W. COHEN.

EMBROIDERY MACHINE.

APPLICATION FILED JAN. 19, 1918.

1,265,430.

Patented May 7, 1918.

Fig. 1.

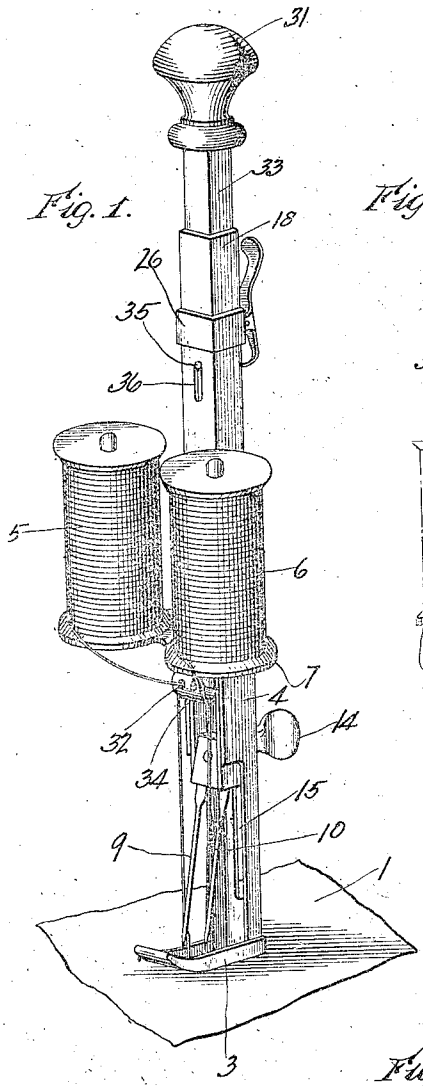


Fig. 2.

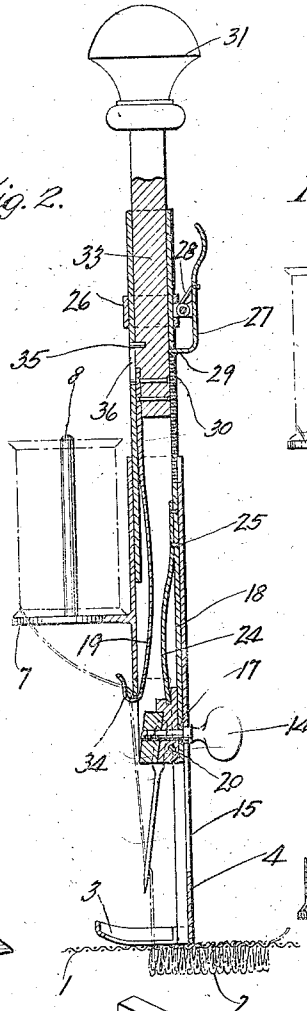


Fig. 3.

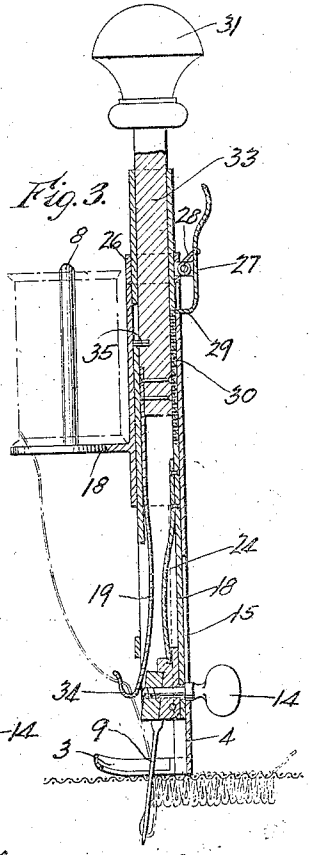


Fig. 4.

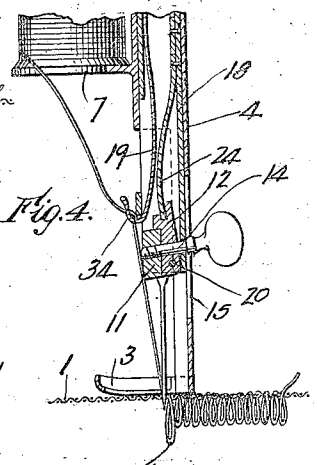


Fig. 6.

