A. L. TRAVER.

TRIMMING AND CLEANING ATTACHMENT FOR MACHINES FOR SEWING LOOPED FABRICS.

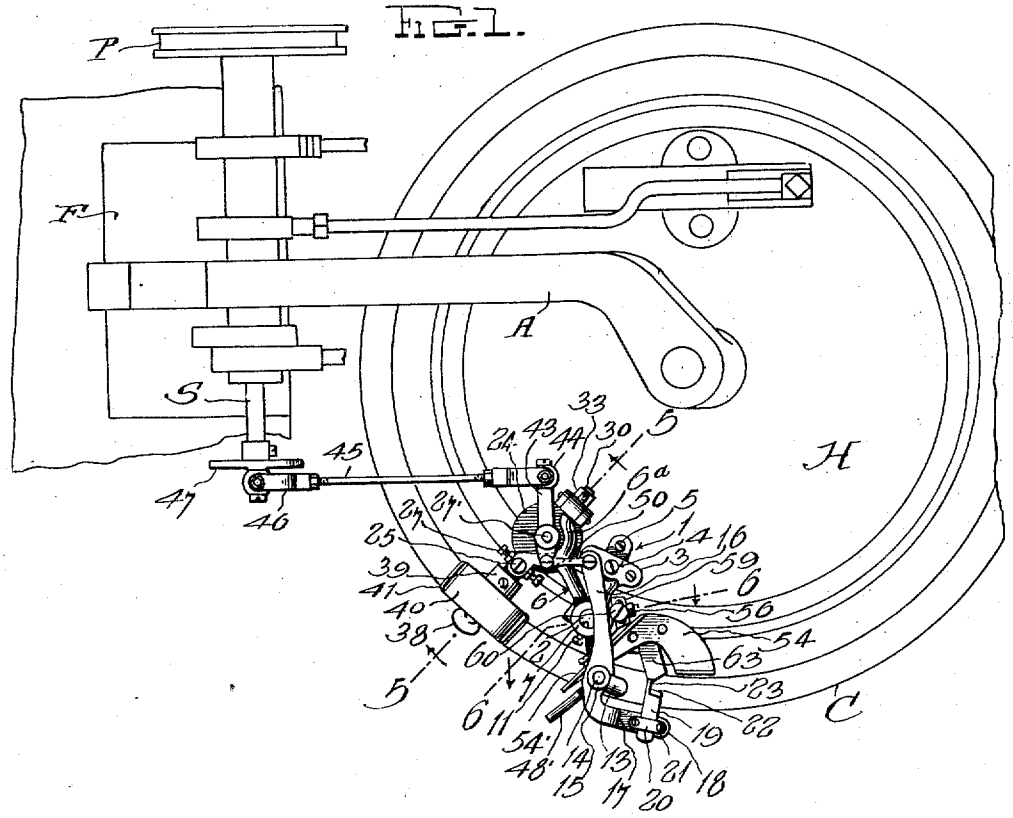
APPLICATION FILED DEC. 1, 1916.

1,245,533.

Patented Nov. 6, 1917.

3 SHEETS—SHEET 1.

FIG. 1.



