

J. ELGAR.

Hinge.

No. 10,774.

Patented Apr. 11, 1854.

Fig: 3.

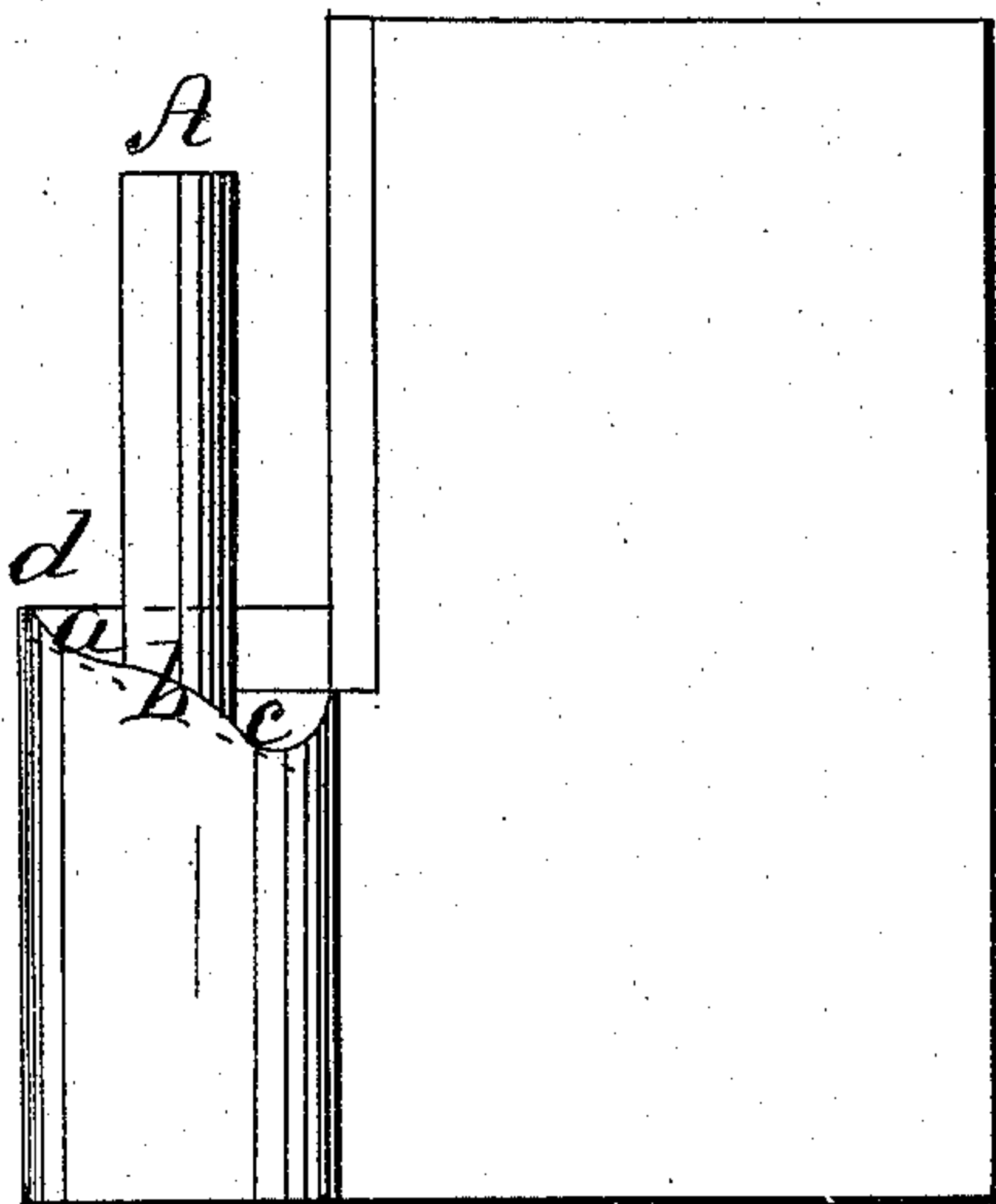


Fig: 1.

