

(No Model.)

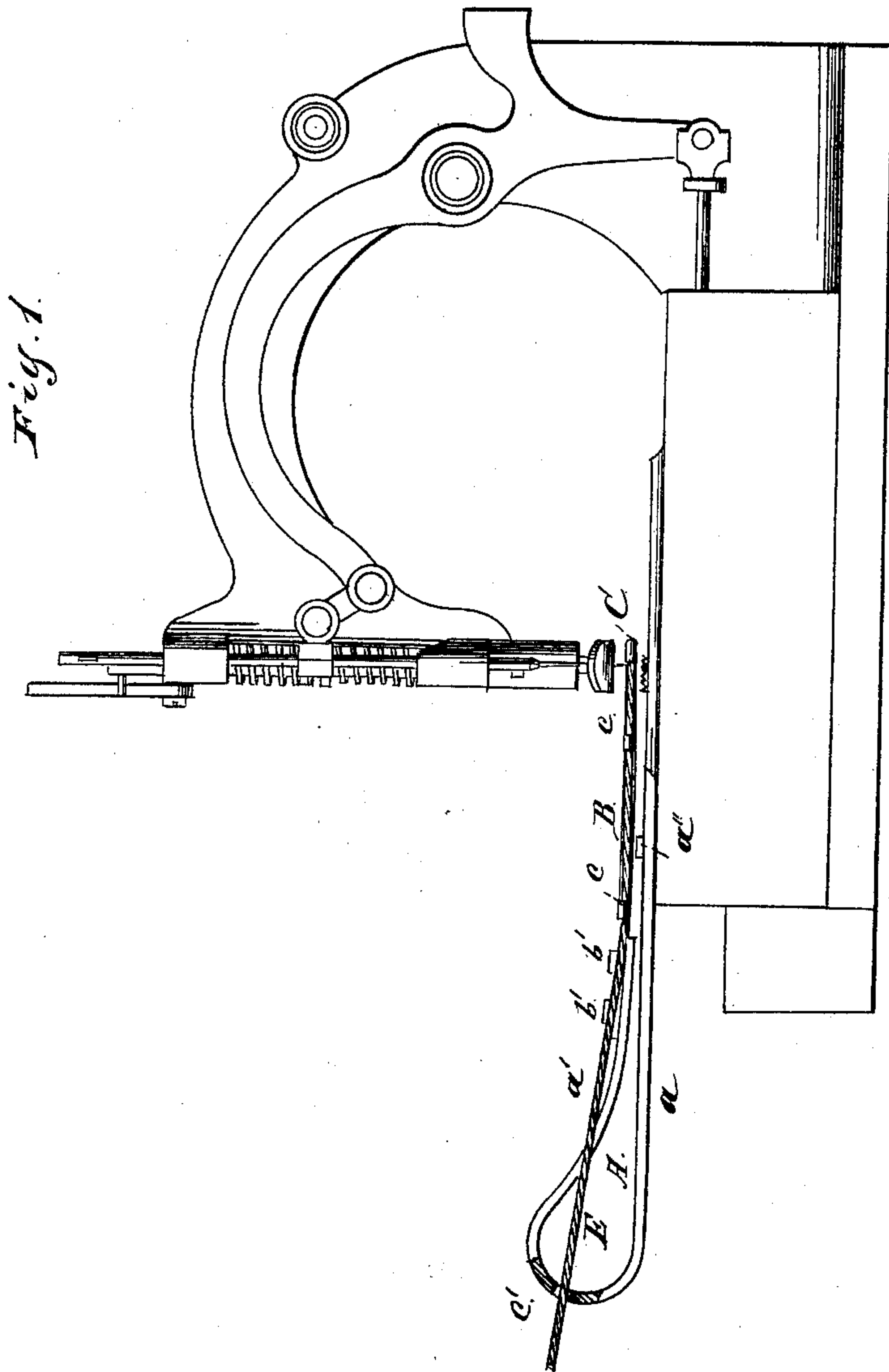
2 Sheets—Sheet 1.

E. D. WEYBURN.

CORDING AND BONING ATTACHMENT FOR SEWING MACHINES.

No. 338,454.

Patented Mar. 23, 1886.



Witnesses:
W. Bond -
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(No Model.)

