(No Model.)

S. ROSS, Jr.

TREADLE MECHANISM FOR OPERATING SEWING AND OTHER MACHINES.

No. 264,418. Patented Sept. 12, 1882.

Fig. 1.

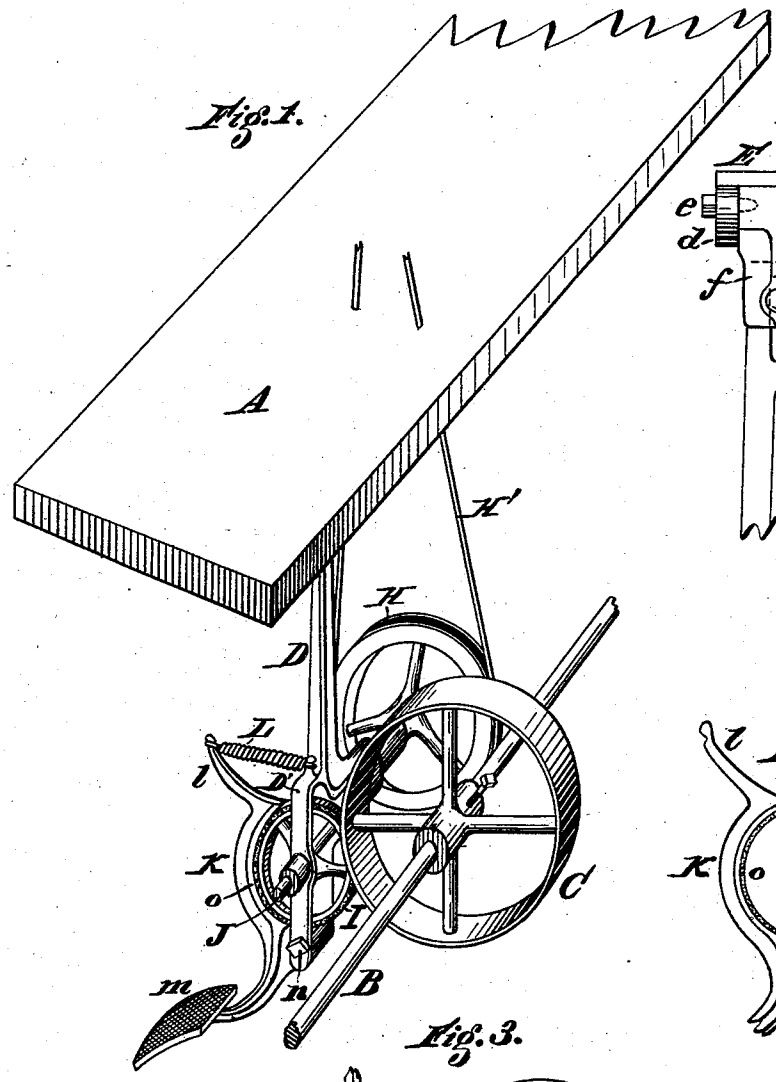


Fig. 2.

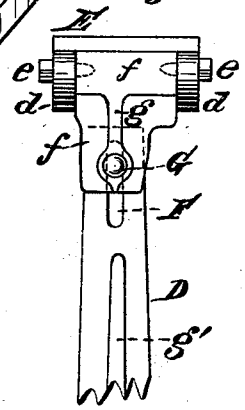
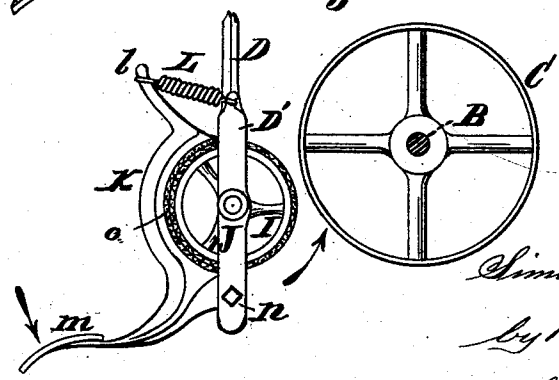


Fig. 4.

Fig. 3.



Attest
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UNITED STATES PATENT OFFICE.

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TREADLE MECHANISM FOR OPERATING SEWING AND OTHER MACHINES.

SPECIFICATION forming part of Letters Patent No. 264,418, dated September 12, 1882.

Application filed March 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, SIMON ROSS, Jr., a citizen of the United States, and a resident of Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Treadle Mechanisms for Operating Sewing and other Machines, of which the following is a specification.

My invention relates to an improved friction-pulley device for driving sewing and other similar machines.

It consists in providing a pendulous frame hinged to the table of the machine, on which frame are mounted the foot-pedal, operating-brake, friction-wheel, and driving-pulley, and adapted to be adjusted by the foot to quickly release the brake and bring the friction-pulley into contact to set the machine in operation.

