No. 645,137. Patented Mar. 13, 1900.

W. K. SHULTZ.

THREAD WAXING DEVICE FOR SEWING MACHINES.

(Application filed Nov. 11, 1899.)

(No Model.)

Fig. 1.

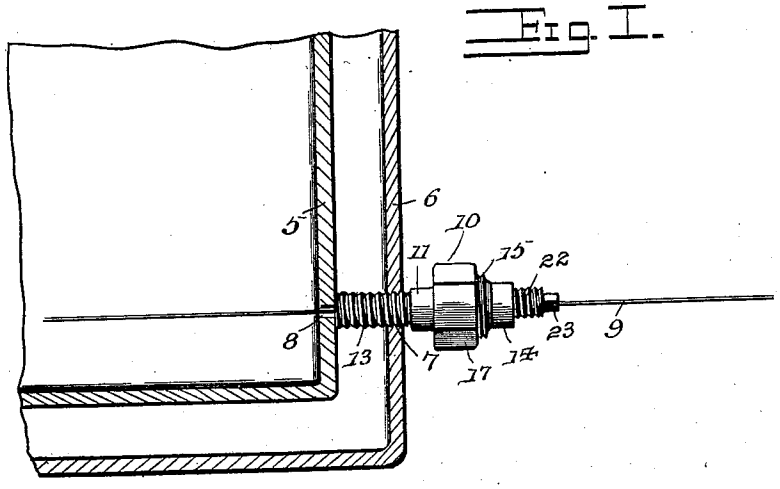


Fig. 2.

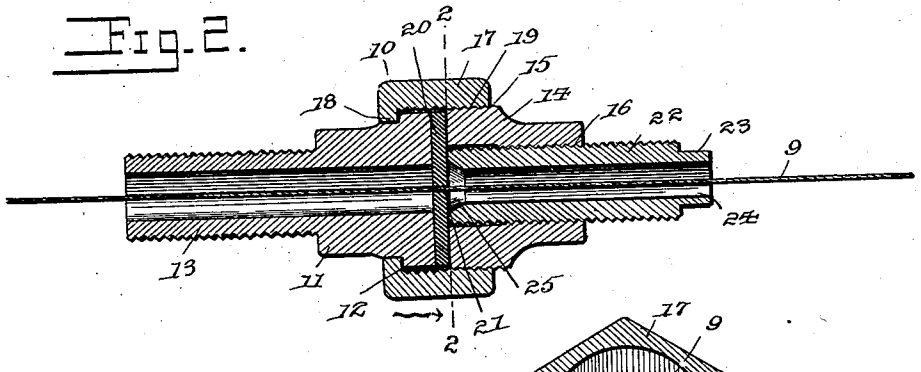
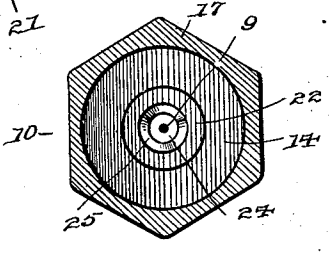


Fig. 3.



W. K. Shultz, Inventor.

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UNITED STATES PATENT OFFICE.

WALTER K. SHULTZ, OF PONCA CITY, OKLAHOMA TERRITORY.

THREAD-WAXING DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 645,137, dated March 13, 1900.

Application filed November 11, 1899. Serial No. 736,617. (No model.)

To all whom it may concern:

Be it known that I, WALTER K. SHULTZ, a citizen of the United States, residing at Ponca City, in the county of Kay and Territory of Oklahoma, have invented a new and useful Attachment for Wax-Thread Sewing-Machines, of which the following is a specification.

My invention relates to improvements in thread-waxing devices especially adapted for wax-thread sewing-machines; and one object in view is the provision of an attachment to the wax-pot and the steam-chest of the sewing-machine by which a thread from the machine spool or bobbin may be conveniently led through the wax-pot or a thread from any other suitable source may be also led through the wax-pot, thus enabling a thread-waxing pot and a heating device therefor to be used for waxing the machine-thread or a thread from a bobbin-winder and obviating the necessity for a separate waxing-pot and heating device on said bobbin-winder, whereby economy in space in a work-room is effected and the expense of a waxing device for the bobbin-winder is saved.

A further object of the invention is to provide an attachment which may be easily applied to the steam-chest and the wax-pot, to provide a wiper adapted to remove surplus wax from the thread and to keep the thread under tension, to insure the easy adjustment of the thread in its guide, and to simplify the construction, so as to promote the efficiency of the attachment.

With these ends in view the invention consists in the novel construction and arrangement of parts, as will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a sectional elevation of a part of a wax-pot and a steam-chest with my attachment affixed thereto. Fig. 2 is a longitudinal section taken centrally through the attachment. Fig. 3 is a cross-section of the attachment, taken in the plane of the dotted line 3 3 of Fig. 2.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