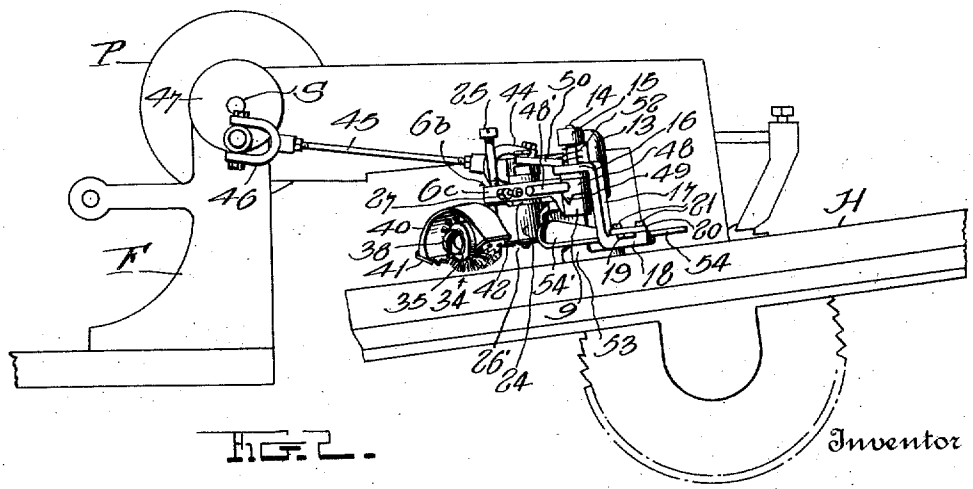


FIG. 2.

Witness
H. Woodard

Inventor
A. L. Traver
By A. B. Wilson & Co
Attorneys.

A. L. TRAVER.

TRIMMING AND CLEANING ATTACHMENT FOR MACHINES FOR SEWING LOOPED FABRICS.

APPLICATION FILED DEC. 1, 1916.

1,245,533.

Patented Nov. 6, 1917.

3 SHEETS—SHEET 2.

FIG. 3.

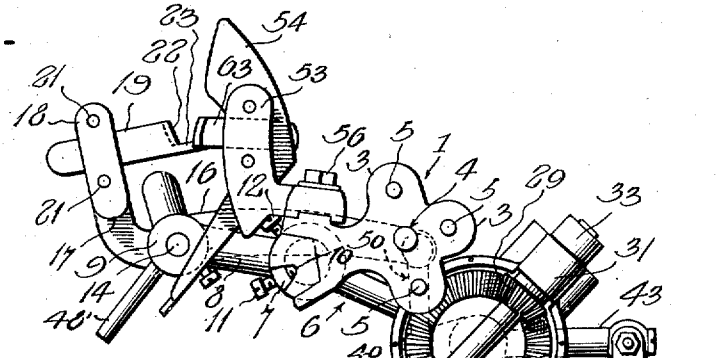


FIG. 9.

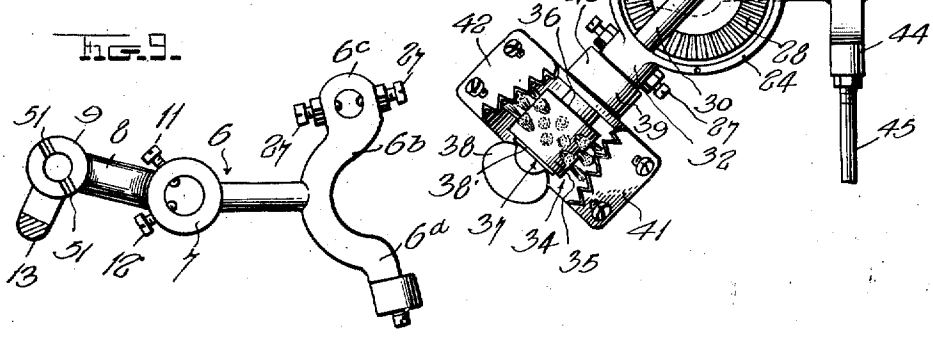


FIG. 8.

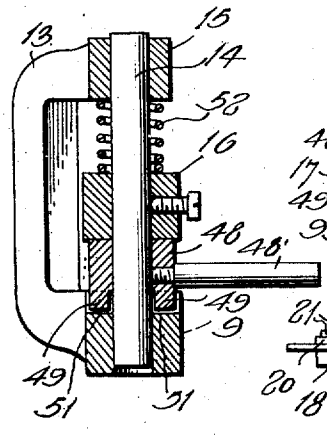
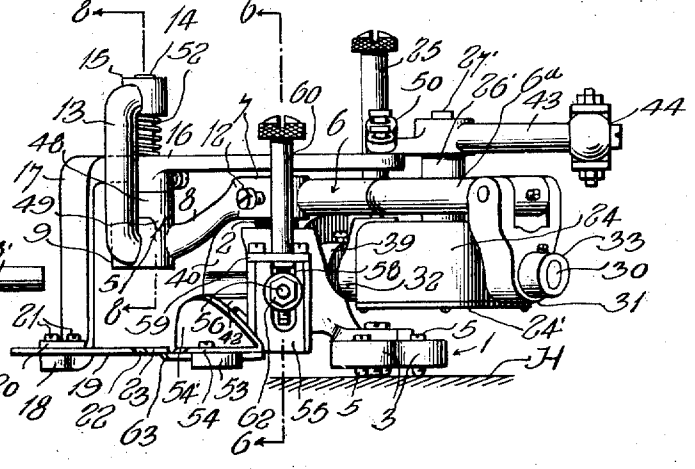


