

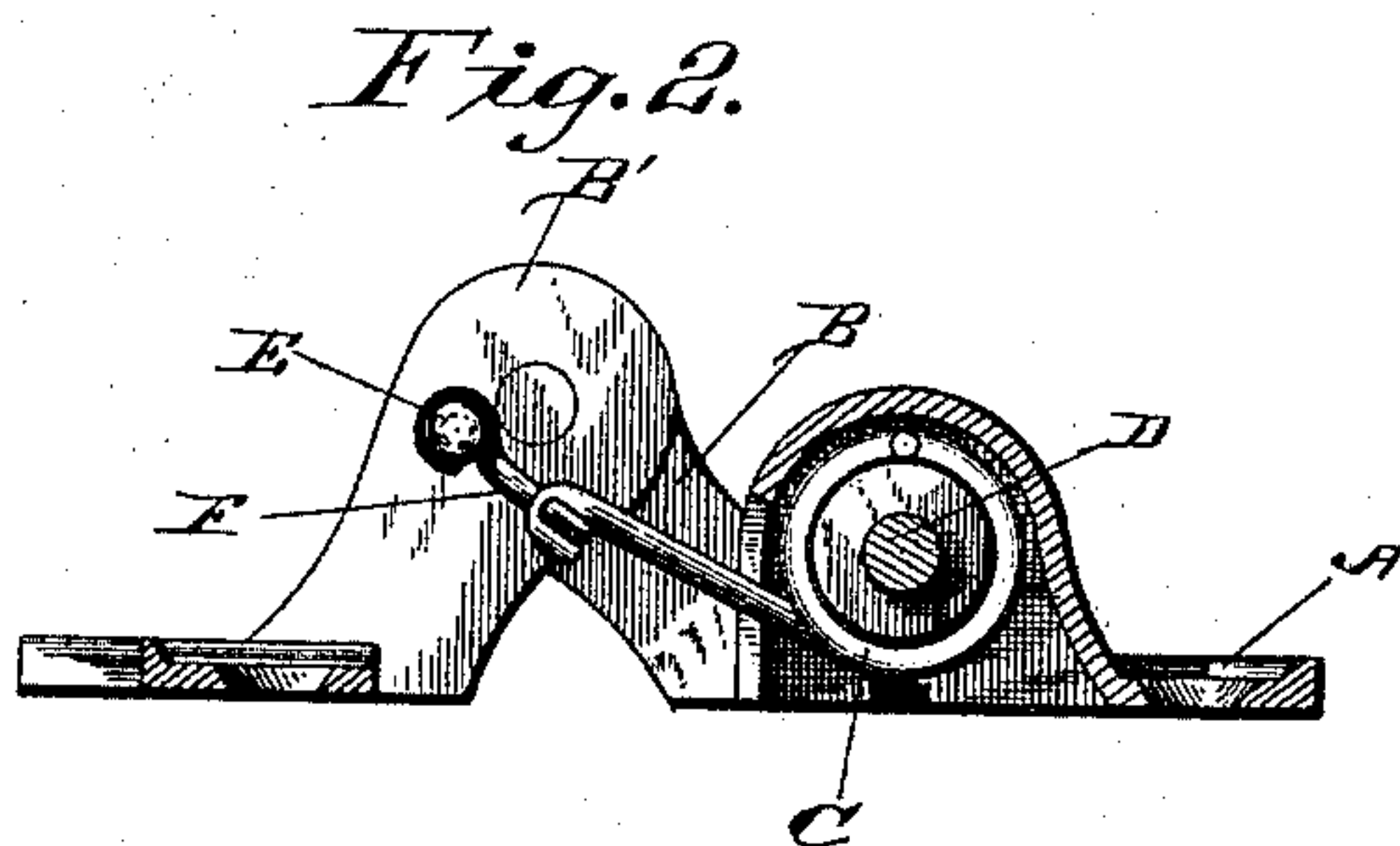
