# D. & E. B. BARNUM.

## Tuckers for Sewing-Machines.

No. 137,047. Patented March 25, 1873.

Fig. 1.

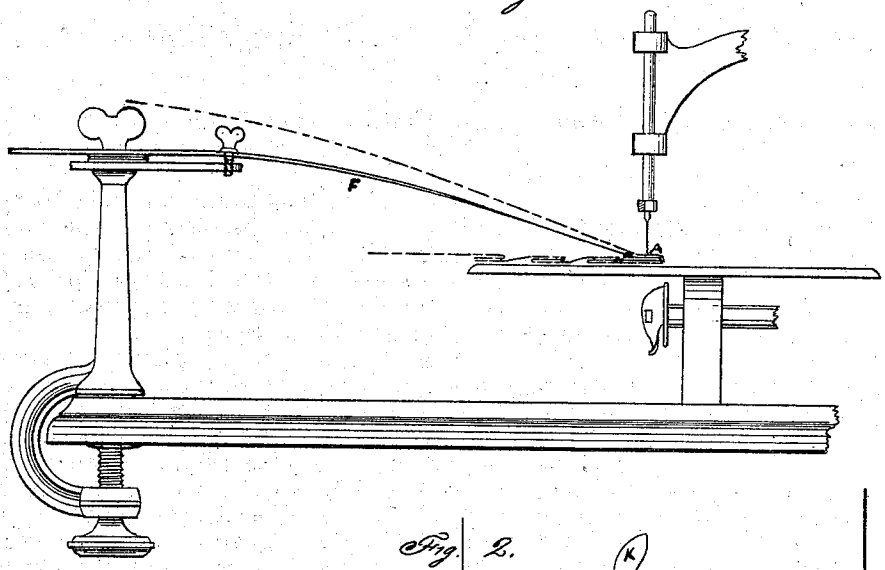


Fig. 2.

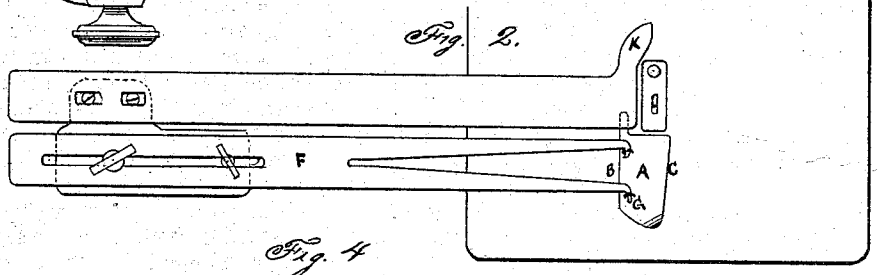


Fig. 3.

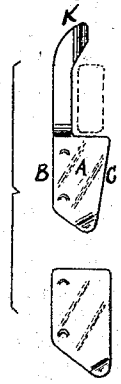


Fig. 4

Witnesses
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# UNITED STATES PATENT OFFICE.

DANIEL BARNUM AND EDMUND B. BARNUM, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN TUCKERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **137,047**, dated March 25, 1873.

*To all whom it may concern:*

Be it known that we, DANIEL BARNUM and EDMUND B. BARNUM, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Mechanism for Tucking Cloth upon Sewing-Machines.

Heretofore tucking on or by a sewing-machine has, practically, only been successfully done by first making a crease in cloth, then folding the latter at the crease, and sewing the same at a second operation, one tuck being sewed while a crease was being made for the succeeding tuck. Many difficulties have been met and but partially overcome by this method of tucking, the making of the crease by the known methods with regularity requiring much mechanism, careful manipulation, and a large use of power taken from the sewing-machine at critical moments.

It is the purpose of our invention to obviate the necessity of any creasing mechanism and of any moving parts thereof, to fold the cloth and sew the tuck at one operation, and to take from the sewing-machine no power, except such as is used in feeding the cloth to the needle; and, by an almost absolute control of the cloth, to produce tucks with greater rapidity, regularity, and perfection than heretofore obtained.

As will be seen by the following description, the nature of our invention consists in the use of gages properly arranged, so that the seam of the last preceding tuck successively forms an unvarying and perfect line, from which to measure the distance between tucks, with a folding-edge over which the cloth may be turned and suitably held and guided to form each succeeding tuck, and in the arrangement of mechanism therefor.

In carrying the principles involved in our invention into successful operation, there are many details which may be infinitely varied; but we have described the methods which we deem most advantageous in all particulars, and made such suggestions as readily occurred to us.

To enable others to make and use our said invention, we declare the following to be a full, clear, and exact description of the method of construction and mode of operation of the same, reference being had to the annexed drawing making part of this specification, wherein—

Figure 1 is a side view of the device as made in separate parts. Fig. 2 is a top view of the same. Fig. 3 is the gaging and folding plate with the gage K attached.

In the drawing, A is the gaging and folding plate. B is the gage for the seam of last tuck. C is the folding gage or edge over which the cloth is folded. F is the arm which holds A in position. G is the connection between them. K is the gaging-edge behind the needle and running in the back of the new seam.