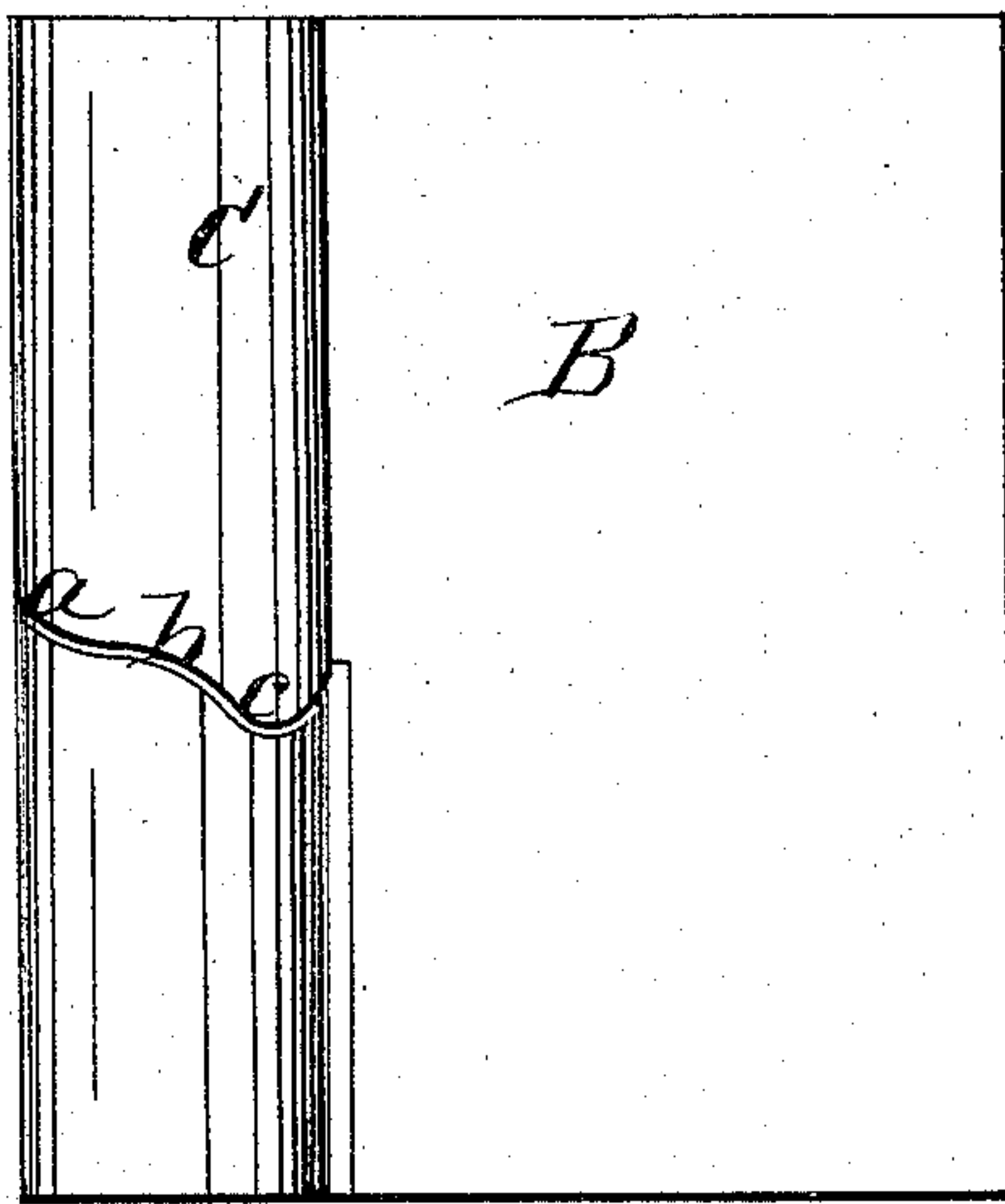
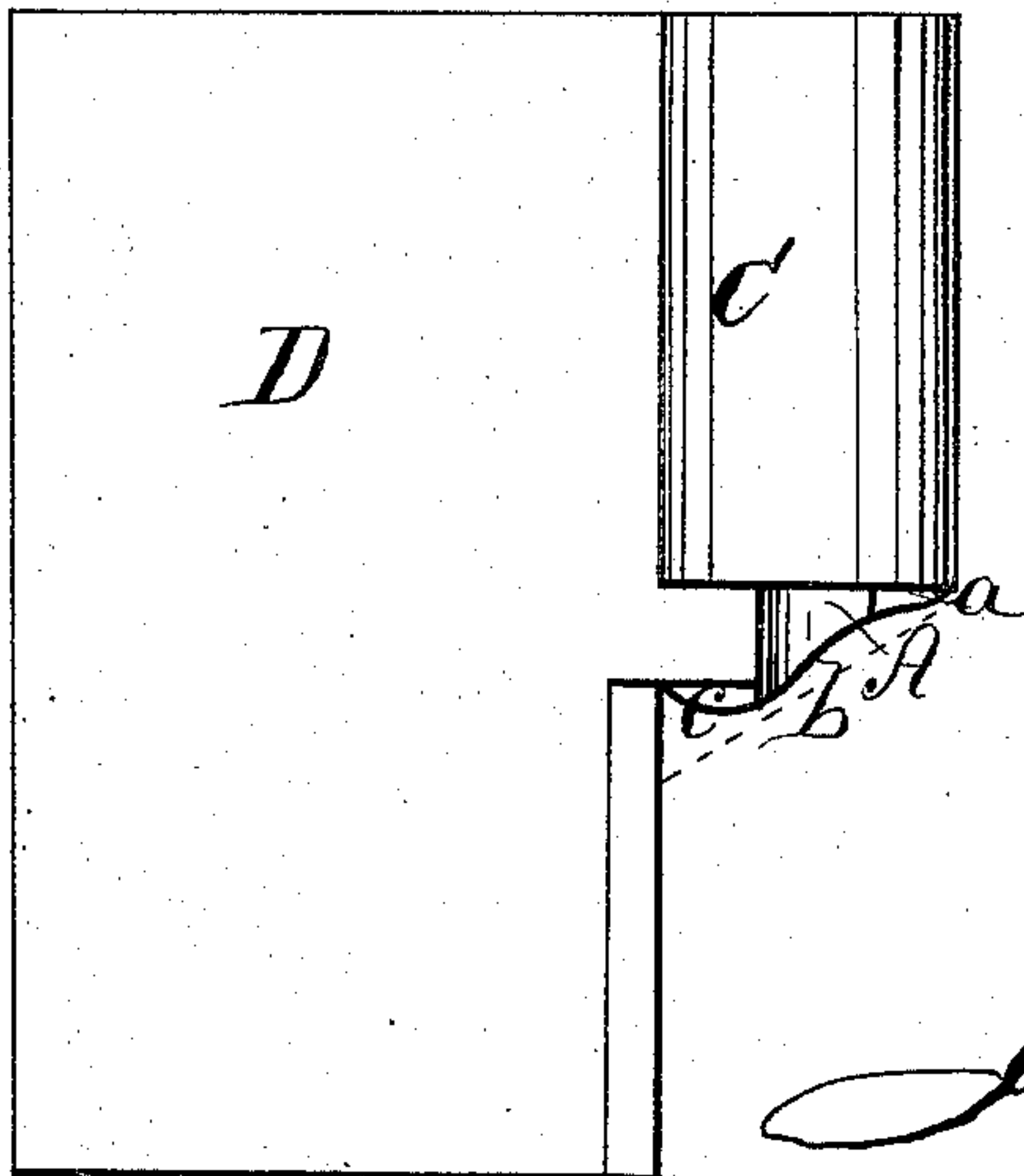


