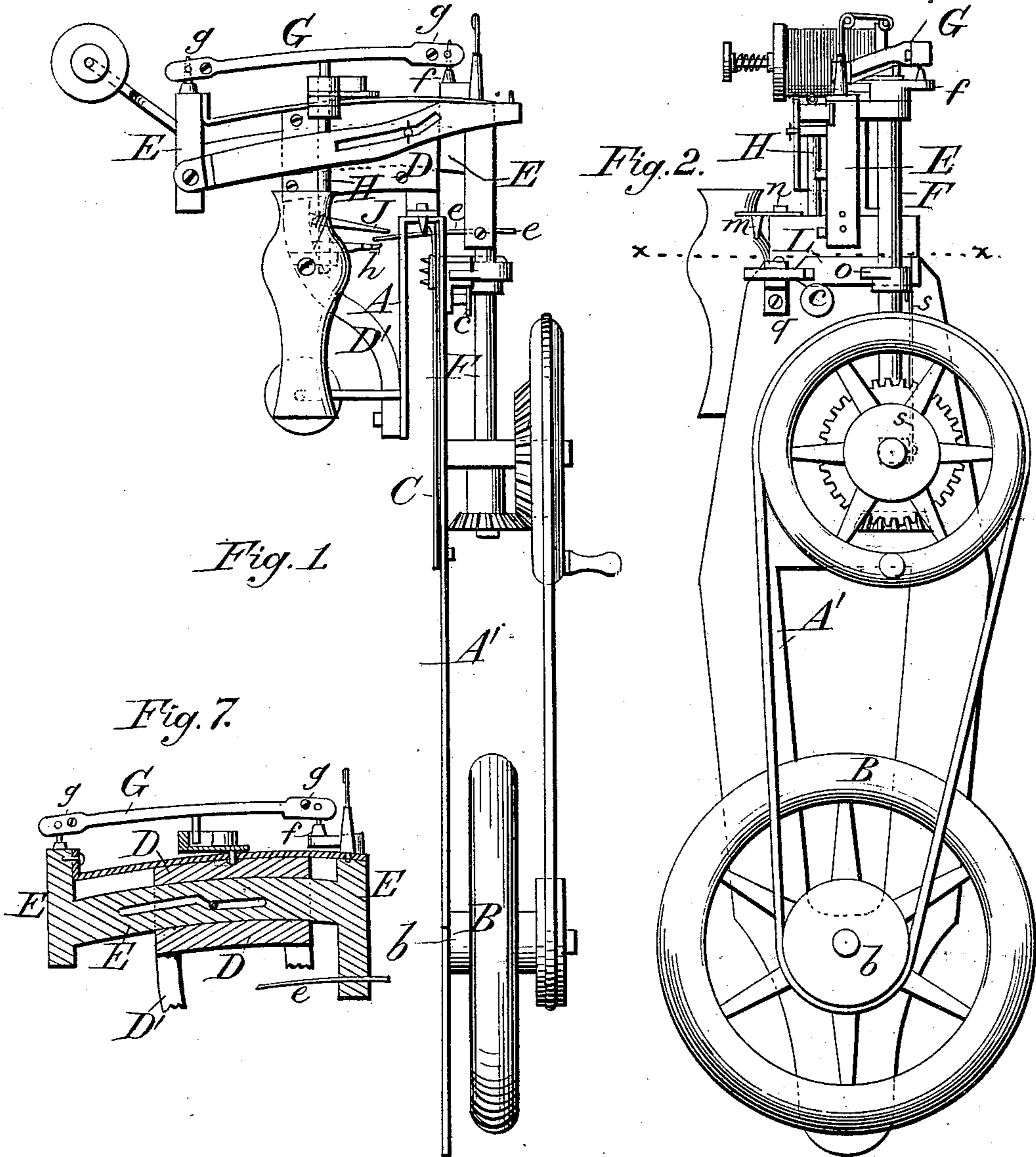


J. HESSE.
Carpet Sewing Machine.
No. 235,085. Patented Dec. 7, 1880.



Attest:
J. H. Schott.
A. R. Brown

Inventor
Joseph Hesse
per J. C. Parker
att'y

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Fig. 3.