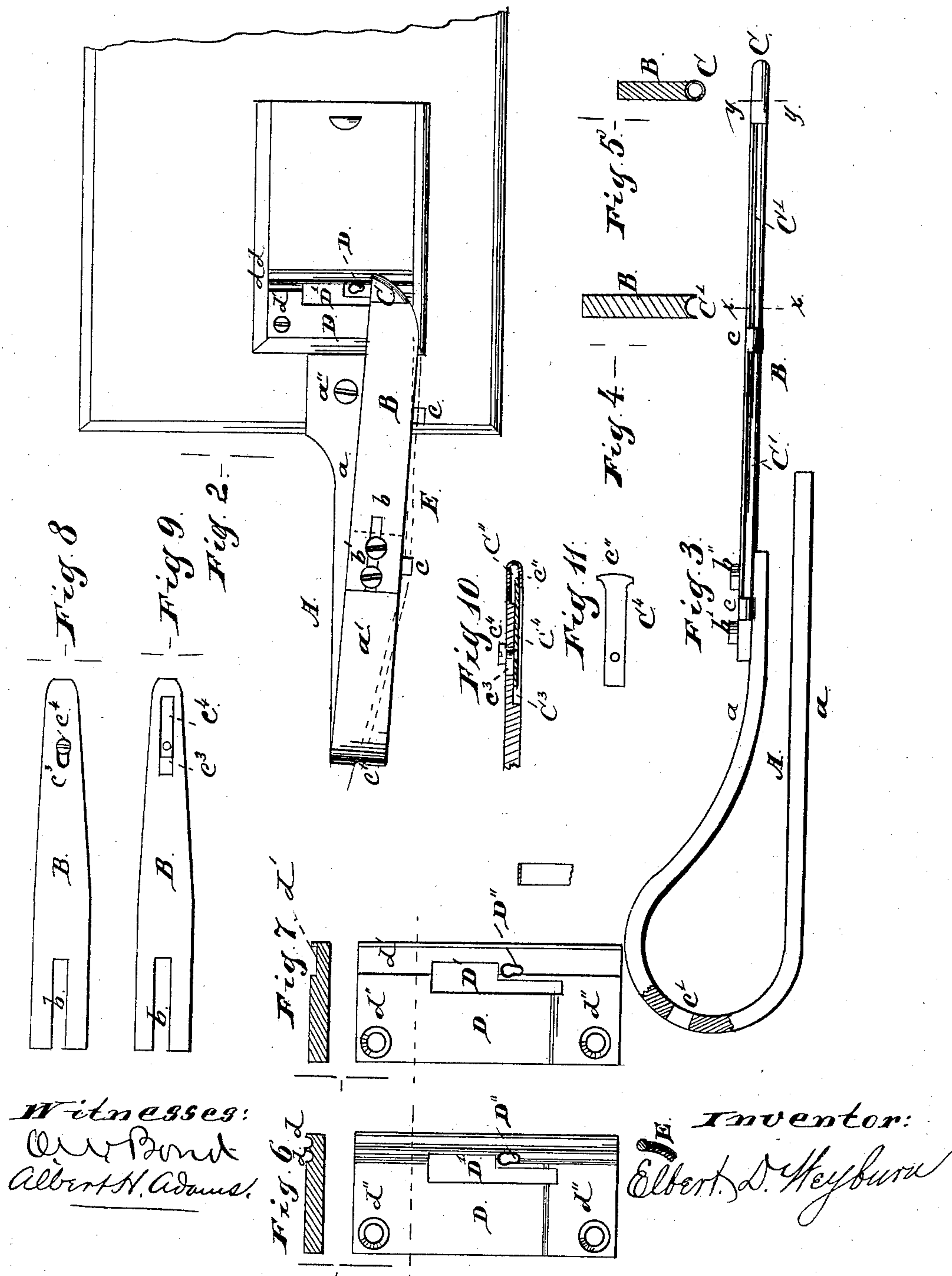
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UNITED STATES PATENT OFFICE.

ELBERT D. WEYBURN, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND
THE UNION BAG MACHINE COMPANY, OF SAME PLACE.

CORDING AND BONING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 338,454, dated March 23, 1886.

