

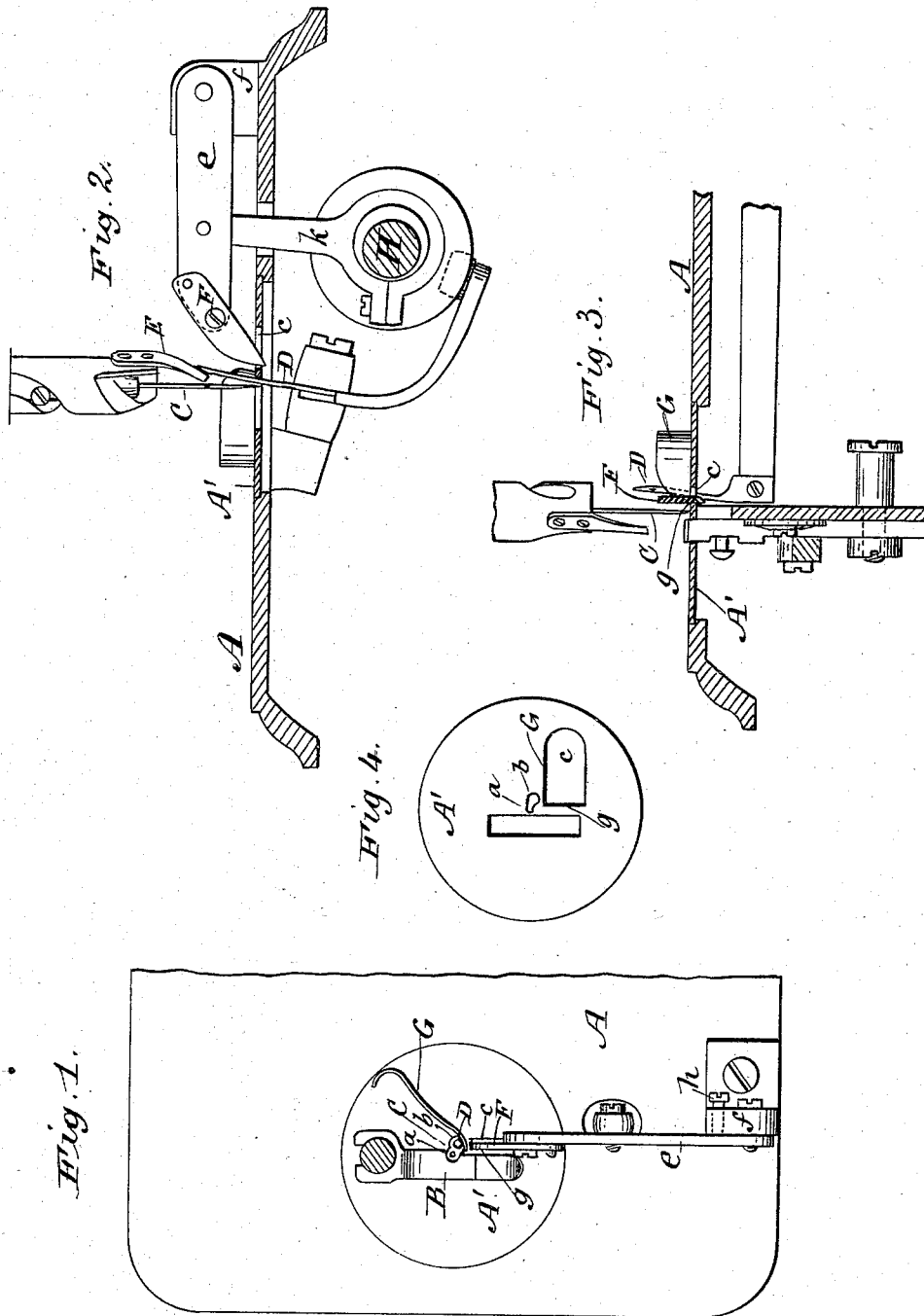
(No Model.)

S. BORTON.

TRIMMING AND SEWING MACHINE.

No. 263,650.

Patented Aug. 29, 1882.



Witnesses:

E. E. Masson,
Philip H. Lawrence

Inventor

Stockton Borton
by A. Pollok
his attorney

UNITED STATES PATENT OFFICE.

STOCKTON BORTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
WILLCOX & GIBBS SEWING MACHINE COMPANY, OF NEW YORK, N. Y.

TRIMMING AND SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 263,650, dated August 29, 1882.

Application filed July 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, STOCKTON BORTON, of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Combined Trimming and Sewing Machines, which improvement is fully set forth in the following specification.

This invention relates more particularly to trimmers for overseam sewing-machines for trimming the work preparatory to overseaming, and has for its object to prevent the trimmed-off strip from interfering with the overseaming by guiding said strip to one side, and also to enable said strip to be carried off below the cloth-plate.

The invention consists, first, in the combination, with overseam-stitching mechanism, of a trimmer arranged to act in advance of said mechanism, and an improved shield or guide extending in front and alongside of the overseaming device for diverting the trimmed-off strip away from the overseaming mechanism; and, secondly, in the combination, with a sewing-machine trimmer, of a cloth or throat plate to allow the trimmed-off portion or strip to pass below the cloth-plate.

The shield or guide referred to may be formed in different ways—as, for example, by an upright strip attached to the cloth or throat plate, or by the edge of the opening in said plate. The opening in the cloth or throat plate is attended with special advantages over guides or shields on the cloth or throat plate, in that it furnishes no obstruction on the surface, besides allowing the trimmed-off strip to take its natural course downward.

