

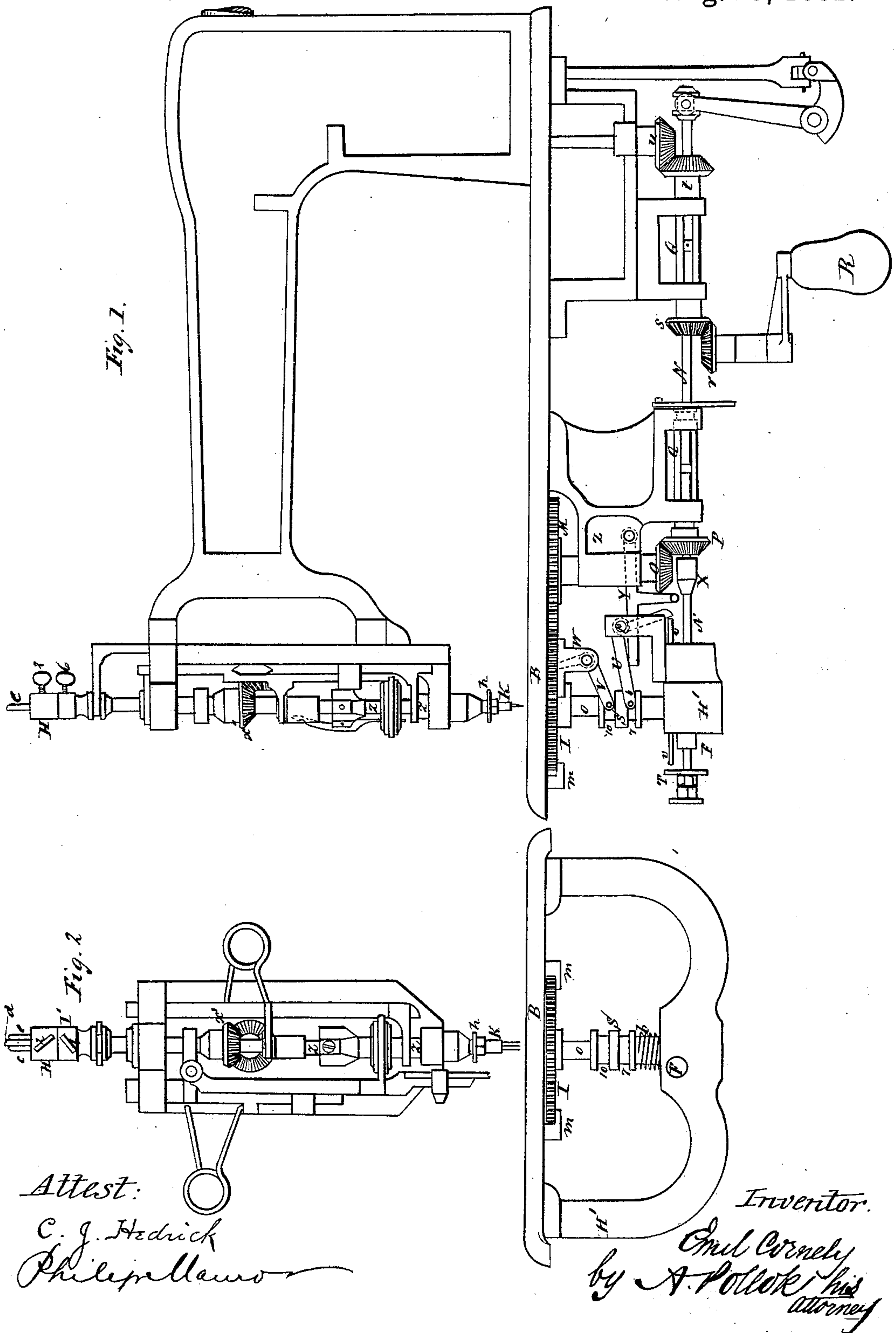
(No Model.)

4 Sheets—Sheet 1.

E. CORNELY.
EMBROIDERING MACHINE.

No. 262,743.

Patented Aug. 15, 1882.



(No Model.)