Application filed May 12, 1885. Serial No. 165,275. (No model.)

To all whom it may concern:

Be it known that I, ELBERT D. WEYBURN, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Cording and Boning Attachments for Sewing-Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation showing the attachment applied to a sewing-machine; Fig. 2, a top or plan view of the attachment, showing a section of the bed-plate of the machine; Fig. 3, an edge or side elevation, with the arm broken out to show the guide-hole; Fig. 4, a cross-section on line *x x* of Fig. 3; Fig. 5, a cross-section on line *y y* of Fig. 3; Fig. 6, a top view and a cross-section of a grooved plate fitting into the bed-plate for inserting a cord; Fig. 7, a top or plan view and a cross-section of a grooved plate fitting into the bed-plate for the insertion of a bone, braid, or other flat material; Figs. 8 and 9, a top and bottom view, respectively, of the guide for the bone, braid, or other flat material; Fig. 10, a detail, being a vertical longitudinal section of the end of the bone-guide; Fig. 11, a detail of the stop used with the bone-guide.

This invention relates to attachments for inserting and securing cord, bone, braid, and other material in a fabric on a sewing-machine to produce what is termed "corded" fabric, and has for its objects to enable the cord, bone, or braid to be guided and inserted in a rapid and efficient manner, and spaced or divided as may be desired, and to produce a firm support for the material in passing through the sewing-machine, by which a straight line of stitching will be maintained and the cord held and guided and allowed to pass forward with the material by the action of the feed without the ill effects arising from the vibrating friction of the presser-foot, and to enable the fabric to have the cord sewed therein to have the side which is to be the front of the fabric in use on the under side during the process of sewing the cord in place; and its nature consists in the several parts, and combinations of parts, hereinafter described, and pointed out in the claims as new.

In the drawings, A represents a flat bar or plate of steel or other suitable material, bent on itself to have a bottom portion, *a*, for attachment to the bed-plate of a sewing-machine by a set-screw, *a''*, and an upper portion, *a'*, for the attachment of the guide for the cord, braid, or bone.

B is a plate of steel or other material, having at its rear end a slot, *b*, for the passage of set-screws *b'*, by which the arm or plate B is attached to the forward end of the arm *a'* of the plate or support A. The slot *b* and the set-screws *b'* permit an adjustment of the arm or plate B to be had forward or back, to adjust the forward end of such arm or plate in proper relation with the needle of the machine for spacing purposes, and in place of two screws *b'* a single screw and a pin could be used, so long as the action was one which would prevent side sewing or turning of the arm or plate B, and hold it in a firm manner.

C is a tubular guide on the end of the arm or plate B for the passage of a cord around the end of the arm or plate, which end, as shown, is on the arc of a circle to facilitate the guiding of the cord around the end of the arm to pass to the machine, and, as shown, the edge of the plate or arm B is hollowed or grooved out to form a depression, *C'*, in which the cord lies, and the edge of the arm or plate is provided with guide-eyes *c* to keep the cord in place, the cord, as shown, first passing through an opening, *c'*, in the end of the plate or support A, as shown by the dotted lines in Fig. 2.

The arm B and guide C (shown in Fig. 3) are for use with a round cord, and for a flat bone, braid, or other material the arm B at its end has a slot, *C''*, and its under face is provided with a groove, *C³*, in which is located a sliding piece, *C⁴*, to have its end *c''* lie within the slot *C''*, and the end of the plate B has a slot, *c³*, through which passes a set-screw, *c⁴*, by which the slide *C⁴* is held in place, the slide being capable of moving forward and back by loosening the set-screw *c⁴*, and when adjusted properly for the width of the slot *C''* to correspond with the width of the bone, braid, or other material it is locked in its adjusted position by setting the screw *c⁴* down. This form of guide is shown in Figs. 8, 9, and

10, and the arm or plate B is provided with a slot, *b*, for adjusting the guide forward or back for spacing purposes, and the end *c''* of the slide *C'* forms a stop by which the bone or braid is guided to be clear of the descent of the needle, and by which the width of space required for the passage of the bone or braid through the slide is obtained.

The arm B shown in Figs. 8 and 9 is interchangeable with the arm B shown in Figs. 1, 2, and 3.