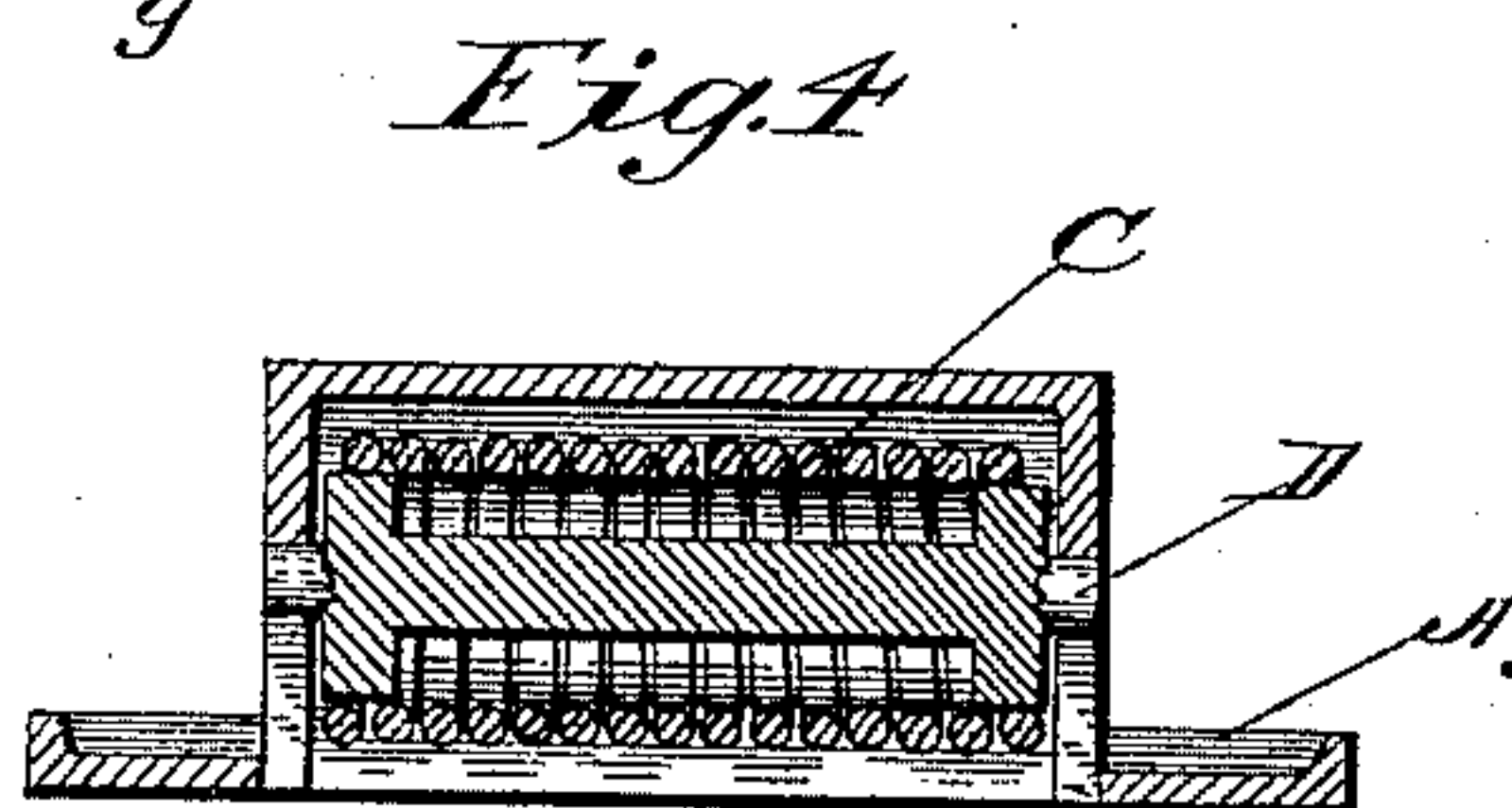
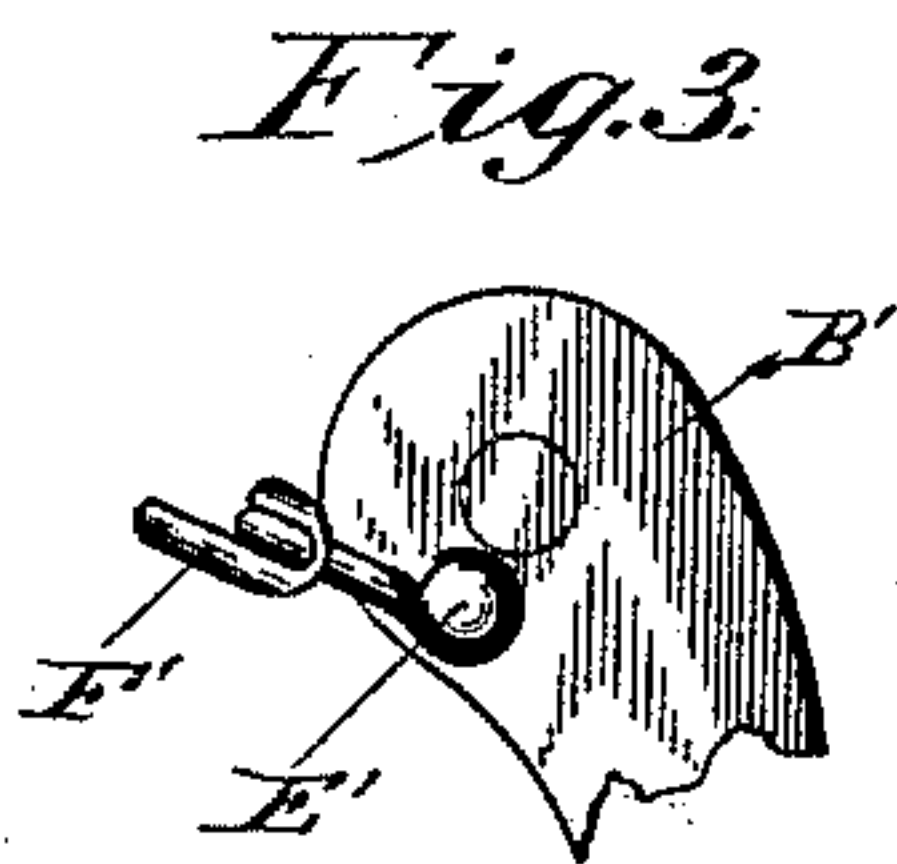