4 Sheets—Sheet 2.

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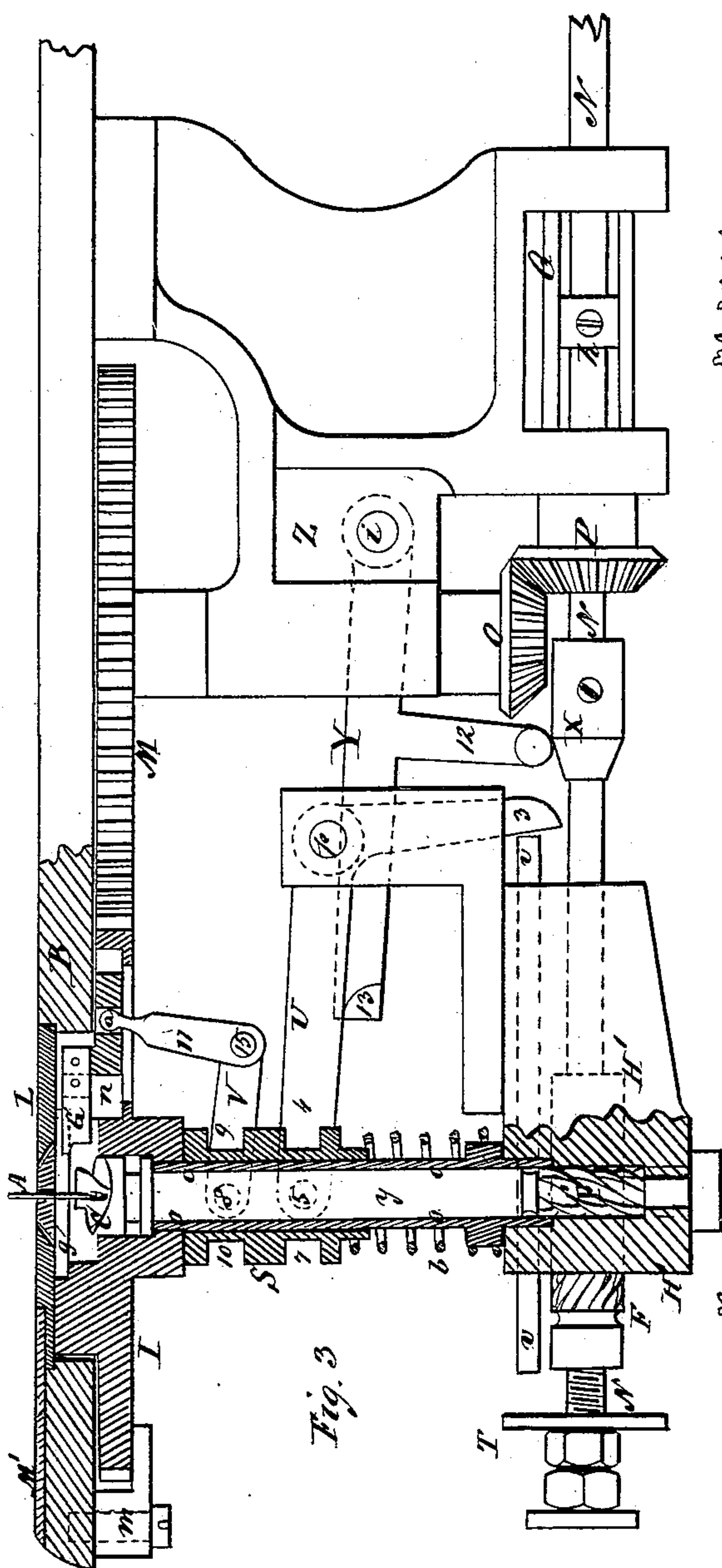


