(No Model.) 2 Sheets—Sheet 1.

J. GRAF.

BRAIDING ATTACHMENT FOR EMBROIDERING MACHINES.

No. 303,724. Patented Aug. 19, 1884.

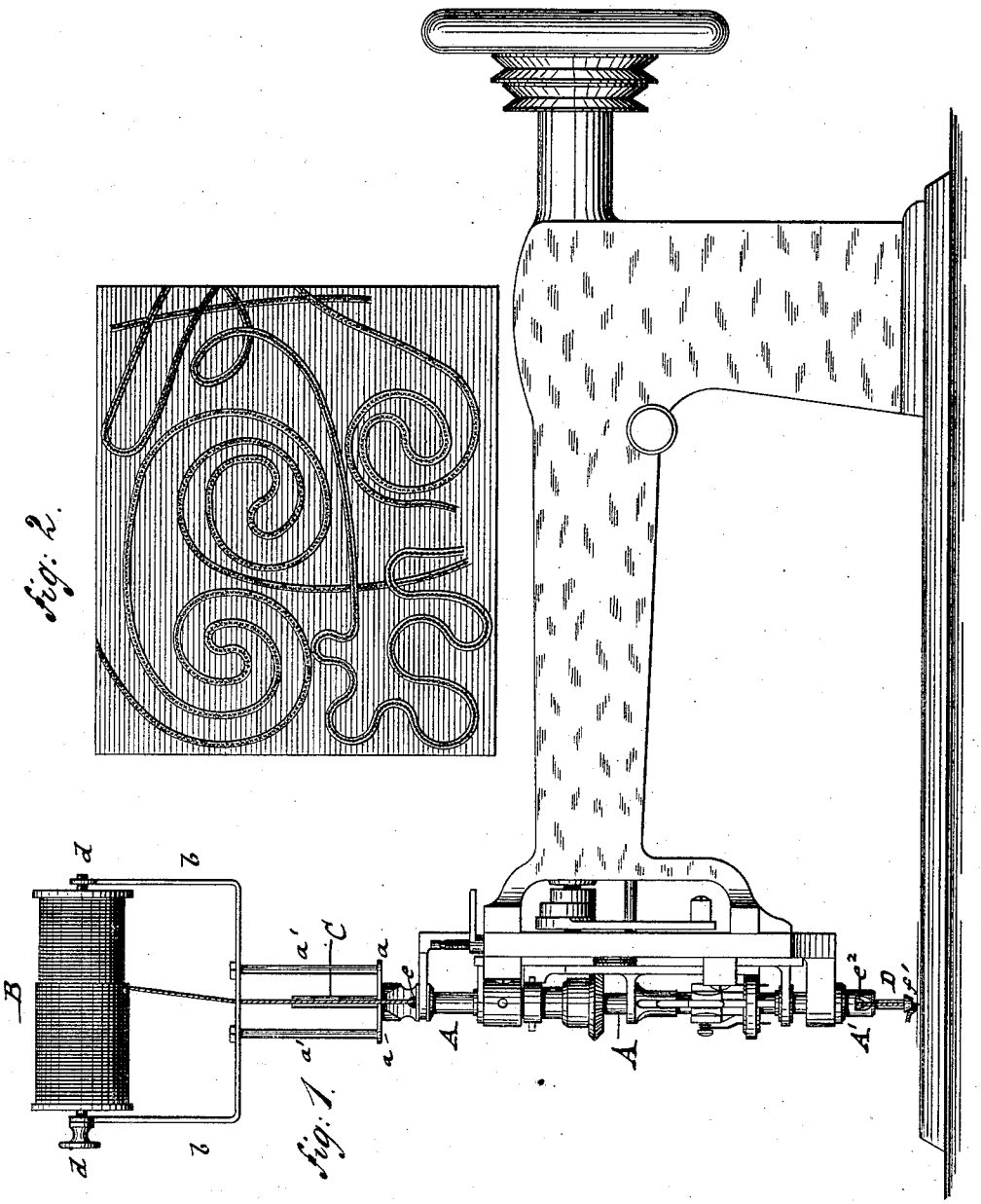

Fig. 2.

Fig. 1.

