

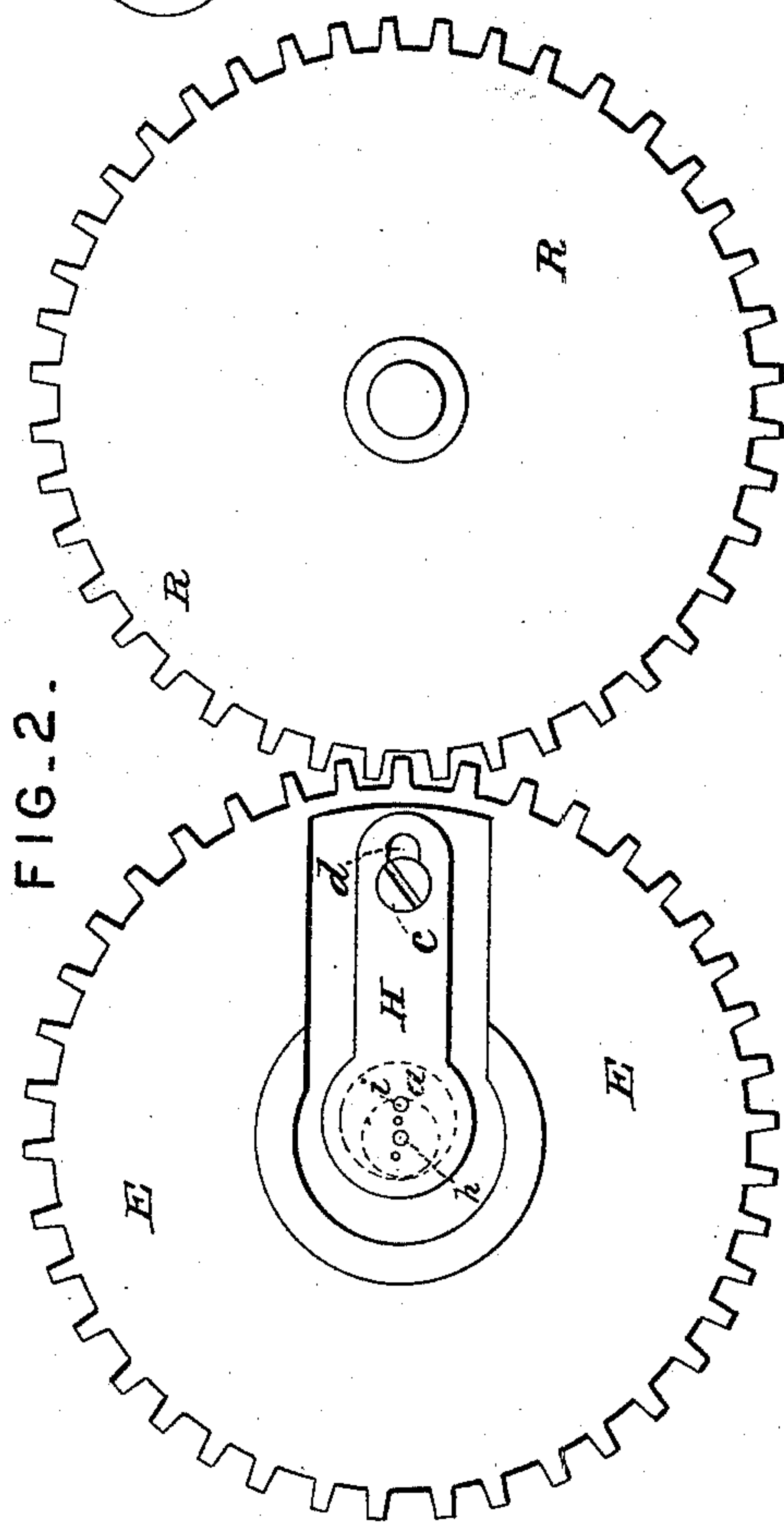