Fig. 3

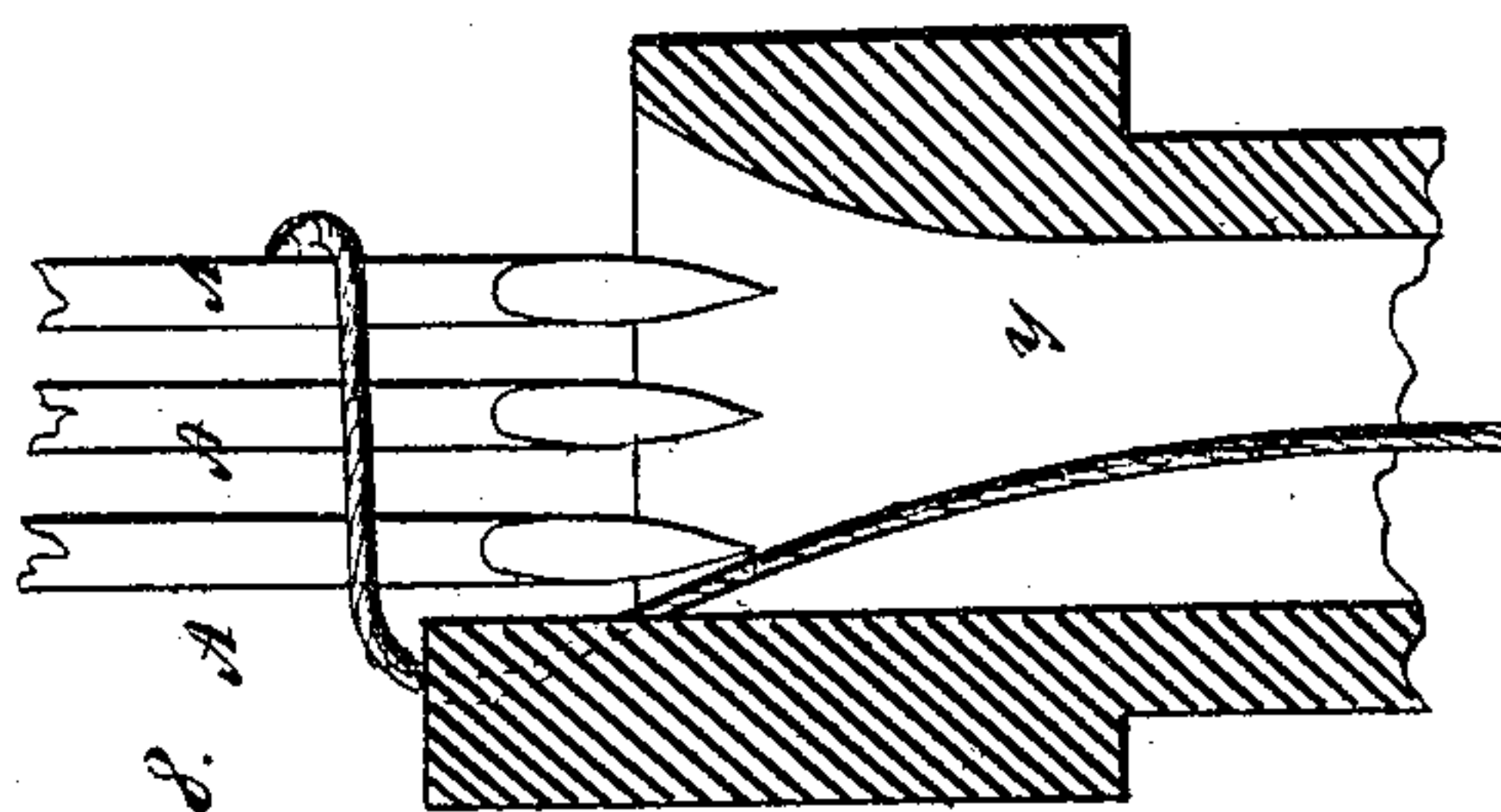


Fig. 8.

