

(No Model.)

B. B. POWELL & J. I. ATKINS.

SPRING MOTOR.

No. 275,410.

Patented Apr. 10, 1883.

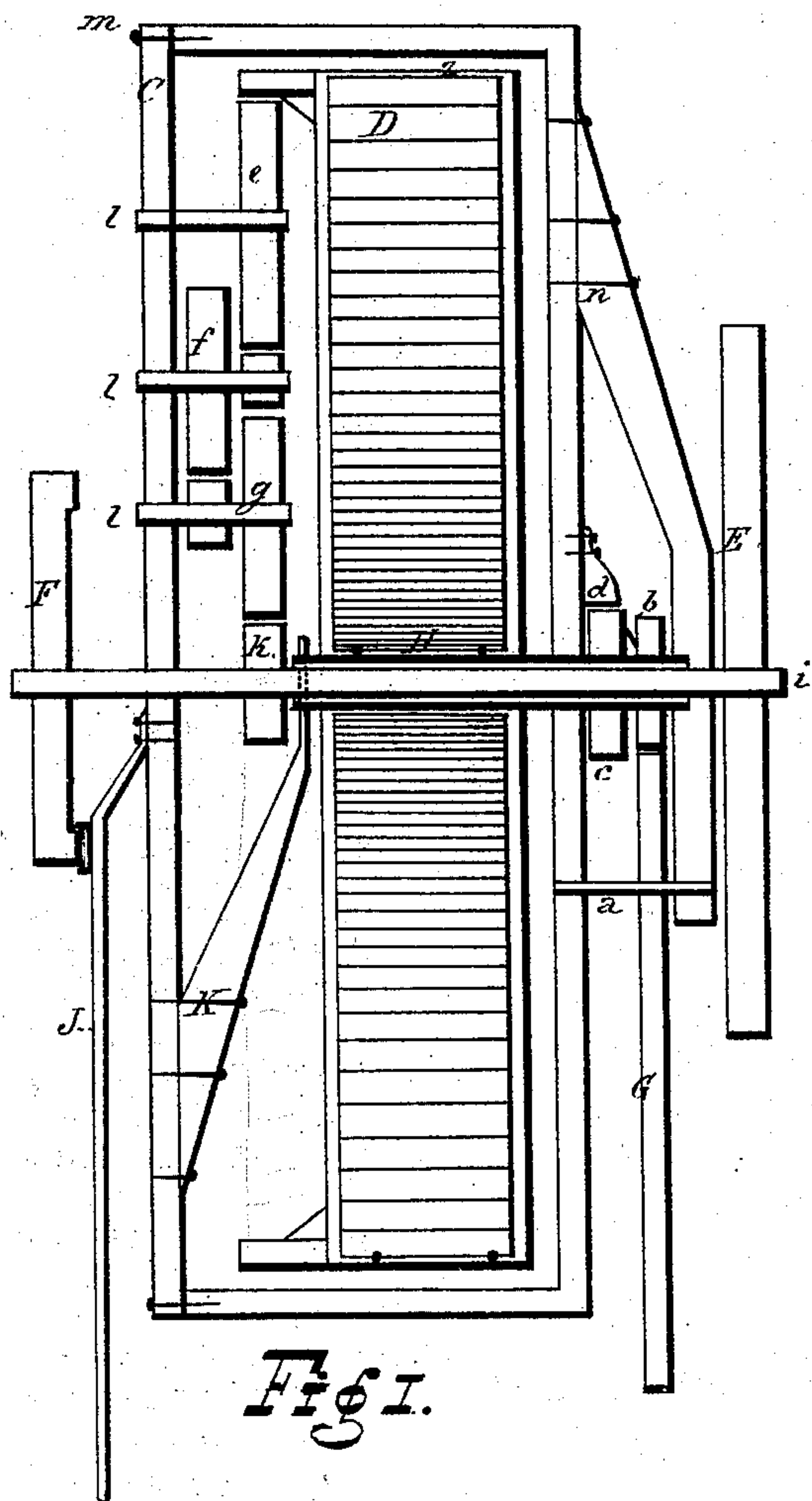


Fig. I.