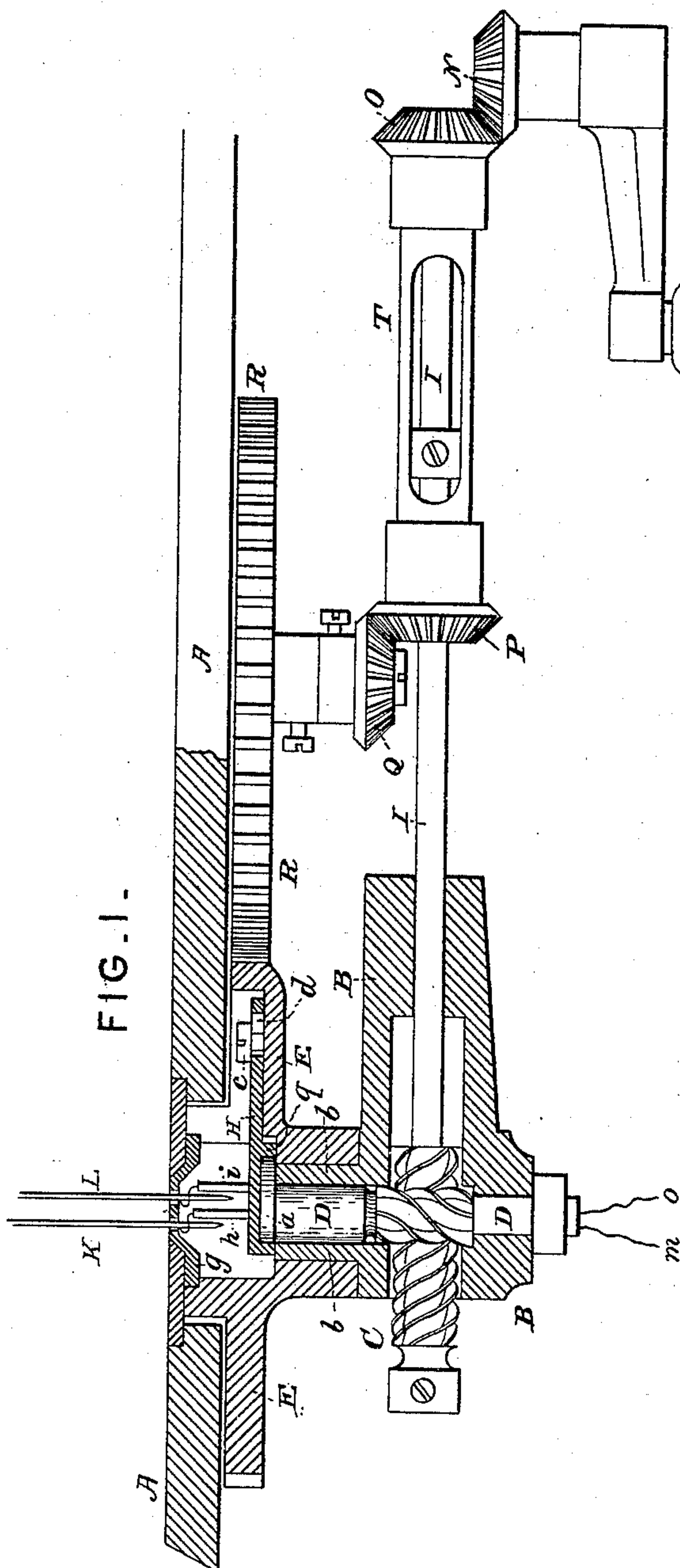
(No Model.)