FIG. 5.



Witness
H. Woodard

Inventor
A. L. Traver

By Williamson & Co
Attorneys

A. L. TRAVER.

TRIMMING AND CLEANING ATTACHMENT FOR MACHINES FOR SEWING LOOPED FABRICS.

APPLICATION FILED DEC. 1, 1916.

1,245,533.

Patented Nov. 6, 1917.

3 SHEETS—SHEET 3.

FIG. 5.

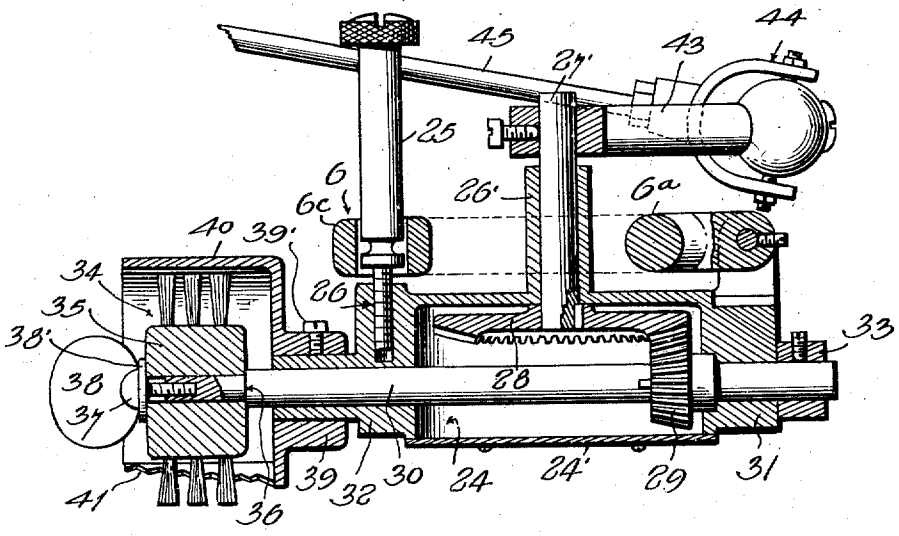


FIG. 7.