Fig. IV.

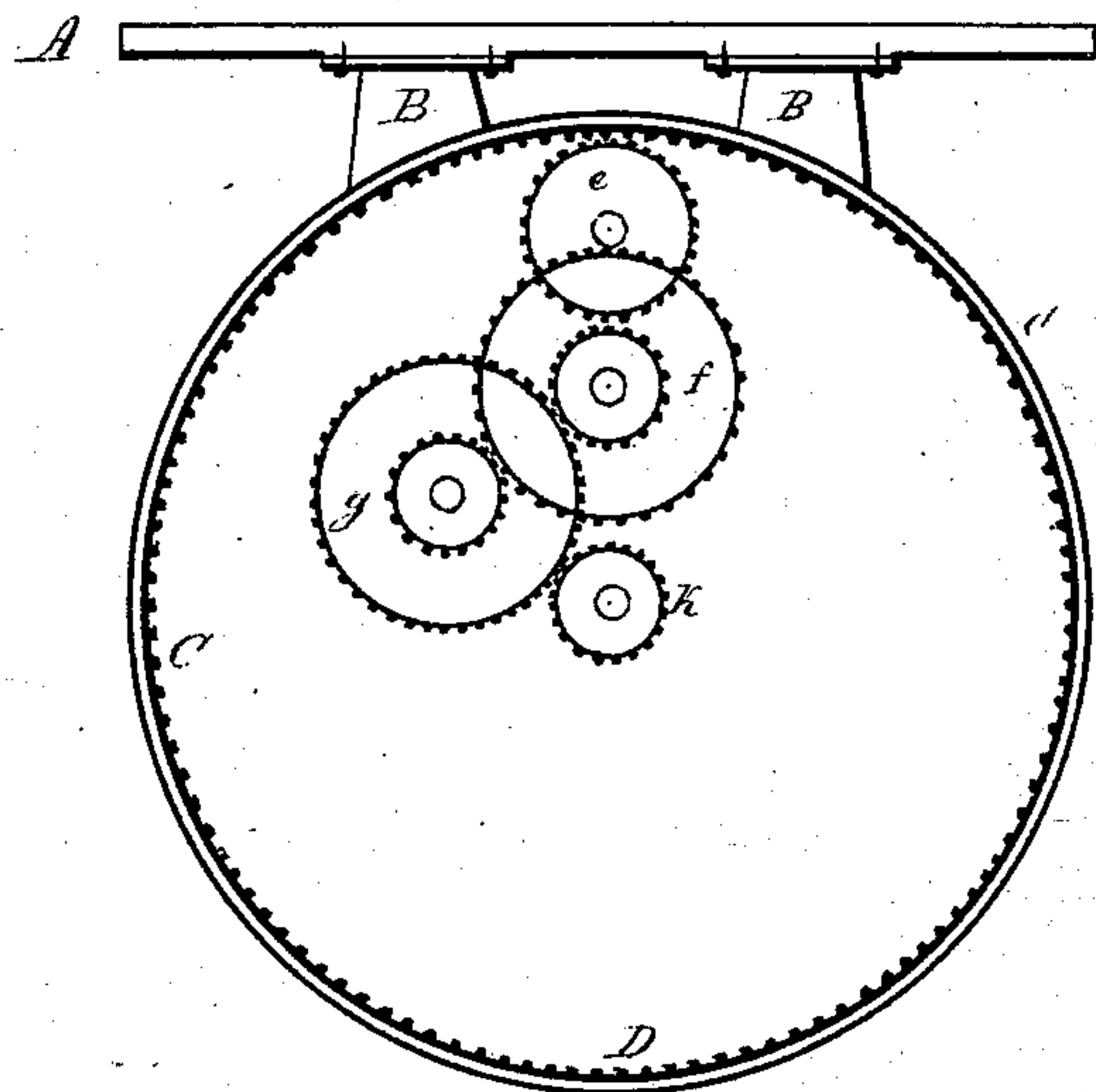


Fig. II.

