

R. N. ALLEN.

Improvement in Sewing Machine Treadles.

No. 119,686.

Patented Oct. 10, 1871.

Fig 1

Fig 2.

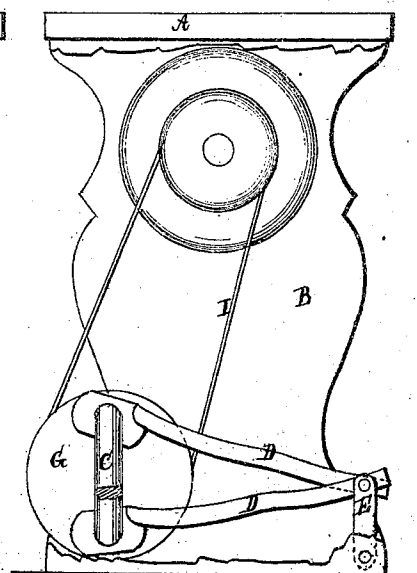
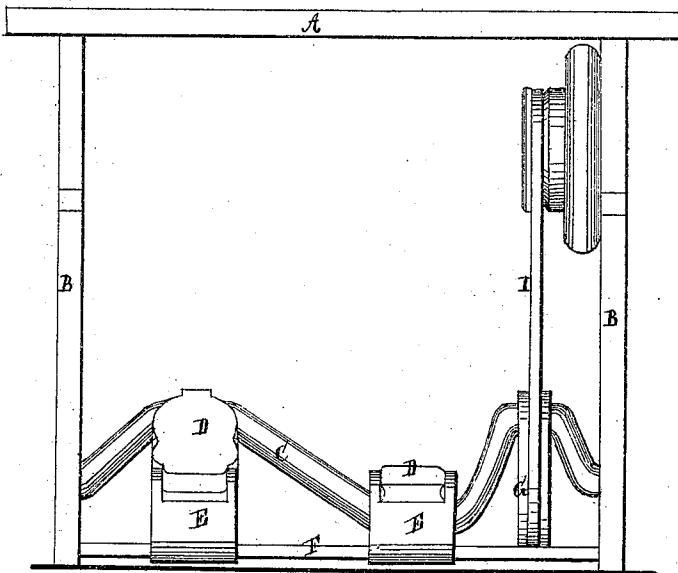
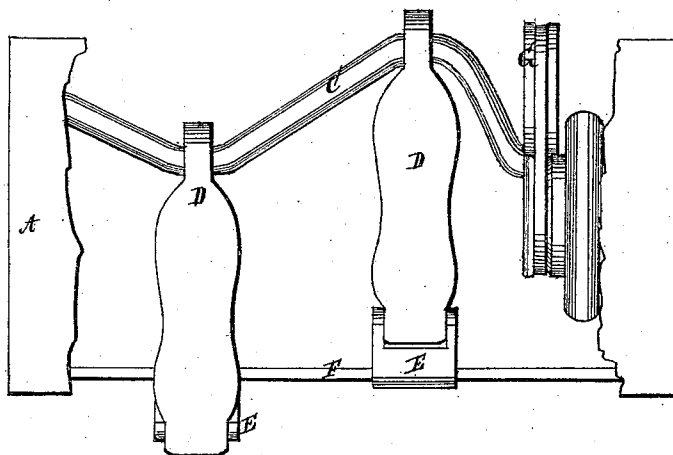


Fig 3.



Witnesses.

J. H. Burridge.
D. L. Humphrey

1 in.
Scale.

Inventor.

R. N. Allen.
per Burridge & Co.
Attys Cleveland.
Ohio.

UNITED STATES PATENT OFFICE.

RICHARD N. ALLEN, OF PITTSFORD, VERMONT.

IMPROVEMENT IN SEWING-MACHINE TREADLES.

Specification forming part of Letters Patent No. 119,686, dated October 10, 1871.

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 this specification.

Figure 1 is a front view of the treadles. Fig. 2 is a side view. Fig. 3 is a plan view.

Like letters of reference denote like parts in the different views.

The nature of this invention relates to a treadle for sewing-machines; and the object thereof is to provide an alternating treadle movement of the feet, and at the same time is given to them a swinging or vibratory action, by which is secured to the operator a more natural and less tiresome movement of the limbs in working the machine.

The construction and operation of the same is as follows: In the drawing, Fig. 1, A shows the top of the frame on which the sewing-machine is secured, and B the legs supporting the same. C is a compound crank-shaft having its bearings in the sides of the stand. Said cranks are so arranged in relation to each other that their action is alternating. D are sandals or foot-rests; the toes thereof are connected to the cranks; whereas the heels are pivoted in the upper end of the vibrating-links E; whereas the lower ends of said links are attached loosely to the shaft F, Fig. 3, thereby allowing them to vibrate in conjunction with the movement of the cranks. G is a band-wheel having its shaftal bearing in the side of the frame, its axial line being the axial line of the cranks.

It will be observed that one arm of the crank is secured in the rim of the band-wheel, and which is thereby turned, and from thence motion is carried, by the band I, to the wheel J, and from thence to the machine.

The practical operation of the above-described treadles is as follows: The operator, on placing his feet upon the sandals D, presses down thereon

and, at the same time, pushes forward the foot. This joint action or movement turns the crank and rotates the band-wheel G. The movement of the limbs thus applied to work the treadles is analogous to the act of walking, and which is therefore less fatiguing to the operator than that applied to work the ordinary treadle having only a vertical vibratory movement. In this treadle there is exercised a transverse swinging movement of the limbs, and, at the same time, a vertical vibratory action, and alternating in respect to the movement of the foot. The power is applied directly to the wheel, there being no pitman or links or other device introduced between the power and the band-wheel; hence there is no loss of power by frictional resistance induced by an involution of parts.

One crank and treadle may be used singly instead of two without changing the nature of the movements of the treadle, and the cranks may be arranged at right angles in respect to each other.

In order to regulate the speed of the machine cone-pulleys can be used instead of the grooved ones shown in the drawing and described.

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

1. The foot-rests or sandals D, having the heels thereof hinged to the vibratory links E, and the toes of the sandals connected to cranks C for operating the same, in the manner substantially as described, and for the purpose set forth.

2. The foot-rests or sandals D so arranged, in combination with the vibratory links E and cranks C, that said sandals shall have a transverse swinging motion, and, at the same time, a vertical vibratory or treadle movement, as and for the purpose specified.

3. The combination of the sandals D, vibratory links E, cranks C, and band-wheel G, substantially in the manner as and for the purpose set forth.

RICHARD N. ALLEN.

Witnesses:

W. H. BURRIDGE,
J. H. BURRIDGE.

(63)