W. C. MEYER.

THREAD WAXING DEVICE.

APPLICATION FILED NOV. 4, 1918.

1,387,606. Patented Aug. 16, 1921.

Fig. 1.

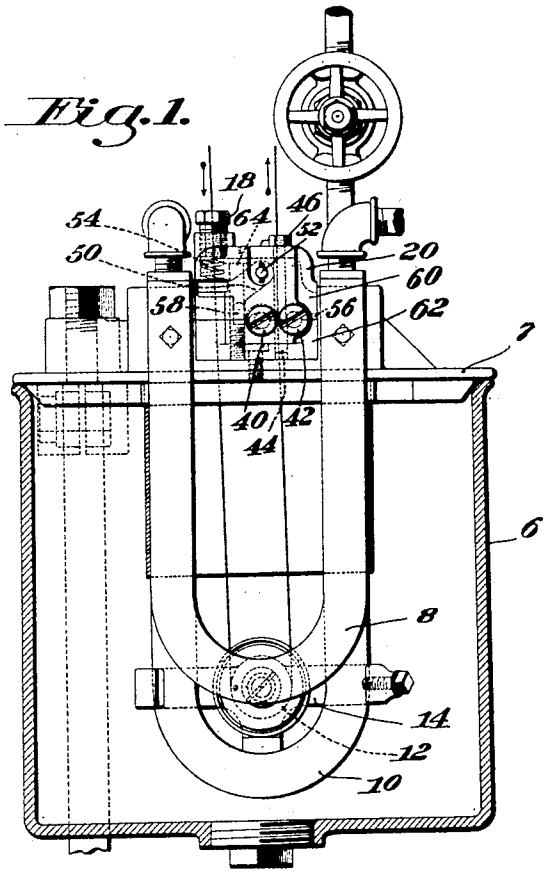


Fig. 2.

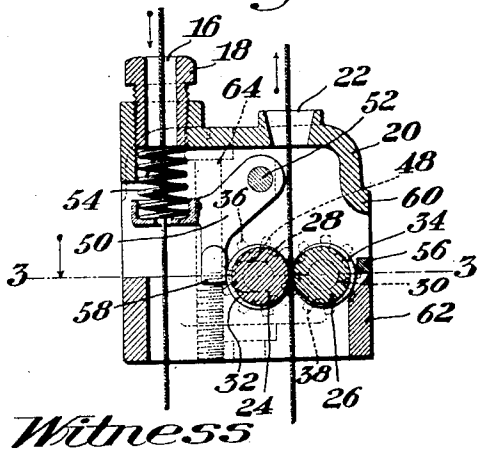
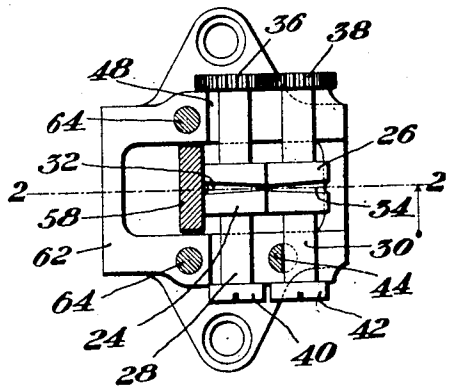


Fig. 3.



Witness

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THREAD-WAXING DEVICE.

1,387,606. Specification of Letters Patent. Patented Aug. 16, 1921.

Original application filed February 7, 1916, Serial No. 76,721. Patent No. 1,341,065. Divided and this application filed November 4, 1918. Serial No. 260,943.

To all whom it may concern:

Be it known that I, WILLIAM C. MEYER, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Thread-Waxing Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to thread waxing devices for applying wax to sewing thread and more particularly to a stripping device for stripping the surplus wax from the thread.

The primary object of the present invention is to produce an improved wax stripping device which is simple in construction, strong and durable, which can be readily adjusted to regulate the stripping action thereof or to compensate for different sizes of thread, and in which the accumulated wax may be readily cleaned therefrom.

With this object in view, the invention consists of certain novel and improved constructions, arrangements and combination of parts hereinafter described and claimed, the advantages of which will be apparent to those skilled in the art from the following description.

The invention is shown as applied to a thread waxing device having the construction illustrated and described in applicant's pending application, Serial No. 76,721, filed February 7, 1916, of which the present application constitutes a division. It is to be understood, however, that the invention is not limited in its application to thread waxing devices of the particular type illustrated herein but that it may be applied to thread waxing devices of other forms and types.

The invention will be readily understood from the accompanying drawings illustrating the invention in its preferred form and the following detailed description of the constructions therein shown.

In the drawings Figure 1 is a view, partly in vertical section and partly in front elevation, of a thread waxing device with the invention applied thereto; Fig. 2 is a detail view of the wax stripping device in vertical section taken substantially on the line 2—2 of Fig. 3, and Fig. 3 is a detail view, in horizontal section, taken substantially on the line 3—3 of Fig. 2.

The thread waxing device illustrated in the accompanying drawings comprises a wax receptacle 6 having a cover 7, two U-shaped heating members 8 and 10 extending into the receptacle and a thread truck 12 mounted on a carrier 14 secured to the heating member 10. The parts above referred to have the same construction, arrangement and mode of operation as the corresponding parts of the device illustrated and described in applicant's pending application Serial No. 76,721 and reference may be had to said application for a detailed description of the same.

The thread as it enters the wax receptacle passes through an opening 16 in a sleeve 18 mounted on a detachable housing 20 attached to the cover of the receptacle, thence passes downwardly through the housing and through an opening in the cover into the receptacle, and under the truck 12, thence passes upwardly through the opening in the cover and through the housing and emerges from the housing through an opening 22 therein.

