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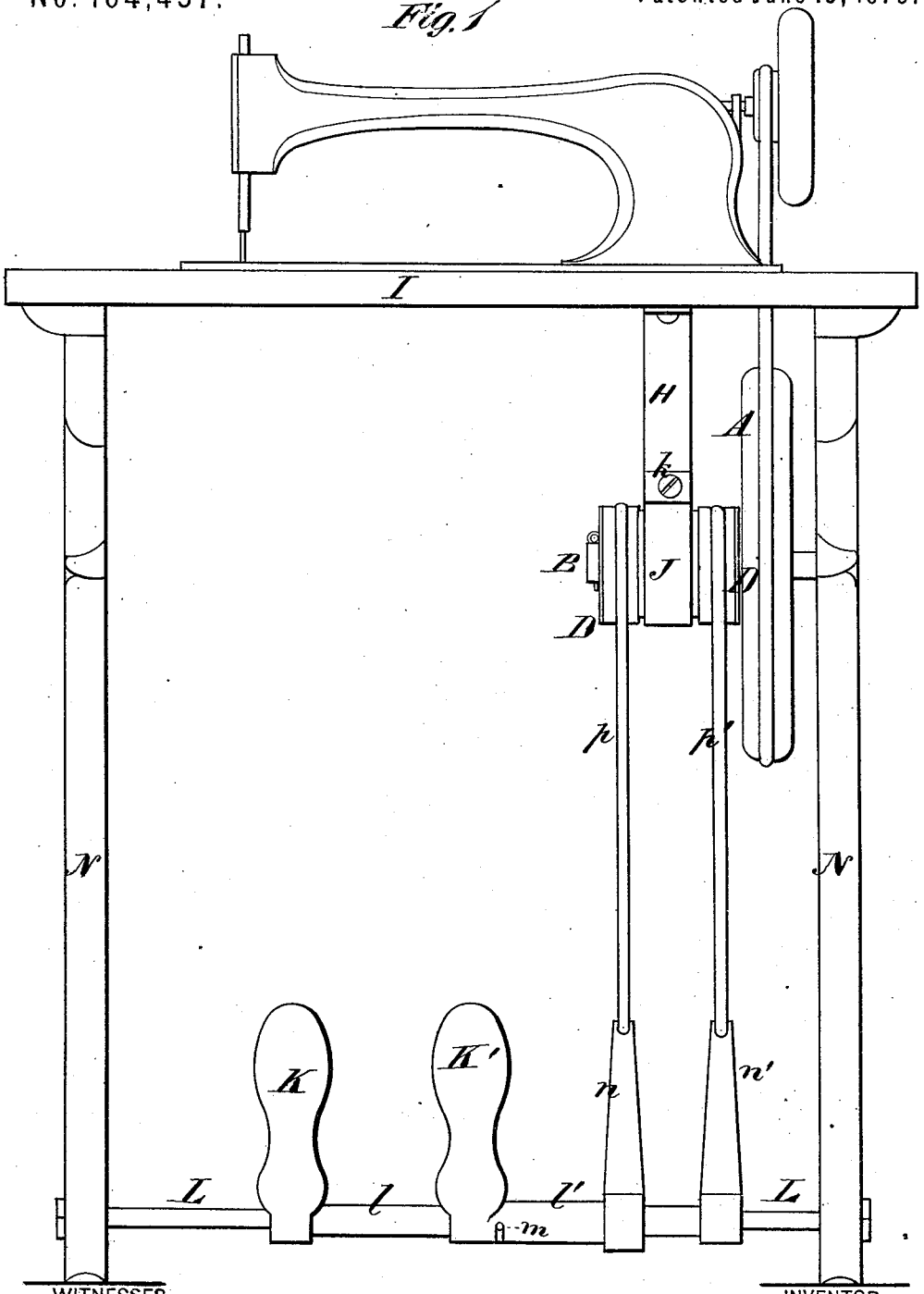
S. ELLIOTT.

Treadle.

No. 164,437. Patented June 15, 1875.

Fig. 1



WITNESSES.

Eugene W. Johnson

George E. Upham.

INVENTOR

Sterling Elliott,

Chipman & Poore & C,

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

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S. ELLIOTT.

Treadle.

