C. L. EATON.

WAX THREAD SEWING MACHINE ATTACHMENT.

APPLICATION FILED OCT. 29, 1909.

Patented July 26, 1910.

965,379.

Fig. 1.

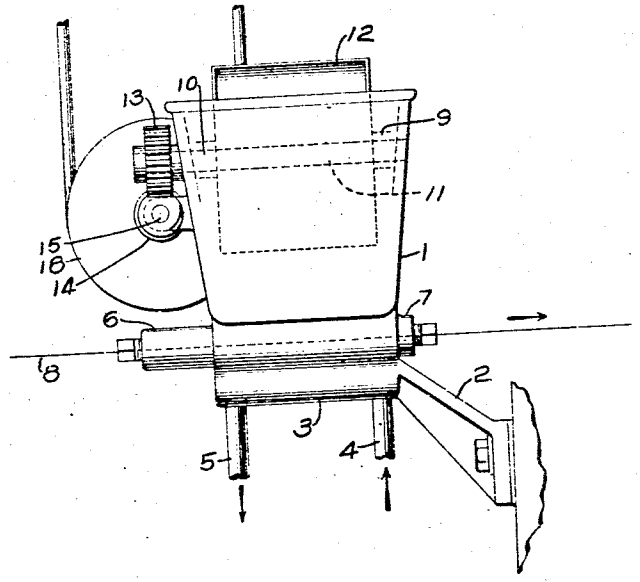
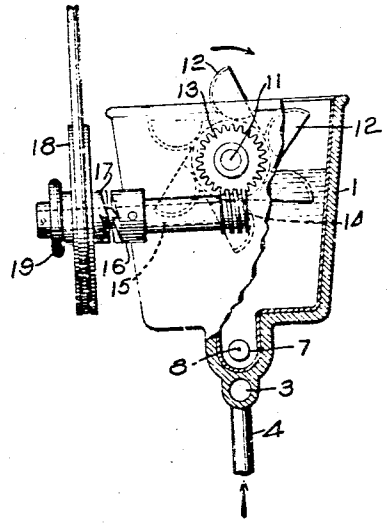


Fig. 2.



Witnesses:
Roswell F. Hatch
Redfield H. Allen

Inventor
Clarence L. Eaton
by Robt. A. Harris
Attorney.

UNITED STATES PATENT OFFICE.

CLARENCE L. EATON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THOMAS G. PLANT, OF BOSTON, MASSACHUSETTS.

WAX-THREAD-SEWING-MACHINE ATTACHMENT.

965,379. Specification of Letters Patent. Patented July 26, 1910.

Application filed October 29, 1909. Serial No. 525,297.

To all whom it may concern:

Be it known that I, CLARENCE L. EATON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Wax-Thread-Sewing-Machine Attachments, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

The invention herein to be described relates to attachments for wax thread sewing machines, and more particularly to such machines as are employed in sewing the parts of boots and shoes.

The thread used by a wax thread sewing machine is ordinarily drawn from the source of supply and passed through a suitable waxing device by which it is provided with a waxing composition. This waxing composition may be formed of various ingredients, such, for instance, as paraffin and rosin, and, in order that they be properly applied to the thread as it passes through the waxing apparatus, such composition is ordinarily maintained in the liquid state, various means having heretofore been employed to maintain this liquid condition by means of heat. As well understood by those skilled in the art, the means heretofore employed to the above ends have not been altogether satisfactory. On the one hand it is desirable that the waxing composition be kept heated and in the liquid state, but its temperature should be maintained uniform as far as possible and never allowed to reach the boiling point. When the composition reaches the boiling point, it is liable to overflow from the waxing tank, and the ingredients composing the composition are liable to become so far separated that a proper waxing of the thread is not possible.

The present invention has for its object the provision of an attachment to a wax thread sewing machine that will overcome the objections heretofore experienced in this class of devices and provide a waxing apparatus which will be efficient in operation and which, while applicable to any of the characteristic waxing tanks now in common use, will maintain the waxing composition at a sufficiently high temperature to insure proper application of the wax to the thread, and at the same time prevent the waxing composition from attaining an undesirable high temperature or overflowing from the waxing tank.

In the drawings:—Figure 1 is a side view of any usual or desired form of waxing tank which may be secured to a wax thread sewing machine and used in connection therewith; and Fig. 2 is an end view thereof with parts broken away to show the elements beyond.

The waxing tank 1 may be of any usual or desired character, and preferably may be formed of cast metal provided with a suitable supporting bracket 2 by which it may be secured to the frame of a wax thread sewing machine or elsewhere, as indicated in Fig. 1.

