

(No Model.)

C. ZATTAU.
SPRING HINGE.

No. 403,713.

Patented May 21 1889.

Fig. 1.

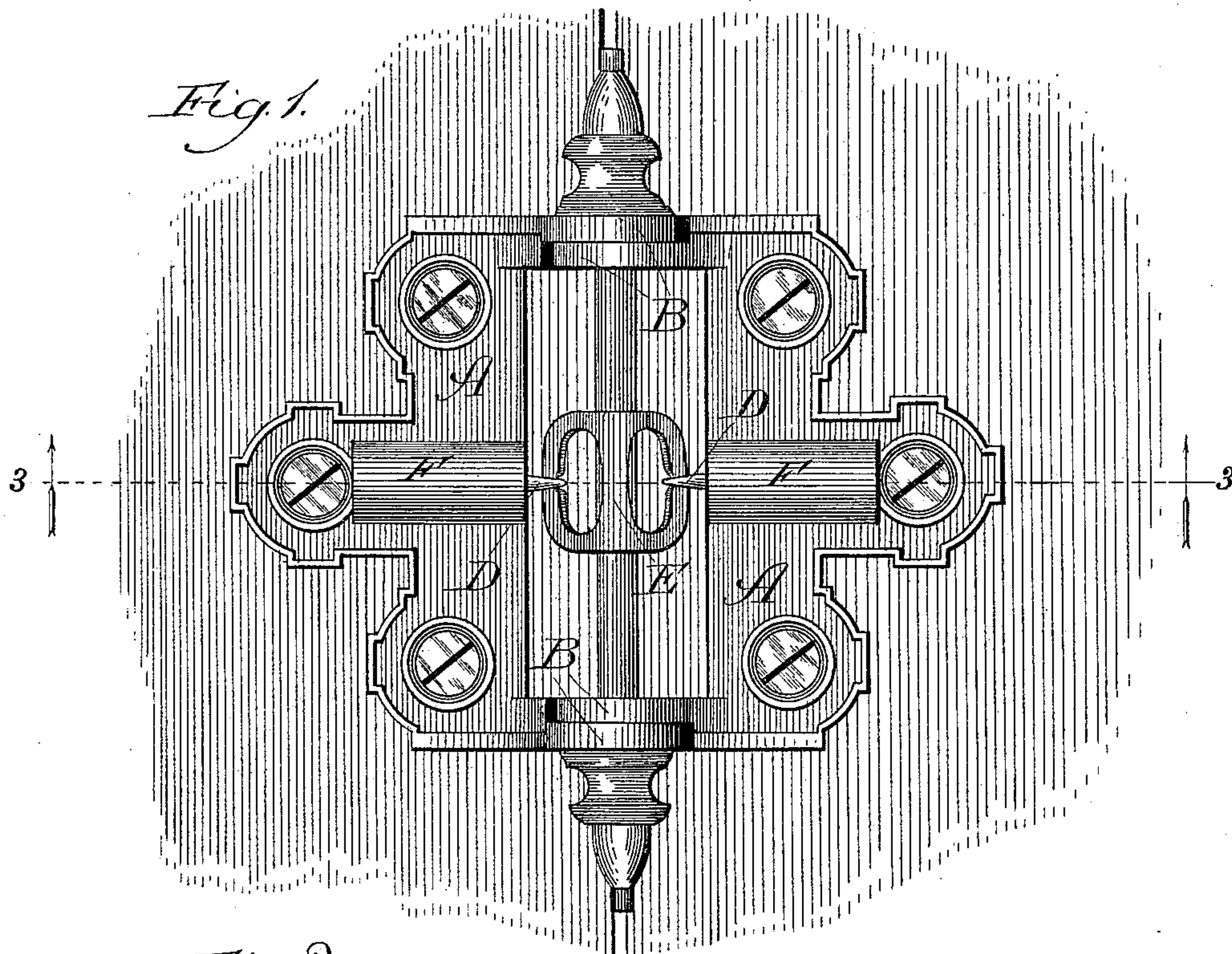


Fig. 2.

