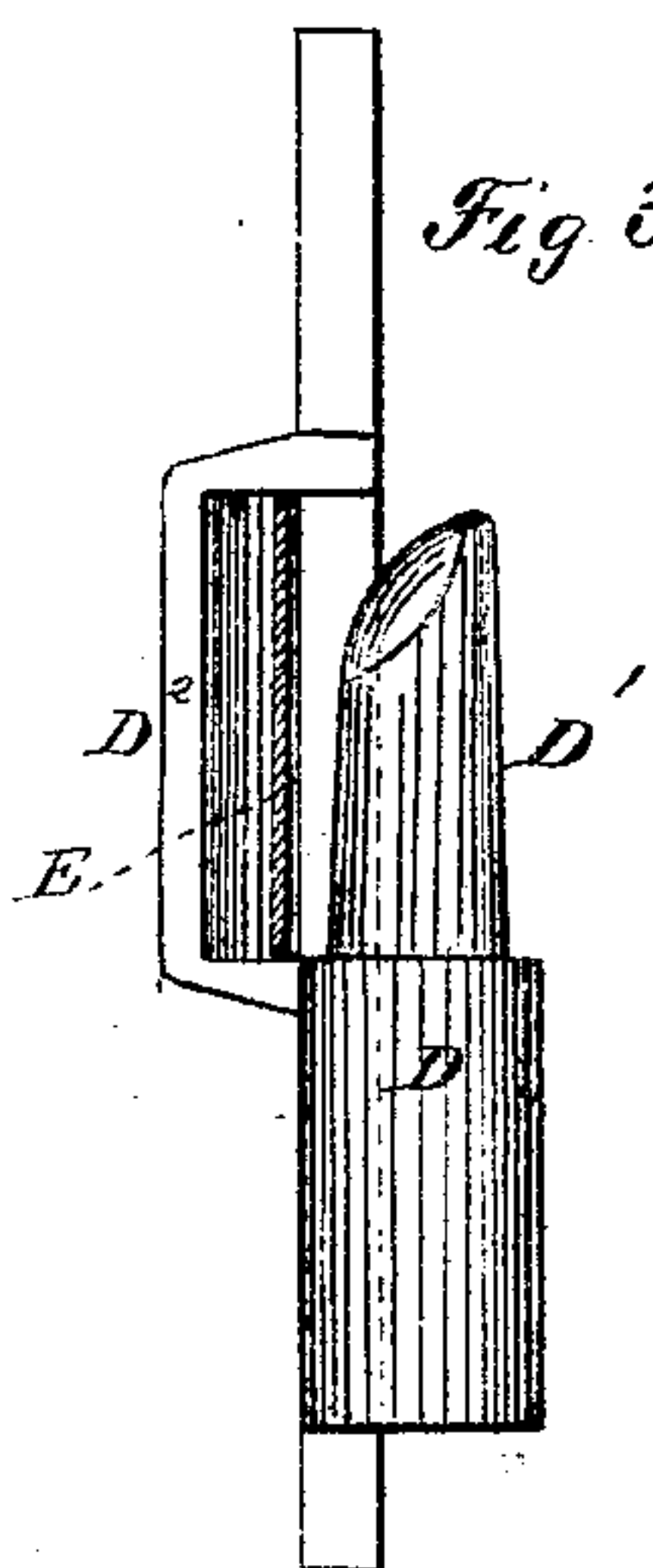
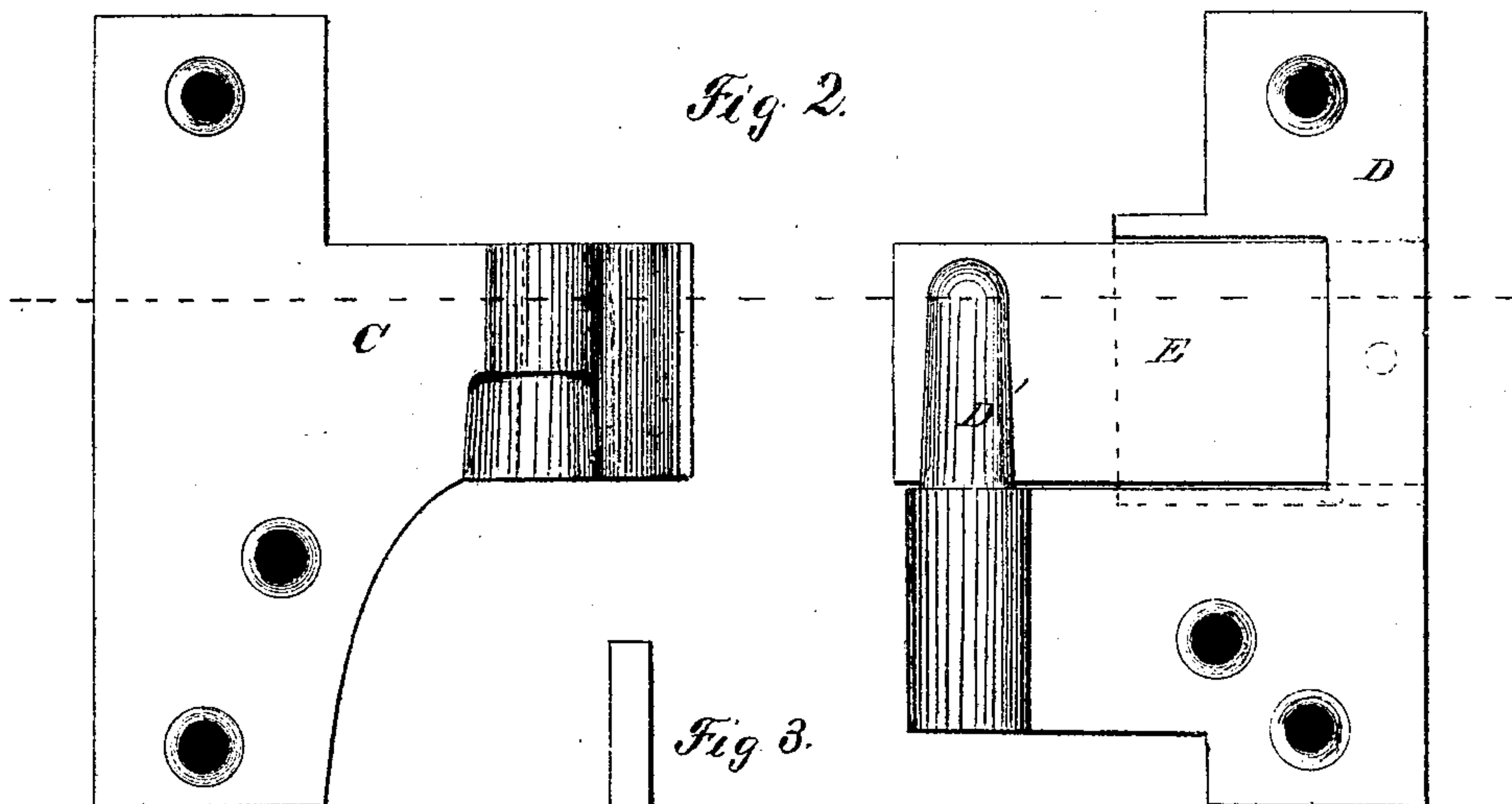
