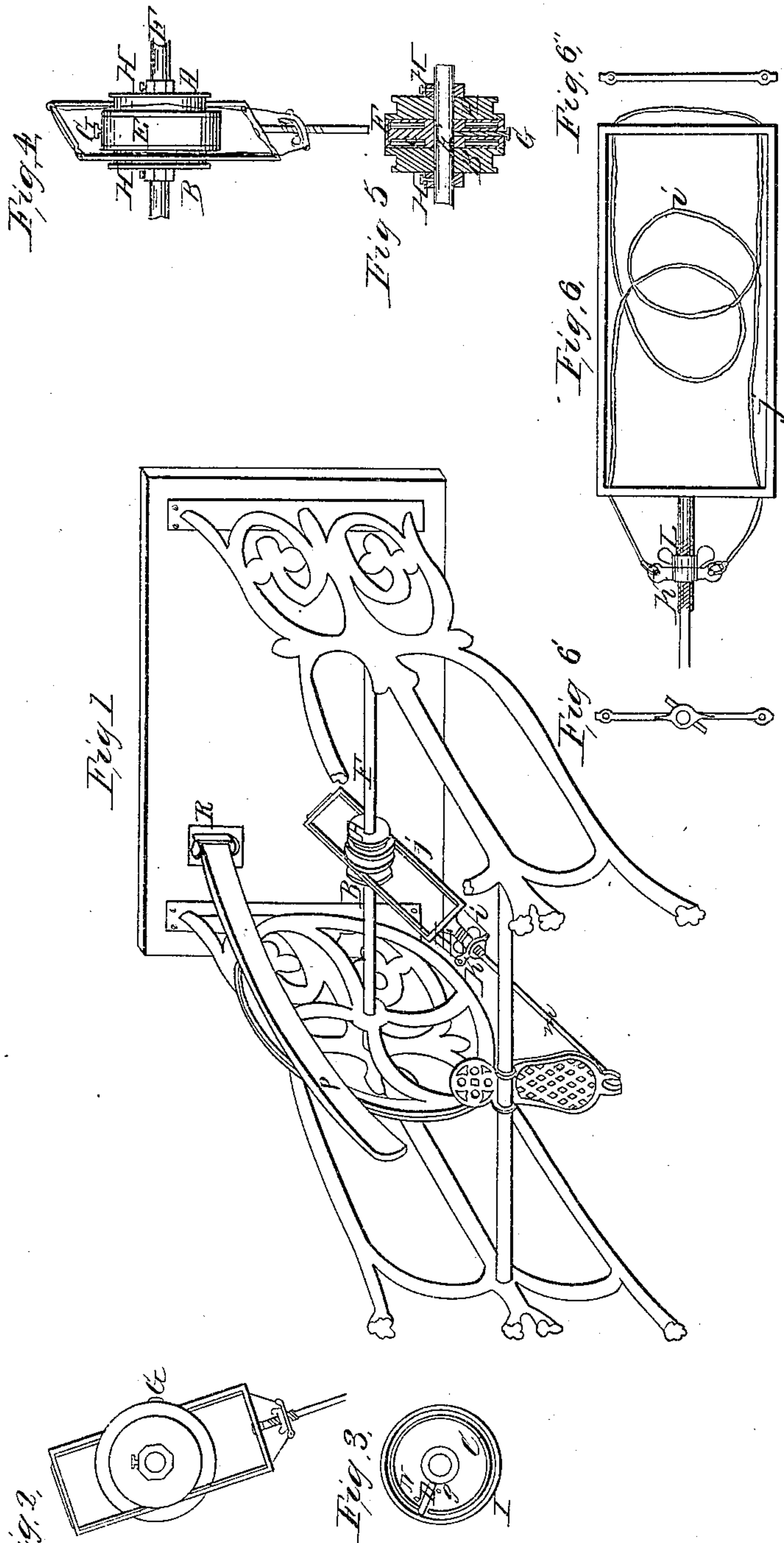


G. Stackpole,

Auxiliary Lever Power for Sewing Machine.

N^o 84,144.

