

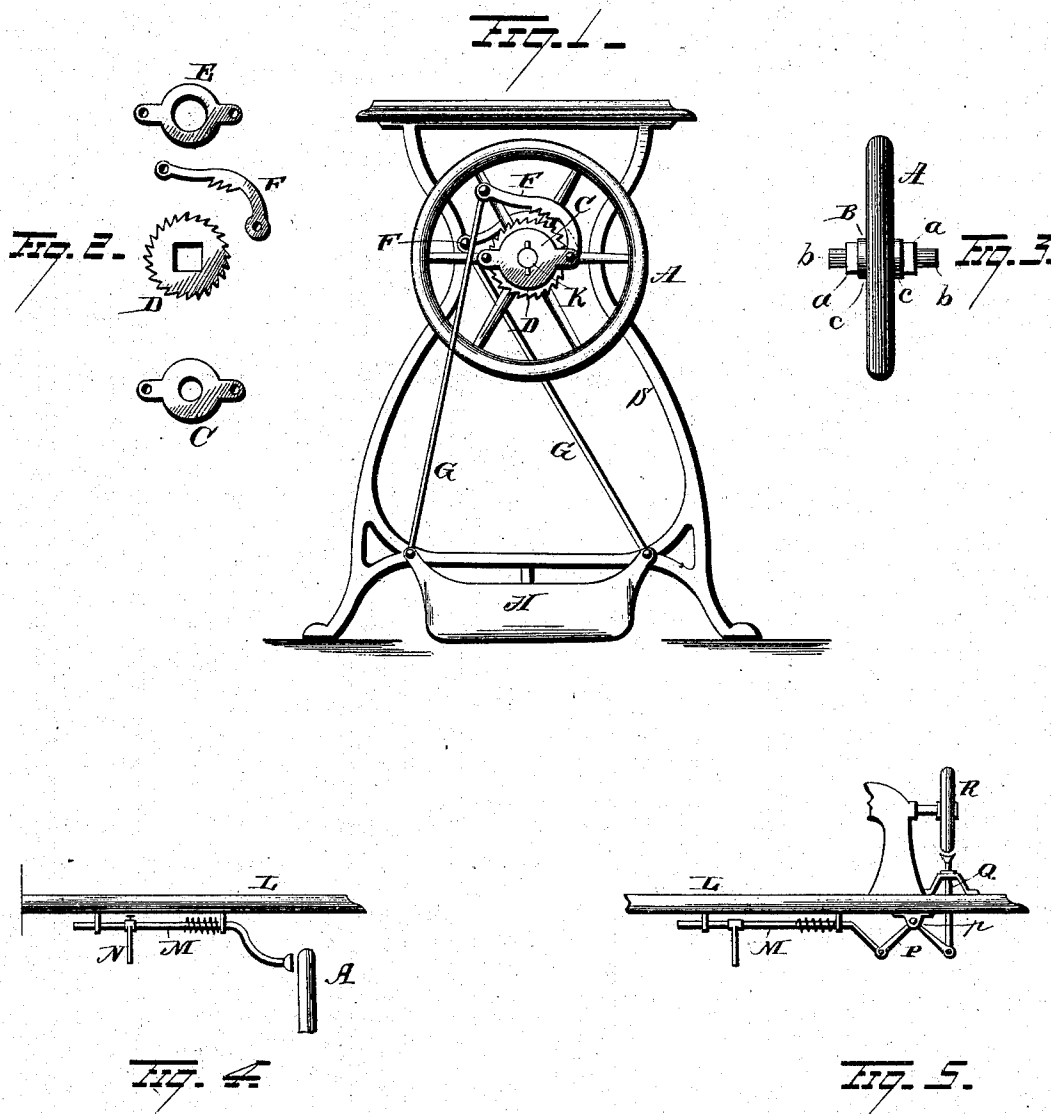
(No Model.)

J. C. LANDES.

DRIVING MECHANISM FOR SEWING MACHINES.

No. 288,643.

Patented Nov. 20, 1883.



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JACOB C. LANDES, OF SOUDERTON, PENNSYLVANIA.

DRIVING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 288,643, dated November 20, 1883.

Application filed August 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, JACOB C. LANDES, of Souderton, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Driving Mechanism for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in driving mechanism for sewing-machines, the object of the same being to provide means whereby the machine will always start in the proper direction, regardless of the direction in which the treadle is first pressed, and at the same time to dispense with dead-centers; further, to provide means for my improved machine by which the same may be suddenly and quickly stopped; and with these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a view of my improvement in side elevation with the brake detached. Fig. 2 is a detached view of several of the parts. Fig. 3 is a detached view of the drive-wheel in end elevation. Fig. 4 is a view of the brake. Fig. 5 shows the construction of the same when used on the wheel above the table.

A represents the drive-wheel, mounted on the spindle, the latter suitably mounted in a frame, S, the said spindle being provided on each side of said wheel with a square shoulder, *a*, and having its end reduced in diameter, as shown at *b*.

To the spindle B is loosely secured the disk C, provided with two diametrically-opposite lugs, the latter being perforated, as shown. On the square shoulder *a* of the spindle B fits the ratchet-wheel D, centrally provided with a square perforation to prevent turning on the spindle.

