

G. W. DOWNES.
Guide and Hemmer.

No. 38,662.

Patented May 26, 1863.

Fig. 1

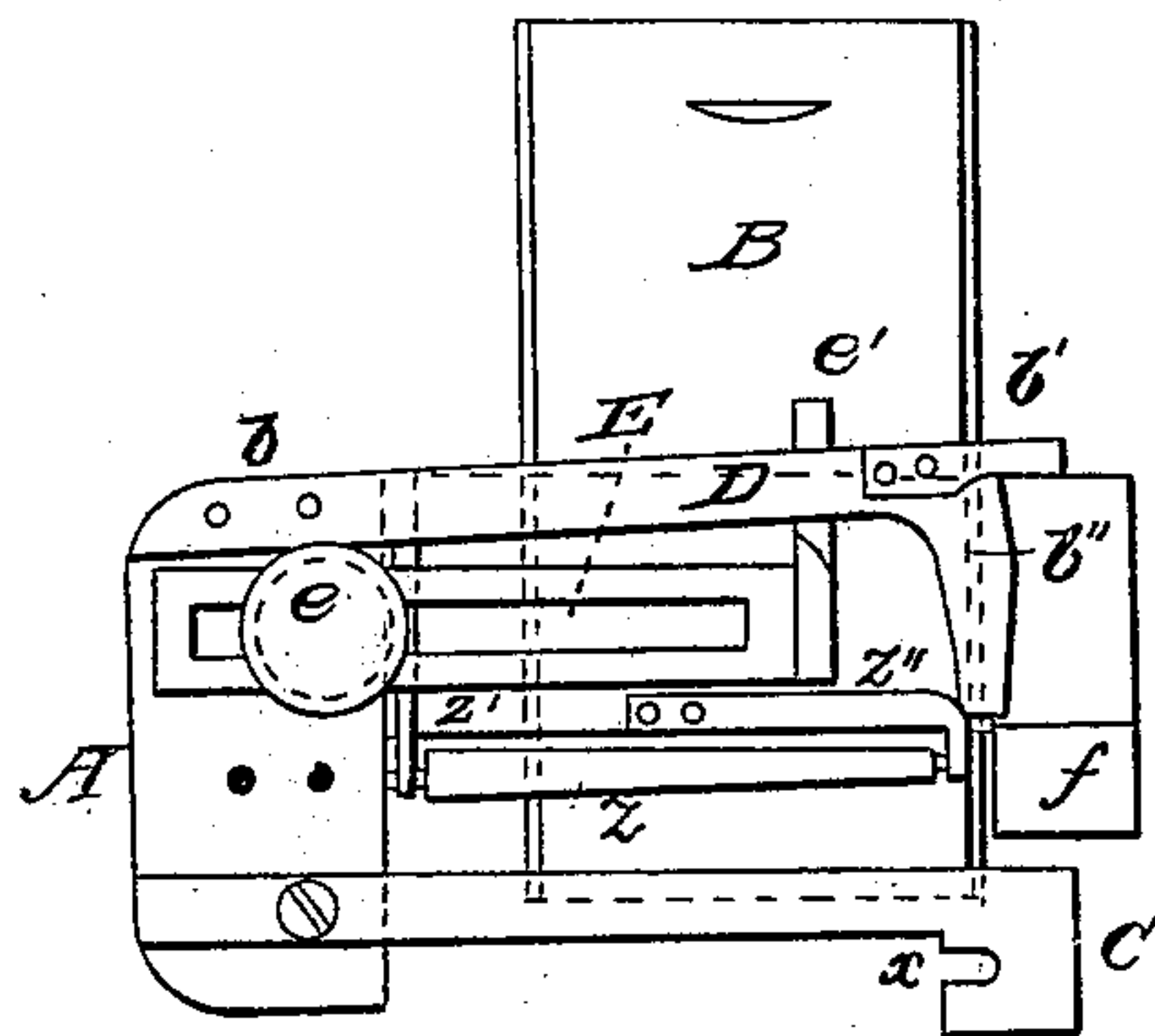
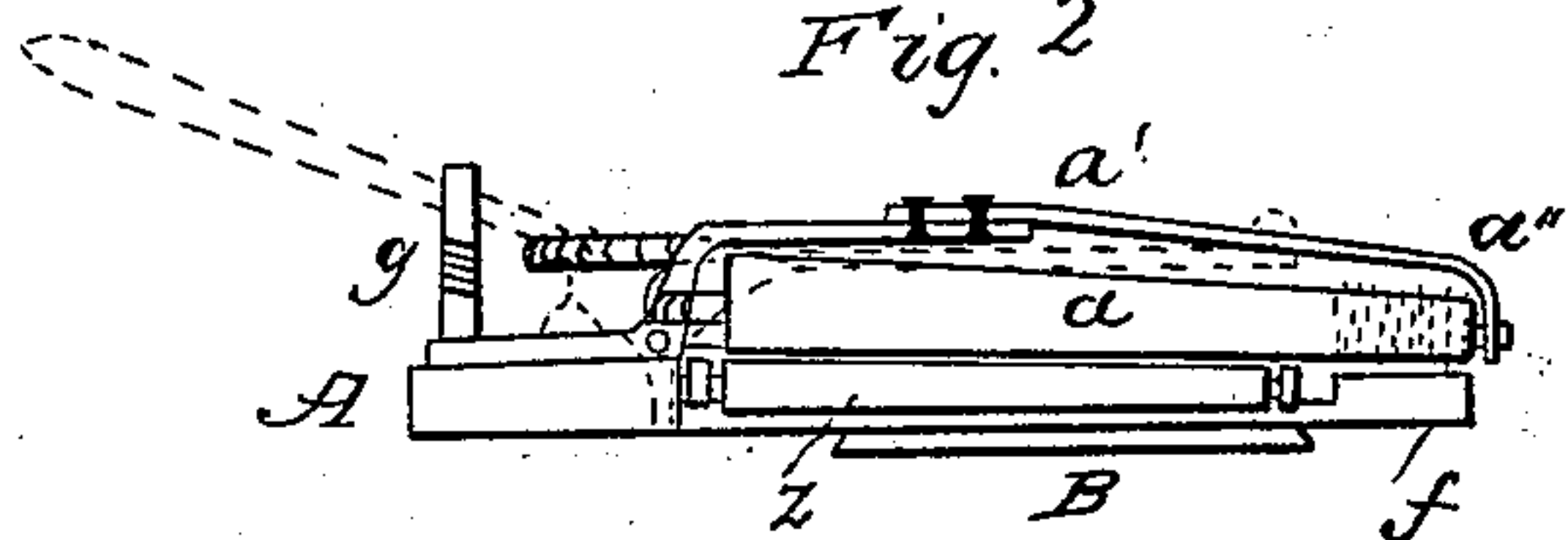


