(No Model.)

H. P. STEWARD.

TUCK CREASER FOR SEWING MACHINES.

No. 481,599. Patented Aug. 30, 1892.

Fig. 1.

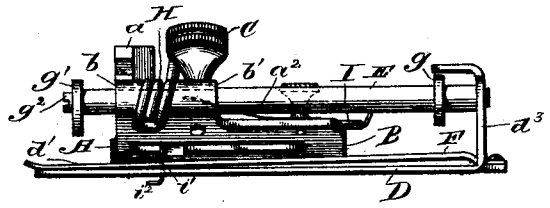


Fig. 2.

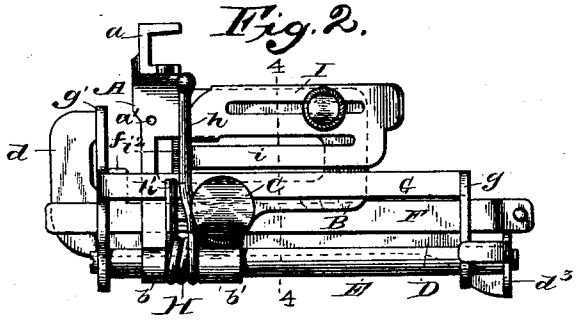


Fig. 4.

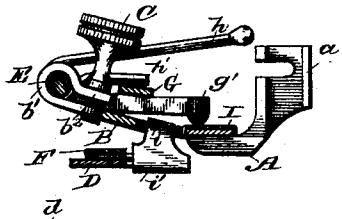


Fig. 3.

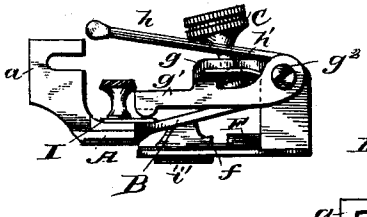


Fig. 5.

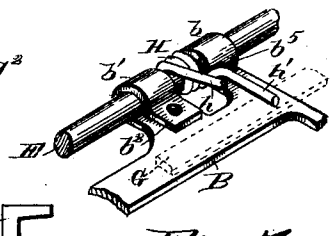


Fig. 6.

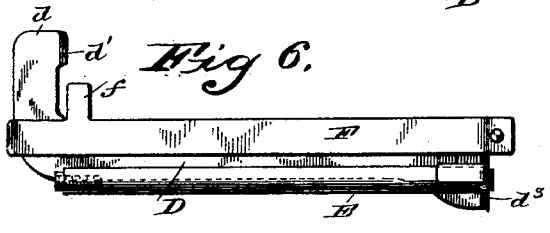
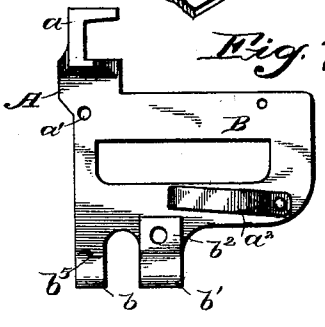


Fig. 7.



Witnesses
A. S. Lehmann.
C. M. Smeeney

Inventor
Hiram P. Steward,
by Macleod, Calver & Randall,
his Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HIRAM P. STEWARD, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY OF NEW JERSEY.

TUCK-CREASER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 481,599, dated August 30, 1892.

Application filed January 29, 1892. Serial No. 419,671. (No model.)

To all whom it may concern:

Be it known that I, HIRAM P. STEWARD, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Tuck-Creasers for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that class of tuckers or tuck-forming attachments in which a creasing-arm operated from the needle-bar of the machine or some other suitable movable part is caused at each stitch to be forced against the material, passing over a small lip or projection directly beneath the operative end of the said creasing-arm.

The object of my invention is to provide a tucker or tuck-creaser of the class referred to which will consist of few parts, so that it may be cheaply manufactured, which will be compact and convenient for use, and which will be adapted for some classes of work which cannot readily be performed upon the tuckers heretofore in use.

In the drawings, Figure 1 is a front side view of my improved tuck-creaser. Fig. 2 is a plan view of the same. Fig. 3 is an end view looking from the left of Fig. 2. Fig. 4 is a cross-section on line 4 4, Fig. 2. Fig. 5 is a perspective view showing details. Fig. 6 is a detail plan view of the lower plate and attached parts, and Fig. 7 is a detail plan view of the presser-foot and the plate or frame carried thereby.

A denotes a presser-foot provided with the shank *a* for attachment to the presser-bar of a sewing-machine. Integral with or secured to the presser-foot A is a plate or frame B, provided at its forward side with ears *b* and *b'*, the latter of which has an overlapping portion b^2, through which and the part immediately beneath it passes the threaded portion of a set-screw C.

D denotes a plate having at one end a horizontally-extending arm *d*, on which is formed the creasing-lip *d'*, the said plate D having at its opposite end a standard d^2, to which is suitably secured, as by riveting or otherwise, the rod E, the said rod passing through the ears *b* and *b'* of the plate B. When the set-screw C is loosened, the clamp formed by the part b^2 is relaxed, so that the rod E is then free to be moved through the ears *b* and *b'* to adjust the creasing devices to or from the needle, which passes through the hole *a'* in the presser-foot A, and when the said set-screw is tightened the rod E, with the parts carried thereby, will be rigidly secured to the plate B by the clamping-ear *b'*, forming part of said plate, and will thus be rigid with the presser-foot.

