

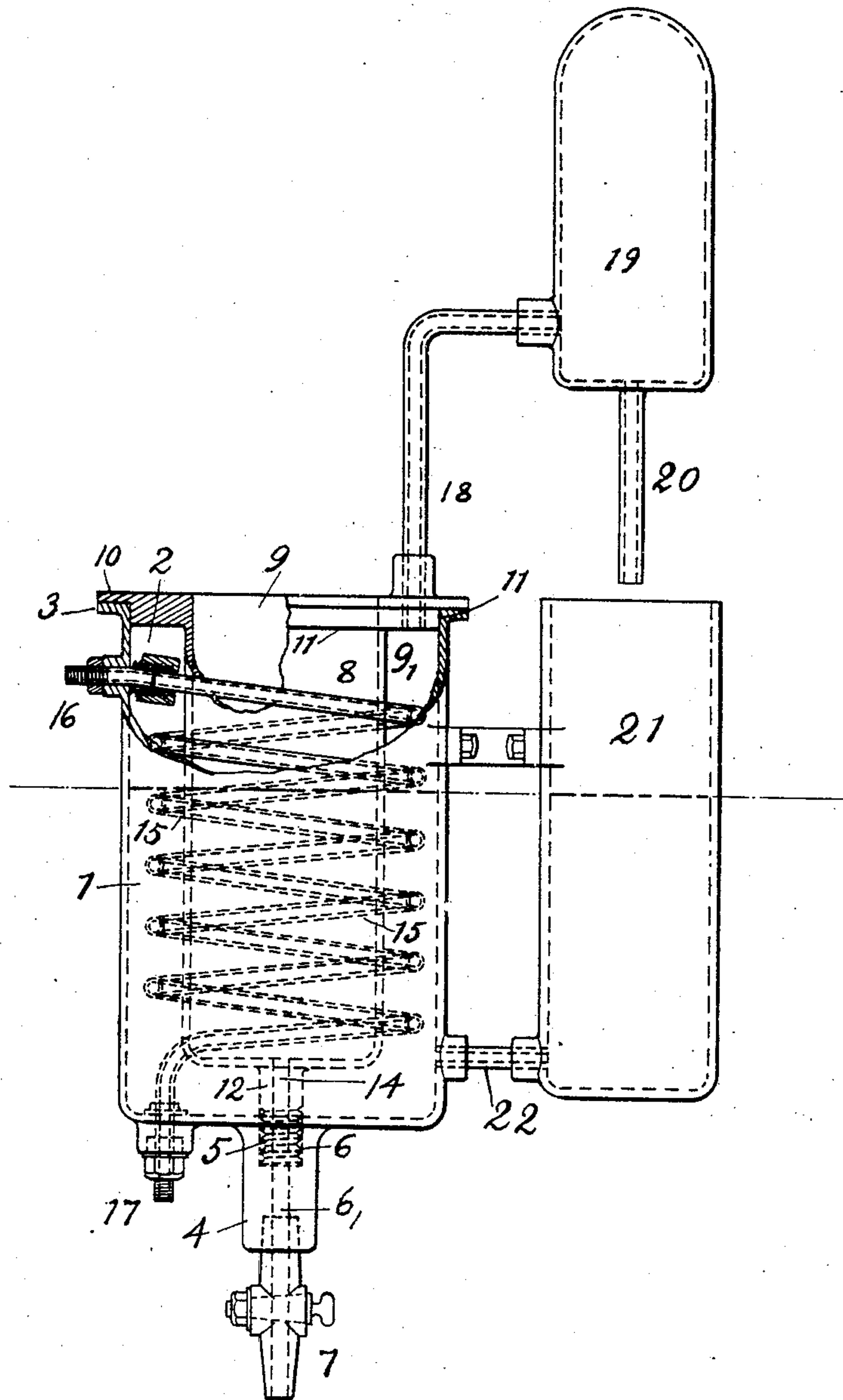
No. 785,852.

PATENTED MAR. 28, 1905.

H. BRIGGS.

WAXING APPARATUS FOR SEWING MACHINES.

APPLICATION FILED JULY 29, 1904.