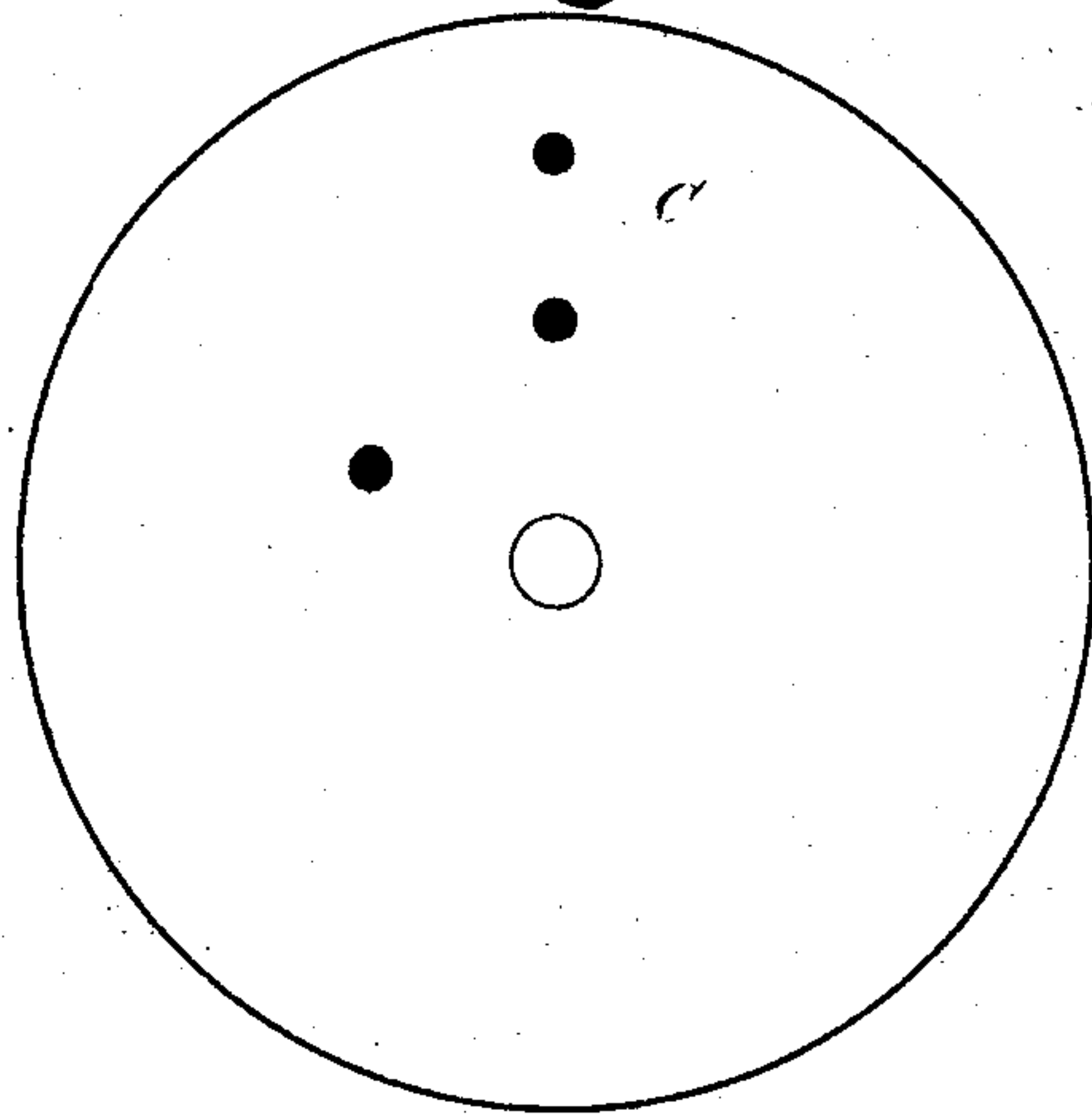


Fig. III.