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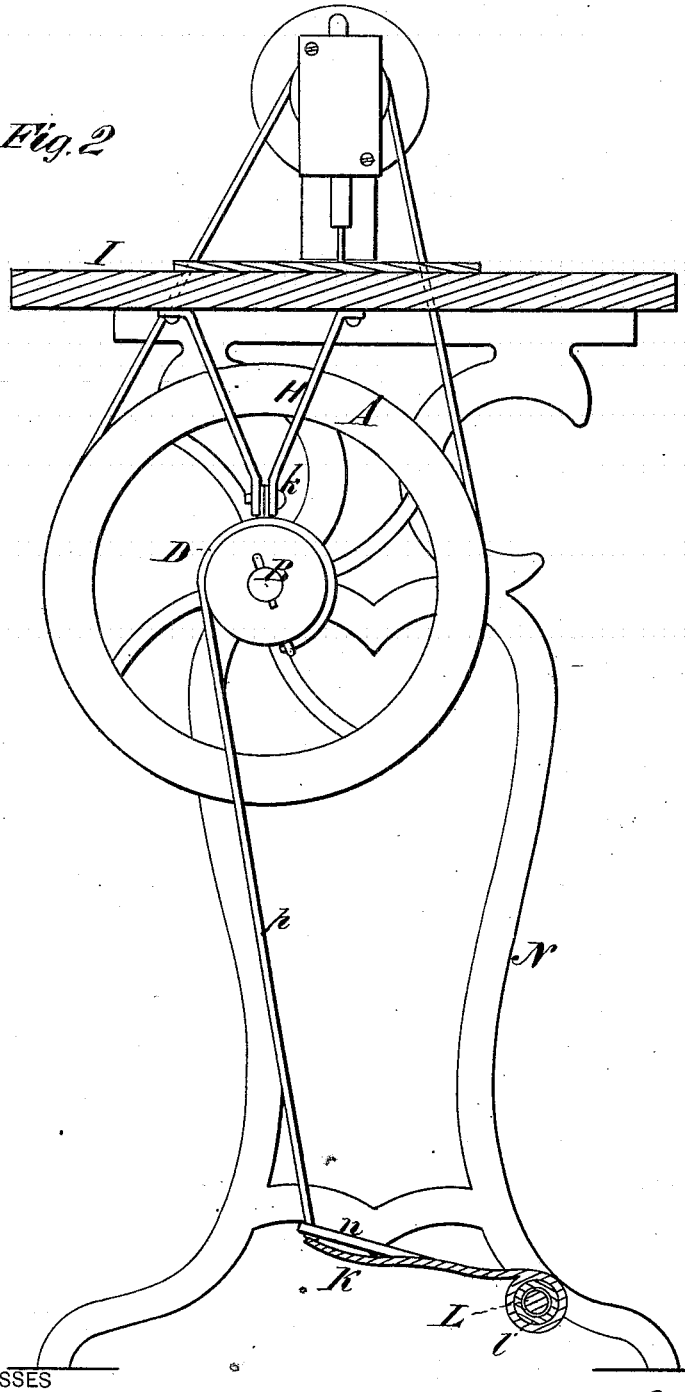
Fig. 2



WITNESSES

Eugene W. Johnson

George E. Hopkins.

