

R. N. ALLEN.

Improvement in Treadles for Sewing-Machines.

No. 128,839.

Patented July 9, 1872.

Fig. 1.

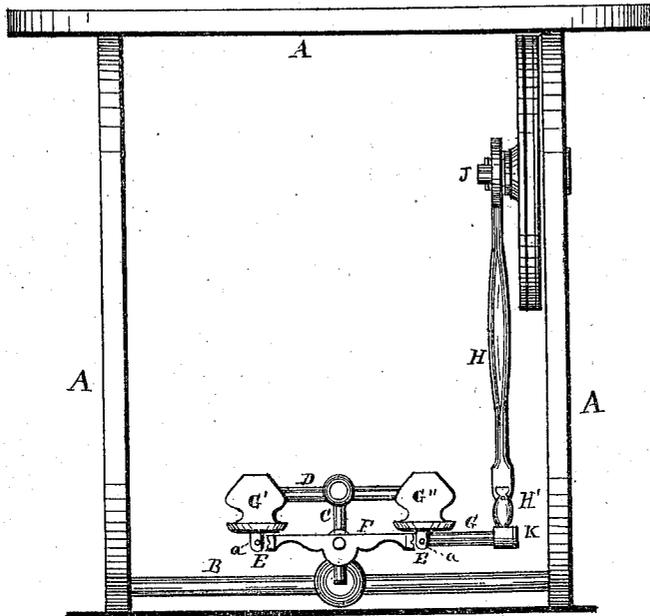


Fig. 2.

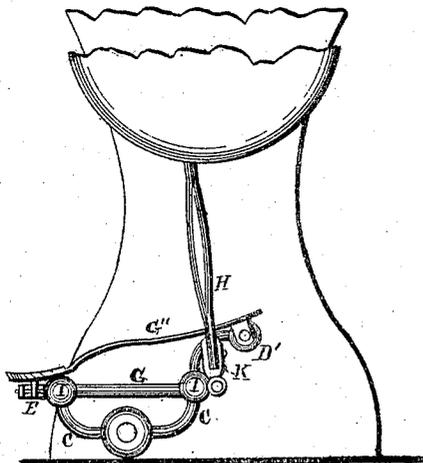
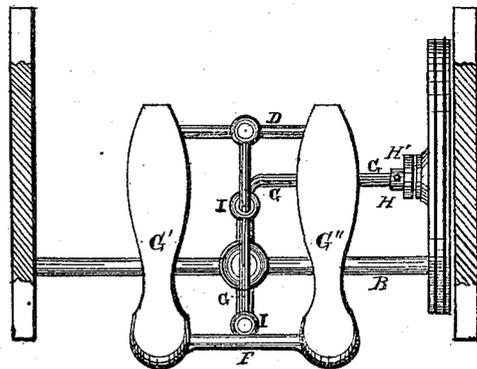


Fig. 3.



Witnesses.

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RICHARD N. ALLEN, OF PITTSFORD, VERMONT.

IMPROVEMENT IN TREADLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 128,839, dated July 9, 1872.

To all whom it may concern:

Be it known that I, RICHARD N. ALLEN, of Pittsford, in the county of Rutland and State of Vermont, have invented a certain new and Improved Sewing-Machine Treadle; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

SPECIFICATION.

The nature of this improvement in sewing-machine treadles relates to the arrangement of the foot-treadles with a rocking lever, whereby an equal leverage is secured to each treadle; and the rocking lever is so connected or jointed to the pitman that it moves with the least possible friction in relation to the wrist-pin and rocking lever.

Figure 1 is a front view. Fig. 2 is a side view. Fig. 3 is a top view.

Like letters of reference refer to like parts in the several views.

A general outline of the frame is indicated at A; and B is a cross-bar, to which is connected the brace or standard C. The rear end of this standard curves and extends upward, to the end of which is attached the cross-bar D, as seen in Fig. 1. To this cross-bar, at the ends, is pivoted or hinged the toe of each foot-treadle, as seen in Fig. 2 at D'. The heel-ends of the said treadle have a pivotal connection at E with foot-lever F, Figs. 1 and 2. This jointed connection of the heel and lever is so formed as to admit of a vertical movement of the heel without any lateral sway. From the heel of each treadle depends a leg, *a*, which is pivoted or jointed, respectively, to the ends of the foot-lever, as seen at E, Figs. 1 and 2, the advantage of which is that the foot will move easily up and down naturally, without any unnecessary swaying laterally to tire or fatigue the muscles of the lower limbs. The foot-lever F is fastened to one end of the right-angle lever G, and to the other end of lever G is jointed the pitman H, Figs. 2 and 3. The lever G has its bearings or supports at I I in the brace C, which forms the fulcrum

of the lever. Hence, as the resistance is at H', and power applied at each arm of the foot-lever by the treadles G' G'', the distance from G' to I is the same as from G'' to I, making the leverage or power of the treadles equal on each side of the fulcrum I, Fig. 2. It follows that, as the resistance is at H', and the fulcrum at I, and the length of both arms of the foot-lever being equal, that leverage at either G' or G'' is the same to the resistance at H'.

By this improved arrangement there is no more force or exertion required for one limb or foot than the other in operating a sewing-machine with this treadle. With double treadles now in use the leverage is unequal, requiring more labor for one limb than the other, causing a tiring of one set of muscles in one limb much more than in the other. There is an equilibrium in the action of the muscles by this improvement which causes the operator to work with more ease and facility than with the ordinary treadle referred to.

The upper end of the pitman at J is connected with the wrist-pin of the driving-wheel, and the lower end to the arm of the right-angle lever G by means of a pivotal attachment, which consists of the loop-strap K, Fig. 3. The lower end of said strap forms a loop or ring, into which is loosely fitted the end of lever G, as seen at L, and extending from the loop are two arms, M, between which is pivoted the pitman J.

By means of this mode of connecting the pitman to the loop-strap K, and the manner of jointing or hinging the loop of the said strap to the end of the lever, it follows so that the pitman will move in the plane of rotation of the driving-wheel without any lateral vibration or torsion to the pitman, which prevents undue friction and strain at the connection of the pitman with the wrist-pin, and the lower connection of the pitman with the lever G. The driving parts of the treadle being thus relieved from much of the strain and friction usually attendant upon this class of mechanism, cause the operators to work with less labor to the lower limbs, and with

more efficiency than with the ordinarily-arranged treadles.

Claim.

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

The right-angle lever G, foot-lever F, in combination with the pivoted treadles G' and G'',

and jointed connection K, arranged and operating conjointly, substantially as and for the purpose set forth.

RICHARD N. ALLEN.

Witnesses:

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