

W. H. VAN KEUREN.

Spring-Motors.

No. 155,478.

Patented Sept. 29, 1874.

Fig. 1

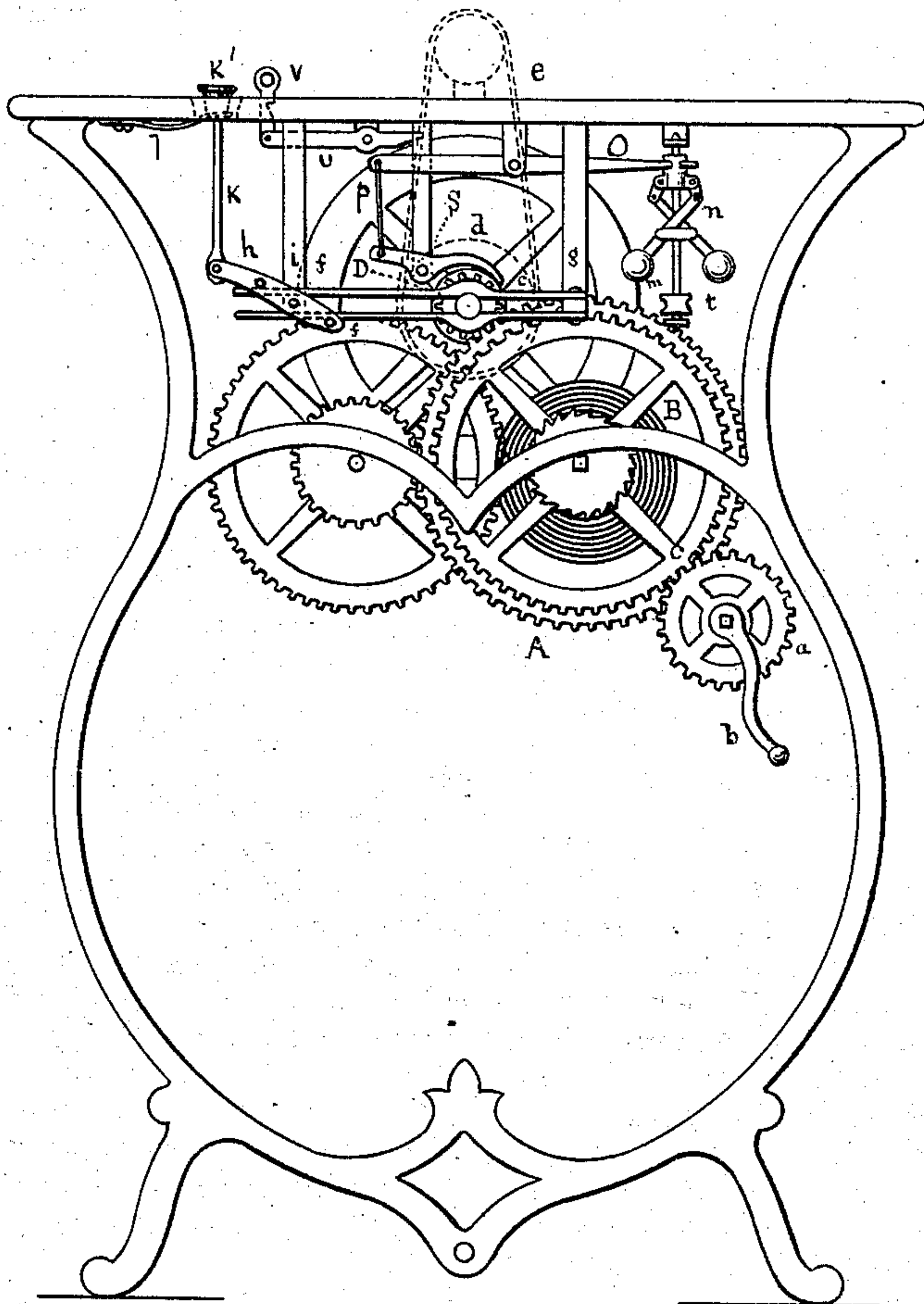


Fig. 2.