Another feature of my invention consists in the manner of combining parts mounted on the swinging frame, so that when the foot of the operator is removed the action of the machine is instantaneously stopped by the automatic action of the parts.

The object of my invention is to provide a cheap and durable attachment, which is suspended under the table and free from connection with the floor or other frame-work of the machine; also, to obtain a better means of graduating the speed of the driven parts of the machine, and to effect an instantaneous stopping of the machine by simply removing the foot of the operator.

Other features of my invention will be fully set forth in the description of the accompanying drawings, in which—

Figure 1 represents my improvement attached to the table of a sewing-machine. Fig. 2 represents the mode of attaching the foot-bracket to the table. Fig. 3 shows the relation of the parts when the machine is not in operation and with the brake on. Fig. 4 shows my combined pedal and brake.

A represents the table of an ordinary sewing or other similar machine, on which the operative parts are mounted.

B represents a main shaft, and C the driving-pulley, which is mounted in the manner usual with main shafts for driving a series of machines.

The feet or legs of table A are omitted, so as to better show the operation of the pendulous foot-pedal.

D represents a swinging bracket or frame hinged to the table A, preferably as follows.

E represents a bracket securely attached to the under side of table A. *d d* are ears through which pass centers *e*, which form the axis of the arm *f*.

F represents a slot pierced in arm *f*. D and *f* together form the swinging hangers or frame. They are secured together by means of screw-bolt G, passing through the arm D and slot F in arm *f*.

g represents a rib for strengthening the arm *f*. A similar rib, *g'*, may be made on arm D.

The slot F is provided, so as to allow of the vertical adjustment of the frame D. Other equivalent means of adjustment may be provided.

The swinging arm D is forked at its lower end, D' representing one of the limbs of said fork.

I represents a friction-wheel hung between the forks D' of the arm D, and attached to a shaft, J, journaled to said limbs D', as shown in Fig. 1.

H represents a grooved band-wheel, keyed on the same shaft as friction-wheel I.

K represents a combined brake and foot-pedal. It is pivoted on axial bolt *n*.

m represents a foot-pedal.

The parts *l*, K, and *m* are preferably made of one piece of metal; but they may be made of separate pieces and bolted together. The friction-wheel I is preferably covered with leather or other suitable material to prevent noise and make the proper frictional contact of pulleys I and C.

L represents a spring, one end of which is attached to the swinging arm D and the other to an extended arm, *l*, on the brake-lever K. The tension of this spring must be such as to hold the brake K firmly against the friction-pulley I when pedal *m'* is in its normal position. The swinging hanger D is heavy, so that when plumb a small space is left between the faces of the friction-wheel I and pulley C, as shown in Fig. 3. As soon as the operator places his foot on pedal *m* the hanger D and its con-

tained parts move back till the faces of friction-wheel I and pulley C are in contact, and by this frictional contact motion is imparted to the friction-wheel I and drive-pulley H by the transmitter C. The applying of pressure on pedal *m* causes the pedal-brake K to turn on its axis *n*, and the concave portion *o* is carried out of contact with friction-wheel I, increasing the tension of spring L, the recoil of which, when the foot is removed from pedal *m*, instantly sets the brake K and stops the motion of friction-wheel I and drive-pulley H.

It will be seen that the action of the friction and brake mechanism is simple and effective. The arrangement of the brake and foot-lever *m* on the swinging arm D, allows a wide range of graduating the motion by the frictional contact of the friction-wheel I and pulley C, and hence securing complete control of the speed which drives the belt H′. This is a very important result, especially in driving sewing-machines for manufacturing both light and heavy work.

What I claim is—

1. The pendulous frame pivotally connected at its upper end with the table, combined with the friction-wheel, driving-pulley, and foot-pedal and brake, all carried by and swinging with the pendulous frame, substantially as described.

2. The combination, substantially as described, of the pendulous frame pivotally connected at its end with the table, the friction-wheel, and driving-pulley arranged on a shaft carried by said frame, the combined foot-pedal and brake pivoted to the lower end of the pendulous frame, and a spring connecting the latter with the brake, as set forth.

3. The combination, with the pendulous frame pivoted at its upper end, and the friction-wheel carried thereby, of the combined foot-pedal and brake pivoted to the lower end of said frame and swinging therewith, substantially as described.

4. The pendulous frame connected at its upper end with the table, and upon the lower end of which is mounted the friction driving-pulley, the belt-wheel, and the foot-pedal, all carried by and swinging with the pendulous frame, substantially as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SIMON ROSS, JR.

Witnesses:
E. E. WOOD,
J. H. CHARLES SMITH.