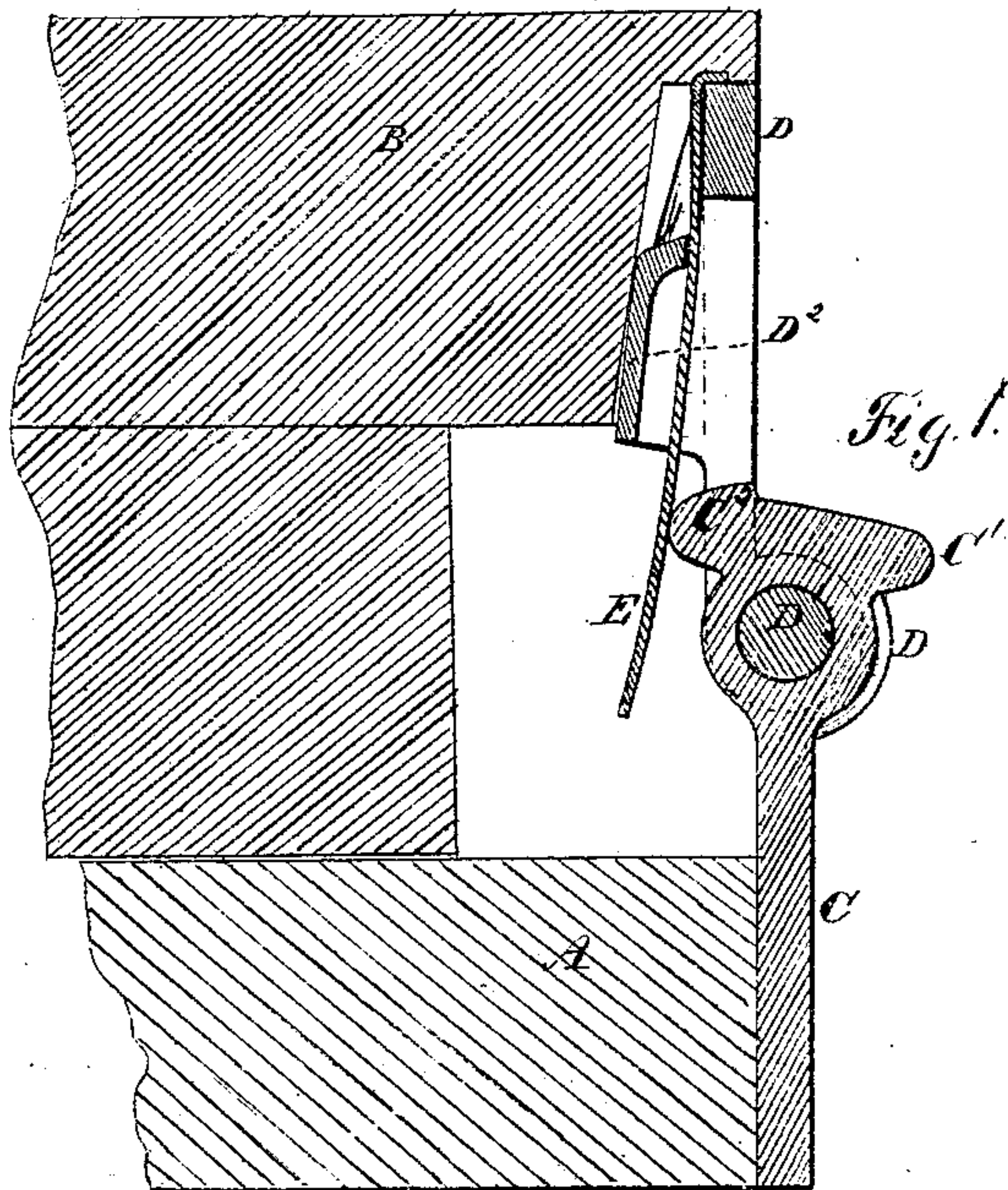


