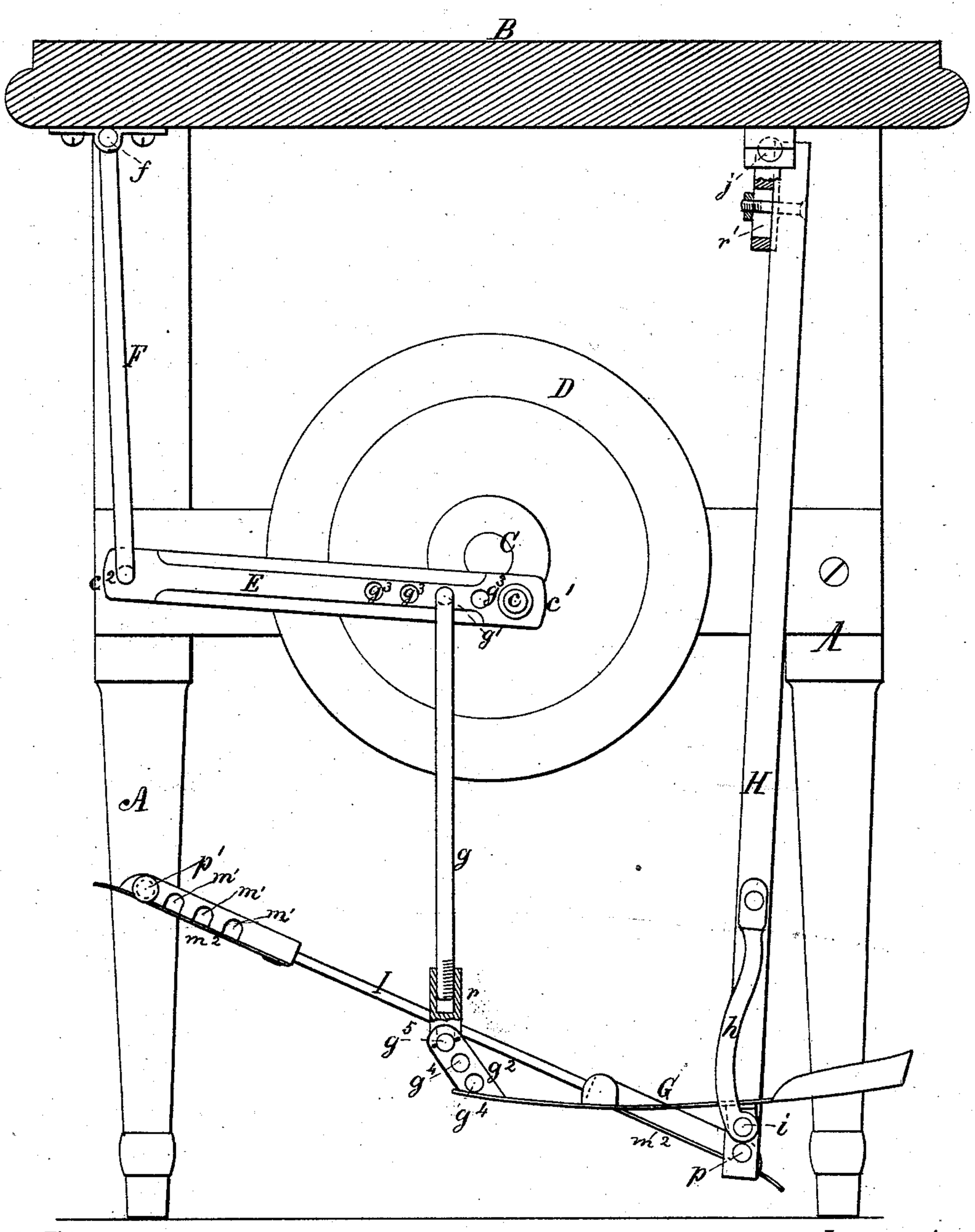
(No Model.)

G. W. ZEIGLER.

Mechanism for Operating Sewing Machines.

No. 232,623. **Patented Sept. 28, 1880.**

Fig 1.



Witnesses:

E. T. Fenwick.

R. S. Fenwick

Fig 2.

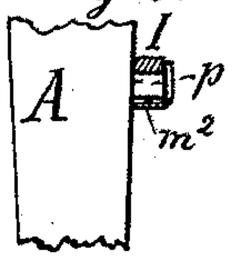
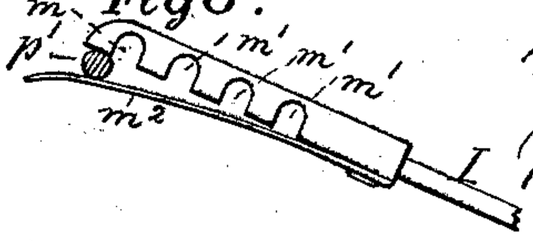


Fig 3.



Inventor:

George W. Zeigler

by Mason Fenwick & Lawrence his Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE W. ZEIGLER, OF TECUMSEH, MICHIGAN.

MECHANISM FOR OPERATING SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 232,623, dated September 28, 1880.

Application filed August 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ZEIGLER, a citizen of the United States, residing at Tecumseh, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Mechanism for Operating Sewing-Machines, of which the following is a specification.

