No. 716,338.

Patented Dec. 16, 1902.

A. LAUBSCHER.

EMBROIDERING MACHINE.

(Application filed Aug. 7, 1902.)

(No Model.)

3 Sheets—Sheet 1.

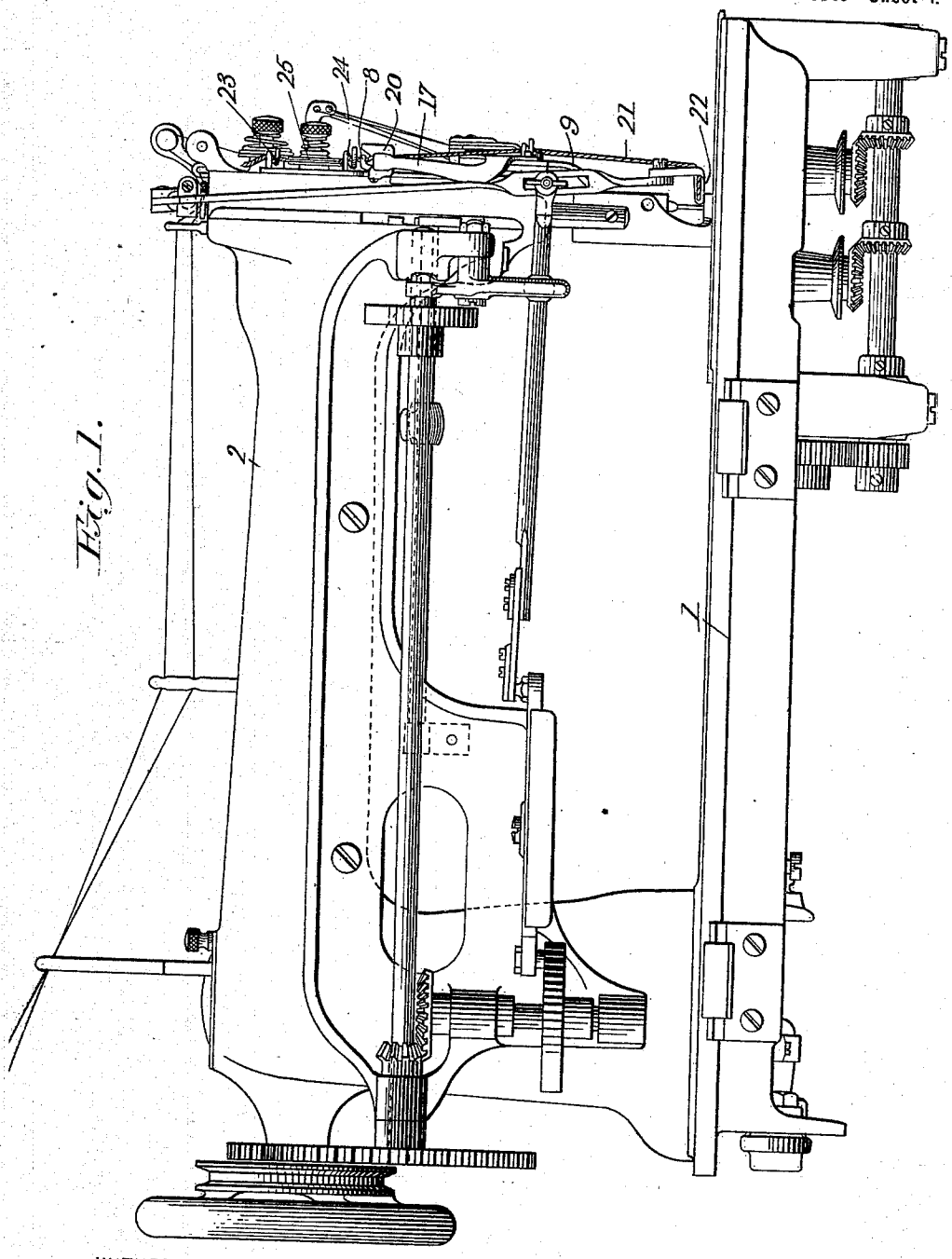


Fig. 1.