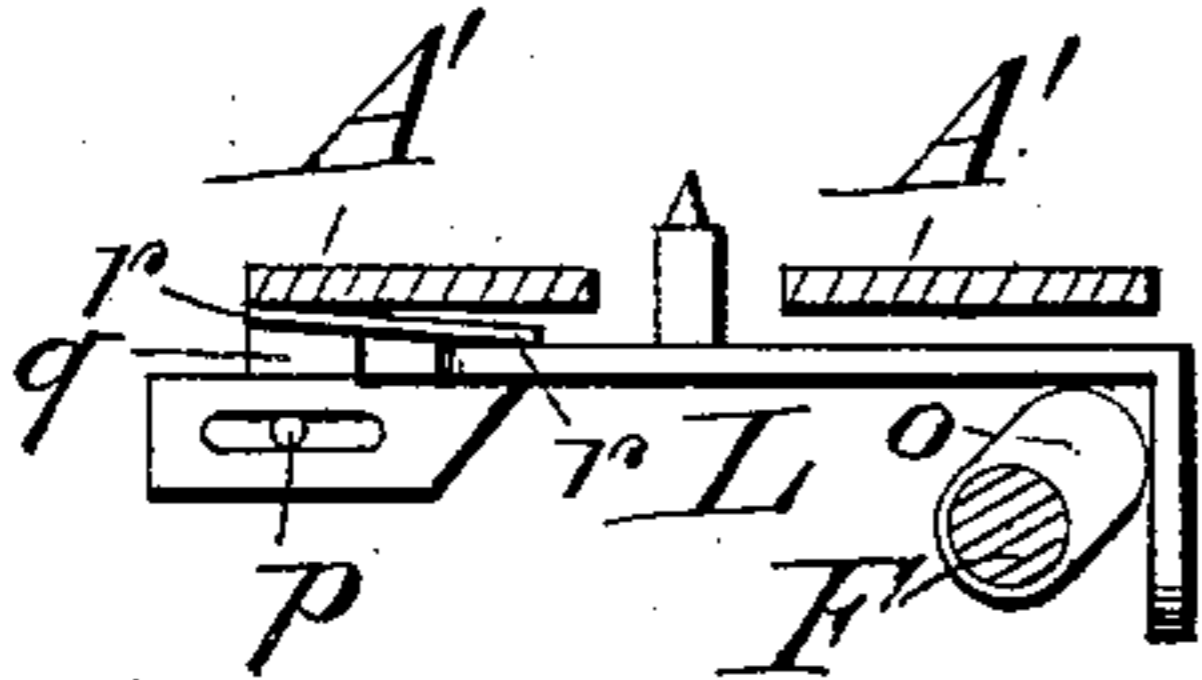


Fig. 5.



Fig. 4.

