

No. 625,779.

Patented May 30, 1899.

M. LANE.
SPRING HINGE.

(Application filed July 29, 1898.)

(No Model.)

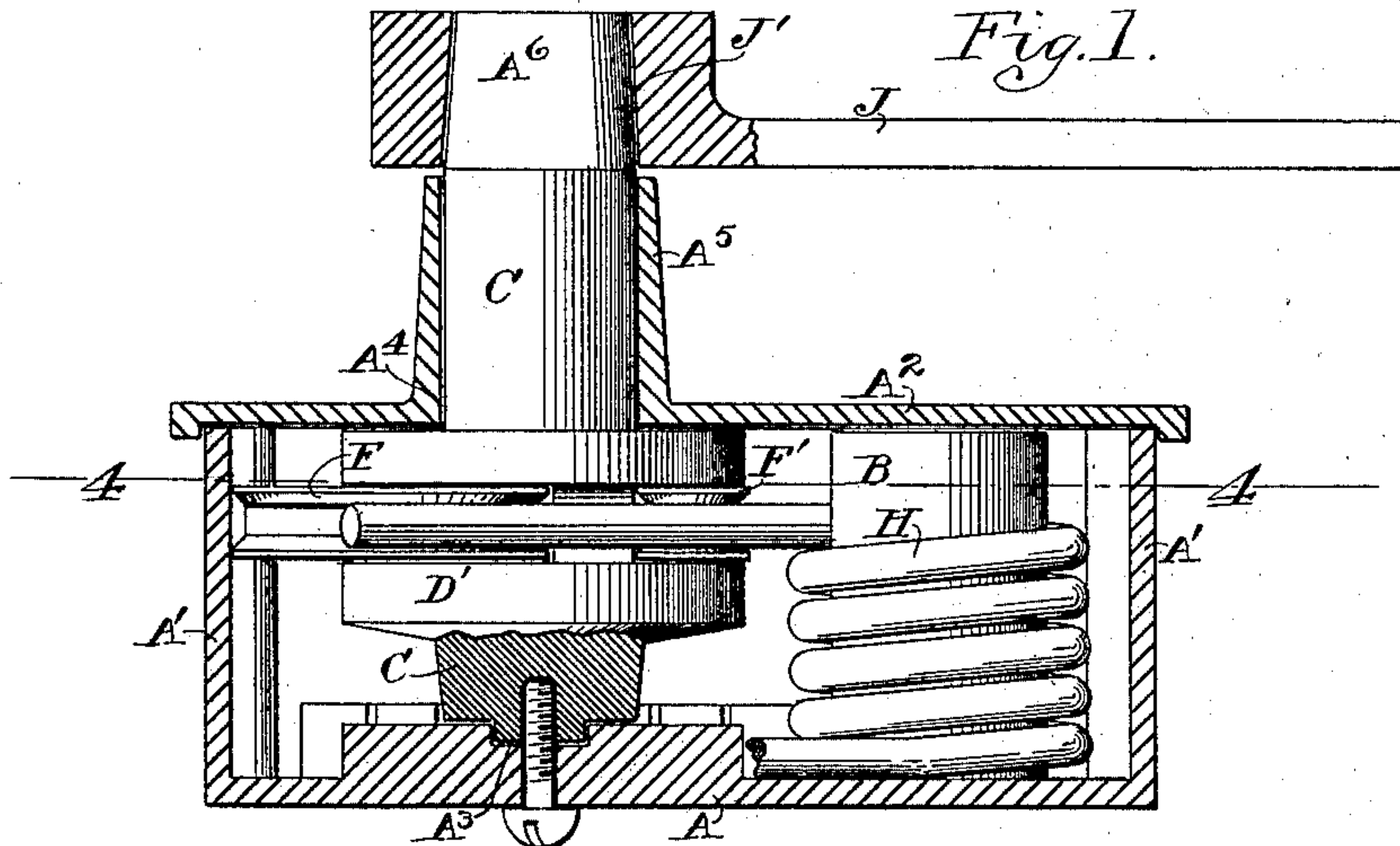


Fig. 1.