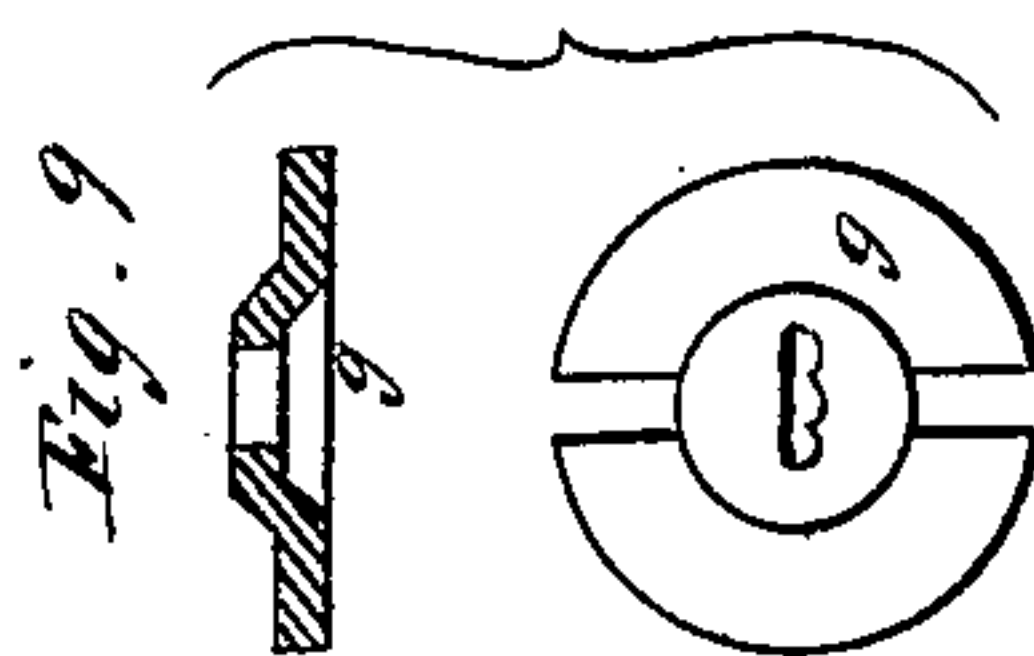


Fig. 9

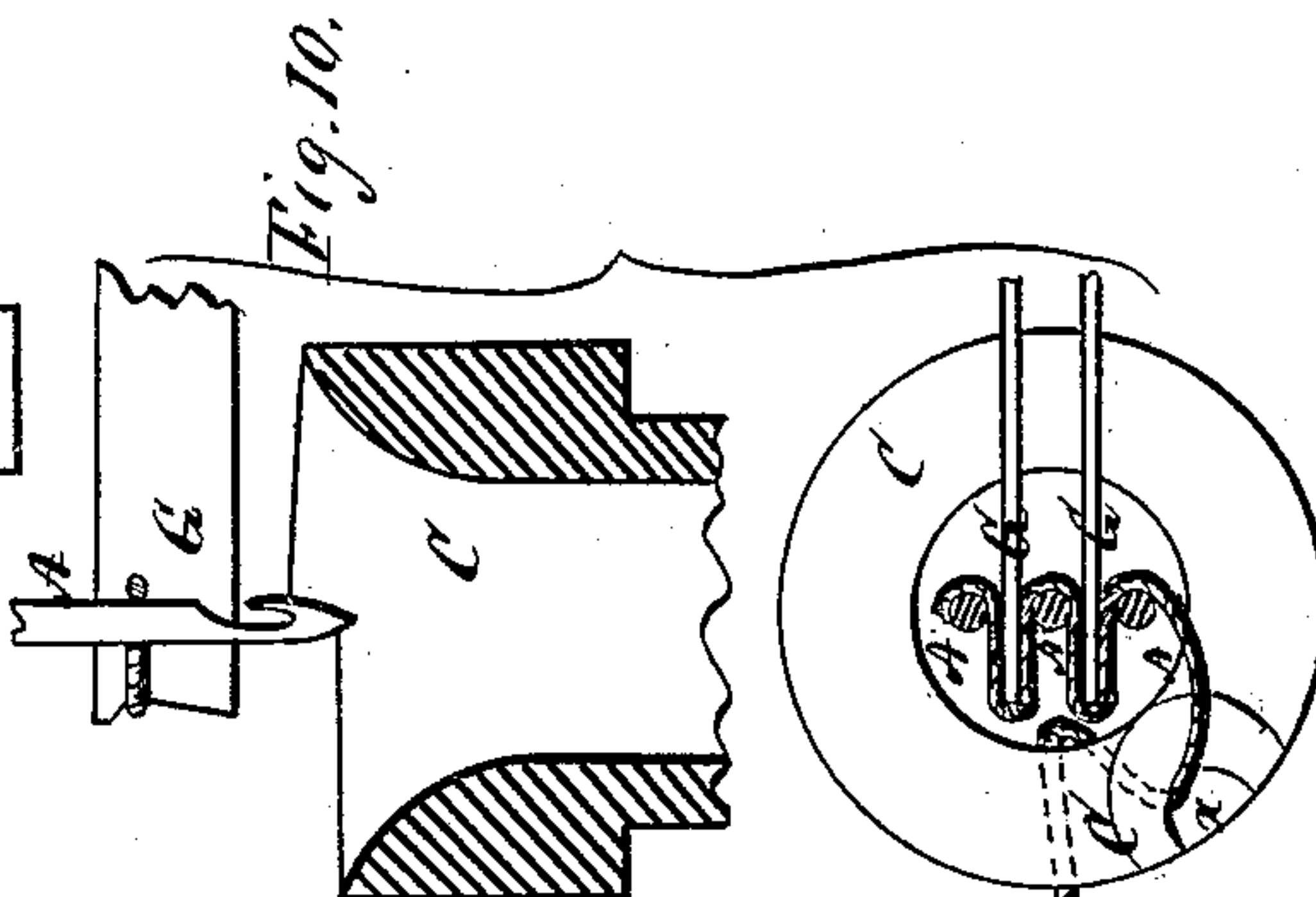


Fig. 10.

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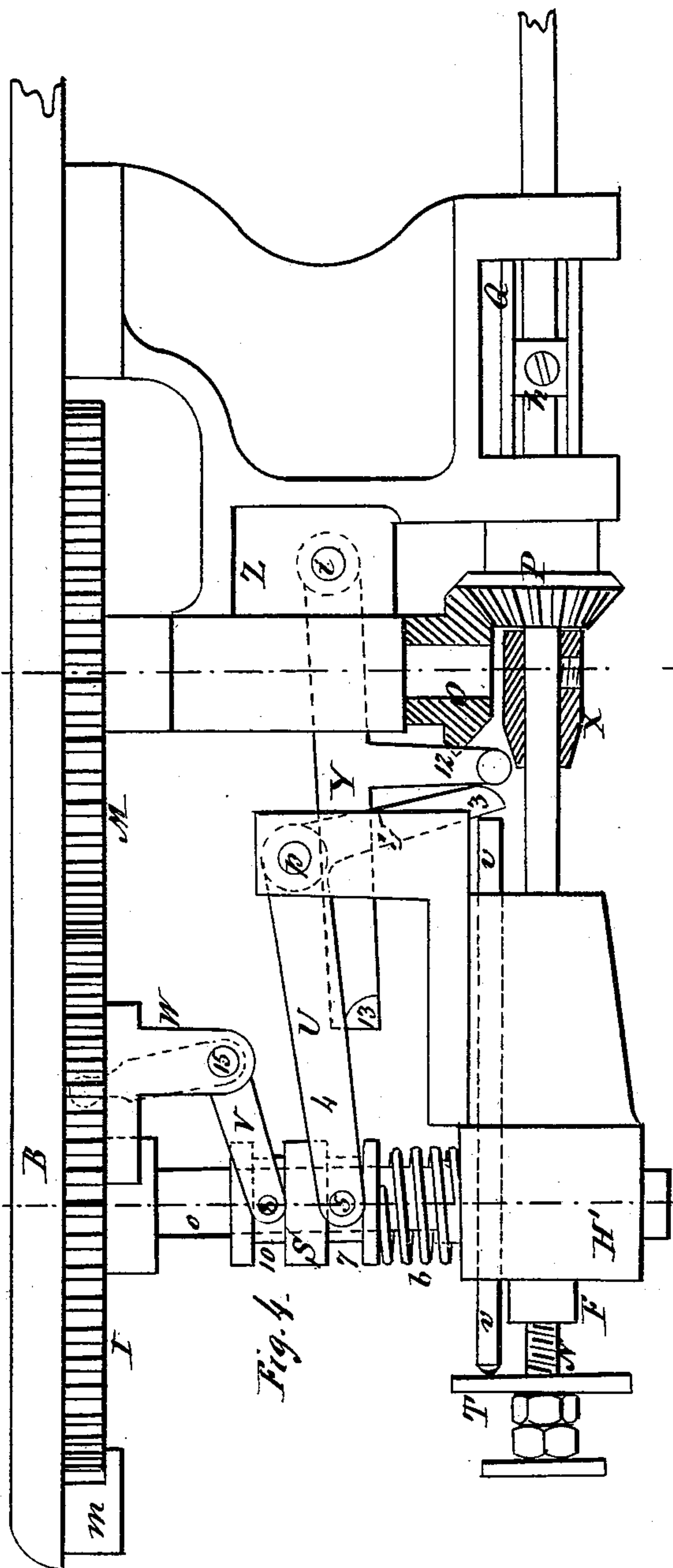


