(No Model.)

A. L. TRAVER.

MACHINE FOR SEWING LOOPED FABRICS.

No. 490,417. Patented Jan. 24, 1893.

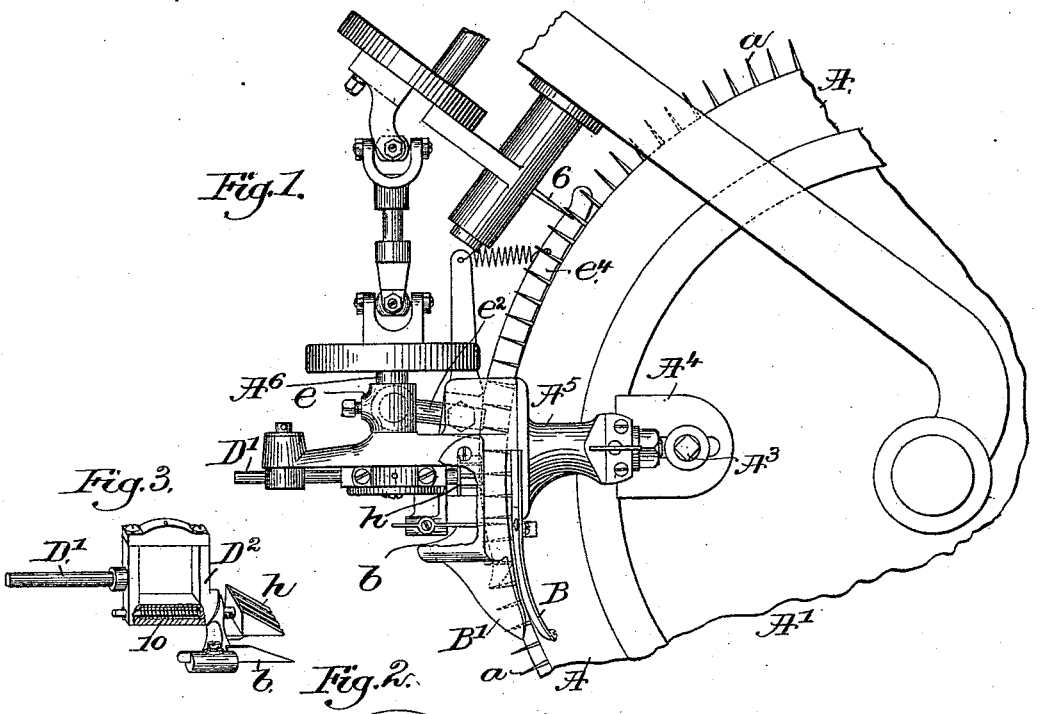


Fig. 2.

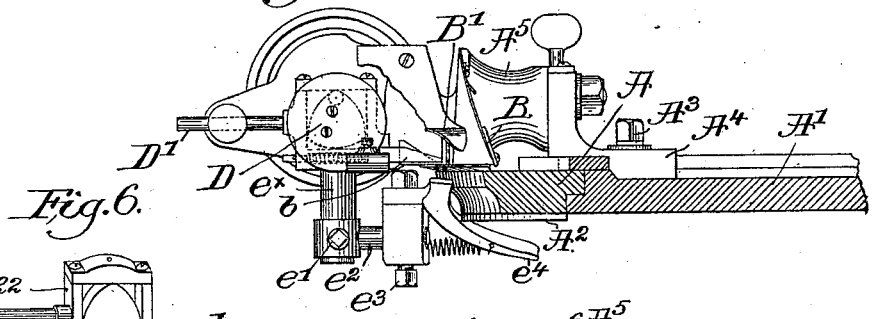


Fig. 6.

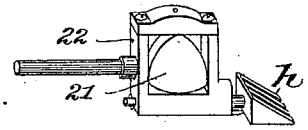


Fig. 7.

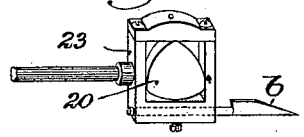


Fig. 5.

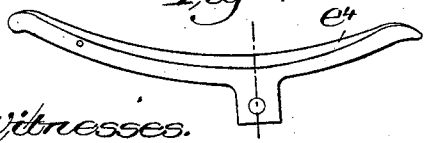


Fig. 4.

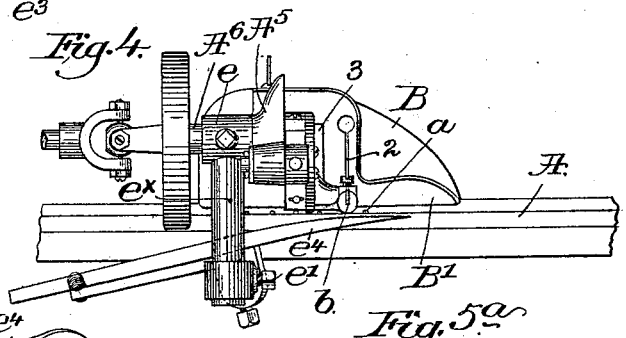
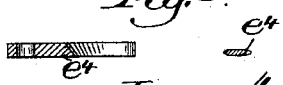


Fig. 5a.