WITNESSES:

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WAXING APPARATUS FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 785,852, dated March 28, 1905.

Application filed July 29, 1904. Serial No. 218,612.

To all whom it may concern:

Be it known that I, HENRY BRIGGS, a citizen of the United States, residing at Hasbrouck Heights, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Waxing Apparatus for Sewing-Machines; 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.

The present invention relates to waxing devices for sewing-machines used in sewing together layers of leather, and more particularly to sewing-machines employed in uniting together the uppers and soles of boots and shoes.

As is well known to those skilled in the boot and shoe art, the sewing-machines used for uniting the uppers and soles of boots and shoes are provided with a waxing apparatus through which the thread is drawn from the spool or cop on its way to the thread-handling and stitch-forming mechanisms and is there provided with a coating of wax which to a greater or less degree is absorbed and taken away by the fibers and strands of the thread. The wax commonly used in these machines is when cold to a greater or less degree solid and is soluble and liquefied by heat, and therefore the waxing devices are in general use provided with heating means, usually steam, which raises the temperature of the wax contained in the waxing devices to a high degree, sufficient to liquefy the wax, so that as the thread leads from the spool or cop and is drawn through the waxing device it will become to a greater or less extent saturated and coated with hot wax. In the employment of these waxing devices in common use prior to my present invention much difficulty and annoyance have been caused by the superheating of the wax, which causes it to boil up and run over its receptacle, covering the machine and the floor and other parts of the factory with wax, much to the annoyance and inconvenience of those who use the machines. This superheating of the wax has been caused generally by a sudden rise in temperature of the water which gathers in the closed steam-jacket which surrounds the wax-receptacle and the generation of steam

therein caused by the failure of the steam to exhaust properly from the steam-jacket. In use these waxing devices are heated by the admission of steam to the steam-jacket surrounding the wax-receptacle, and where several machines are connected to the same steam-supply the water in the overflow-pipes "backs up," as it is termed, and this raises the temperature of the water in the water-jacket, thus causing the objectionable superheating of the wax, as set forth. It is of course desirable that the wax shall be raised to a high temperature, for it thus becomes liquid and greatly facilitates the smooth and even operation of the thread-handling and stitch-forming devices of the machine.

The object of the present invention, therefore, is to provide an improved waxing apparatus for sewing-machines in which the water surrounding the wax-containing receptacle as it reaches the boiling-point and is vaporized into steam shall be discharged from said water-receptacle and after passing through suitable condensing apparatus returned to the water-receptacle, thus insuring the constant replenishing, as it were, of the water by the exhaust-steam and obviating the objectionable features hereinbefore stated.

To the above ends the present invention comprises the improved waxing device which will be hereinafter described, and specifically set forth in the claims.

The present invention is set forth in the accompanying drawing, wherein is shown in side elevation and partial sectional view my improved thread-waxing mechanism.

In the drawing, 1 represents a substantially cylindrical receptacle, which may be made of a single casting or otherwise constructed as may be deemed convenient. The receptacle 1 is open at the top, as shown at 2, and is preferably provided with a lateral flange 3, substantially at right angles to its sides, and at its lower end with the boss 4, having a chamber 5, provided with the threaded wall 6, opening into the receptacle 1, and also having the port or opening 61, to which is attached a suitable cock or faucet 7, the purpose of which will be hereinafter set forth.

Located within the chamber of the receptacle 1 is a wax-receptacle 8, the space between

the walls of the receptacle 8 and the receptacle 1 forming a water-receptacle or water-jacket, such as is usually to be found in these devices. The receptacle 8 at its upper end is
 5 open, as shown at 9, and is provided with a lateral flange or collar 10, arranged to rest upon and to be bolted or otherwise secured to the flange 3 of the receptacle 1 and also provided with the rabbeted collar or shoulder 11,
 10 arranged to fit the interior wall of the receptacle 1. In the receptacle 8 the wax is to be placed, and also it is to be provided with any usual or preferred form of guide-rolls and trucks and other thread controlling and guid-
 15 ing means which are usually employed in such devices, but which are not necessary to be shown herein. The receptacle 8 at its lower end is provided with a nipple 12, exteriorly threaded, as shown, and arranged to engage
 20 the threaded wall of the chamber 5 in the boss 4 and by its threaded connection fix in place and draw the flange 10 in close contact with the flange 3. The nipple 12 has a port 14 opening into the chamber 5, the arrangement
 25 being such that the "stale" wax which may be in the receptacle 8 may be drawn off through the cock 7.

