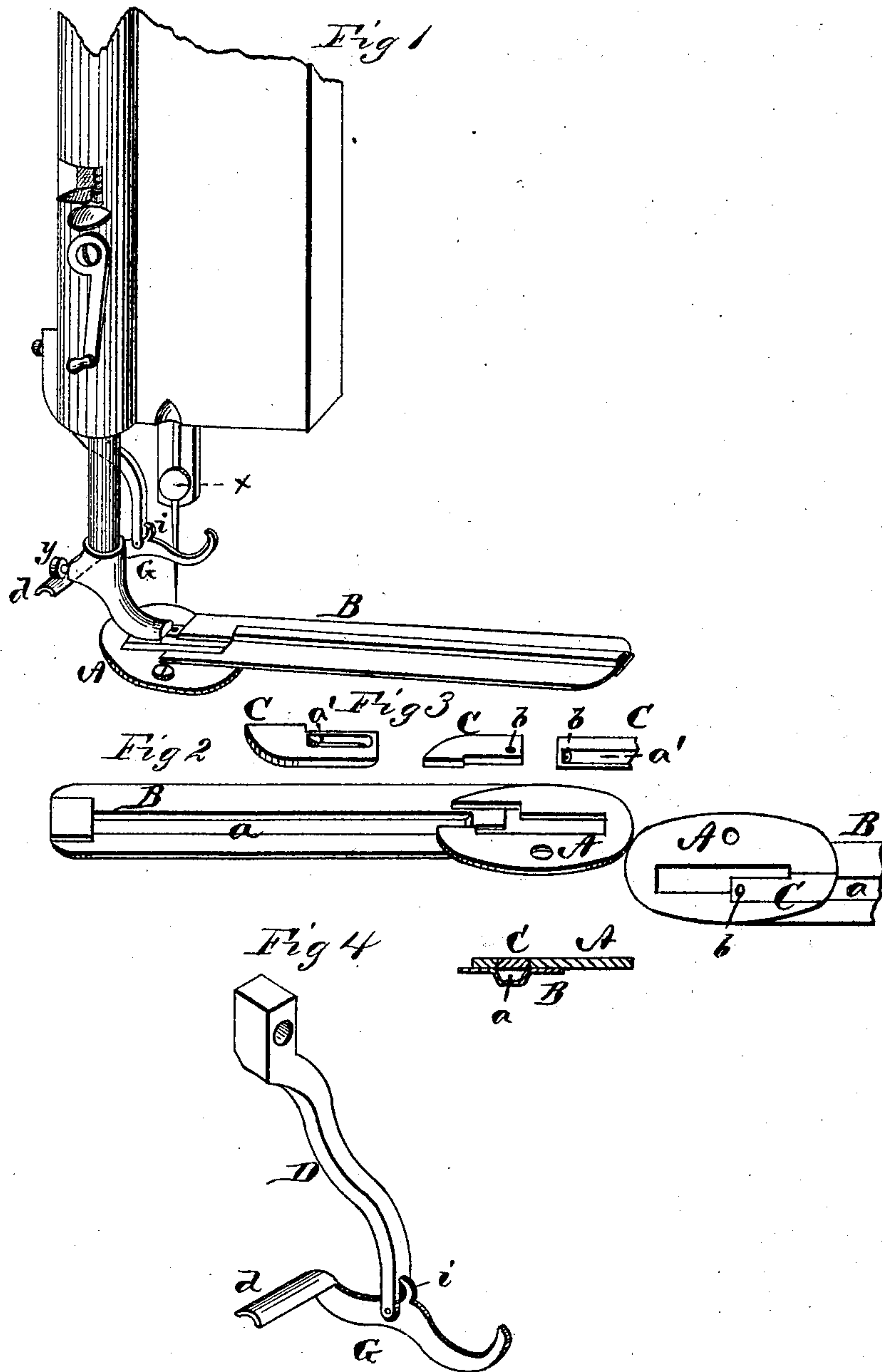


V. LAPHAM.

Braiders for Sewing-Machines.

No. 150,059.

Patented April 21, 1874.



WITNESSES.

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UNITED STATES PATENT OFFICE.

VALENTINE LAPHAM, OF MARION, OHIO.

IMPROVEMENT IN BRAIDERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **150,059**, dated April 21, 1874; application filed February 13, 1874.