In wax-thread sewing-machines it is customary to provide a wax-pot with a heating apparatus, and in some types of machines the wax-pot is partly surrounded by a steam-chest. In Fig. 1 of the drawings a part of the wax-pot is indicated at 5, and a part of the steam-chest is indicated at 6. The steam-chest is shown as having a hole 7 tapped therein, and the wax-pot is provided with an opening 8, the latter being alined with the tapped hole 7. To conduct the thread 9 through the wax-pot and the steam-chest, I employ two thread-guides, which are fixed to opposite sides of the wax-pot and the steam-chest, so as to be in alinement with each other; but in the drawings I have illustrated only one of these thread-guides, because the position of the other will be obvious. Each thread-guide is in the nature of an attachment adapted for use in connection with ordinary wax-pots, and this attachment is indicated in its entirety by the numeral 10. The attachment or thread-guide is of sectional construction, adapted to clamp in place an internal wiper-disk, through which the thread 9 is adapted to be drawn. One member of this sectional thread-guide is indicated at 11 as having a body provided with an annular flange 12, and this member is reduced to produce a nipple 13, which is exteriorly screw-threaded, as shown, said member 11 being provided with a passage which extends the full length thereof. Another member of the thread-guide is indicated at 14 as having an external screw-thread 15 and an internal screw-thread 16, and this member 14 at its inner end corresponds in diameter to that of the enlarged flanged portion 12 of the body, forming a part of the member 11. The two members 11 14 are in alined relation and united separably together by a coupling 17, the latter having an internal flange 18 at one end and an internal screw-thread 19 at the other end. This coupling is slipped over the member 11 for its flange 18 to engage loosely with the external flange 12 of said member 11, while the male threaded part 15 of the other member 14 is screwed into the female threaded part 19 of the annular coupling. A wiper-disk 20 is interposed between the contiguous faces of the members 11 14 of the sectional thread-guide, and by rotating the coupling 17 on the flanged member 11 the two members are drawn forcibly together, so as to firmly clamp the wiper-disk 20 within the

thread-guide. This wiper-disk has an axial opening 21 for the passage of the fibrous thread, and against this wiper-disk operates an independently-adjustable tube 22 for the purpose of guiding the fibrous thread to the axial opening of the disk, said tube being adjustable to exert varying degrees of pressure on the disk, so as to vary the diameter of the opening therein. The passage of the member 14 is somewhat greater in diameter than the longitudinal passage of the member 11, so that the member 14 does not bear against the disk to as great an extent as the inner end of the member 11, thus presenting a part of the face of the member 11 in the plane of the tube 22 for the latter to have an end bearing or thrust on the disk, which is backed up by a part of the member 11. This disk is made of leather, rubber fabric, or other suitable material, so that it is compressible to a greater or less extent, and the disk is not only clamped circumferentially between the two members 11 14, but it is also subjected to compression between the tube 22 and the member 11. This tube is externally threaded for engaging with the female threads 16 of the member 14, and at its outer end this tube is provided with an angular projection or tenon 23, adapted to receive a wrench or other tool by which the tube may be adjusted to bear with considerable pressure against the compressible disk. This tube 22 is provided with a longitudinal passage 24, the inner end of which is flared, as at 25, and is adapted to bear against one face of the disk 20 around the central opening 21 therein. The flared end of the passage in the independently-adjustable tube is an important feature of my invention, because it may bear on the disk, so as to extend the fibers thereof for increasing the diameter of the opening 21 when said tube is adjusted to exert considerable pressure on the disk. The tube, however, may be adjusted to reduce the pressure on the disk, and thereby permit the latter to contract and frictionally embrace the fibrous thread.

The thread-guide attachment of my invention may have the threaded nipple 13 readily screwed into the tapped hole 7 of the steam-chest, so that the inner end of the thread-guide will bear firmly against the wax-pot, as shown by Fig. 1; but, if desired, this nipple 13 may be screwed into a threaded opening in the wax-pot, so as to secure a tight joint, which will effectually prevent water in the steam-chest from flooding the contents of the wax-pot. It is evident that the coupling may be rotated to release the member 14 and the tube 22, so as to permit these parts to be moved for obtaining access to the disk 20, thus permitting the operator to obtain access to the parts for passing the fibrous threads therethrough. Of course the parts may be replaced, and when the coupling 17 shall have been manipulated to clamp the member 14 to the member 11 and hold the disk 20 firmly in place the tube 22 may be screwed into the member 14 for exerting the desired pressure on the disk.

The attachment of my invention is very simple in construction and is easily applied to ordinary thread-waxing devices. A fibrous thread from a sewing-machine bobbin or from a bobbin-winder may easily pass through the thread-waxing device on the sewing-machine, so that a separate wax-pot and heating device therefor employed ordinarily in the common style of bobbin-winder for waxing threads may be dispensed with by the use of my invention.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts, while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described the invention, what I claim is—

1. An attachment for thread-waxing devices comprising a wax-pot having an opening through a vertical wall thereof, a steam-chest surrounding the said pot and having a tapped opening in line with the opening in the wax-pot, a double-flanged member with a screw-threaded portion mounted in the said tapped opening of the steam-chest and having its inner end fitted close to the opening in the wax-pot, a threaded tube having an opening therethrough flared at its inner extremity, a wiper-disk interposed between the outer and inner extremities of the flanged member and the said threaded tube respectively, a threaded member in which said tube is mounted and a coupling member for connecting the said threaded member and the flanged member, the wiper-disk being clamped near its peripheral edge between the said members and provided with a transverse thread-opening surrounded by the inner flared end of the opening through the tube.

2. A thread-waxing device, consisting of a sectional thread-guide having its members separably coupled together in substantially-longitudinal alinement and comprising an adjustable tube with one extremity of the opening therein flared, and a wiper-disk clamped near its peripheral edge between certain of the said members and provided with a transverse thread-opening, the said wiper-disk being in a plane at right angles to the members of the guide, the end of the tube at the flared portion of the opening being arranged to press forcibly against said disk around the thread-opening therein and against a bearing-surface afforded by another member of the guide.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WALTER K. SHULTZ.

Witnesses:
A. H. ERWIN,
CHAS. H. OGDEN.