

No. 764,879.

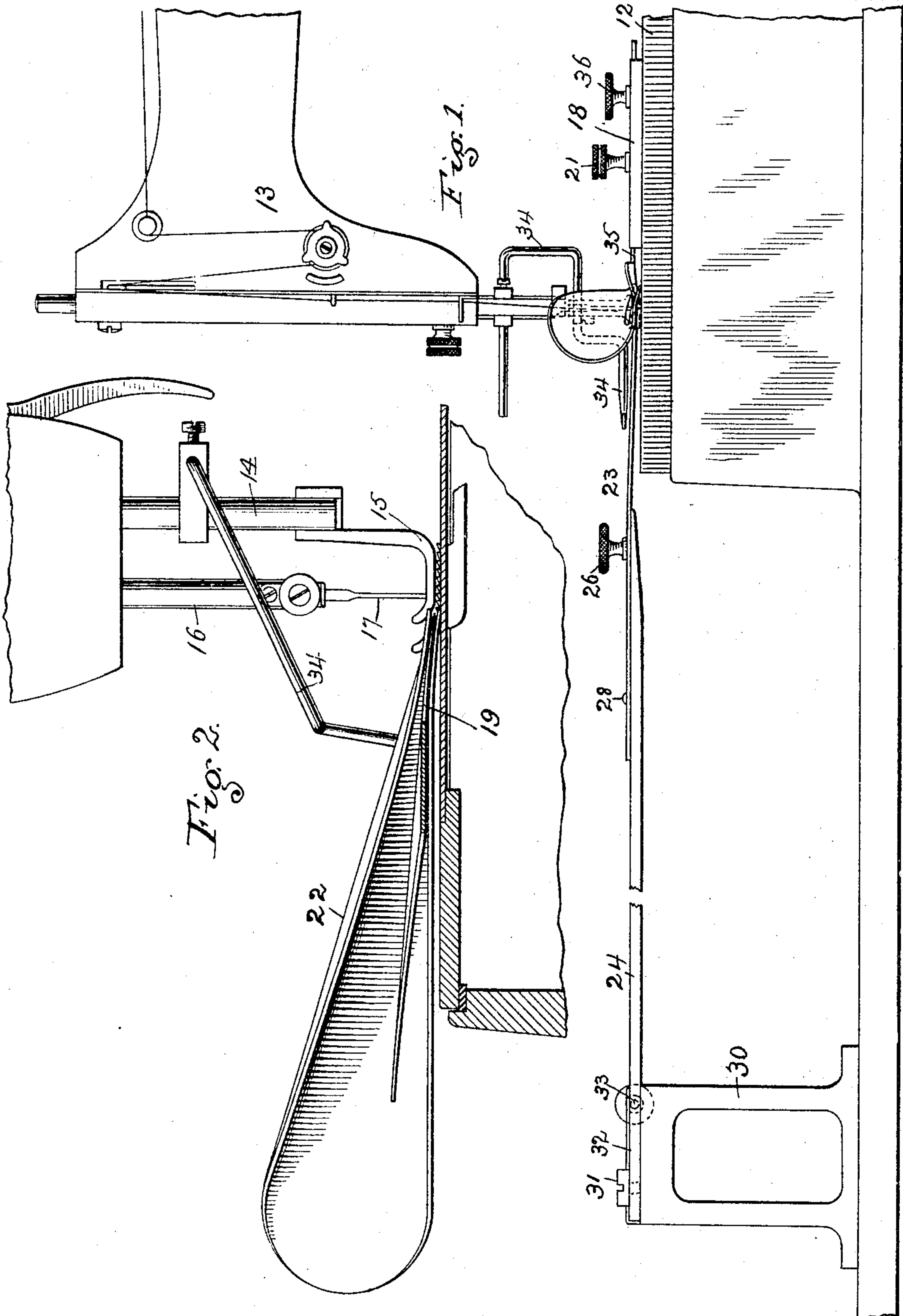
PATENTED JULY 12, 1904.