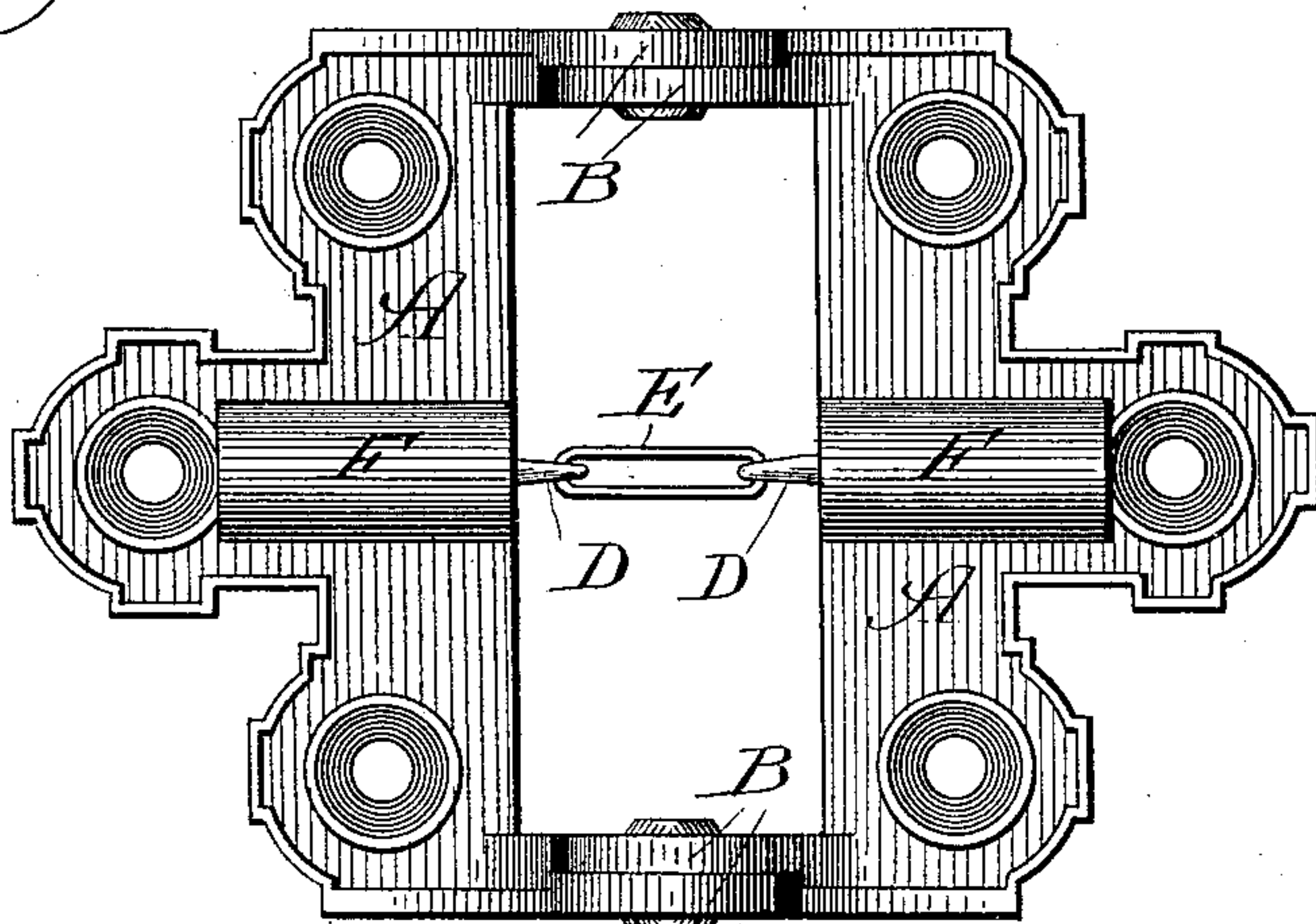