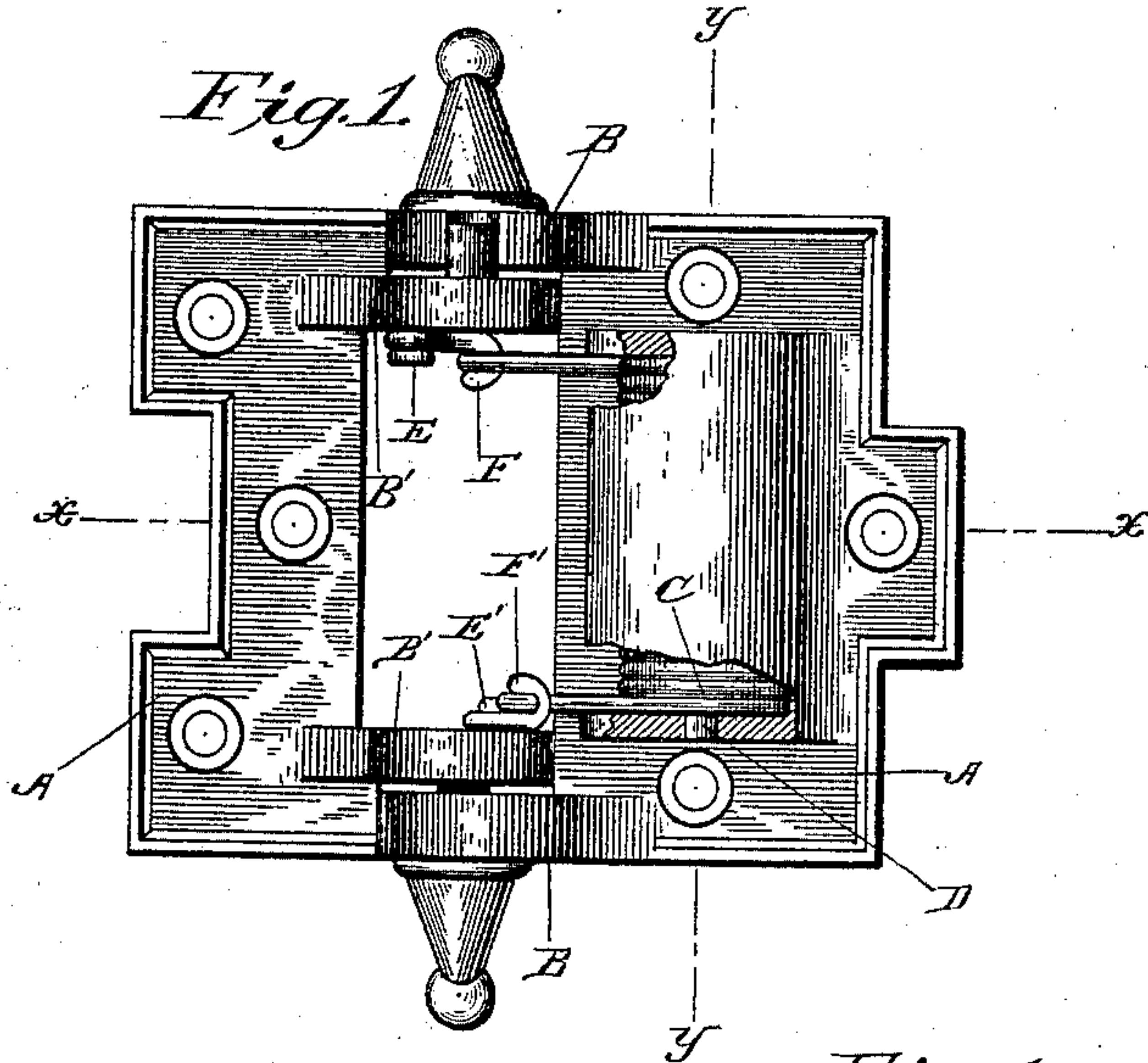
(No Model.)