INVENTOR

Sterling Elliott

Chipman & Young & Co

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

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Fig. 3

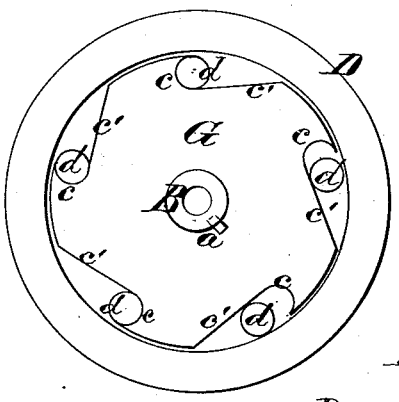


Fig. 4

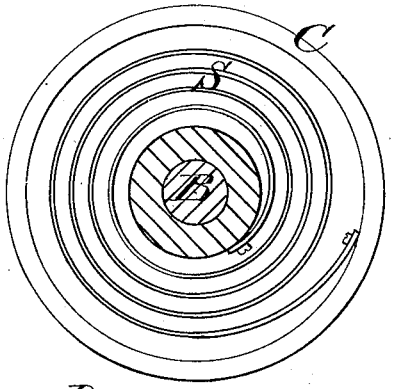


Fig. 5

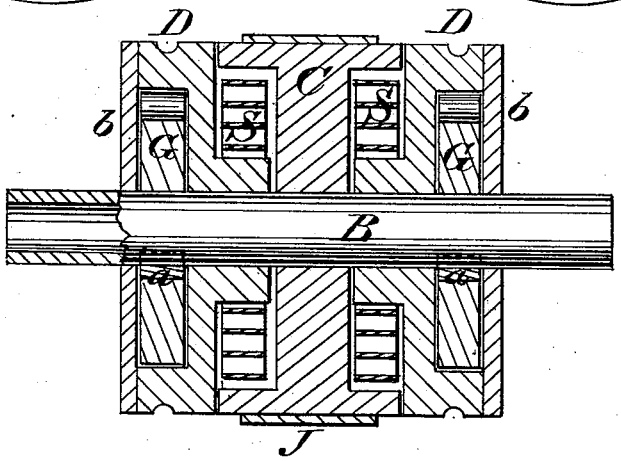
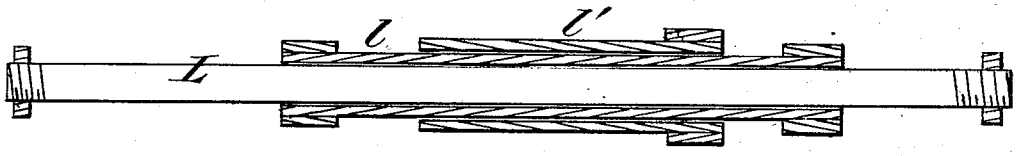


Fig. 6



WITNESSES

Eug. H. Johnson

George E. Wallace.

INVENTOR

Sterling Elliott,

Chipman Hopkins & C

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

STERLING ELLIOTT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE STERLING TREADLE COMPANY, OF SAME PLACE.

IMPROVEMENT IN TREADLES.

Specification forming part of Letters Patent No. **164,437**, dated June 15, 1875; application filed May 8, 1875.

To all whom it may concern:

Be it known that I, STERLING ELLIOTT, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and valuable Improvement in Treadles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front view of a sewing-machine having my treadle applied, and Fig. 2 is a side view of the same. Figs. 3, 4, 5, and 6 are detail views.

This invention has relation to means for converting a treadle-motion into a continuous rotary motion, and allowing the operator to start at any point in the strokes. My object is to avoid the objections to crank-motions in operating sewing-machines, watch-makers' lathes, and other light-running machines, as will be fully understood from the following description.

In the annexed drawings, A designates a balance-wheel, which is keyed on a shaft, B. C designates a drum, which is applied loosely on the shaft B, and constructed with annular recesses in its ends for receiving springs S S, one end of each one of which is secured to the drum, and the other end is secured to a pulley, D. Both of the pulleys D D are allowed to turn on their shaft B, and they have circular recesses in their outer ends, in which cams G G are applied, having nearly the same diameter as the recess in which they are received. The cams G G are secured on their shaft by means of keys *a a*, and these cams are inclosed in their recesses in pulleys D D by means of removable caps *b b*. Each cam G has five cups or transverse grooves, *c*, in its periphery, and each cup or groove *c* has an inclined plane, *c'*, extended out to the periphery, giving to the cam somewhat the appearance of a saw. In each cup or groove *c* is a cylindrical roller, *d*, which will drop into the cup or groove while it is being carried up on one side of the shaft B, and be free from the pulley, and while descending on the other side of said shaft each roller will, in its turn, leave its cup and be wedged in between an inclined plane, *c'*, and the flange of a pulley, D, as shown in Fig. 3. The pulleys are thus caused to turn the shaft B while moving in one direction, and while moving in the opposite direction they do not turn the shaft. H designates a hanger, which is secured to the under side of the table-top I, and which has confined between its lower ends a clamping-ring, J, which embraces and firmly holds the barrel. A screw, *k*, is used for confining the ends of the clamping-ring J, by loosening which screw the barrel C can be adjusted, and the springs S S wound up more or less. K K' are treadles, which are free to vibrate about the axis of a shaft, L, which is fixed by its ends to the table-legs N N. The treadle K is secured to a tube, *l*, which plays on shaft L, and the treadle K' is fixed to a tube, *l'*, which plays on the tube *l*. Endwise play of the two tubes *l l'* is prevented by means of a pin, *m*, which passes through these tubes and through shaft L. The arm *n* on tube *l'* is connected to the left-hand pulley D by means of a cord or band, *p*, and the arm *n'* is connected to the right-hand pulley D by means of a cord or band, *p'*. Both cords or bands *p p'* are carried around the pulleys D D in the same direction.

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

1. The recessed drum C, applied on shaft B, in combination with the pulleys D D, cams G G, having cups *c* and inclined planes *c'*, rollers *d*, springs S S, and clamp J, having set-screw *k*, whereby the tension of the springs S S may be varied at pleasure, substantially as described.

2. The stationary shaft L, provided with concentric sleeves *l l'*, rotating on said shaft, in combination with the pin *m*, treadles K K', arms *n n'*, and pulleys D D, substantially as described, and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

STERLING ELLIOTT.

Witnesses:
GEORGE E. UPHAM,
JOS. B. LOOMIS.