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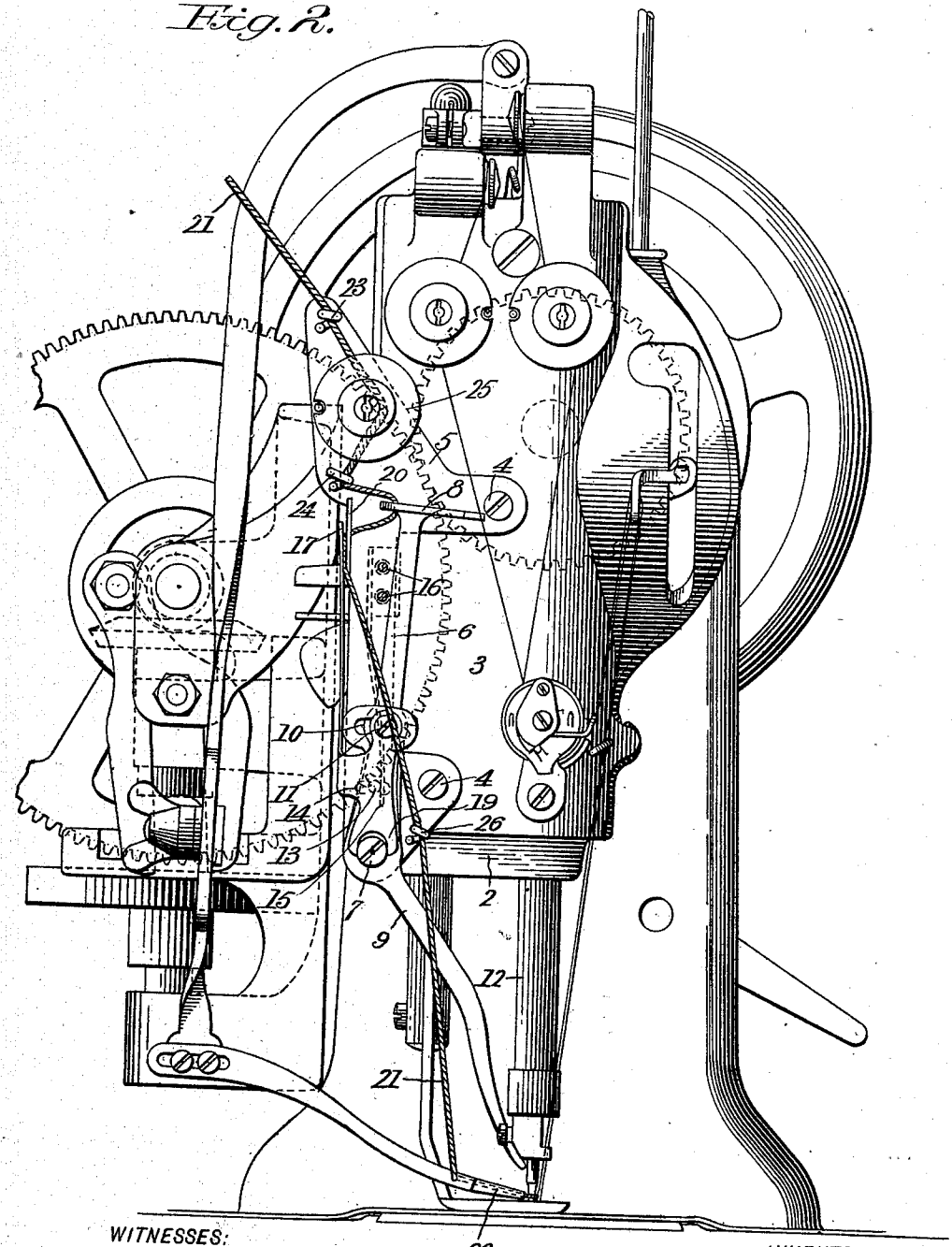
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Fig. 2.



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Fig. 3.