E represents a plate, similar in general contour to the plate C, adapted to fit on the portion *c* of the spindle.

Between the two projections on the disks C and E, and immediately above the wheel D,

is pivotally secured the bent ratchet-lever F, the opposite end of which is pivotally secured to the upper end of the pitman G, which latter is secured to the treadle H. The remaining projections on the disks C and E are securely fastened together and retained on the spindle by the key K. When one end of the treadle H is pressed downwardly, the pitman on the opposite end of the treadle and connecting with the ratchet-lever on the opposite side of the wheel will lift the said lever F just high enough to clear the teeth of the ratchet-wheel, and as said lever is connected to the projections on one side of the disks C and E the latter will turn on the spindle B until the pitman begins to descend, which then draws the ratchet-lever down on the wheel D, and as the teeth of the lever and wheel interlock the wheel D is drawn around with the descending pitman, which draws the drive-wheel with it. Instead of employing a clutch-wheel and lever, a friction-wheel might be substituted therefor and with the same result. It will be observed that by this construction and arrangement of parts the wheel cannot be revolved in the wrong direction by power transmitted through the pitman, the latter necessarily turning the wheel in one direction under all circumstances. Again, by this construction there are no dead-centers, either one or the other of the pitmen being ever ready to turn the ratchet-wheel D; also, a high rate of speed may be obtained, there being the minimum amount of friction created between the parts, the parts running lightly and steadily. Again, it will be noticed that the speed of the machine cannot be checked by means of the treadle. To supply this deficiency, I have provided means whereby the machine may be effectually and instantly stopped at the will of the operator.

Beneath the table L, I secure, by means of screw-eyes or staples, a rod, M, lengthwise of the table, the end near the wheel A being bent down, as shown, bringing the end near the periphery of said wheel, this end of the rod being provided with a removable block of rubber or other suitable material, adapted, when desired, to bear against the wheel and lessen the speed thereof, or stop it altogether.

N represents a push-arm, preferably secured to the rod M by a set-screw, adapting it to be fastened to the rod at any point to suit the operator. This arm is hung downwardly, and when it is desired to stop the machine or lessen the speed thereof the operator simply presses against the said arm, thus forcing the rubber block on the end of the rod M against the periphery of the wheel, which has the desired effect. When the pressure is released from the arm N, a spiral spring secured to the table and rod forces the rod back in place and prevents the block from coming in contact with the wheel.

Fig. 5 is a view showing one method of attaching the brake to the wheel above the table, in which P represents a bell-crank lever fulcrumed at *p*. When the rod M is forced against the lower end of the bell-crank, the other end of the same is forced up, which also raises the rod Q against the wheel R.

I make no claim in this application to the brake mechanism shown and described, but reserve the right to claim the same in a future application.

My invention is exceedingly simple and economical in construction, is efficient in use, saving both time and trouble, may be attached to any style or make of machine, and can be manufactured at a small initial cost, and is equally well applicable to lathes, saws, and other machinery operated by a treadle as it is to sewing-machines.

It is evident that slight changes in the construction and arrangement of parts might be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not limit myself to the exact construction shown and described, but consider myself at liberty to make such changes as fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a drive-wheel, of a spindle upon which the wheel is mounted, disks and wheels secured on said spindle, levers to operate the wheels, and pitmen secured to the levers, substantially as set forth.

2. The combination, with a drive-wheel

mounted upon a suitable spindle, of disks secured on said spindle, ratchet-wheels also secured to the spindle, levers to operate said wheels, and pitmen secured to the levers, substantially as set forth.

3. The combination, with a drive-wheel mounted upon a suitable spindle, of two disks mounted upon the spindle—one on each side of the drive-wheel—ratchet-wheels, or their equivalents, located between the two disks, on each side of the drive-wheel, levers adapted to operate said ratchet-wheels or their equivalents, and pitmen secured to the levers, substantially as set forth.

4. The combination, with a drive-wheel mounted on a suitable spindle, of two disks loosely mounted upon the spindle—one on each side of the drive-wheel—ratchet-wheels, or their equivalents, rigidly secured to spindle between the two disks on each side of the drive-wheel, levers pivotally secured to disks and adapted to operate the wheels, and pitmen pivotally secured to the said levers, substantially as set forth.

5. The combination, with a drive-wheel mounted on a suitable spindle, of two disks loosely mounted on said spindle—one on each side of the drive-wheel—ratchet-wheels rigidly secured to the spindle between the two disks, on each side of the drive-wheel, ratchet-levers pivotally secured to the disks and adapted to mesh with the ratchet-wheels, and pitmen secured to levers, substantially as set forth.

6. The combination, with a drive-wheel mounted on a suitable spindle, of two disks loosely mounted upon the spindle—one on each side of the drive-wheel—and provided with lugs or projections, ratchet-wheels rigidly secured between the disks, on each side of the drive-wheel, curved ratchet-levers pivotally secured to said projections and adapted to mesh with the ratchet-wheels, and pitmen secured to the levers, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JACOB C. LANDES.

Witnesses:

J. D. MOYER,

WM. S. HEMSING.