2 Sheets—Sheet 1.

E. CORNELY.
EMBROIDERING MACHINE.

No. 392,010.

Patented Oct. 30, 1888.



Attest:
Geo. T. Smallwood.
Philip Mauro.

Inventor.
Emil Cornely, by
J. Pollok,
his attorney.

(No Model.)

2 Sheets—Sheet, 2.

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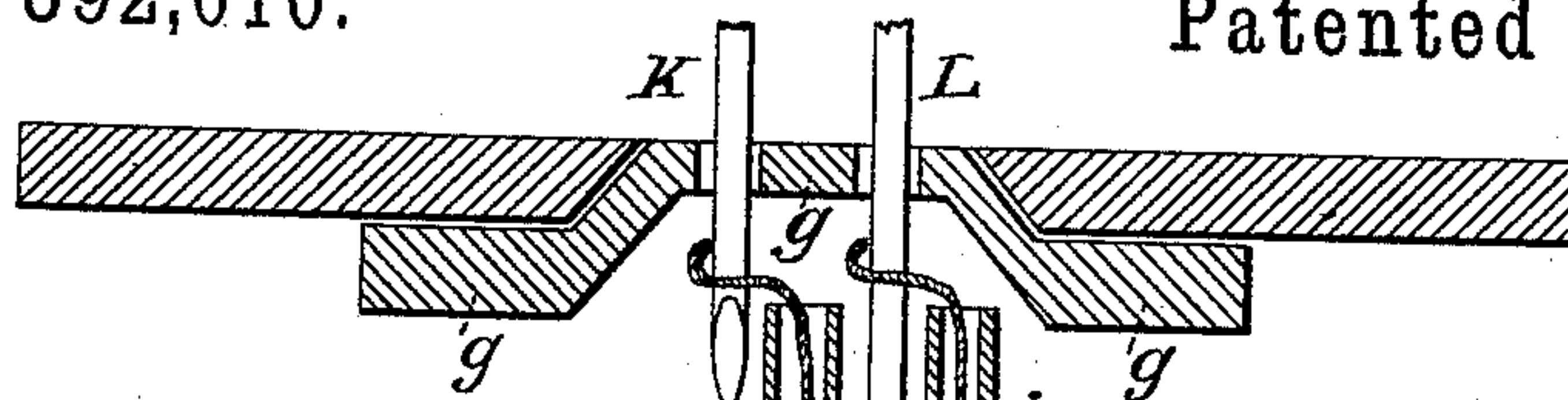


FIG. 3.

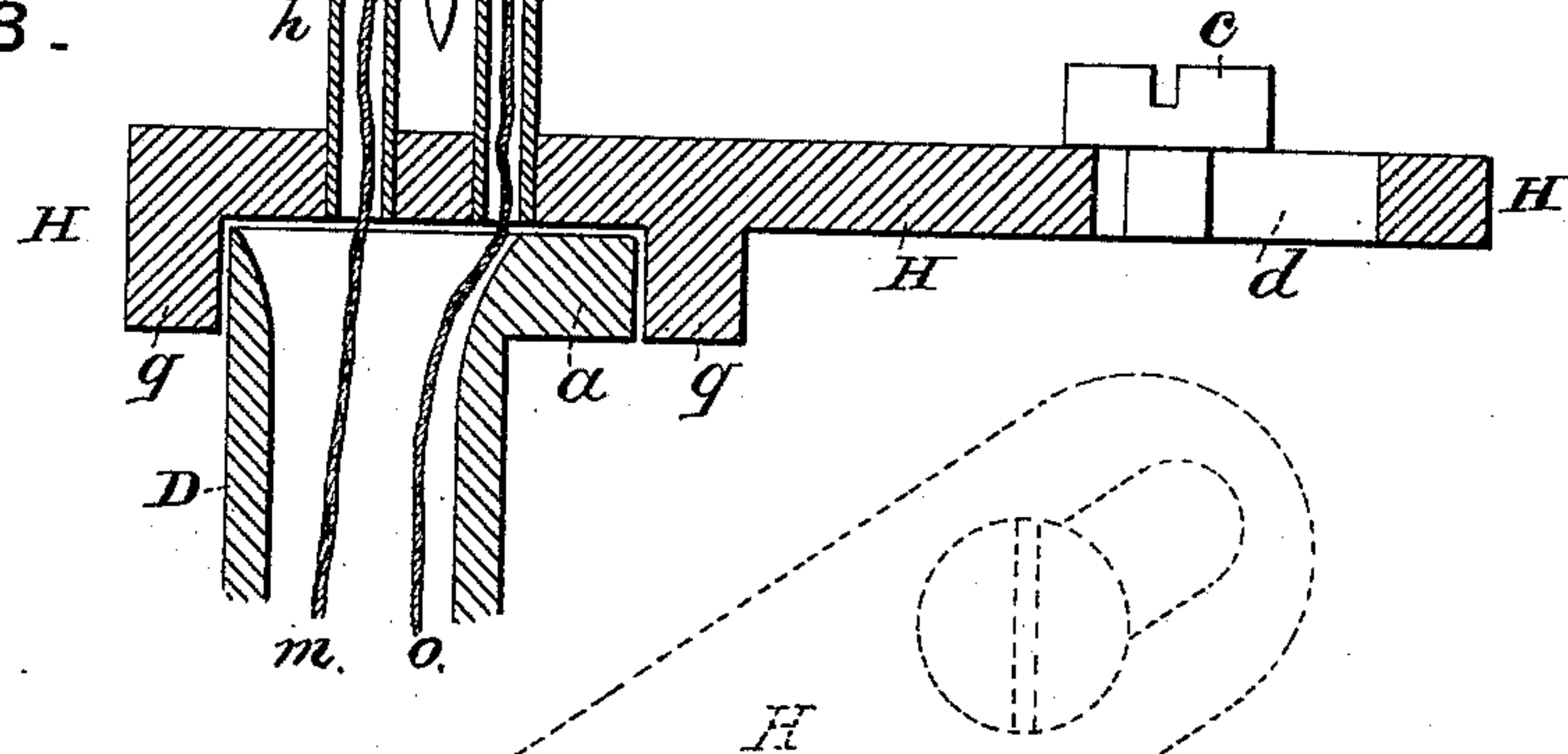


FIG. 4.

