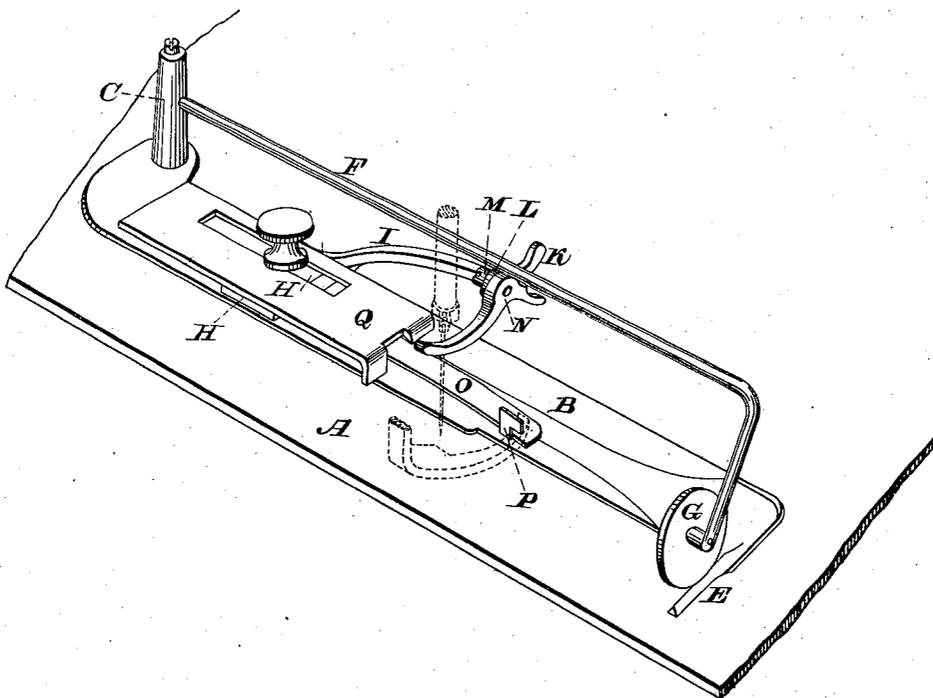


J. A. DAVIS.

Tuck Creasing Attachment for Sewing Machines.

No. 93,064.

Patented July 27, 1869.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOB A. DAVIS, OF WATERTOWN, NEW YORK.

IMPROVEMENT IN TUCK-CREASING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **93,064**, dated July 27, 1869.

*To all whom it may concern:*

Be it known that I, JOB A. DAVIS, of Watertown, in the county of Jefferson and State of New York, have invented certain Improvements in Tuck-Creasers for Sewing-Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The object of my improvements is to make a tuck-creaser more practicable and successful in action than they have heretofore been, and to adapt them for use in machines which feed the cloth by the lateral movement of the needle, while at the same time they may be readily adapted for and applied to machines using any other of the well-known kinds of feed—as, for instance, the wheel-feed or the four-motion feed.

These improvements consist mainly in combining with the upper one of the creasing devices contrivances which impart to it a positive forward and backward in addition to its pressing action; also, in the employment of a lever automatically operated by the sewing-machine to carry back the upper creaser, and then lift it from the cloth when the feed takes place; also, in the construction and arrangement of the spring cloth-smoother, so that it shall project under the presser-foot of the machine, and yet be susceptible of being lifted from the cloth by the presser whenever the latter is lifted; also, in such an arrangement of the spring-smoother and lifting-lever that they shall always, whatever may be the adjustments of other parts of the apparatus, maintain the same relative positions to each other and to the needle.

I have illustrated my creaser as adapted for use with the style of machine known in the market as the "Davis sewing-machine," and in which the cloth is fed by the needle.

A represents the cloth or bed plate of the sewing-machine; B, the bed or base plate of my creasing apparatus, having an upright, C, at one end, a slot in its center, and a projecting knife-edged creaser, E, at its other end. From the upright C projects a long arm, F, which is inserted in a hole in C and held by a set-screw. The free end of this arm is bent,

as shown, and carries a grooved creasing-wheel, G, adapted to bear upon the knife-edge. Instead of this wheel, a non-revolving grooved piece may be rigidly secured to the arm.

The arm F should be so made that, while firm enough to perform its duty properly, it shall be susceptible, when force is applied, of being pressed backward and upward, and to resume its place again by means of its inherent spring or resilience when the force is withdrawn. The bed B throughout most of its length is made somewhat beveled toward both sides, as shown.