The trimming mechanism may be of any suitable construction adapted to operate on the fabric for which it is designed. A vibratory or reciprocating knife working through a slot in the cloth-plate, a knife fixed to the cloth-plate or presser-foot, a rotary disk knife turning on a concentric or on an eccentric axis, or a pair of rotary shears could be used; but preferably a pair of shears consisting of a vibratory and a stationary cutter or blade is employed.

The accompanying drawings, which form a part of this specification, represent a machine constructed in accordance with the invention,

and comprising a shear-trimmer with vibratory cutter, in combination with an American button-hole overseaming and sewing machine. The latter being of ordinary construction, only so much of it is represented as is necessary to show the application of the trimmer.

Figure 1 is a plan view, partly in horizontal section; Fig. 2, a vertical section in the plane of the feed movement; Fig. 3, a vertical section in a plane transverse to that of the feed movement, and Fig. 4 a plan of an extra throat-plate.

A is the cloth-plate of the machine; B, the presser-foot; C, the needle; D E, overseaming devices operating in conjunction with the needle to form the stitches; F, a vibratory cutting-blade; G, a shield or guide for diverting the trimmed-off strip from the path of the device D, and H the main shaft of the machine.

The cloth-plate A, as shown, is provided with a detachable throat-plate, A'. The throat-plate is pierced at *a* for the passage of the needle, at *b* for the passage of the device D, and at *c* it is provided with an opening for the passage of the end of the blade F. The said blade has its cutting-edge formed by grinding on one edge, like an ordinary scissors-blade, and is fixed with the cutting-edge in an inclined position to the outer or free end of a bar, *e*, which is pivoted to a standard, *f*, near the front edge of the cloth-plate. The edge of the blade F works in contact with the square edge *g* of the opening *c*, said edge serving as a stationary cutting-edge for the edge of blade F to act against. A screw, *h*, engaging in a threaded hole in the standard *f*, bears at its point against the vibratory bar *e*, and serves to adjust the pressure of the cutter F against the stationary cutting-edge *g*, and to keep the two edges in contact, notwithstanding the wear of the blades. The blade F and opening *c* are arranged a sufficient distance to one side of the line of stitching to leave a margin of the proper width. As shown, a continuation of either of the cutting-edges would pass just within the path of the overseaming device D, and between it and the path of the needle C. This is considered the best arrangement; but it is obvious that there may be considerable latitude in this respect, provided a sufficient

margin is left to secure a strong seam and the overseaming devices are allowed to operate properly. The blade F is operated by an eccentric on the main shaft through the medium of a link, *k*, jointed at its upper end to the bar *e*. The shield or guide G, as shown in Figs. 1, 2, and 3, is formed of a curved piece of metal attached in an upright position, by soldering or otherwise, to the cloth or throat plate of the machine, with its end extending in front of the blade F, between it and the hole *b*, through which the device D works. As represented in Fig. 4, it is formed by the edge of the opening *c* in the throat-plate, which is enlarged to allow the trimmed-off strip to pass downward under the plate, this being its natural direction. It is obvious that an upright strip could be placed around the opening in the throat-plate A'. The presser-foot B is cut away at the front to the right of the needle-hole to allow the cutter F to operate in close proximity to the needle. If desired, the blade or cutter F could be made to work in a slot in the presser-foot.

The needle C, the overseaming devices D E, and the mechanism for operating the same are of ordinary construction and need not be described.

In operation, the layers of fabric to be united are placed under the presser-foot so that the edges extend under the cutter F, and the machine being started, the said blade trims off a strip that is diverted by the shield or guide G, and the goods are fed to the machine with the edges even and parallel, in perfect condition for union by the sewing mechanism. The stitch is formed in the ordinary manner. The needle carries a loop of the upper thread through the fabric. The device D, which is eye-pointed, passes through the loop, carrying with it a loop of the under thread. The under-thread loop, being carried above the throat-plate, is caught by the device E, which spreads it in the path of the needle, so that the latter passes through it at its next descent. The device D returns below the cloth-plate in position for taking a new loop when thrown by the needle C. Loops of the upper thread are thus locked below by loops of the under thread, which are themselves locked above by the succeeding loops of the upper thread. The tension and feed should of course be suitably regulated, as well understood by those skilled in sewing knit and other goods.

The American button-hole machine is rep-

resented and described merely as a type of an overseaming-machine.

The invention is applicable generally to the uniting of two or more layers of fabric by overseaming mechanism, and is not limited to any particular style of seam. It may be used with single-thread overseaming-machines making an overseam by means of a looper working over the edge of the goods and carrying the needle-loop from below around the edge into the path of the needle, so as to be penetrated by it at its next descent; with zigzag-sewing machines that make an overseam by having the needle descend alternately right and left of a given line, and generally with overseaming-machines of every description.

As already pointed out, other styles of trimmer may be used instead of a shear-trimmer, and it is obvious that various modifications may be made in the construction of the shear-trimmers, if these are to be employed.

In zigzag-sewing machines in which the cloth-plate has a lateral movement the trimmer should be attached thereto, so as to partake of that movement.

Having now fully described my said invention and the manner of carrying the same into effect, I would observe, in conclusion, that I do not claim herein the combination of a trimming attachment with an overseam sewing-machine having in front of the overseaming device a horn—such as commonly employed on the American button-hole machine—the improved diverting-guide herein described differing therefrom, and being more efficient for the purposes of the present invention; but

What I do claim is—

1. The combination, with overseam-stitching mechanism and a trimmer arranged to act in advance of said mechanism, of the improved diverting shield or guide extending in front and alongside of the overseaming device, substantially as described.

2. The combination, with a sewing-machine trimmer, of a throat or cloth plate provided with an opening to allow the trimmed-off portion or strip to pass below the plate, substantially as described.

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

STOCKTON BORTON.

Witnesses:

CHAS. H. WILLCOX,
R. S. HAYWARD.