The folding and gaging plate, as shown in Figs. 1, 2, and 3, is made in one separate flat piece, and in operation rests on the bed-plate of the sewing-machine in front of the needle, its front edge constituting the folding-edge, and the opposite edge the gage for the seam of the last tuck.

In order to obtain different sized tucks with the same space as width, it will be necessary to multiply these plates, each of which will make but one tuck of equal width and space, and many variations of unequal width and space.

On the wider folding and gaging plates the folding and gaging edges can be extended out alongside of the presser-foot of the sewing-machine, if desired, so that the material can be gaged and guided up to a point on a line with the needle.

When the folding and gaging plate is made as aforesaid the back edge constitutes the gage B, which runs in the back of the seam of the preceding tuck, and against which it is arbitrarily held at a proper distance from the line of the seam being sewed by the tension obtained through corrugations on plate A. The tuck last sewed being turned under from the needle presents on top a shoulder in the cloth made by the tuck and seam, and the provision between it and the line of seam being made, which rests upon one thickness only of material, prevents the preceding tuck from approaching any nearer to the needle, and affords a perfect line from which to measure the amount of material necessary for the succeeding tuck and space.

The gage should hug the bed-plate closely at the corner where it first meets the material,

and should press upon the material sufficiently to prevent the tuck from escaping under it, but not to materially retard the feed. It should be straight and parallel, or nearly so, to the line of seam.

The front edge of the folding and gaging plate constitutes the folding-edge C, over which the material is folded ready to be sewed. It may be straight and parallel to the line of seam; but we prefer to make it so that it diverges slightly from the line of the gage B as it approaches the needle, the tendency of the wedge-like relations of the gage B and folding-edge C thus obtained being to create a tension of the material between the seam of the preceding tuck and the edge of the fold of the new one, and to keep the material between these points smooth, by which tension evenness and correct distances are obtained. The upper side of the folding and gaging plate may be corrugated if desired. The outside corner of the edge C may also be slightly turned up to facilitate the entrance of the material.

This folding and gaging plate should be provided with means of attachment to the arm F, so as to be readily detached and changed for the different sizes, and this may be done by a variety of methods, three of which are shown in the drawing—to wit, a slot, pin-holes, and hinges—care being taken to insure firmness and facility of detachment. The point of attachment should be near the edge of the gage B, so that the chief bearing shall be on that gaging-edge.

For the purpose of holding the folding and gaging plate A in position an arm, F, is provided, which may be made of flat or round spring metal, or both, so constructed as to secure elasticity with strength, and which may be attached by a slot and thumb screw to a standard fastened to the table of the sewing-machine by a clamp. The slot should be about an inch in length to admit of the adjustment of the arm F at a greater or less distance from the needle, and the amount of pressure by the arm on the folding-plate may be regulated, if desired, by a set-screw.

We prefer that this arm should be divided laterally into two prongs, with at least two places of attachment, by which means we are enabled to keep the folding and gaging plate bearing at all points when its equilibrium is disturbed by inequalities in the material.

By means of these several devices the cloth from the seam of the preceding tuck to the line of seam on top of the one to be sewed is held, gaged, and guided throughout positively and certainly until the tuck is sewed.

We also provide a gaging-edge, K, carried around the presser-foot behind the needle, so arranged that it runs against the back of the seam of the newly-made tuck as delivered from the presser-foot in the line of the needle, for the purpose of keeping the material from dragging away from the needle after its release from the folding and gaging plate. This may be attached to the folding-plate, the arm F, or the standard, or used as an independent gage. It is shown in Fig. 3 attached to the folding-plate, and in Fig. 2 as attached to the standard.

In operation the arm F is first clamped to the edge of the table, extending over the bed-plate in front of the needle; the folding and gaging plate A is placed on the bed-plate in front of the needle and attached to the arm. The first tuck or hem having been sewed, the cloth is placed under the folding and gaging plate A, with the tuck underneath and turned from the needle, and drawn up until the gage B sits in the seam and against the shoulder of the tuck; the cloth is then folded over the edge C, the presser-foot dropped, and the tuck sewed, the back of the seam being sewed running against the gage K as soon as it is reached.

Having described our said invention, what we claim, and desire to secure by Letters Patent, is—

1. The folding and gaging plate A with its edges, whether parallel or divergent, constituting the folding-edge C and the gage B, substantially as described.

2. The gage B, when supported substantially as described, so as to be self-adapting in its bearings on the cloth when disturbed by inequalities.

3. The folding-edge C, when supported substantially as described, so as to be self-adapting in its bearings on the cloth when disturbed by inequalities.

4. The gage K, constructed to run in the back of the seam being sewed to keep the material from dragging away from the needle, substantially as described.

5. The detachable gage B, when pivoted to the arm F, so that it may be detached therefrom, substantially as and for the purpose described.

6. The arm F, constructed with elastic prongs, for the purposes specified.

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Witnesses:
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