Patented Nov. 17. 1868.



Witnesses,
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LEVER-POWER FOR SEWING AND KNITTING MACHINES.

Specification forming part of Letters Patent No. 84,144, dated November 17, 1868.

To all whom it may concern:

Be it known that I, GREENLEAF STACKPOLE, of New York city, in the county and State of New York, have invented a new and valuable Improvement for the Application of Lever-Power to Sewing and Knitting Machines, as an auxiliary; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Description.

The nature of my invention consists in providing an auxiliary lever-power for sewing and knitting machines, by augmenting the power applied to the treadle in the ordinary manner.

The object of my invention is to reduce the labor of running sewing and knitting machines to the lowest practicable point, and, at the same time, secure the greatest possible rate of speed, which I accomplish by means of levers acting upon the periphery of a wheel in such a manner as to entirely overcome the ordinary dead-centers, and gain a momentum by throwing the balance-wheel forward faster than the treadle-motion. By thus economizing all the power applied at the treadle, and entirely obviating the lost power otherwise unavoidable, a speed absolutely unattainable by the crank-motion—at least three times as great—is secured, with far greater ease and comfort to the operator, while a slight and perfectly natural pressure of the knee against the brake enables the operator to stop the machine instantly in its most rapid motion. Furthermore, it not only greatly reduces the power necessary to run the machine and increases its speed, but also effectually prevents it from running backward, thus rendering it a most valuable aid to persons learning the use of sewing-machines. It also possesses many other advantages over any other known device for driving or assisting to run sewing-machines.

In the accompanying drawings, which are a part of this specification, and in which corresponding letters represent corresponding parts, Figure 1 is a side elevation of a sewing-machine with my invention applied, in which A is a groove-wheel, which, by the upward motion of the treadle, is brought in contact with a friction-ring, C, by means of a lever, D, act-

ing upon the same. B is a similar grooved wheel, which acts in the same manner upon a friction-ring upon the downward motion of the treadle, said friction-rings acting alternately upon a wheel, E, secured to the shaft F by a set-screw, G, the parts being held together by means of the collars H H upon the shaft F. When the treadle is moved the machine is set in motion by means of a cord, I, passing through the frame j and around the grooved wheels A and B, and fastened at the ends at the yoke K, the thumb-nut L being used to tighten the cord as it stretches or grows loose. The treadle-rod M is attached to the frame j and to the treadle in the ordinary manner.

Fig. 2 is an end view of my device as seen from the outside.

Fig. 3 shows the arrangement of the friction-rings and levers, which are the same on both sides of the wheel E. The pins N and O are fastened to the inner surfaces of the grooved wheels A and B, the pin O acting upon the lever on its forward motion, spreading the friction-ring C, and making it take hold of the inner surface of the wheel E, which is grooved on each side to admit the ring C and lever D, so that they are flush with its end surface. The friction-ring C carries around with it the wheel E, which is attached to the main shaft of the machine F, by the upward motion of the treadle propelling the machine forward, when the pin N is brought in contact with the lever O on the downward motion of the treadle, relieving the friction and carrying the ring C back independently of the wheel E, while the opposite and corresponding ring clutches the wheel E on the other side, continuing its forward motion. Thus the wheel E is acted upon alternately by the two friction-rings and levers, producing a continuous forward motion.

Fig. 5 is a bisected side view of my device, showing all the parts as they would appear if the machine were divided from end to end through the center of the shaft.

Fig. 6 shows the frame j and the manner in which the cord is carried around the grooved wheels A and B.

P is a brake, which is hinged to the table at R, and is held in position by a spring, (not shown in the drawing,) the brake being con-

trolled by pressing same against the side of the balance-wheel, which it stops instantly.

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

1. The application to the sewing-machine and knitting-machine of an auxiliary lever-power, consisting of the friction-wheel E, or its equivalent, when used to produce continuous motion by the alternate application of friction

to its opposite sides, substantially as and for the purpose set forth.

2. The cord I, frame J, and thumb-nut L, substantially as and for the purpose set forth.

3. The brake P, as and for the purpose set forth.

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