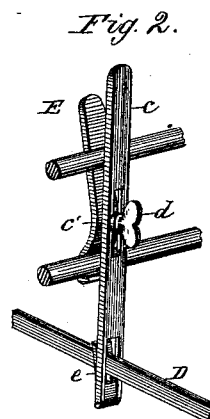
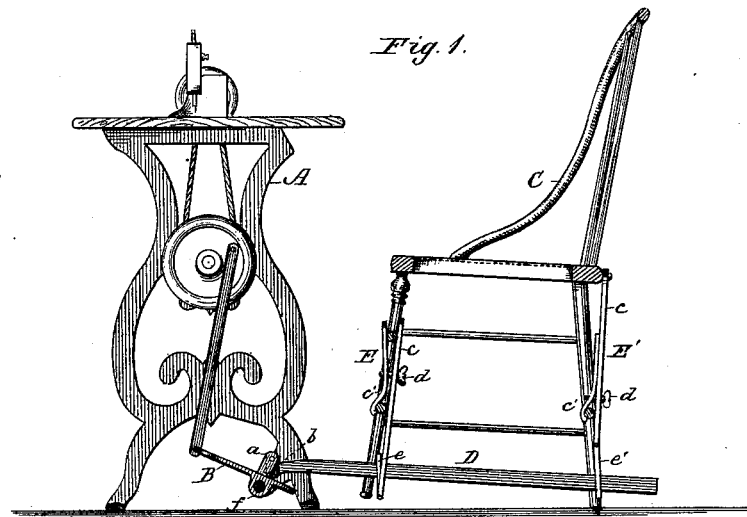


J. B. UNDERWOOD.
Attachment for Assisting in the Operation of a
Sewing-Machine Treadle.

No. 213,713.

Patented Mar. 25, 1879.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH B. UNDERWOOD, OF FAYETTEVILLE, NORTH CAROLINA.

IMPROVEMENT IN ATTACHMENTS FOR ASSISTING IN THE OPERATION OF A SEWING-MACHINE TREADLE.

Specification forming part of Letters Patent No. **213,713**, dated March 25, 1879; application filed February 7, 1879.

To all whom it may concern:

Be it known that I, JOSEPH B. UNDERWOOD, of Fayetteville, in the county of Cumberland and State of North Carolina, have invented a new and Improved Attachment for Assisting in the Operation of a Sewing-Machine Treadle; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view of a chair and sewing-machine, showing the application of the device for connecting the two. Fig. 2 is a detail perspective view of the devices for clamping the chair.

My invention relates to an attachment for a sewing-machine treadle, arranged to connect with the chair in which the operator is seated in such a manner that the chair shall be partly sustained upon said attachment, and the weight of the body in being shifted from one point to another of the chair by the movement of the feet shall co-operate with the treadle to assist in driving the machine.

To this end the specific device consists in a bar swung beneath the chair from detachable clamps, and connected at its forward end with the treadle at such an elevation as to slightly raise the front legs of the chair, as hereinafter more fully described.

In the drawings, A represents a sewing-machine, which is driven by the usual treadle B, and C is a chair of any ordinary form. In the center of this treadle, between the two foot-rests, I erect two short standards, *a*, between which is pivoted at the top a link, *b*.

D is a stiff bar, arranged beneath the chair, and extending forward to the treadle, at which point it is pivoted to the lower end of the swinging link *b*. Said bar is connected to the chair by detachable clamps E E', which are formed of metal bars *c* and curved clamping-pieces *c'*, which are drawn together by a set-screw, *d*, passing through a slot in the bar *c*, so as to tightly clamp the rounds of the chair.

In the lower end of the forward clamp, E, is pivoted, at the bottom, a swinging and slotted arm, *e*, through which the bar D passes, and from the rear clamp, E', there depends a second pivoted and slotted arm, *e'*, which carries the rear end of the bar D.

In adjusting the attachment to the chair, the forward clamp is affixed to the chair sufficiently low as to throw the front legs of the chair off the floor and cause the front part of the chair to be sustained upon the bar D, so that the movement of the treadle causes the chair to rock slightly on its hind legs. Now, the chair being in the position shown, when the operator presses upon the toe of the treadle to depress the same, the short link *b* passes to the front side of the treadle-pivot *f*, and in this position, just before the treadle-toe has ceased to descend, the weight of the body on the chair serves to continue the depression of the treadle over the balance of the arc, which is the portion of the stroke that is most wearing and straining upon the muscles. Then, as the heel portion of the treadle is depressed, the short link passes to the opposite side of the treadle-pivot, and the weight of the body serves to continue the depression of the heel of the treadle.

The weight of the body, it will thus be seen, serves to operate the treadle for the last portion of both toe and heel movements, and as this is the portion of the movement which is most wearing and straining upon the muscles, the benefits of the attachment are easily seen.

This invention is applicable to all machines which are operated by a treadle, and it involves no alteration or injury to either the chair or treadle, but may be used in connection with any of the ordinary forms.

Having thus described my invention, what I claim as new is—

1. The bar D, fastened to the treadle, and connected to the chair by detachable clamps, substantially as and for the purpose described.
2. The combination, with a treadle and a chair, of a bar arranged to support the front

part of the chair in a raised position, and connected to the treadle at its forward end and to a support at its rear end, substantially as described.

3. The treadle having standards *a*, a link pivoted to said standard, and a horizontally-projecting bar pivoted to the link at one end, and adapted to utilize the weight of the operator, substantially as described.

4. The combination, with the clamps E E', having swinging and slotted arms *e e'*, of the bar D, the short link *b*, and standards *a*, substantially as and for the purpose described.

JOSEPH B. UNDERWOOD.

Witnesses:

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