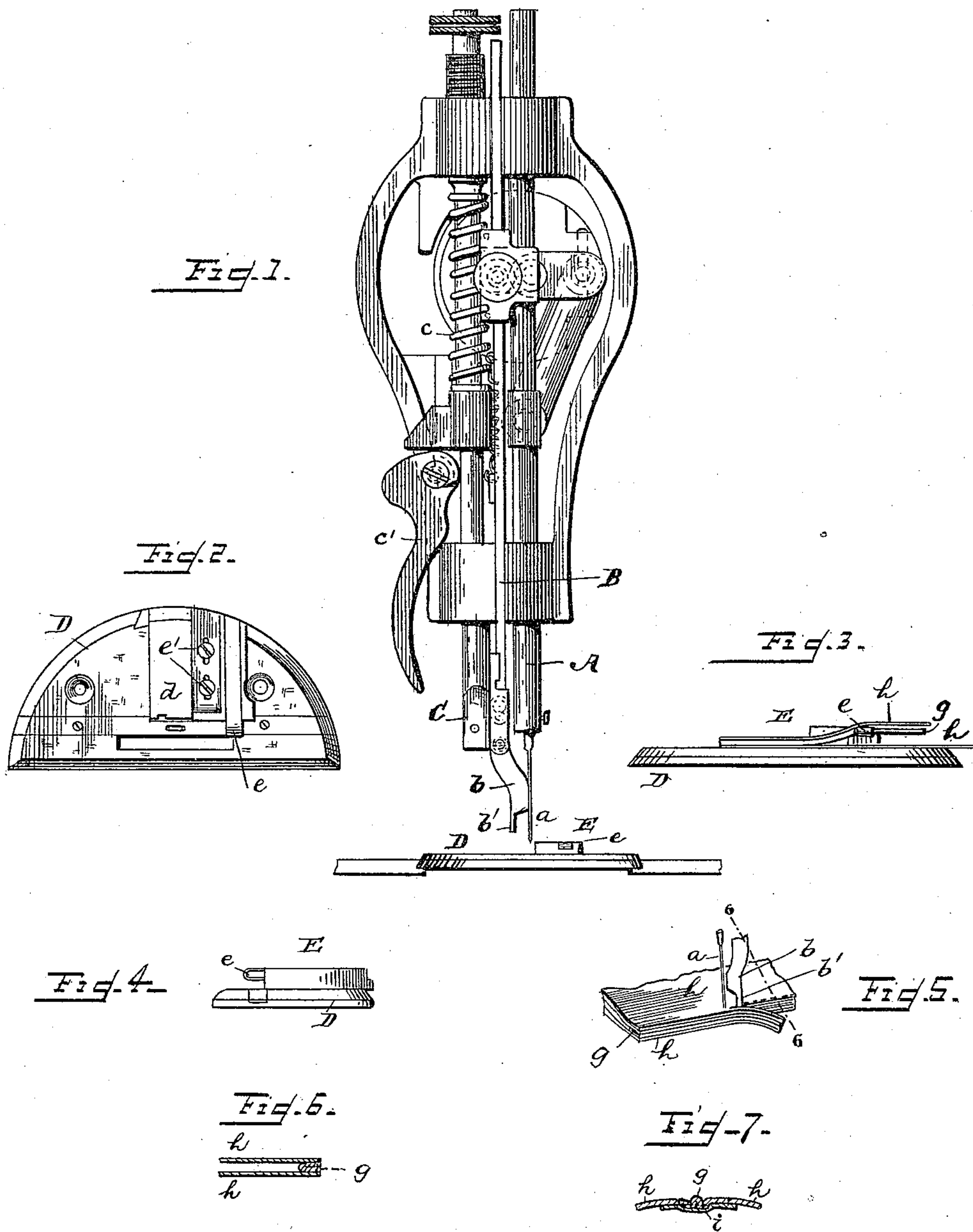


(No Model.)

E. D. LUDLOW.
TRIMMER FOR SEWING MACHINES.

No. 430,134.

Patented June 17, 1890.



Witnesses
Ira R. Steward
A. V. Gockman

Inventor
E. D. Ludlow
By his Attorney
R. H. Calver

UNITED STATES PATENT OFFICE.

ERASTUS D. LUDLOW, OF CHICAGO, ILLINOIS.

TRIMMER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 430,134, dated June 17, 1890.

Application filed January 23, 1890. Serial No. 337,792. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS D. LUDLOW, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Forming Trimmed Piped Seams, of which the following is a specification, reference being had therein to the accompanying drawings.

In the manufacture of ladies' boots and shoes it is customary to stitch a piping or welt into the front and back seams thereof for the purpose of strengthening the seams and protecting the same from chafing by contact with the dress of the wearer. In sewing these piped or welted seams it has heretofore been the practice to flatten them out and rub them down, so that they will not cause discomfort to the wearers of the boots or shoes, and after having thus been rubbed down flat the seam is usually strengthened and covered by a stay piece or strip sewed to the inner side thereof by a double row of stitches; but this rubbing down of the piped or welted seams is objectionable by reason of the amount of work involved, and more particularly so by reason of the fact that the welt or piping, which ought properly to stand out well on the outer side of the seam to protect the same and give it a good appearance, is too much flattened down on the said outer side, and the effectiveness of the piping, as well as the appearance of the seam, is thus detracted from.

