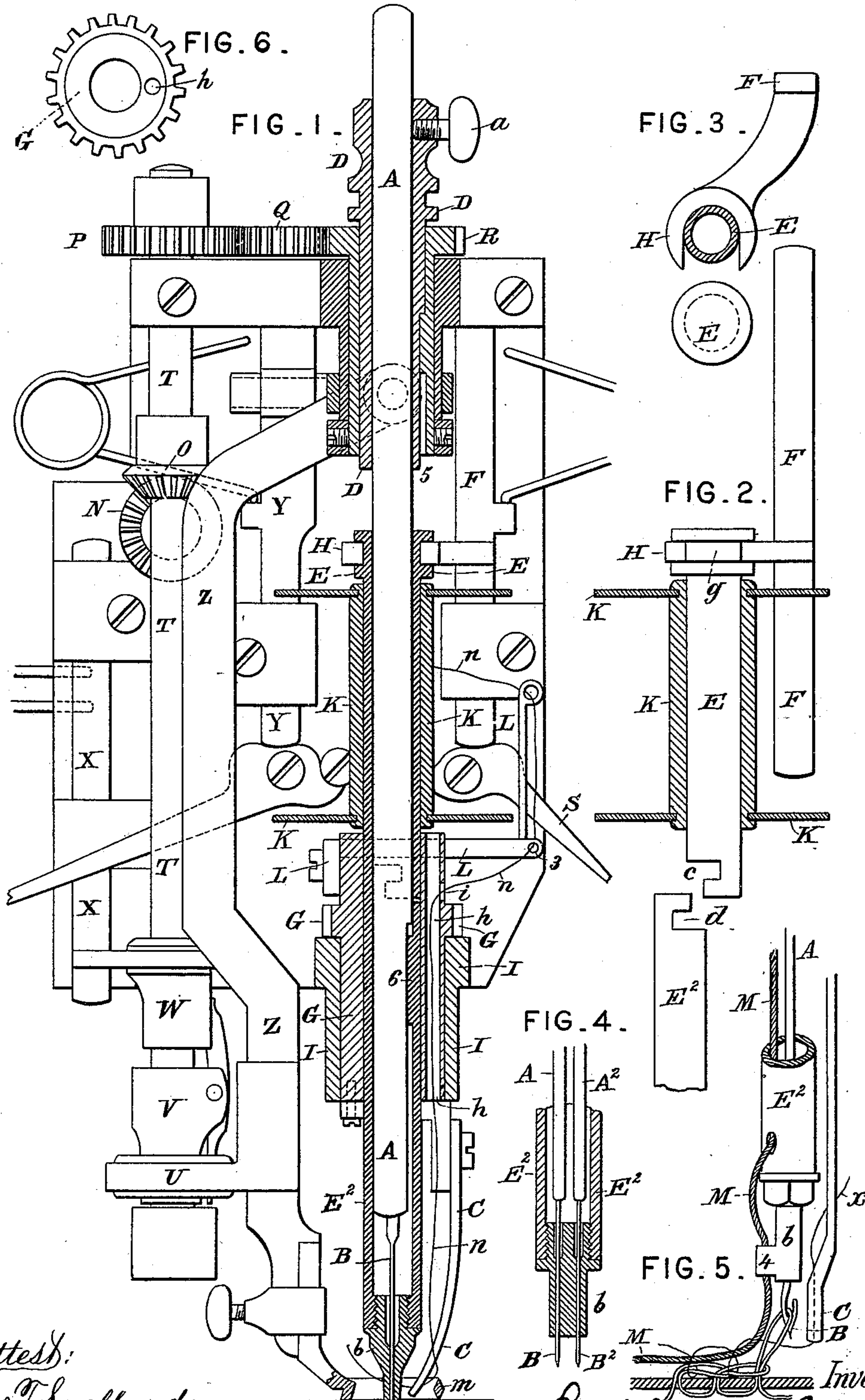


(No Model.)

E. & R. CORNELY.  
EMBROIDERING MACHINE.

No. 405,147.

Patented June 11, 1889.



Attest:  
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# UNITED STATES PATENT OFFICE.

EMIL CORNELY AND ROBERT CORNELY, OF PARIS, FRANCE.

## EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 405,147, dated June 11, 1889.

Application filed December 13, 1888. Serial No. 293,479. (No model.)

### *To all whom it may concern:*

Be it known that we, EMIL CORNELY and ROBERT CORNELY, residents of Paris, in the Republic of France, have invented new and useful Improvements in Embroidering-Machines, which are fully set forth in the following specification.

This invention relates to sewing and embroidering machines, such as described in Letters Patent No. 228,445, in which a rotary thread-carrier is employed to wind a second thread around that which forms the stitches for the purpose of producing cording-work, and has particular reference to machines of this type in which a large bobbin or spool for supplying the winding-thread is mounted on the central tube of the machine.