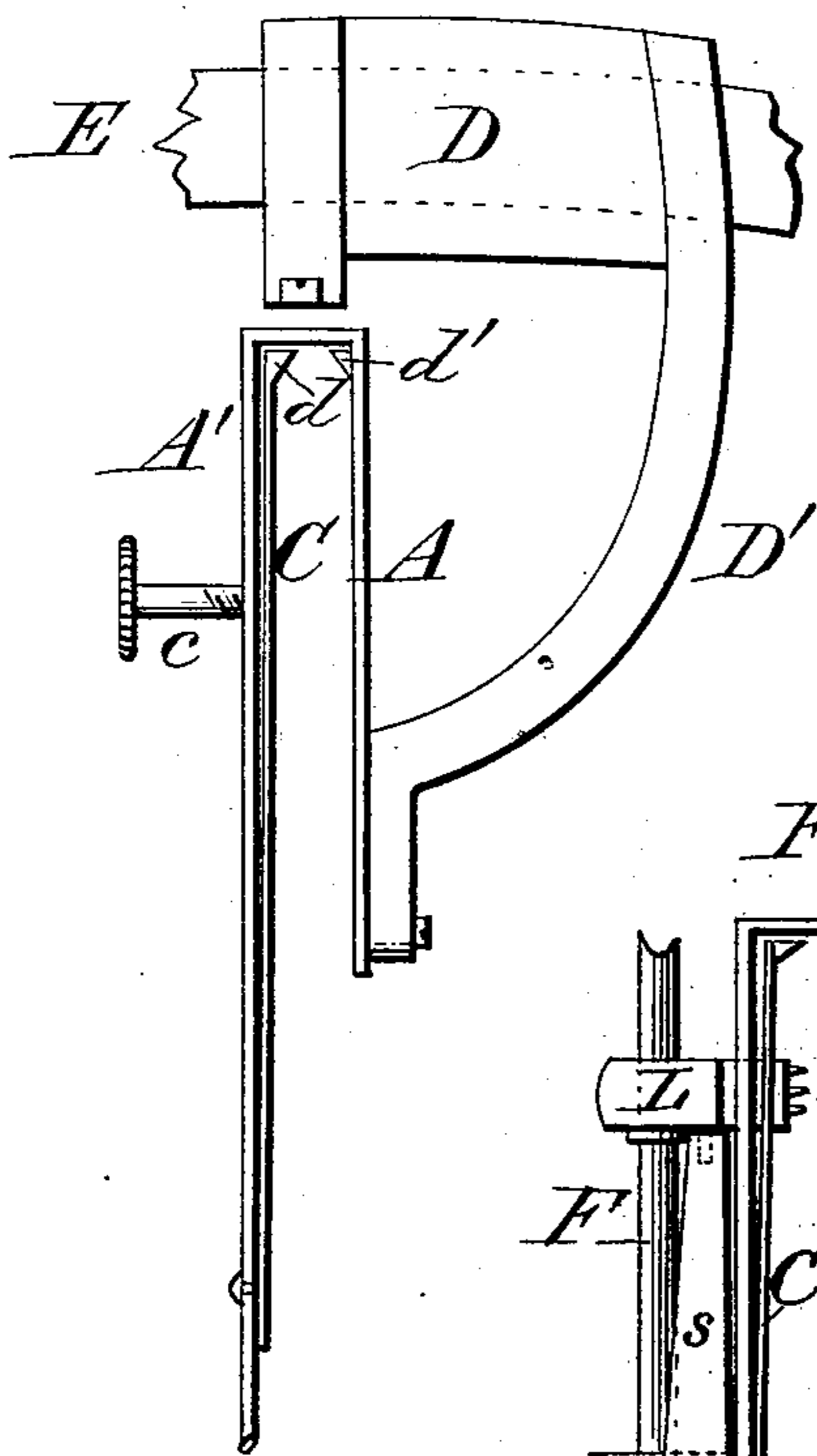


Fig. 6.