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UNITED STATES PATENT OFFICE.

ADELBERT LEE TRAVER, OF MELLINVILLE, NEW YORK.

MACHINE FOR SEWING LOOPED FABRICS.

SPECIFICATION forming part of Letters Patent No. 490,417, dated January 24, 1893.

Application filed June 16, 1892. Serial No. 436,928. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT LEE TRAVER, of Mellinville, county of Columbia, State of New York, have invented an Improvement in Stitch Separating and Raveling Attachments for Machines for Sewing Looped Fabrics, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object to improve machines of that class represented in United States Patent No. 431,957, dated July 8, 1890.

In the class of machines referred to, it has been found in practice that the loops of the fabric impaled on the stitch pins are badly distorted and stretched through the operation of the separating device, which, by entering the knitted goods between the stitch pins and the cut edges of the fabric, separate the thread to thus disintegrate the surplus material which it is desired to remove before the operation of the stitch forming devices. I have experimented to overcome this trouble, and as a result thereof I have combined with the feed wheel having the stitch pins, a deflector which is so shaped and located with relation to the stitch pins as to draw against and hold the knitted fabric down on the stitch pins during the time that the loop destroyer, as I herein choose to designate the device called "separating device" in the said patent, acts to destroy the knitted loops between the cut edges of the fabric and the loops then impaled on said stitch pins.

In the form in which I have herein represented my invention I have chosen to employ a loop destroyer of wedge shape and adapted to penetrate the material and during such penetration separate or disintegrate the knitting thread at different places, and I have shown said loop destroyer as connected to a carrier which in its reciprocating movements also rises and falls. The upward movement of the loop destroyer is beneficial and when such upward movement is preserved the bevel or inclination of the edge of the loop destroyer may be less, but this upward movement of the loop destroyer is not an essential necessity in the invention to be herein claimed.

I have herein for sake of simplicity mounted the loop destroyer and the picking-out device on one and the same carrier, but it will be understood that instead the said loop destroyer, and the said picking-out device may be attached each to a separate carrier, as provided for in my said patent, and when the two carriers are employed the loop destroyer need and preferably will have only a longitudinal movement.

Believing that I am the first to combine with the stitch pins and a loop destroyer a deflector to draw or pull the knitted fabric down on the said stitch pins this my invention is not limited to any one particular form of deflector.

My invention, therefore, consists essentially in a turning off machine having a series of stitch pins on which the knitted material to be stitched is impaled; a deflector adapted to draw and hold the knitted fabric down on said stitch pins; combined with a loop destroyer to act on and destroy the surplus loops of the knitted fabric beyond the loops impaled on the stitch pins, substantially as will be described.

Other features of my invention will be hereinafter described and pointed out in the claims at the end of this specification.

Figure 1 in plan view represents a sufficient portion of a machine for sewing looped fabrics, a machine commonly designated as a "turning-off" machine, with my improvements added to enable my invention to be understood. Fig. 2, is a right-hand side elevation of my improved attachment, together with part of the feeding wheel and its stitch pins, the plates B, B′ being partially broken away. Fig. 3, is a detail showing the carrier represented in Fig. 1 as having attached to it not only the loop destroyer, but also the picking-out device. Fig. 4, is a detail to better illustrate the action of the deflector. Fig. 5, shows the deflector detached, Fig. 5^a a section of the deflector Fig. 5. Figs. 6 and 7 are details to be referred to descriptive of a modification of my invention.

Referring to the drawings A represents the usual feed wheel, and *a* the usual stitch pins carried at its periphery all as in ordinary "turning-off" machines, the said wheel in practice deriving its motion in any well known

or usual manner. The feed wheel is mounted upon a suitable center plate or hub A′, and as herein represented it has a series of teeth as A^2 at its under side adapted to be engaged by a suitable gear.

