

HENRY A. ELLIS.

Hemmer for Sewing-Machine.

No. 126,139.

Patented April 30, 1872.

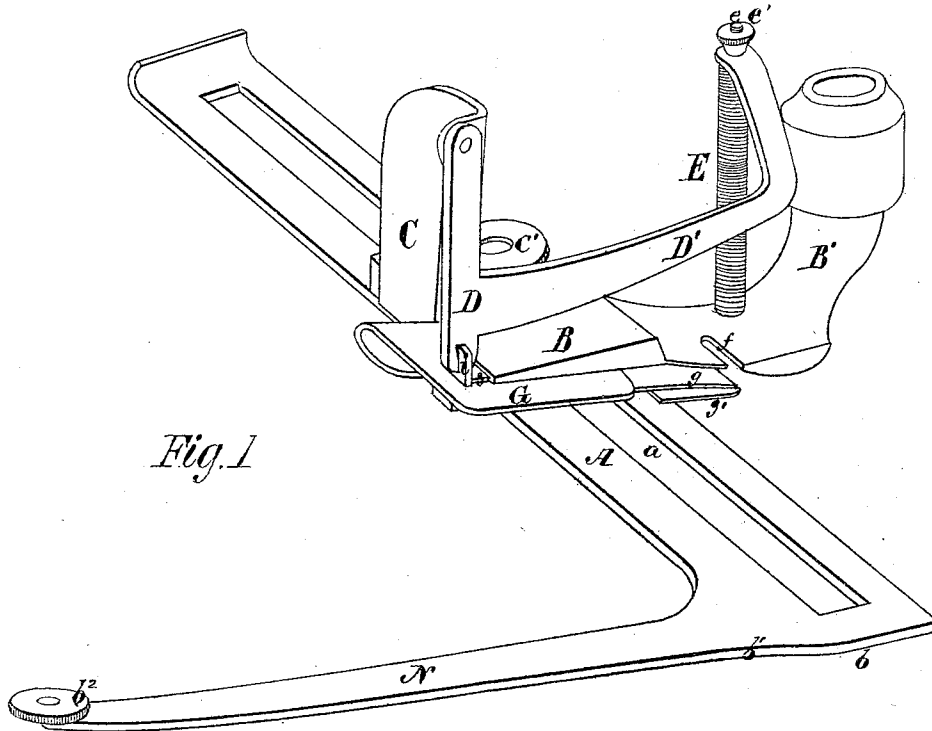
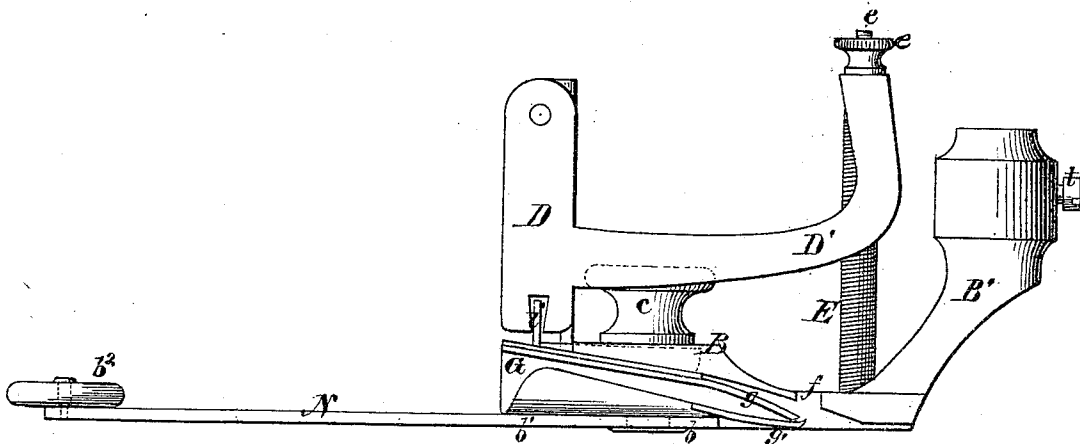