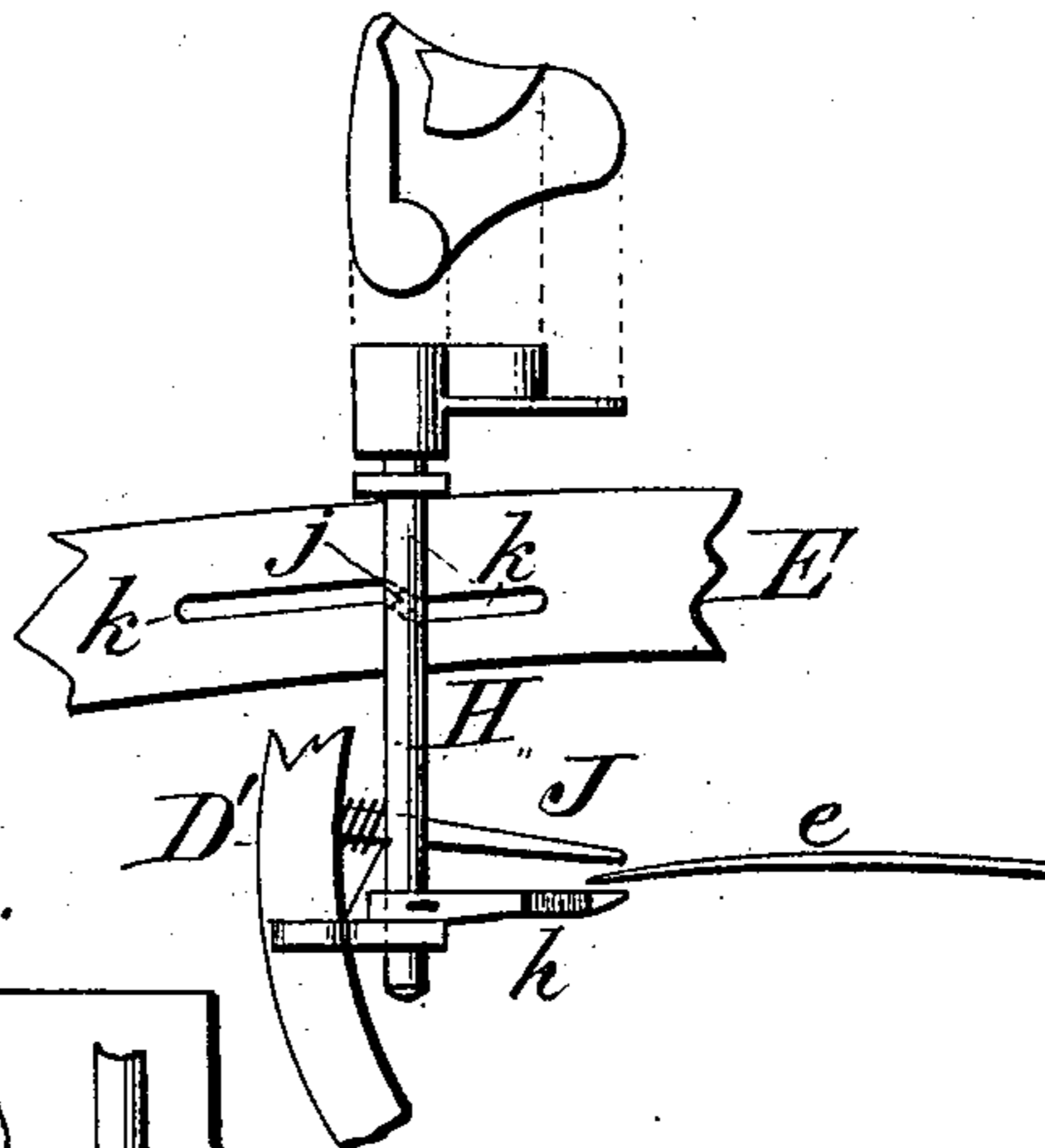
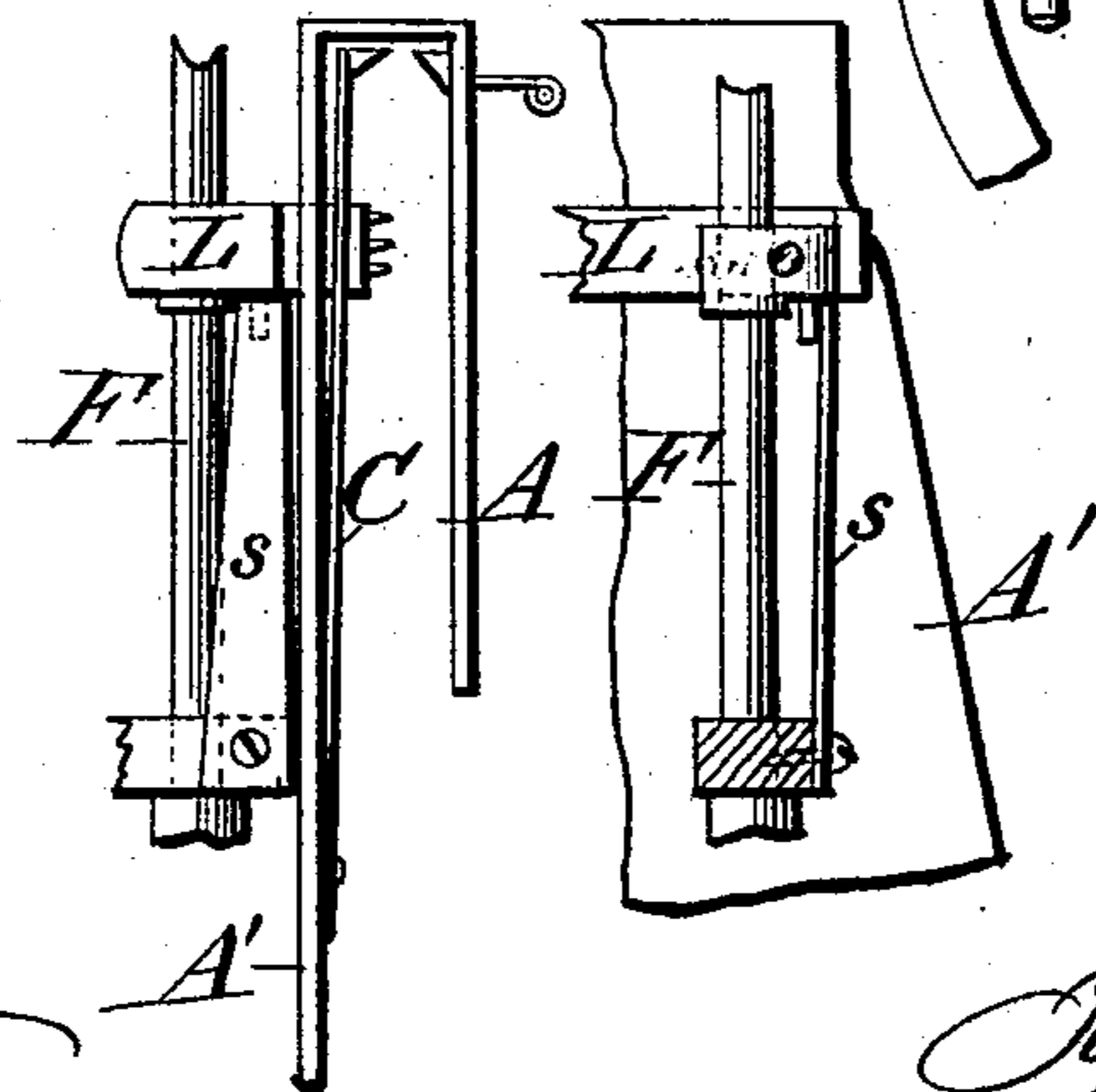