In modifying the machine to employ a large spool or bobbin certain difficulties or objections are presented. When this spool is arranged to turn on the lower part of the nipple-tube, it conceals the work from the operator to a considerable extent and cannot be easily detached for winding. Moreover, the devices for actuating the feed are so far above the cloth-plate as to render the action of the feed irregular and uncertain. When, on the other hand, the spool is arranged at the top of the central tube, its thread has to be carried down through said tube and through the nipple-tube. Consequently the nipple-tube had to be constructed to turn with the revolving thread-carrier, rendering it impossible to execute certain kinds of work.

The object of the present invention is to overcome these difficulties, which is accomplished by the means hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the head of the machine, partly in vertical section, and the other figures are details of the several parts hereinafter described.

A is the needle-bar by which the needle B is carried, said needle-bar being secured to the tube D by means of a screw *a*. Tube D is reciprocated by the usual heart-slide. The nipple-tube is in two parts E E<sup>2</sup>, the nipple *b* being secured to the lower part E<sup>2</sup> in the usual manner. The parts E E<sup>2</sup> of the nipple-tube are coupled together by means of the

hook-shaped ends *c d*, Fig. 2, the two parts when coupled being held together by the needle-bar A, which passes through them and fills the entire space therein. The nipple-tube is operated by the slide F in the usual manner, the fork H of said slide entering the groove of collar *g* at the head of said tube, Figs. 1, 2, and 3.

G is a pinion to which the revolving thread-carrier C is attached, as in the patent aforesaid. Said pinion is supported within the annular flange I, which is part of the casting of the machine, and it receives motion from the main shaft through any suitable system of gearing. The hub of pinion G is perforated vertically, forming a passage *h* for the thread *n*, the latter being supplied by a large spool K, turning on the upper part E of the nipple-tube. The thread-guide holder L is secured to the hub of pinion G, and thread *n* is led through the guides 2 and 3 through opening *r* into thread-passage *h*, and thence to the eye of the revolving thread-carrier C. This arrangement permits spool K to be easily withdrawn from or placed in the machine for the purpose of renewing its thread. To accomplish this, the needle-bar A is withdrawn from the nipple-tube, when the upper part of the latter can readily be detached from the lower and from fork H of the slide F. It is evident that when this arrangement is employed, the thread *n* passing outside of the central tube, it is not necessary that the nipple-tube or nipple should revolve with the thread-carrier C, as is the case when the thread passes through the central tube.

The importance of having a non-rotating nipple-tube will be appreciated by consideration of the improvements described in Letters Patent No. 292,284, dated January 22, 1884; No. 311,644, dated February 3, 1888; No. 370,246, dated September 20, 1889, and No. 392,010, dated October 30, 1888. In Patents Nos. 311,644 and 370,246 a rotating thread-carrier is employed for winding its thread around a cord and around the sewing-thread to fix the cord to the seam, as represented in Fig. 5 of the accompanying drawings. Since cord M passes through the nipple-tube E<sup>2</sup> and guide 4 of nipple *b*, the work performed by this machine could not be executed with a



revolving nipple, which would carry cord M constantly around the needle B. In Patents Nos. 292,284 and 392,010 a revolving thread-carrier is employed in combination with two  
5 or more needles.

It is evident that several needles B B<sup>2</sup> (see Fig. 4 of the accompanying drawings) working within a nipple b could not be used if such nipple revolved with the thread-carrier,  
10 as in that case the needles would be in constant rotation with the nipple.

For executing the work performed by the machines above referred to, it is necessary not only that the nipple-tube should not rotate  
15 with the thread-carrier, but also that it should be governed by the crank-handle of the feed mechanism in conformity with the direction of the feed. This result in the present machine is accomplished in the following manner:  
20 The movement of the crank-handle is transmitted by any kind of gearing to the pinions N, O, P, Q, and R, which latter acts on tube D by means of a projection on its interior bearing on a flat face 5 of tube D, and a  
25 similar arrangement exists at C between the needle-bar A and a projection on the interior of tube E<sup>2</sup>, which latter is thus turned with the feed. The feed-actuating devices are carried by a separate shaft T. The conical  
30 sleeve W, which actuates the feed-lever, is reciprocated by slide X, while slide Y operates the feed-bar Z and feed-ring m. Slide F can

be raised by means of lever S to lift nipple-tube E E<sup>2</sup> to facilitate the operations of withdrawing or replacing spool K.

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We claim as our invention—

1. In a sewing and embroidering machine, the combination, with stitch-forming devices and a rotating thread-carrier for winding a second thread around the needle-thread, of a spool for  
40 said second thread, and a pinion carrying the thread-carrier and having an opening or passage for the thread from said spool to said thread-carrier, substantially as described.

2. In a sewing and embroidering machine of  
15 the character described, a nipple-tube in two parts rigidly fastened together by a detachable connection, substantially as set forth.

3. The combination, with stitch-forming devices and means for winding a second thread  
50 around the sewing-thread, of a nipple-tube in two detachable parts, and a spool for supplying the winding-thread, said spool surrounding one part of said tube, substantially as described.

55

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

EMIL CORNELLY.  
ROBERT CORNELLY.

Witnesses:

R. J. PRESTON,  
EDWARD P. MACLEAN.