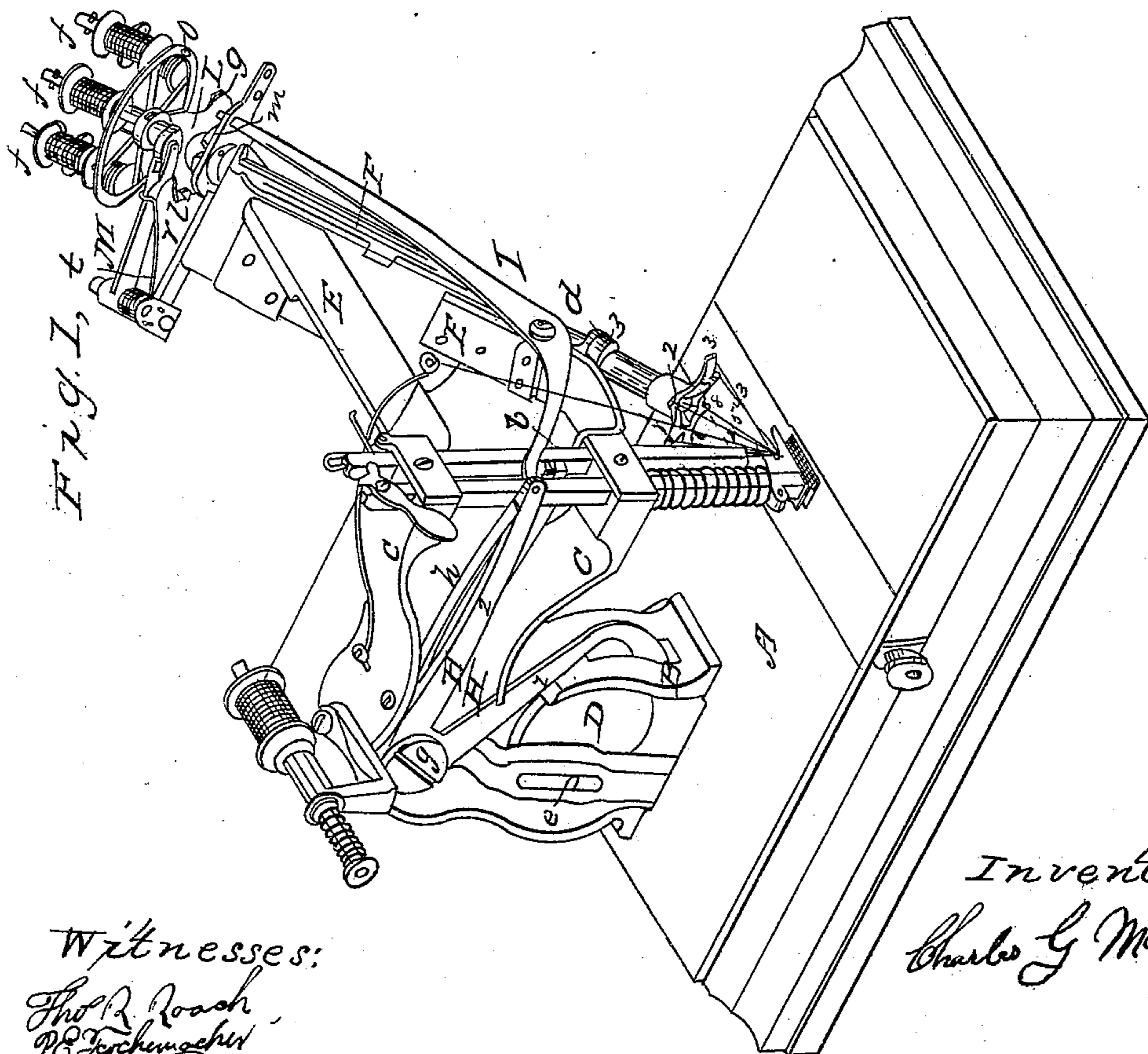
