T. B. FOGARTY.

Spring Motive-Powers.

No. 134,533. Patented Jan. 7, 1873.

Fig. 1.

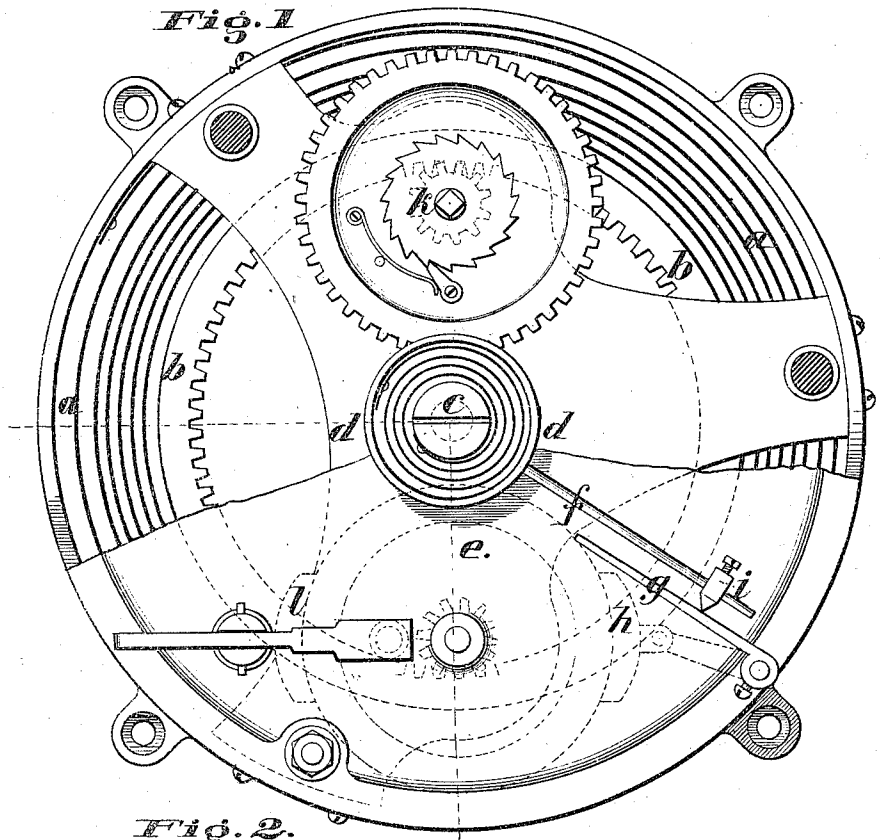
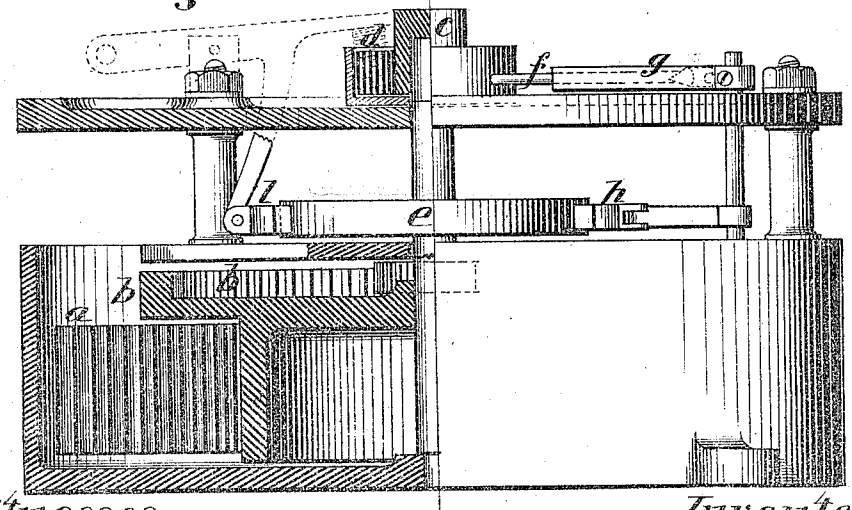


Fig. 2.



Witnesses.

Wm Kemble Halls.

Nathan Lewis.

Inventor:

Thos B. Fogarty.

UNITED STATES PATENT OFFICE.

THOMAS BURKE FOGARTY, OF NEW YORK, N. Y.

IMPROVEMENT IN SPRING MOTIVE POWERS.

Specification forming part of Letters Patent No. **134,533**, dated January 7, 1873.

To all whom it may concern:

Be it known that I, THOMAS BURKE FOGARTY, of New York, in the county and State of New York, have invented certain new and useful Improvements in Spring Motive Powers, of which the following is a specification:

Nature and Objects of the Invention.

The said invention relates to the use of one or more springs as a driving-power for sewing-machines and other small machinery; and it has for its object the restraint of the tensile force of the spring or springs when at its greatest tension, and its continuous and proportionate reduction in such a manner that the working force will be uniform within practical limits for the operation of a machine at a nearly-uniform speed. To accomplish this purpose the invention consists in combining two springs or systems of springs that are similar in their rate of variation, although the one which may be termed the regulating-spring may have much less strength than the other, in such a way that the tension of the regulating-spring or springs acts as a check upon the motor-spring or springs, and continues to act with proportionately-diminished force as the power of the latter is gradually expended.

Description of the Drawing.

Figure 1 is a plan view, showing the general arrangement of the springs and gearing, and Fig. 2 is an elevation of the machine.

The motor-spring *a* is attached at one end to the outer case or frame, and at the other to a barrel, *b*, on the shaft *c*, which also carries the smaller but similar spring *d*. The inner edge of the barrel *b* has toothed gearing which works a wheel or train of wheels, to the shaft of one of which, and preferably of the last, is attached a brake-wheel, *e*, which has a smooth periphery, and may have its upper edge made as a crown or miter wheel, from which the power may be taken to drive the machinery that it is desired to operate. The outer end or case of the small or regulating-spring *d* has an arm, *f*, which bears upon the arm or lever *g* that operates the brake-block *h*, and causes it to bear against the periphery of the wheel *e*. When the large spring is wound up the small one is also wound by the same operation, and the tension of the smaller spring acting through the brake, restrains the force of the larger one. The restraining force may be regulated by the position of the movable nipple *i*, and also by securing the inner end of the small spring to a collar or sleeve, the position of which may be adjusted on the shaft by a set-screw. The machine may be wound up by any of the means for such purposes known to mechanics. A convenient method consists of a pinion gearing into the teeth of the spring-case or barrel *b*, and on the same shaft *k* with a ratchet-wheel and a loose wheel, through which the power should be transmitted. A brake, *l*, for the purpose of arresting the machine at the pleasure of the operator, may be attached in such a manner that it will be brought to bear upon some one of the train of wheels to stop the machine by the action of a spring which may be controlled by a handle or a treadle.

Different forms of springs may be used, and the details of construction and arrangement may be otherwise varied without departure from the essential feature of the invention, consisting in the relation to each other of the driving and regulating springs.

Claim.

I claim as my invention—

The combination of two springs, by which the inequality of a regulating-spring or springs operates as a check upon the inequality of a motor-spring or springs, substantially as described.

THOS. B. FOGARTY.

Witnesses:
WM. KEMBLE HALL,
NATHAN LEWIS.