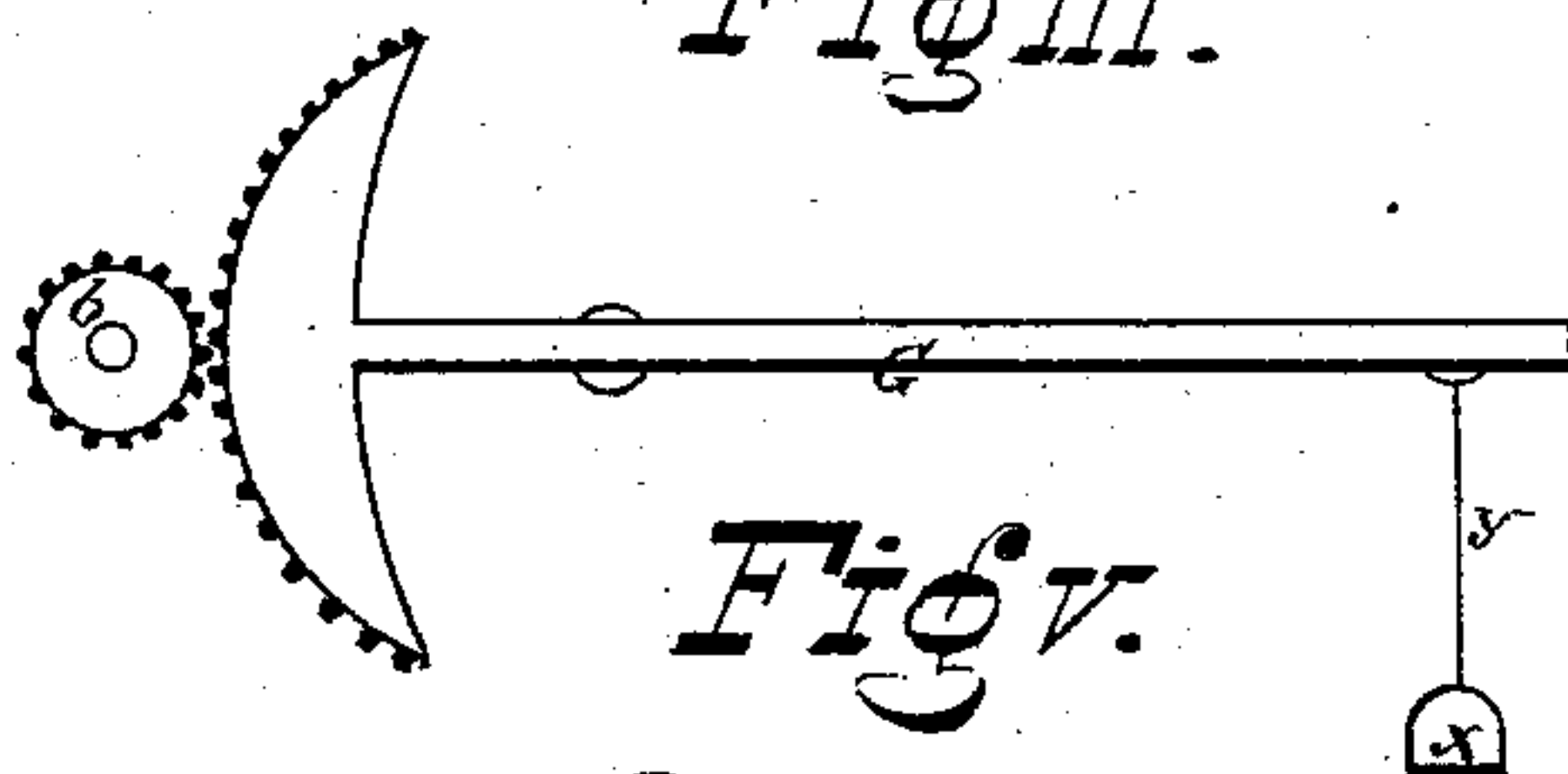


Fig. V.