N. SEHNER.

Improvement in Spring-Hinges.

No. 114,719.

Patented May 9, 1871.



Witnesses:

A. Ruppert  
J. G. Hester

Inventor:

N. Sehner  
per Edson Bros.  
Attorneys



# UNITED STATES PATENT OFFICE.

NATHANIEL SEHNER, OF HAGERSTOWN, MARYLAND.

## IMPROVEMENT IN SPRING-HINGES.

Specification forming part of Letters Patent No. 114,719, dated May 9, 1871.

*To all whom it may concern:*

Be it known that I, NATHANIEL SEHNER, of Hagerstown, in the county of Washington and State of Maryland, have invented a certain new and useful Improvement in Hinges; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of the same, and in which—

Figure 1 is a vertical elevation of a door and a portion of its frame having my improved hinge attached thereto, showing the cams upon the hinge, the bridge or bar which supports the spring, and the position of the spring with reference to the other parts of the hinge, the section-line being shown in Fig. 2, which is an elevation of the hinge with the two parts separated, for the purpose of showing the construction thereof to better advantage. In this figure the construction and location of the spring are clearly shown. Fig. 3 is a vertical transverse section of that portion of the hinge upon which the spring-pocket, bridge, and pintle are located, the beveled upper end of the pintle being represented.

Corresponding letters in the several figures indicate corresponding parts of my invention.