Fig. 2



witnesses
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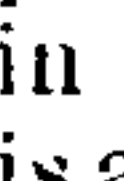
GEORGE W. DOWNS, OF NEW YORK, N. Y.

IMPROVEMENT IN HEMMING AND TUCKING GUIDES.

Specification forming part of Letters Patent No. 38,662, dated May 26, 1863.

To all whom it may concern:

Be it known that I, GEORGE W. DOWNS, of the city and State of New York, have invented certain new and useful Improvements in Instruments for Hemming and Tucking Cloths and Similar Soft Textures, of which the following specification embraces a full and fair description.

The parts of my device are connected to a plate or base piece, A, which is substantially in the form , as shown in Figure 1, which is a plan view, full size, of my device with roller a, Fig. 2, and its supporting-piece a', both hereinafter more particularly described, removed. The whole is mounted on and fixed to a plate, B, Figs. 1 and 2, which is to be adapted in form and size to fit into the "race" of an ordinary sewing-machine.

C, Fig. 1, is a spring-bar, (not shown in Fig. 2, which is a side view or elevation,) of ordinary form, upon which the pressure-foot of the sewing-machine rests, while C rests directly upon the cloth, the needle working through the notch X.

D is the device for turning the hem proper to be stitched, and is composed of a spring fastened at b, and having at its opposite extremity a peculiarly-formed tongue, b', combined with an underlapped and tapered lip, b'', not essentially different from other devices already known for performing this special office of turning the hem proper, and thus requiring no special description.

E is an adjustable sliding gage and guide, secured after adjustment by the thumb-screw e, for gaging and guiding the hem according to its desired width, the outer edge of the hem sliding along (as moved onward by the feed of the sewing-machine) against the lateral projecting head or arm e' of the gage.

Looking on the drawings, the cloth that is being hemmed is fed toward the viewer, and my device as a whole is also so planned as to permit that the body of the cloth lies away from the arm in or from which the needle works—an evident advantage if the cloth being hemmed is large.

z, Figs. 1 and 2, is a friction-roller, (which may or may not be conical,) having its two extremities supported in springs z' z'', so that it

may rise or depress to adjust to varying thicknesses of cloth, while the double of the latter forming the fold of the hem will be gently compressed between this and the upper roller, a, and thus kept smooth during its passage or feed. The single thickness of the cloth that is being hemmed is meantime pressed between the outer and smaller extremity of the upper and longer roller and the little tablet or palm f, which is a part of the base-piece, A, and this smaller end of said roller being burred, as shown, the cloth as fed forward by the main machine catches upon this burred end and sets the upper roller in motion without at the same time causing tension upon the body or fold of the hem, which would cause it to stretch and curve away from the guide-arm e' and destroy the parallelism of the outer edge of the fold and the seam or line of stitching, defeating the whole object. On the contrary, and to still further secure against this, I make this roller conical, its increase in diameter being toward the outer edge of the fold of the hem, so that it shall constantly take up its slack, whether caused by any stretching from its own weight or the trifling friction against the guide, and thus by giving this conical form to roller a, (even if not to roller z) roller a becomes to full intent and purpose a tucker. Through the forward motion of the interposed cloth the lower roller revolves also, as will be readily understood. The upper roller is also so arranged by having its outer end supported in the end of spring a'' that it can rise or depress to suit various kinds or thicknesses of cloths. For greater convenience in inserting the folded edge of the fabric to be hemmed and its correct adjustment for the start, I employ a little lever, (shown in red, Fig. 2,) that bears under the spring forming the outer support of the upper roller, and by pressing down the opposite extremity of which lever until it catches in a notch in the little standard g, (see drawings,) the upper roller is held apart from the other. When all is in place, by liberating the lever the roller is forced down upon the cloth, and the whole is ready for operation.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

1. The employment and combination of the two rollers, in the manner described, for the fold of the hem to pass between, and be more perfectly held and smoothed with the least friction, while one or both of said rollers are held in spring-supports, for the purposes explained.

2. Making these rollers (but particularly roller *a*) conical, to more effectively perform the office of tucking, as explained.

GEORGE W. DOWNS.

Witnesses:

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