

D.S. COVERT.

Impt in Hinges.

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Fig. 1.

PATENTED JUL. 4 1871

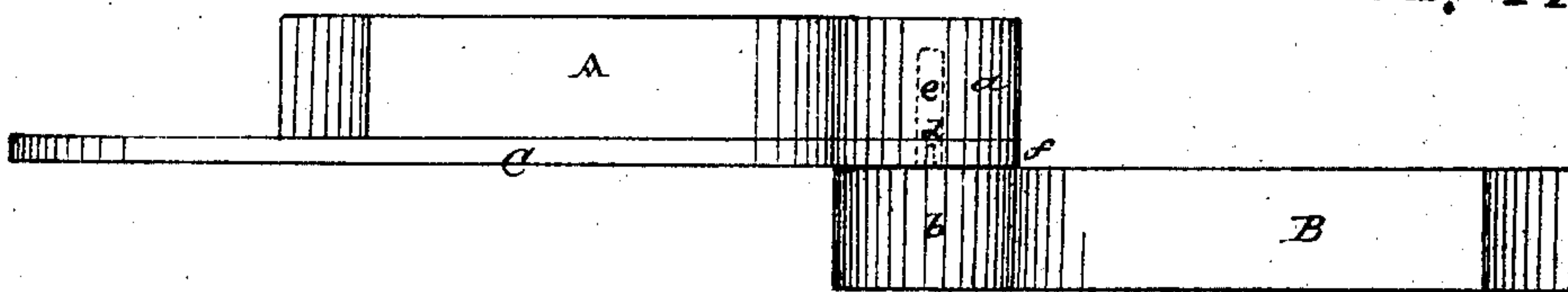


Fig. 2.

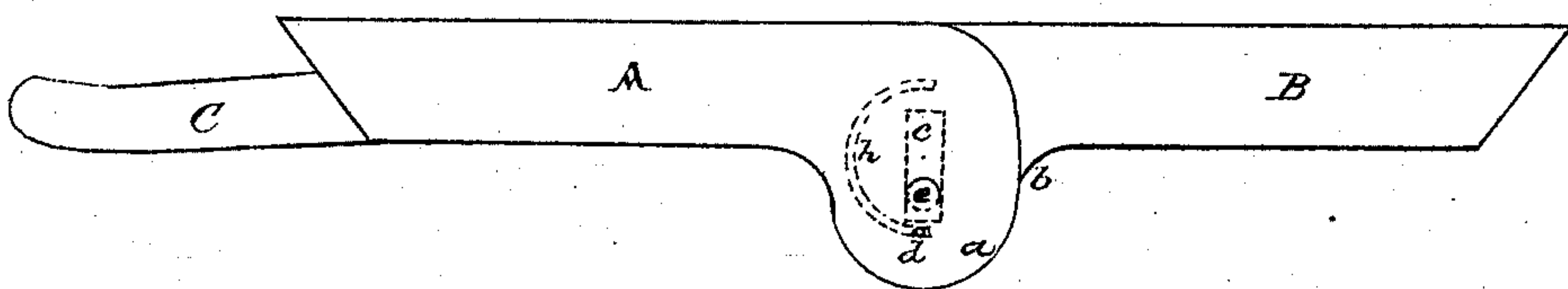


Fig. 3.

