

UNITED STATES PATENT OFFICE.

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WORK-GUIDING ATTACHMENT FOR OVERSEAMING SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 464,066, dated December 1, 1891.

Application filed April 4, 1891. Serial No. 387,625. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. FOSTER, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Sewing-Machine Attachments, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object to provide an attachment for overseaming sewing-machines which will so present the work to the needle that a kind of a blind-stitch overseam may be formed, or, in other words, an overseam which will show but little on one side of the work but the stitches of which will have a deep engagement from the edge of the goods on the other side of the work.

My attachment is more especially intended for overseaming or "serging" the raw or cut edges of velvet, moquette, and other carpets, but may be used for other work in which blind-stitch overseams may be desirable.

In carrying my invention into effect I provide a suitable guide for the edge of the work, and adjacent to said guide is a raised work-support, which is separated from the guide a suitable distance to form a passage-way to receive the edge of the work, the said guide being provided with an arm or arms extending across said passage-way and serving, in connection with the raised work-support, to bend over the edge of the work in such a manner that it will be inclined relative to the vertical path of the needle, so that the latter in penetrating the work, in making the puncturing stitches of the overseam, will have a deep engagement from the edge thereof on one side of the work, but will come out much closer to the edge on the other side, thus forming an overseam which has a deep hold from the edge on one side of the work, but which will show but little on the other. The work is preferably fed by a feeding-wheel or other feeding device arranged over said work-support.

In the drawings, Figure 1 is a partial front side view of a "Singer" overseaming-machine with my attachment applied thereto. Fig. 2 is a rear side view of the attachment. Fig. 3 is a plan view, and Figs. 4 and 5 opposite end

views, of the same. Figs. 6 and 7 are detail plan and sectional views, respectively, of the guide and parts of the bed-plate of the attachment. Fig. 8 is a plan view of the work-support and a part of the bed-plate. Fig. 9 is a section on line 9, Fig. 8. Fig. 10 is a bottom view of the guide and its fingers.

A denotes the bed-plate of the attachment, to be secured to the work-plate of a sewing-machine in any suitable manner, as by screws *a*. Said bed-plate, as herein shown, is provided with a raised work-support *a'*, a standard or block *a²*, and posts *a³* and *a⁴*, all rigidly attached thereto in any suitable manner, or they may be formed integral therewith. The bed-plate A is also provided with a needle slot or throat *a⁵*.

B denotes a guide for the edge of the work, said guide being preferably provided with the fingers *b* and *b'*. The outer or working edge of the guide B is inclined relative to a vertical plane, or the plane in which the needle reciprocates, and is separated from the inner edge of the work-support *a'* to form a passage for the edge of the work, and the fingers *b* and *b'* extend across said passage so as to overlap the work-support *a'*, being somewhat above the same. (Shown more clearly in Figs. 1 and 2.) Between the fingers *b* and *b'* is a recess *b²*, which permits the needle to descend outside of the edge of the work when forming overedge stitches. The forward edge of the guide B is inclined slightly at *b⁴*, and the said guide is preferably adjustably secured to the base-plate, this being effected in the present instance by providing the guide with an arm *b⁵*, fitting in a recess *a⁷* in the base-plate beneath a bridge-piece C, through which passes a set-screw *c*, which engages said arm and holds said guide in place.

The floor of the passage-way between the work-support and the guide is constructed with an incline *p*, beginning at the front edge of the attachment and gradually rising as it runs backward to the needle-slot *a⁵*, where it reaches its highest point. When the carpet or other fabric to be overstitched is inserted, the pile (at the under side of the work) rests on the said incline, and as the work is moved forward the pile is pushed back by the incline, and is thus prevented from becoming entau-

gled with the needle-thread, and thus a smooth edge is secured.

To the standard or block a^2 is secured an arm or support D, in which is mounted a shaft E, carrying a feed-wheel e , which overhangs the work-support a and between which and said support the work passes. The inner portion of the arm D is made thin, so that the feed-wheel can be slightly raised or lowered to provide for different thickness of work, and so that the pressure of said wheel on the work will be more or less yielding, the vertical adjustments of the outer end of the arm D and of the said wheel being effected by the nut f on the upper threaded end of the post a^3 and by the adjusting or stop screw g , tapped through a lug d on the arm D and abutting against the top of the post a^1 on the base-plate A.

The shaft E is provided near its end with a ratchet-wheel e' , adjacent to which and pivoted on said shaft is an arm h , provided with a spring-pressed pawl i , engaging said ratchet-wheel. The arm or pawl carrier h is operated from an eccentric J on the driving-shaft K in the overhanging arm L of the machine, the eccentric-strap being connected to said arm by the rod M through a pin m , having a dovetailed slide m' fitting in a groove in the said pawl-carrying arm h and having on its outer threaded end a set-nut n . The slide may thus be adjustably secured in different positions in said grooved arm, nearer to or farther from its pivotal point, to vary the throw of the speed of rotation of the feed-wheel, as will be readily understood. Backward movement of the ratchet-wheel is prevented by the detent e^2 .