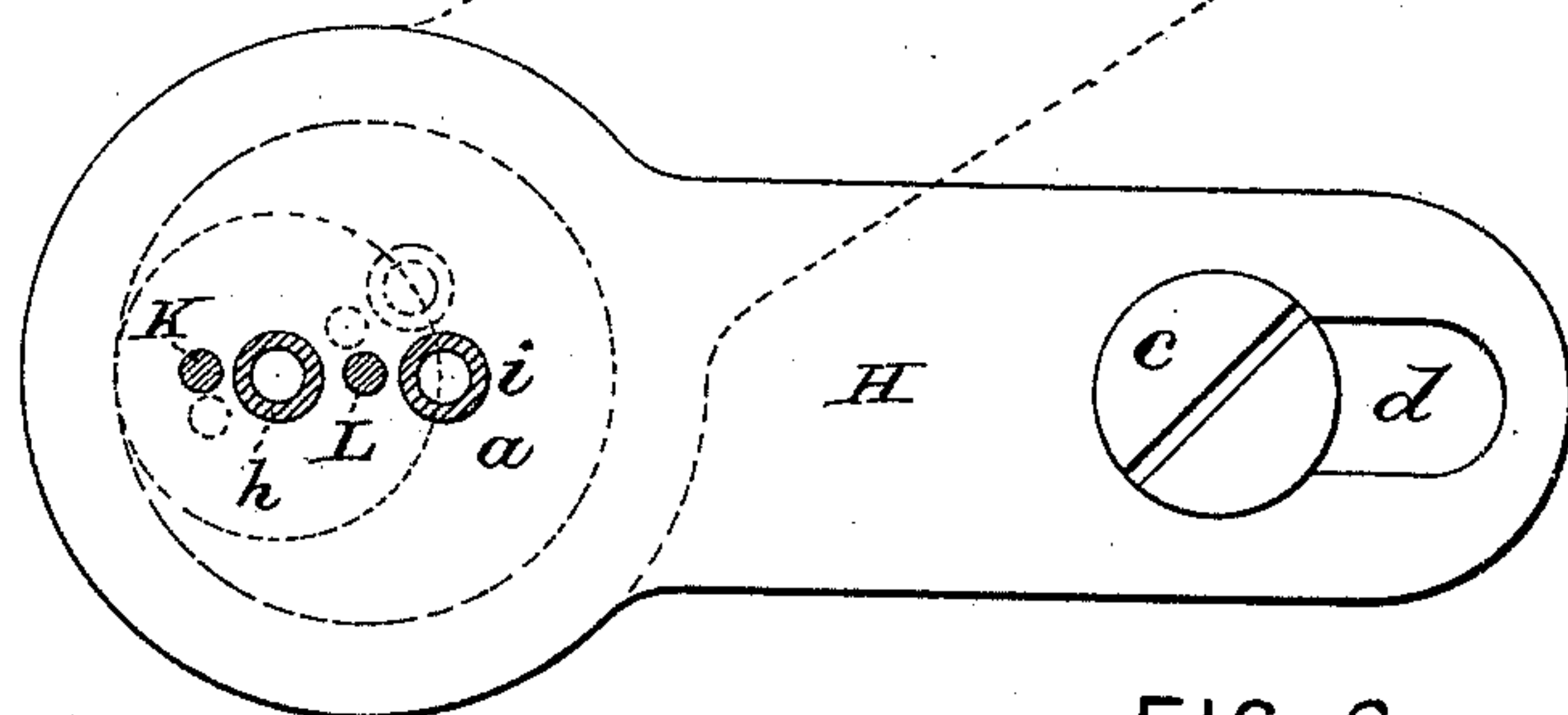


FIG. 5.