The central hub A′ forms a table or plate to which is attached in an adjustable manner by a suitable bolt A^3, a stand A^4, upon which in turn is attached in an adjustable manner an arm or casting A^5 having a suitable bearing for the shaft A^6 which in practice will have suitable cams to impart motion to the devices to be referred to. In practice this shaft may derive its motion of rotation by or through a suitable jointed connecting rod, preferably such as in the patent referred to, the said connecting rod deriving its movement by or through the mechanism employed to actuate the looper 6 instrumental in stitching together the cut edges of the material after the same has been prepared by my machine. The arm A^5 referred to, has secured to it in suitable manner two plates B, B′, between which the material to be stitched together is carried by the feed wheel in its rotation, the said plates being of such shape as to readily permit the cut edges of the knitted material extending above the stitch pin to enter between them and in a measure smooth out any curls or unevenness therein. The plate B in this present embodiment of my invention acts as a support for that portion of the knitted material nearest the base of the stitch pins, so that the knitted material is by the plate put substantially uniformly distant from the base of the stitch pins, and said plate preferably serves to prevent any backward sliding of the material on the stitch pins while the loop destroyer *b*, to be described, is penetrating the material, the said loop destroyer passing through the material, and destroying the continuity of the thread already looped together in the knitted fabric down substantially to the loops then impaled on the stitch pins, so that the part of the material, the loops of which have been destroyed may be removed. The acting face of the plate B′ serves to prevent the accidental escape of the loops from the stitch pins, and at the same time the said plate as herein represented has a slot 2 for the passage through it of the loop destroyer *b*, and one or more slots 3 for the passage through it of the picking-out device *h* to be described.

As represented in Fig. 1, the shaft has upon it a cam D, shown by dotted lines, which works within an oblong opening in a strap D^2 forming part of a slide rod D′, the outer end of which is so supported as to enable the said cam D in its rotation to not only move the strap rod backward and forward, but up and down, so that the devices carried thereby, such as the loop destroyer *b* and the picking-out device *h* are given a substantially elliptical movement during their operations. The shaft A^6 referred to has its bearing embraced by a hub *e* at the upper end of a leg $e^\times$ to the lower end of which is adjustably secured by a set screw *e′* an arm e^2, upon which is adjustably mounted by a screw e^3 a deflector e^4 shown separately in Figs. 5, and 5^a, said deflector in the form in which my invention is herein embodied consisting essentially of a concave bar the edge of which occupies a plane inclined with relation to the horizontal plane in which the stitch pins travel, so that the operator by bearing the knitted fabric sustained by the stitch pins against the inclined edge of the deflector at a point below the stitch pins, will cause the said deflector to exert a downward pull or strain upon the knitted fabric sufficiently to keep the knitted material down snugly upon the stitch pins and especially during the time that the loop destroyer *b* referred to is penetrating the material and acting to separate or destroy the continuity of the threads previously knitted into courses of loops then above the loops impaled on the stitch pins, such holding down of the knitted fabric preventing the distortion and straining of the fabric during such operation in the line of the impaled loops.

The deflector referred to is simple and efficient in operation, yet this invention is not limited to a deflector of the particular shape shown, as I may employ a deflector of any suitable shape to produce a downward strain upon the knitted material during the rotation of the feed wheel.

As herein represented the loop destroyer *b* is triangular in shape from one to its other edge, and its broader sides are for cheapness of construction substantially parallel that resulting from cutting the separator from a sheet of steel of uniform thickness.

I have shown the picking-out device *h* as a sort of head having a series of prongs, the shank of the head entering a hole in the carrier D^2, a spring 10 surrounding the said shank and normally acting to keep the picking-out device pressed forward in a yielding manner.

While I prefer for simplicity to have the loop destroyer and the picking-out device attached to the same carrier, yet my invention herein embodied is not limited to such construction, for instead I may provide the shaft A^6 with two cams as 21, 20, and I may attach the separating device directly to a carrier 23 and the picking-out device to a carrier 22 located along side of it, the openings in the said carriers and the cams 20, 21, being of such shape that while the carrier 22 having the picking-out device has a substantially elliptical or "four-motion-feed" movement, the carrier 23 has a movement only in a right line or substantially parallel to the horizontal plane occupied by the stitch pins.

The carriers 22 and 23, and the cams 20 and 21 are and may be substantially such as represented in my said patent No. 431,957, reference being made to said carriers and cams merely to show that the separating device and the picking-out device may when desired have

independent movements and the separating devices have only a horizontal movement without departing from my invention.

I claim—

1. In a turning-off machine, a feeding device having a series of stitch-pins, on which the knitted material to be stitched is impaled; means to move the feeding device; a deflector adapted to act upon and draw and hold the knitted fabric down on said stitch-pins; combined with a loop-destroyer, and actuating devices therefor, whereby the loop-destroyer is made to act on and destroy the surplus loops of the knitted fabric above the loops which are impaled on the stitch-pins, substantially as described.

2. In a turning off machine, a series of stitch pins on which the knitted material to be stitched is impaled; a deflector adapted to draw and hold the knitted fabric down on said stitch pins; combined with a loop destroyer to act on and destroy the surplus loops of the knitted fabric beyond the loops impaled on the stitch pins, a picking out device to remove the thread loops destroyed by the loop destroyer; and an actuating device for the said loop destroyer and picking out device, the deflector serving to prevent the loop destroyer from drawing or straining the knitted courses, below the stitches, impaled on the said stitch pins, substantially as described.

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

ADELBERT LEE TRAVER.

Witnesses:

NORMAN ROCKEFELLER,

A. L. FRITTS.