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN ELGAR, OF BALTIMORE, MARYLAND.

DOOR-HINGE.

Specification of Letters Patent No. 10,774, dated April 11, 1854.

To all whom it may concern:

Be it known that I, JOHN ELGAR, of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Door and Gate Hinges; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents the hinge closed, Fig. 2, represents the upper half of the hinge, and Fig. 3, represents the under half of the hinge.

Similar letters in both the figures denote like parts.

A variety of hinges have been essayed, the purpose of which was to cause the door to rise as it was thrown open, and among these varieties may be found those with a recess or reversed plane at the top and bottom, or at those points of the hinge which would hold the door when entirely open or closed. But all these have heretofore been constructed with a regular or a series of regular planes between said points, which cause the door to rise or fall or open and shut with an unvarying velocity. I have not invented these forms of hinges when the plane is a regular one between the extreme points of the hinge. But the nature of my invention relates to the making of the joint of door or gate hinges, a succession of varied inclined planes or curves, which shall accelerate and retard the movement of the door or gate in closing, by its own weight, by which means the door in closing is made to conform to that motion which is desirable in the closing of doors.

The effect of this invention is such that, when a door, after being opened to the ordinary angle, begins to close, it will receive an impulse that starts it quickly, and then it will be checked and move more gently on the easy part of the descent, until when nearly closed the steepest or most abrupt part of the inclined joint will come into operation, and bring the door up close shut.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

My hinge is cast or wrought in two parts,

the spindle A being upon the lower part or half B, and the socket C upon the upper half of the hinge D, in the usual well known manner.

The dotted lines in Figs. 2, 3, represent a regular inclined plane in the joint, and which may represent the usual form heretofore given to hinges of this character. With such a regular plane the door would close with a regularly accumulative velocity due to its weight. The shaded line above the dotted lines in said figures denote my method of arranging the series of irregular planes or curves, on which the door will start quickly on the part *a*, be slightly checked on the part *b*, and will again close suddenly as it drops on the more abrupt part *c*. It is therefore the difference between these regular planes as represented by the dotted lines, and the irregular planes or curves *a*, *b*, *c*, on the shaded line that I claim as my improvement. The difference in effect being that with the regular planes the door in swinging shut is uncontrolled, while by my curved or irregular planes it starts and closes suddenly while the intermediate distance between the extremes of the joint is passed over more slowly, and thus giving to the door the proper motion for closing it perfectly without slamming. And I desire it to be distinctly understood that I disclaim the regular plane whether single or in a series capacity as applied to hinges, confining myself to the irregular planes or curves as set forth. Neither do I claim the horizontal plane *d*, on which the door rests when open.

Having thus fully described the nature of my invention and shown wherein it differs from those heretofore known or used, what I claim therein as new and desire to secure by Letters Patent is,—

Making the joint of door or gate hinges, a series of varied inclined planes or curves, which accelerate and retard, as herein described, the movement of the door or gate, in closing by its own weight, as is fully set forth in the above specification.

JOHN ELGAR.

Witnesses:

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