No. 846,717. PATENTED MAR. 12, 1907.

J. J. BAIRD.

FABRIC TUFTING MACHINE.

APPLICATION FILED JULY 6, 1905.

Fig. 1

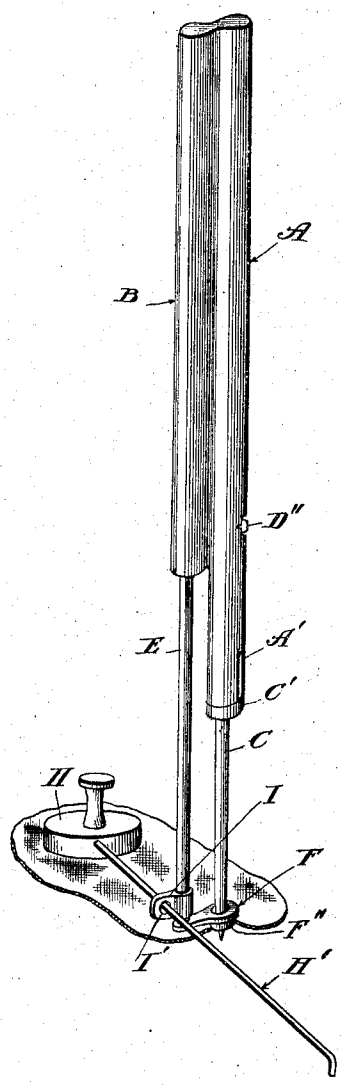


Fig. 2

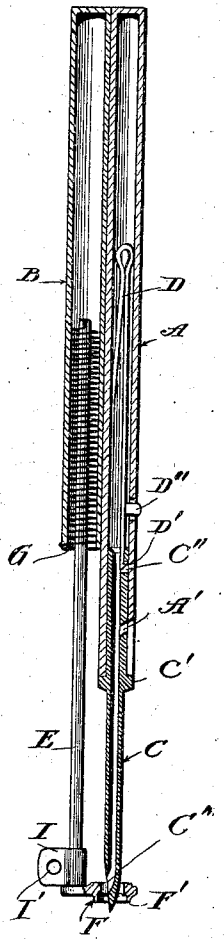
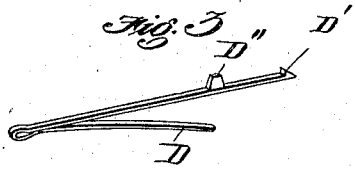


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES J. BAIRD, OF LOS ANGELES, CALIFORNIA.

FABRIC-TUFTING MACHINE.

No. 846,717. Specification of Letters Patent. Patented March 12, 1907.

Application filed July 6, 1905. Serial No. 268,545.

To all whom it may concern:

Be it known that I, JAMES J. BAIRD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Fabric-Tufting Machines, of which the following is a specification.

My invention relates to implements for embroidering and fancy work; and the objects thereof are to minimize the working parts, to simplify the operation, and improve the construction, so as to provide a handy device to perform ornamental stitching in textile fabrics with ease, rapidity, and regularity. I accomplish these objects by means of the device described herein and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved tufting device with the guide in place thereon. Fig. 2 is a central longitudinal section thereof. Fig. 3 is a perspective view of the needle-retaining spring.

The tufting device proper consists of two cylindrical tubes A and B.

In the tube A the needle C is detachably secured by the needle-retaining spring D, a perspective view of same being shown in Fig. 3. This spring is provided with a needle-engaging lug D′ for detachably holding the needle in place in the tube, and it is also provided with a projecting thumb-piece D″, adapted to project through the tube and provide means whereby the needle-engaging lug may be moved out of the recess C″ in the needle, and thereby release the needle. The needle is provided with an annular shoulder C′, adapted to contact with the bottom end of the tube A and hold the needle against entrance into the tube. The plunger-rod E, carrying the presser-foot F, has a reciprocating longitudinal movement in the tube B and is held normally in its extended position, as shown in the drawings, by the spiral spring G, which is mounted in the tube and encircles the plunger-rod. The pressure-foot is shod with a downwardly-projecting flange F′, which encircles the needle, as shown in Fig. 2. This flange will press on the fabric at all points surrounding the needle and holds the thread or yarn used for tufting securely in place on the fabric, no matter in what position the needle may be in, if the presser-foot is pressed firmly down on the fabric being operated on. In forming loops with my device the thread therefor will be fed from the spool and will not be drawn from one loop (thereby injuring the work) to form the next, which often results when the thread is not held in contact with the fabric while the needle is forming the loop. This device is operated in connection with a guide-rest H, as shown in Fig. 1, which consists of a guide-wire H′, rigidly secured in the face of the guide-rest. The guide-wire is used with the tufting device by inserting the free end of the guide-wire through eye I′ of the small swivel I on the plunger-rod carrying the presser-foot.

