

No. 753,145.

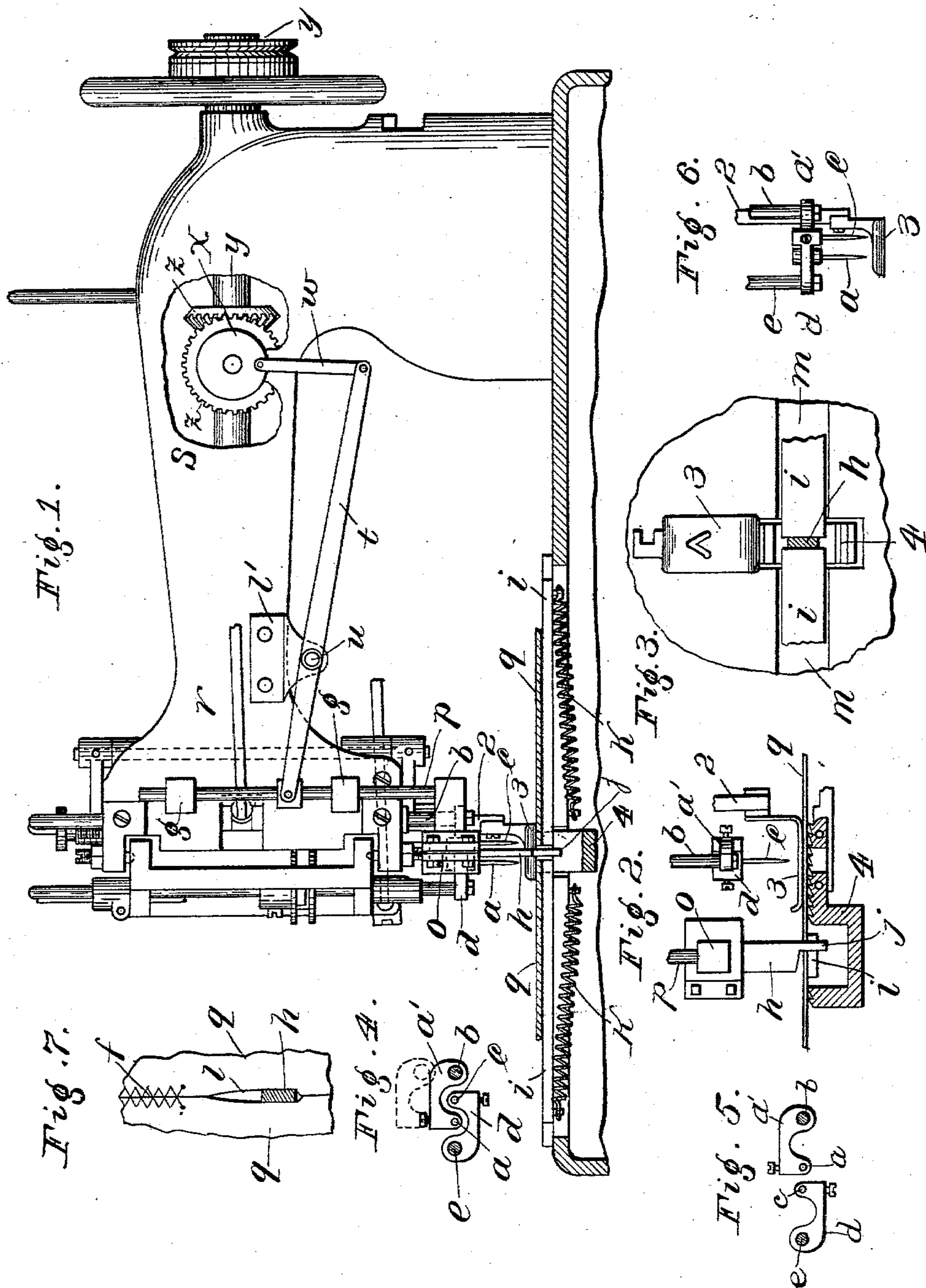
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H. A. KLEMM.

TRIMMING CUTTER ATTACHMENT FOR ZIGZAG SEWING MACHINES.

APPLICATION FILED MAY 13, 1903.

NO MODEL.



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TRIMMING-CUTTER ATTACHMENT FOR ZIGZAG-SEWING MACHINES.

SPECIFICATION forming part of Letters Patent No. 753,145, dated February 23, 1904.

Application filed May 13, 1903. Serial No. 156,910. (No model.)

To all whom it may concern:

Be it known that I, HERMANN A. KLEMM, a citizen of the United States of America, and a resident of the borough of Bronx, New York city, State of New York, have invented certain new and useful Improvements in Trimming-Cutter Attachments for Zigzag-Sewing Machines, of which the following is a specification.

