H. G. Davis.

Sewing Mach. Treadle.

No. 87,702. Patented Mar. 16, 1869.

Fig. 2.

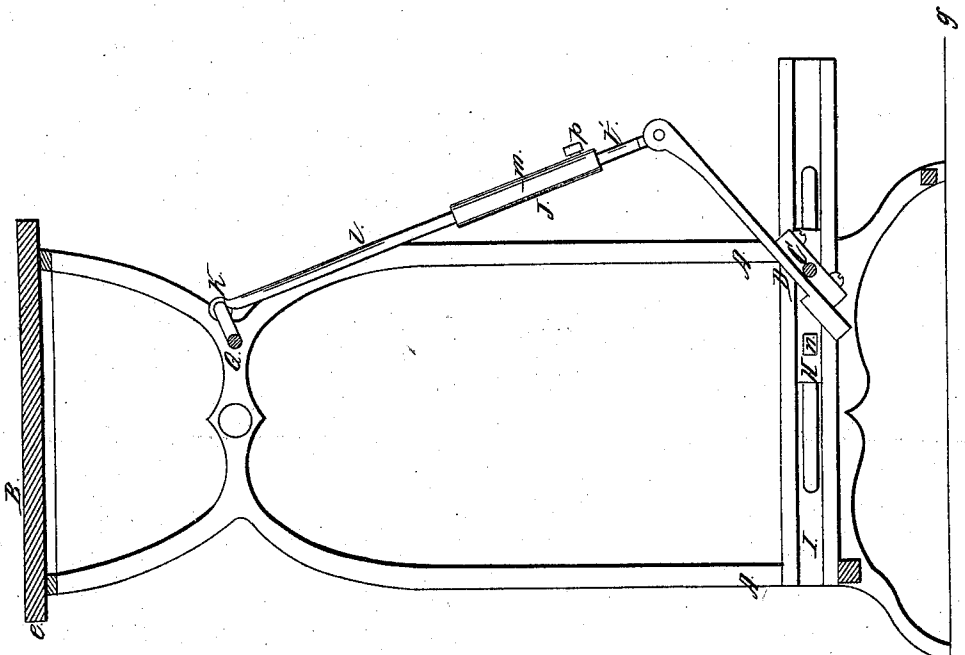
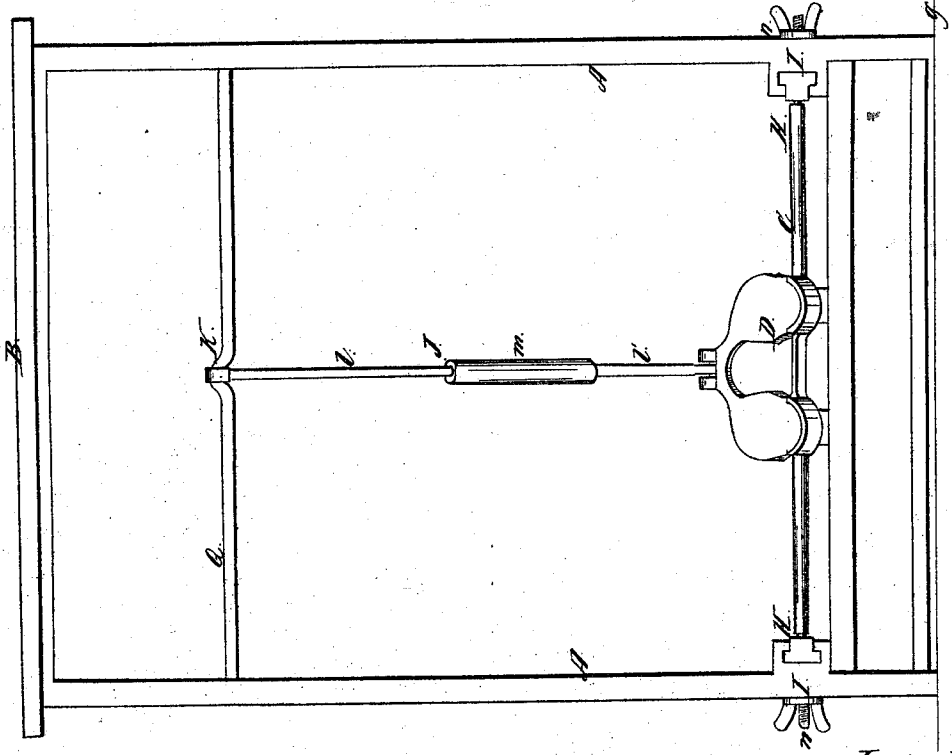


Fig. 1.



Witnesses.
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Inventor.
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by his attorney
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United States Patent Office.

HENRY GASSETT DAVIS, OF NEW YORK, N. Y.

Letters Patent No. 87,762, *dated March* 16, 1869.