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH HESSE, OF SAN FRANCISCO, CALIFORNIA.

CARPET-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,085, dated December 7, 1880.

Application filed May 3, 1879.

To all whom it may concern:

Be it known that I, JOSEPH HESSE, of San Francisco, county of San Francisco, in the State of California, have made and invented certain new and useful Improvements in Carpet-Sewing Machines, which invention is fully set forth and described in the following specification and the accompanying drawings, making part thereof.

My invention relates to certain improvements in sewing-machines specially constructed and adapted for sewing together the breadths of carpets, the carpet being suspended in a fixed position, while the machine rests astride of and travels upon the edges; and the invention consists in the construction and arrangement of the various devices forming parts of the machine, as hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine. Fig. 2 is a front elevation of the same. Fig. 3 is a horizontal section through *x x*, Fig. 2, showing the feed mechanism for moving the machine intermittently forward over the carpet. Fig. 4 is an enlarged detail view of the upper part of the saddle-frame, the spring presser-plate, and the supporting standard or bracket. This view is taken from the right-hand side of Fig. 2. Fig. 5 is an enlarged side view of the plate having the turning guides. Fig. 6 is an enlarged detail view of the vibrating looper and its mechanism, by which both the vibratory and the rising and falling movements are given. Fig. 7 is a central vertical section of Fig. 1, showing the needle-bar in connection with its operative mechanism; and Fig. 8 is a detail view, showing the position and arrangement of the plate-spring.

In this machine the saddle-plate A is made with its front limb, A', of much greater length than the rear one, and with a bearing or stud, *b*, for the balance-wheel B near its lower end, and as low down as possible beneath the point of suspension of the frame, where it rests astride of the carpet. This construction affords greater extent of surface of the front limb to bear against the vertical side of the carpet, and thus keeps the saddle-frame in a proper upright position as it moves along, and it also insures a steady movement and operation of the ma-

chine by bringing the weight of the balance-wheel much lower down beneath the point of suspension of the frame.

The spring presser-plate C, which is placed within the space embraced between the two limbs of the saddle-frame, is adjustable, by means of the set-screw *c*, toward and away from the inside of the opposite limb, so that the two thicknesses of carpet are compressed with the required pressure between these two surfaces.

The upper edge of the plate C has an angular bearing-surface, *d*, at an angle of forty-five degrees, or thereabout, and the opposite corner in the bend of the saddle-frame is filled in or provided with a similar angular surface, *d'*. Between these two surfaces the edges of the carpet are introduced when the machine is placed in position; and as the top edges bear and run against these inclined gage-surfaces, and one of the surfaces, *d*, is adjustable, it will be seen and readily understood, from examination of Fig. 4, that when these two angular faces are brought closer together the carpet edges inserted between them cannot approach so near to the horizontal plane in which the needle reciprocates, and therefore in such adjustment the line of the stitches will be made nearer to the edge of the carpet. The reverse will take place when the two angular surfaces are adjusted farther apart. By this means the two edges of the carpet, whatever their thickness, are smoothly pressed together immediately about the needle, and the distance of the seam below the edge is at the same time readily regulated.