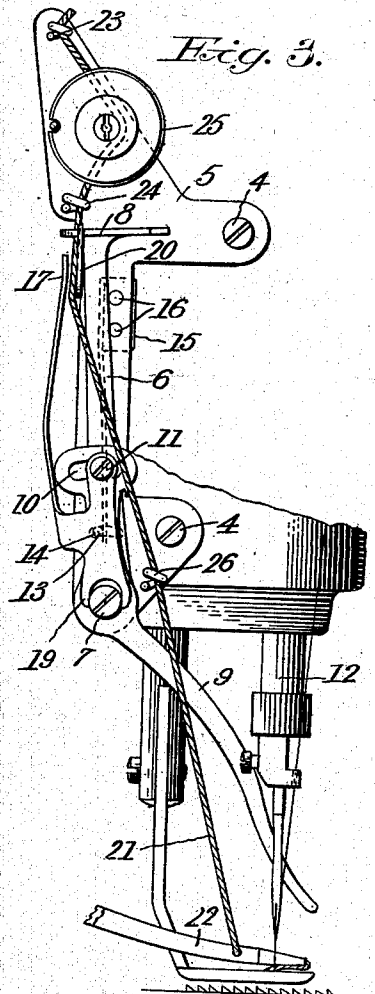


Fig. 4.

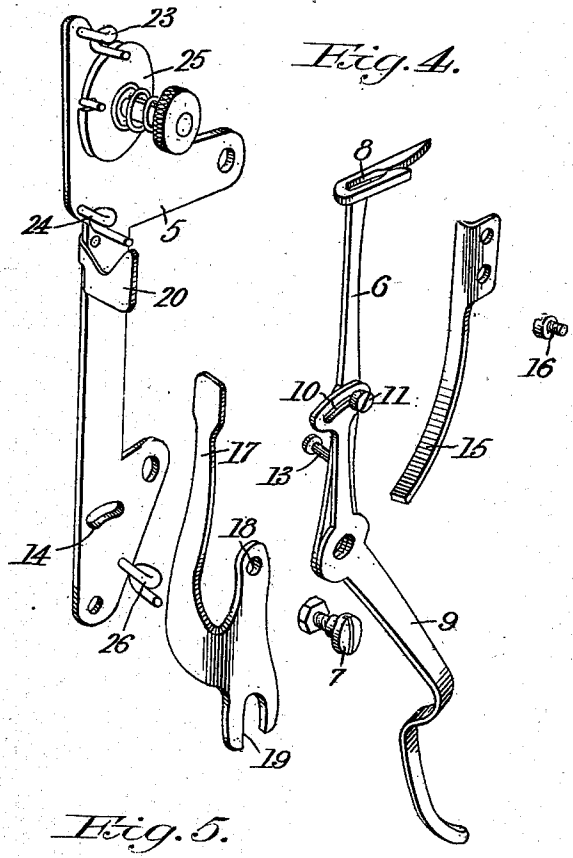


Fig. 5.

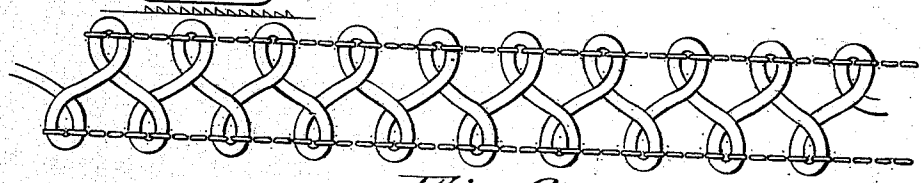
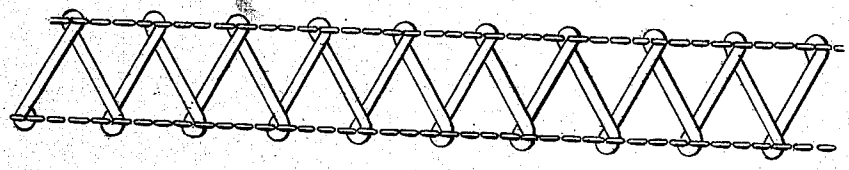


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALEXANDER LAUBSCHER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO WHEELER & WILSON MANUFACTURING COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 716,338, dated December 16, 1902.