Fig. 1



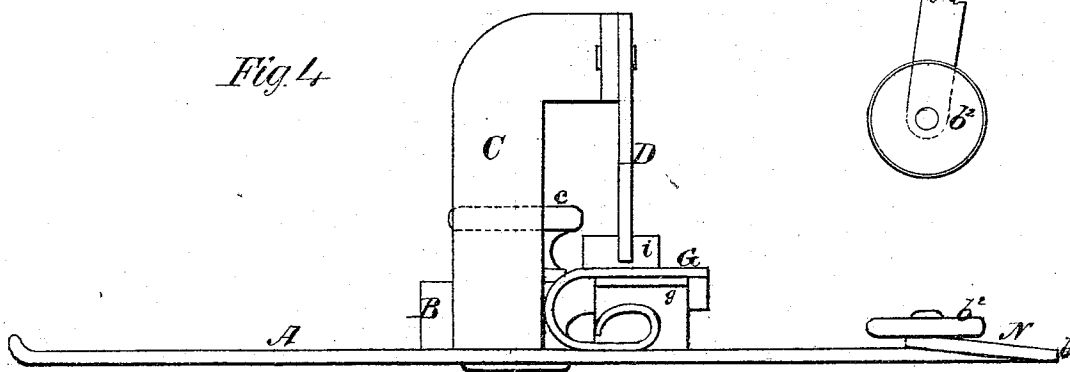
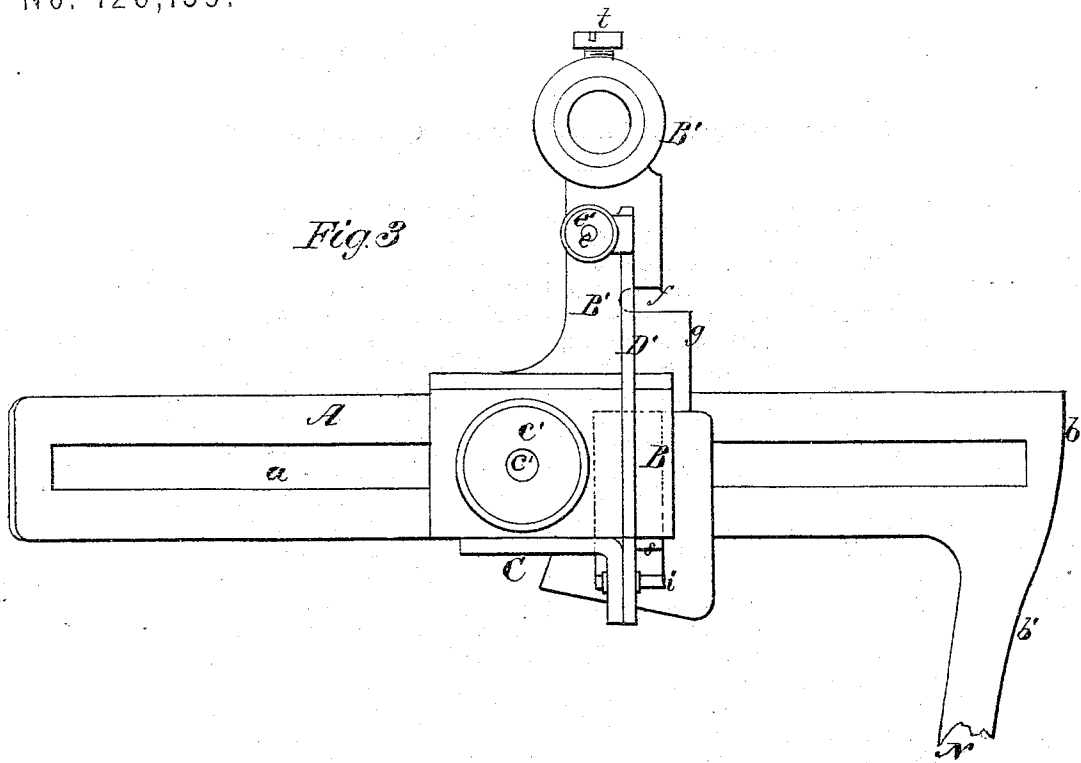
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J. K. Campbell.

Inventor
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UNITED STATES PATENT OFFICE.

HENRY A. ELLIS, OF CHICOPEE FALLS, MASSACHUSETTS, ASSIGNOR TO
HARRY COMSTOCK, OF SAME PLACE.

IMPROVEMENT IN HEMMERS.

Specification forming part of Letters Patent No. 126,139, dated April 30, 1872.

To all whom it may concern:

Be it known that I, HENRY A. ELLIS, of Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented a new and Improved Hemmer for circular or straight work; and I do hereby declare the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a perspective view of the improved hemmer. Fig. 2, Plate 1, is an elevation of one end of the same. Fig. 3, Plate 2, is a top view, with a portion of the guide broken away. Fig. 4, Plate 2, is a front elevation of the hemmer.

Similar letters of reference indicate corresponding parts in the several figures.

In the schedule annexed to my Letters Patent numbered 121,046, and dated November 21, 1871, I described a pressure-spring, which operated to stretch the cloth at that part where the edge of the hem was stitched to it, thus compensating for the stretched edge of the hem and producing smooth work.