Fig. 4.

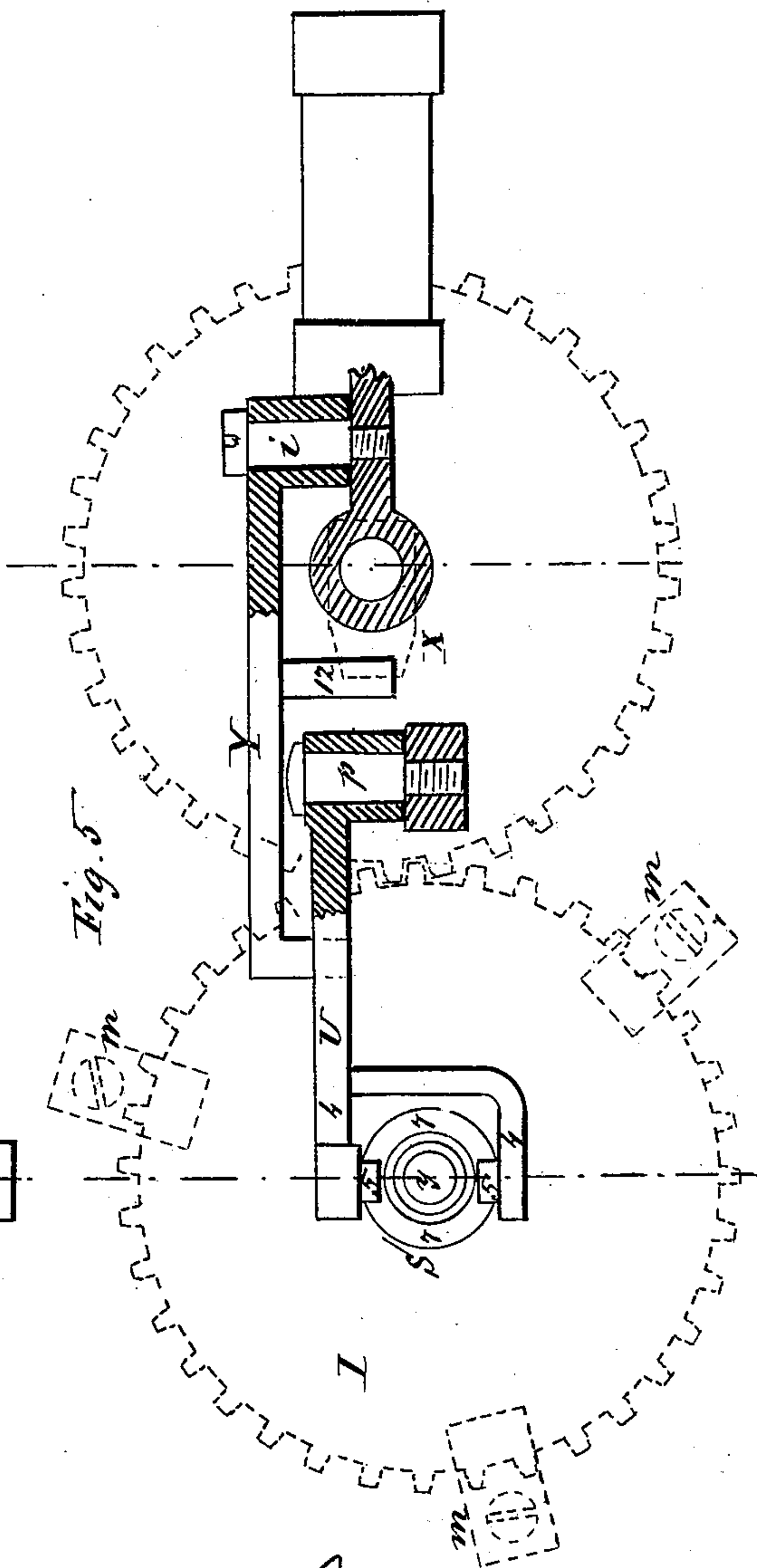


Fig. 5.

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Inventor:
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his attorney.

(No Model.)