To all whom it may concern:

Be it known that I, VALENTINE LAPHAM, of Marion, in the county of Marion and in the State of Ohio, have invented certain new and useful Improvements in Braiders for Sewing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a braiding-attachment for sewing-machines, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of so much of a sewing-machine as will illustrate my invention. Figs. 2, 3, and 4 are detached views of my braiding-attachment.

A represents a throat-plate for a sewing-machine, to which is attached a bed-plate, B, to rest on the top of the bed-plate of the sewing-machine. The under side of the plate B is cut out or swaged in forming a longitudinal groove or race, *a*, for the passage of the braid. In the under side of the throat-plate A fits a dovetailed slide, C, in the top of which is a race or groove, *a'*. The braid passes from the groove *a* in the bed-plate B into the groove *a'* of the slide at one end and out at the other end through a hole, *b*, the braid striking the feed of the machine as soon as it passes out of the throat-plate. The braid thus makes two turns at nearly right angles, thereby preventing the braid from twisting. The hole *b* in the slide C is wider than it is long, allowing the braid to pass out perfectly flat and guiding it so that the needle will strike the center, the feed catching the braid as soon as it leaves the race in the slide. D represents an arm slotted at its lower end for fastening a rocking bar, G, by pivot in the center, forming a fulcrum upon which the bar rocks. The arm D is fastened by a screw through its up-

per end to the head of a Domestic sewing-machine at the place where the quilter is fastened. The front end of the rocking bar G is operated by the head of the needle-screw *x*, and from the rear end of the rocking bar extends an arm, *d*, to bear against the under side of the head of the presser-foot screw *y*. When the needle-bar descends, the screw *x* depresses the front end of the rocking bar G, causing the arm *d* to lift the presser-foot slightly from the work; and the presser-foot readjusts itself as soon as the needle rises. By this means the cloth is held only by the presser-foot or by the needle at the same time, never by both at one time, thereby allowing the cloth to be turned with ease, so as to follow the stamping or marks with perfect ease. On the rocking bar G is a small spur or tip, *i*, which strikes the front of the arm D and causes the rocking bar to remain in proper position when the needle-bar screw *x* is not bearing on the end of the rocking bar. It will be noticed that I use in my braiding-attachment the ordinary throat-plate of the sewing-machine, and cut the same out for the admission of the slide C. In this slide is made the groove or race *a'* through which the braid passes, so that by having several of these slides with different sizes of grooves and holes, different sizes of braid may be used, and each held or guided in proper position to the needle. The elongated plate B, which is attached to the throat-plate A and rests upon the surface of the bed-plate of the machine, is of great importance, not only to guide the braid properly, but also to protect it and prevent its being moved out of place by the operator's hands, or by the cloth when manipulating the cloth to turn corners or otherwise follow the stamping. It will also be noticed that the braid in its passage from the groove *a* to the groove *a'* turns two right angular, or nearly right angular, corners, which is of the utmost importance. Experience and practice have demonstrated that braid in passing through any straight guide will turn or twist more or less, and hence when arriving at the needle will often be so turned as not to be sewed on properly; but by causing it to

turn these corners a short distance from where the needle operates, the braid is kept perfectly flat, and will arrive in that position to the needle, so as to be sewed on the cloth properly.

The devices, as above described, are arranged for a Domestic sewing-machine, but they may, of course, be arranged for any of the sewing-machines now in use.

I am aware that a groove has been made in the throat-plate of a sewing-machine for the admission of the braid, and provided with a slide for covering the same, but such groove must necessarily be made wide enough for the widest braid to be used, and hence when narrower braid is used it cannot be guided properly, as it will, of course, move from side to side of said groove. I am also aware that grooves have been formed in the bed-plates of sewing-machines to guide the braid, but in such cases the machines must be expressly manufactured for that purpose, while my invention is simply an attachment to be used with any machine.

Having thus fully described my invention what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the throat-plate of the removable slide C, provided with the braid-guiding race or groove *a'* and needle-hole *b*, and the elongated plate B attached to said throat-plate and provided with the race or groove *a*, substantially as and for the purposes herein set forth.

2. The rocking bar G pivoted in the lower end of the arm D and provided with the arm *d* and spur *i*, in combination with the needle-screw *x* and the presser-foot of the machine, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of January, 1874.

VALENTINE LAPHAM.

Witnesses:

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