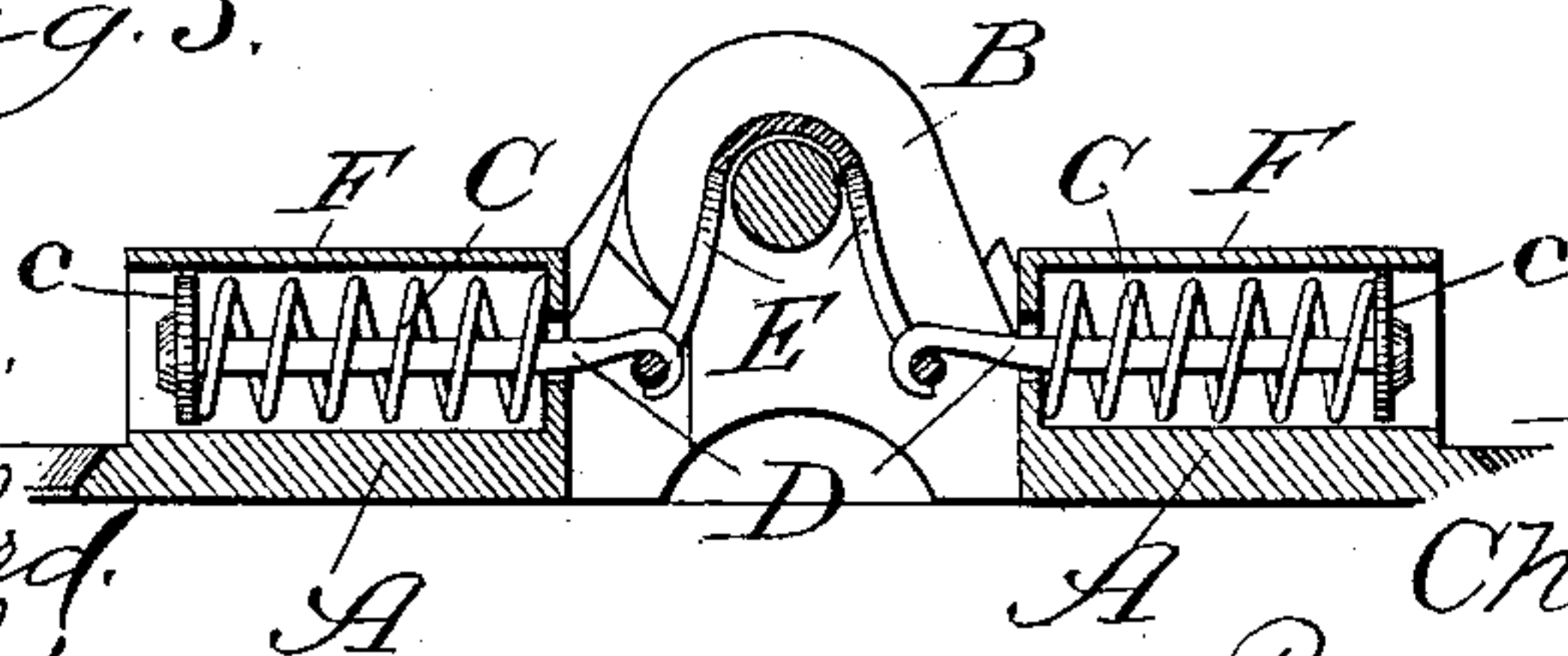