G. W. BINGHAM.
TUCK FOLDER FOR SEWING MACHINES.

APPLICATION FILED NOV. 21, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Frank S. Ober
Arthur W. Calvert

Inventor:
George W. Bingham
By His Attorney *Wm. H. Calvert*

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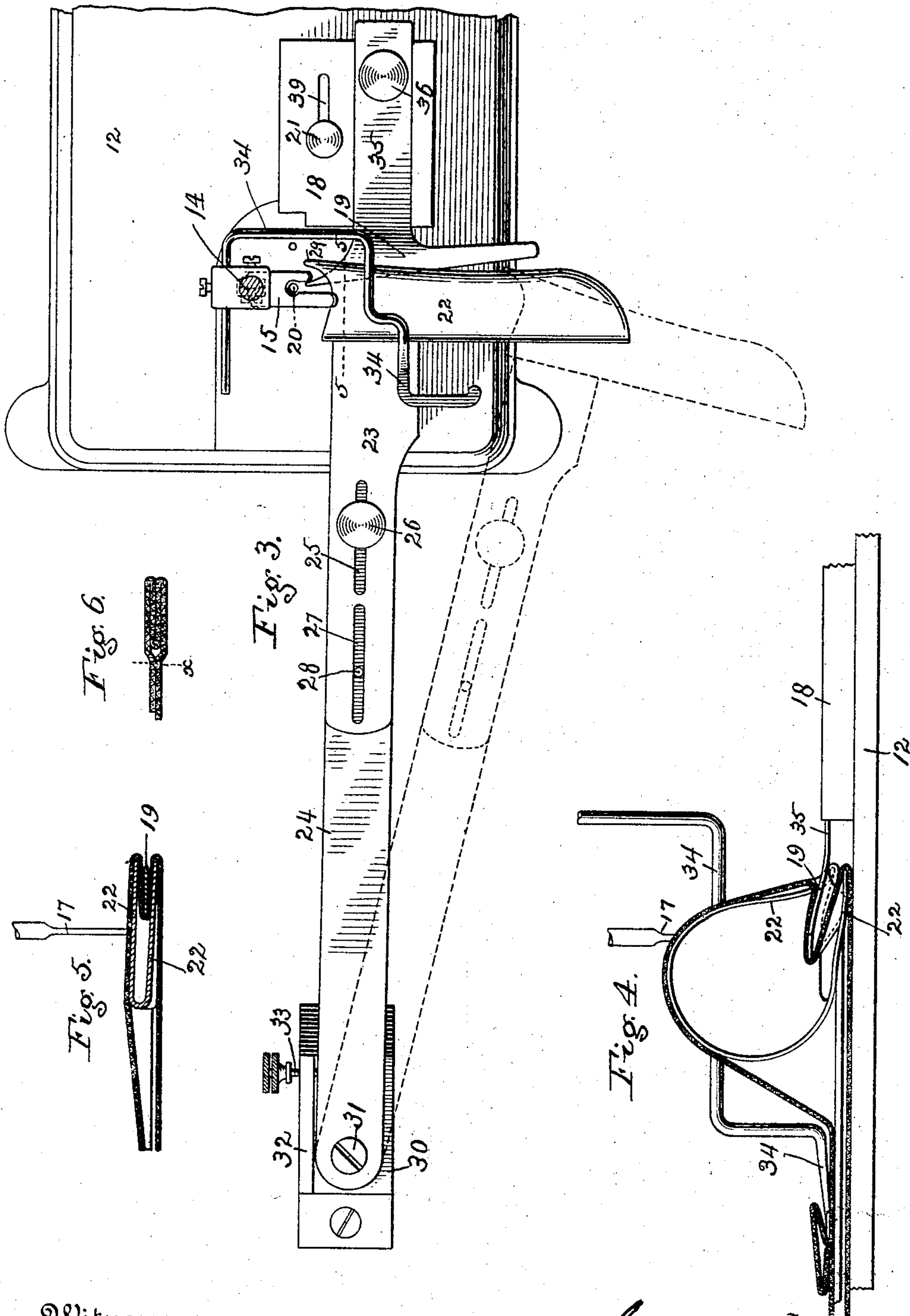
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UNITED STATES PATENT OFFICE.

