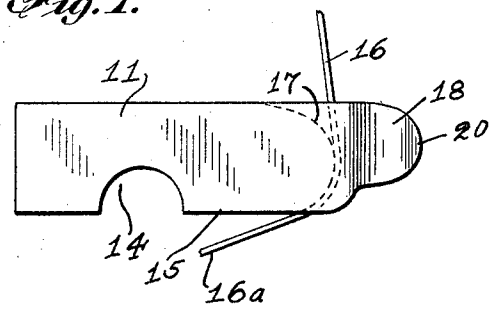
March 13, 1928. 1,662,475

C. F. ROYCE

THREAD SPOOLER GUIDE

Filed June 1, 1927

Fig. 1.



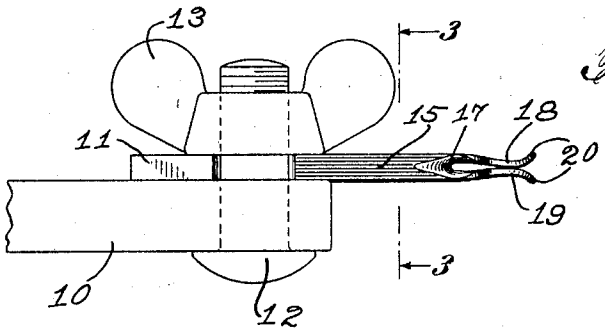




Fig. 2.

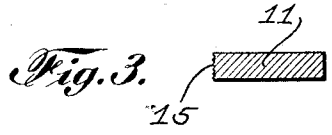



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## THREAD-SPOOLER GUIDE.

Application filed June 1, 1927. Serial No. 195,642.

This invention relates to thread spooling machines, and more particularly to a thread spooler guide having means for preventing the end of a thread from falling out of the guide when changing spools.

One object of this invention is to provide a spooler guide of the above nature having a pair of integral resilient contacting finger plates through which the thread may be manually forced, but which will normally prevent said thread from automatically jumping out, as when changing spools.

A further object is to provide a thread spooler guide of the above nature which will be simple in construction, inexpensive to manufacture, compact, easy to install and manipulate, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawings one form in which the invention may be conveniently embodied in practice.

Fig. 1 represents a side elevation of the thread spooler guide showing a portion of a thread in operating position.

Fig. 2 is a bottom view of the spooler guide as it appears when installed upon the thread carrier.

Fig. 3 is a transverse sectional view of the spooler guide, taken along the line 3—3 of Fig. 2, looking in the direction of the arrows.

One device for preventing the thread from jumping out of a spooler guide during the operation of changing spools was disclosed in the Patent No. 1,503,853 for a thread retainer for spooling guides, granted to the same inventor on August 5, 1924, on an application filed February 29, 1924.

The U-shaped sheet metal thread retainer attachment disclosed in the above-mentioned patent, however, has not proven entirely satisfactory for the reason that the retainer is quite apt to loosen and allow the thread to become caught between said retainer and the body of the spooler guide, thereby causing breakage of the thread and resulting in needless delays and expense. Moreover, in view of the fact that said retainer attachment extends on both sides of the body of the spooler guide of the former device, the thickness of the device was increased by twice the thickness of the metal of said attachment. This increase in thickness has been found to be a considerable disadvantage owing to the fact that in using the spooler guide it is necessary for the operator to constantly watch the edge of the guide in order to determine when the course of threads being wound on the spool has reached the end flange of said spool.

By means of the present invention, the above and other disadvantages have been avoided. This has been accomplished by providing a thread spooler guide having a pair of thread-retaining finger plates at its forward end which are integral with the body member of said guide. This construction greatly reduces the width of the guide, and consequently interferes less with the operator's vision of the course of threads being wound on the spool. Hence, the operator is enable to more accurately control the laying of the courses of thread and to produce a more uniform product. Furthermore, thread breakage is practically eliminated, as there are no crevices into which the threads can possibly catch.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a carrier member adapted to be pivotally and slidably mounted upon the spooling machine. A flat substantially rectangular spooler guide 11 is detachably secured to the carrier member 10 in any suitable manner, as by a bolt 12 and wing nut 13, said guide 11 having a recess 14 adapted to fit about said bolt 12.

The forward end of the spooler guide 11 is adapted to project beyond the end of the carrier member 10 and is provided with a grooved under-face 15 which normally rests upon a small spool, not shown, upon which the thread 16 is to be wound from a large bobbin, not shown.