The needle *e* is a curved eye-pointed one, and is reciprocated in a curved horizontal path through suitable needle holes or slots in the sides of the saddle-frame.

The needle-bar E is curved, and moves in a curved groove or slots in the fixed standard D, that is secured by its curved arm D' to the saddle-frame. Its reciprocation is produced from the upright shaft F by the crank *f* and the curved connecting-rod G, attached by ball-and-socket joints *g g* to the crank and to the upright at the rear end of the needle-bar or slide E.

By this construction and arrangement of devices the movements of the needle are effected

in a horizontal direction in a positive manner and with greatly increased power.

The means for producing the required intermittent vibrations of the looper *h* are more particularly shown and described in the Letters Patent No. 195,277, issued to me on the 18th day of September, A. D. 1877; but in connection therewith I employ a novel means for giving the required vertical or rising and falling movements to the looper *h* at the end of its forward and the beginning of its backward movement, which are shown in the view Fig. 6.

The looper-shaft H has a projecting pin, *j*, which engages with a slot, *k*, in the reciprocating slide or needle-bar E, and the shape of this slot is such that as the slide moves back and forth the rock-shaft H will be raised and dropped at the proper times.

Above the looper and the needle, and in line with the latter, I place a fixed rod, J, with a flattened beak. This rod is held directly over the path of the needle and at a sufficient distance above the point of the looper to allow the needle to pass freely between the two, and this constitutes a means for keeping the point of the needle always in a direct path and preventing its being accidentally sprung or raised too far above the hook of the looper, by which no interlooping of the threads could take place. This rod J passes through a socket in the bracket D', where it is held by a clamping-screw.

Upon the top of the saddle-frame, and in a slot therein, is placed a guiding lip or blade, *l*, with a beveled or inclined under surface, which I provide for the purpose of turning in, out of the way of the needle, any raveled or frayed edges of the right side of the carpet that may be produced in the cutting; and in connection with this blade I also construct a turning beak or horn, *m*, which projects from the front end of the saddle-frame a short distance to act upon the carpet before the edges reach the needle. This horn rests between and separates the two edges of the breadths or pieces of carpet to be sewed, and as the machine moves forward this part *m* passes between the two edges and turns upward and outward any folds or portions that may have curled inward and together as the carpet hangs suspended. These two parts *l m* are secured to or are formed with a plate, K, Figs. 2, 5, which is held on the frame by a screw, *n*.

The means for moving the saddle-frame forward over the carpet-edges to space the stitches consist of an intermittent four-motion

feed on the front side of the plate or limb A' of the frame. The points of the feed-bar project and work through a slot or opening in the frame and in the pressure-plate, and engage with one side of the carpet.

The feed-bar L is moved forward by the action of the cam *o* upon the rotating shaft F, and backward by the plate-spring S, attached to the frame. It reciprocates upon the stud *p*, held by the bracket *q*, fixed to the frame, and its outward movement away from the carpet is effected by the spring *r*. This construction is illustrated in Figs. 3 and 8.

The reciprocating slide or needle-bar E carries suitable thread-guides and a spool-spindle, and the frame below is provided also with spindle and guides for the looper-thread.

As thus constructed my improved machine performs the work required of it in a rapid and uniform manner. It maintains an upright or perpendicular position with the carpet, and but little effort on the part of the operator is required to guide it and operate the driving-wheel.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the saddle-frame A A', of the fixed angular gage-piece *d'* within the bend of the frame, and the spring pressure-plate C, provided with a like gage-piece, *d*, and means for adjusting said pressure-plate toward and away from the said fixed piece, substantially as and for the purpose set forth.

2. The plate K, formed or provided with the beak or horn *m* and the beveled blade *l*, in combination with the saddle-frame A A', substantially as and for the purpose specified.

3. In a carpet-sewing machine, the combination of the saddle-frame A A', curved eye-pointed needle *e*, and mechanism for moving it in a curved path and horizontal direction, curved needle-bar E, having cam-slot *k*, curved guide-standard D, looper-shaft H, having stud *j*, looper *h*, and mechanism for imparting a rotary horizontally-reciprocating motion thereto, stationary rod or bar J, and bracket D', all constructed and arranged to operate as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of April, 1879.

JOSEPH HESSE.

Witnesses:

JAMES C. WARD,
C. W. M. SMITH.