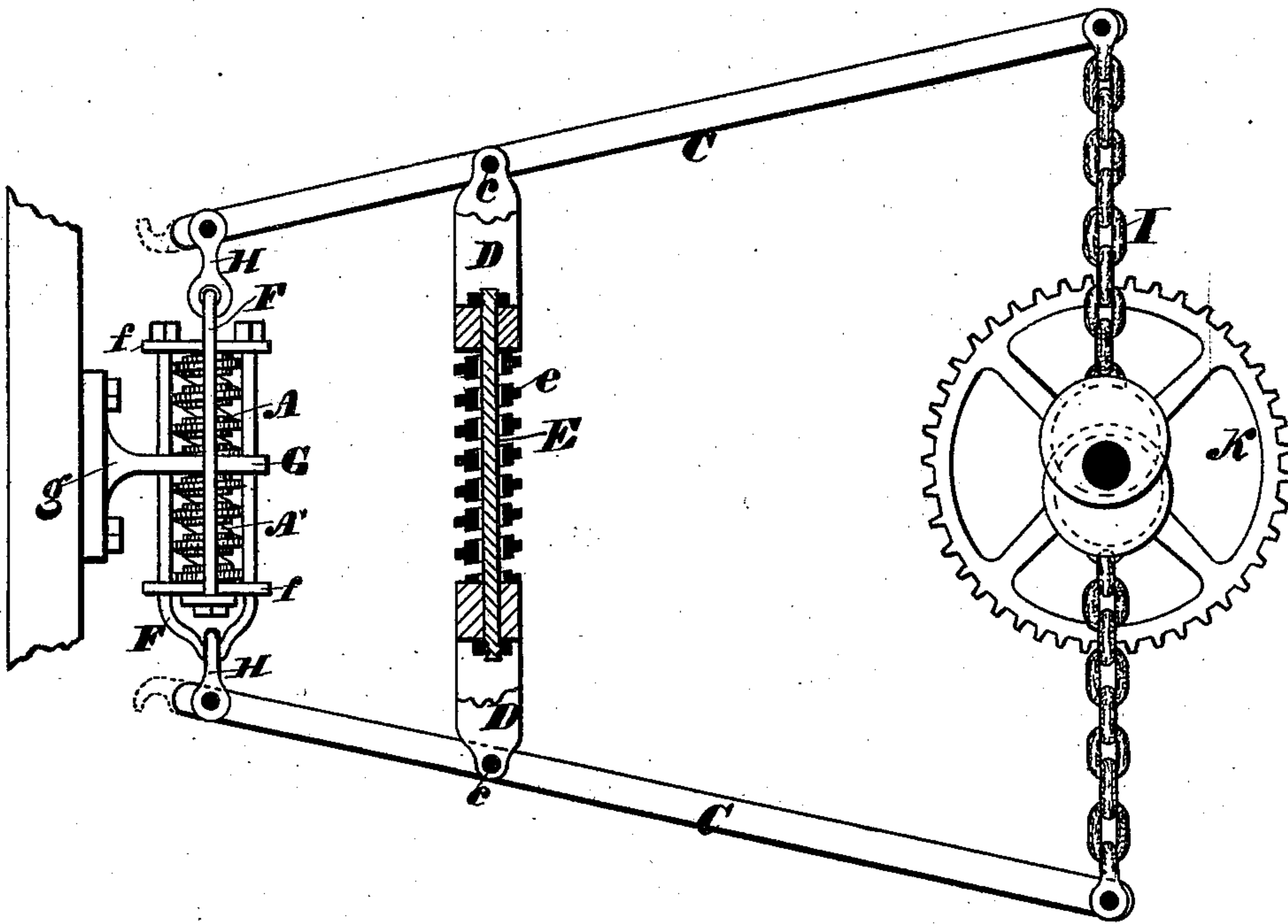


G. F. GODLEY.
 SPRING-POWER.

No. 176,620

Patented April 25, 1876.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE F. GODLEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SPRING-POWERS.

Specification forming part of Letters Patent No. 176,620, dated April 25, 1876; application filed February 9, 1876.

To all whom it may concern:

Be it known that I, GEORGE F. GODLEY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Spring-Powers, &c.; and 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, in which the figure is a front elevation of my invention.

The object of my invention is primarily to furnish a spring-motor of great power and effectiveness.

The nature of my improvements consists in the peculiar construction, combination, and arrangements of parts whereby the expansive power of a spring will be exerted equally in both directions of its length.

Referring to the accompanying drawing, A and A' represent two springs sustained between levers C C. Said levers are each pivoted at *c* in fulcrum-blocks D D, said blocks being connected by a rod, E, which passes through a spring, *e*. F F are U-shaped rods, having their respective ends fastened in plates *f f*, which form end bearings or heads for the springs A A'. G is a plate which passes between the springs A A', having an extension, *g*, for the attachment of the motor to any convenient fixture. H H represent hooks which connect the ends of the levers C C with the rods F F.

The springs A A' will be compressed by any suitable mechanism, preferably by gearing I K, located between the opposite ends of the levers C C. The ordinary or any suitable arrangement of pawl-and-ratchet mechanism will, of course, be employed in connection with the gearing I K, so that the chain may be wound upon its drum without affecting the parts to which, through said gearing, the power of the motor is afterward transmitted. The compression by this means of said springs will cause the fulcrum-spring *e* to be also compressed, the rod E passing into the blocks D D as the latter approach one another.

The expansive force of the springs will be exerted to distend the levers C C on the opposite side of their fulcrum-pivots *c c*, thus drawing upon the rope or chain I, and communicating motion through gearing K.

The described combination and arrangement of said springs with the rods F and heads *f* causes their expansive force to be exerted equally in both directions of their length, thus obtaining greater uniformity, steadiness, and power than could be otherwise achieved.

The spring *e* is used as a means of re-enforcing the springs A A', as when compressed it aids in distending the levers C C.

This arrangement of spring is also applicable to railroad-car draw-springs, and other springs where great resisting power is required.

What I claim as my invention is—

1. Springs A A' placed between end plates *f f*, and connected by rods F, substantially as described, so that the expansive force of said springs will be exerted in both directions of their longitudinal axis, substantially as set forth.

2. The combination of the springs A A', rods F F, and intermediate plate-end or bearing G, substantially as shown and set forth.

3. In combination with pivoted levers C C, the spring *e*, affording elastic fulcrum for said levers, substantially as shown and described.

4. In combination with the springs A A', rods F F, and heads *f*, the levers C C, substantially as shown and described.

5. The combination of springs A A', levers C C, fulcrum D D, spring *e*, rods F F, and plates or heads *f f* G, the several parts being arranged and combined for operation substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand.

GEORGE F. GODLEY.

Witnesses:

J. R. MASSEY,

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