This invention relates to treadle movements of sewing-machines; and the objects of the improvements are, first, to provide the vertically-oscillating foot-piece with an adjusting latching-bar and with a pendent hinged supporting-bar, whereby said foot-piece can be set nearer to or farther from the operator's seat, said latching-bar also serving as a stay or brace to the hinged bar; second, to provide the oscillating foot-piece with a lug on its toe end and with adjusting-holes in said lug, whereby the foot-piece can be set with a greater or less inclination with respect to the floor, and the foot-piece thus be adjusted to the requirements of the operator; and, third, to provide a pitman hung by its outer end upon a swinging bar and connected by its inner end to a pitman-rod of the foot-piece, said pitman being provided with a series of adjusting-holes, whereby the pitman-rod can be set at a greater or less distance from the crank-pin of the driving-shaft of the sewing-machine, and thus a greater or less amount of leverage be afforded to the operator, accordingly as her strength and age may demand. These objects I attain by the mechanism represented in the accompanying drawings, in which—

Figure 1 is a vertical section of a frame and table of a sewing-machine treadle-movement, showing the treadle mechanism and the driving-shaft in elevation. Figs. 2 and 3 are detail views of the latching-bar and pins upon which it latches.

The frame A and table B may be of any suitable construction adapted for supporting the driving-shaft C of a sewing-machine, and also the mechanism for revolving said shaft.

On the driving-shaft C is mounted a balance-wheel, D, having a crank or wrist pin, *c*. If desired, a crank-arm instead of a balance-wheel may be used, and the same be formed as part of, or attached directly to, the shaft C.

To the wrist-pin a pitman, E, is loosely connected by its inner end, *c'*. The outer end, c^2, of the said pitman is connected loosely to a pendent swinging bar, F, said bar being loosely connected to the under side of the table B, as indicated at *f*. The pitman E is also connected to the foot-piece G of the treadle-movement by a pitman-rod, *g*, said rod being connected loosely at *g'* to the pitman E, and to a lug or bracket, g^2, on the toe end of the foot-piece G, as shown at g^5.

In order to provide for setting the connection *g'* some distance from the wrist-pin, a series of holes, g^3, are provided in the pitman E, and by means of these holes a greater or less length of leverage may be afforded by the pitman E to the operator for revolving the shaft C. In the lug or bracket g^2 a series of holes, g^4, are provided, and by means of these holes the pitman-rod may be adjusted so as to give a greater or less inclination of the foot-piece to the floor upon which the machine is resting, and thereby suited to the requirements of the operator.

The foot-piece G is pivoted in rear of the center of its length to a tubular hinged bar, H, and to a bracket, *h*, of said bar, as shown at *i*, and said foot-piece oscillates or rocks on the pivot *i* in an up-and-down direction. The bar H is pivoted at its upper end to the under side of the table B, as shown at *j*, in order that it may be swung in or outward on the pivot *j*, for the purpose of adjusting the foot-piece nearer to or farther from the seat of the person who operates the machine, and thus suit the position of the foot to the size of such operator. The bar H is provided with a latching-pin, *p*, just beneath the pivot *i*, and a similar latching-pin, *p'*, is provided on the frame A of the machine. Upon the two pins *p* and *p'* a latching bar or rod, I, is latched. A series of notches, *m'*, are provided on one end of this rod and a single notch on the other end. The notched ends of the latching-rod are respectively provided with a spring latching-plate, m^2, and by pressing this spring-plate away from the bar, as illustrated in Fig. 3, the bar can be latched upon one or the other of the pins *p p'*, in the manner shown in Figs. 1 and 2 of the drawings. The plurality of the notches *m'* admit of the bar H having its lower end moved farther from or nearer to the op-

erator's seat, and as the treadle foot-piece G is attached to the bar H, said piece G will be moved inward or outward according as the latching-bar adjusts the bar H. When the bar I is latched upon the pins *p* and *p'* the bar H is braced and prevented from swinging on its pivot *j*.

It will be understood from the foregoing description that the treadle foot-piece G simply oscillates up and down, and that the pitman E, while affording the means for increasing the leverage for assisting the operator in turning the driving-shaft C, accommodates itself, through the swinging bar F, to the movements of the wrist-pin during the revolutions of the shaft.

The foot-piece G and the hinged bar H can be raised or lowered together by shortening or lengthening the pitman-rod *g* and sliding the bar H on its hinging-bracket. The pitman-rod is adjusted by means of a screw-thread formed on it and screwing into a socket, as shown at *r*, and the bar H is adjusted by means of a set-screw and nut, which screw passes through a slot in the hinging-plate, as indicated at *r'*. By these adjustments the foot-piece can be adapted still further to the requirements of the operator after the proper inclination has been secured.

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

1. The combination, with the frame A, having pin *p'*, of the adjusting latching bar or rod I, having notches *m'*, hinged bar H, and the foot-piece G, substantially as and for the purpose described.

2. The combination of the foot-piece G, provided with lug g^2, having adjusting-holes g^4, pitman-rod *g*, bar H, latching-bar I, pitman E, swinging bar F, and shaft C, provided with wheel D, having wrist-pin *c*, substantially as described.

3. The combination of foot-piece G, pitman-rod *g*, bar H, latching-bar I, pitman E, swinging bar F, and shaft C, provided with wheel D, having a wrist or crank pin, *c*, substantially as described.

4. The combination of the foot-piece G, pitman-rod *g*, bar H, latching-bar I, pitman E, having adjusting-holes g^3, swinging bar F, and shaft C, provided with wheel D, having wrist-pin *c*, substantially as described.

5. The combination of the foot-piece G, provided with the screw-socket *r*, pitman-rod *g*, provided with a screw-thread on its lower end, bar H, latching-bar I, pitman E, swinging bar F, and shaft C, provided with wheel D, having a crank-pin, *c*.

GEORGE W. ZEIGLER.

Witnesses:
ROBT. L. FENWICK,
E. T. FENWICK.