My invention has for its object to obviate the necessity of rubbing down welted or piped seams in boot and shoe work, thus avoiding the above-mentioned objections incidental thereto, and this object I accomplish by forming these welted or piped seams on a sewing-machine provided with a trimming mechanism, a work-guide, and a welt or piping guide, these parts being so arranged relatively to each other and to the needle of the machine that the edges of the sections of work united and of the welt or piping are trimmed off close to the line of stitches on what is to be the inside of the seam when the work is flattened out, so that the seam will have the necessary flatness without being rubbed down, while the welt or piping will stand out well on the outside of the seam.

In the accompanying drawings, Figure 1 is a partial front end elevation of a "Singer" sewing-machine with my invention applied thereto, the face-plate and presser-foot being removed and the parts below the work-plate being omitted. Fig. 2 is a plan view of the throat-plate with the work and piping guides attached thereto, and Figs. 3 and 4 are edge views of the same. Fig. 5 illustrates the operation of forming a trimmed piped seam. Fig. 6 is a cross-section on line 6 6, Fig. 5, showing the relative positions of the piping and the other pieces of the work at the sewing and trimming operation; and Fig. 7 is a cross-section through a trimmed piped seam which has been flattened out and strengthened by a stay-piece.

In the machine herein illustrated the needle-bar A, carrying the eye-pointed needle *a*, the cutter-bar B, carrying the knife or cutter *b*, the presser-bar C, with its depressing-spring *c*, and lifter *c'* are or may be constructed and operated the same as in United States Patent No. 361,401, or in the well-known Singer machine.

D is the throat-plate, having the usual feed and needle openings, and having the horizontal cutter-plate *d*, notched for the reception of the finger *b'* of the knife or cutter *b*. To the said throat-plate in front of the needle and the trimming-knife is attached an edge-guide E, provided with a welt or piping guide *e*, raised above the throat-plate, so that a section of material can pass beneath it with its edge in contact with the guiding-face of the guide E. The welt or piping guide *e* is closed, as shown in Fig. 4, being made as a short flattened tube, which is adapted to entirely inclose the piping-strip, and the inner guiding-edge of said guide is coincident or in line with the straight guiding-face of the work-guide E, the inner wall of the tubular piping-guide being formed in the embodiment of my invention herein illustrated by the guiding-wall or outer face or the said work-guide E, the said guiding-wall or outer face of the work-guide and the inner wall of the piping-guide being to the right of or inside the needle, so that a suitable margin to be trimmed off will project to the right or inside the line of stitches. The screws *e'*, by which said guide E is secured to the throat-plate, preferably pass through

slots, which permit of slight lateral adjustments of said guide and of the piping-guide movable therewith.

The outer or guiding edge of the guide E is straight, or, in other words, is in a line which is parallel to the line of movement of the feed-dog and of the normal path of movement of the work as the latter is moved forward by the said feed-dog.

In the operation of my invention the edges of the sections *h* of material to be joined to form the seam are superposed and are directed to the needle and the trimming mechanism by the guide E, the welt or piping-strip *g*, passing through the guide *e*, being interposed between the sections *h* as the work moves forward. As the work passes the needle the trimming-knife cuts off the edges of the sections *h* and the edges of the folded piping-strip *g* close to the line of the stitches, thus leaving the seam so flat on its inner side that no subsequent rubbing down is required, while the said piping-strip stands out well or forms a prominent bead on the outer side of the work, as shown in Fig. 7, when the seam is flattened out and strengthened and lined by the stay-strip *i*.

I do not wish to be understood as limiting my invention to the particular forms of work-guide and piping-guide herein shown, as it is obvious that changes may be made in the details thereof without departing from the spirit of my invention.

I claim—

1. In a sewing-machine, the combination,

with a stitch-forming mechanism and a trimming mechanism, of a closed or tubular piping-guide raised above the work-plate or throat-plate, and a work-guide having a guiding face or edge which is straight or parallel to the movement of the feed-dog, and which is also coincident or in line with the inner guiding-edge of the said piping-guide, both of the said guides being in front of the needle and having their guiding-edges to the right or inside of the latter, whereby two pieces of material with an interposed piping-strip may be guided to the sewing and trimming mechanism and the piped seam thus be trimmed simultaneously with the operation of sewing.

2. In a sewing-machine, the combination, with a stitch-forming mechanism and a trimming mechanism, of the work-guide E, having a guiding face or edge which is parallel to the movement of the feed-dog, and which is inside or to the right of the line of the needle, and the closed or tubular piping-guide *e*, carried by the said work-guide and elevated above the work-plate or throat-plate and having its inner guiding-edge coincident with the guiding edge or face of the said work-guide, all arranged to operate substantially as set forth.

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

ERASTUS D. LUDLOW.

Witnesses:

J. H. LOBDELL,
J. E. PARKE.