GEORGE W. BINGHAM, OF NEW YORK, N. Y., ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

TUCK-FOLDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 764,879, dated July 12, 1904.

Application filed November 21, 1902. Serial No. 132,282. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BINGHAM, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Tuck-Folders for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a plaiting attachment for sewing-machines by means of which box-plaits or tucks in which the lines of stitches run parallel to the folds in the cloth may be formed by a single line of stitches and the cloth be so folded and creased that the box-plaits or tucks may be readily flattened out after the stitching operation without the use of special tools or appliances for this purpose, as has heretofore been necessary. To this end the invention provides two intermeshing or overlapping folding-guides, one of which is double and embraces the other, so as to form a double or "bellows" fold in the cloth, and as the latter is subjected to the stitching operation it will be so creased as it passes beneath the presser-foot of the machine that it will readily flatten out to form the desired box-plaits or tucks.

In the accompanying drawings, Figure 1 is a front side view showing the invention in operative relation to parts of a sewing-machine. Fig. 2 is a side view of the same looking from the right of Fig. 1. Fig. 3 is a plan view of the same. Fig. 4 is a detail front side view illustrative of the operation of the invention. Fig. 5 is a detail sectional view on line 5 5, Fig. 1, but with the cloth in operative folded position; and Fig. 6 is a detail sectional view of the folded cloth as it comes from beneath the presser-foot of the machine.

Referring to the drawings, 12 denotes the work-plate, and 13 a portion of the overhanging bracket-arm, of a sewing-machine provided with the usual presser-bar 14, carrying the presser-foot 15, and with the needle-bar 16, carrying the needle 17.

Attached to the work-plate 12 is a plate 18, which supports the single folding and guiding blade 19, the outer guiding edge of which

is preferably inclined toward the line in which the work is to move in the stitching operation, and the forward end of this single folding and guiding blade is preferably tapered toward a point which extends adjacent to the needle-hole 20 in the throat-plate of the machine. The single folding and guiding blade 19 may be adjustably mounted on the supporting-plate 18, or the said plate 18 may be adjustably mounted on the work-plate of the machine. In the present instance the said plate 18 is provided with a slot 39, through which the shank of the set-screw 21 passes to provide for a lateral adjustment of the said folding and guiding blade 19 relative to the position of the needle of the machine, and the shank 35 of the said blade 19 is attached to said plate 18 by a set-screw 36.

The double folder and guide 22 is supported free of and above the work-plate of the machine in such a manner that the body of the goods to be plaited or tucked may be passed under the lower limb or member of the said double folder, and the latter is so arranged as to embrace by its two members or wings the single folder and guide 19, so that the working parts of the said folders and guides will intermesh or overlap. The said double folder and guide 22 is U-shaped in cross-section in that it is preferably made from a single piece of sheet metal bent or folded to form two similar wings affording two permanently-connected or non-adjustable guiding edges, and said double folder and guide is provided with a shank 23, by which it is preferably adjustably connected with a supporting-bar 24, and to this end said shank is provided with a slot 25, through which passes a set-screw 26, said shank having, preferably, a second slot 27 entered by a steadying pin or stud 28 on said bar. The inner guiding and folding edges of the double folder and guide 22 are both in the same vertical plane, or approximately so, and are preferably inclined relative to the path of travel of the work and reversely to the inclination of the guiding outer edge of the single folder and guide 19, as more clearly shown in Fig. 3, and the two wings of the said double folder and guide preferably terminate at their for-

ward ends in points 29. The double folder and guide 22 is of considerable length (in the direction in which the work is to move or be fed) and is somewhat funnel-shaped in that it
 5 tapers rearwardly or toward the needle of the machine, and more particularly in a vertical plane, as clearly shown in Fig. 2, so that as the goods are fed to the needle the different plies thereof will be properly drawn together
 10 in suitable folds.