My invention consists of improvements in trimming-cutter attachments for zigzag-sewing machines of the character represented in the Letters Patent Nos. 686,662 and 710,696, granted to me November 12, 1901, and October 7, 1902, respectively, for uniting two pieces of work at the edges by zigzag stitches traversing the meeting edges of the work placed flatwise on the work-plate, with the edges to be united meeting each other in the median line of the seam, as well as for making ornamental zigzag stitches on the surface of integral webs.

The essential feature of the invention now claimed comprises a vertically-operating double-edged cutter-blade having parallel edges of the respective sides and located in the plane of the median line of the seam in suitable advance of the needles and two lateral bed-cutters in the work-plate constantly held by yielding pressure to operative relation with the edges of the vertical cutter, respectively, with a gage-prong of said vertical cutter in rear of the cutting parts of the edges, preventing nearer approach of the bed-cutters toward each other, while the cutting parts of the vertical cutter are open with respect to the bed-cutters for the advance of the work, all as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a front elevation of the essential parts of a zigzag-sewing machine with parts in vertical section and with a piece of work in section, showing the application of my invention. Fig. 2 is a detail in vertical longitudinal section of the feed-dog, with some parts in elevation. Fig. 3 is a detail in plan view with a horizontal section of the vertical cutter. Figs. 4 and 5 are horizontal sections of the needle-bars and plan views of needle-carrying arms, illustrative of the operations of the needles in

producing the zigzag stitches. Fig. 6 is an elevation of needle-carrying arms and parts of the needle-bars detached for clearer illustration. Fig. 7 is a diagram of a piece of work with a horizontal section of the vertical cutter, illustrative of the operation of the attachment.

In the drawings, *a* represents one needle carried by an arm *a'* of a needle-bar *b*, and *c* another needle carried in an arm *d* of another needle-bar *e*, which needles are made to change places with each other at every operation, as indicated to some extent in Figs. 4, 5, and 6 and as fully illustrated and described in the before-mentioned Letters Patent granted to me, but more particularly No. 710,696, for producing double-zigzag stitches, as *f* in Fig. 6, to which said Letters Patent reference is made for understanding of the details of apparatus for effecting such change. It may, however, be herein stated that Figs. 4 and 5 show the exchanged positions. The dotted lines in Fig. 4 indicate a back position of needle-bar *b* and needle *a*, which represents the first movement of exchange by which the needle-bars are free to shift laterally without conflict with each other. They then so shift, and bar *b* and needle *a* come forward into lateral alinement with bar *e* and needle *c*, and so on. The presser-bar is represented at 2. 3 indicates the presser-foot, and 4 the feed-dog. For trimming the rough edges of the pieces *g* of fabric to be joined by such stitches I have now provided the vertically-reciprocating double-edged cutter-blade *h* in the plane of the meeting edges of the said pieces a suitable distance in advance of the needles and the lateral bed-cutters *i*, respectively on opposite sides of said cutter *h*, with a prong *j* of the latter cutter extending between the ends of cutters *i* a little back of the operative parts of the cutters for a gage to limit the advance of cutters *i* at the proper time for cutting, and with tension-springs *k* to hold said cutters up to said gage. The operator guides the pieces *g* to the cutters, with the edges of the pieces in close contact, as shown at *v*, so that both edges are trimmed by the respective edges of cutter *h*, behind which the operator presses the pieces toward each other to close up the space *l* left by the trimming in advance

of the needles, so that the edges are joined closely.

The lateral cutters *i* are fitted in suitable ways *m* in the work-plate, and the cutter-head 5 *o*, carrying the cutter *h*, is mounted on a vertically-reciprocating bar *p*, mounted in guideways *g*, suitably placed on the head *r* of the stationary arm *s* of the machine. In this example I have represented a lever *t* pivoted at 10 *u* to a bracket *l'* of said stationary arm, said lever being linked at *w* to a disk *x*, suitably geared within the hollow space of arm *s*, with the main shaft *y* for being rotated; but the means for operating cutter *h* may of course 15 be varied at will.

What I claim as my invention is—

The combination with a pair of zigzag-stitch-forming needles and means for operating said needles, of a pair of bed-cutters and

slideways therefor placed laterally to and re- 20 spectively on opposite sides of the feed-line, and a double-edged reciprocating vertical cutter located in the median plane of the feed-line and coacting with the bed-cutters respectively, means for operating said cutter, a 25 prong of said vertical cutter working between the ends of the bed-cutters back of the operative parts of the cutters and gaging the edges of the bed-cutters relatively to its respective edges, and means for maintaining pressure of 30 the bed-cutters against said gage-prong.

Signed at New York this 28th day of April, 1903.

HERMANN A. KLEMM.

Witnesses:

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