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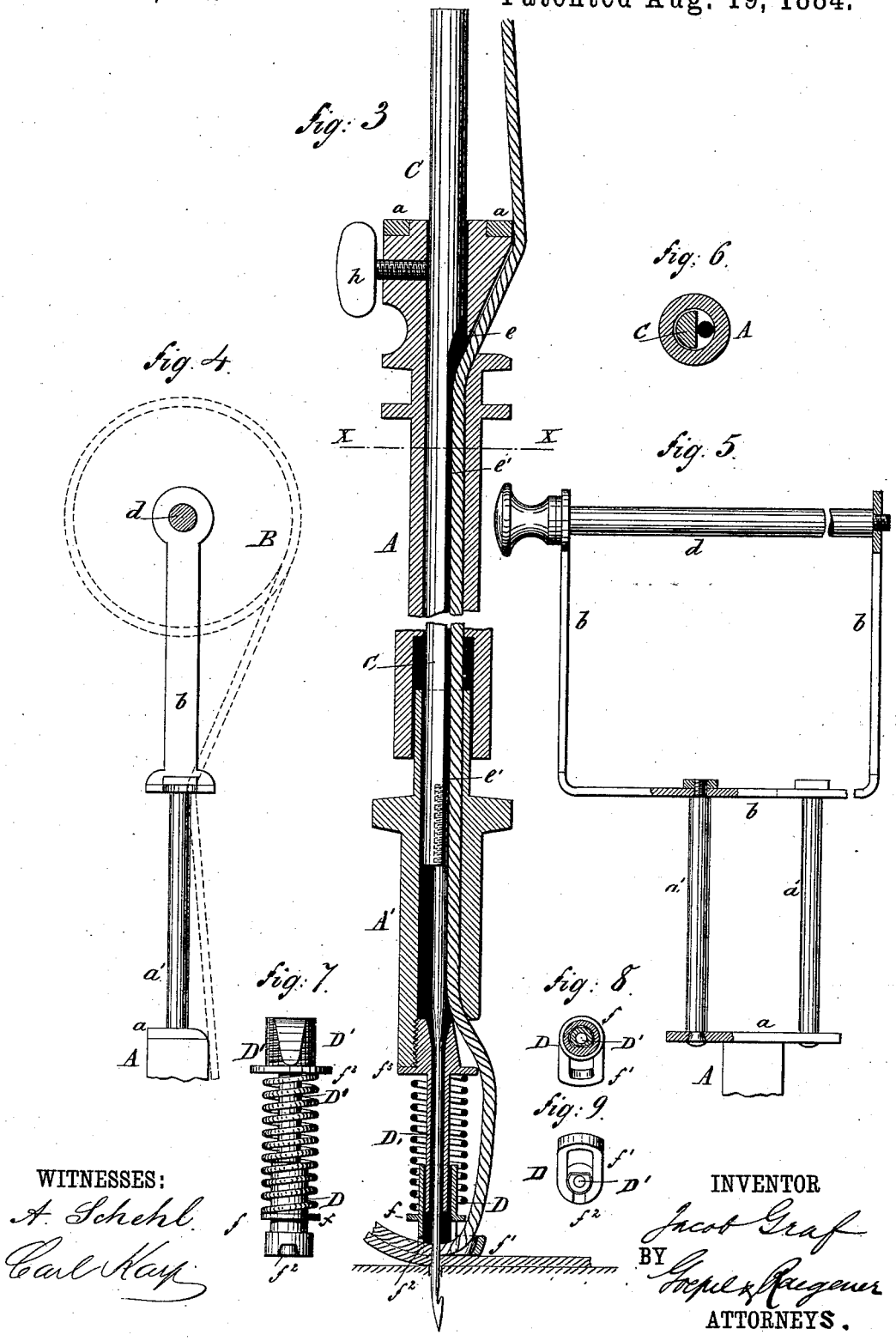

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JACOB GRAF, OF NEW YORK, N. Y.

BRAIDING ATTACHMENT FOR EMBROIDERING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 303,724, dated August 19, 1884.

Application filed July 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, JACOB GRAF, of the city, county, and State of New York, have invented certain new and useful Improvements in Braiding Attachments to Embroidering-Machines, of which the following is a specification.

