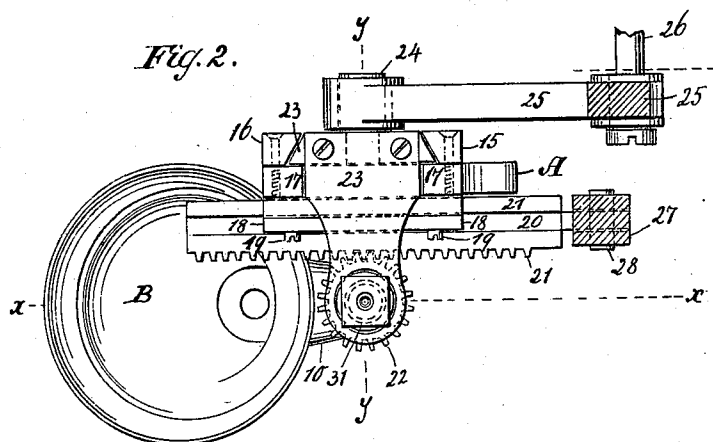
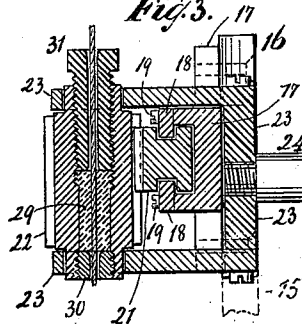
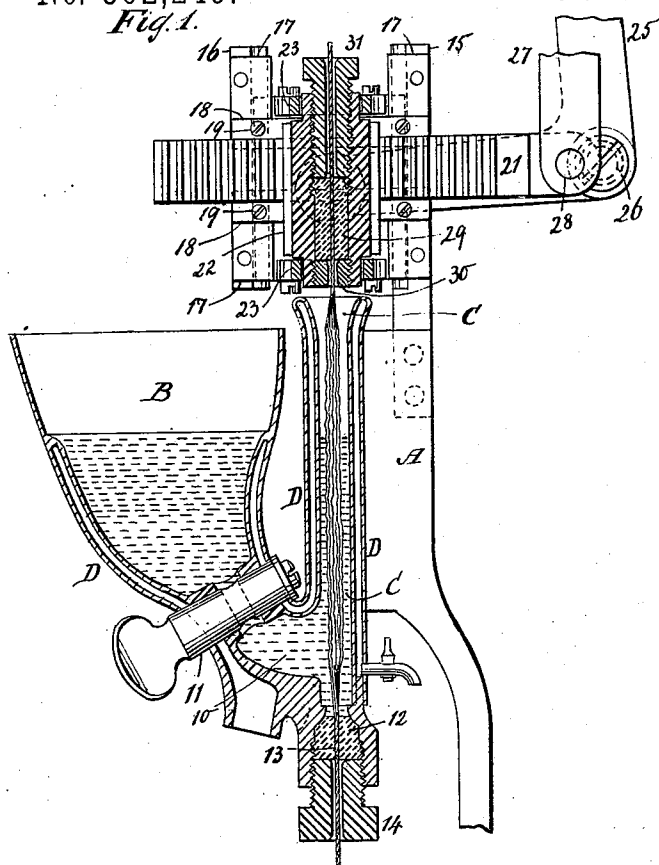


(No Model.)

J. R. SCOTT.
MECHANISM FOR WAXING THREAD.

No. 562,249.

Patented June 16, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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MECHANISM FOR WAXING THREAD.

SPECIFICATION forming part of Letters Patent No. 562,249, dated June 16, 1896.

Application filed February 14, 1896. Serial No. 579,290. (No model.)

To all whom it may concern:

Be it known that I, JACOB R. SCOTT, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Mechanism for Waxing Thread, of which the following is a specification.

This invention relates to devices or mechanism for waxing the thread used in wax-thread sewing-machines; and it has for its object to provide new and improved means whereby the thread is effectually, thoroughly, and uniformly waxed by having sections of the thread untwisted, wax applied, and the untwisted sections subsequently retwisted. To accomplish this object, my invention involves the features of construction, the combination or arrangement of parts, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section in the plane $x x$, Fig. 2. Fig. 2 is a plan or top view. Fig. 3 is a transverse vertical section in the plane $y y$, Fig. 2.