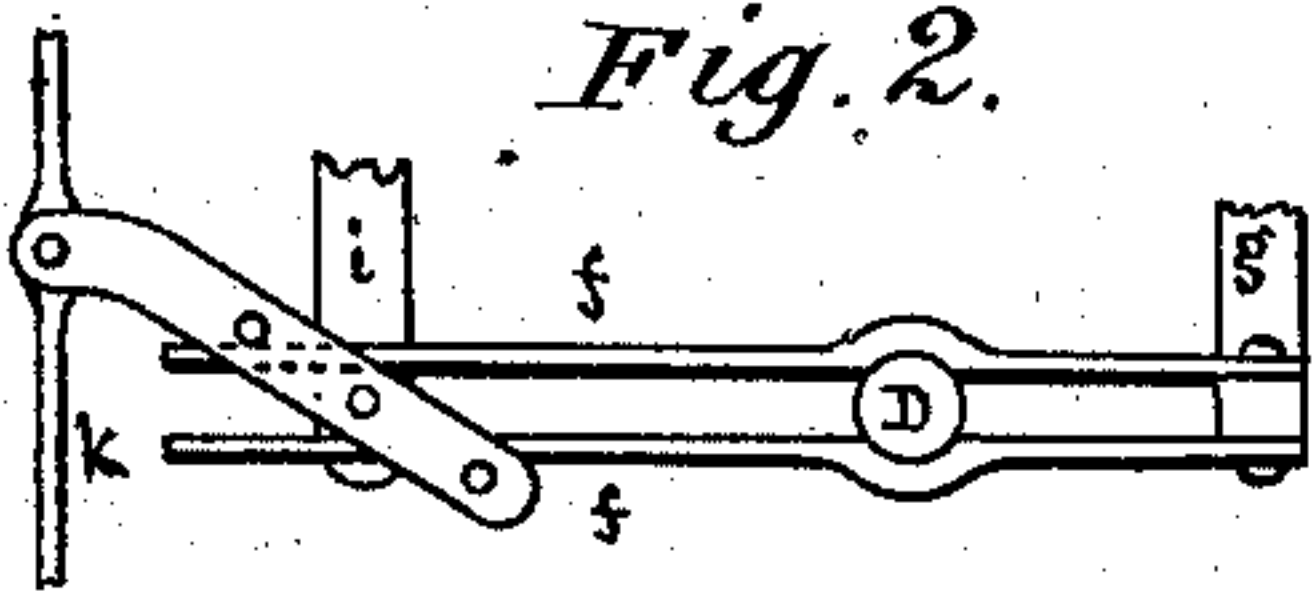
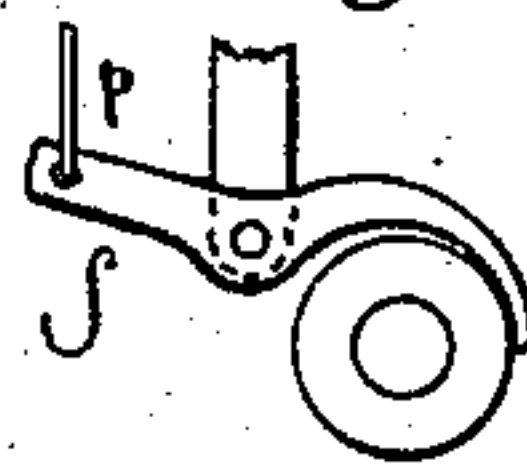


Fig. 3.



Witnesses
A. H. Norris.
George H. King.

Inventor.
Wm H. Van Keuren
By James C. Norris
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM H. VAN KEUREN, OF WINONA, MINNESOTA.

IMPROVEMENT IN SPRING-MOTORS.

Specification forming part of Letters Patent No. **155,478**, dated September 29, 1874; application filed June 3, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. VAN KEUREN, of Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in Self-Regulating Spring-Power; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to certain improvements in spring-power for driving sewing-machines and other devices; and the invention consists of a peculiar construction and combination of parts, to be hereinafter described.

In the accompanying drawings, Figure 1 is an end elevation of a sewing-machine frame having its spring-power applied thereto. Figs. 2 and 3 are detached views of the friction-brakes for retarding the motion of the gearing.

Referring to the drawings, A represents the main driving gear-wheel; B, the coiled spring; and G, a gear-wheel meshing with a pinion, *a*, to which can be applied a crank, *b*, for winding up the spring. D represents a shaft having a pinion, *c*, meshing with the gear-wheel A, operated by the spring, and revolves said shaft, which latter possesses a pulley, *d*, connected by a belt, *e*, with the driving wheel or pulley of a sewing-machine, or other apparatus to be operated. Upon opposite sides of the shaft D are arranged two spring-bars, *f f*, attached at their rear ends to a block, *g*, and connected together at their other end by an obliquely-arranged bar, *h*, which latter is pivoted to a block, *i*, at its center, and to the bars *f* on opposite sides of its pivot *i*, and its free end is connected to a vertical rod, *k*, actuated upon by a spring, *l*, in such a manner that by

depressing said rod *k* by its thumb-piece *k'* the two bars are compressed together and grasp the shaft D, thus retarding its revolution and regulating the rapidity of running the machine. When the bars are operated by a rod connected with the treadle, the thumb-piece *k* is adjustable so as to adjust the pressure of the rods *f* on the shaft D. Instead of the bars being operated by pushing the rod *k* by hand, it may be connected to the treadle of the machine and be thus operated. Upon a vertical shaft, *m*, is mounted a governor, *n*, of the usual construction, and it is connected by a pivoted rod, *o*, to a link, *p*, connected to the end of a pivoted brake-shoe, *S*, so that when the revolution becomes too great the governor will actuate the rod *o* and draw up the end of the brake-shoe *S*, causing the end of the latter to bear on a circular hub on the side of the pulley *d*, and retard the motion of the machine until the governor again releases the brake-shoe. The governor is operated by a belt from the pulley *d* passing around the pulley *t* on the shaft of the governor. To the under side of the table of the machine is pivoted a lever, *u*, operated by the rod *v*, so as to cause it to bear on the fly-wheel of the machine for stopping the same.

I claim as my invention—

The elastic bars *f f*, arranged on opposite sides of the shaft D, the clamping-rod *h*, and operating-rod *k*, in combination with the brake-shoe *S* and governor *n*, all constructed and operating substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of March, 1874.

WILLIAM H. VAN KEUREN.

Witnesses:

R. R. BRIGGS,
H. S. BRIGGS.