D is a plate corresponding in length, width, and thickness to the size of the throat-plate of a sewing-machine with which the attachment is to be used, so as to take the place of such throat-plate, and having a slot, *D'*, for the feed-dog, and a hole, *D''*, for the passage of the needle. This plate D, for use with a round cord, is provided on its upper face with longitudinal grooves *d*, the inner one of which is in such relation to the needle-hole as to guide the cord properly for the line of stitching, and the outer one of which receives the preceding cord that has been inserted, which cord acts as a guide, in connection with the groove, for the travel of the material in a straight line, and these grooves *d* are of sufficient depth for the reception of the cord, which is pressed down therein by the action of the presser-foot.

The plate shown in Fig. 7 is for use with a bone or braid, and for this purpose the top surface of the plate is provided with a longitudinal flat groove, *d'*, properly located in relation to the needle-hole *D''* for stitching the bone or braid along the edge, the bone or braid lying in the groove and being held down by the presser-foot, and both the cord and the braid are placed between the pieces which form the front and back of the completed article, with the front on one side and the back on the other side of the arm B.

As shown, the plate D is provided with screw-holes *d''* for securing it in position.

The feed-dog should be of a width to allow the cord, bone, or braid to pass clear of the edge of the feed, and the device can be applied and used with any sewing-machine having a construction of feed-dog of a width to allow the cord, bone, or braid to pass its edge.

E is a cord running or passing first through the guide-opening *c'* in the arm or plate A, thence through the guide-eyes *c*, along the edge of the arm or plate B around the end of such arm or plate through the guide C, thence to the plate D between the pieces of material into which it is to be sewed, lying within the inner groove, *d*, while being sewed into place.

The bone or braid, instead of passing along the grooved edge of the arm B, is fed in a straight line without being turned at right angles as with the cord, and for some purposes the cord could also be fed in a straight line.

The attachment is shown applied to a sewing-machine in Fig. 1, and in operation the arm B is adjusted to the right or left, as may

be required to bring the guide at the end of such arm in proper relation with the needle of the machine for the space desired, the adjustment to the right producing a greater space and to the left a narrower space, forming a narrow or wide pocket for the cord, bone, or braid, and in adjusting the guide for the bone, braid, or other flat material, the end *c''* of the slide *C''* is moved to the right or left for the width of space required to bring a guiding-edge always in line with the needle, to hold the bone or braid and keep it upon the outside of or clear of the needle and in a straight line. The wide or narrow pockets or spaces are formed by bringing the material with greater or less compression around the cord or bone. The nearer the guide is to the line of stitching the more compression there will be of the material around the cord, bone, or braid, and the further removed the end of the guide is from the line of stitching the looser will be the material around the cord, bone, or braid, and this result is attained by adjusting the arm *b*, with the guide thereon, to or from the needle; but no matter what the position of the guide may be in use, the cord that is being sewed in will pass in the inner guide-groove, *d*, while the preceding cord which has been sewed in will pass in the outer guide-groove, *d*, the cord being turned after it leaves the end of the guide to pass through the inner groove, and the same is true with a bone or braid so far as the turning is concerned, to bring the bone or braid to lie in the groove *d'* while being stitched in place.

Where it is desired to produce a fancy appearance of the complete material the device can be used with that class of sewing-machines which form a double chain-stitch, and in such use that portion or piece of material that is to be the front of the completed fabric is placed underneath, so as to receive the line of double chain-stitching and produce an ornamental effect on each side of the cord, bone, or braid, and in use the material, as a whole, is fed forward by the feed-dog, as usual.

The plate D furnishes a firm support for the material and bone or braid sewed therein, which support is a constant one and obviates the frictional vibrations arising from the movement of the presser-foot, and by the use of this plate D with its grooves the lines of stitching are maintained in a parallel and regular form.

This attachment can be used for inserting and securing a cord, bone, braid, or like material between two layers of fabric or upon the surface of the same while it is sewed upon a sewing-machine, and produces what is termed a "corded," "boned," or "ornamental" fabric, and by its use the guiding of the cord, bone, or similar materials in a straight or irregular line of sewing is attained; the lines of sewing are spaced or divided so as to produce narrow or wide spaces between them, thus enabling the operator to sew the cord, bone, or similar material in narrow or wide grooves or

pockets by adjusting the guide that holds the cord, bone, or similar material, and a true and perfect guide for the cord, bone, or braid, and also a guide for the fabric to be corded or boned while it is being sewed on the machine, is attained.