Fig. 3.



Witnesses:

Chas. Gaylord.
Clifford V. White.

Inventor:

Charles Zattau,
By Banning & Banning & Payson,
Attys.

UNITED STATES PATENT OFFICE.

CHARLES ZATTAU, OF MORRIS, ASSIGNOR TO THE COLEMAN HARDWARE COMPANY, OF CHICAGO, ILLINOIS.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 403,713, dated May 21, 1889.

Application filed August 2, 1888. Serial No. 281,831. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ZATTAU, a citizen of the United States, residing at Morris, Illinois, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a specification.

The object of my invention, in general terms, is to construct a spring-hinge for doors, gates, window-shutters, and similar purposes, which in operation will tend to hold the door or gate to which it is attached closed until it has been opened beyond a certain point, when the spring will tend to hold it open; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a hinge connecting my improvements. Fig. 2 is a plan view of the same somewhat modified; and Fig. 3 is a transverse vertical section taken through the hinge shown in Fig. 1, through the longitudinal axis of the springs.

A A represent the hinge-leaves; B B, the ears or lugs by which they are pivotally connected together; C C, the springs; c c, washers at the outer ends of the springs; D D, hooks extending from the washers through the springs; E, a link connecting the inner ends of the hooks together, and F F inclosing chambers or cases in which the springs are located.

In making my improved spring-hinge I make two leaves of suitable form provided with ears or lugs rising above the plane of the hinge-leaves and adapted to embrace each other. These ears or lugs are intended to be pivotally connected together, either by a pintle extending from one end of the hinge to the other, as shown in Fig. 1, or by simple rivets, as shown in Fig. 2. It is immaterial which form of connection is used, so long as the hinge-leaves are thus pivotally connected together to enable them to fold or turn about the pivot as an axis.

In making the hinge-leaves I prefer to provide them with a chamber or case, F, extending crosswise of the leaves, which may be done by casting them integral with the leaves, or by making them separately and afterward

attaching them to the leaves. The outer ends of the chambers are intended to be open and the inner ends to be provided with a hole, through which the end of a hook may extend. I then make coiled springs of a size and length to permit them to be inserted into the chambers through their outer ends. Hooks D D, provided with washers c c, of a size to nicely fit the interior of the chambers or cases, are then inserted through their outer ends, with the hooks extending through the holes at their inner ends and with the washers resting against the outer ends of the springs, as shown in Fig. 3 of the drawings. A link, E, is then placed on the hooks, connecting the springs together, as shown in Figs. 1 and 2. Where a pintle is used, I prefer to make the link with an upward bow or curve in the middle to pass around the pintle; but where simply rivets are used the link may be straight across, as shown in Fig. 2.

When the parts have been made and put together, as above explained, the folding or closing of the hinge-leaves will operate to bring the hooks closer together and so compress the coils of the springs until the hinge-leaves have been opened beyond a certain point, when the coils will be permitted to open again to their normal position. In this way the tension of the springs will be exerted to keep the door, gate, or other object to which they are attached closed until it has been opened to a certain point, when the tension of the springs will tend to hold it open until it has been sufficiently closed to cause the tension of the springs to be again exerted to hold the door or gate closed.

Various modifications can be made in details of construction without affecting the principle of operation. For instance, but one spring may be used and the link connected to a stud or hook on the opposite leaf. Springs with their coils close together instead of open and with their outer ends fastened in a fixed position, and the hooks attached to their inner ends may be used, if preferred, and the chambers or cases in which the springs are located may simply be guides or ways to maintain the parts in their proper relative

positions. All these matters are simply details of construction that do not need to be described minutely or in detail.

What I regard as new, and desire to secure
5 by Letters Patent, is—

1. In a spring-hinge, two leaves of suitable form provided with ears or lugs pivotally connected together outside of the plane of the hinge-leaves, in combination with two springs
10 arranged, respectively, on the hinge-leaves transversely to the axis of the hinge, and a non-yielding and non-elastic link connecting the hinge-leaves together through the medium of the springs, substantially as described.

2. In a spring-hinge, two leaves of suitable form provided with ears or lugs pivotally connected together outside of the plane of the hinge-leaves and having spring chambers or cases on said leaves transverse to the axis of the hinge, in combination with springs arranged in such chambers or cases, and a link connecting such springs together, substantially as described.

CHARLES ZATTAU.

Witnesses:

M. WEIDNER,
J. B. MORGAN.