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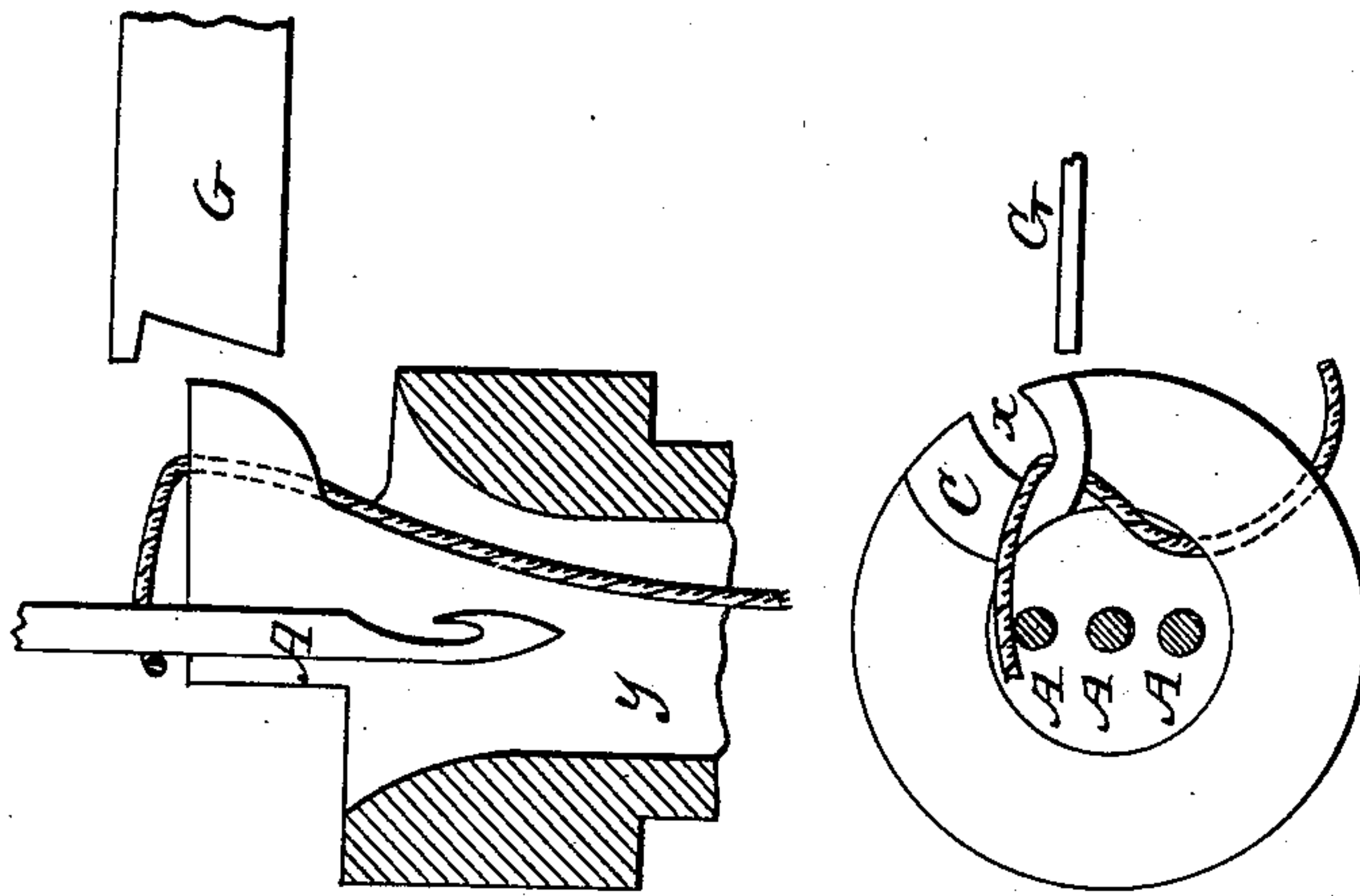


Fig. 6.