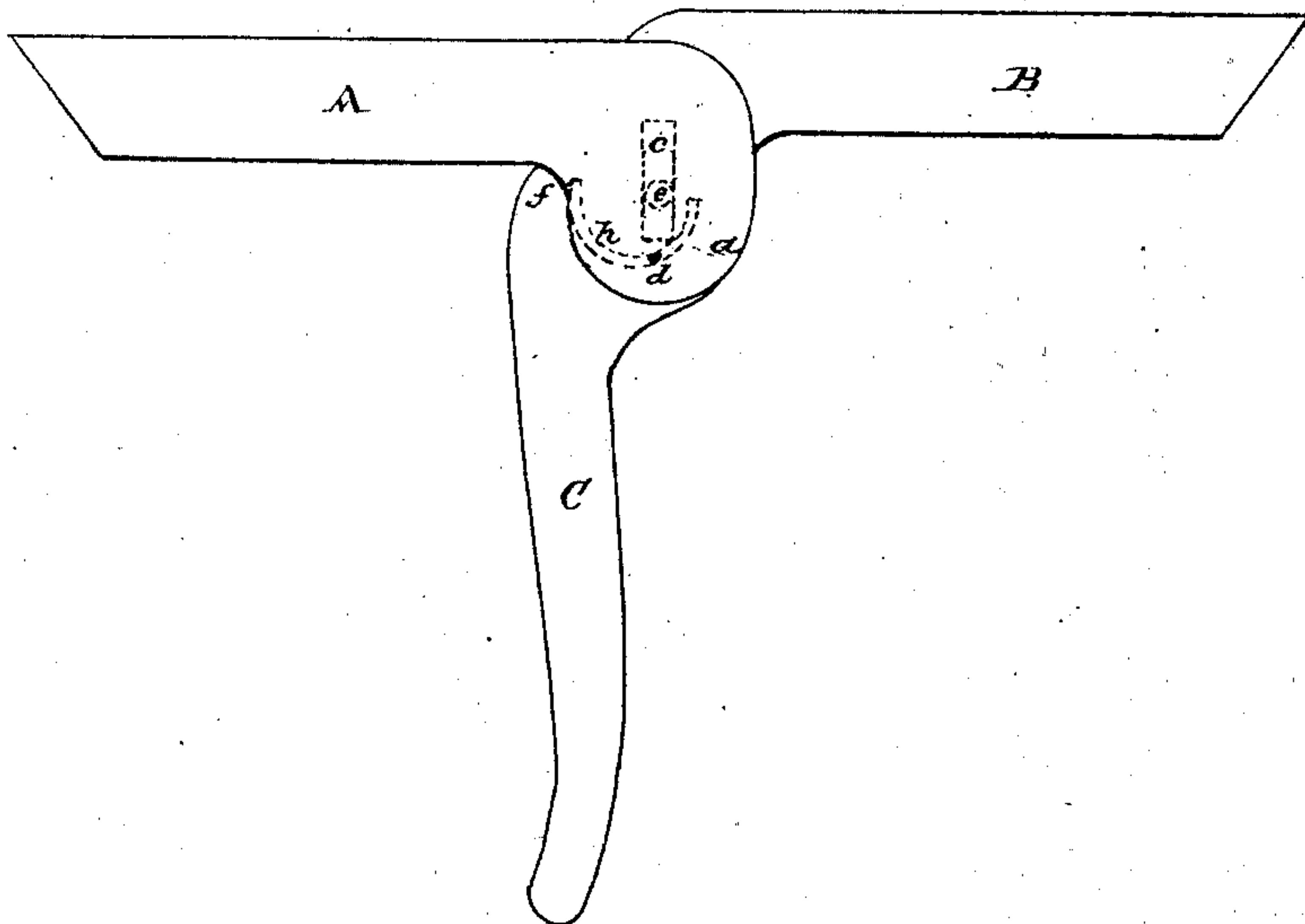
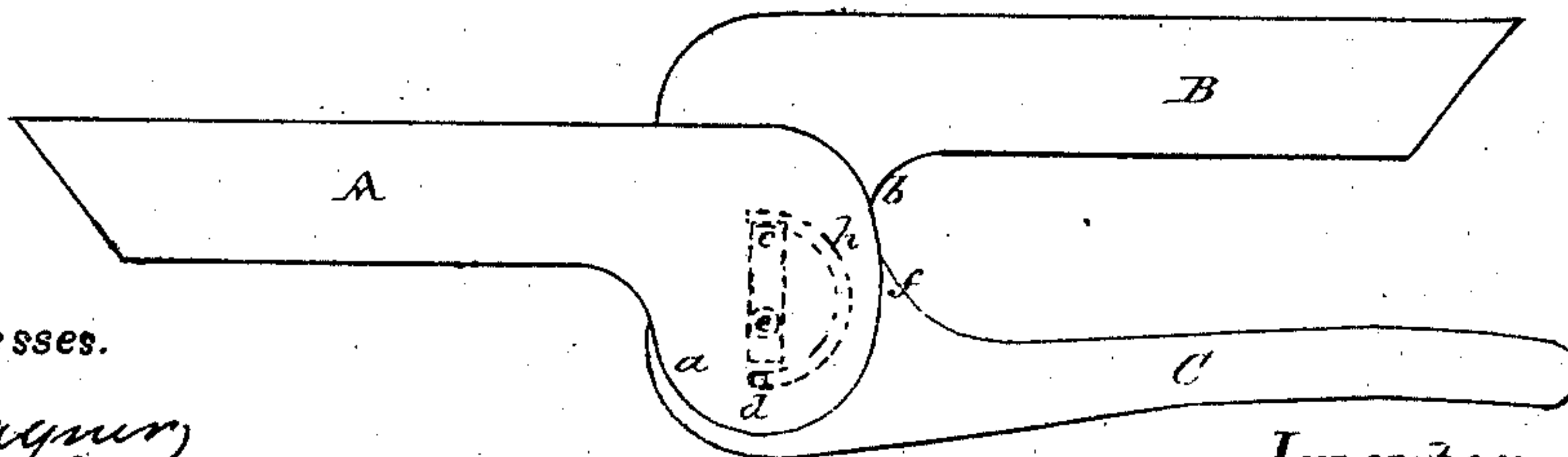