The cord or bone is held in the suspended guide, and the fabric to be corded or boned is folded so as to allow one layer to remain below the cord or bone, and the two layers are folded over the suspended guide with the cord or bone between the upper and lower fabric.

The suspended guide for the cord or bone is so constructed as to be adjustable to the right or left by a set-screw, which fastens the guide to the support. By moving the suspended guide to the right it widens the space between the rows of stitching, and if moved to the left the spaces between the rows of stitching are contracted, thus enabling the operator to sew the cord or bone into a loose or wide pocket or to sew the same in a narrow space and to tighten the stitching upon the cord or bone.

The suspended guide can be adjusted so as to hold a braid or binding upon the fabric and keep the same in position in a perfect line to the needle of the machine, and will guide the same in any line the machine may sew.

The suspended guide is adjustable for the width of space for cording or bone-stitching, and when used in connection with the milled grooved throat-plate, which forms a rigid bearing and support for the cord or bone, it facilitates the rapidity of the work and produces a more even and uniform method of cording and bone-stitching.

In the construction of the throat-plate guide the bottom of the groove may be shaped round, square, or angular, and the pressing of the cord, bone, or other materials into this groove will make the fabric conform to the shape of the groove, as herein described.

In the ordinary method of cording a groove is made in the presser-foot of the machine and acts as a guide for the cord. The presser-foot has a vibrating movement and rises up and down with every stitch made on the machine, thus producing a friction upon the cord and a liability of imperfect lines, while with my invention the grooved throat-plate forms a rigid bearing for the cord and fabric, and the presser-foot of the machine moves on a smooth and even surface of the fabric, the cord being on the lower layer of the fabric, in place of forming on the upper side, as in the old method.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a sewing-machine, of mechanism for inserting and securing cords, bones, or braid in a fabric, consisting, essentially, of a plate, D, located in the bed-plate of the machine and having its upper surface grooved to receive and guide the cord, bone, or braid, and provided with

an orifice through which the feed operates, and an arm, B, connected at one end with the machine-bed, with its other end arranged above the grooved plate and provided with a guide around which the cord, bone, or braid passes to the grooved plate, substantially as described.

2. The combination, with a sewing-machine, of mechanism for inserting and securing cords, bones, or braid in a fabric, consisting of a plate, D, located in the bed-plate of the machine and having its upper surface grooved to receive and guide the cord, bone, or braid, and provided with a slot, D', through which the feed operates, the plate A, secured to the bed-plate and having an overhanging arm, a, and the arm B, connected at one end with said overhanging arm and having its other end arranged above the grooved plate and provided with a guide around which the cord, bone, or braid passes to the grooved plate, substantially as described.

3. The combination of the plate D, having its upper surface grooved and provided with a slot, D', for the operation of the feed-dog of a sewing-machine, with the plate A, having the overhanging arm a', and the arm a, for attaching it to the bed-plate of the machine, and the longitudinally-adjustable arm B, carried at one end by the overhanging arm, and provided at its other end with a guide arranged above the grooved plate, and around which a cord, bone, or braid is adapted to pass to the grooved plate for inserting and securing the cord in a fabric, substantially as described.

4. The combination of the plate D, having its upper surface grooved and provided with a slot, D', for the operation of the feed-dog of a sewing-machine, with the plate A, having an arm, a', and an arm, B, adjustably secured at one end to said arm a', and provided at one edge with the guide-eyes c and at its other end with the guide C, located directly above the grooved plate, and around which a cord, bone, or braid is adapted to pass to the grooved plate for inserting and securing the cord in a fabric, substantially as described.

5. The combination, with a sewing-machine, of the plate D, detachably secured in the bed-plate of the machine and having its upper surface horizontally grooved, with the ends of the groove opening at the ends of the plate and provided with the slot D' and hole D'', through which the feed-dog and needle operate, and an adjustable arm, B, having at one end a guide, C, located directly above the grooved plate for conducting thereto a cord, bone, or braid to insert and secure the same in a fabric, substantially as described.

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Witnesses:

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