

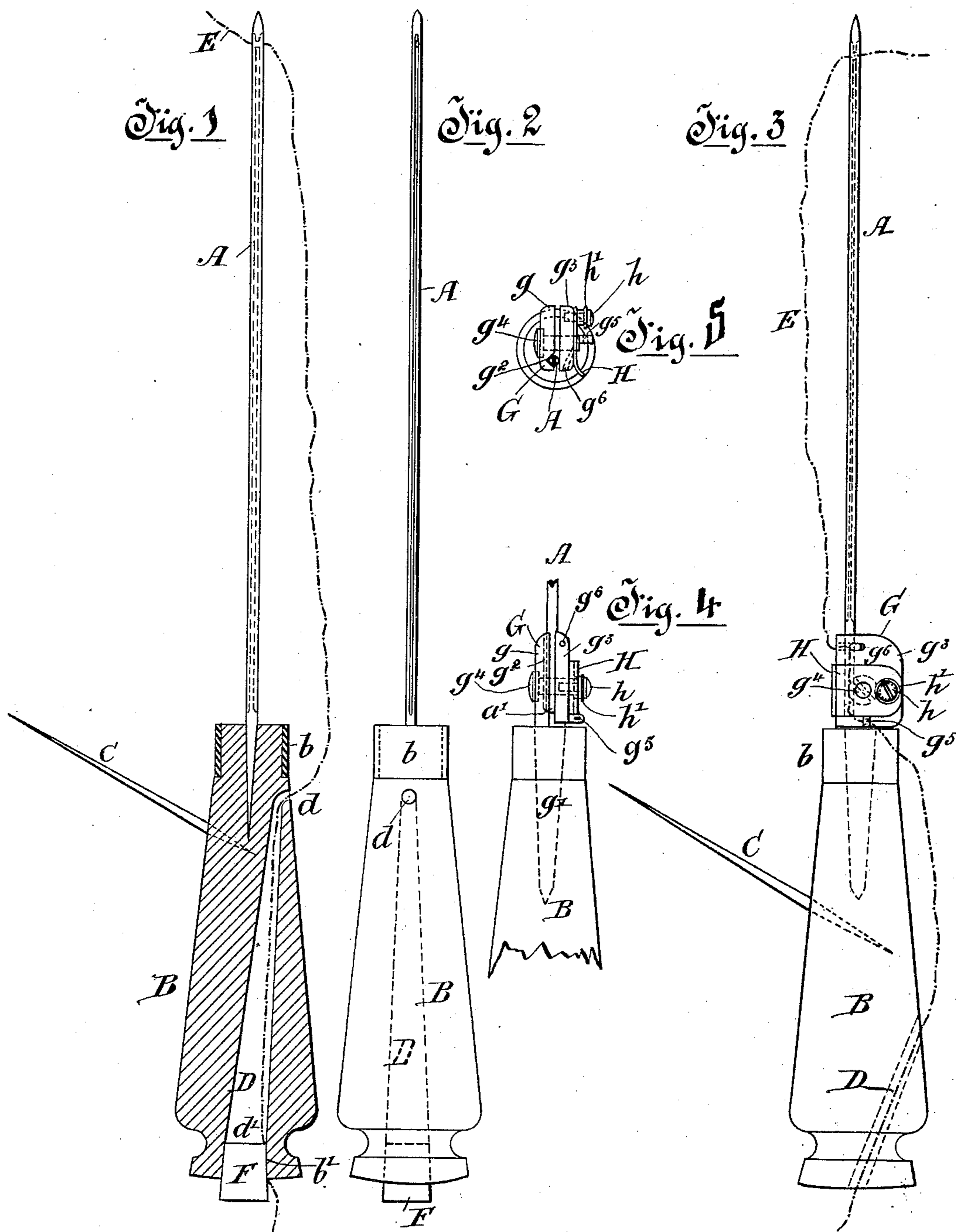
(No Model.)

E. SHAYLER & M. H. PEARSON.

TOOL FOR REPAIRING BOOTS AND SHOES.

No. 341,511.

Patented May 11, 1886.



Witnesses:-  
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# UNITED STATES PATENT OFFICE.

EDWARD SHAYLER AND MARSHALL HENRY PEARSON, OF LONDON, COUNTY OF MIDDLESEX, ENGLAND, ASSIGNOR TO JOHN O'FLAHERTY, OF MONTREAL, QUEBEC, CANADA.

## TOOL FOR REPAIRING BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 341,511, dated May 11, 1886.

Application filed April 10, 1885. Serial No. 161,794. (No model.) Patented in England April 18, 1884, No. 6,493.

*To all whom it may concern:*

Be it known that we, EDWARD SHAYLER and MARSHALL HENRY PEARSON, both of London, in the county of Middlesex, England, have invented certain new and useful Improvements in the Means or Apparatus for Repairing Boots and Shoes; and we do hereby declare that the following is a full, true, and exact description of the same.

Our invention is designed to produce a simple, cheap, and effective hand-tool or apparatus for sewing on patches, toe-caps, loose welts, and block-leather heels with either a waxed or unwaxed thread in a much shorter time than by the old method. It is best understood by aid of the accompanying drawings, in which—

Figure 1 is a sectional elevation, and Fig. 2 an elevation at right angles to Fig. 1, of a hand-tool with a fixed needle constructed according to our invention. Figs. 3, 4, and 5 are respectively elevations at right angles to each other, and a part plan of a hand-tool constructed so that the needle can be removed or changed at pleasure.

