

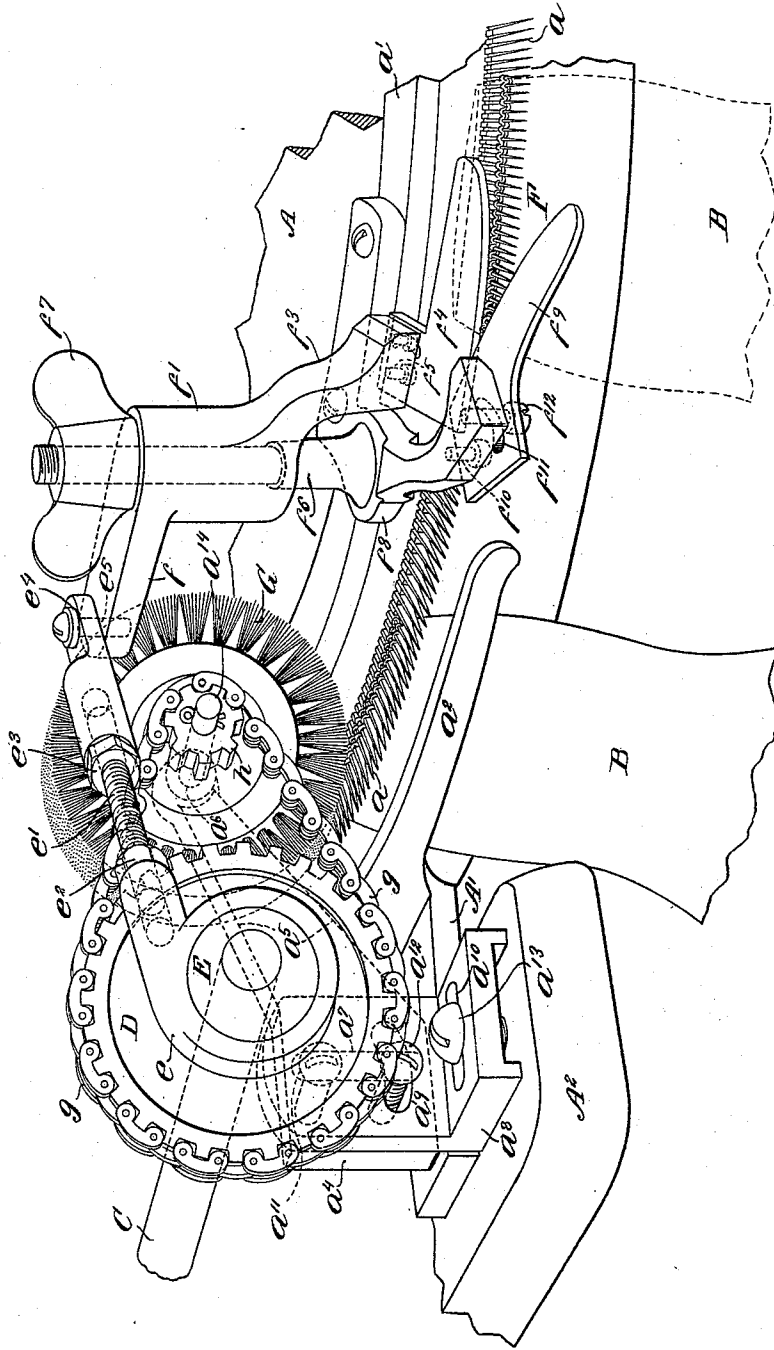
(No Model.)

# H. C. RIGHTMIRE.

TRIMMER AND RAVELER FOR MACHINES FOR SEWING LOOPED FABRICS.

No. 536,656.

Patented Apr. 2, 1895.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HARRY C. RIGHTMIRE, OF PHILADELPHIA, PENNSYLVANIA.

TRIMMER AND RAVELER FOR MACHINES FOR SEWING LOOPED FABRICS.

SPECIFICATION forming part of Letters Patent No. 536,656, dated April 2, 1895.

Application filed September 5, 1894. Serial No. 522,181. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY C. RIGHTMIRE, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Trimmers and Ravelers for Looper Seaming-Machines, of which the following is a specification.