The supporting-bar 24 is mounted on a standard 30 on the work-table, on which the sewing-machine is placed, said supporting-bar being preferably attached to said stand-
 15 ard by a pivot-screw 31 to permit the said bar to swing horizontally, so as to move the double folder and guide toward the attendant and away from the needle of the machine for convenience in adjusting the work. The
 20 standard 30 is preferably provided with a vertical lip or flange 32, tapped for the reception of a screw 33, which impinges against the side of the swinging supporting-bar 24, and the position of adjustment of the said
 25 screw will determine the position of the forward end of the double folder and guide relative to the needle of the machine. The forward drag of the work on the double folder and guide in stitching will act to hold the sup-
 30 porting-bar 24 against the screw 33, so that the latter will serve as an adjustable stop to determine the working position of the double folder and guide, while the lateral position of adjustment of the said double folder and guide
 35 on its supporting-bar will determine the width of the plaits or tucks.

In making what may properly be termed "box-plaits" or "tucks" in the use of the present invention the single folder and guide 19 will
 40 be so adjusted laterally that its forward extremity or point will be slightly to the right (in the line of the feed of the work) of the needle-hole in the throat-plate of the machine, as shown in Fig. 3 of the drawings, and in such
 45 case the line of stitches will be to the left of the intermediate fold in the cloth or about in the relative position denoted by the dotted line *x* in Fig. 6; but if it be desired to stitch down the inner edge of the intermediate fold formed
 50 by the said single folder and guide the latter will be so adjusted that its forward extremity will be slightly to the left of the needle of the machine, and with such adjustment of said single guide and folder the intermediate fold
 55 formed thereby will be in such position as to be entered by the needle, and thus the line of stitches will pass through the said intermediate fold in such a manner that when the plait is flattened out only a crease will appear there-
 60 in on the right or outer side of the work, as the securing-stitches for the inner fold will be "blind," as they also are for the box-plaits.

By thus stitching down the intermediate fold formed by the attachment a double tuck the
 65 two parts of which fold down on opposite

sides of the line of stitches will be produced, and this for some kinds of work will be preferable to a box-plait formed by a single row of stitches, for the reason that in ironing work or garments having such box-plaits considerable care must be exercised in getting the
 70 plaits to lie straight or in evenly dividing them on opposite sides of the line of stitches.

In the operation of the invention the fabric to be plaited or tucked is passed in from the
 75 left beneath the lower member or wing of the double folder and guide 22, then folded around the outer edge of the intermediate single folder and guide 19, and finally folded back over the
 80 inner edge of the upper member or wing of the double folder and guide, and when the fabric is thus disposed the work will pass beneath the presser-foot of the machine in a double fold, and as the work is fed forward for the stitching operation the stitches will pass
 85 either through two plies or thicknesses of fabric or through four plies or thicknesses thereof, according to whether the single folding and guiding blade be so adjusted that its forward extremity or point is to the right or the
 90 left in the line of the feed of the work of the needle of the machine, as hereinbefore described. After the stitching of a plait or tuck has been completed the work is removed and readjusted, as just described, for another plait
 95 or tuck, and in forming each succeeding plait or tuck the work may be guided by the next preceding plait or tuck by means of the plait or tuck guide 34, which is adjustably supported from the presser-bar 14, and the lateral
 100 position of adjustment of which plait or tuck guide will determine the distance apart of the plaits or tucks.