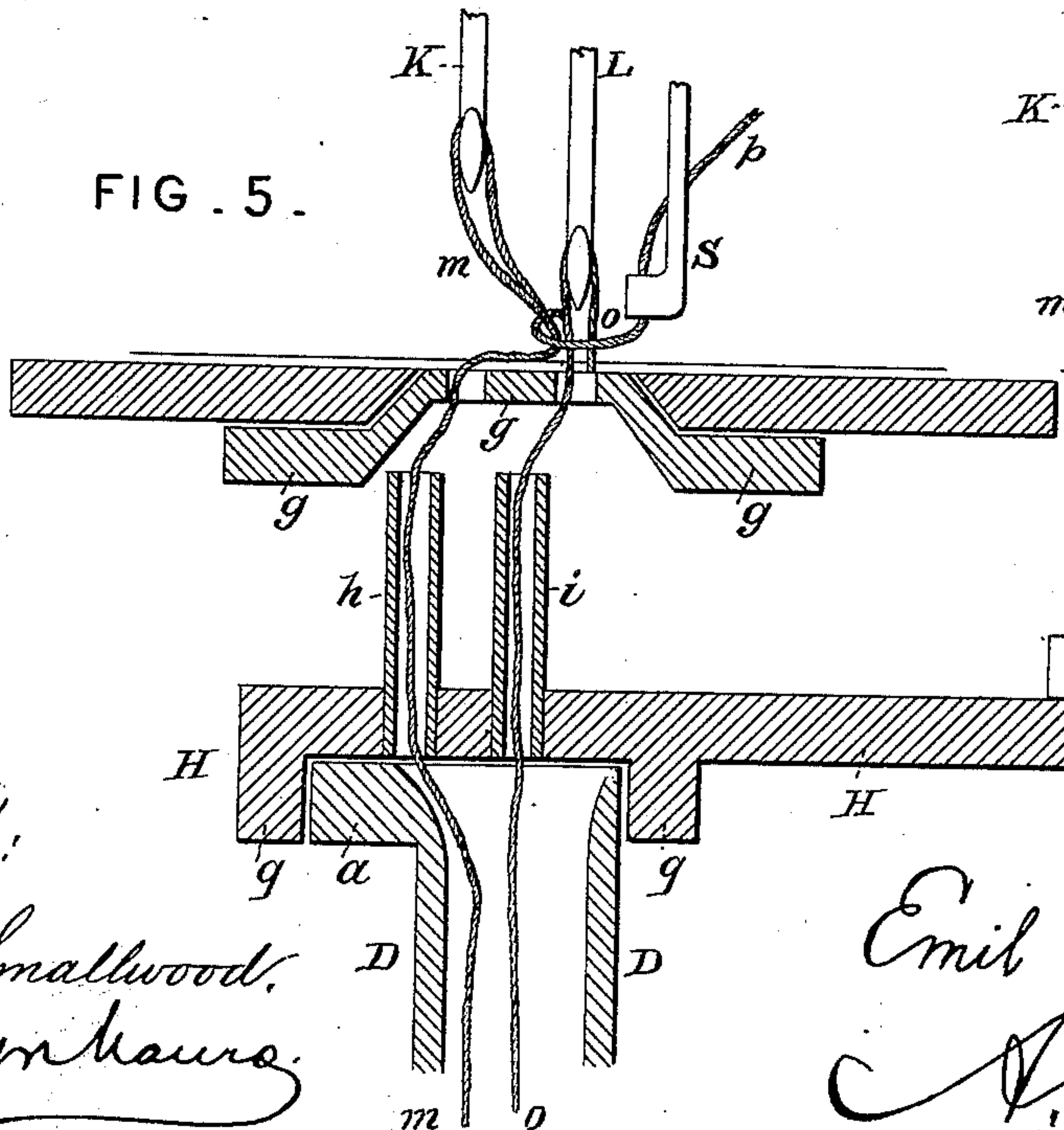
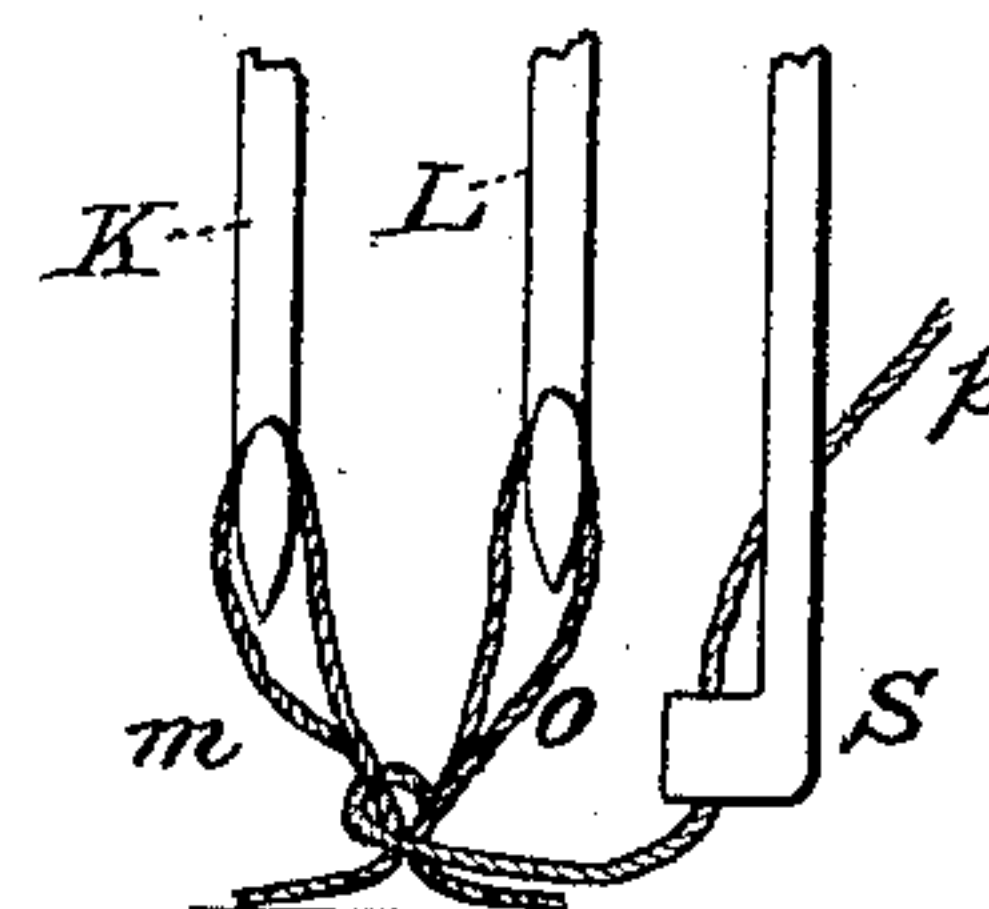