Attached to the rear end of the plate D is a spring F, the forward end of which presses upon the forward end of the said plate D or upon the material which is to be passed over it, the said spring being provided with a finger *f*, extending forward or toward the needle and in the direction in which the work or fabric is to be moved, said finger serving to steady and hold the material which is to be operated upon. By reference to Fig. 6 it will be seen that the finger *f* of the presser-spring F is arranged in a different vertical plane from the plate D, upon which the presser-spring F bears, so that the said finger *f* can press upon the work after it has passed beyond the said plate D. Thus when the parts are adjusted for making very fine tucks the finger *f* will be almost directly in front of the needle and will extend forward to within about one-quarter of an inch of the needle, and will therefore hold the work in a reliable manner in making the very fine tucks.

G denotes a vibrating or rocking bar provided with the arms *g* and *g'*, which are suitably journaled upon the rod E, a set-screw g^2, entering the forward end of said rod, serving to hold the said bar G and the parts connected therewith in place on said rod. The outer end of the arm *g'* extends over the creasing-lip *d'*, and is provided on its lower face with a V-shaped groove to operate in connection with the said creasing-lip to crease the material. The bar G is normally held elevated by a plate-spring a^2, attached to the plate or frame B and impinging against the under side of said bar G.

H denotes an operating device or lever consisting, as herein shown, of a piece of wire coiled around the bar E and having two arms, the longer *h* of which is arranged to be engaged by the needle-bar or some projection carried thereby and the shorter *h'* of which

is in contact with the bar G, the said lever by the portion h', which is coiled around the bar E, being thus journaled on said bar. To limit the upward movement of the bar G by the action of the spring a^2, a notch b^5 is formed in the ear b. The shoulder at the upper side of said notch is engaged by the rear end of the shorter arm h' of the lever H or by a portion of the coil encircling the rod E. The operating-lever H, formed in the manner described, is thus, it will be seen, a spring or yielding device, so that the pressure imparted to the longer arm thereof by the needle-bar or other operating part will be yieldingly conveyed to the bar G, against which the shorter arm h' of the said lever H impinges. In other words, the operating-lever H will serve as a yielding connection between the needle-bar or other operating device and the bar G, from which the creasing-arm g' is operated.

Secured to the plate B, so as to be adjustable thereon, is a guide-carrying plate I, provided with a spring-arm i, at the free end of which is the edge-guide i', having a suitable horizontal lip i^2. The spring-arm i, by which the guide i' is carried, is an important feature of my device in that it permits the horizontal lip i^2 of the guide to remain in contact with the throat-plate when the presser-foot, by which the entire attachment is carried, is lifted from the work, thus preventing the edge of the work from getting between the guide and the throat-plate of the machine.

The operation of my device is as follows: The work is placed beneath the presser-foot of the machine in the usual manner, with the material lying upon the creasing-lip d' and beneath the creasing-arm g'. The machine being started, the needle-bar descends and impinges against the lever H, which forces the bar G downward, causing the creasing-arm g' to come in contact with the material lying upon the creasing-lip d', thus forming a continuous crease in the fabric as the work is fed along beneath the needle. The first tuck to be sewed is usually creased by hand; but in sewing subsequent tucks the work is folded upon the crease formed by the automatic creasing device in the usual manner. Owing to the construction of parts described, my improved tucker is adapted for very delicate work, particularly in the formation of what are known as "pin-tucks"—that is, very fine tucks, the doubled portion of fabric of which is one thirty-second of an inch or less in width. In thus making these very fine tucks, which are preferably made quite close together, the guide i' is adjusted so as to be quite close to the line of the needle and to the finger f of the presser-plate F, and the said finger f will then rest upon the goods upon the horizontal portion i^2 of the said guide, thereby holding the work in place and permitting of its proper manipulation in sewing these very narrow tucks in fine material.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a sewing-machine tuck-creaser, the combination, with a plate over which the material is to pass and which is provided with an arm or portion having a creasing-lip, of a creasing-arm co-operating with said lip, means for operating said creasing-arm, and a presser-plate arranged to press upon the material passing over the first-named plate, said presser-plate being provided with a finger f, which is in a different vertical plane from the said plate over which the material is to pass, said finger being forward of the needle or the needle-hole in the presser-foot and extending toward the needle and in the direction in which the work is to be moved.

2. In a sewing-machine tuck-creaser, the combination, with a presser-foot adapted to be attached to the presser-bar of a sewing-machine, of a plate B, rigid with said foot and provided with ears, one of which is adapted to be compressed, and is thus a clamping-ear, a set-screw for compressing said clamping-ear, a plate D, provided with a creasing-lip and also with a rod adapted to pass through said ears, and a rocking-bar G, having arms journaled on said rod and one of which co-operates with said lip as a creasing-arm, and a yielding operating-lever H to form an elastic connection between said rocking bar and the machine needle-bar or part by which it is operated and thereby yieldingly press the said creasing-arm against said creasing-lip.

3. In a sewing-machine tuck-creaser, the combination, with the presser-foot A, having a shank a, of a plate B, rigid with said foot and provided with the ears b and b', the plate D, provided with a creasing-lip, the rod E, attached at one end to a standard on said plate and passing through said ears, a set-screw for compressing one of said ears around said rod, the rocking bar G, provided with the arms g and g', journaled on said rod, and an operating-lever H, one portion of which is coiled around said rod, said lever having a longer arm to be engaged by the operating device and a shorter arm to depress the said bar G and a spring a^2 for lifting said bar.

4. In a sewing-machine tuck-creaser, the combination, with a presser-foot adapted to be attached to the presser-bar of a sewing-machine, of a plate B, rigid with said foot and provided with ears, a plate D, provided with a creasing-lip and with a rod adapted to pass through said ears, a set-screw for securing said rod and the plate D, with which said rod is connected, in a fixed position relative to said plate B, the rocking bar G, having arms by which it is journaled on said rod, and one of which serves as a creasing-arm, and means for vibrating said bar to operate the creasing-arm.

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

HIRAM P. STEWARD.

Witnesses:
J. G. GREENE,
L. L. BURRITT.