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

1. A plaiting or tucking attachment for sewing-machines comprising the combination with a U-shaped double folder and guide of considerable length in the direction in which
 110 the work is to be fed, said double folder and guide being somewhat funnel-shaped and tapering rearwardly or toward the needle of the machine, and having two permanently-connected guiding members attached to a single support or shank with their guiding edges in
 115 the same vertical plane, or approximately so, of a single folder and guide disposed intermediate of and overlapped by both wings or members of the said double folder and guide, the overlapping guiding edges of said guides being in-
 120 clined relative to the line of the feed of the work; whereby the fabric will be presented to the stitch-forming devices of the machine in a double fold.

2. A plaiting or tucking attachment for sewing-machines comprising the combination with a U-shaped double folder and guide in a single piece and adapted to be supported free of the work-plate of the machine and having
 125 two guiding edges inclined relative to the path
 130

of travel of the work, of a single folder and guidedisposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide.

3. A plaiting or tucking attachment for sewing-machines comprising the combination with a U-shaped double folder and guide in a single piece and adapted to be supported free of the work-plate of the machine and having two guiding edges inclined relative to the path of travel of the work, of a single folder and guide disposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide, said folders and guides being both laterally adjustable relative to the needle or line of stitching.

4. A plaiting or tucking attachment for sewing-machines comprising the combination with a double folder and guide adapted to be supported free of the work-plate of the machine and having two guiding edges inclined relative to the path of travel of the work, of a single folder and guide disposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide, and a vertically-pivoted and horizontally-swinging support for said double folder and guide.

5. A plaiting or tucking attachment for sewing-machines comprising the combination with a double folder and guide adapted to be supported free of the work-plate of the machine and having two guiding edges inclined relative to the path of travel of the work, of a single folder and guide disposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide; the two wings or parts of the said double folder and guide tapering toward their forward ends to form points which are both disposed in the same vertical plane, so as to be one above the other, and the said single folder and guide being tapered toward its forward end to form a point which extends adjacent to the needle-hole in the throat-plate of the machine.

6. A plaiting or tucking attachment for sewing-machines comprising the combination

with a double folder and guide adapted to be supported free of the work-plate of the machine and having two guiding edges inclined relative to the path of travel of the work, of a single folder and guide disposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide; the two wings or parts of the said double folder and guide tapering toward their forward ends to form points which are both disposed in the same vertical plane, so as to be one above the other, and the said single folder and guide being tapered toward its forward end to form a point which extends adjacent to the needle-hole in the throat-plate of the machine, said folders and guides being both laterally adjustable relative to the needle or line of stitching.

7. A plaiting or tucking attachment for sewing-machines comprising the combination with a double folder and guide adapted to be supported free of the work-plate of the machine and having two guiding edges inclined relative to the path of travel of the work, of a single folder and guide disposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide; the two wings or parts of the said double folder and guide tapering toward their forward ends to form points which are both disposed in the same vertical plane, so as to be one above the other, and the said single folder and guide being tapered toward its forward end to form a point which extends adjacent to the needle-hole in the throat-plate of the machine, and a vertically-pivoted and horizontally-swinging support for said double folder and guide.

8. A plaiting or tucking attachment for sewing-machines comprising the combination with a double folder and guide adapted to be supported free of the work-plate of the machine and having two guiding edges inclined relative to the path of travel of the work, of a single folder and guide disposed intermediate of and overlapped by both wings or members of said double folder and guide, and the guiding edge of which single folder and guide is also inclined relative to the path of travel of the work and reversely to the inclination of the guiding edges of the said double folder and guide, the two wings or parts of the said double folder and guide tapering toward their forward ends to form points which are both disposed in the same vertical plane, so as to be one above the other, and the said single folder and guide being tapered toward its for-

ward end to form a point which extends adjacent to the needle-hole in the throat-plate of the machine, a vertically-pivoted and horizontally-swinging support for said double folder
5 and guide, and an adjustable stop to determine the working position of said double folder and guide.

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

GEORGE W. BINGHAM.

Witnesses:

JAMES CRAIG,
JOHN A. REID.