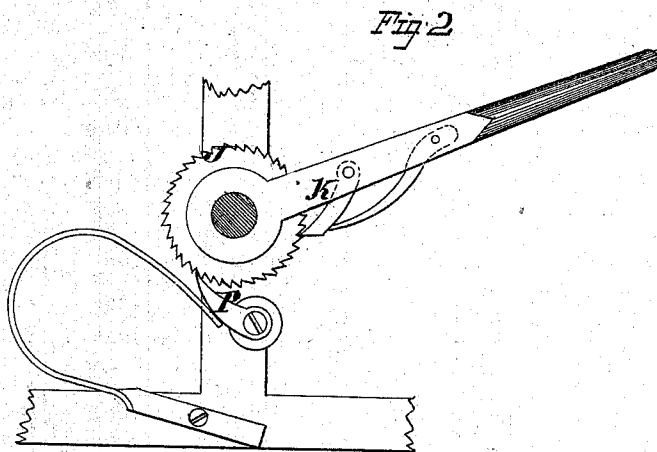
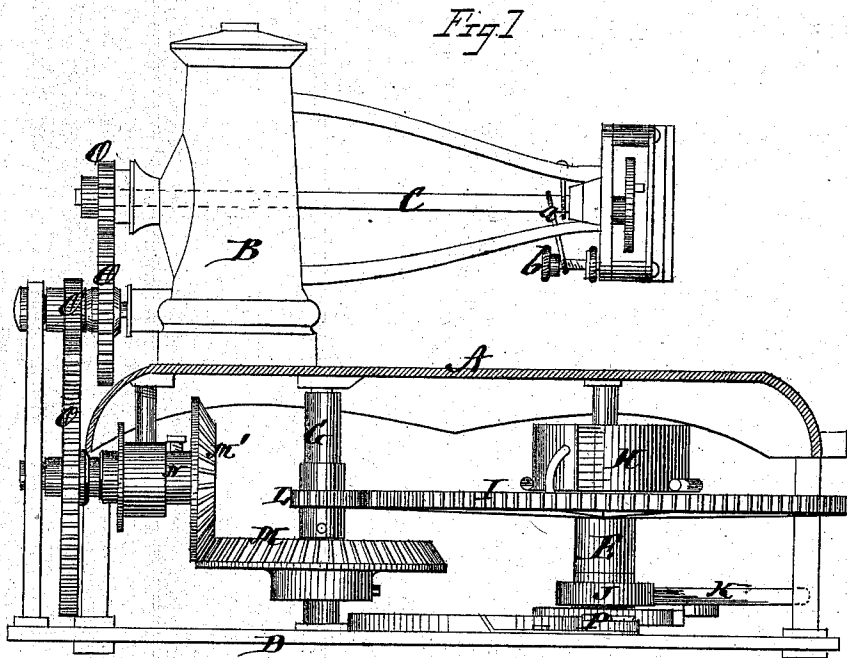


D. E. STEARNS.
Improvement in Motive Power for Sewing Machines.
No. 115,379. Patented May 30, 1871.



Witnesses
C. A. Curt.
Jas. E. Hutchinson

Inventor.
David B. Stearns
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accy.

UNITED STATES PATENT OFFICE.

DAVID E. STEARNS, OF BEREА, ASSIGNOR TO HIMSELF, SAMUEL M. BURR, OF COLUMBUS, AND WILLIAM D. FOWLER, OF CLEVELAND, OHIO.

IMPROVEMENT IN MOTIVE POWERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 115,379, dated May 30, 1871.

To all whom it may concern:

Be it known that I, DAVID E. STEARNS, of Berea, in the county of Cuyahoga and in the State of Ohio, have invented certain new and useful Improvements in Sewing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a mechanism for running sewing-machines, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of a sewing-machine with my running mechanism attached, and Fig. 2 is an enlarged plan view of the means for winding up said mechanism.

A represents the machine-table; B, the stand-ard; and C, the needle-shaft of a sewing-machine. Below the table A, and connected therewith by bolts or other suitable means, is a plate or bed, D, and between said plate and table are arranged two vertical shafts, E and G. H represents a coil spring around the shaft E, the inner end of which spring is fastened to the shaft, and the outer end to a large cog-wheel, I, placed loosely upon the shaft. The shaft E is made to revolve so as to wind up the spring, by means of a ratchet-wheel, J, and ratchet-lever K, upon the lower end of the shaft. The cog-wheel I gears with a pinion, L, upon the shaft G, and on said shaft is a bevel-wheel, M, which engages with a similar wheel, M', on a horizontal shaft, N. This latter shaft is, by means of suitable gear-wheels O O, connected with the end of the needle-shaft C, as shown in Fig. 1. The inner end of the spring H, being fastened stationary to the shaft E, causes the strain to come from the inner to the outer end of the spring in winding it up; and from the outer to the inner end while unwinding; the shaft E being then held

inertly by means of the click-dog P working upon the ratchet-wheel J. In order to give and preserve a uniform motion throughout to said needle-shaft C, I have invented and applied to the same a simple brake, consisting merely of a string or light flexible wire, a, coiled around said needle-shaft C and attached to a screw, b. This is perfectly simple and handy, so as to enable the operator at any time to operate it by winding it on the screw by turning the same; or the string or wire a may be held with the toe of the shoe at the bottom, in which case the ends of the brake should be fastened to some kind of foundation; or one side of said brake, when drawn sufficiently tight upon said needle-shaft either to stop or regulate its motion to a required degree of speed, can then be hastily wound around some stationary peg, and there held constantly to such motion as required, or to the stopping of all motion.

In winding up the mainspring upon the shaft E it will be noticed that the shaft turns in the same direction that the wheel runs, by which means the motion of the needle-shaft does not stop while winding.

It will also readily be seen that, from this mode of propelling the sewing-machine, it does away with the massive and heavy balance-wheel and other heavy iron extensions, both vertical and horizontal, of the old foot-and-pedal plan of propelling, besides all the iron fixture works of said pedal, and thus reducing the actual sewing-machine, including my propelling mechanism, into a far smaller compass than that of the old crank plan; also, making the machine far lighter and much more valuable, not only by reason of its comparative smallness and lightness, the ease and readiness of transporting it about the house, but also by reason of the readiness and cheapness of packing it for transportation about the country.

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

1. The combination of the shaft E, spring H, wheel I, ratchet-wheel J, and lever K, when

so arranged that in winding up the spring the shaft is turned in the same direction as the wheel turns, as herein set forth.

2. In combination with the above, the pinion L, miter-wheels M M', and gear-wheels O O, for operating the needle-shaft of a sewing-machine, as herein set forth.

3. The brake *a b*, arranged with the needle-

shaft of a sewing-machine, substantially for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of March, 1871.

Witnesses: DAVID E. STEARNS.

JAMES M. WATSON,
EDWIN RICHARDS.