Fig. 2.

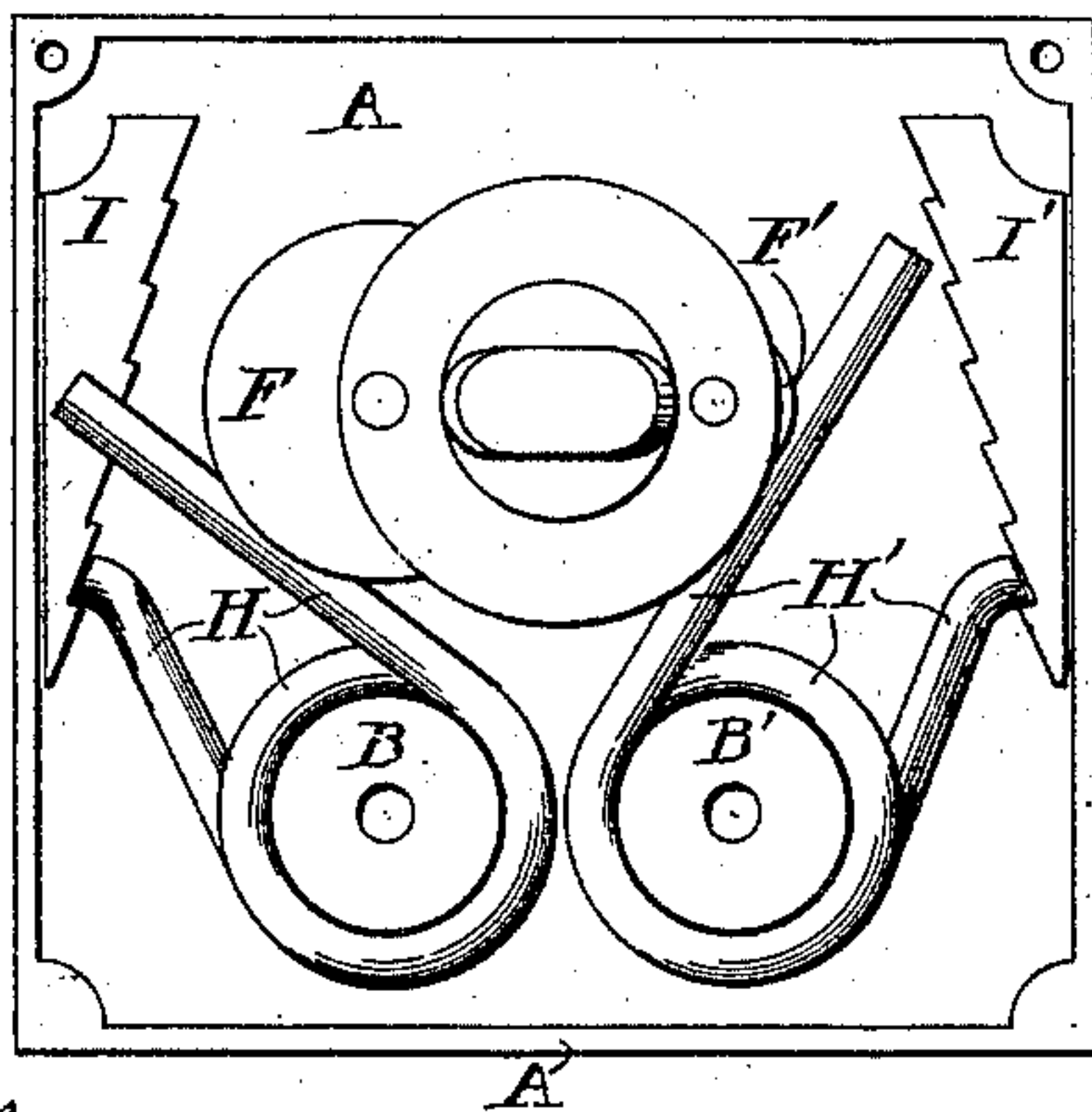
