin, and with this object in view the thread is wound in the ordinary manner, and upon one or both ends of the cylindrical bobbin of thread a disk of paper or similar material is caused to adhere by mucilage or other adhesive material, so that the thread is connected with the paper and thereby the paper is held to the thread and the thread cannot draw off between the paper and the cylindrical bobbin of thread because of the adhesion of the paper to the thread, but each thread is held by such a small amount of mucilage or adhesive material that such thread separates freely from the paper as it is drawn off progressively; and in addition to the advantage resulting from preventing the thread drawing off around the axis of the bobbin in the shuttle, the thread is kept from injury or from being soiled in handling, and this is of great advantage because when the shuttle has been taken out for the reception of a fresh thread bobbin the fingers of the operator are often soiled by the lubricating material, and the thread of the bobbin becomes injured when it is being put into the shuttle, and the paper disks prevent the thread bobbin becoming soiled by any oil or dirt from the sewing machine itself while the thread is being drawn off from the bobbin. I also prefer to make the paper disks slightly larger than the diameter of the bobbin as it is fully wound, so that the edges of the paper will lap slightly upon the thread and protect the thread at the edges of the cylindrical bobbin, and the risk of the thread becoming entangled around the axis of rotation is thus substantially removed because the thread cannot slip out of place while the thread bobbin is being inserted into the shuttle.

In the drawings, Figure 1 is a perspective view of a thread bobbin. Fig. 2 is a section of the same on a magnified scale to more clearly illustrate the present improvements.

The tube A is usually of paper and around it the thread is wound to form a short cylinder of the desired diameter, the winding being effected in the usual manner as the thread may be laid between two heads, the thread bobbin being taken out from between the heads when the winding has been completed.

It is advantageous to make use of two paper disks C C, as represented, but only one of such disks may be employed, the bobbin being so inserted into the shuttle that the paper disk will slide over the pin or axis that supports the thread bobbin so as to prevent the thread drawing off around the bobbin as sometimes occurs.

It is advantageous to apply the adhesive material to the paper while in the form of sheets before the disks are cut out, in order that it may only be necessary to moisten the adhesive material in applying the disks to the end or ends of the wound thread bobbin; and it will be observed that the thread disks are slightly larger than the bobbin of thread so that the edges of the disk or disks may project slightly beyond the thread, as indicated in Fig. 2, and in cutting out the paper disks it is advantageous to punch in the center of each disk a hole that is slightly smaller than the interior diameter of the paper tube in order that when the paper disk is moistened and stuck upon the end or ends of the thread

bobbin the paper of the disk may be firmly connected to the paper tube by spreading outwardly the paper at the central hole of the disk by forcing into such hole any tapering instrument which causes the edges of the paper around the central hole to unite with the interior surface of the paper tube, thus forming a more reliable connection between the paper tube and the disk or disks, but at the same time the paper disks should adhere to the thread at the end portions of the cylindrical bobbin of wound thread for the purposes before mentioned.

The disks of paper or other suitable material that are attached directly to the surface of the thread as wound to form a sewing machine shuttle bobbin, serve to produce sufficient friction against the interior of the shuttle to prevent the bobbin revolving too easily and unwinding the thread too quickly as such thread is drawn off.

I am aware that a piece of paper has been caused to adhere around the cylindrical surface of a thread bobbin and that a disk of paper with a central hole has been used at one end of the bobbin for the thread to draw off through the same, but in this instance the thread drawing off from the center, the bobbin is not thereby revolved. By my improvement the thread being wound upon a tube and the end disks being gummed directly upon the thread and the thread being drawn off from the outside and in so doing rotating the bobbin, the risk of the thread slipping at the end and winding around the axis of rotation is entirely prevented.

I claim as my invention—

A cylindrical cop of thread having a central tube and at the end of the cylinder a disk of paper or similar material of a diameter as great as the cylindrical coil, the said disk being caused to adhere directly to the mass of thread by mucilage or other adhesive material to prevent the thread drawing around the axis of the bobbin as the thread is drawn from the cylindrical periphery, substantially as set forth.

Signed by me this 7th day of September, A. D. 1893.

HENRY A. BATES.

Witnesses:
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