IMPROVED TREADLE FOR SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY GASSETT DAVIS, of the city, county, and State of New York, have invented certain new and useful Improvements in Treadle-Motions for Sewing-Machines, and for other purposes to which they may be applicable; and I declare that the following is a full, clear, and exact description of my invention.

The treadle-motions of sewing-machines, as constructed previous to my invention, have the treadles for the feet horizontal, or thereabouts, when in their mean positions, and arranged so close to the front of the table at which the operator sits, that the legs of the operator are bent at a right angle, or thereabouts, at the knees, and from the knees downward are nearly in vertical positions. By reason of this construction and arrangement of the treadle-motion, and the positions of the legs of the operator necessarily incident thereto, the muscles which operate the thighs, and extend into the lower part of the body, are put in motion and exercised whenever the operator moves the treadles; and as the movement of these muscles, when the operator is sitting, affects the genital and uterine organs, the work of sewing with such treadle-motions is highly deleterious to a majority of females, and is a constant source of the diseases of the womb and its adjacent organs, with which many females are afflicted. In fact, the deleterious effects of operating the present treadle-motions of sewing-machines are so well understood by physicians, that many have prohibited their female patients from working upon sewing-machines.

The object of my invention is to improve the treadle-motion in such manner that it can be operated without requiring the movement of the muscles of the lower part of the body, and consequently without risk of producing disease from such movement. To this end,

The first part of my invention consists in so arranging and combining the treadles with the table of the treadle-motion, that while the front of the table occupies the same position as heretofore to the operator seated at it, the treadles can be operated with the legs extended at full length, or thereabouts, from the body to the feet, instead of bent at a right angle, or thereabouts, at the knees.

The object of the second part of my invention is to adapt the same treadle-motion to persons of different length of limb; and it consists of the combination of the rock-shaft of the treadles with the table of the treadle-motion, by means of slides, or their equivalents, which permit the rock-shaft to be set nearer to or further from the front of the table.

In order that my invention may be fully understood, I have represented, in the accompanying drawing, views of an improved treadle-motion, constructed according to my invention,

Figure 1 representing a front view of the machine, and

Figure 2 representing a vertical transverse section of it.

The legs, A A A A, and table-top, B, of the said treadle-motion, are of the usual height and dimensions.

The rock-shaft, C, of the treadles D, is, however, set at a distance from the front, *e*, of the table, the distance being sufficient to enable a person sitting at the table to extend the legs as nearly in straight lines from the body as is convenient.

Moreover, the treadles D, instead of being horizontal, or nearly so, are set at an angle with the plane, *g g*, of the bottoms of the table-legs A, so that the faces of these treadles are perpendicular, or thereabouts, to the legs of the operator, when extended, and at a convenient inclination to receive pressure from the feet.

By reason of this arrangement of the treadles, the operator can sit at the table and operate the treadles, with the legs extended at full length, and, in consequence of this position of the legs, can operate the treadles without exercising the muscles of the lower part of the body.

The precise horizontal distance which should intervene between the heel of the treadle and the vertical line drawn at the front edge of the table, will of course be different for operators of different sizes, in order to obtain the full benefit of my invention; but I have found that, whereas the said distance in ordinary treadle-motions varies from one to three inches at the furthest, my invention requires that the said distance should be at least ten inches, and still greater for persons of medium and large sizes.

In order that the same machine may be used to the best advantage by persons of different length of limb, the treadle-shaft C is supported in slides H, which are arranged to slide in guides I, toward or from the front of the table.

Moreover, the connecting-rod J, between the treadles and the crank K, is made of two parts, *l l'*, connected by a slide-box, *m*, so that the treadles can be set at the angle best suited to the length of limb of the operator.

The slides are fitted with clamp-screws, *n*, and nuts, by means of which they can be made fast in any position in which they may be placed, and the treadle-shaft and treadles may be thereby fixed in their positions.

The slide-box *m*, also, is fitted with a pinch-screw, *p*, to secure the parts of the connecting-rod in the positions in which they may be adjusted.

In the treadle-motion which I have represented in the drawings, the crank-shaft, Q, is placed in the position, relatively to the front of the table, in which it is generally found in these machines, but the position of the crank-shaft may be changed, without changing my invention, so long as the position of the treadles, relatively to the front of the table, remains substantially the same; or, in other words, so long as the

arrangement of the treadles to the table is such that the operator can operate the treadles with the legs extended, or thereabouts.

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

The combination and arrangement of the treadle and treadle-shaft with the table of the treadle-motion, so that the operator may operate the treadle with the legs extended, substantially as before set forth.

Also, the combination of the treadle-shaft with the table, by means of slides, so that the position of the treadle may be varied, substantially as before set forth.

In testimony whereof, I have hereto subscribed my name, this 14th day of January, A. D. 1869.

HENRY G. DAVIS.

Witnesses:

E. S. RENWICK,

W. L. BENNEM.