

(No Model.)

C. H. WILLCOX.

TRIMMING ATTACHMENT FOR SEWING MACHINES.

No. 387,029.

Patented July 31, 1888.

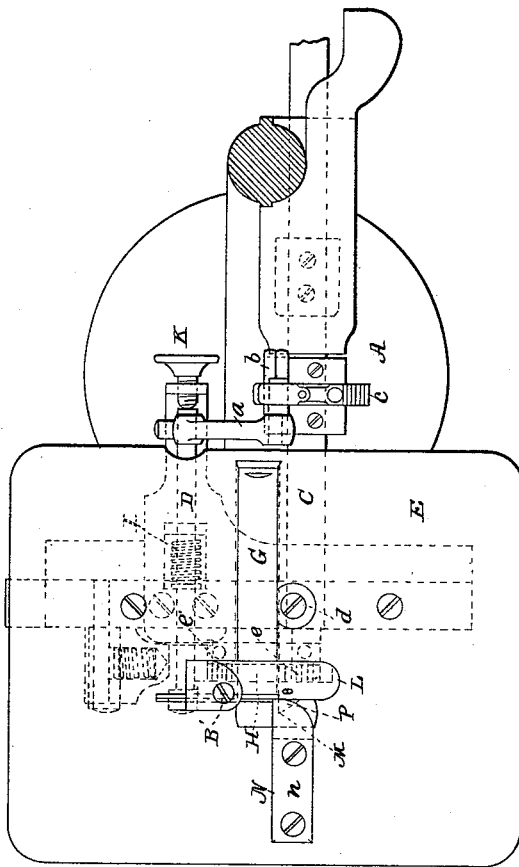


FIG - 1 -

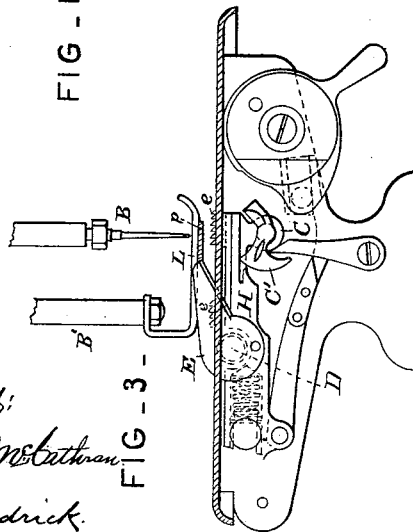


FIG - 3 -

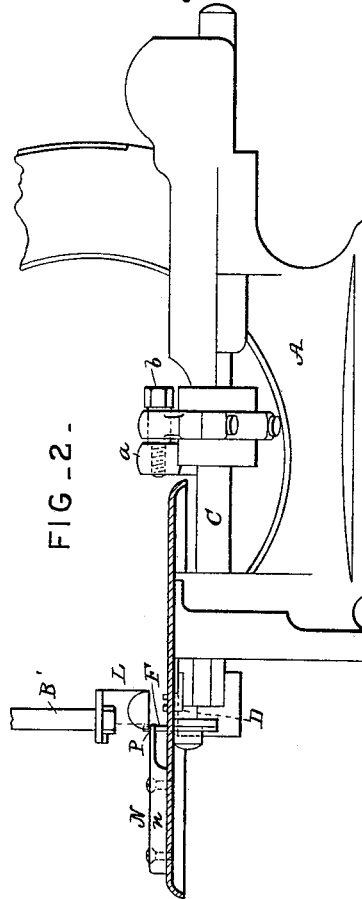


FIG - 2 -

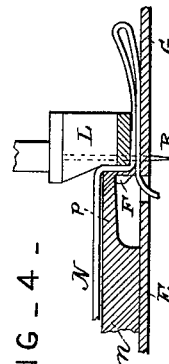


FIG - 4 -

Attest:
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by A. J. Hart
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UNITED STATES PATENT OFFICE.

CHARLES H. WILLCOX, OF NEW YORK, N. Y., ASSIGNOR TO THE WILLCOX & GIBBS SEWING MACHINE COMPANY, OF SAME PLACE.

TRIMMING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 387,029, dated July 31, 1888.

Application filed June 2, 1882. Serial No. 63,046. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WILLCOX, of New York city, in the county and State of New York, have invented a new and useful
5 Improvement in Trimming Attachments for Sewing-Machines, which improvement is fully set forth in the following specification.

This invention has reference to trimming attachments for cutting one of superposed layers, leaving the other uncut, and more particularly to such attachments when so combined with the sewing-machine as to adapt them to trimming the edge of plain or single-turn welts or hems or knit goods.

15 The invention consists, generally, in combining with a sewing-machine trimmer of any ordinary or suitable construction a guide for diverting the layer or layers to be left uncut away from the trimming mechanism, leaving
20 the other layer or layers to be acted upon and severed. It, however, comprises also certain special constructions, as indicated below.

In the accompanying drawings, which form a part of this specification, a portion of a combined sewing and trimming machine, or sewing-machine with trimming attachments sufficient to illustrate the invention, is represented.

Figure 1 is a plan view; Fig. 2, an end view, partly in vertical section; and Fig. 3, a front
30 view. Fig. 4 is a sectional view illustrating the operation.

