(No Model.)

2 Sheets—Sheet 1.

E. CORNELY.

EMBROIDERING MACHINE.

No. 262,742. Patented Aug. 15, 1882.

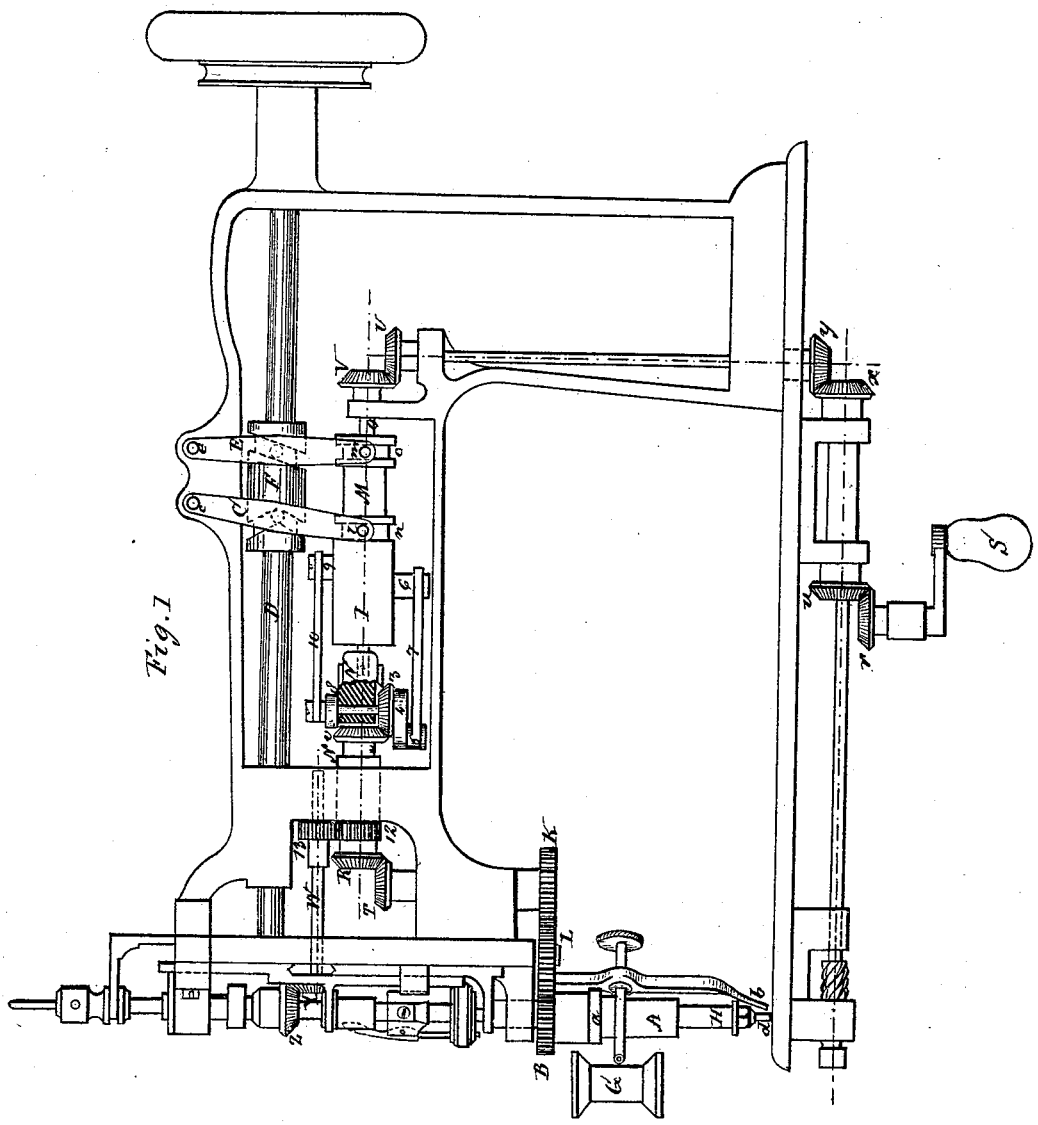

Fig. 1.

