G. F. LETZ & A. T. DUEVER.

Treadle.

No. 163,322. Patented May 18, 1875.

Fig: 1.

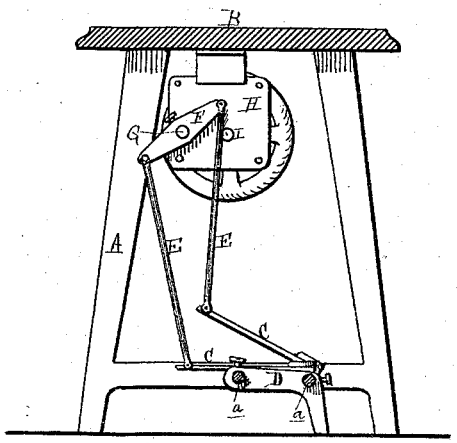


Fig: 2.

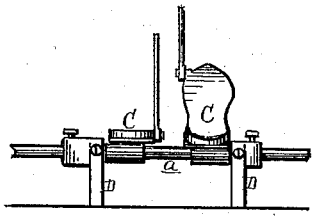


Fig: 3.

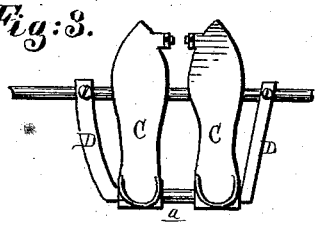


Fig: 4.

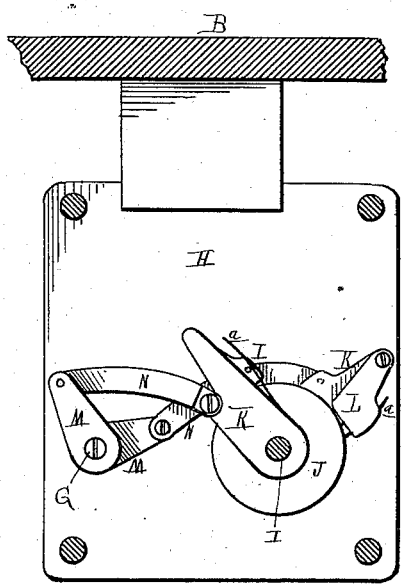
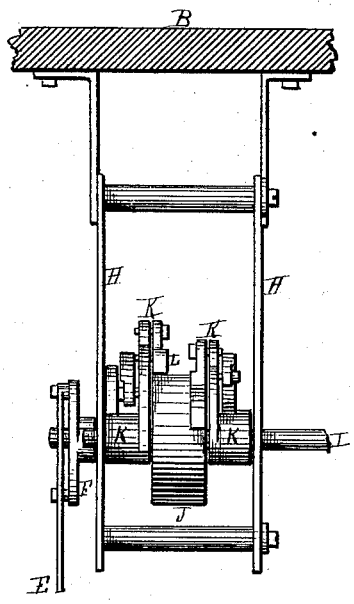


Fig. 5.



Attest.

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UNITED STATES PATENT OFFICE.

GEORGE F. LETZ AND ADOLPH T. DUEVER, OF CHICAGO, ILLINOIS; SAID LETZ ASSIGNOR TO SAID DUEVER, AND SAID DUEVER ASSIGNOR OF FIVE-NINTHS HIS RIGHT TO ELIZABETH M. LETZ, OF SAME PLACE.

IMPROVEMENT IN TREADLES.

Specification forming part of Letters Patent No. **163,322**, dated May 18, 1875; application filed October 19, 1874.

To all whom it may concern:

Be it known that we, GEORGE F. LETZ and ADOLPH T. DUEVER, of Chicago, in the county of Cook and State of Illinois, have invented an Improved Treadle-Motion for Sewing-Machines, of which the following is a specification:

The first part of our invention relates to the combination of a beam oscillated by two treadles and two friction-pawls, with the friction-wheel upon the driving-shaft of a sewing-machine, whereby the latter can be driven in but one direction, its movement rendered easy and noiseless, and the treadles be caused to balance each other. The second part of our invention relates to the peculiar manner of pivoting the treadles, to wit, at the heel, whereby the movement of the operator's limbs are rendered easy, natural, and less fatiguing than when the treadles are oscillated at any point between the toe and the heel.

Figure 1 is a side elevation of the treadle-motor. Fig. 2 is a rear elevation of the treadles. Fig. 3 is a plan of the same. Fig. 4 is a cross-section of the friction-gear at *x x* in Fig. 5, which is a front elevation of the same.

In the drawing, A represents the frame-standard of a sewing machine, supporting the table B. The pedals C C have each a sleeve under the heel, which sleeve is slipped over a shaft, *a*, which extends across the end of a low frame, D, which is secured to the rock-shaft heretofore carrying the pedals, and which frame extends toward the operator, allowing her to carry her limbs nearly or quite perpendicular, as is natural in sitting, and not extended forward, as heretofore. The pedals have each a pitman, E, pivoted to its toe end, the upper end of said pitman being pivoted to one end of a walking-beam, F, above, the other pitman being pivoted to the other end of said beam, which is mounted on the projecting end of a rock-shaft, G, journaled through a pair of metal frame-plates, H, pendent from the table. I is the driving-shaft of the machine, and is journaled through the frame-plates H, between which a friction-wheel, J, is keyed on it. On each side of said wheel a pawl-head, K, is sleeved on the shaft, and to its head a friction-pawl, L, is pivoted, so that its lower end rests upon the periphery of the wheel J, and is sloped off at a tangent, so as to jam upon the wheel when the head is thrown forward. The pawl is thrown in this direction (to jam) by a light leaf-spring, *a*, on the head, which presses a lateral stud on the pawl, as seen in Fig. 4. On the rock-shaft G two rocker-arms, M M, are keyed at a right angle with each other, each being connected by a link, N, with one of the pawl-heads, so that in the oscillation of the walking-beam by the pedals the pawls will alternately engage with the friction-wheel and rotate it continuously in one direction. Thus the machine can always be started and run in the right direction, as the pawls are inoperative in the other.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of the beam F, actuated by two treadles, the rock-shaft G, rocker-arms M M, links N N, pawl-heads K K, pawls L L, and springs *a*, with the friction-wheel J, to rotate the driving-shaft of a sewing-machine, substantially as described.

GEORGE F. LETZ.
ADOLPH T. DUEVER.

Witnesses:
WM. H. LOTZ,
HERMAN A. KROESCHELL.