

(No Model.)

A. W. PEARCE.
MOTOR.

No. 403,606.

Patented May 21, 1889.

Fig. 1.

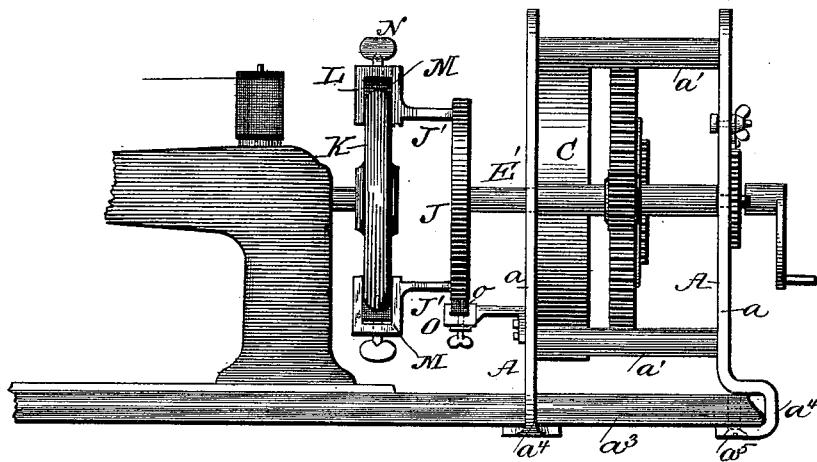


Fig. 2.

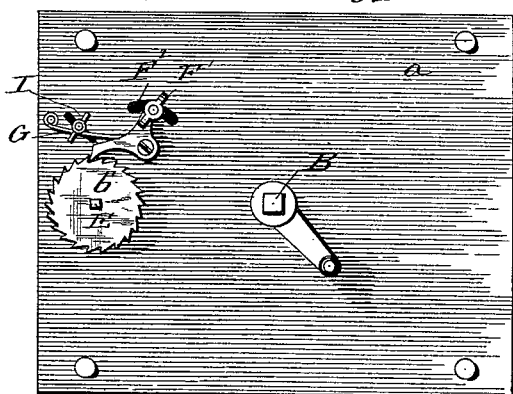


Fig. 3.

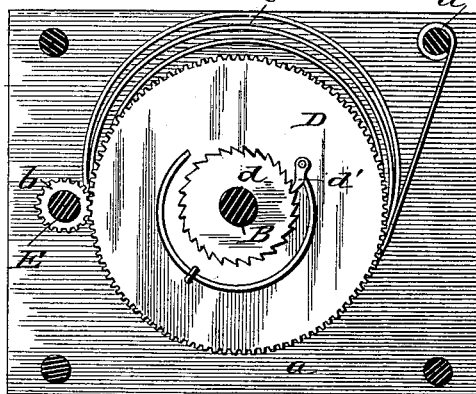
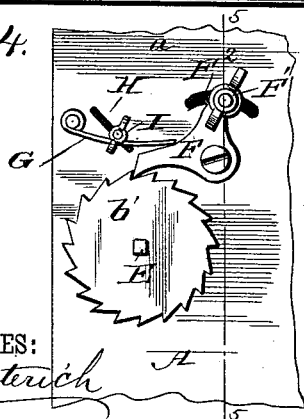
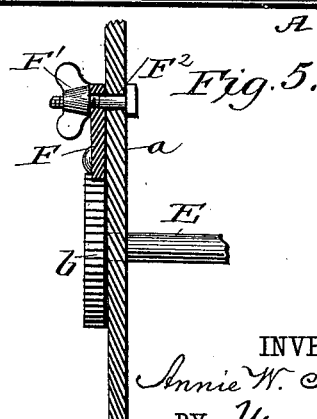


Fig. 4.



WITNESSES:
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UNITED STATES PATENT OFFICE.

ANNIE WARREN PEARCE, OF GREENWOOD, SOUTH CAROLINA, ASSIGNOR OF
ONE-HALF TO LAURA HENRIETTA JOHNSON, OF SAME PLACE.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 403,606, dated May 21, 1889.

Application filed November 21, 1888. Serial No. 291,509. (No model.)

To all whom it may concern:

Be it known that I, ANNIE WARREN PEARCE, residing at Greenwood, in the county of Abbeville and State of South Carolina, have invented certain new and useful Improvements in Motors, of which the following is a specification.

