E. L. Howard,

Treadle.

No. 110,569. Patented Dec. 27, 1870.

Fig. 1.

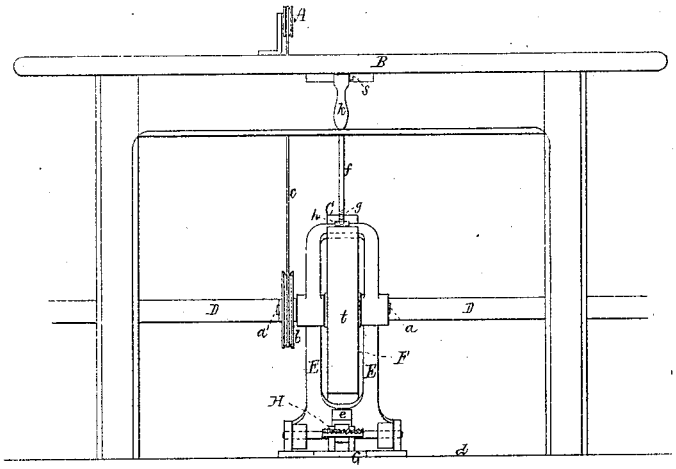
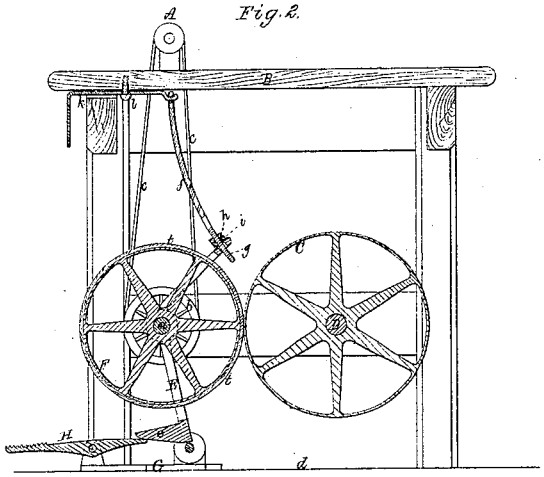


Fig. 2.



Witnesses.

S. N. Piper

L. N. Möller

E. L. Howard.

by his attorney

R. H. Eddy

UNITED STATES PATENT OFFICE.

ELIJAH LEAVITT HOWARD, OF MALDEN, ASSIGNOR TO GEORGE AUGUSTUS WHITING, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN MECHANISMS FOR OPERATING SEWING-MACHINES.

Specification forming part of Letters Patent No. **110,569**, dated December 27, 1870.

To all persons to whom these presents may come:

Be it known that I, ELIJAH LEAVITT HOWARD, of Malden, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Mechanism for Operating a Sewing-Machine; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 denotes a front elevation, and Fig. 2 a transverse section, of a sewing-machine table or bench as provided with my invention.

In such drawing, A is to be supposed to represent the driving-pulley of a sewing-machine, and B the table or bench of such machine. C exhibits a wheel carried by a driving-shaft, D.

Where several machines are fixed on a bench or table, and put in operation by a driving-shaft carrying a number of pulleys or wheels corresponding to the number of machines, each machine having its separate driving-belt or band running around one of the shaft-wheels, it often becomes desirable to stop one or more of the machines and continue the rest in operation. Under these circumstances it will be seen that all the driving-belts must continue in operation, or the shafts must be revolved in the driving-pulleys of such belts, thereby creating friction and wear, and, generally speaking, more or less objectionable noise, which it is very desirable to avoid if possible.

My mechanism for effecting the rotary motion of a sewing or other machine driving-wheel is so entirely independent of the wheel by which it is put in operation that when out of contact or engagement therewith such mechanism will be entirely at rest, and the wheel may revolve without noise or friction.

In carrying out my invention, I arrange within and pivot to a lever or frame, E, a wheel, F, having its periphery covered with a tire, *t*, of leather, india-rubber, or other suitable soft and yielding material, to work against the periphery of the driving-wheel C. The said wheel F is to be disposed in front of the wheel C, and to have upon its shaft *a*, at one end, a grooved wheel or pulley, *b*, around which and the sewing-machine driving-pulley A an endless band, *c*, is to work.

The rocker-frame or open lever E, I pivot to the floor *d*, or to a stand or frame, G, fixed to such floor. Sometimes I prefer to pivot the lever E to the bench or table, or to a frame fixed thereto. From the lever E an arm, *e*, is extended (in manner as shown) over the end of a pedal or foot-lever, H, pivoted to the floor or to the frame G, as represented.

It will be perceived that the lever or frame E is so inclined as to enable its weight and that of the shaft *a* and the wheels *b* F to suffice to cause the wheel F to fall back out of contact with the wheel C when free to do so.

A rod, *f*, extended down through the upper arm or part of the lever E, has a screw, *g*, to receive two nuts, *h i*, arranged directly over the lever. The said rod *f*, at its upper end, is pivoted to one end of a horizontal lever, *k*, pivoted to the table and arranged as represented, the fulcrum or pivot of the lever *k* being shown at *l*. The said rod *f* and lever *k* are in effect toggles to throw the wheel F into contact and keep it in engagement with the wheel C, the two nuts and the screw of the rod enabling this to be accomplished with the necessary degree of power, as circumstances from time to time may require, for causing the wheel F to be put and kept in revolution by the said wheel C.

With my invention an attendant of the sewing-machine can, with his or her foot, by means of the pedal, and while hold of the work with both hands, put the machine into action or cause it to stop; or the attendant, by turning the toggle-lever *k*, can move the lever E so as to force the wheel F into contact with the wheel C, and keep them so, so long as the lever *k* may be against a stop, *s*, properly arranged to arrest the movement of the lever when the axles of the toggles may be in one plane.

If desirable, a spring may be employed to aid in moving back the lever E and the wheels supported by it.

I claim as my invention the following, viz:

1. The combination and arrangement of the lever or rocking-frame E, the shaft *a*, the

wheels F *b*, the arm *e*, and pedal H, all being arranged or to be arranged with a driving-wheel, C, as set forth.

2. The combination and arrangement of the lever *k*, the rod *f*, and its screw *g* and nuts *h i*, with the frame or lever E, the shaft *a*, and the wheels F *b*, all being arranged or to be arranged with a driving-wheel, C, as explained.

3. The combination and arrangement of the pedal H and toggles *k f*, as set forth, with the frame or lever E, and its shaft *a* and wheels F *b*, arranged as described.

4. The combination and arrangement of the rocker-frame or lever E, and its shaft *a* and wheels F *b*, with the band *c* and pulley A, the driving-wheel C, and the pedal H, or the toggles *k f*, or both pedal and toggles, all being to operate as described.

E. L. HOWARD.

Witnesses:
R. H. EDDY,
J. R. SNOW.