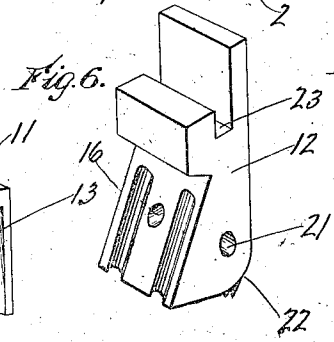
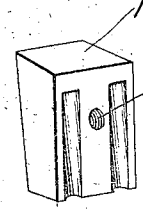


Fig. 5.



WITNESSES

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EMBROIDERY-MACHINE.

1,265,430. Specification of Letters Patent. Patented May 7, 1918.

Application filed January 19, 1918. Serial No. 212,611.

To all whom it may concern:

Be it known that I, WILLIAM COHEN, a citizen of the United States, and a resident of Bayonne, in the county of Hudson and State of New Jersey, have invented a new and Improved Embroidery-Machine, of which the following is a full, clear, and exact description.

This invention relates to embroidery machines and has for an object the provision of an improved construction of a hand operated embroidery machine wherein any desired depth or length of loop may be provided by proper adjustment of certain parts.

Another object of the invention is to provide a hand embroidery machine with one or a plurality of needles, and one or a number of sources of supply for the needles so that a plurality of rows of embroidery loops may be produced at one time if desired.

A further object of the invention is to provide a hand operated embroidery machine in which the machine automatically feeds itself forward regardless of the adjustment of the needles as to the length of loop provided.

In the accompanying drawing:

Figure 1 is a perspective view of an embroidery machine disclosing an embodiment of the invention.

Fig. 2 is a longitudinal vertical section through the structure shown in Fig. 1.

Fig. 3 is a sectional view similar to Fig. 2, but showing the needle and associate parts in their different positions.

Fig. 4 is a longitudinal vertical sectional view through the lower part of the structure shown in Fig. 1, same being on an enlarged scale showing the needle as it is about to be withdrawn from the cloth prepared to make another stitch or loop.

Fig. 5 is a perspective view of a ready adjustment gripping jaw embodying certain features of the invention.

Fig. 6 is a perspective view of a pivotally mounted gripping jaw for needles embodying certain features of the invention.

In the present invention it is aimed to provide a ready adjustment of the length of the loop as well as provide one or a large number of needles, and to provide each needle with the same kind of thread, or silk, or different kinds and different colors.

Referring to the accompanying drawing by numerals, 1 indicates a piece of cloth of any desired kind on which it is desired to provide some embroidery using a design of any desired kind. As shown in Figs. 2, 3 and 4 the various loops 2 are arranged on the side of the cloth which is opposite to that engaged by the machine. From this it will be seen that the embroidery is worked from what is termed the wrong side. The foot 3 is caused to contact with the cloth 1 when the device is in use, said foot being rigidly secured to frame 4, which frame may be square in cross section, with certain parts cut away, or any other desired shape, preferably square in order to prevent turning of the parts, and to assist in causing the device to operate so as to move in a straight line automatically. Frame 4 has rigidly secured thereto, or formed integral therewith, means for supporting spools 5 and 6 of thread, said means being in the nature of a shelf 7 having upstanding pins 8 arranged thereon on which the spools freely rotate. In the drawing two spools are shown and two needles 9 and 10, but it will be evident that one or more than two could be used without departing from the spirit of the invention. The needles 9 and 10 fit into suitable sockets in the jaws 11 and 12, jaw 11 having a threaded aperture 13 for receiving the clamping screw 14 which extends through a suitable slot 15 in the frame 4 and through an aperture 16 in jaw 12 as well as an aperture 17 in the reciprocating sleeve 18. Sleeve 18 as well as the frame 4 is cut away somewhat on one face at the lower part so as to accommodate the feeding spring 19, as well as to accommodate the jaws 11 and 12. A pivotally supporting pin 20 is carried by the lower part of the sleeve 18, said pin extending through an aperture 21 in the jaw 12 so as to pivotally support said jaw. It will be noted that the jaw 12 is rounded at 22 so as to allow a movement from the position shown in Fig. 2 to that shown in Fig. 4. A notch 23 is

provided in the upper part of jaw 12 for receiving a spring 24 which spring is rigidly secured at 25 to the sleeve 18 whereby the spring as well as jaws 11 and 12 reciprocate with said sleeve. This spring and the pivotal mounting of the jaw 12 acts in connection with the needles and foot 3 to feed the device forward after each stitch. When the device is ready for use it is positioned as shown in Figs. 1 and 2 and the needles move downwardly, or pass through the cloth 1, as shown in Fig. 3, and in doing so on both the downward and upward movement act to force the parts to the position shown in Fig. 4, so that as soon as the needles are completely withdrawn the spring 24 will act to throw the needles forwardly from the position shown in Fig. 4 to that shown in Figs. 1 and 2, whereby when they are forced downwardly again they will be in advance of the previous stitch. In order to cause a proper up and down movement of the needles they are connected by pin 20 as heretofore described to the sleeve 18 which slides in the frame 4, said sleeve extending above said frame for an appreciable distance.