This invention relates to hinges for doors and other devices to which it is desirable to give a swinging motion, it being designed as an improvement upon the one for which Letters Patent were granted to me on the 4th day of July, 1865, and which is numbered 48,630; and to this end it consists of a flat straight spring, bent at its inner end, in combination with a hinge, such as will be hereinafter described, whereby the use of rivets or other fastenings for securing the former to the latter in the ordinary way, and which weakens the spring, is dispensed with, such connection of said parts being formed by means of the construction alone given to the said parts, and whereby said spring may be inserted in place in the hinge without removing any of the parts of the latter, overcoming an inconvenience and trouble heretofore experienced in the putting on of the spring where rivets were used.

A in the drawings refers to a door, to which one portion of the hinge is attached by screws in the usual manner, and B refers to a door-frame, to which the other portion of the hinge is secured in suitable manner.

C refers to that portion of the hinge which has upon it the cams or projections C' and C<sup>2</sup>, and which is usually attached to the door, window, gate, or other device to be swung. The construction of this portion of the hinge is clearly shown in Figs. 1 and 2 of the drawings, but which, when it is separately considered, forms no part of this invention.

D refers to that portion of the hinge which is usually secured to the frame of a door, window, or gate post, and which carries the pintle. This portion of the hinge has upon its outer face, and at or near its lower end, a projection of any desired form, from which the pintle D' rises, and which enters the aperture in the other portion of the hinge. In the present case the pintle is cast with and forms a part of this portion of the hinge, it having been found, by experience in the use of hinges of this and other similar forms of construction, that when the pintle is formed of wrought-iron and inserted in the hinge, it is liable to and does become bent by the action of the spring to such an extent as to interfere seriously with the operation of the hinge; but when made of cast-iron or other cast metal, and made a part of the hinge without requiring to be inserted therein, it is much more rigid and the liability to bend is entirely avoided. The upper end of the pintle is beveled or rounded, as shown in Fig. 3, for the purpose of facilitating its entrance into the other portion of the hinge when the spring is in its position, at which time it is found to be very difficult to cause it to enter unless some such provision is made. Near the center of this part D of the hinge there is formed upon the back or inside thereof a projection, D<sup>2</sup>, as shown in Fig. 3. This projection performs the threefold purpose of insuring the cutting away of the wood when the hinge is applied, so as to insure the leaving of sufficient room for the movement of the spring, the strengthening of the hinge at that point, and of providing a pocket upon the outside of the hinge for the reception of the spring. The outer surface of this pocket portion of the hinge is provided with a bar or projection, which forms a fulcrum against which the spring rests when being acted upon by the cams upon the other portion of the hinge, such projection being clearly shown in Fig. 3. At the rear end of this pocket there is provided a slot through



which the spring passes, so that its inner end rests upon or against the inner surface of the hinge.

E refers to a spring, the construction and arrangement of which are clearly shown in Fig. 1. It consists of a straight piece of steel inserted in the slot of the hinge, and bent at its inner end in such a manner as to retain it in position therein and secure it to the hinge, whereby the use of rivets or other fastenings used for this purpose, which weakens the spring, is dispensed with. This spring is made to project far enough from the slot which it enters to come in contact with the cams formed upon the portion C of the hinge, and thus hold the door in any position which may be designated by such cams. The spring E is inserted in its slot previous to the connecting together of the parts of the hinge. By thus connecting the spring E to the hinge, the necessity of removing that part of the latter to which its is attached, should said spring be broken or otherwise damaged, is obviated, thereby overcoming an inconvenience and trouble heretofore

experienced in the putting on of the spring where rivets were used.

I make no claim, broadly, to the projection or pocket D<sup>2</sup>, as that forms the subject-matter of another application.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with a hinge constructed as herein shown, of the spring E, without perforations, and bent at its inner end to allow of its being placed in position and secured after the leaf of the hinge is in position, substantially as herein shown and described, and for the purposes specified.

In testimony that I claim the foregoing as my invention I hereunto sign my name this 20th day of January, 1871, in presence of two subscribing witnesses.

NATHANIEL SEHNER.

Witnesses:

JOS. R. EDSON,  
J. W. MISTER.