A is a long double-grooved eye-pointed needle mounted or fixed in a handle, B, (similar to those usually employed for hand-stabbing,) and armed with a short stabbing-awl, C, placed at an angle to the needle. For ordinary work we find to fix the awl C at an angle of about thirty degrees to the needle will give good results; but we do not limit ourselves to fixing it at any particular angle, as it may be varied to suit circumstances.

D is a conical hole, passing obliquely through the handle B for guiding the thread to the needle. The smaller end,  $d$ , of the hole D is made to run out or issue from the handle B immediately below the ferrule  $b$ , Fig. 1. Through the hole D a waxed or unwaxed thread, E, (shown in the drawings passing loosely through the conical hole to the needle,) is passed to the needle, and at the lower and largest end,  $d'$ , of the conical hole D is fitted a cork, india-rubber, or other elastic plug, F, which impedes the ready passage of the thread E by pressing it against the solid part  $b'$  of the handle B, and thus forms a tension, which may be easily regulated, as required.

We have found that the above-described hand-tool will give very good results where only one class or kind of boots or shoes are to be repaired; but where different kinds of material have to be operated upon it is necessary to use needles of various sizes—as, for instance, ladies' boots and shoes, being made of lighter material than gentlemen's, require the use of a finer needle—and in order to adapt our hand-tool for any class of work we arrange it so that the needle can be easily changed, as shown at Figs. 3, 4, and 5, in which the tension is placed nearer to the point of the needle, and the oblique conical hole D is made much shorter than that shown at Fig. 1. When this is the case we dispense with the cork or elastic plug F, and employ in its place the tension-plate, to be hereinafter described.

At Figs. 3, 4, and 5 a clamping device, G, is employed for receiving the end  $a'$  of the needle A, which permits of it being easily removed at pleasure, and consists of a plate,  $g$ , provided with a tang,  $g'$ , fixed in the handle B, as shown.

In the plate  $g$  a vertical V-groove,  $g^2$ , is cut or cast for receiving the end  $a'$  of the needle A, and an adjustable clamping-plate,  $g^3$ , is secured to the plate  $g$  by means of a set-screw,  $g^4$ , which firmly retains the end of the needle in the groove  $g^2$  and in position.

On the clamping-plate  $g^3$  a tension device is fixed consisting of an adjustable plate, H, rounded at one end, as shown, and having the opposite end or edge slightly turned up to allow the thread E to pass easily under it. A set-screw,  $h$ , provided with an india-rubber or other elastic washer,  $h^2$ , is employed for adjusting the plate H, and for giving the required drag or tension to the thread E as it passes between the plate H and clamping-plate  $g^3$  to the needle.

In order to keep the plate H in position, the end of the set-screw  $g^4$  is made to pass through and protrude beyond the plate H. Thread-eyes  $g^5$  and  $g^6$  are also provided on or in the plate  $g^3$  for guiding the thread to and from the tension-plate H.

The mode of operation is as follows: When a loose or changeable needle is employed, it is required to be secured in the clamp G by the

set-screw  $g^4$ , with one of the long grooves in the needle facing the awl C. The tool is then ready to be threaded. A waxed or unwaxed thread is passed through the oblique conical hole D to the eye of the needle from the side next the awl, and about eighteen inches of thread pulled through, the required amount of drag or tension being given to the thread as it passes through hole D by plug F being pressed into the hole, as shown in Fig. 1, or in the arrangement of the hand-tool shown in Fig. 3, the thread passed from the conical hole D through thread-eye  $g^5$  to and under tension-plate H, and from the plate H to the eye of the needle A from the side next to the awl through thread eye or hole  $g^6$ , the requisite amount of tension being given to the thread as it passes under the plate H by means of the adjusting-screw  $h$  and elastic washer  $h^2$ . When it is desired to put in a row of stitches, hold the handle B in the right hand with the awl C close to the thumb and stab a hole from the outside through the leather in the required direction. Withdraw the awl and insert the needle, carrying the thread as far as required. Draw back the needle about an inch, which causes a slackness, thereby forming a loop of thread inside the boot, and with the fingers of the left hand the loose end of the thread is pulled through the hole into the boot. The needle is now withdrawn and another hole stabbed with the awl, and the needle again inserted, withdrawn about an inch, and the end of the thread (that was pulled inside the boot through the first hole that was stabbed) is now

passed or laced through the loop thus formed from the side farthest from the awl, and after the needle has been withdrawn the thread is tightened when a stitch is formed similar to that made by a lock-stitch sewing-machine, which operation can be repeated as often as desired.

Having thus described our invention, we claim—

1. In a tool for repairing boots and shoes, the combination of the handle having a fixed stabbing-awl and provided with a passage through said handle for the thread, an eye-pointed needle, and a tension device for the thread, substantially as described.

2. In a tool for repairing boots and shoes, the handle having the stabbing-awl, the passage D, for the thread, the adjustable needle-holder and a tension device, substantially as described.

3. In a tool for repairing boots and shoes, the handle having the thread-passage D, awl C, needle-holder  $g$   $g^3$ , and the adjustable tension device, substantially as described.

In testimony whereof we have subscribed our names to this specification, at London, in the county of Middlesex, England, on the 21st day of January, A. D. 1885.

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