Disposed at the bottom portion of the waxing tank 1 there is a heating chamber 3 connected at one part by means of a pipe 4 with a source of steam or hot air supply and at another portion provided with a discharge pipe 5, as indicated in Fig. 1. In these respects, as well also as with respect to the inlet 6 and outlet 7 for the thread 8 to be waxed, the waxing tank or attachment may be of any usual or desired character, and the waxing composition may be maintained in a heated condition by any suitable or desired means, it being understood that with respect to these features the invention is generally applicable.

In practice it has been found that the wax in the waxing tank frequently reaches the boiling point or at a temperature sufficiently high to cause the waxing composition to bubble up and overflow. When this occurs the operator may probably cut all the steam off through the heat supply for a time, but in the meanwhile the waxing composition has attained an undesirable high temperature and has probably overflowed from the waxing tank onto the floor. The operator will then usually continue sewing shoes until finally the waxing composition will become so far cooled as to not properly apply wax to the thread being used. These objectionable characteristics are overcome by the present invention which contemplates means, applicable to any usual form of waxing tank, to raise or agitate portions of the waxing composition and prevent such composition attaining an undesirable high temperature, notwithstanding the fact that the heating medium may be constantly employed.

As one form of means to the above ends the waxing tank 1 is provided with suitable bearings 9, 10, in which is supported a shaft 11 having secured thereto a series of buckets 12 which dip into the waxing composition in the tank and by rotation of said shaft stir the composition in the tank and lift portions thereof from the tank and then, as the shaft slowly revolves, said buckets permit the portions of the waxing composition raised by them and cooled somewhat to run back into the tank.

As one means of operating the shaft 11, said shaft is projected through one side of the tank, as indicated in Fig. 1, and provided with a worm wheel 13 which is engaged by a worm 14 on a suitable shaft 15, said shaft 15 being preferably provided with a clutch member 16 adapted to engage a complemental clutch member 17 connected to a pulley 18, or other means, which may be driven from a suitable source of power. The clutch members may be caused to engage by suitable hand operating devices, as the wheel 19 secured to the hub of the driving pulley 18.

Obviously many changes may be made in the general form and character, both of the tank, heating means for the waxing composition, and the driving or operating devices for the cooling buckets: and it will be clearly apparent that the cooling buckets may be operated in any manner desired, the characteristics of the invention in this respect being that they be constructed so that when in operation they will dip down into the waxing composition and lift portions thereof from the tank, thereby enabling such portions to become cooled to some extent, and then permit such portions to run back into the waxing tank. By this characteristic operation it will be noted that not only is the waxing composition kept thoroughly mixed, but it is prevented from attaining a temperature calculated to injure the waxing composition or cause it to overflow from the tank.

The invention is not restricted to the particular character of cooling buckets or their manner of operation, it being understood that the invention in its true scope is definitely set forth by the claims.

What is claimed is:

1. A wax thread sewing machine attachment, comprising a waxing tank, means for supporting the waxing tank from the machine frame to permit the thread to be drawn through the tank as it is being waxed, means for heating the waxing composition in the tank to maintain it in liquid condition for coating the thread, and movable means to prevent the wax constituents from becoming separated under the heating action of the heating means said movable means acting to agitate the waxing composition and maintain a proper waxing mixture at that part of the tank through which the thread to be waxed is passed.

2. A wax thread sewing machine attachment, comprising a waxing tank having an inlet and outlet for the passage through the waxing tank of thread to be waxed on its way to the said machine, means for heating the waxing composition in the tank adjacent the path of the thread through said tank to maintain the waxing composition in proper liquid condition at said path for application to the thread to be waxed, a wax cooling bucket, and means for causing it to dip into the waxing tank above the path of the thread and cool the waxing composition and maintain a proper waxing mixture at the part of the tank through which the thread passes.

3. A wax thread sewing machine attachment, comprising a waxing tank for holding waxing composition and having a passageway therethrough for thread to be waxed, means for heating the waxing composition in the tank to maintain it in liquid condition for application to the thread, a shaft, a bucket carried by said shaft, means for operating the shaft to cause the bucket to dip into the waxing composition and raise a portion thereof, and means for operatively connecting and disconnecting said operating means and shaft.

4. A wax thread sewing machine attachment, comprising an open tank for holding waxing composition and having a passageway therethrough for the thread to be waxed, means for heating the waxing composition, a series of buckets disposed above the path of the thread, and means for moving said buckets into and out of the waxing composition above the thread.

5. A wax thread sewing machine attachment, comprising an open tank for holding waxing composition and having a passageway therethrough for the thread to be waxed, means for heating the waxing composition, a series of buckets disposed above the path of the thread, means for moving said buckets into and out of the waxing composition above the thread, driving means for operating said buckets, and a clutch interposed between the driving means and buckets to cause the buckets to be operated or remain at rest as desired.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CLARENCE L. EATON.

Witnesses:
ALFRED H. HANDLEY,
A. E. CLARK.