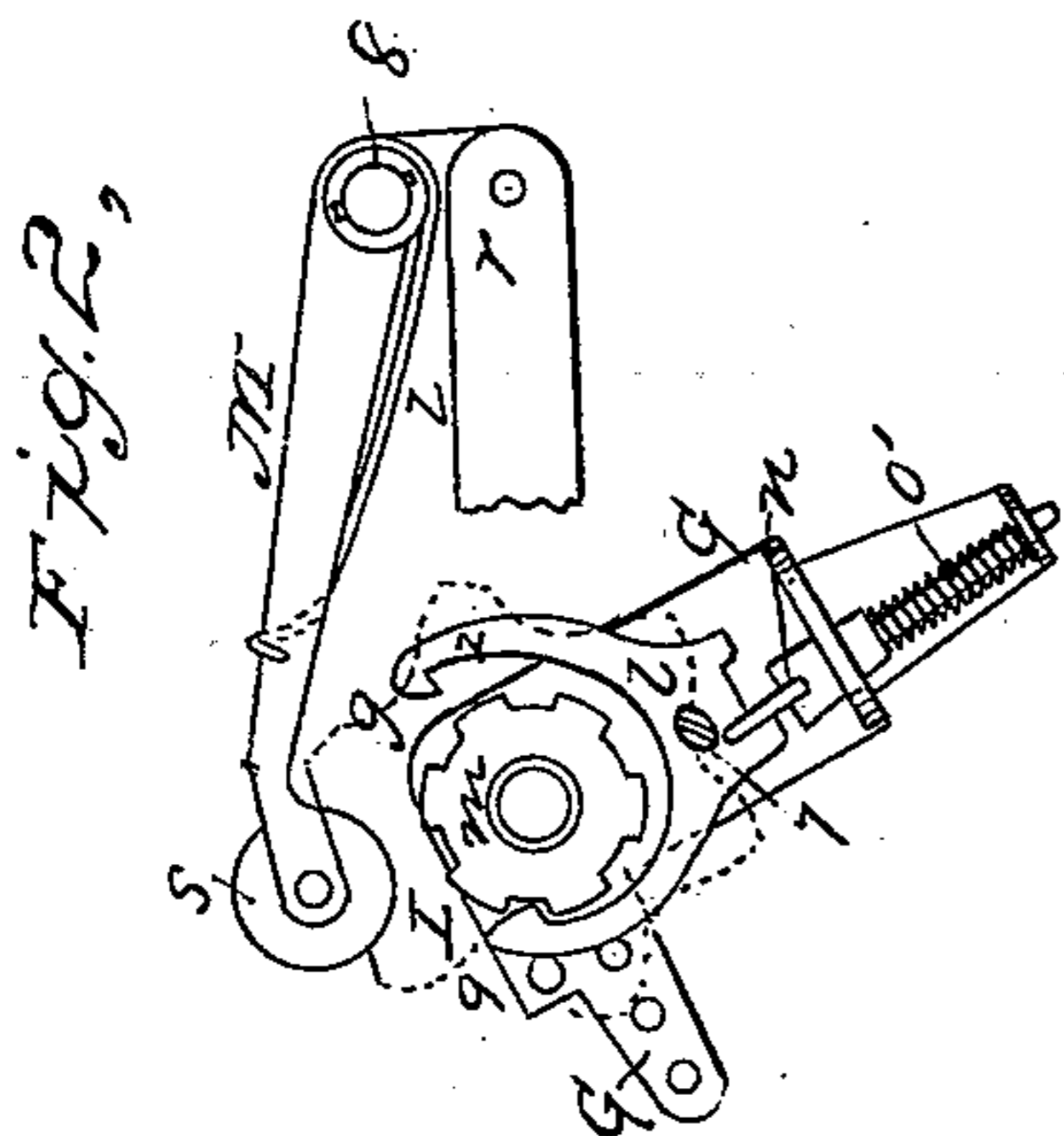