L. M. DEVORE & F. W. HOEFER.

SPRING HINGE.

No. 396,650.

Patented Jan. 22, 1889.



Witnesses
H. J. Rohrer.
C. W. Green

Inventors.
Levi M. Devore
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UNITED STATES PATENT OFFICE.

LEVI M. DEVORE AND FREDERICK W. HOEFER, OF FREEPORT, ILLINOIS,
ASSIGNORS TO THE STOVER MANUFACTURING COMPANY, OF SAME
PLACE.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 396,650, dated January 22, 1889.

Application filed October 26, 1888. Serial No. 289,182. (No model.)

To all whom it may concern:

Be it known that we, LEVI M. DEVORE and FREDERICK W. HOEFER, both residents of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Spring-Hinges; and we 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 the same.

Our invention relates to spring-hinges adapted to resist the opening of the door until the latter is swung through a certain number of degrees, and to resist its closing after it has been still further opened.

In the accompanying drawings, to which this specification refers, Figure 1 is a plan of the hinge. Fig. 2 is a section on the line $x x$, Fig. 1. Fig. 3 is a view showing a part of the hinge, looking in the contrary direction. Fig. 4 is a section on the line $y y$, Fig. 1.

In our application, Serial No. 265,460, filed February 27, 1888, we have described and claimed a hinge having certain features in common with the hinge which is the subject of this application, and we therefore now claim only such novelty as may hereinafter appear.

In the drawings, $A A'$ are two leaves provided, respectively, with ears $B B$ and $B' B'$, lying at opposite ends of the hinge and forming two pairs of contiguous ears. These are pivoted in the usual manner, and thus far the hinge presents no novelty. The central portion of the leaf A is raised above the plane of the remainder, forming a partial cylinder with closed ends to serve as a cover for a spring, C , coiled in helical form about a spring-arbor, D , whose ends rest in suitable bearings in the end walls of the spring-cover. When the spring is in position, with the hinge closed, its ends both project toward the opposite leaf, and are connected, respectively, by links $F F'$ to studs or pins $E E'$ upon the inner faces of the ears $B B'$ of the opposite leaf. In this position the line of the strain exerted by the spring passes below the pintle-line of the hinge, and, consequently, the tendency is to close the door. Now either leaf may be placed on the door and the opposite leaf upon the jamb, since the relative movement is the same in both cases; but, for convenience in description, the leaf A' may with advantage be sup-

posed fixed upon the jamb. When this is the case, opening the door carries the spring bodily about the hinge-pintle and also about the fixed pins $E E'$, gradually increasing the tension upon one or both pins until the line of strain crosses the pintle-line of the hinge. From this point the gradually-decreasing tension tends to hold the door open. It is desirable, though not absolutely essential, that the lines of strain at the two ends of the hinge should cross the pintle-line at the same instant. To accomplish this result it is necessary, since the two ends of the spring pass, respectively, to the top and to the bottom of the coil, to place the pins $E E'$ in different positions with reference to the pintle-line.

We are aware that is not new to construct a hinge that holds the door shut or open according to the position of the latter when it is left to the action of the hinge alone, and also that it has been proposed to place the spring at one side of the pintle-line in this class of hinges; but the construction set forth is thought to secure desirable results in a novel manner and to offer material advantages, since the complete hinge has but four pieces, and these of such form that most of the usual expense of cores is avoided.

What we claim is—

1. The combination of two suitably-connected hinge-leaves, one of which is provided at each end with a pivotal stud or pin, a spring-coil mounted parallel to the hinge-axis upon the other of said leaves, and links connecting, respectively, the ends of said spring with said pins, substantially as set forth.

2. The combination, with the leaf A' , provided with the pins $E E'$, and the leaf A , joined to the leaf A' by suitable pintles, of the spring-arbor D , mounted in suitable bearings upon the leaf A , the spring C , coiled about said arbor, and the links $F F'$, connecting the ends of said spring with said pins, respectively, substantially as and for the purpose set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

LEVI M. DEVORE,
FREDERICK W. HOEFER.

Witnesses:

MICHAEL STOSKOPF,
LEONARD STOSKOPF.