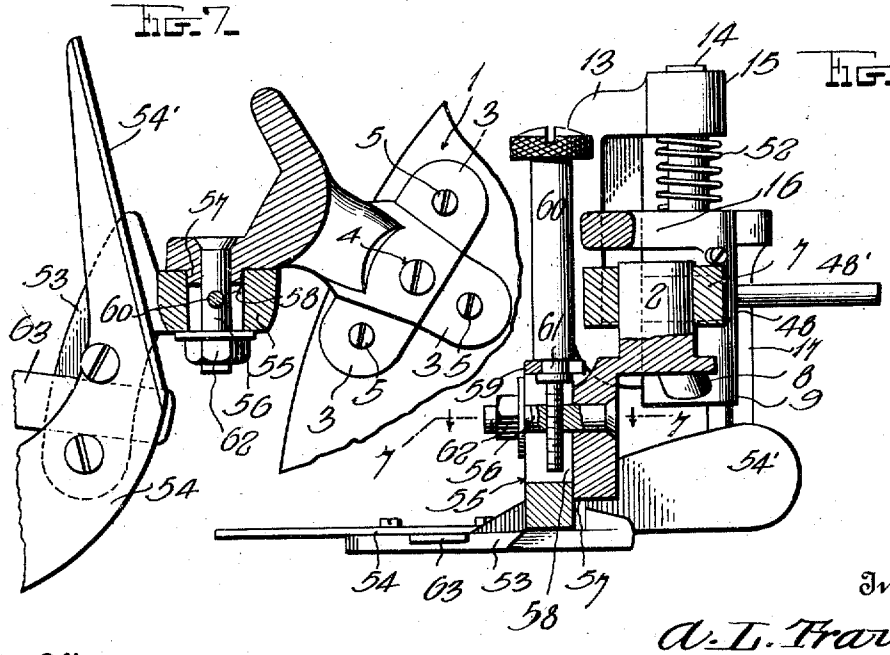


FIG. 6.

Witness
H. Woodard

Inventor
A. L. Traver

By H. B. Williamson & Co
Attorneys

UNITED STATES PATENT OFFICE.

ADELBERT L. TRAVER, OF PHILMONT, NEW YORK.

TRIMMING AND CLEANING ATTACHMENT FOR MACHINES FOR SEWING LOOPED FABRICS.

1,245,533. Specification of Letters Patent. Patented Nov. 6, 1917.

Application filed December 1, 1916. Serial No. 134,442.

To all whom it may concern:

Be it known that I, ADELBERT L. TRAVER, a citizen of the United States, residing at Philmont, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Trimming and Cleaning Attachments for Machines for Sewing Looped Fabrics; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a trimming and cleaning attachment for use on seaming or looping machines, and which is especially designed to be applied to the machine shown and described in Letters Patent No. 1,054,724, dated March 4, 1913.

The main object of the invention is to provide a simple and efficient attachment of this character in which the seams of hosiery and knit underwear formed from looped fabric may be closely trimmed and the half stitches cleaned out prior to the uniting of the seams so that when sewed together there is no surplus waste left in the fabric, thereby avoiding ridges at the seams of the finished article.

Another object of the invention is to provide such an attachment in which the brush which serves to clean the seams is so mounted that the scrubbing action thereof will be increased, and which is adjustable to prolong its life and which when adjusted will not affect the meshing of the gears.

Still another object is to provide a novel mounting for the cleaning combs of the brush to prevent the waste from clogging the brush.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings:

Figure 1 represents a top plan view of a looping machine showing this improved attachment applied;

Fig. 2 is a front elevation thereof;

Fig. 3 is a bottom plan view of the attachment detached;

Fig. 4 is a view similar to Fig. 2 looking toward the opposite side of the attachment;

Fig. 5 is a transverse section taken on the line 5—5 of Fig. 1;

Fig. 6 is a vertical transverse section on the line 6—6 of Figs. 1 and 4;

Fig. 7 is a horizontal section taken on the line 7—7 of Fig. 6;

Fig. 8 is a vertical section taken on the line 8—8 of Fig. 4; and

Fig. 9 is a detail plan view of the Y-shaped casing carrying lever.

In the embodiment illustrated, the attachment constituting this invention comprises a bracket 1 which is bolted to the head H of a machine for sewing looped fabrics, the details of which are set forth in Letters Patent above referred to. The head H is supported by an arm A of the frame F of the machine and rotatable on said head is the point cylinder C having the usual peripherally disposed points not shown upon which the looped fabric is impaled in the usual manner. This cylinder C is rotated through the medium of connections with a horizontal shaft S which is driven by a belt pulley *p* carried thereby.

The bracket 1 has an upstanding stud 2 at its upper end and laterally extending apertured feet 3 at its lower end with a bolt opening 4 disposed centrally between them. These feet 3 are arranged in the form of a shamrock and have surface engaging devices 5 adjustably mounted therein to project them a greater or less distance beyond the lower face of said feet to provide for adjustment of the trimmer to the proper angle suitable to the ring or cylinder C in connection with which it is used. These adjusting elements 5 are preferably in the form of screws and afford practically a universal adjustment for the device.

Mounted on the stud 2 is an intermediate eye 7 of a substantially Y-shaped arm 6, the free end of the shank 8 of which has an eye terminal 9. This stud 2 is formed with a groove 10 (Fig. 3) in which is engaged a set screw 11, the latter being threaded in the wall of the eye 7 so as to lock the arm 6 thereon and hold it against swinging move-

ment. An auxiliary locking screw 12 is also engaged with said stud to assist in resisting strains exerted on said arm.