My invention has relation in general to seaming machines adapted for looping the parts or ends of hosiery, undergarments, vests or the like together; and in such connection it relates particularly to the construction and arrangement of a trimmer and raveler operating successively and automatically in such type of looping machines.

The principal objects of my invention are, first, to provide a simple, durable and effective trimmer and raveler for a looper seaming machine; second, to provide a looper seaming machine with a trimmer having the blades thereof arranged so as to be adjustable for adapting the same to the severing of either coarse or fine knit work, and, third, to provide a looper seaming machine with a trimming attachment having one of the blades thereof arranged so as to be reciprocated into contact with a fixed blade and a rotary brush for raveling out the loose or remnant ends of the fabric preparatory to presenting the separated parts of the same for effecting the looping together thereof in the machine.

My invention consists of a looper seaming machine provided with a trimmer and a raveler, respectively constructed and arranged for operation in substantially the manner hereinafter described and claimed.

The nature and general features of my invention will be more fully understood from the following description taken in connection with the accompanying drawing forming part hereof, in which in perspective, is shown so much of a looper seaming machine as serves to illustrate my invention in its application thereto, that is, the trimmer and raveler and means for reciprocating the former and rotating the latter.

Referring to the drawing, A is a broken section of the circular bed-plate or disk of the machine provided with a pin-wheel or rotatable rim having a series of projecting

points or barbs  $a$ , for engaging meshes of an undergarment or hose B, in the manner illustrated in the drawing.

$a'$ , is a ring or annulus secured to the plate or disk A, for a purpose to be presently explained.

$A'$ , is a projection formed integral with or secured to the depending circular outer frame or skirt of the machine and provided with a finger or arm  $a^2$ , conforming to the contour of the machine and flaring outwardly at the free extremity thereof. This finger or arm  $a^2$ , is adapted to prevent disengagement of the meshes of the garment from the points or barbs  $a$ , during raveling and clearing of the fabric of its loose ends or fuzz in order to prepare the separated parts of the knit fabric for the looping operation of the machine, which latter however, does not constitute a part of my present invention.

$a^4$ , is a post or block provided with a tapering projecting wing or arm  $a^5$ , having an outer end bearing  $a^6$ , and the body of said block is provided with a vertical oblong slot  $a^7$ .

$a^8$ , is a right angular metal piece provided with a crosswise semi-circular slot  $a^9$ , therein and with an oblong slot  $a^{10}$ , in the base piece of the same.

$a^{11}$ ,  $a^{12}$  and  $a^{13}$ , are screws respectively engaging said angular piece  $a^8$ , with the block or post  $a^4$ . The projection  $A'$ , is secured to the base A<sup>2</sup>, in any suitable manner and the block or post  $a^4$ , is located above the same so as to readily permit of the adjustment of the block  $a^4$ , of the angular piece  $a^8$ .

C, is a driving shaft provided with a sprocket-wheel D, which is rigidly secured thereto. Mounted on the shaft C, is an eccentric E, which is provided with an adjustable strap  $e$ , consisting of a threaded shank or stem  $e'$ , having jam-nuts  $e^2$  and  $e^3$ , mounted thereon and with a recessed end bearing  $e^4$ , engaged by means of a pivot  $e^5$ , with an oscillating shear arm  $f$ , having a bearing  $f'$ , with a slanting projecting arm  $f^3$ , provided with a blade  $f^4$ , which is in detachable engagement therewith by means of screws  $f^5$ . The shear arm  $f$ , is loosely mounted on a vertical stem or spindle  $f^6$ , having a jam-nut  $f^7$ , engaging with the upper threaded end thereof and the lower end of which spindle or stem has a casting  $f^8$ , one portion of which is screwed onto the

ring  $a'$ , and the forward portion bridges the points or barbs  $a$ , and has at the outer extremity a curved or flaring and tapering blade  $f^9$ , provided with a retaining pin  $f^{10}$ , and a curved slot  $f^{11}$ , with a screw or stud secured there-through into the casting  $f^8$ , thereby affording the means by which the same may be adjusted nearer to or farther from the stationary blade  $f^4$ , susceptible of being readily detached from its arm  $f^3$ , in order to permit of the interchange of the respective blades to adapt the same to the severing of either coarse or fine knit work *ad libitum*.