Fig. 4.



Witnesses.

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Sheet 2.

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Fig. 5.

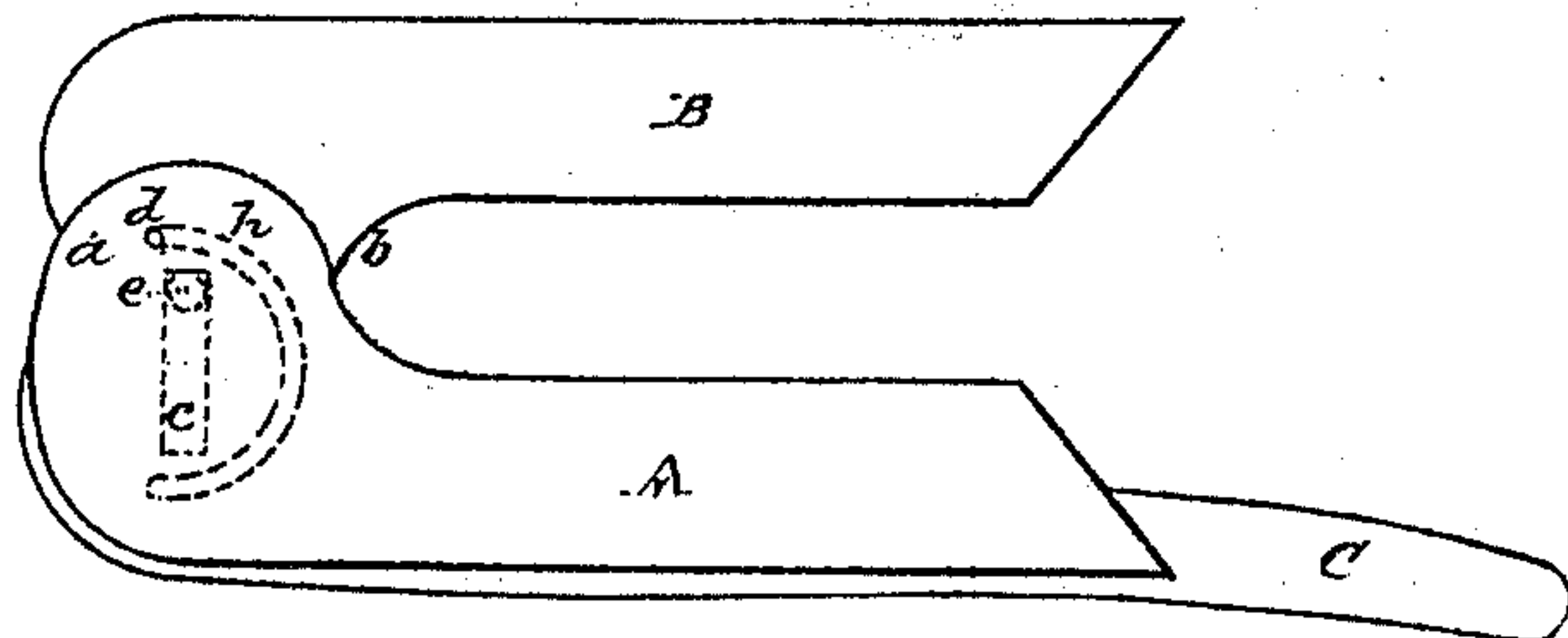


Fig. 6.