Application filed August 7, 1902. Serial No. 118,813. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER LAUBSCHER, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Embroidering-Machines, of which the following is a full, clear, and exact description.

This invention relates to that class of sewing-machines by means of which ornamental stitching is done, and for purposes of illustration the invention is shown as applied to a machine for producing what is known as "figure 8" ornamentation or embroidering by the use of a braid or cord stitched in figure to a fabric.

The object of the invention is to positively control the quantity of braid or cord supplied to the stitching mechanism, whereby the outline or configuration of the figure may be modified.

In carrying out the invention any suitable sewing-machine, such as a Wheeler & Wilson twin-needle machine, is supplied with means whereby the quantity of braid or cord apportioned to the stitching mechanism at each descent of the needle-bar is regulated in such way that it is possible for the operator to vary the design or figure being applied to the fabric, all as will be now more particularly set forth and finally claimed.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of a Wheeler & Wilson twin-needle machine containing the present invention. Fig. 2 is a front elevation thereof, the bed-plate being omitted and the parts shown in the position they take when the needle-bar is at the downward limit of its stroke. Fig. 3 is a front elevation with a portion only of the head of the machine shown and the parts in the position they will take when the needle-bar is at the upward limit of the stroke. Fig. 4 shows in perspective and detached the constituent elements of the invention. Fig. 5 is a plan view of one form of seam that may be made when a liberal quantity of braid is supplied. Fig. 6 is a view similar to Fig. 5 where a scant quantity of braid is supplied.

The machine shown has a bed-plate or frame 1, an overhanging arm 2, and face-plate 3, as usual, together with usual stitch-forming and cloth feeding and driving appliances, and therefore needs no further description. In order to adapt this or other well-known forms of sewing-machines to utilize this invention, there is applied to the face-plate by screws 4 a bracket 5, upon which is mounted the elements of the present invention, as follows: A braid-drawing lever 6 is pivoted at its lower end to a shouldered screw 7, which is tapped in the lower part of the bracket 5, and has at its upper end an elongated braid leader or guide 8. A lever 9 is likewise pivoted to the screw 7, and its upper end is provided with a slotted segment 10, engaged by screw 11, tapped in the lever 6, whereby said levers 6 and 9 are rigidly united to move together. The lower end of the lever 9 projects beneath the needle-bar 12 and within its field of travel and is struck by said needle-bar in its descent to vibrate the lever 9, and through it the lever 6, upon the pivot-screw 7.

Secured to and on the rear side of the lever 6 is a stop 13, which projects through an opening 14 in the bracket 5 and is engaged by a spring 15, which is secured to the rear face of said bracket by screws 16. The spring 15 effects the return movement of the levers 6 and 9 after they have been actuated by the downward movement of the needle-bar.

17 is a spring-finger carried by the lever 9 and secured in position thereon by the screw 11 engaging the hole 18 in said finger. The lower end of the finger 17 is forked, as at 19, and said forked end straddles the pivot-screw 7 and is thereby held in place.

20 is an ear extending from the bracket 5 substantially at right angles thereto to form an abutment, between which and the upper end of the finger 17 the braid 21 passes on its way to the spout or leader 22, by which latter the braid is delivered to the stitch-forming mechanism.

Secured to the upper portion of the bracket

5 are braid-leaders 23 and 24, between which is any approved tension device 25.

26 is a leader secured to the lower part of the bracket 5, through which the braid passes before entering the delivery-spout 22.

It will be observed that by reason of the relative position of the leader 24 and the ear 20 with respect to the upper end of the lever 6 the latter will move in a line approximately at right angles to a line drawn from the said leader to the said ear, and when the braid is threaded through said leader 24 and guide 8 on the upper end of said lever and thence from the ear 20, as shown in Fig. 2, a loop of greater or less length will be formed in said braid, according to the extent of movement of said lever, and variation in such movement is effected by adjusting the lever 6 laterally in the slotted segment 10 of the lever 9.