A band 26 surrounds the sleeve 18 near the top, said band conforming to the shape of the sleeve and having a catch 27 pivotally connected therewith, said catch being normally held in position shown in Fig. 2 by a spring 28. Catch 27 is provided with a locking member 29 adapted to fit into any of the apertures 30 in sleeve 18 whereby the up and down movement of the sleeve is limited as the band 26 will strike against the upper part of frame 4 and the screw 14 will strike against frame 4 at the upper end of slot 15. When it is desired to lengthen the stitches or loops 2 the band 26 is moved upwardly toward the knob 31 and when it is desired to shorten the loops 2 catch 27 is disengaged and the band 26 moved downwardly toward the frame 4 and the catch reëngaged so as to allow a greater or less reciprocatory movement of the sleeve 18 and needles 9 and 10 and associate parts. In order to provide the proper feed from the spools 5 and 6 the spring 19 is moved downwardly a short distance before sleeve 18 begins to move, said spring having an eye 32 for each spool provided.

It will be observed from Fig. 2 that the spring 19 is rigidly secured to a sliding bar 33 positioned in the sleeve 18, said bar carrying at the upper end the knob 31 which is grasped by one hand while the frame 4 is grasped by the opposite hand during the operation. When the device is being grasped in the manner stated foot 3 is placed against the cloth 1 and the needles are caused to move up and down by movement of knob 31 and associate parts. The hand which grasps the frame 4 will steer or guide the device so as to follow any desired pattern provided on the cloth.

When placing the threads from spools 5 and 6 in position for operation they are preferably threaded through the eyes as shown in Fig. 1 and then brought down over the bent portion 34 of spring 19 in order to provide a proper tension on the threads without the use of complicated tension means. It is, however, evident that the threads could be passed through the eyes in the opposite direction if preferred. In order to allow this part of the device to operate and pull the threads from the spools before the downward movement of the needles a pin 35 is connected with the sliding bar 33 and extends through the slot 36 formed in sleeve 18 whereby the up and down independent movement of the bar 33 is limited and consequently the independent movement of the spring 19 is limited.

What I claim is:

1. A hand embroidery machine of the character described comprising a frame square in cross section, provided with a bracket near the top and a cut-away portion at the bottom, a foot connected with said bottom, means on said bracket for supporting a plurality of spools of thread, a square reciprocating sleeve slidingly fitted into said frame, a needle carrying member connected with said sleeve, said carrying member being provided with needles for receiving thread from spools on said bracket, a feeding and tension member, means for actuating said feeding and tension member and the sleeve to cause the proper operation of said needles, and means connecting said sleeve with said last mentioned means whereby the tension means may operate before the sleeve.

2. A hand embroidery machine comprising a frame provided with a foot, a reciprocating sleeve having one end slidingly fitting into said frame, a pair of jaws pivotally mounted in said sleeve, a plurality of needles connected with said jaws, a support for supporting an independent supply of thread to said needles, a flat spring secured at one end to said sleeve and provided with thread receiving openings at the opposite end, said spring acting as a feed and tension device, and a manually operated member connected with said sleeve for reciprocating the same and said needles.

3. A hand embroidery machine of the character described, a frame, a reciprocating sleeve having one end slidingly fitting into said frame, said sleeve having a plurality of apertures therein and said frame having a slot in line with said apertures, an adjusting sleeve slidingly mounted on the first mentioned sleeve, and a catch pivotally mounted on said adjusting sleeve, said catch

being formed with a locking projection adapted to fit in said apertures in said sliding sleeve, and a spring acting on the locking projection for holding same in any adjusted position whereby the length of throw of the sleeve is controlled, a pair of jaws pivotally mounted in said sleeve, a plurality of needles mounted in said jaw, means for guiding thread to said needles, and a manually operated member connected with said sleeve for reciprocating the same and said needles.

WILLIAM COHEN.