It may be here remarked that the casting  $f^8$ , is constructed so as to bridge the barbs or projecting points  $a$ , in order that the pieces of material severed from the supported garment by means of the shears may clear through the bridge and fall away from the points or barbs to the ground.

The arm  $a^5$ , is provided with a shaft  $a^{14}$ , upon which is rigidly mounted a brush-wheel G, of any preferred construction and arrangement and on the same shaft is rigidly secured a small sprocket or gear wheel  $h$ , and engaging with the two sprocket wheels of different dimensions is a sprocket chain  $g$ , adapted to impart rotary motion to the brush-wheel G, constituting the raveler appliance of my invention and adapted in the rotary movement thereof to thoroughly ravel out and clear the fabric engaged by the pin-wheel or points or barb of the rotatable rim  $a$ , so as to bring the fabric into such condition as to permit by a subsequent operation of a needle and looper not shown, of the looping together of the parts of the separated fabric, in a well understood manner.

It may be here remarked that in the event of the bristles of the raveler wheel G, becoming worn, the same may be readily adjusted by means of the plate  $a^9$ , through the loosening of the set-screws engaging through slots thereof with the projecting post or standard  $a^4$ , and the eccentric connection with the driving shaft and with the movable member of the trimmer F, may be lengthened or shortened by means of the jam-nuts on the threaded shank or stem of the eccentric strap; and moreover, the blades may be adjusted so as to increase or decrease the character of parting of the fabric by tightening or loosening the jam-nut of the vertical spindle or pivot  $f^6$ , of one of the blades of the trimming attachment F.

In the rotation of the driving shaft C, the brush or raveler wheel G, has imparted to it a rotary motion and at the same time the movable member of the trimmer is actuated to and fro into engagement with one of the surfaces of the fixed member of the trimming attachment and thereby to effect a shear cut of the knit fabric moving in the path of said members and during the rotation of the pin-wheel or rim having the projecting points, barbs or tapering fingers  $a$ , beyond the range

of the trimmer F, the fabric supported thereto having the fuzz, loose ends or ravelings remaining will be brought into the path of the brush wheel G, and transversely to the plane of the stitches or meshes in the fabric will this wheel free the same therefrom and leave the fabric in a condition for permitting by a subsequent sewing or looping operation by means of a needle, not shown, the separated parts of the fabric to be united to each other, for use.

It may be here remarked that among the advantageous features of my invention may be mentioned, first, that the several operations are automatic and successive and time and labor attending upon the same are reduced to a minimum; second, the number of attendants is lessened and the adjustable features of the brush-wheel as well as the trimmer permit of the attachments being employed for either coarse or fine work with the least amount of labor attending the same for such different kinds or types of work, and, third, the brush wheel can in case of wear be readily adjusted so as to be adapted to effectually clear the supported separated parts of the fabric of its loose ends as well as raveling out of the same to required extent to insure a perfect looping together of the parts of the fabric.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for sewing looped fabrics, the combination with a pin-wheel, and a main shaft carrying an eccentric, of a supporting bracket carrying a trimming blade and provided with a standard, a lever pivoted on said standard and carrying a trimming blade, a strap operatively connecting said eccentric and lever, and having means between its ends for adjusting the throw of said lever, a raveling device and means for operatively connecting the same with the main-shaft, substantially as and for the purposes described.

2. In a machine for sewing looped fabrics, the combination with a pin-wheel and a main shaft carrying an eccentric, of a supporting bracket carrying an adjustable trimming blade and provided with a standard, a lever pivoted on said standard and carrying an adjustable trimming blade, a strap operatively connecting said eccentric and lever and having means between its ends for adjusting the throw of said lever, a raveling device, and means for operatively connecting the same with the main-shaft, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

HARRY C. RIGHTMIRE.

Witnesses:

GEO. W. REED,  
THOMAS M. SMITH.