C. G. MANN.
Sewing Machine.

No. 33,556.

Patented Oct. 22, 1861.



Witnesses:
Thos R. Roach
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IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 33,556, dated October 22, 1861.

To all whom it may concern.

Be it known that I, CHARLES G. MANN, of Walpole, in the county of Norfolk and State of Massachusetts, have invented an Improved Embroidering Attachment for Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of a sewing-machine with my improvements attached; Fig. 2, details, to be referred to hereinafter.

The object of my present invention is to produce a machine for embroidering—that is, for sewing onto the surface of a piece of cloth or other article silk or other thread, braid, or cord, using a varying number and a variety of colors of such threads, cords, or braids to produce various patterns. I am aware that for this purpose a mechanism has been attached to an ordinary sewing-machine, which, by means of two vibrating arms, threw two cords or braids alternately beneath the needle, so that they were sewed down onto the cloth by it, producing a species of embroidery. This, however, was quite limited in the variety of effect produced, only using two cords.

My invention consists in a shaft (supported in a suitable frame attached to a sewing-machine) which is placed in such a position and at such an angle to the bed or table of the sewing-machine on which the cloth to be sewed is placed, or is so furnished with take-ups, that the several cords which are delivered from the periphery of a circle or ends of arms at the lower end of this shaft may all incline equally toward or draw equally from the point where the needle pierces the cloth, so that as the shaft is revolved the various cords may be carried by it into the path of the needle in the order and at such times as may be necessary to form the pattern required, this allowing me to use as great a number of cords or braids as the circle will accommodate.

That others skilled in the art may understand and use my invention, I will describe the manner in which I have carried out the same.

In the said drawings, A represents the bed or table of a sewing-machine, from which rises the upright B, from which project the arms C, which carry the presser-bar *a* and needle-

bar *b*, the needle being operated by an eccentric pin, *c*, on a disk or cam, D, driven by a hand-wheel or a treadle. The sewing mechanism, being such as is now in general use, need not be here described.

To one side of the arms C is attached a frame, E, which carries in suitable bearings at *d* and *e* a hollow shaft, F, inclined at an angle of about forty five degrees to the path of the needle-bar *b* and to the table A, on which the cloth or other article to be embroidered is placed. Collars 3 and 4 on the shaft maintain it in position. From the lower end of this shaft projects a series of hollow arms, 1 2 3 4 5 6, each of which carries a thread or cord led from a corresponding spool, *f*, carried on a light frame, O, on top of the shaft. The threads 1 2 3 4 5 6 (which may be of any variety of colors) from the various spools *f* are led down through the hollow shaft F, and each one is threaded through one of the hollow arms. (A small bent wire will be found convenient for threading them.) It is then led down to the cloth on the table A in such a position that the needle of the sewing-machine will sew it down onto the surface of the cloth. The inclined position of the shaft F allows the various threads 1 2 3 4, &c., to have an equal inclination toward the point where the needle penetrates the cloth, and consequently an equal tension may be kept on the threads without the need of any take-up device.

Instead of the hollow arms 1 2 3 4 5 6, a disk may be used with the required number of holes in its periphery, and in some cases a solid shaft may be used, the threads leading down to the disk at its lower end on the outside of the shaft.

By revolving the shaft F a greater or less amount in one direction or the other as the sewing proceeds, and by varying the respective positions of spools *f* of different-colored threads, and also by changing the number of threads delivered from the shaft, a great variety of embroidery may be made.

I have here shown one way in which the shaft F may be revolved by the sewing-machine a sixth of a revolution at each stitch, and may be changed to revolve an equal amount in the opposite direction. Other mechanical devices, however, may be adopted for giving these revolutions to the shaft F without departing from

the spirit of my invention. I will now describe the one here shown. To the upright B of the frame of the sewing-machine is pivoted at *g* a bell-crank, H, the lower arm, 1, of which is held in contact with the edge of the cam D by a spring, *h*, attached to the frame-work. The other arm, 2, has pivoted to its end one end of a bent lever, I, which is pivoted at *i* to the frame E. The other end of this lever is connected with a frame, G, which is hung on the shaft F, but vibrates freely on it. To this frame G is pivoted at 7 a double-hooked pawl, *l*, which engages with a cog-wheel, *m*, attached to the shaft F. A dog, *n*, which is held by a spring, *o*, holds the pawl *l* over to one side or the other of its pivot, and thus causes one or the other of its arms 1 or 2 to engage with the wheel *m*, so that the same vibrations of the frame G will revolve the shaft F in either direction, as required. A cam-wheel, L, (in red, Fig. 2,) attached to the shaft F, immediately above the wheel *m*, serves to regulate the amount of the revolution of the shaft F, and stop it at the exact point in the following man-

ner: To an arm, *r*, projecting from the top of the frame E, is pivoted, at 8, a lever, M, which carries at its outer end a grooved wheel or pulley, *s*, which is held in contact with the edge of the cam L by a spring, *t*, and drops in one of the notches or recesses 9 in the cam.

When it is required to give the shaft F a greater or less amount of revolution the wheel *m* and the cam-wheel L will be changed for others having a different number of teeth or recesses.

What I claim as my invention, and desire to secure by Letters Patent, is—

Delivering threads, braids, or cords in the path of and before the needle of a sewing-machine (for the purpose of having the same sewed or embroidered upon cloth or other substance) through or by means of a shaft rotating continuously or alternately, and operating substantially as described.

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Witnesses:

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