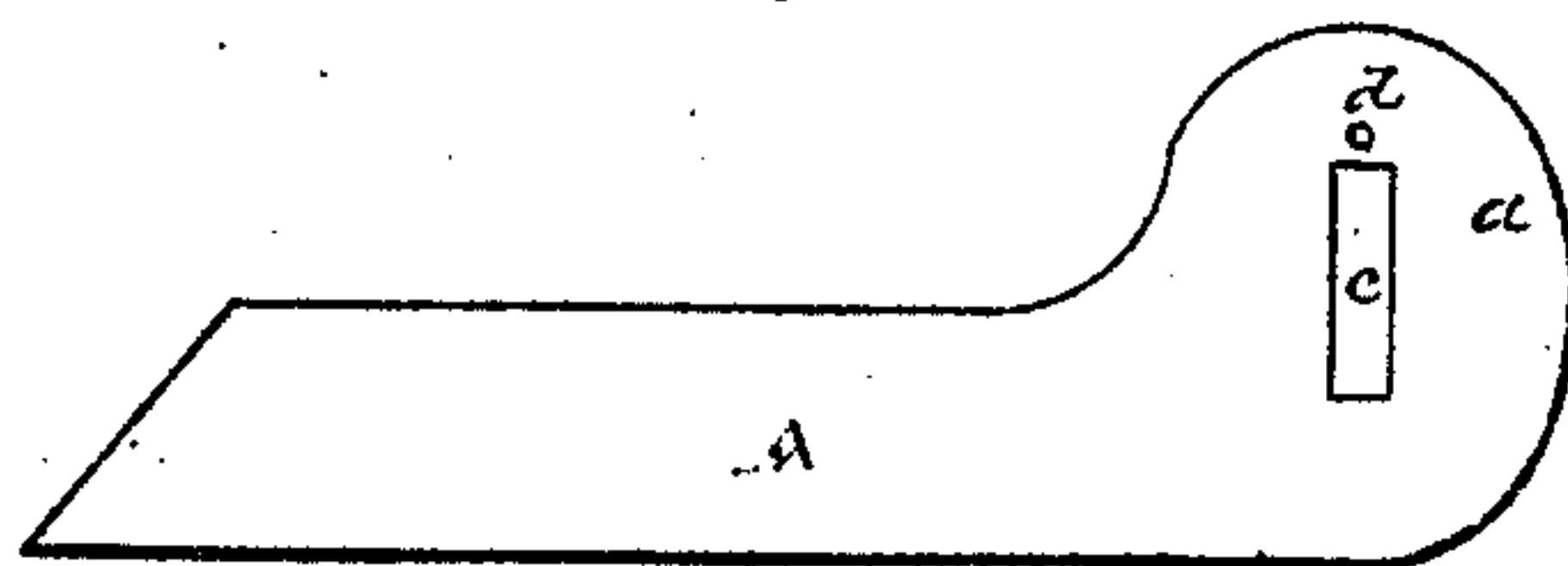


Fig. 7.