The Singer overseaming sewing-machine, to which my invention is shown applied as in Fig. 1, makes an overseaming stitch in a well-known manner by reciprocating the needle-bar and needle horizontally, so that the needle will descend alternately in different vertical planes, the needle descending at one stitch over the edge of the work and at the next or puncturing stitch through the work, the edge of which is turned up at an inclination, as shown in Fig. 7, thus finishing the edge of the work by an overseam, which is almost entirely invisible on the face or pile side thereof.

In the use of my attachment the work w is inserted beneath the feed-wheel e , with its edge bent down in the passage between the work-support a' and in contact with the guide B, the portion of the work in the said passage and beneath the fingers b and b' overhanging said passage being bent over at an angle of about forty-five degrees to the vertical plane in which the needle reciprocates, so that the needle in making puncturing stitches will have a comparatively deep engagement from the edge of the work at the upper side thereof, but will come out much closer to the edge on the lower side thereof, as shown in Fig. 7, so that the overseam will show but

little on the lower or face side of the work, but will be well anchored into the work at the upper or back side thereof, thus binding and finishing the edge thereof in a smooth, strong, and substantial manner. Thus it will be understood that it is essential to the operation of my invention to have the upper surface of the work-support a' elevated above the base of the edge-guide B, and that it is desirable that there should be one or more fingers (preferably two, as shown) overhanging the space between said guide and work-support to turn up the portion of the work in said passage partly edgewise, the said fingers extending over the work-support enough to steady and hold the work. As hereinbefore stated, these fingers are preferably formed on the guide B, as shown, but they might be separate therefrom and supported from the machine-arm above.

The working or guiding edge of the guide B is inclined relative to a vertical plane, or the plane in which the needle reciprocates, as hereinbefore stated, for the purpose of presenting the edge of the work to be overseamed in an inclined position, as more clearly shown in Fig. 7; and the term "an inclined guide for the edge of the work," as employed in the claims of this specification, will therefore be understood to mean a guide the working or guiding edge of which is inclined relative to a vertical plane, or the plane in which the needle reciprocates.

I claim—

1. A sewing-machine attachment comprising an inclined guide for the edge of the work and a work-support, the upper surface of which is elevated above said guide, said work-support being separated from said guide to form a work-passage between them and in which passage the edge of the work is presented to the needle at an inclination to the vertical plane in which the latter reciprocates, combined with an overseaming mechanism in which the needle descends alternately in different vertical planes.

2. A sewing-machine attachment comprising an inclined guide for the edge of the work, combined with a work-support the upper surface of which is elevated above the base of said guide, said work-support being separated from said guide to form a passage between them, and one or more fingers overhanging said passage, whereby the portion of the work in said passage will be presented to the needle at an inclination to the vertical plane in which the latter reciprocates, as set forth.

3. A sewing-machine attachment comprising a guide for the edge of the work, combined with a work-support the upper surface of which is elevated above the base of said guide, said work-support being separated from said guide to form a work-passage between them, and the floor of said passage being constructed with a rearwardly-rising incline to turn in the pile at the edge of the fabric.

4. A sewing-machine attachment comprising

ing a work-guide having an inclined guiding-edge, a work-support separated from said guide to form a work-passage between them, and the floor of said passage being provided with a rearwardly-rising incline, combined with one or more fingers overhanging said work-passage.

5 5. A sewing-machine attachment comprising an inclined guide for the edge of the work, 10 combined with a support separated from said guide to form a passage between them and having its upper surface elevated above the base of said guide, one or more fingers extending over said passage, a feeding device 15 or wheel arranged above said work-support, and means for operating said feeding device.

20 6. The combination, with the base-plate A, of the guide B, having one or more projecting fingers, the elevated work-support a' , separated from said guide to form a passage between them and over which passage said fingers extend, the spring support or arm D, connected with said base-plate but raised above the same, the shaft E, journaled in said support or arm and carrying the feeding-wheel e , overhanging said work-support, and means for intermittently rotating said shaft.

7. The combination, with the base-plate A, of the guide B, attached thereto and having the fingers b and b' , with the recess b^2 between them, the work-support a' , the surface of which is elevated above the base of said guide, and a feeding device arranged above said work-support.

8. The combination, with the base-plate A, 35 having the elevated work-support a' , the standard or block a^2 , and the posts a^3 and a^4 , of the guide B, separated from said work-support to form a passage between said support and guide, the latter having the fingers 40 b and b' extending over said passage, the arm D, sustained by said standard or block, the shaft E, journaled in said arm and provided with a feed-wheel e and the ratchet-wheel e' , the pawl-carrier h and its pawl, means for 45 operating said pawl-carrier, the stop-screw g , tapped in said arm, and the adjusting-nut f on the threaded upper end of the said post a^3 .

In testimony whereof I affix my signature in presence of two witnesses.

CHAS. H. FOSTER.

Witnesses:

J. G. GREENE,
J. F. JAQUITH.