One object of my present invention is to automatically gather in and stitch down the folded edge of a hem of curved form without plaiting or puckering the work, and at the same time I provide means whereby the gathering operation shall be under complete control of the operator, as will be hereinafter explained. Another object of my invention is to reduce the friction on the guide over which the work is folded by means of one or more anti-friction rollers applied to said guide; also to so construct the gathering device that it can be adjusted for gathering up more or less of the material at each stroke, or so adjusted that it will be practically out of operation, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, A represents a narrow strip of metal of proper length and thickness, which is slotted longitudinally, as shown at *a*, for the purpose of receiving through it a screw, *c*, on which is a thumb-nut, *c'*, for securing to the plate A a block, B. By loosening the nut *c'* the edge *b* can be adjusted toward or from the gathering and turning de-

vices, according to the width of the hem to be turned. At one end the slotted plate A terminates in a hemming-guide, N, which extends backward, and forms with plate A an angle more or less acute. At the rear extremity of this guide I apply a small wheel, *b*², which is free to turn, and at an intermediate point between this wheel and the end *b* of the plate A the edge of the guide N is curved out at *b*¹, so that the cloth while being folded over the guide will bear against it at the two points *b*¹ *b*², and be somewhat slack transversely between the turner G and said point *b*¹. This allows the edge of the cloth to enter the turner freely. If desired an anti-friction wheel may be applied to the end of plate A at *b*, or at any other point where the fold of the hem would be liable to drag. I do not, therefore, confine myself to locating an anti-friction wheel on the rear end of the hem-guide N. The adjustable block B has a rear extension formed on it, rising from which is a standard, B', having a socket in its upper end and a set-screw, *t*, applied to it. By this means the device can be attached to the presser-shank of a sewing-machine. Rising from the front edge of the block B is a standard, C, to the upper end of which an arm, D, is pivoted, which is allowed to vibrate forward and backward. The lower end of this arm D receives loosely a lug, *i*, which is fast on the upper side of a scroll-turner, G. On this arm D another arm, D', is formed, which extends backward and upward and receives through its upper end a screw, *e*, on which is applied a thumb-nut, *e'*. The screw *e* rises from the flattened portion of the extension B', and has coiled around it a spring, E, which gives the forward strokes to the arm D and turner G. The backward strokes are given to the scroll G by means of the needle-bar of the sewing-machine, or any suitable extension thereof, or by any other means actuated by the driving power of the sewing-machine. The turner G is applied to an overhanging portion of the adjustable block B by means of a dovetail tenon, *s*, which is fitted into a corresponding groove in said overhanging portion. By these means the turner, which may be either of the scroll form or of any other kind, receives a reciprocating movement, the length of the strokes of which can be adjusted by means

of the nut *e'* on the screw *e*. Just in rear of the needle-opening *f* are nipper-plates *g g'*, which are formed on or secured to the scroll *G* so as to extend beyond its forward end and terminate in frictional gripping or pinching ends, as shown in Figs. 1 and 2. These nippers receive between them the folded edge of the cloth on its way to the needle, and throw up this edge into gathers, which are stitched down as rapidly as they are produced.

It is not intended to plait or fold over the gathers, as this would not leave the work smooth. I, therefore, adjust for a given length of stroke, according to the greatest amount of material to be gathered up in a given length of hem, and construct the biting portions of the nippers with smooth edges, so that the operator can hold back the edge of the hem, more or less, during the forward strokes of the nippers. In this way, and by such manipulation, the gathers can be increased or diminished, at pleasure, without stopping the machine to adjust the strokes of the nippers.

For hemming straight work the nippers are adjusted so far back that they will not operate to gather the cloth beneath the needle of the sewing-machine.

I am aware that it is not new to employ vibrating nippers, which present to the cloth serrated positively-holding ends.

It is obvious that a hem may be turned and the work gathered with a hem-guide *N*, which is made with a straight edge; but I prefer to use the guide as represented.

Having described my invention, what I claim as new is—

1. The combination, with the reciprocating gathering and hemming devices, of the hem-guide *N*, substantially as and for the purpose set forth.

2. The combination, with the turner *G*, whether stationary or made to reciprocate, of the inclined hem-guide *N* and a friction-roller, substantially as and for the purpose described.

3. The edge of the hem-guide, provided with the concavity, and arranged, in the relation described, to a turner, *G*, or its equivalent, for the purpose set forth.

HENRY A. ELLIS.

Witnesses:

J. N. CAMPBELL,
JAMES MARTIN, Jr.