The operation is as follows: The braid or cord is drawn from any suitable reel or cop and is first threaded through the leader 23 and thence through the tension device 25, thence through the leader 24, thence through the guide 8, thence over the ear 20 and between the latter and the fingers 17, thence through the leader 26, and finally into and through the delivery-spout 22 to be presented to the stitch-forming mechanism. The opening in the guide 8 is of sufficient length to permit a limited forward movement of the lever 6 from the position shown in Fig. 3 before coming into contact with the braid, and at the descent of the needle-bar 12 the levers 9 and 6 will be rocked upon the pivot-screw 7, the finger 17 first coming into contact with the braid and firmly gripping it against the ear 20. As the movement of the lever 6 continues in a direction toward the needle-bar a loop of the braid will be drawn through the tension device 25, as clearly shown in Fig. 2. By reason of the fact that the braid is firmly gripped between the finger 17 and ear 20 previous to the braid-drawing guide coming into contact with the braid to provide a proper supply of braid for a succeeding stitch no unnecessary draft will be made upon that portion of the braid between the ear 20 and said spout 22, thus greatly facilitating the proper operation of the latter.

By adjusting the lever 6 toward and from the needle-bar by means of the slotted segment 10 and screw 11 a greater or less quantity of braid will be drawn, so that the operator may control the amount of braid supplied in order to vary the appearance of the seam or stitched figure. When a greater or liberal quantity of braid is drawn, the figure will have the loose appearance shown in Fig. 5, and when a less quantity of braid is drawn the figure will have the appearance shown in Fig. 6.

It is possible to omit the adjustment of the lever 6 and obtain a desirable result, and in that case the levers 6 and 9 will be made integral; but it is preferred to use the adjustment of these two levers, as herein shown and described. While the mechanism is shown mounted upon a bracket, which in turn is mounted upon the face-plate of the sewing-machine, it will be understood that such bracket could be integral with the face-plate and serve the purpose of the invention, and it is also to be understood that the independently-mounted bracket 5 is not essential to the carrying out of the invention, but is adopted simply as a matter of convenience in applying the invention to an already-constructed machine. These and other changes are within the scope and purpose of the invention.

What I claim is—

1. In an embroidering-machine, having a stitch-forming mechanism including a reciprocating needle-bar, a bracket supported upon the machine above the lower end of the needle-bar, a lever pivoted to said bracket and having its upper end provided with a guide and its lower end extending into the path of movement of the needle-bar, a tension device, and leaders to which a braid or cord is conducted to the guide in the lever, a gripping device for engaging the braid after it leaves the said guide, and means to conduct the braid to the sewing mechanism.

2. In an embroidering-machine, having a braid-spout, and a stitch-forming mechanism including a reciprocating needle-bar, the combination of a bracket suitably supported upon the machine, braid-leaders and a tension device on said bracket, a vibrating braid-guide engaging the braid after it leaves the tension device, and a device for periodically gripping the braid after it leaves the braid-guide.

3. In an embroidering-machine, having a braid-spout, and a stitch-forming mechanism including a reciprocating needle-bar, the combination of a bracket suitably supported, an adjustable vibrating lever having an elongated braid-guide, braid-leaders, including a tension device, arranged above said elongated guide, and a braid-gripping device arranged below said elongated guide and adapted to periodically grip the braid.

4. The combination of a bracket, a lever pivoted thereto and depending therefrom, a braid-guide mounted upon the pivot of said lever and adjustably secured to and vibrating with said lever, a spring-finger carried by said lever, an abutment on said bracket with which said spring-finger coöperates, and braid-leaders and a tension device mounted upon said bracket, adapted to be operated by a reciprocating needle-bar for supplying braid in regulated quantity to the stitching mechanism of an embroidering sewing-machine.

In testimony whereof I have hereunto set my hand this 6th day of August, A. D. 1902.

ALEXANDER LAUBSCHER.

Witnesses:
C. N. WORTHEN,
E. I. VAN HORN.