This sewing-machine is the well-known Willcox & Gibbs single-thread chain-stitch machine, A being the machine-frame; B, the needle and needle-bar; B', the presser-bar; C, the main shaft; C', the looper; L, the presser-foot; E, the cloth or work plate, and H the feed-bar. The trimming attachment has the vibratory cutter F and the edge of the stationary cutter
40 G on the opposite side of the needle from the goose-neck, (the lower part of which is shown to the right, Fig. 1;) but otherwise the trimming mechanism is constructed as shown in Figs. 12 to 15 of the drawings annexed to Letters Patent No. 255,578, dated March 28, 1882, and granted to the Willcox & Gibbs Sewing Machine Company, as assignees of S. Borton and myself.

D is the rock-shaft, carrying the vibratory
50 cutter and capable of slight endwise movement

in its bearings; I, the spring for holding the edges of the cutters in contact, and K the adjustable back-stop. The rock-shaft D is operated from an eccentric on the main shaft through an arm, a, attached to the rock-shaft, 55 a pin, b, and link c. The cutter G is formed of a bar or plate ground on the end, and is set in a dovetail in the cloth or throat plate and held in place by the set screw d.

In order to allow the cutter-bar G to project 60 across the line of sewing, the feed-surface is divided into two parts, *ee'*. (See plan and end views.) This arrangement, as it allows the feed-surface to take hold of the fabric both in front and rear of the cutters, is advantageous 65 in operation by keeping the fabric always stretched and preventing puckering.

The guide N, which is the principal feature of the present invention, is so arranged that it will direct or keep away from the edges of the cutters F G the fabric not to be cut, which in
70 welting or hemming is the main body of the article. As shown, it is attached to the cloth-plate or work-plate E and comprises a standard or base, n, and a finger, p, projecting in front of the cutter F at about the level of the point of said cutter in its highest position. It thus effectually prevents the fabric from being caught by the point of the cutter. The front
80 of the finger p is rounded, so that the fabric will ride easily over it. The edge or margin to be trimmed off passes under the finger p and between the edges of the cutters F G. The presser-foot is cut away on the side from a point opposite the finger p to the rear, so as to
85 allow the uncut fabric which is diverted by the finger p of guide N and rides over the top of the cutter F to pass between the said finger p and cutter F and the presser-foot. The latter, however, when let down, is still sufficiently
90 close to the cutting-edges to clamp the fabric firmly.

In hemming or welting knit goods the curl at the edges is liable to interfere with the action of the trimmer. To uncurl and flatten 95 the margin to be trimmed a slot is formed in the cloth-plate E near the needle-hole, and on the edge of the slot nearest the needle-hole is a projection, M, Fig. 1. This projection is curved in front, and as the goods are fed grad- 100

usually it spreads the curled edge so that the cutters may act upon the flattened fabric.

It is obvious that modifications may be made in the details of construction without departing from the spirit of the invention, and that parts of said invention may be used separately. For example, the guide for diverting the layer or layers not to be cut can be combined with various kinds of trimmers. It is shown combined with a shear-trimmer having one vibratory and one stationary blade. It can be combined with a shear-trimmer having a blade reciprocating in right lines, or having one or two rotary concentric or eccentric disks, or with a knife-trimmer in which a reciprocating or a revolving knife works through a slot, or in fine with any ordinary or suitable style of trimmer.

Having now fully described my said invention and the manner of carrying the same into effect, I would observe, in conclusion, that I do not claim, broadly, a sewing machine attachment for trimming one of two superposed layers, nor any of the matters claimed in my application filed of even date herewith and numbered 62,516; but

What I do claim herein is—

1. The combination, with the sewing-machine and trimming attachment, of the diverting-guide secured to the cloth-plate and having a finger projecting in front of the cutters close to the presser-foot, said finger being raised above the cloth-plate to permit the passage of one or more layers of fabric to said cutters, substantially as described.

2. The combination of a trimming attachment, a diverting-guide, and a device for uncurling or flattening the margin to be trimmed off, substantially as described.

3. In a sewing-machine with trimmer attachment, the feed surface divided transversely

to the direction of the feed movement and arranged to take hold of the fabric both in front and rear of the cutters, substantially as described.

4. The combination, with a sewing-machine having a needle and presser-foot, of a stationary cutter bar or plate arranged to extend under the presser-foot past the needle, and an auxiliary cutter arranged alongside of the said presser-foot and forming with said cutter bar or plate a pair of shears, substantially as described.

5. The combination, with a sewing-machine, of a trimming attachment having the cutting portion arranged on the side of the needle away from the goose-neck, and a diverting-guide arranged on the same side of the needle in front of said cutting portion, and having a projecting finger raised above the cloth-plate to permit the passage of a layer or layers of fabric to the cutters, substantially as described.

6. The combination, in a sewing-machine with trimmer attachment, of the vibratory and stationary cutters, the diverting-guide, and the uncurling device arranged on the side of the needle opposite from the goose-neck of the machine, substantially as described.

7. The combination, with the stitch-forming mechanism and presser-foot of a sewing-machine, of a feed-bar having a divided feed surface, and trimming devices located below said presser-foot and crossing said feed-bar, said trimming devices having means for operating them, substantially as described.

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

CHAS. H. WILLCOX.

Witnesses:

E. A. RACE,
S. A. SWART.