In operating the machine the guide-rest is held by the left hand flat upon the surface of the fabric being operated on and prevents the needle from rising too high from the fabric when withdrawn therefrom, and it will aid in guiding the needle and regulating the length of the stitches being made in the fabric. The needle is hollow, except the extreme point, which is solid, as shown in Fig. 2, so as to readily penetrate fine fabrics without injuring them. It is threaded with a small bent wire, the thread passing into the needle at opening marked A′, passing thence down through the hollow body of the needle, and emerging therefrom near the point thereof at the point marked C‴.

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

1. In a tufting device the combination of two hollow tubes; a plunger-rod in one of said tubes having a presser-foot on the projecting end thereof; a spiral spring surrounding said plunger-rod and adapted to hold the same in an extended position; a presser-foot on the projecting end of the plunger-rod and having a perforation therethrough for the reception and operation of a tufting-needle, the said presser-foot having on the lower side thereof an annular downwardly-projecting flange adapted to engage the fabric operated on; a swivel mounted on the lower end of said plunger-rod and having therein an eye for the reception of a guide-wire; a hollow needle adjustably mounted in the other tube and adapted when in place therein to be in line with the opening in the presser-foot in combination with a guide-rest having projecting therefrom a guide-wire for the insertion in the eye of the swivel substantially as herein shown and described.

2. The herein-described tufting device comprising the companion tubes A and B; a plunger-rod E mounted in the tube B and

having on the lower end thereof a swivel I having an opening I′ therein for the reception of the guide-wire; a spiral spring G encircling said plunger; a presser-foot F on said plunger-rod having an annular downwardly-projecting flange F′ on the lower part thereof; a hollow needle C detachably mounted in the tube A and provided with means to detachably hold the same in said tube comprising the needle-retaining spring D in combination with a guide-rest H having mounted thereon the guide-wire H′ all in combination substantially as herein shown and described.

3. In combination with a tufting device of the character herein described the herein-described detachable guide-rest for holding the tufting device in contact with the fabric operated on comprising a guide-rest H having projecting therefrom a guide-wire H′, said guide-rest being vertically movable on the presser-foot shank.

4. In a tufting-machine, two hollow tubes; a spring-pressed plunger-rod slidably mounted in one of said tubes; a presser-foot on the projecting end of said plunger-rod, said presser-foot having an opening therethrough and a downwardly-projecting flange which terminates in a blunt edge surrounding said opening; and a hollow needle removably and operatively connected to the other tube, said needle passing through the opening in said presser-foot.

5. In a tufting device of the character herein described the combination of a plunger-rod with a presser-foot on the lower end thereof; a swivel I having an opening I′ therethrough for the reception of a guide-rod; a guide-rest H having a guide-rod H′ extending therefrom through the opening I′ in the swivel.

6. A vertical needle-bar; a needle detachably secured in the lower end thereof; a hollow tube secured to said needle-bar, and with the bar forming an operating-handle; a spring-pressed plunger-rod movable in said hollow tube; and a presser-foot having a needle-opening therein on the lower end of said plunger-rod, said presser-foot having a downwardly-projecting flange surrounding the needle-opening.

In witness that I claim the foregoing I have hereunto subscribed my name this 29th day of June, 1905.

JAMES J. BAIRD.

Witnesses:
HENRY T. HAZARD,
MYRTLE A. JONES.