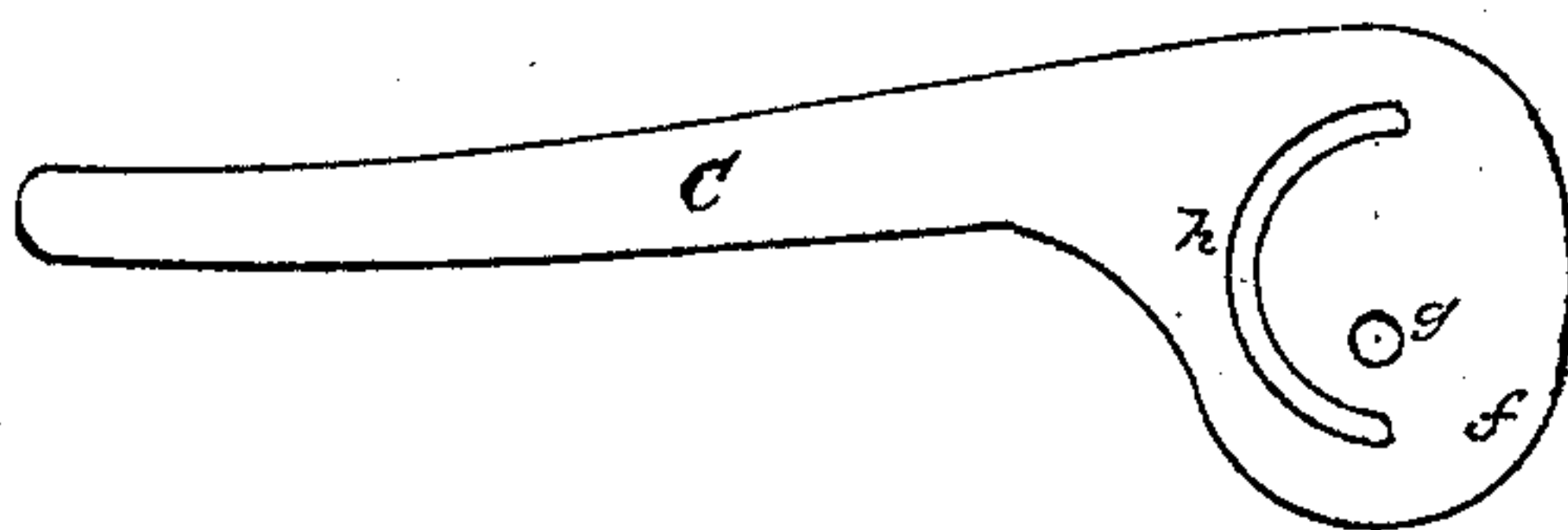
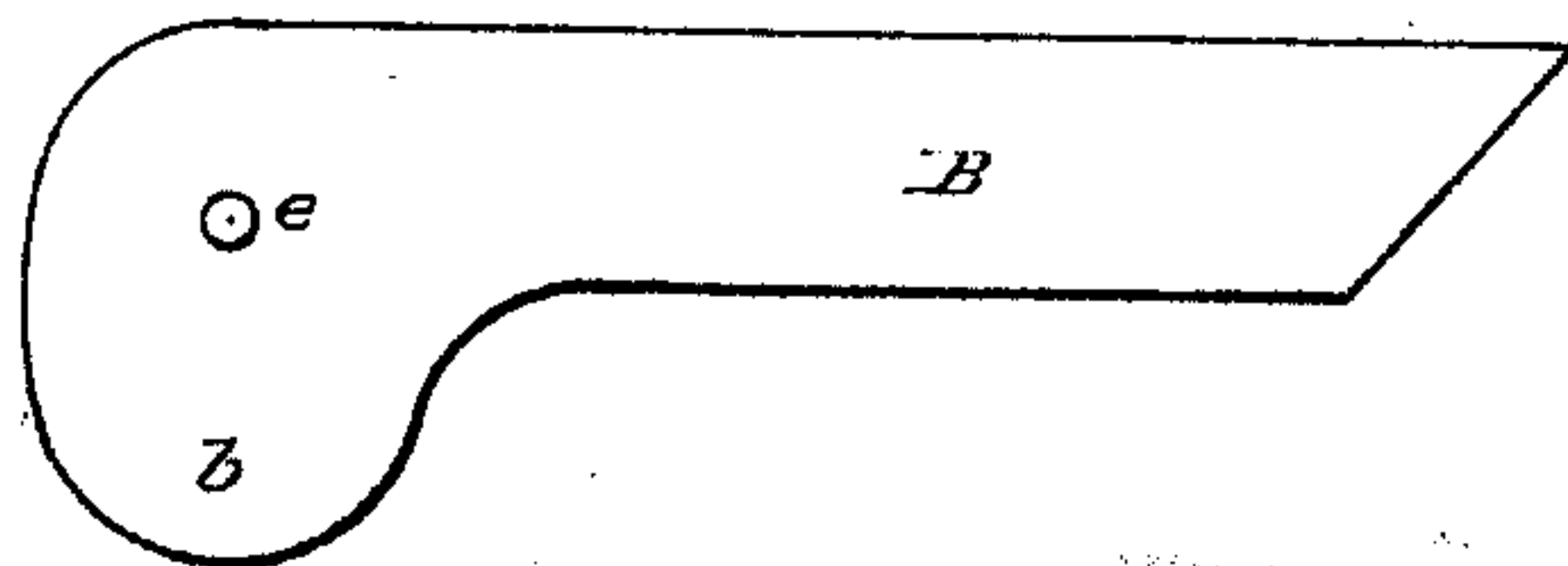


Fig. 8.