The stripping devices for stripping the wax from the thread as it emerges from the receptacle are mounted in this housing. The stripping devices comprise two peripherally engaging non-rotating rolls 24 and 26 fixed respectively to the shafts 28 and 30 mounted in bearings on the housing. These rolls are constructed with registering grooves 32 and 34 which are substantially semi-circular in cross-section throughout their circumferential length, and form at the contact point of the rolls, a substantially circular opening for the passage of the thread. Each of the grooves in the rolls varies in size at different points in the periphery of the roll and the rolls are held from rotation during this normal operation but are arranged for simultaneous rotary adjustment to vary the size of the thread passage formed by the grooves. Intermeshing gear wheels 36 and 38 are mounted respectively on one end of each of the roll carrying shafts 28 and 30

and upon the opposite ends of these shafts are fixed heads or disks 40 and 42 having slots for the reception of a screw driver or other suitable tool. The rolls are held from rotation by means of a drawbolt 44 mounted in a suitable bore in the housing 20 and having an enlargement which engages the shaft 30. The drawbolt is actuated to engage the enlargement thereon tightly with the shaft 30 by means of a nut 46 threaded thereon. After loosening the nut and thereby relieving the engagement of the drawbolt with the shaft 30, the rolls 24 and 26 may be rotated to adjust the size of the thread passage between the rolls by means of a tool inserted in the slot in one of the disks 40 and 42. The adjustment of the rolls is then maintained by tightening the drawbolt. The stripping action of the stripping rolls may thus be adjusted so that just the right amount of wax is left on the thread after the thread passes through the thread passage between the rolls, or this adjustment may be utilized to regulate the size of the thread passage for different sizes of thread. The circular shape of the thread passage or opening between the rolls causes the rolls to act uniformly on the periphery of the thread.

In order to permit the rolls to yield relatively when a knot or other enlargement in the thread passes between the rolls, the roll 24 is mounted for movement toward and from the roll 26 and is yieldingly pressed toward the roll 26. In the construction shown the shaft 28 is mounted in bearing slots in the housing 20 one of which is shown at 48, Fig. 2, and the roll 24 is yieldingly pressed toward the roll 26 by means of a lever 50 pivoted at 52 and having an arm bearing on the periphery of the roll 24. In the other arm of this lever is seated the lower end of a coiled spring 54 which at its upper end engages the lower end of the sleeve 18. This spring acts through the lever to keep the roll 24 pressed yieldingly against the roll 26. The force with which the roll 24 is pressed toward the roll 26 may be regulated by adjusting the sleeve 18 which is threaded into the housing 20.

To enable the wax which rapidly accumulates on the rolls to be easily and quickly removed, wax scrapers are mounted in position to bear on the peripheries of the rolls for scraping the wax from the rolls. One of these scrapers indicated at 56 consists of a bar mounted in the housing 20 substantially parallel with the axis of the rolls and arranged to bear at one of its edges against the periphery of the roll 26. Another scraper bar indicated at 58 is formed on the lever 50 and constitutes the portion of the lever which bears on the periphery of the roll 24. When the accumulated wax is to be removed from the rolls, the drawbolt 44 is loosened and the rolls are given a complete revolution, the scraper bars 56 and 58 acting during the rotation of the rolls to scrape the wax from the peripheries of the rolls.

The housing 20 is preferably made in two parts 60 and 62 held together by screws 64. The plane of division between the two parts of the housing passes through the axis of the stripping rolls so that the rolls may be easily removed from and replaced in the housing.

Having thus explained the nature and object of the present invention, and having specifically described a device embodying the invention in its preferred form, what is claimed is:

1. A wax stripping device having, in combination, two peripherally engaging rolls, one of which has a thread groove varying in size at different points in the periphery of the roll, means for holding the rolls from rotation, means for scraping accumulated wax from the rolls during a rotation of the rolls, and means whereby the grooved roll may be rotatively adjusted to vary the size of the thread passage at the engaging point of the rolls.

2. A wax stripping device having, in combination, two peripherally engaging rolls between which the thread passes, means for holding the rolls from rotation, and means for supporting one of the rolls for yielding movement toward and from the other roll.

3. A wax stripping device having, in combination, two peripherally engaging rolls having registering thread grooves each varying in size at different points in the periphery of the roll and together forming a thread passage at the engaging point of the rolls, means for holding the rolls from rotation, means whereby the rolls may be rotatively adjusted to vary the size of the thread passage, and means for supporting one of the rolls for yielding movement toward and from the other roll.

4. A wax stripping device having, in combination, two peripherally engaging stripping rolls between which the thread passes, and a scraper bearing upon one of the rolls to scrape from the roll the wax deposited on the roll by the thread.

5. A wax stripping device having, in combination, two peripherally engaging rolls, means for supporting one of the rolls for movement toward and from the other roll, a scraper bearing on the periphery of the movable roll, and a spring acting on the scraper to press the scraper against the movable roll and to press the movable roll toward the other roll.

6. A wax stripping device having, in combination, two peripherally engaging rolls, means for supporting one of the rolls for movement toward and from the other roll, scrapers bearing on the rolls, a lever upon which one of the scrapers is mounted, a

spring acting on the lever to press the scraper against the movable roll and to press the movable roll toward the other roll, and means whereby the tension of the spring may be adjusted.

7. A wax stripping device having, in combination, two coöperating rolls arranged to rotate on substantially parallel axes, means for holding the rolls from rotation during the thread stripping action thereof, means whereby the rolls may be rotatively adjusted, and means for scraping accumulated wax from the rolls during a rotation of the rolls.

8. A wax stripping device having, in combination, two coöperating rolls arranged to rotate on substantially parallel axes, means for holding the rolls from rotation during the thread stripping action thereof, and means for scraping accumulated wax from the rolls during a rotation of the rolls.

WILLIAM C. MEYER.