The object of my invention is to improve and facilitate the operation of waxing thread for wax-thread sewing-machines. In the drawings the letter A designates a portion of a frame which may be a part of the frame of a wax-thread sewing-machine, and to this frame is secured the wax-pot B. This wax-pot is provided with a vertical spout C, and D is a jacket which embraces the lower portion of the wax-pot B and the spout C. By circulating through this jacket a heating medium of a uniform and definite temperature, such as steam or hot water, the wax in the wax-pot and in the spout can be maintained at the desired temperature and all danger of overheating the contents of the wax-pot can be avoided. If the contents of the wax-pot are overheated, the volatile constituents of the wax or pitch are driven out and the remainder becomes unfit for further use as a medium for waxing thread.

The pot B communicates with the spout C by a channel 10 and the communication is controlled by a stop-cock 11. In the lower end of the spout C is placed an elastic stopper 12, best made of india-rubber, which is

provided with an axial passage 13 for the thread, and the stopper 12 is exposed to the action of a screw-plug 14, so that the passage 13 can be adjusted, and as the waxed thread is drawn through this passage the surplus wax adhering to the thread is retained in the spout C.

With this thread-waxing device is combined a mechanism for untwisting and retwisting the thread in such a manner that the melted wax comes in direct contact with the different strands of the thread, and after the thread has been retwisted not only its outer surface but also the interior of its body has been waxed.

The device for untwisting and retwisting the thread is constructed as follows: To the frame A is firmly secured a standard 15, which is firmly connected to a standard 16 by means of a bracket 17. On this bracket are secured guides 18 18 by means of screws 19, and these guides engage grooves 20, formed in the upper and lower edges of a rack-bar 21, which engages a pinion 22. This pinion is mounted in a frame 23, from which extends a stud 24, that engages a lever 25, fulcrumed on a fixed stud 26, and the frame 23 is movable up and down in the standards 15 and 16, such movements being produced by the action of the lever 25, which is actuated by a suitable cam. (Not shown.)

To the rack-bar 21 is connected a lever 27, by means of a pivot 28, said lever being actuated by a suitable cam, (not shown,) so that a reciprocating motion can be imparted to the pinion 22. In this pinion is secured an elastic stopper 29, which is provided with an axial thread-passage and rests upon a metallic plug 30, also provided with an axial thread-passage. In the upper part of the pinion 22 is secured a metallic screw-plug 31, which is also provided with an axial thread-passage and which serves to compress the elastic stopper 29 to such an extent that it grasps the thread with the requisite degree of firmness.

The movements of the levers 25 and 27 are so timed that during the downward movement of the frame 23 and the pinion 22 this pinion is rotated by the action of the rack-bar 21 in the direction to unwind that portion of the thread which extends from the elastic stopper

29 down through the wax contained in the spout C to the elastic stopper 12, and is grasped by these stoppers sufficiently tight from turning round therein, so that this portion is not only untwisted but also rendered slack by the downward movement of the pinion 22, and consequently an untwisted slack portion of thread is exposed to the action of the wax in the spout C, so that each single strand of the thread will come in contact with the wax. By reversing the movement of the levers 25 and 27 the pinion 22 is moved up and at the same time the rack 21 causes the same to revolve, so as to retwist the thread.

15 What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with mechanism for untwisting sections of thread, of a wax-pot, and means for applying melted wax to the said sections of thread while untwisted, and means for retwisting said sections of thread, substantially as described.

2. The combination with a wax-pot having an approximately vertical spout through which the thread to be waxed passes, means for untwisting sections of the thread lying within the melted wax in the spout, and means for subsequently retwisting the waxed thread-sections, substantially as described.

30 3. The combination with a wax-pot having an approximately vertical spout open at its top and provided at its lower end with a contractible thread-passage, mechanism for untwisting sections of the thread for receiving the melted wax contained in the spout, and means for retwisting the untwisted sections

after they have been waxed, substantially as described.

4. The combination with a wax-pot having an approximately vertical spout into which the melted wax from the pot is delivered, of a pinion having a thread-passage through which the thread passes into and through the spout, a thread-passage arranged at the lower end of the spout and constructed to yieldingly grip the thread passing therethrough, and mechanism for reciprocating the pinion, whereby the thread-sections are untwisted, the melted wax applied thereto, and the waxed untwisted sections subsequently retwisted, substantially as described.

5. The combination with a wax-pot provided with a substantially vertical thread-passage, of a pinion provided with a substantially vertical thread-passage, and mechanism for rotating this pinion alternately in opposite directions and also for imparting to this pinion a rising-and-falling motion, substantially as described.

6. The combination with a wax-pot, of mechanism for untwisting and retwisting successive sections of thread while the same are in contact with the melted wax, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JACOB R. SCOTT.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.