This invention has reference to an improved braiding attachment that is specially adapted for use on the embroidering-machines patented by Antoine Bonnaz, Nos. 83,909 and 83,910, dated November 10, 1868, and to Emile Cornely, No. 182,804, dated October 3, 1876; and the invention consists of a spool-holder at the upper part of the needle-bar from which the braid is conducted through the hollow presser-bar along a side recess of the needle-bar to a nipple at the lower end of the presser-bar and through a guard at the lower end of the nipple across the needle; and the invention consists, secondly, of the specific construction of the needle-bar, hollow presser-bar, and nipple, as will be more fully described hereinafter, and finally be pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of a Bonnaz embroidering-machine with my improved braiding attachment. Fig. 2 is a sample of embroidery accomplished by my attachment. Fig. 3 is a vertical central section of the needle-bar and presser-bar of my improved braiding attachment drawn on a larger scale. Figs. 4 and 5 are details of the holder for the braid-spool. Fig. 6 is a horizontal section on line *x x*, Fig. 3. Fig. 7 is a detail view of the nipple at the lower end of the presser-bar, and Figs. 8 and 9 are respectively a horizontal section and a bottom view of the nipple.

Similar letters of reference indicate corresponding parts.

My improved braiding attachment is used in connection with the well-known Bonnaz embroidering-machines, for the general construction of which reference is made to the patents heretofore mentioned. To the upper part of the presser-bar A of said machine is applied a cross-piece, *a*, having uprights *a' a'*, carrying a yoke, *b*. The yoke *b* carries the spindle *d* for the spool B, upon which the braid is wound. Either flat or round braid may be used with my improved attachment. The spool turns freely on the spindle *d* in paying out the braid, and is detachable with the same from the yoke. From the spool the braid is conducted through an inclined downwardly-extending opening, *e*, in the upper part of the presser-bar, and along a longitudinal side recess, *e'*, of the needle-bar C to the lower section, A', of the hollow presser-bar A, and through an inclined opening, e^2, of said lower section to the outside and downward along a guide-socket, D', that is screwed into the lower end of the section A' of the presser-bar A to a nipple, D, which is guided on the lower part of the socket D'. The nipple D is provided with a central perforation for the needle, and a collar, *f*, and a sidewise-projecting guard, *f'*, at the lower end. The braid is passed through said guard *f'* and conducted below the central needle-hole of said nipple, and a groove or recess, f^2, at a point diametrically opposite to said guard *f'* of the nipple, as shown clearly in Fig. 3. Between the collar *f* of the nipple D and a flange, f^3, at the upper end of the guide-socket D', which flange abuts against the lower end of the presser-bar A, is interposed a spiral spring, *g*, which serves as a cushioning-spring for the nipple D and regulates the even forward feeding of the braid as required by the work. The lower section, A', of the presser-bar A is guided by its sleeve-shaped upper end in the upper part of the presser-bar, which latter is tightly clamped by a set-screw, *h*, to the needle-bar. The lower section, A', recedes as the needle-bar descends and moves downward by gravity when the needle-bar is raised. The needle passes through the center of the braid and applies the same evenly and regularly to the fabric. The braid is guided along the needle-bar, presser-bar, and nipple, and paid out by the latter in connection with the feeding mechanism by which the fabric is fed forward on the machine.

A very simple and effective braiding attachment for embroidering-machines of the class mentioned is thus supplied, by which round or flat braids of different sizes may be stitched in a quick and uniform manner to the fabrics to be embroidered.

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

1. In an embroidering-machine of the type described, the combination of a longitudinally-

recessed needle-bar, a hollow presser-bar, the upper section of which is clamped to the needle-bar and carries a spool-holder for the braid, a lower sliding section having a fixed guide-socket at the lower end, and a spring-cushioned nipple guided on said socket, said nipple being provided with a braid-guard at one side, substantially as set forth.

2. In an embroidering-machine of the type described, the combination of a longitudinally-recessed needle-bar, C, a hollow presser-bar, A, the upper section of which is clamped to the needle-bar, and a lower movable section, A′, the sections being provided, respectively, with guide-openings for the braid, a guide-socket, D′, attached to the lower end of the movable section A′, and a spring-cushioned nipple, D, guided on the lower part of the socket D′, said nipple being provided with a braid-guard at one side and a guide-recess at the opposite side, substantially as set forth.

3. The combination, in a braiding attachment for embroidering-machines, of a guide-socket, a braid-guiding nipple provided with a collar and with a braid-guard at the lower end thereof, and a spring interposed between said collar of the nipple and the head of said guide-socket, substantially as set forth.

4. The combination, in a braiding attachment for embroidering-machines, of a guide-socket, a braid-guiding nipple provided with a collar, and having at its lower end a braid-guard at one side and a guide-recess at the opposite side, and a spring interposed between said collar of the nipple and the head of said guide-socket, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JACOB GRAF.

Witnesses:
PAUL GOEPEL,
SIDNEY MANN.