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C. J. Hedrick
Philip Mauro

Inventor.
Emil Cornely by
A. Pollok his attorney

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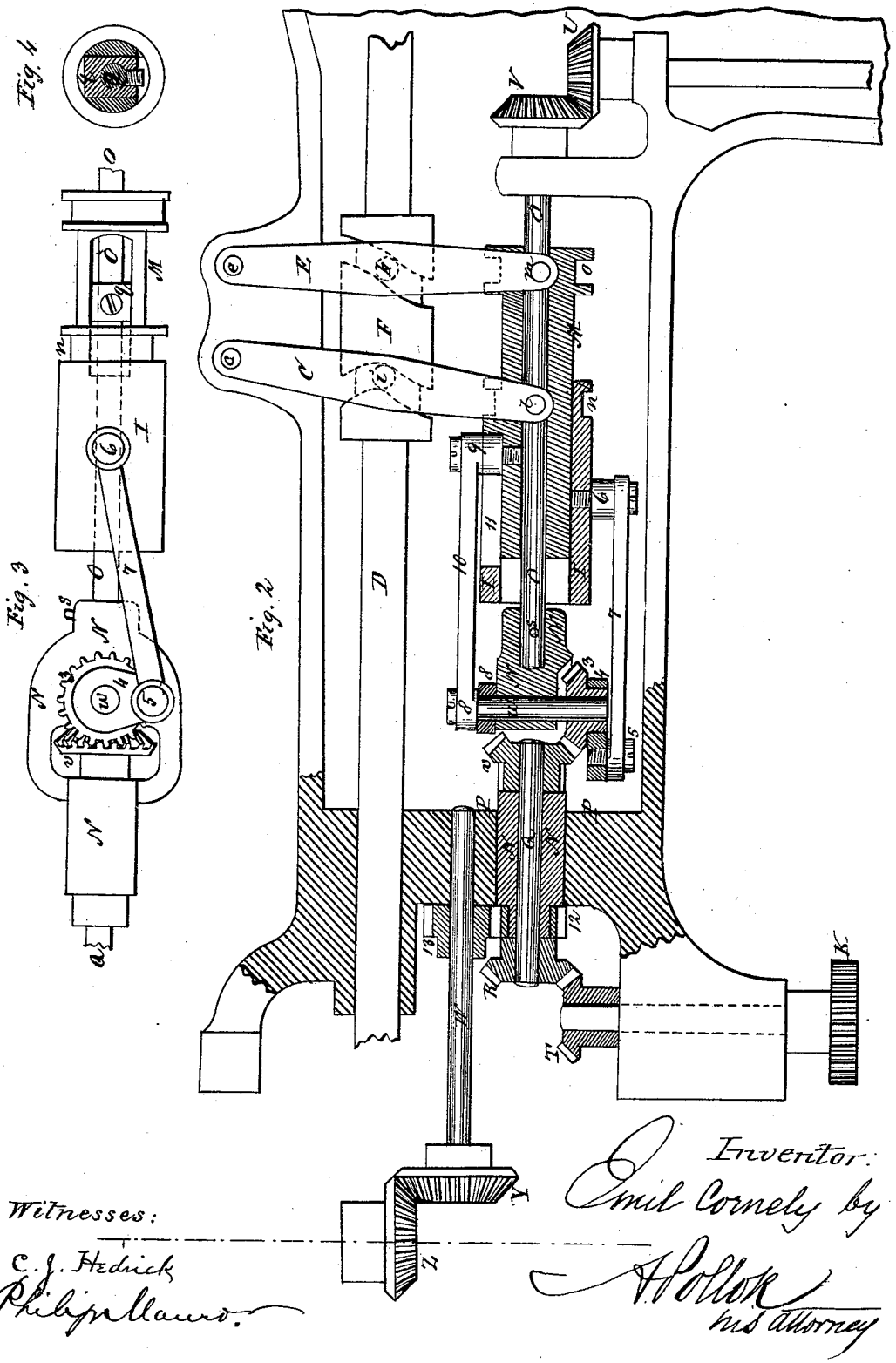

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Philip Mauro

Inventor:
Emil Cornely by
A. Pollok
his attorney

UNITED STATES PATENT OFFICE.

EMIL CORNELY, OF PARIS, FRANCE.

EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,742, dated August 15, 1882.

Application filed June 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, EMIL CORNELY, of Washington city, in the District of Columbia, a resident of Paris, in the Republic of France, have invented a new and useful Improvement in Embroidering-Machines, which is fully set forth in the following specification.

In Letters Patent No. 228,445, of June 8, 1880, I have described certain improvements by means of which a second thread is wound around the needle or the needle-thread of the Bonnaz embroidering-machine, whereby a cording-stitch is produced. As described in the specification of said patent, the rotary thread-carrier *b* of said machine received its continuous rotary motion from the main shaft D of the machine by means of the gearings and pinions Q, N, R, T, K, L, and B. The rotation of said thread-carrier was therefore an invariable one, as it depended from the regular revolutions of shaft D. The consequence was that when the direction of the feed of the machine was changed by turning the crank-handle S the cording-seam produced by the machine became variable in thickness, as the thread, according to the direction of the feed, was wound around it, either during an entire revolution or during a part of it, or even during more than an entire revolution.