Formed on the eye terminal 9 is a yoke or crane 13 and a shaft 14 is rotatably and slidably mounted in said eye and in a bearing 15 formed on the crane 13 in alinement with the eye terminal 9.

A lever 16 is fixed to the shaft 14 and has a depending knife carrying arm 17 provided with a laterally extending foot 18 in which is fitted a flat trimming knife 19. This knife is detachably connected with said foot, being shown clamped between the upper face of said foot and a plate 20 held to said foot by screws 21 with the knife arranged between said screws. This knife extends inwardly at right angles to said foot and has a beveled cutting edge 22 at its free end with a finger 23 projecting longitudinally at the rear thereof, said knife coöperating with a stationary knife to be described.

A gear casing 24 is carried by the forked end of the Y-shaped arm 6, one branch 6^a thereof being hingedly connected at its free end to one side of the casing and the free end of its other branch 6^b having an eye 6^c through which an adjusting screw 25 extends and engages a threaded socket 26 at the side of the casing 24 diametrically opposite its hinged connection with branch 6^a. Two screws 27 extend through the side walls of the eye 6^c for locking arm 6^b to said adjusting screw 25.

The gear casing 24 has an upwardly projecting tubular stem 26′ through which passes an oscillating shaft 27′ having fixed thereon within said casing a bevel gear 28. A bevel pinion 29 meshes with the gear 28 and is fixed to a rotatable brush-carrying shaft 30 which extends transversely of the casing 24 and is supported in bearings 31 and 32 carried by the outer face of the casing at diametrically opposite points. One end of the shaft 30 has a collar 33 secured thereto by a set screw while its other end projects beyond the casing and carries a cleaning brush 34 which is detachably fixed to said shaft end, which latter is reduced to receive the hub 35 of the brush which is clamped on the shaft between a shoulder 36 formed at the inner end of its reduced portion and a shoulder 37 on a thumb screw 38 which is screwed into a threaded socket in the end of said shaft 30 whereby the brush is fixed to turn with the shaft. A washer 38′ is arranged between said shoulder 37 and said brush hub.

The bearing 32, through which the brush carrying end of shaft 30 projects, is extended to receive the hub 39 of a hood 40 which partially incases and protects the brush 34, said hub being shown secured to said bearing by a set screw 39′.

The hood 40 which is open at its bottom to permit the brush bristles to extend through into fabric-engaging position has secured to its opposed lower edges cleaning combs 41 and 42. These combs are arranged at an incline and disposed in the path of the brush bristles, the brush being here shown circular, so that they will effectively clean said bristles of waste and prevent clogging thereof.

The casing 24 is shown closed on its bottom by a removable plate 24′ which affords access to the interior of the casing and protects the gears from dust and the like.

Suitably fixed to the upper end of shaft 27′ is a lever 43 of the first class which is connected at one end by a link 50 to lever 16 and at its other end by a universal joint 44 to an operating rod 45. This rod 45 is also eccentrically connected by a universal joint 46 to a rotatable disk 47 centrally fixed to the driving shaft S of the sewing machine so that on rotation of said shaft oscillatory movement will be imparted to lever 43 and through link 50 to lever 16 for the simultaneous working of the brush 34 and knife 19.

Loosely mounted on shaft 14 between eye 9 and lever 16 is a collar 48 formed with nibs 49 adapted to work upon the edge of the eye terminal 9 for lifting the knife carrying lever 16 a predetermined distance, the nibs 49 being designed to engage notches 51 formed in the eye terminal 9 which permits the lowering of the knife 19 and the locking of the collar against turning. An operating handle 48′ extends laterally from said collar. The knife is held in lowered position through the medium of a coiled expansion spring 52 surrounding shaft 14 between the upper face of lever 16 and the bearing 15 of the crane 13.

