No. 641,758. Patented Jan. 23, 1900.

E. H. BROWN.

TRIMMING ATTACHMENT FOR MACHINES FOR SEWING LOOPED FABRICS.

(Application filed Apr. 27, 1894.)

(No Model.)

FIG. 3.

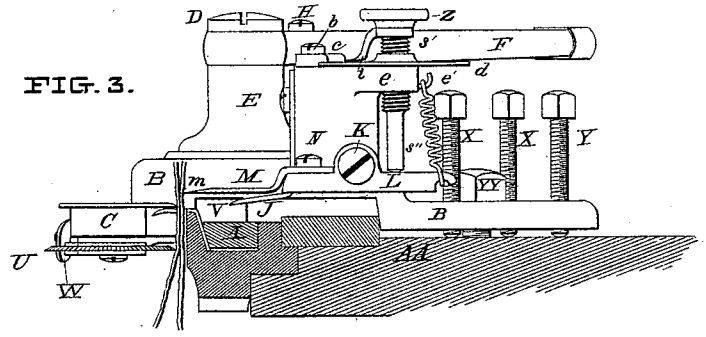


FIG. 2.

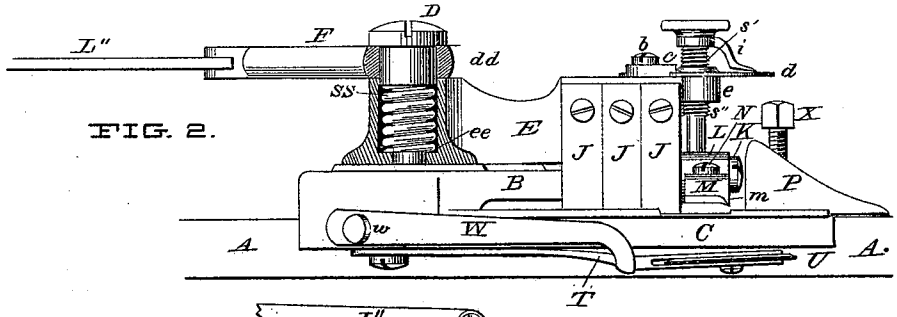


FIG. 4.

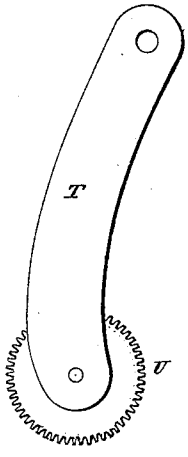
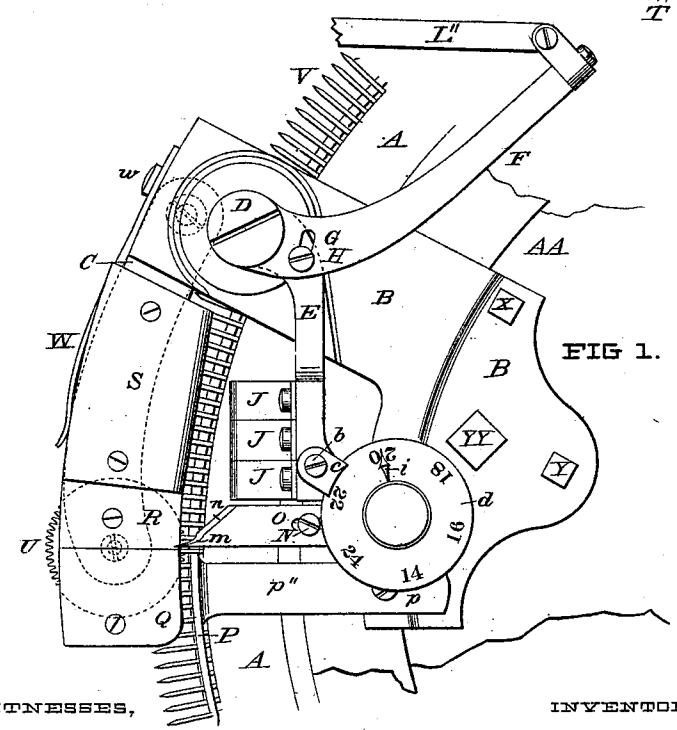


FIG 1.



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TRIMMING ATTACHMENT FOR MACHINES FOR SEWING LOOPED FABRICS.

SPECIFICATION forming part of Letters Patent No. 641,758, dated January 23, 1900.

Application filed April 27, 1894. Serial No. 509,207. (No model.)