The present invention consists mainly in certain improvements, hereinafter described, whereby the thread-carrier, while rotating around the needle, can be governed by the crank-handle, which also controls the universal feed, so that the thread-carrier follows the direction of the feed. This being the object of the present invention, I will describe the mechanism which is employed to obtain it.

Figure 1 represents an elevation of the entire machine. Fig. 2 represents a section through the arm which contains the present improvements. Figs. 3 and 4 represent detached views, hereinafter to be described.

D represents the main shaft of the machine. C and E represent two levers, which are pivoted at *c e* to the frame of the machine. They are actuated by a double-grooved cam, F, (secured to shaft D,) into which extend the two friction-rollers *i* and *k*. The extremities of the levers are provided with friction-rollers *l* and *m*, which reach into the collars *n o* of two concentrical cylinders or sleeves, I M. The inner sleeve, M, is adjusted upon a shaft, O, and can slide thereon freely. The exterior sleeve, I, is adjusted upon the inner sleeve, M, and can slide freely on the latter.

N represents a frame, shown in section at Fig. 2 and in a side view at Fig. 3. Its cylindrical part is fitted at P into the frame of the machine, and can turn therein freely, and the end of shaft O is secured to its outer part by means of a pin, S. The shaft Q can turn freely within the frame N, and the bevel-wheel *v* is secured to and turns with said shaft. Another shaft, *w*, is fitted transversely within the frame N, and has the bevel-wheel 3 secured to it. To the latter is also secured a crank, 4, whose crank-pin 5 is connected to the stud 6 of the outer sleeve, I, by means of a pitman, 7. Another crank, 8, is secured to the other end of shaft *w* and at right angles to crank 4, and is connected with the stud 9 of the inner sleeve, M, by means of pitman 10. The stud 9, which is secured to the inner sleeve, M, passes in its movement through the open mortise 11 of sleeve I.

When shaft D turns it operates levers C E, which impart a rectilinear reciprocating motion to the cylinders M I, which motion is transmitted by pitmen 7 and 10 to the cranks 4 and 8, imparting to them, to their shaft *w*, and consequently to the pinions 3, *v*, R T, K, L, and B and thread-carrier *b*, a rotary motion.

The shaft O can be turned by the crank-handle S through the pinions *r*, *u*, *x*, *y*, and U V. A square nut, *q*, Figs. 3 and 4, is secured to said shaft O and fits within sleeve M, so that when the shaft O is turned by the crank S the two sleeves M and I and the studs and pitmen connected with them, as well the frame N, to which said shaft is connected by pin S, are turned about the axis of shaft O as a center, and pinion 3 being in gear with pinion *v*, it turns the latter, and consequently the pinions R T, K, L, B and thread-carrier *b*. Thus the thread-carrier *b* and its spool G, both secured to wheel B, receive a compound motion—first, a continuous rotary motion from shaft D, by which shaft *w* is turned on its geometrical axis; second, a variable motion imparted to it from crank-handle S, by which shaft *w* is turned upon the geometrical axis of shaft O, and which operates

the thread-carrier in conjunction with the universal feed. Both these motions are independent one of the other, and can take place at the same time without any hindrance to one or the other. Thus the thread-carrier *b*, while revolving around the needle, can be directed in conjunction with the feed, and will produce a regular seam in all directions of the feed.

Pinion 12 is secured to the cylindrical part of frame N, and transmits its motion to pinion 13, to shaft *w*, and to pinions Y Z, which latter is secured to the central tube of the machine, and thus directs the feed.

Having thus fully described the nature of my invention, I claim—

1. In an embroidering-machine, the combination, with the continuously-rotating thread-carrier, of mechanism, as described, for controlling the movement of said thread-carrier according to the direction of the feed, as set forth.

2. The combination, with the shafts, gearing, and crank-handle for controlling the feed, and the thread-carrier and gearing for transmitting motion to the same, of a frame connected and revolving with one of the shafts operated from said crank-handle, a pinion mounted on a cross-shaft in said frame and connected with the train of gearing transmitting motion to said thread-carrier, sleeves or cylinders mounted loosely on said shaft and connected with said pinion and cross-shaft by cranks and pitmen, and levers vibrated by a cam on the main shaft for imparting a reciprocating motion to said cylinders, and thereby continuously rotating said pinion and the thread-carrier with which said pinion is connected, substantially as set forth.

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

EMIL CORNELY.

Witnesses:
E. P. MACLEAN,
DAVID T. S. FULLER.