The object of my invention is to provide a simple, cheap, and efficient spring-motor which may be readily adapted for use in connection with sewing-machines, dentists' and jewelers' drills, &c.; and it consists in certain novel features of construction and combination of parts, as will be hereinafter fully described in the annexed specification, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a front view of my improvement applied to a sewing-machine. Fig. 2 is a side view thereof. Fig. 3 is a central vertical section, and Figs. 4 and 5 are detail views hereinafter referred to.

In the accompanying drawings, A denotes a casing, which may be detachably connected to the machine-bed a^3 by the projecting arms or extensions a^4 a^4 , which pass under said bed a^3 , and are secured thereto by screws, as shown. When, however, the motor is designed to be permanently attached to the machine, the stand which carries the treadle and fly-wheel may be dispensed with, and the machine-body and motor placed in a suitable box-like frame, which can be set on a table or elsewhere.

The frame or casing A consists of two vertical plates, a a , which are braced together by the cross-bars a' a' . Journaled about centrally within the casing is the main shaft B, to which is connected one end of the power-spring C, the opposite end, c , of which is connected to one of the cross-bars a' , as shown in the drawings.

The main drive-gear is mounted upon said shaft B, and d d' indicate the ratchet-and-pawl mechanism connecting said gear with the shaft. A shaft, E, is mounted in the plates a a , in front of and in the same horizontal plane with the shaft B, and is provided with a pinion, b , which engages the gear D. The outer end of the shaft E is extended through

the plate a , and is provided upon such end with a ratchet-wheel, b' , with which engages a pawl, F, pivoted to the plate a above the wheel b' , as shown, and which is normally held in contact by means of the spring G.

A diagonal slot, H, is arranged in the plate a , adjacent to the spring G, and in which is adjusted a thumb-nut, I. The said nut is adjusted in the upper end of the slot when the motor is at work, and in the lower end when the spring is being wound up. To hold the pawl out of engagement with the wheel b' when it is desired to run the machine, the same is provided with a thumb-nut, F' , which engages a segmental slot, F^2 . By slightly tightening the nut F' the pawl may be held in a disengaged position. By this arrangement it will be seen that but a slight pressure is exerted upon the spring G when the motor is running, thereby permitting an easy movement of the pawl F and exerting a great pressure upon the spring when the main spring is being wound up, and thereby preventing any accidental jumping of the pawl F. The outer end of the shaft E is extended at E' , to which end is secured a disk, J, provided with projecting arms J' , which are adapted to fit over the drive-wheel of the machine intended to be operated. When the arms J' clamp over the rim of the drive-wheel K, they are provided with metallic boxes L, having elastic (preferably rubber) bearing-blocks M retained therein, and which are adjustably clamped to the drive-wheel K by means of suitable thumb-screws, N N. By this means the arms may be readily attached or detached from the drive-wheel of the machine.

O denotes an adjustable brake secured to one of the plates a , which is adapted to be readily applied to the periphery of the disk J, said brake being provided with elastic bearing-shoe o , as shown.

From the foregoing description, taken in connection with the drawings, the advantages and operation of my invention will be readily understood.

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

1. A spring-motor consisting of a casing, spring-actuated gearing mounted therein, one

of the gear-shafts projected at each side of the casing, provided at one end with a disk, J, having arms adapted to detachably connect the motor with the drive-wheel of the machine to be driven, a ratchet-wheel at its opposite end, and an adjustable pawl for engaging the same, substantially as shown and described.

2. The combination, with the casing A, the shaft E, the intermediate gearing for operating it, and the ratchet-wheel *b'*, mounted thereon, of the adjustable pawl F, the spring G, and the diagonally-adjustable nut I, operating upon the spring G, substantially as and for the purposes specified.

3. The combination, with the shaft E, the

intermediate gearing for operating it, and the ratchet-and-pawl mechanism connected therewith and operated as specified, of the disk J, secured upon the inner projecting end of said shaft, provided with projecting arms *J' J'*, having boxes L at their outer ends, said boxes provided with adjustable elastic bearing-blocks, whereby said arms are detachably secured to the rim of the drive-wheel, substantially as and for the purpose hereinbefore described.

ANNIE WARREN PEARCE.

Witnesses:

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