To all whom it may concern:

Be it known that I, EUGENE H. BROWN, of the city of Troy, in the county of Rensselaer and State of New York, have invented certain Improvements in Trimming Attachments for Machines for Sewing Looped Fabrics, of which the following description, in connection with the accompanying sheet of drawings, constitutes a specification.

This invention consists of an attachment to the ordinary looping-machine used in seaming hosiery; and its function is to remove the surplus selvage of the edges of the fabric to be united by cutting and subsequently raveling or picking out any severed fragments of yarn remaining adherent to the loops which are impaled on the points of the point-wheel of the looping-machine.

The invention is fully disclosed in the drawings, wherein—

Figure 1 exhibits a plan of the machine embodying my improvements. Fig. 2 is a front elevation of the same, and Fig. 3 is an elevation of the side of the machine on which the knife or loop-cutter is adjusted. Fig. 4 is a plan view of the cloth-holding device.

The construction and operation of the machine will first be explained, after which the features which constitute the invention will be specifically pointed out in the claim.

This apparatus is adapted to be connected and operated in conjunction with the ordinary "turning-off" machine, as follows:

Upon the stationary disk or table A A of a looping-machine I attach a bracket B by means of a bolt Y Y, which passes through the wing of the bracket B and takes into the table A A of the machine. Adjusting-screws X X and Y are provided to regulate the adjustment of the plane of elevation of the working parts, the use of which is old and well understood. An arm of bracket B bridges the points V, and from its overhanging outer end a supplemental arm C extends in a line substantially concentric with the point-wheel around to a point a little to the right of the loop-cutting knife, as seen in Fig. 2. Arm C supports the cloth-guide Q and the picker-plate S. To its under side is attached a pivoted disk, the periphery of which is serrated or armed with any kind of points or with a roughened surface which will engage and take a firm hold on the cloth with which it comes or may come in contact, which cloth-holding device is carried in yielding bearings connected with some suitable housing, as T, and placed under an influence tending to force the wheel against the cloth, as spring W. The plane of revolution of this temple-wheel is inclined to the plane of revolution of the point-wheel, as shown in Fig. 2, so that as a point approaches and first engages the cloth in passing around under the point of the knife M it will exert a tendency on the cloth to draw it down or stretch it taut under the points of the wheel.

The loop-severing and raveling devices are attached to a swinging arm E, which is hung on an upright stud-bolt D, which is screwed from above into the bracket B. This pivot-stud D is shown in Fig. 2 in working position, and between it and the walls of the bore in the hub of the swinging arm E is an annular chamber, which carries the expansible coil-spring S S. This spring finds abutment against the under side of the shoulder *d d* of the pivot-stud at its top and upon the upper side of the shoulder *e e* of the arm E at its bottom. Thus the normal expansion of the spring tends to keep the arm E down to its bearing on the top of the bracket B and the knife and ravelers down to their proper working position. The knife M is a horizontal blade of steel, having the awl-point *m*, from the base of which the cutting edge *n* is carried back on an inclined line, as shown, so as to secure a drawing stroke when a loop is cut. This knife is adjustably fastened by means of screw N and slot O to the rocking stock L, Fig. 3, which in turn is pivoted on a horizontal stud K, which takes into the head of the swinging arm E. The tailpiece of rocker L terminates in a hook or other suitable appliance for the attachment of a contractile spring S, the other end of which is attached to the stationary hook *e'*. The normal exertion of spring S is to draw up the tailpiece, and consequently to depress the point *m*, so that the awl-point will enter the goods at a plane closer to the pins on the pin-plate. As a means for controlling the elevation of the point *m* a set-screw *s'* is provided, which runs

in the nut *e*, which is an appendage of the head of the arm E. The lower end of this screw impinges upon the upper side of the tailpiece of the rocker L, so that by turning this screw by the thumb-piece Z the rocker can be adjusted. This screw is fitted with a washer-dial *d*, which may be confined in position and prevented from turning around the screw *s'* by means of a small binding-clamp *c*, the under corner of which is rabbeted away, so as to fit over the edge of the dial *d*, as seen in Figs. 1 and 3. This clamp is held to its work by the set-screw *b*, which when screwed down firmly holds the edge of the dial underneath the lip of the clamp. The dial is inscribed with numbers which answer to the gage of the knitting of the fabric. An index-pointer *i*, which is affixed to the screw *s'* and turns around with it, coöperates with the dial and its inscribed numbers in this way. The gage of knitting of the goods to be looped being known, the goods are run onto the points of the wheel and the cutter M adjusted by means of the spring and adjusting-screw, so that the proper position for the knife to enter that range of loops next above the course impaled on the points is obtained. Then, the clamp *c* being loosened, the dial is turned until the gage-number on the dial coinciding with that of the goods to be operated on falls under the index-point *i*. Then the clamp *c* is tightened. After this, if goods of another gage are to be looped or seamed, the screw *s'* is turned until the pointer *i* indicates the desired gage-number on the dial, when the knife will be ready for use.

