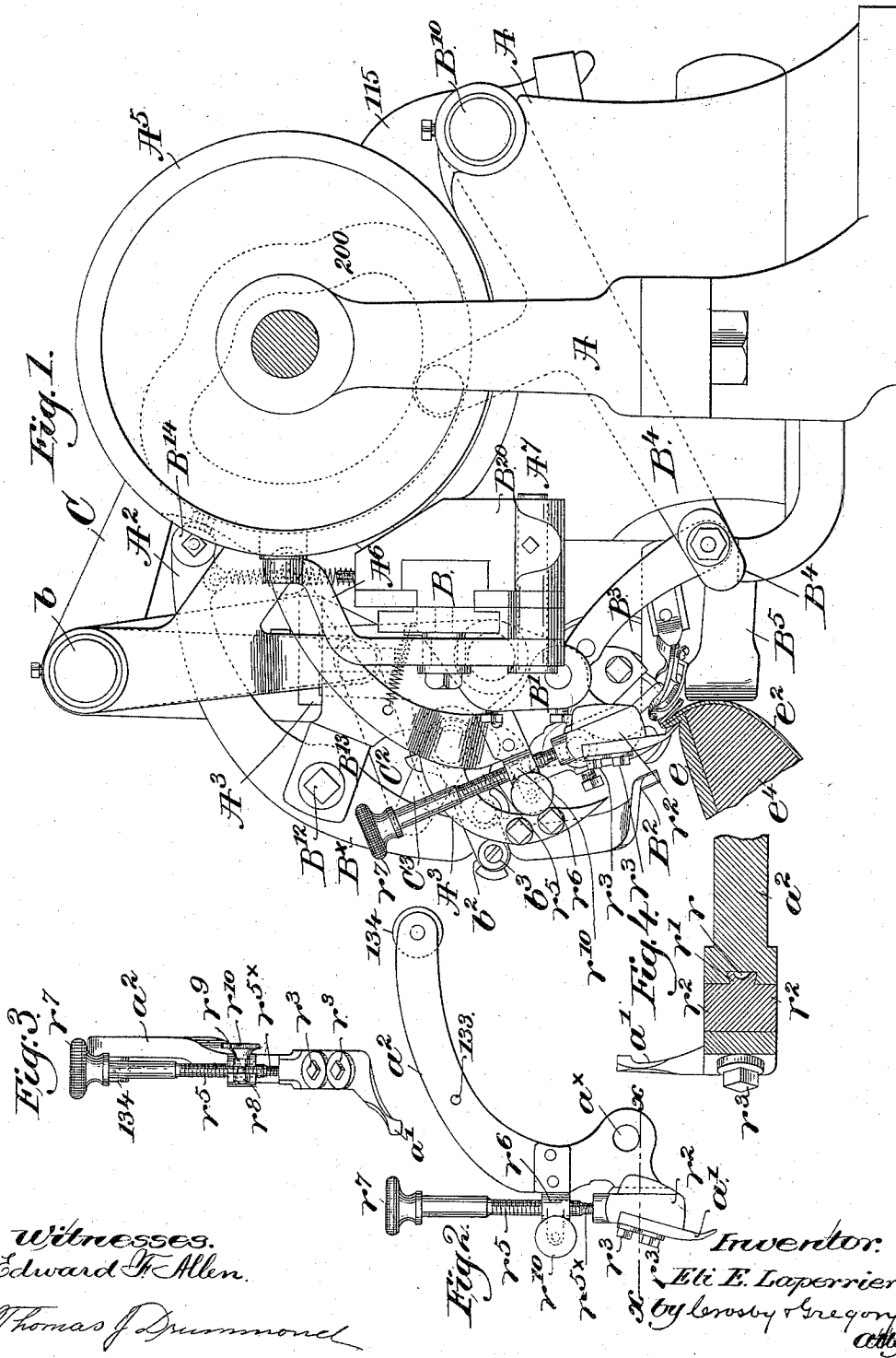


(No Model.)

E. E. LAPERRIERE.
SEWING MACHINE.

No. 533,301.

Patented Jan. 29, 1895.



UNITED STATES PATENT OFFICE.

ELI E. LAPERRIERE, OF AMESBURY, MASSACHUSETTS, ASSIGNOR TO THE
GOODYEAR SHOE MACHINERY COMPANY, OF PORTLAND, MAINE.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 533,301, dated January 29, 1895.

Application filed February 15, 1894. Serial No. 500,220. (No model.)

To all whom it may concern:

Be it known that I, ELI E. LAPERRIERE, of Amesbury, in the county of Essex and State of Massachusetts, have invented an Improvement in Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to sewing machines, particularly to wax thread sewing machines, in which a channel guide is employed, such machines being used principally in boot and shoe work.

15 In sewing a large lot of boots and shoes, the insoles in welt shoes and the outer soles in turned shoes vary to a considerable degree both in thickness and in hardness or density. When these soles varying in density and 20 thickness are passed through a channeling machine, the said machine, by reason of the variation in the soles, cuts the channels either deeper or lighter, according as the sole is thicker or thinner or as the sole is harder 25 or softer. When these soles are afterward sewed to the upper, it becomes necessary to employ a channel guide to run in the channel and to turn the same back to permit the needle to pass down into the same. Where 30 the channel is a light one, the needle should penetrate the same at its base or in the bottom of the channel, but where the channel is a deep one the needle should penetrate the same above the bottom of the channel or its 35 base, in order that the line of stitching may be at a uniform distance from the surface of the sole. The channel guide, however, must always run in the bottom of the channel, and it is desirable that the said guide be made 40 adjustable in order that in deep channels it may, while running in the bottom of the channel, run below the point of the needle, yet in light channels be so adjusted as to run substantially in the same line as the needle, or 45 in some instances above the needle.