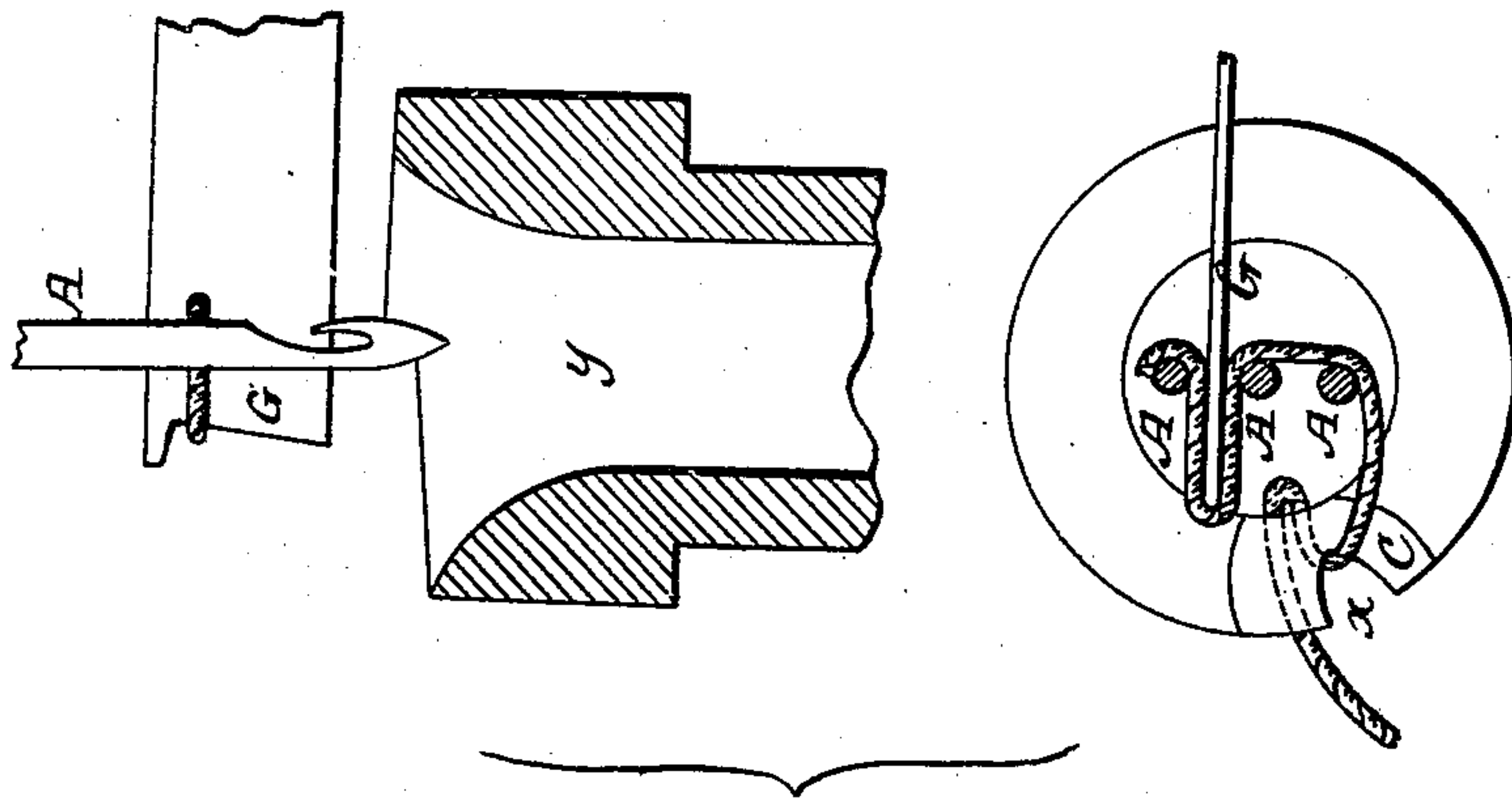


Fig. 7.

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UNITED STATES PATENT OFFICE.

EMIL CORNELY, OF PARIS, FRANCE.

EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,743, 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
5 invented a new and useful Improvement in Embroidering-Machines, which is fully set forth in the following specification.

In Letters Patent No. 219,225 I have described the means of producing several parallel
10 embroidering-seams by means of a number of simultaneously-moving needles. The said machine was not capable of working with a universal-feed motion for general embroidering purposes, like the one described and shown
15 in Patent No. 83,910, November, 1868, and its application was therefore limited to certain kinds of work.

The object of the present invention is to make said machine capable of working in connection
20 with the universal feed, which is governed by a crank-handle, as shown in Patent No. 83,910, and thus to render the machine thoroughly universal.

In the drawings, Figure 1 represents an elevation of the entire machine. Fig. 2 represents
25 a front view of the same. Fig. 3 represents a vertical section through the mechanism composing the present improvements. Fig. 4 represents an elevation of Fig. 3. Fig. 5 represents a plan or top view of the same; Figs. 6, 7, 8, 9, and 10, detached views, herein-
30 after to be referred to.

The head or upper part of the machine is identical with that of the original Bonnaz machine,
35 (Patent No. 83,910,) with the exception that instead of one needle-hook three of them are represented, which are secured to the needle-bars *c d e*. The general construction of the lower part of the machine is like that of
40 Patent No. 153,542, July 28, 1874, as the present improvement can be easiest applied to it. The construction and operation of those parts being fully known, I limit my description to the mechanism composing my present improvements.
45

I employ a thread carrier or looper, C, identical in its construction and operation with the
50 one employed in Patent No. 83,910, which makes one oscillation forward and backward at each stroke of the needles, and winds its thread around them as they descend into its hollow

part. It is represented in full size at Fig. 3, and on an enlarged scale at Figs. 6, 7, 8, and 10; but in working several needles simultaneously the looper C alone is not sufficient to
55 supply them with the quantity of thread which they need to make their stitches, and I therefore employ the blades or teeth G, Fig. 10, (described also in Patent No. 219,225,) which advance toward the needles, and which push the
60 thread in between them, so as to supply them with the quantity needed for producing a seam of several chain-stitches. The pins D E (described and shown in Patent No. 219,225) become superfluous when the looper C makes its
65 oscillation to and fro at each stroke of the needles. It was found by experience that even one single blade G may be employed for said purpose to operate in combination with three
70 needles, Fig. 7, for if the blade G be pushed far enough between two of the needles A it will supply the necessary thread to them, while the third needle will draw its thread from the spool.