The arm E is oscillated by means of the lever F, which is also pivoted on stud D and swings about the same. Lever F has a concentric slot G near its hub, through which passes the binding-screw H, which screws into the upper edge of the swinging arm E, as seen in Fig. 1. The outer end of lever F is connected by means of the connection L'' with the device which actuates the looping-needle, (not shown,) so as to swing in harmony therewith.

The stud D is set at a point in reference to the movement of the point *m* of the blade M so that when the arm E is swung forward the point *m* after entering the loop above the points of the point-wheel will slightly draw the loop toward the stud or away from the uncut goods behind it. This point in this case falls a little inside of a line drawn tangential to the rim of the point-wheel at the cutting-point opposite point *m*.

A guard P is provided just ahead of the cutting-point, which is attached to the bracket B by a tongue *p''* and a screw *p*, for entering the rolled or curled selvage of the goods as they are carried toward the cutter and straightening them up, so that the inside piece of fabric or that lying next to the edge of the point-plate shall present a fair front for the knife-point *m* to penetrate in the process of severing the loops.

The pickers J J J, which are attached to the head of the arm E, are bent to the form shown in Fig. 3, so that their lower ends stand in a relatively horizontal position. Their front ends are or may be roughened to better catch loose fiber, and in practice as the arm E is swung so as to carry their points over the inner edge of the picker-plate S the roughened under sides impinge against the front upper bevel of the picker-plate, catching therebetween any upstanding cut shreds of yarn or loose fiber and drawing it out. By reason of their moving from the inside of the circle of points toward the outer edge of the picker-plate the debris or detritus gathered or drawn out of the newly-cut edge of the fabric is forced over the picker-plate and drops to the floor, and a guiding trough or chute to conduct away such refuse is here dispensed with, and the machine is thus kept free from litter of every kind due to the trimming operation.

The cloth-guide Q is adjusted so that its inner edge shall press against the fabric with as much force as is consistent with the free passage of the cloth under it. That part of its upper surface, as at R, over which the cutter *m* traverses is reduced in thickness, so as to let the knife pass freely over it without obstruction.

In operation the several parts are connected and adjusted with reference to their several functions by the means and in the manner hereinbefore described. The two pieces of knit fabric to be looped or united by the sewing-thread are impaled on the points in the usual way and generally on a line a few courses of loops below the edges of the fabric. If the parts, for instance, are a sleeve and a ribbed cuff of an undershirt, the cuff or "rib," as it is usually designated, lies next to the edge of the wheel or on the inside. As it is more difficult to trim the rib than the plain goods, the method here shown of working the cutter from the inside outwardly possesses advantages over the reverse operation, as it is easier to cleanly cut the ribbed fabric when it is first presented to the knife than when another thickness of material intervenes. As the upstanding selvage usually or commonly curls or rolls over as it is carried around on the points, the end of the guard P enters the curl or roll when one exists, and as the wheel advances it gradually straightens up such curled selvage, so that when it reaches the knife it stands fairly perpendicular, as seen in Fig. 3. If there is a tendency from any cause for the goods to work up on the points or to be lifted by the cutting process, such tendency is counteracted and the fabric held taut or drawn down during the action of the knife by the temple-wheel beneath the knife, which by virtue of its inclined plane of action gently draws or stretches the fabric down while it is being cut. At each stroke of the sewing-needle there is a corresponding stroke of the knife and the severance of a single loop of the fabric. As the wheel in its advance carries

the cut edges of the fabric under the action of the picker-fingers any protuberent or adhering parts of loops are caught between the picker-fingers and the picker-plate and are there seized and drawn out, leaving two clean rows of loops on the impaling-points to be united or joined by the sewing mechanism.

I therefore claim as my invention—

The adjustable gage-dial in combination with the adjustable loop-cutter means connected with said dial and cutter for registering upon the former the position of adjustment of the latter the point-wheel, means for guiding the fabric and actuating devices for the said wheel, substantially as specified.

In testimony whereof I have hereto subscribed my name, at North Bennington, Vermont, this 18th day of April, A. D. 1894.

EUGENE H. BROWN.

In presence of—

GEORGE N. STOTT,

FRANKLIN SCOTT.