

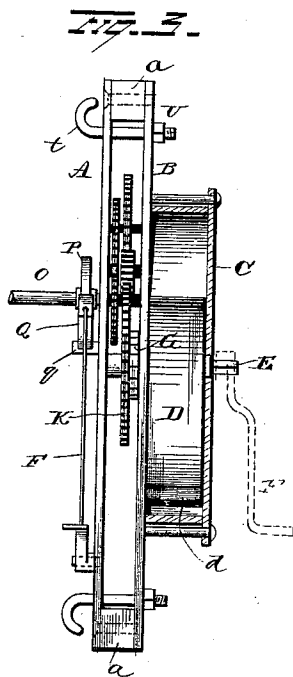
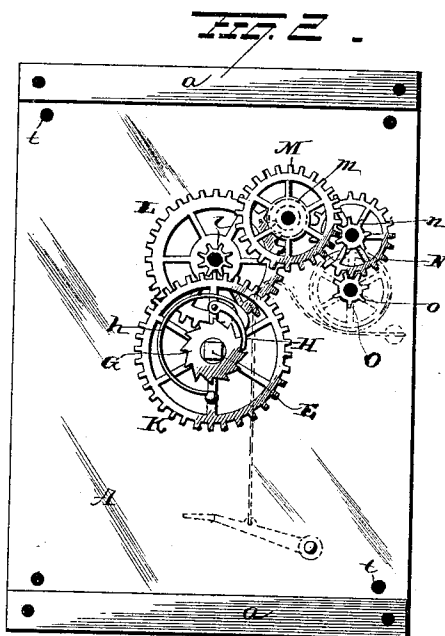
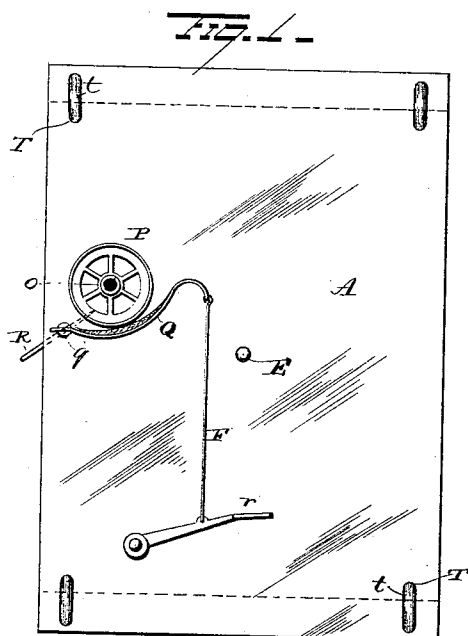
(No Model.)

G. S. ELLIOTT.

MOTOR.

No. 329,295.

Patented Oct. 27, 1885.



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GEORGE SNEETHEN ELLIOTT, OF MOBILE, ALABAMA.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 329,295, dated October 27, 1885.

Application filed September 23, 1885. Serial No. 177,904. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. ELLIOTT, of Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Motors; 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 motors. The object is to provide a spring-motor in which the arrangement of the storage and transmitting gear shall be simple and compact, the brake mechanism capable of the finest adjustment and not liable to get out of order, the winding mechanism easily manipulated, and the whole secured in a frame of peculiar construction adapted to be removably secured to different classes of machines.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the motor in side elevation. Fig. 2 is an end view, and Fig. 3 is a view showing the ratchet mechanism for winding the spring.

The frame-work of the motor consists of two plates, A B, and a cap, C. The plates A and B are secured a short distance apart and have wood, rubber, or other non-metallic packing, *a*, inserted between them to deaden the sharp sound which a complete metal frame would produce. Between the plates A and B the system of multiplying-gear is located, each of the several wheels—in the present instance four—being journaled in suitable bearings in the plates. The cap C is firmly secured to the outside face of the plate B, and is sufficiently large and deep to form a housing for the main-spring D. One end of the spring D is secured to a post, *d*, near the periphery of the cap and the other end to the main axle E. The axle E has bearings in the plates A and B and in the cap C, through the top of which it extends far enough to receive the winding-crank F. On the main axle E, between the plates A and B, the spur-wheel K is loosely mounted. In close proximity thereto the ratchet-toothed wheel G is rigidly secured on the main shaft. A dog, H, pivotally secured to the side of the wheel K, is adapted to engage the teeth of the