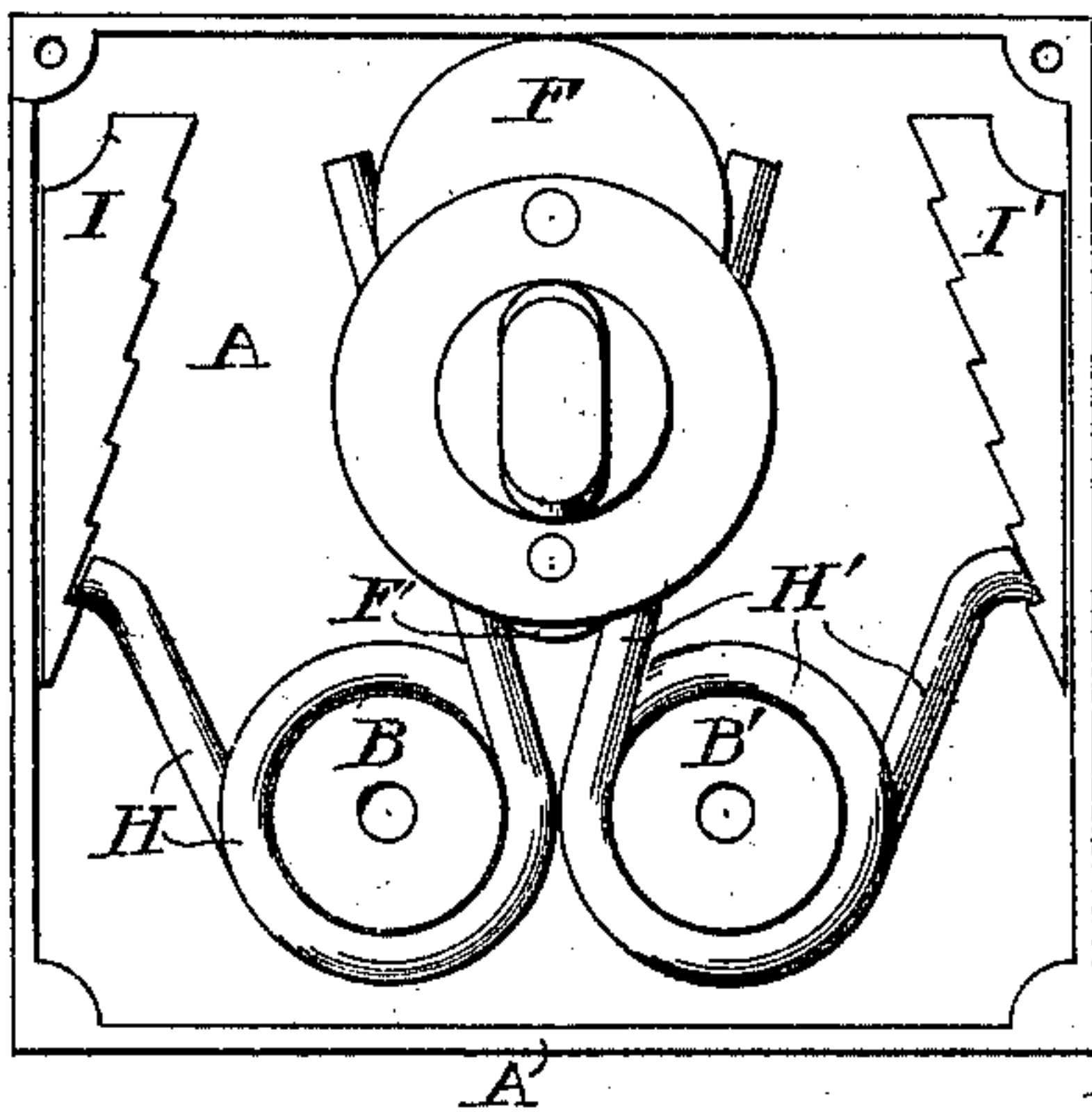
