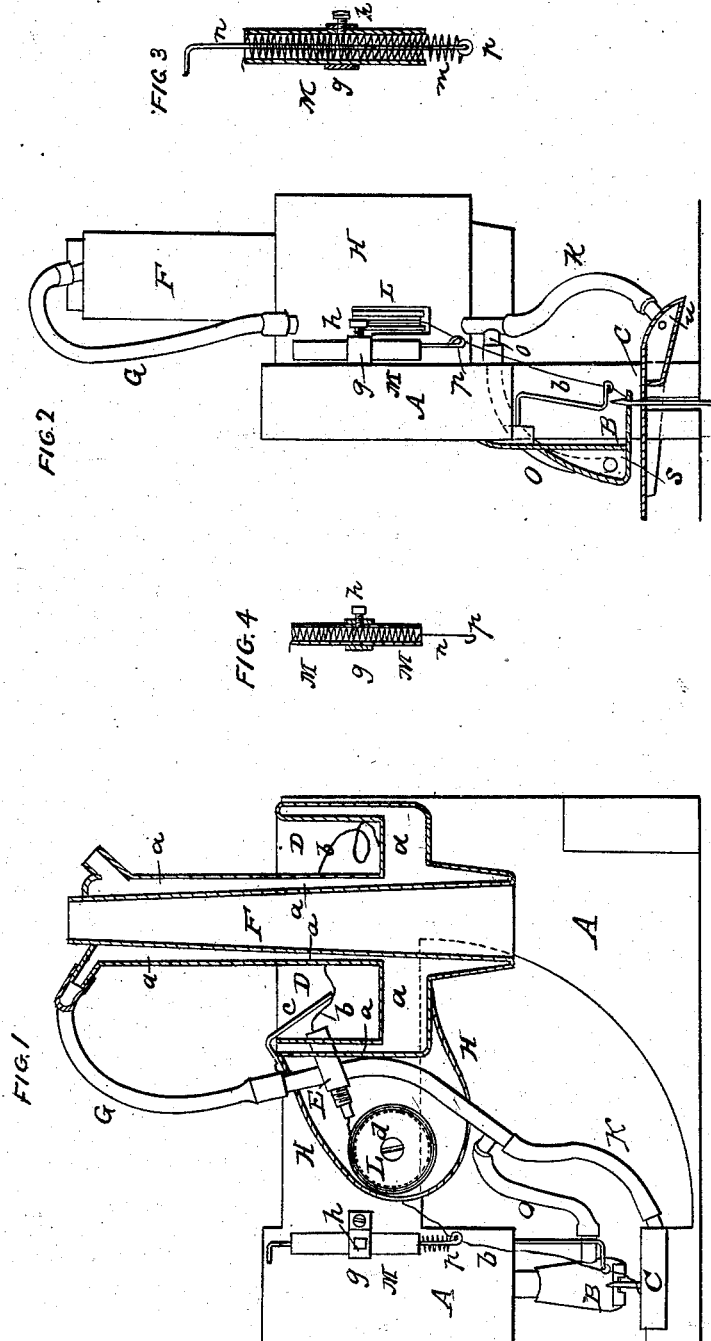


H. P. ALDRICH.
Waxed Thread Sewing Machine.

No. 47,911.

Patented May 30, 1865.



WITNESSES
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HOSEA P. ALDRICH, OF SPENCER, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND GEORGE JENKS, OF SAME PLACE.

IMPROVEMENT IN WAXED-THREAD SEWING-MACHINES.

Specification forming part of Letters Patent No. 47,911, dated May 30, 1865.

To all whom it may concern:

Be it known that I, HOSEA P. ALDRICH, of Spencer, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Machines for Sewing Leather with Waxed Thread; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of the devices which constitute my improvement, showing some of the parts in section. Fig. 2 represents an end view of the same. Figs. 3 and 4 represent detached views hereinafter to be referred to.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the frame or stand of the sewing-machine to be used for sewing leather.