FIG. 6.



Attest:
Geo. T. Smallwood,
Philip H. Hare.

Inventor:
Emil Cornely, by
A. P. H. H. H.
his attorney.

UNITED STATES PATENT OFFICE.

EMIL CORNELY, OF PARIS, FRANCE.

EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 392,010, dated October 30, 1888.

Application filed January 27, 1888. Serial No. 262,107. (No model.)

To all whom it may concern:

Be it known that I, EMIL CORNELY, a resident 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.

The object of the present invention is the production of new ornamental embroidering-seams by means of the universal-feed embroidering-machine. Said seams are made by means of two or more needle-hooks and an equal number of threads, which thus produce several parallel embroidery-seams in all directions, or which, by the addition of another thread, which is wound around the several chain-stitch seams, produce ornamental overseaming stitches.

Figure 1 represents that part of an embroidering-machine which contains the mechanism for producing the new stitch. Fig. 2 represents a top view of Fig. 1; Figs. 3, 4, 5, and 6, detached views, on an enlarged scale, of the mechanism which produces the new stitch.

The machine is in general construction and mode of operation similar to the well-known embroidering-machine described in numerous patents heretofore granted to me, and I shall therefore only illustrate and describe so much of the said machine as is necessary for a clear comprehension of the present improvement.

A represents the bed-plate of the machine, and B a casting secured to it, in which play the two worm-gearings C and D, the former being horizontal and carried by the reciprocating rod I, and the latter vertical. Heretofore the vertical screw-shaft D has carried an oscillating looper, by which the thread was thrown around the hook-needle. In the present case the shaft D carries at its upper end an eccentric, *a*. A gear-wheel, E, is mounted upon a circular hollow boss, *b*, forming part of casting B and surrounding the screw-shaft D. The wheel E engages with wheel R, by which it is turned when the feed is changed, as hereinafter set forth. On the upper side of this wheel E, the shape of which is shown in Figs. 1 and 2, rests a sliding pitman, H, provided on its under side with a circular flange, *g*, which surrounds eccentric *a*. A screw, *c*, passing through a slot, *d*, in pitman H and tapped into the wheel E guides the pitman in its motions.