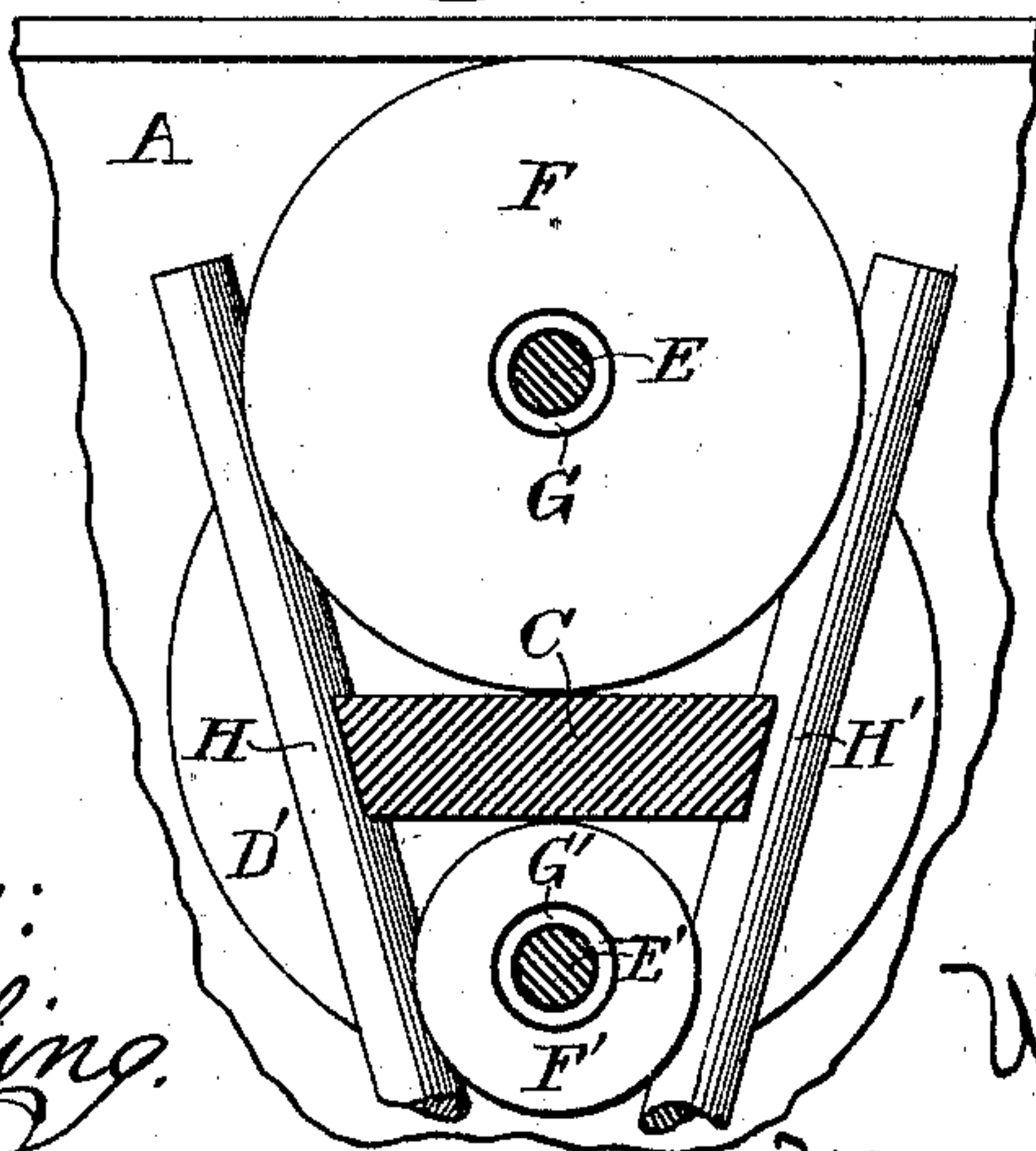