H is a piece of metal, on which is mounted an arm or support, I, whose outer end has an upward incline, K, and also an ear, L, to receive a set-screw or pivot, M, on which is hung a lever, N, as shown. To the base of this piece H is also permanently affixed a spring smoothing-piece, O, to bear down upon the fabric as it passes through the machine and through the creaser. The forward end of this smoother is intended to lie between the presser and fabric, and near this end it has an upright piece, P, formed substantially as shown, so that it may hook over the presser-foot of the machine, in order that when the presser-foot is lifted and held up from the cloth to adjust the fabric for the next tuck or for any other purpose the piece O shall also be lifted from the cloth.

The parts I and O, being both permanently secured to the same bed, always preserve the same relative positions toward each other; and it is intended that they shall also always occupy the same position relatively to the needle, whatever may be the size of the tuck or the distance between the tucks, for the parts are all so arranged, put together, and secured to the bed-plate by a single screw entering a hole in the bed-plate of the sewing-machine that none of them can be adjusted lengthwise upon this screw, except the bed B of the creaser and the straight-edge Q, these last-named parts only being provided with long slots to allow of such adjustment. The straight-edge is made in the usual manner and performs the usual duty of such straight-edges.

The advantage due to having the spring pressing device and the lifting devices N and K always in the same position relatively to the

needle and feeding devices is that, however wide the tuck may be, the same pressure upon the goods is always preserved.

Heretofore it has been the practice in creasing apparatus to attach the spring-presser to the bed-piece which supports the knife-edge, and hence it must be constantly in such arrangement changed in position relatively to the needle. Every time the creaser is moved to or from the needle, thereby giving more pressure on a wide tuck and less on a narrow one, or, in other words, if the pressure be right for a narrow tuck it would be too much for a wide one.

The lever N receives its motion from the needle-bar of the sewing-machine during its descent, the nut which holds the needle to its place serving for this purpose by coming in contact with the long arm of the lever and bearing it down. The effect of this action as growing out of the form of the short arm of the lever and the rising incline K is that the creasing-wheel (or other creasing device, as the case may be) is first caused to roll or move backward on the knife-edge as the needle is nearly ready to feed, and thus actually traverses the cloth for a short distance and marks a line, instead of a mere point, such as a circle makes touching a straight line. Next, the creasing device or wheel, by the further descent of the needle, is momentarily lifted free from the cloth just when the needle moves laterally to feed the fabric, and hence it offers no resistance to the feed and creates no tendency to break the needle by pulling against it in its feeding movement; and, lastly, as the needle again rises the creasing-wheel is permitted to descend again upon the cloth, and the resilience or spring of the arm which supports it again carries it forward over the knife-edge to its former position, thus allowing it again to mark a short line upon the fabric. This lever is to be so arranged in the adaptation of my apparatus to other machines as always to lift the creaser from the cloth when the feed takes place, no matter what kind of feed is employed; but with any other kind of feed except the needle-feed it is necessary only to reverse the lever N on its axis, and then

connect its longer arm by a cord, link, or other proper connection to the top of the needle-bar. The rising of the bar will then lift the creaser free from the fabric when the needle is out of the cloth and while the feed is being effected by the feeding device, whatever that may be.

If, instead of a wheel, a fixed grooved piece be upon the arm and the above-described forward and back motion be given to it, then it is desirable to have the knife-edge serrated sufficiently to hold the fabric from slipping when the forward and back motions take place. These teeth offer no impediment to the free movement of the cloth in my apparatus, because the feed takes place only when the creaser is lifted, and whether a needle-feed, a wheel-feed, or a four-motion be used in the machine this would work well, provided the grooved piece be lifted from the cloth when the feed takes place.

I claim—

1. The combination, with a tuck-creasing device which presses upon the cloth, of devices which impart to such creaser a positive motion forward and backward, substantially as and for the purpose set forth.

2. The combination, with the arm which supports or carries the upper creasing device, of a lever to carry back the arm, and then lift the creaser from the cloth, such lever being operated by the needle-bar of the sewing-machine, substantially as shown and described.

3. The combination, with the creasing mechanism, of the spring-smoother projecting under the presser-foot, and having an upright part thereon hooking over the presser-foot, as and for the purpose set forth.

4. Combined with a piece or block, H, the arrangement, shown and described, of the spring-smoother and lifting-lever, so that under all adjustments of the other parts the lever and smoother may always preserve the same relative position to each other and to the needle.

JOB A. DAVIS.

Witnesses:

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