Witnesses

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SPRING-MOTOR.

SPECIFICATION forming part of Letters Patent No. 275,410, dated April 10, 1883.

Application filed January 29, 1883. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN B. POWELL and JAMES I. ATKINS, of Petoskey, Emmet county, Michigan, have invented a new and useful Improvement in Spring-Motors, of which the following is the specification.

Our invention relates to and consists in a combination of a spring-motor, the details of which are hereinafter more fully described. We attain this object by the mechanism illustrated in the accompanying drawings, in which similar letters indicate corresponding parts in all the figures.

Figure 1 shows the complete motor. Fig. 2 shows the gearing inside of the case; Fig. 3, a detached part of the case in which the spring-wheel and gearing are inclosed. Fig. 4 shows an end view of the bracket. Fig. 5 shows the winding-lever with ratchet-wheel.

A represents a table or support, on which the motor is held by brackets B. (See Fig. 2.)

C is the case that incloses the spring-wheel and gearing.

D is the spring-wheel.

E is the belt-wheel.

F is a brake and belt wheel.

G is the winding-lever, that has its bearings at *a*, and when worked up and down on the ratchet-wheel *b* turns the wheel *c* on the hollow shaft H. The wheel *b*, by means of the ratchet, when the handle end of the lever is raised, turns backward, and when pressed down the spring-pawl between the wheel *b* and *c* catches and turns the wheel *c*, and a catch-spring, *d*, holds it from turning backward. The wheel *c* being fast onto the hollow shaft H, and the inner end of the flat coil-spring being fastened to the hollow shaft, the spring is wound and held by the wheel *c* and catch-spring *d* from unwinding, and the outer end of the said coil-spring is fast onto the spring-wheel D on the inside of the rim at *z*. Thus the spring-wheel D receives the pressure of the spring, and by its projecting toothed rim, being engaged with the cog-wheel *e*, transmits its power to the double wheel *f*, and the double cog-wheel *f* to the double cog-wheel *g*, and the double cog-wheel *g* to the pinion *k* on the shaft *i*, and the shaft *i* transmits power to the band-wheels E and F,

from which it may be communicated to any device, such as a sewing-machine, churn, fan, &c.

A spring-brake, J, is placed on the case by screws or bolts, and springs against one of the band-wheels to govern the motion and to hold the motor from running when not in use. When the motor is wanted to work, the brake is to be pushed aside. Wood is to be used in the brake to rub on the wheel, which, when worn, may be replaced.

K is a brace fastened to the case by screws or bolts, and made to receive the end of the hollow shaft H.

The cog-wheels *e*, *f*, and *g* are hung on pins or spindles *l*, projecting from the case C. The case C is fastened by screws at *m* to hold it together.

n is an arm-brace holding in a bearing the hollow shaft H, the shaft *i*, and one end of the shaft or pin on which the lever G works. The lever G and spring-brake J should project far enough to be convenient to work a stirrup, *x*, and strap *y* is to be attached to the winding-lever, as in Fig. 5; or a treadle may be substituted.

We do not confine ourselves to the precise form of the details, as they may be varied without departing from the substance of our invention.

What we claim as new, and desire to secure by Letters Patent, is—

1. The spring-motor composed of the case inclosing the overhanging geared spring-wheel, said spring-wheel and the spring-winding mechanism being secured on the hollow shaft, the transmitting-gear, brake-wheel, and band-wheel on the solid shaft, the latter passing through the hollow shaft, and the spring-brake, all arranged substantially as and for the purpose set forth.

2. The combination of the solid shaft within the hollow shaft, the latter having its bearings on the braces *n* K, substantially as described.

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Witnesses:

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