It is evident that the direction of the needles A and of the loopers C may be governed
75 in conjunction with the universal feed by means of the crank-handle R in the same manner as it is done in Patent No. 83,910, and the question to be solved was to make the reciprocating
80 blades or blade G follow the movement of the needles A and of the looper C when they are turned by the crank-handle R.

The hollow shaft *y* of the looper C turns within a tube, *o*, which is secured to the looper-
85 frame H'. The looper C is operated by the well-known means of the screws F and F', Fig. 3. A circular plate or washer, T, is secured to the end of the rod N of screw F, which in its movement to the right, Fig. 4,
90 strikes against the sliding rod *v*, which operates the arm 3 of lever U. The double arms 4 of said lever, Figs. 3, 4, and 5, which extend at 5 into the collar 7 of sleeve S, push said sleeve downward, as it can slide and turn freely
95 on the tube *o*.

The toothed wheel I is also fitted on the tube *o*, and is sustained against the bed-plate B by means of the brackets *m*. A support, W, is
100 secured to its lower face, and a lever, V, is adjusted to it and swings on its pivot 15. The arm 9 of lever V extends at 8 into the collar

10 of sleeve S, and the arm 11 into the slide *n*, Fig. 3, to which the blade or blades G are secured, which supply the thread to the needles. The slide *n* can move freely in its way
 5 within the body of the wheel I. When the sleeve S is drawn downward by the lever U, as above described, the arm 9 of lever V follows said movement, and the arm 11 pushes the blades G to the left and toward the needles. When the screw F and its shaft N move
 10 to the left, Fig. 3, the washer T is released from the rod *v*, the lever U is released from the pressure of rod *v*, and the spring *b* drives the sleeve S upward, thus causing the lever V to with-
 15 draw the blades G from the needles.

The operation of the blades G being thus explained, it remains to be explained how they can be governed by means of the crank-handle R in conjunction with the universal feed
 20 with the needles and with the looper C. In turning the handle R the pinions *r* and *s* follow its movement and transmit it through pinions P O to the wheels M and I, and consequently to the bracket W and to the lever V,
 25 and as the pin 8 of the latter turns concentrically with sleeve S within the collar 10 said collar can act upon the lever V and its blades G, although they may be turned around the central line of the needles; but, as the needles
 30 A and the looper C are turned at the same time by means of their gearings, it follows that the relative position of said devices does not change when directed by the crank-handle R, and thus a universal embroidery can be pro-
 35 duced by means of a number of needles working simultaneously in a similar manner, as the Bonnaz embroidering-machine has done it with a single needle.

Instead of the spring *b*, which may fail to
 40 act promptly when the machine runs at a high speed, I employ the following mechanism to push the sleeve S upward. When the rod N moves to the left the conical nut X, which is secured to it, moves in the same direction and
 45 raises the arm 12 of lever Y, which is pivoted at *i* to the frame Z. Thus the arm 13 of said lever is equally raised and the sleeve S is pushed upward by the positive motion of le-
 50 vers, instead of being operated by spring *b*.

It is evident that the needle-plate *g*, Figs. 3, 9, as well as the nipple K, must turn with

the needles. The former one is fitted to the crown of wheel I, and is retained thereon by means of plate L and fixing-slide. The nipple K is turned from the central tube Z by means
 55 of pinion *x'*, Figs. 1 and 2.

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

1. The combination, with the needle-hooks, looper, and reciprocating blade or blades, of
 60 devices, as described, for turning said hooks, looper, and blade or blades about a common center, so as to follow the direction of the universal feed, substantially as described.

2. The combination, with the needle-hooks, 65 looper, and devices for oscillating said looper, of the gear-wheel I, the reciprocating blades carried in ways of said wheel, and connecting-gearing for connecting said wheel with the device which controls the direction of the
 70 feed, so that said looper and blades will follow the movement of the feed, substantially as described.

3. The combination, with the looper-rod and washer or plate thereon, of the rod *v*, lever U,
 75 sleeve S, reciprocated by said lever, lever V, and slide *n*, supporting the blade or blades G, substantially as described.

4. The combination, with the blade or blades, of the sleeve, levers, and rod for advancing
 80 said blade or blades on each backward movement of the looper-rod, and mechanism, as specified, for returning said blade or blades on each return movement of said looper-rod,
 85 substantially as described.

5. The combination of the reciprocating sleeve and connections for imparting motion to the slide carrying the blade or blades, the looper-rod, and mechanism, as specified, for
 90 depressing said sleeve at each backward movement of said rod, the conical nut on said rod, and the lever operated by said nut to raise said sleeve at each forward movement of said rod, substantially as described.

In testimony whereof I have signed this speci- 95 fication in the presence of two subscribing witnesses.

EMIL CORNELLY.

Witnesses:

E. P. MACLEAN,

DAVID T. S. FULLER.