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UNITED STATES PATENT OFFICE.

D'ESTAING S. COVERT, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SAFE-DOORS.

Specification forming part of Letters Patent No. 116,688, dated July 4, 1871.

To all whom it may concern:

Be it known that I, D'ESTAING S. COVERT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Mode of Operating Safe-Doors; and I do hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing which makes part of this specification, in which—

Figure 1 is a side elevation of my improved hinge. Figs. 2, 3, 4, and 5 are plans or top views of the same in different positions. Figs. 6, 7, and 8 are detached views of the several parts of the hinge.

Like letters of reference indicate like parts in the several figures.

My invention consists in the combination, with a hinge, one leaf of which has a free radial motion, of a lever to operate the same, substantially in the manner hereinafter described.

In the drawing I have shown a hinge having but one joint, and consisting of two leaves, each having but one knuckle. The upper leaf A is provided on the under face of its knuckle *a* with a straight slot, *c*, and a short pin, *d*, near the outer end of the slot, which latter extends at right angles to the length of the leaf, as shown in Fig. 6. The lower leaf B is provided on the upper side of its knuckle *b* with a pintle, *e*, which, when the parts are in position, as shown in Fig. 1—that is to say, when the door is shut—is situated in the outer end of slot *c*, (see Fig. 2;) while, when the door is opened and the parts are in position, as shown in Fig. 5, the pintle *e* is in the opposite end of the slot *c*. It will be easily understood that by means of this slot the upper leaf A of the hinge can have a straight motion at right angles to its length to the extent of the slot *c*, so as to move the door, to which it is attached, squarely from its bed before swinging it open. As in heavy safe or vault-doors this movement could not well be executed by hand, I employ, in such cases, a lever, C, shown in Fig. 7, provided with a knuckle, *f*, similar to those of the hinge-leaves, and which rests between the knuckles *a* and *b*, and is on its upper face pro-

vided with an opening, *g*, through which the pintle *e* passes, and with a slot, *h*, in which the pin *d* operates.

It will be readily understood, by reference to Figs. 1, 2, 3, and 4 of the drawing, that when— all the parts being in position, as shown in Figs. 1 and 2—the lever C is moved from the left to the right, the slot *h*, which is eccentric to the pintle *e*, on which the lever turns, forces the pin *d* on knuckle *a* outwardly, the slot *c* allowing the free outward movement of the leaf A, the door to which the latter is attached being prevented from swinging around by the angular surfaces of the bed from which this outward motion removes it. The pintle is now in position in slot *c*, as shown in Fig. 4. The slot *c*, being of a length equal to or a little exceeding the depth of the bed of the door, the door will, at this point, be free from its bed, ready to be swung open. In Fig. 5 the hinge is shown when the door is open. In swinging open the pin *d*, moving in the slot *h*, forces the knuckle *a* over the pintle *e* until the pin *d* reaches the end of the slot, which ends the movement of the door. In shutting the door it is first turned into position, as shown in Fig. 4, squarely opposite its bed, when the turning of the lever from the right to the left will force the door squarely into its bed.

If is obvious that this same object can be obtained by the following arrangements of parts, viz.: The leaf A carries the pintle, which extends downward through the lever C formed in the lower leaf B. The lever has, instead of a groove, a cam-shape, which cam bears against the body of the door-frame, so that when the cam-lever is turned from left to right it forces the door from its bed. Another cam-lever may then be employed, which bears against the door itself and is pivoted to the under side of knuckle *b* of leaf B, and which, when the door has been brought opposite to its bed by being turned from right to left, forces the door into its bed by bearing against it with its cam.

Although my invention is particularly applicable to safe and vault-doors, I do not confine myself to those two uses, for it may be used wherever it is desirable to move any swinging piece first out of its bed before swinging it.

Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

The combination of the lever C provided with opening *g* and slot *h*, with the leaf A provided with slot *c* and pin *d*, and leaf B provided with pintle *e*, substantially as and for the purpose set forth.

The above specification of my improvement in hinges signed this 16th day of January, 1871.
D'ESTAING S. COVERT.

Witnesses:

JAMES LEDDY,
S. C. HINSDALE.