ratchet-wheel G, and is held in contact therewith by the pressure of a spring, *h*. The main axle is thus free to rotate in the direction required for winding up the spring, but is locked to the wheel K by the dog and ratchet-wheel when turning in the opposite direction or in the direction which the spring D will rotate it when allowed to act. The spur-wheel K meshes with the pinion *l* on the axle of the second spur-wheel, L. The latter meshes with the pinion *m* on the axle of the third spur-wheel, M, and the spur-wheel M meshes with the pinion *n* on the axle of the fourth spur-wheel, N. The spur-wheel N meshes with the pinion *o* on the shaft O, which extends a greater or less distance beyond the plate A, as may be required to bring the drive-wheel P, secured thereon, into a position to be conveniently connected by a band with a wheel on a sewing-machine shaft, dental machine, jeweler's lathe, fly-fan, or any machine which it is desirable to run by the motor. The shaft O is also provided with a smooth-faced brake-wheel P. Q represents the brake. It consists of a thin hard steel strip curved to conform to a portion of the circumference of the wheel P, and secured at one end in a split stud, *q*, set in the plate A. The contact portion is provided with a removable wooden shoe, *q'*, attached by means of pins *q''*. The stud *q* is capable of a rotary adjustment in the plate, and thereby serves to set the spring-brake in a position to exert a normal pressure against the face of the wheel of any desired strength. The stud *q* is conveniently locked in its several rotary adjustments by a wedge-shaped key, R, extending through a perforation in the stud on the inside of the plate A. The brake Q is operated by means of a foot-lever, *r*, pivotally secured to the plate A, and connected with the free end of the brake by a rod or cord, F. The tension of the spring-brake tends to automatically hold the brake on. A slight pressure on the end of the foot-lever will relieve the brake-wheel and the motor will begin to run. A greater or less speed may be maintained, as desired, by taking the brake entirely or partially off. The motor thus arranged and mounted is adapted to be removably secured to different kinds of machines, as follows: Near the four corners of the frame-work A B C, I provide transverse perforations T, through

which extend the hook-bolts *t*, threaded at one end and provided with draw-nuts *U*. By means of these bolts the motor may be conveniently secured to the supports of a sewing-machine or to the supporting-frames of other machines which it is desirable to run by the motor.

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

1. In a spring-motor, the combination, with a two-compartment frame-work, of the mainspring located in one of the compartments, the transmitting-gear located in the other compartment, and the winding and brake mechanism located on opposite sides of the frame-work, substantially as set forth.

2. In a spring-motor, the combination, with the two-compartment frame-work and the mainspring and transmitting-gear, located in their respective compartments, of threaded hook-bolts and draw-nuts located at the corners of the frame-work and adapted to removably secure the frame-work to different machines, substantially as set forth.

3. In a spring-motor, the combination, with a set of multiplying-gear actuated by a mainspring, of a spring-actuated brake adapted to conform to a portion of the face of the brake-wheel, and a foot-lever adapted to release the brake from the wheel, substantially as set forth.

4. In a spring-motor, the combination, with a set of multiplying-gear actuated by a main-

spring, of a spring-actuated brake secured to a rotary adjustable stud, and a foot-lever adapted to release the brake, substantially as set forth. 35

5. In a spring-motor, the combination, with a set of multiplying-gear mounted between two plates separated by non-metallic packing, and a mainspring located in an adjoining compartment, of a spur-wheel loosely mounted on the main axle, a crank adapted to rotate the axle, a ratchet-wheel rigidly secured on the axle, and a spring-pressed dog adapted to lock the spur-wheel to the axle in the direction of the tension of the spring and allow the axle to rotate freely against the tension of the spring, substantially as set forth. 40 45

6. The motor, substantially as described, consisting, essentially, of the three-plate frame, the actuating-spring located between two of the plates, the system of multiplying-gear separated from the mainspring by the middle plate, the ratchet mechanism for winding the spring, the spring-actuated brake mechanism, and the adjusting hook-bolt, the whole arranged substantially as set forth. 50 55

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 60

GEORGE SNEETHEN ELLIOTT.

Witnesses:

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