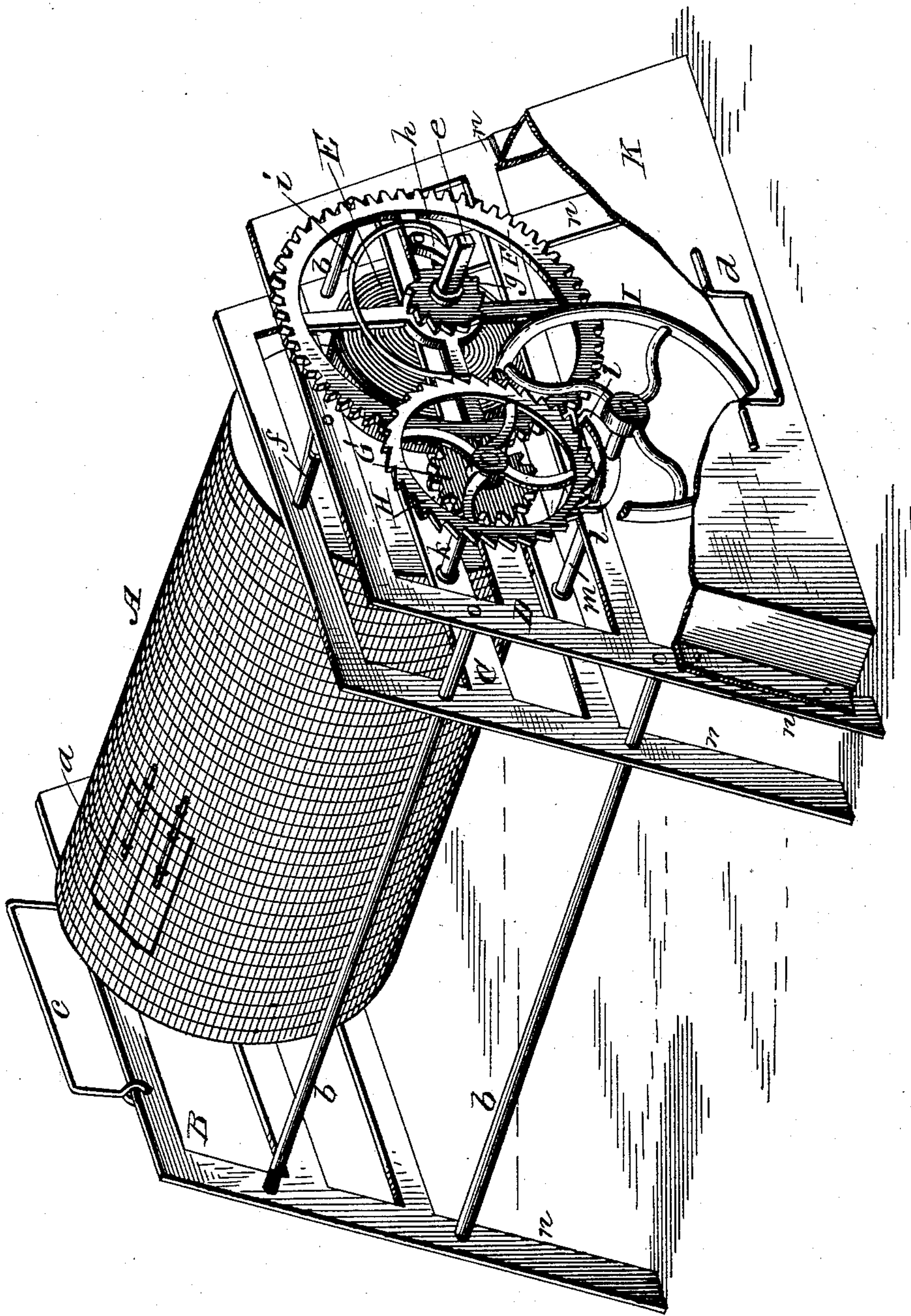


(No Model.)

C. KLEIN.
MOTOR.

No. 328,318.

Patented Oct. 13, 1885.



Witnesses
Wm. J. Reiden.
L. L. Miller.

Inventor
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By *his* Attorney *Chas. H. Fowler*

UNITED STATES PATENT OFFICE.

CHARLES KLEIN, OF CAPE GIRARDEAU, MISSOURI.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 328,318, dated October 13, 1885.

Application filed April 30, 1885. Serial No. 163,921. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KLEIN, a citizen of the United States, residing at Cape Girardeau, in the county of Cape Girardeau and State of Missouri, have invented certain new and useful Improvements in Spring-Motors; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The present invention has for its object to provide a simple and effective spring-motor to impart a rotary motion to such cylinders as are used in coffee-roasters, washing-machines, churns, and other machines wherein is employed a horizontal rotary cylinder; and the invention consists in the several details of construction, substantially as shown in the drawing, and hereinafter described and claimed.

In the accompanying drawing, which represents a perspective view of my invention, I have shown it as applied to a coffee-roasting cylinder, which is preferably constructed of wire-gauze, the cylinder A being provided with the usual door, *a*.

The frame, which is applicable as a support for all classes of cylinders having a horizontal rotary motion, consists of three metal sections, B C D, which I term "open-frame" or "skeleton" sections, and are connected together by horizontal stay-rods *b*, forming together a very light and durable frame for the machine.

The two end sections C D form bearings for the shafts hereinafter described, and the section B is provided with a handle, *c*, a similar handle, *d*, being connected to the opposite end of the frame for convenience of lifting and moving the machine from one place to another, as found desirable.

The shaft *e* of the cylinder A has its bearings in the frame, and at one end has a spring, E, connected thereto, one end of the spring being fastened to the shaft and the opposite end

to a short bolt, *f*, between the frame-sections C D.

A gear-wheel, F, is connected to the shaft *e* and located upon the outside of the frame-section D, said wheel being provided with a ratchet, *g*, with which engages a pawl, *h*, retained in operating position by a spring, *i*.

Engaging with the teeth of the wheel F is a pinion, G, mounted upon a short shaft, *k*, which has its bearings in the frame-sections C D.

The outer end of the shaft *k* is connected to an escape-wheel, H, with which alternately engage the pallets *l* on the shaft *m*, said shaft carrying the balance or fly wheel I.

To the frame-section D is bolted or otherwise fastened a casing, K, to cover the gearing and shield it, the gearing being located at the end of the frame for this purpose.

The skeleton-frame sections B C D are each cast with legs *n*, to support the cylinder at the required height to allow the heat to freely circulate under it when used as a coffee-roaster or steam-washer.

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

In a spring-motor, the combination, with the three skeleton-frame sections B C D, connected together by horizontal stay-rods *b*, and supporting a suitable cylinder, of the spring E, located between the sections C D, and connected to the bolt *f* and shaft of the cylinder, the gear-wheel F and ratchet *g*, keyed to the shaft of the cylinder, and the escape-wheel H, pinion G, fly-wheel I, and pallets *l*, mounted upon short shafts having their bearings in the frame-sections C D, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES KLEIN.

Witnesses:

WILLIAM BONNEY,
G. A. CHAPPELL.