B represents the pressure-pad, and C the cloth-plate on which the leather rests while it is sewed.

D represents a wax-receptacle for heating wax, which is heated by hot water and steam contained in the water-spaces *a*, and E is the thread-tube through which the thread is passed from the wax-receptacle to the needle, both of which are fully described in my application for Letters Patent on file at the Patent Office for "improvements in thread-waxing devices," and which therefore do not require to be described here in detail. The thread *b* is held down in the wax-receptacle by means of the swinging wire *c*.

G represents a tube or pipe which is connected with the steam-space *a* of the chimney F of the wax-receptacle, which passes through a casing, H, attached to the steam-chest of the wax-receptacle, and then branches off in two pipes, O and K, the former of which is connected to the pressure-pad B and the latter to the hollow cloth-plate C.

The pressure-pad and cloth-plate are made hollow, as shown at Fig. 2, for the purpose of introducing steam into them and heating them, so that when the work passes through the machine the wax with which the thread is saturated will not stick to the machine, and thus the work passes through without hindrance, avoiding all the difficulties in the break-

age and bending of the needles which has heretofore arisen in sewing leather by machines by means of waxed thread. *s* and *u* are openings in the pressure-pad and cloth-plate through which the condensed water of the steam can escape. This difficulty was so great that to obviate it partially a preparation of soft wax was used in machine-sewing, which when used cold would not stick as much as hard wax; but the use of such soft wax resulted in a very inferior quality of work, and the difficulty was not totally removed by it.

By heating the pressure-pad and cloth-plate, as above described, the work not only passes freely through the machine, but I am enabled to use the hard wax which is used in working by hand, and which is highly preferable to soft wax; and when the thread is drawn into the leather the wax cools and hardens and holds the leather well, even after the sides of the thread have been worn off—an advantage which heretofore could never be attained in machine-sewing.

L represents my tension-wheel, over which the thread passes after leaving the wax-receptacle D to prevent the thread from sticking thereto. It is mounted on its shaft *d* within the casing H, which, being in close proximity to the steam-chest of the wax-receptacle D, is heated thereby, and the thread therefore passes around it as freely as if it were not waxed at all.

M represents a tension device, which I have found to work with great success in the use of waxed thread. It consists in a tube, M, which is secured within the sleeve *g* by means of the set-screw *h*. Within said tube is a spring, *m*, whose upper end is bent over the upper edge of the tube M, and whose lower end is fastened within the eye *p* of a rod, *n*, said rod extending through the tube M and above it, and having its upper end bent. This arrangement is shown in section at Fig. 3. The thread is passed through the eye *p* of rod *n*, as shown at Fig. 1, and on drawing the thread tight in the stitch the spring *m* is expanded and will contract and take up the slack in the thread at the next operation of the needle.

This tension device may be modified by making the spring *m* and rod *n* in one piece, as represented at Fig. 4.

The casing H may be secured to the steam chest by providing it with hooks, which can be

fastened to projections on the steam-chest, so that it can be readily attached to or detached from the same.

Having thus fully described the nature of my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

1. Heating the pressure-pad and cloth-plate of a sewing-machine, or either of them separately, by steam or otherwise for the purpose of preventing waxed thread from sticking thereto while passing through the machine, substantially as and for the purposes specified.

2. Inclosing the tension-wheel or other tension device of a sewing-machine over which the waxed thread passes in a heated chamber

or casing for the purpose of preventing waxed thread which passes around it from sticking thereto, substantially as herein described.

3. Combining with the steam-chest of the wax-receptacle D the casing which contains the tension-wheel, substantially in the manner and for the purposes specified.

4. In combination with the wax-receptacle D and its steam-chest *a*, the pipes G O K, hollow pressure-pad B, and hollow cloth-plate C, substantially as and for the purposes specified.

HOSEA P. ALDRICH.

Witnesses:

THOS. H. DODGE,
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