In order to guide the thread from the bobbin to the small spool, the forward part of the spooler guide 11 is provided with a substantially semi-circular groove or nose 17, said nose being V-shaped in cross-section, as clearly shown in Fig. 2.

By means of the present invention, in order to prevent the extremity $16^a$ of the thread from jumping out of the guiding nose 17, the forward part of the spooler guide is provided with a pair of curved finger plates 18 and 19, said finger plates being reduced in width somewhat at the bot-

tom to avoid possibility of interference with the spool. The finger plates 18 and 19 are made integral with the body member of the spooler guide 11 and have outwardly bent curved extremities 20, as clearly shown in Figs. 1 and 2. The finger plates 18 and 19 are adapted to lie in resilient contact with each other at a point adjacent the extremities 20. The length and resiliency of the contacting fingers 18 and 19 should preferably be such that the thread 16 will be prevented from automatically jumping out of the spooler guide, but will permit said thread to be readily forced through said plates manually whenever desired, as when a new bobbin is to be started.

In operation, the extremity $16^a$ of the thread from the large bobbin will first be manually forced between the finger plates 18 and 19 by the operator and bent around the curved guiding nose 17 into the position shown in Fig. 2. The thread will then be wound several times about the empty spool to fasten it thereto. The carrier member 10 will then be raised upwardly about its pivot, moving the spooler guide 11 with it, and the empty spool will be slipped over a horizontal spindle, not shown, located underneath and at right angles to the spooler guide. The spooler guide 11 will then be lowered until its grooved underface 15 rests upon one or more individual threads of the empty spool. The operator will then start the rotation of the spindle and will simultaneously operate the mechanism, not shown, for automatically moving the spooler guide in one direction parallel to the axis of the spool, until the first course of threads have been laid. The operator will then operate mechanism for causing the spooler guide to automatically travel in the opposite direction laying down the second course of threads. The times for reversing the direction of the spooler guide will be determined by carefully watching when the body member of the spooler guide reaches the end flange of the spool. The above operation will then be continued until the desired number of courses have been laid, whereupon the thread will be cut and one end fastened in the flange of the spool, as by a slit made therein with a knife.

While the present invention is more particularly adapted for use in spooling silk thread, it is not limited to such use but may be employed for spooling strands of other materials within the purview of this invention.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a thread spooler guide, a body member adapted to be attached to the pivoted carrier member of a spooling machine, said body member having a curved guiding groove in its forward part, and a pair of finger plates integral with said body member and extending forwardly of said guiding groove for maintaining the thread in said guide while the spools are being changed, the overall width of said fingers not exceeding the width of the body member of the standard form of guide.

2. In a thread spooler guide, a body member adapted to be attached to the pivoted carrier member of a spooling machine, said body member having a curved guiding groove in its forward part, and a pair of inwardly directed finger plates integral with said body member and extending forwardly of said guiding groove for maintaining the thread in said guide while the spools are being changed, the overall width of said fingers not exceeding the width of the body member of the standard form of guide.

3. In a thread spooler guide, a body member adapted to be attached to the pivoted carrier member of a spooling machine, said body member having a curved guiding groove in its forward part, and a pair of inwardly directed contacting resilient finger plates integral with said body member and extending forwardly of said guiding groove for maintaining the thread in said guide while the spools are being changed, the pressure between said finger plates being sufficient to prevent the thread from automatically jumping out of said guiding groove, but not sufficient to prevent the thread from being readily forced through said finger plates manually whenever desired, the overall width of said fingers not exceeding the width of the body member of the standard form of guide.

4. In a thread spooler guide, a body member adapted to be attached to the pivoted carrier member of a spooling machine, said body member having a curved guiding groove in its forward part, and a pair of inwardly and then outwardly curved finger plates integral with said body member and extending forwardly of said guiding groove for maintaining the thread in said guide while the spools are being changed, the overall width of said fingers not exceeding the width of the body member of the standard form of guide.

5. In a thread spooler guide, a body member adapted to be attached to the pivoted

carrier member of a spooling machine, said body member having a curved guiding groove in its forward part, and a pair of finger plates integral with said body member and extending forwardly of said guiding groove for maintaining the thread in said guide while the spools are being changed, said finger plates being reduced in width to prevent interference with the spool being wound, the overall width of said fingers not exceeding the width of the body member of the standard form of guide.

In testimony whereof, I have affixed my signature to this specification.

CHARLES F. ROYCE.