This invention has for its object to provide a channel guide which may be easily and readily adjusted by the operator to accommodate soles of varying density and having 50 channels varying in depth.

One part of this invention therefore con-

sists in a channel guide; a carrying lever therefor, and means to actuate the same, and an adjusting device to positively vary the position of the channel guide on and with 55 relation to the said carrying lever, as will be more fully hereinafter described and pointed out in the claims.

In the drawings, Figure 1 represents in elevation and partial section, a wax thread sewing machine of usual construction provided with a channel guide embodying my invention, the particular machine illustrated being substantially like that shown in United States Patent No. 412,704, dated October 8, 1889, to 60 which reference may be had for a detailed description of the operation of the machine. Fig. 2 shows in side view the channel guide with its carrying lever and adjusting device, removed from the machine; Fig. 3, a left-hand 65 side view of Fig. 2, and Fig. 4, on an enlarged scale, a cross section on the dotted line $x-x$ Fig. 2.

Referring to the drawings, Fig. 1, the several parts are lettered as in the Patent No. 412,704 referred to, the said parts including the stitch-forming mechanism, the sliding guide 75 B^5 , against which the upper of the shoe upon the last is pressed during operation of the machine, operating in usual and well known 80 manner, it being deemed unnecessary to refer to the same in detail, as my invention relates solely to the channel guide and its carrying lever, said guide, further than its means for adjustment, co-operating with the other parts 85 of the machine precisely as in the patent referred to.

The channel guide carrying lever a^2 , pivoted at a^x and provided with the cam roller 134 co-operating with the actuating cam upon 90 the main shaft of the machine, is provided at its lower end and front side with a dove-tailed groove r to receive the dove-tailed projection r' upon the guide carrying block r^2 , to which is secured in usual manner by screws r^3 the 95 channel guide r^4 . See Fig. 2.

The sliding guide carrying block r^2 has a boss at its upper end which receives the threaded end r^{5x} of the adjusting screw r^5 , threaded in the split bearing r^6 attached to or 100 forming a part of the carrying lever a^2 , said adjusting screw at its upper end having a suit-

able finger-piece r^7 , by which it may be easily rotated in either direction by the operator.

The screw r^5 constitutes a preferred form of adjusting device for varying the vertical position of the channel guide on and with relation to its carrying lever, the lower end r^{5x} of the said device or screw being tapped into the boss on the guide carrying block with a left-hand thread, while the screw itself is provided with a right-hand thread running in the split bearing r^6 referred to, so that rotation of the screw in the said bearing r^6 causes vertical or endwise movement of the said device and a corresponding movement of the guide carrying block and its guide on and with relation to the carrying lever, the use of right and left-hand threads as shown, making the movements of the guide carrying block somewhat faster in either direction than the said movement would be were a single thread only employed. If the adjusting device be rotated from left to right, the guide carrying block will by several turns be run completely off the end of the screw, making it thereby convenient to detach for any desired purpose.

The two halves of the split bearing r^6 are provided respectively with ears r^8 , r^9 , see Fig. 3, through which is passed the clamping screw r^{10} , by means of which the said sleeve may be clamped about and retain the adjusting device in fixed position.

In operating the machine, the shoe upon the last e^1 is placed with its upper e^2 against the guide B^5 , as shown in Fig. 1, the point of the channel guide a' being inserted in the channel in the inner sole e in the usual manner, for stitching. If the operator, who by constant practice is enabled to at once detect a sole or channel varying in depth or hardness from that of the usual run of the soles, encounters a shoe having a channel deeper than the usual run, he will turn the adjusting device so as to carry the channel guide lower down or below the point of the needle, so that with the guide running in the bottom of the channel, the needle will penetrate the material a short distance above the bottom of the channel or at a distance below the top

of the sole, substantially the same as in the general run of soles. In the same way, if the operator encounters a sole which is softer or harder than the usual run, or which in any other way differs from the usual run of soles, he will so adjust the channel guide that when the said guide is running in the bottom of the channel, the needle will penetrate the sole either above or below the point of the channel guide, according as may be necessary to bring the stitches in the right line, and to prevent the same from lying too near either face of the sole.

While I prefer the construction herein shown and described, yet it is evident my invention may be embodied in other and different constructions within the scope of my invention if desired.

For the sake of illustrating my invention, I have shown the same in connection with one well known form of wax thread sewing machine provided with a channel guide, but my invention is not restricted to the particular machine shown.

I claim—

1. In a sewing machine, the combination with a channel guide carrying lever, and means to actuate the same, of a channel guide on and movable relatively to said lever, and an adjusting device to positively move said guide on and with relation to said lever, substantially as described.

2. In a sewing machine of the class described, the combination with a channel guide carrying lever, and means to actuate the same, of a channel guide movably attached to said lever, an adjusting device for positively moving the said guide on and with relation to said lever, and a clamping device to retain said guide in adjusted position on said lever, substantially as described.

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

ELI E. LAPERRIERE.

Witnesses:

FREDERICK L. EMERY,
JOSEPH ROULEAU.