For the purpose of heating the water contained in the chamber 9 I provide a steam-
 30 coil 15, which enters the receptacle 1 at the point 16, taking steam from any suitable source of supply, and is coiled around the wax-receptacle 8, leading from the receptacle 1 at the point 17 to any suitable steam outlet or pipe
 35 arranged to conduct it to a suitable overflow or waste. (Not shown.) It is of course understood that the water contained in the water-jacket 91 will be raised to the boiling-point and will become vaporized, and in the form of
 40 steam it is led from this receptacle through an outlet-pipe 18 into a condensing dome or chamber 19, which chamber discharges by a pipe 20 into a water tank or reservoir 21, mounted adjacent to the wax containing and heating mech-
 45 anism and connected at its lower end by a pipe 22 with the lower part of the water-chamber 9.

The operation of my improved apparatus is as follows: Water will be introduced into the reservoir 21 and from there will flow into the
 50 water-jacket 91, and sufficient water will be introduced to bring the level thereof to a point near the top of the reservoir 21 and the water-chamber 91. It being assumed that the wax-receptacle 8 is filled with wax, steam will be
 55 admitted through the inlet 16 and passing through the coil 15 raises the water in the water-chamber 91 to a high temperature, thus melting the wax contained in the receptacle 8. Should the water in the water-chamber
 60 91 reach the boiling-point, the steam generated thereby will pass out through the pipe 18 into the condensing dome or chamber 19, where it will be restored to its liquid form and from there will pass back into the water-reservoir
 65 21, and this operation will be continued.

It will be seen that in the present apparatus steam is not admitted directly to the water or steam jacket, but is admitted to a coil which surrounds the wax-receptacle and which heats
 70 the water therein, and that by reason of the steam-outlet to the condenser the temperature cannot exceed the boiling-point, thus preventing the objectionable superheating of the wax.

It will be obvious that but slight attention on the part of the operator will be necessary
 75 to maintain the proper water-level and that such proper water-level will be maintained for a longer time than by the use of the devices heretofore known to the art employing
 80 open vessels and that there will be no danger of the wax becoming superheated and boiling over, as in the devices of the prior art.

Having described my invention and the best means now known to me for operating the same, I desire to state that in the present
 85 drawing and specification I have simply set forth and described the essentials necessary to my invention and without attempting to describe details of its construction, which of course will be dictated to a greater or less ex-
 90 tent by the ordinary and usual construction of waxing devices now employed.

I claim as new and desire to secure by Letters Patent of the United States—

1. In a waxing apparatus for sewing-ma-
 95 chines in combination, a wax-receptacle, a water-jacket surrounding the same, means for heating the water contained in said water-jacket, a condenser, a steam-outlet leading from the water-jacket to said condenser, a res-
 100 ervoir into which said condenser discharges and a connection between said reservoir and the water-jacket, substantially as described.

2. In a waxing apparatus for sewing-ma-
 105 chines, in combination, a wax-receptacle, a water-jacket surrounding said receptacle, a steam-coil entering the water-jacket near one end surrounding the wax-receptacle and dis-
 110 charging near the opposite end, a condenser, connections between the water-jacket and the condenser, a water-reservoir into which the water discharges and a connection between the water-reservoir and the water-jacket, sub-
 115 stantially as described.

3. In a waxing apparatus for sewing-ma-
 120 chines, in combination, a wax-receptacle, a closed water-jacket surrounding said wax-receptacle, means for heating the water in the water-jacket, a condenser, a steam-outlet leading from the water-jacket to the condenser, a
 125 water-reservoir into which the condenser discharges and a connection between the water-reservoir and the water-jacket, substantially as described.

In testimony whereof I affix my signature in
 125 presence of two witnesses.

HENRY BRIGGS.

Witnesses:

T. HART ANDERSON,
 MAY A. KENNEY.