At one side of the bracket 1 is adjustably connected a foot 53 supporting a guide plate 54 which is arranged vertically at one side of the knife 19 and is shaped as shown to deflect the trimmings severed by the knife from the looped fabrics which are stitched together during the operation of the machine, it being understood that the point cylinder C has a step by step movement imparted to it while the machine is in operation.

The foot 53 is formed with a bifurcation 55 in which engages a threaded stud 56 carried by bracket 1, the latter being provided with a guide rib 57 which engages in a guideway 58 formed in the inner side of the bifurcated portion 55 of the foot to prevent twisting of the latter when adjusted.

A notched plate 59 is carried by the bifurcated portion 55 and straddles an adjusting screw 60 having a threaded inner end passing through the stud 56, said screw being formed with a reduced portion 61 engaging the notch in the plate 59 and thereby affording a swivel connection for the

screw with the foot so that the latter can be vertically adjusted on the turning of the screw. This foot is locked in adjusted position by means of a binding nut 62 threaded on stud 56 and in this manner the plate 54 is held in adjusted relation to the knife for throwing off the trimmings cut thereby from the looped fabric carried by the point cylinder C. This guide plate 54 has its front end curved and is provided with an upstanding right angular flange 54′ at one side edge and by means of which the work is guided into the knives and cast off after it is cut. The flange 54′ projects above the looper points of cylinder C and performs the casting off operation. This guide 54 by casting off the waste from the rear of the cylinder points after the knives have cut it apart, prevents the waste from clogging the brush.

The foot 53 carries a shearing plate or blade 63 positioned to coact with the movable blade 19 for the cutting of the looped fabrics when trimming the same. This blade 63 is shown in the form of a flat plate having its cutting edge beveled on its lower face and over which the knife 19 is adapted to move, and is shown mounted between foot 53 and guide 54.

The hinged mounting of the gear casing on the Y-shaped arm provides for the raising and lowering of the brush by adjusting screw 25 to adapt the brush to exert greater or less force on the fabric being cleaned, and also to compensate for wear of the bristles, thereby greatly prolonging the life of the brush. This means of adjusting the brush also prevents any interference with the meshing of the gears.

In the operation of this device, the cleaning brush and trimming knife 19 will be simultaneously oscillated by the means above described, whereby the knife will cut the surplus in the fabrics held by the point cylinder and subsequent thereto, the brush will remove the waste threads or loops cut by the knife prior to the uniting of the fabrics to avoid formation of ridges when the fabric is sewed together.

I claim:

1. In a device of the class described, the combination of a bracket, a supporting arm mounted on said bracket and having a terminal eye at one end and a pair of branches at its other end, a cutting knife carried by said terminal eye, a support carried by said branches of the arm, said support being hingedly connected to one of said branches, means carried by the other branch for adjusting said support upon its hinge, a cleaning brush carried by said support, and means for operating the brush and knife.

2. In a device of the class described, the combination of a bracket, a supporting arm mounted on said bracket and having a terminal eye at one end and a pair of branches at its other end, a lever fulcrumed to said eye and having a depending arm carrying a trimming knife, a gear casing hinged to one of said branches, means carried by the other branch for adjusting said casing around its hinge, a brush carried by said casing, gears in said casing for operating said brush, a fixed knife coacting with the aforesaid knife, and means for operating said gears and lever to actuate said brush and the first named knife.

3. In a device of the class described, the combination of a supporting arm, a trimming device supported by one end thereof, the other end of said arm having a pair of branches, a support hinged to one of said branches, means carried by the other branch for adjusting said support around its hinge, a brush carried by said support, and means for operating said brush and said trimming device.

4. In a device of the class described, the combination of a bracket, a trimming knife carried by said bracket, means for operating said knife, said bracket having a vertical portion, a foot, a fixed knife carried by said foot and coacting with the other knife, said foot having a vertical portion formed with a slot and in sliding contact with said vertical portion of the bracket, a clamping stud projecting from said bracket through said slot, and an adjusting screw swiveled on said vertical portion of the foot and threaded through said stud.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ADELBERT L. TRAVER.

Witnesses:
ALFRED BRUCE CHACE,
WM. WALLACE CHACE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."