Fig. 3.



Witnesses:
C. F. Dowling.
Kate J. O'Connor.

Inventor:
Marcus Lane,
Per Morrisaw & Miller,
Att'ys.

UNITED STATES PATENT OFFICE.

MARCUS LANE, OF FREEPORT, ILLINOIS.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 625,779, dated May 30, 1899.

Application filed July 29, 1898. Serial No. 687,238. (No model.)

To all whom it may concern:

Be it known that I, MARCUS LANE, a citizen of the United States of America, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a specification.

My invention relates to a double-acting spring-hinge for holding a door, adapted to swing both inward and outward, normally closed; and it consists of certain new and useful features of construction and combinations of parts hereinafter fully described, and specifically pointed out in the claims.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a central vertical section of the hinge-case and parts of the hinge. Fig. 2 is a top plan view of the hinge with its parts in position to hold a door closed. Fig. 3 is a like view of the same, showing the positions assumed by the parts thereof when the door is wide open. Fig. 4 is a section at the dotted line 4 4 in Fig. 1 of parts there shown.

Like letters of reference indicate corresponding parts throughout the several views.

A A' A² are the base, sides, and top of the hinge-case. The base A has a short tubular bearing A³ sunk thereinto. The top A² has a circular bearing A⁴, extending therethrough, which is prolonged by means of the tubular portion A⁵ integral therewith.

B B' are cylindrical studs projecting vertically upward from the bottom A of the hinge-case, whereto they are rigidly connected by being cast integral therewith or otherwise.

C is a rock-shaft vertically mounted in the bearings A³ A⁴ in the hinge-case and provided with lateral projections D D', supporting the vertical pintles E E', the axes of the pintles and rock-shaft all being in the same vertical plane.

F F' are peripherally-grooved pulleys mounted on opposite sides of the rock-shaft C on the pintles E E'.

G G' are bushings freely turning in the pulleys F F' and upon the pintles E E'.

H H' are spiral springs engaging by their upper ends with the grooved peripheries—a preferable form only—of the pulleys F F' and connected by their lower ends—in this in-

stance intermediately—with the base A of the hinge-case.

I I' are ratchet-keys for adjusting the tension of the spiral springs H H', their tension being increased by sliding the keys toward B B' and diminished by sliding them in the opposite direction.

J is a hinge-plate rigidly connected with and projecting horizontally from the rock-shaft C, being connected therewith by means of a tapering shank A⁶ thereon and a corresponding eye J' therein or in any other suitable manner.

In use the hinge-case and all its contents, as shown in Fig. 1, are so placed that the upper surface of the top A² will be on a level with the upper surface of the under or rough floor. Thereafter the upper floor is so laid as to cover the top A², extending over to, around, and to the top of the tubular portion A⁵.

The hinge-plate J and shank A⁶ are set into a mortise in the lower end of the door (not shown) to be controlled by the spring-hinge.

I claim and desire to secure by Letters Patent—

1. In a spring-hinge, in combination, a vertically-mounted rock-shaft provided with lateral projections supporting two vertical pintles, two pulleys mounted, on opposite sides of the rock-shaft, on the vertical pintles and two spiral springs engaging, by their upper ends, with peripheries of the pulleys, and connected, by their lower ends, with the base of the hinge, substantially as and for the purpose specified.

2. In a spring-hinge, in combination, a vertically-mounted rock-shaft provided with lateral projections supporting two vertical pintles—the axes of the pintles and the rock-shaft all being in the same vertical plane—two pulleys mounted, on opposite sides of the rock-shaft, on the vertical pintles, two spiral springs engaging, by their upper ends, with the peripheries of the pulleys, and connected, by their lower ends, with the base of the hinge, and the ratchet-keys for adjusting the tension of the spiral springs, substantially as and for the purpose specified.

MARCUS LANE.

Witnesses:

L. L. MORRISON,
NELLIE BUNKER.