K and L represent two needle-hooks, which work in the ordinary manner and which pass through the needle-holes in the disk *g*, which is secured to the circular rim of the wheel E, and thus turns with said wheel.

Two tubes or guides, *h* and *i*, one for each needle, are secured to the part of pitman H which overlies eccentric *a*, and the threads *m* pass up through the hollow screw-shaft D and through these tubes. There is one thread-tube for each needle, and the relative positions of the thread tubes or guides and the needles are indicated in Figs. 2 and 4. The pitman H and its thread guides or tubes constitute the looper, and the operating mechanism described imparts such a motion to said pitman that each thread-guide moves around its needle and deposits a loop of thread in the hook thereof.

The operation will be readily understood. The reciprocation of rod I, as common in these machines, imparts an oscillatory movement to the screw-shaft D and its eccentric *a*, whereby the pitman H is reciprocated. The part of pitman H which overlies eccentric *a* and carries the thread-guides *h* and *i* moves in a curved path following the motions of the eccentric, so that the thread-guides *h* and *i* pass around their respective needles. When the needles being above the work, the thread-tubes are to the left of their respective needles and are moving from behind toward the front thereof. As the needles descend, the shaft D turns, and tubes *h* *i*, swinging around in front of their respective needles, throw a loop of thread into the hook of each, and by the time the needles begin to rise the shaft D has rotated a half-turn, bringing the parts into the position shown in Figs. 3 and 4. After the needles have risen and drawn up the loops, the motion of shaft D is reversed, and the thread-tubes return to the position to throw the threads into the needles upon their next descent. In this way two parallel embroidery-seams are produced by means of two needle-hooks and two threads. The pitman H, being carried by wheel E, is made to conform to the motions of the universal feed, which is controlled by the crank-handle M in the ordinary way. The wheel E engages with gear R, and

the latter is connected with the crank-handle M through the pinions N, O, P, and Q. Consequently when the needles are turned to change the feed the wheel E is correspond-
 5 ingly rotated, and as the pitman H turns with wheel E the relative positions of the needles and thread-tubes are maintained, as illustrated in Fig. 4. The movement of wheel E also varies the position of needle-disk *g* to corre-
 10 spond with the movements of the needles.

In setting one needle higher than the other, as represented in the drawings, it will draw up a longer loop above the cloth than the needle which is set lower, and thus a larger seam
 15 is produced by the higher needle and a narrower and tight seam by the lower needle, and if besides a third thread, *p*, is employed, as represented at Fig. 5, which is wound around the stitches of the two needles by means of a revolving thread-carrier, S, then an embroider-
 20 ing-seam is produced which resembles an overseaming stitch, because the loose loop of thread *m* is drawn against and is fastened to the tight loop of thread *o* by means of the
 25 thread *p* of the revolving thread-carrier S, which turns around the needles always in the same direction. By setting the two needles K and L at the same height, as represented at Fig. 6, the two loops of their threads are tied
 30 together in the middle of the seam by the thread *p*, and thus an embroidering-seam is produced having a central line from which small lateral lines extend to both sides.

It is evident that more than two needle-

threads can be employed on the machine by 35 increasing the number of looper-tubes *h* and *i* on the pitman H.

I claim—

1. In an embroidering-machine, the combination, with the stitch-forming mechanism in- 40 cluding two or more hook-needles and the universal-feed mechanism, of a looper having thread-guides, one for each needle, mechanism for oscillating said looper, and a movable part—such as a wheel—carrying said looper 45 and connected with the crank-handle of said feed mechanism, substantially as described.

2. In an embroidering-machine, the combination, with the stitch-forming mechanism, including two or more hook-needles, the uni- 50 versal-feed mechanism, and the thread-carrier for winding a thread around the needle-threads, of the oscillating looper having thread-guides, one for each needle, and a wheel by which said looper is carried, said wheel being con- 55 nected with the operating-handle of the feed mechanism, and means independent of said wheel for operating said looper so that the thread-guides oscillate around their respective needles, substantially as described. 60

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

EMIL CORNELLY.

Witnesses:

ROBT. M. HOOPER,
 DAVID T. S. FULLER.