A. W. Harris,

Treadle.

No. 110,034. Patented Dec. 13. 1870.

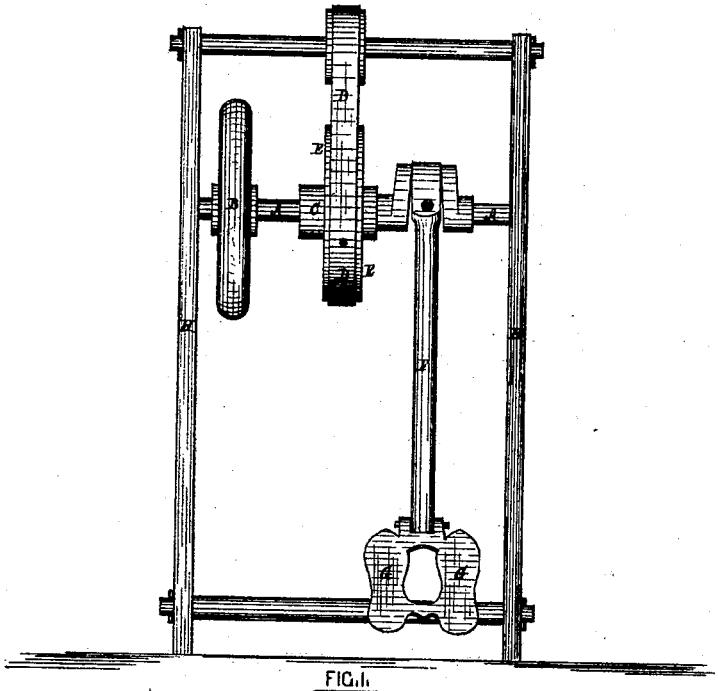

FIG. 1.

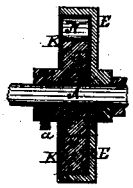

FIG. 5.

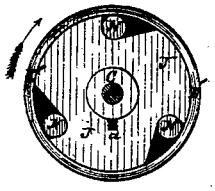

FIG. 3.

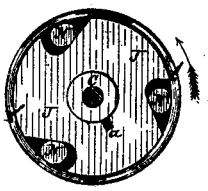

FIG. 4.

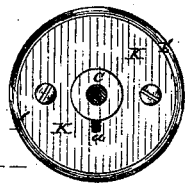

FIG. 2.

WITNESSES.

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ABRAHAM W. HARRIS, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 110,034, dated December 13, 1870.

IMPROVEMENT IN DEVICES FOR DRIVING 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, ABRAHAM W. HARRIS, of the city and county of Providence, in the State of Rhode Island, have invented a new and improved Device for Driving Sewing-Machines; and I do hereby declare that the following specification, taken in connection with the drawing making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a view of the frame of a sewing-machine.

Figure 2 is a view of the pulley E as applied to the machine.

Figure 3 is a view of the pulley E, with the plate K removed, showing the same during back motion.

Figure 4 shows the pulley E during its forward motion.

Figure 5 is a vertical section of the pulley.

The object of my invention is to prevent the backward motion of the crank and shaft, which often accompanies the starting of the machine, from communicating motion to the needle, and consists in the device for such purpose, hereinafter described.

It is well understood by those familiar with the use of sewing-machines that, when started, they are as liable to be propelled in one direction as the other. The backward motion thus often attained results in the tangling and looping of the thread and the general defacing of the work.

In my invention, which I will now proceed to describe, I overcome these difficulties by the use of a pulley, so constructed that the crank and shaft will be prevented from communicating motion except when moving in the desired direction.

In the drawing—

A represents the crank-shaft, and

E, the pulley.

The pulley E, as shown in figs. 3, 4, and 5, is constructed with an outer rim, E′, within which is a driver, J, having one or more rubber pawls N, which move upon an inclined plane and operate upon the inside of the rim E′.

The driver J is attached to the shaft by a set-screw, while the outer rim or band-wheel E′ is left free upon the shaft.

The operation of my invention is as follows:

If the machine be started in the wrong direction, the pawls N will recede upon their respective planes from the point of contact with the rim E′, as shown in fig. 3, but the driver J will continue to move the shaft A, revolving in the hub of the rim or band-wheel E′, which remains stationary.

When, however, the crank has been moved far enough to reverse the motion, the pawls N are immediately moved forward and upward upon their planes, and nip the rim E′, as shown in fig. 4, and start the machine in the right direction.

This device is equally capable of adaptation to sewing-machines not having a shaft extending across the frame as well as to other machines where light work is required.

I do not confine myself to any particular construction of pawl, as many variations in construction may be made, all, however, embodying the same principle.

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

1. A pawl, in combination with a loose band-wheel, E′, and the crank-shaft A and treadle, the whole arranged and operating in the manner substantially as described.

2. The combination of the elastic rolls N with the band E′ and the driver J.

ABRAHAM W. HARRIS.

Witnesses:

WALTER B. VINCENT,

JOHN D. WINGATE.