

(No Model.)

J. DANNER.

BOOK SUPPORT.

No. 355,511.

Patented Jan. 4, 1887.

Fig. 1.

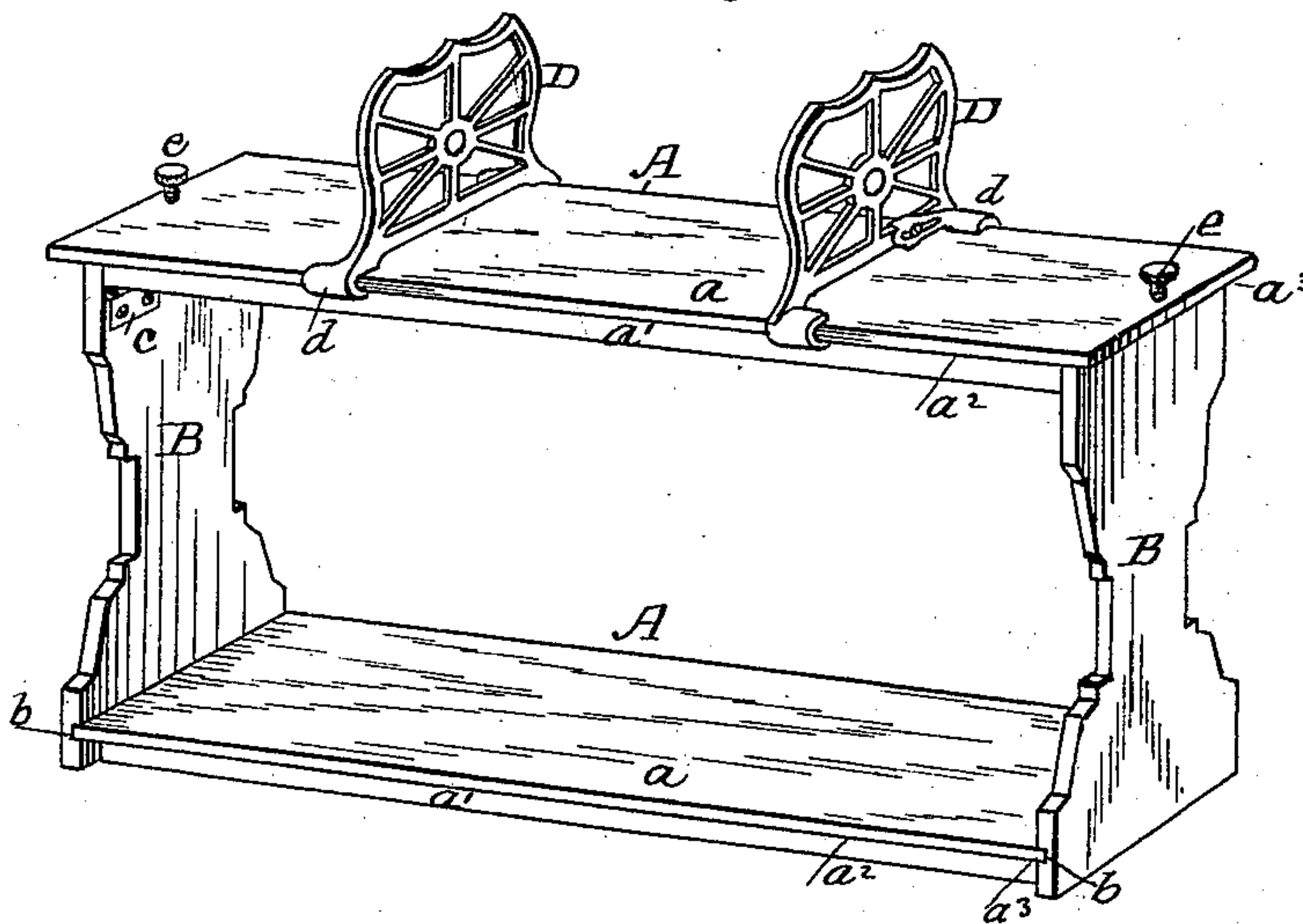


Fig. 2.

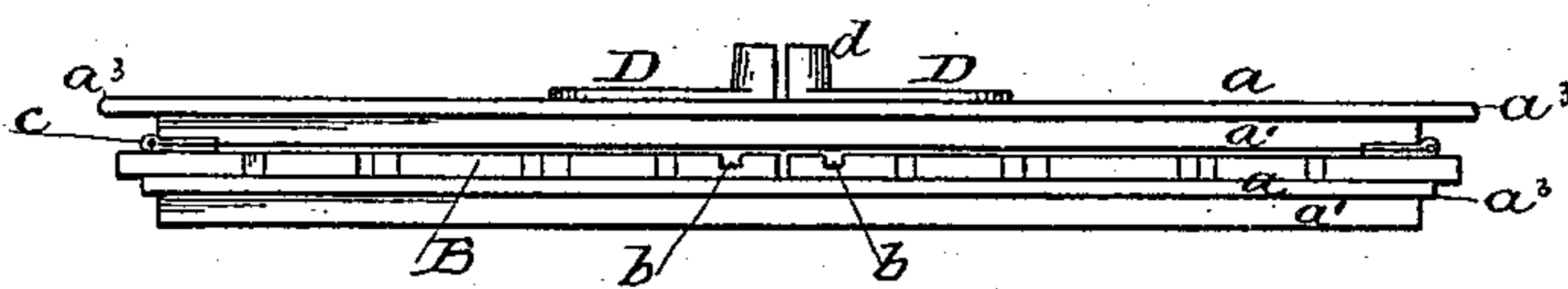


Fig. 3.

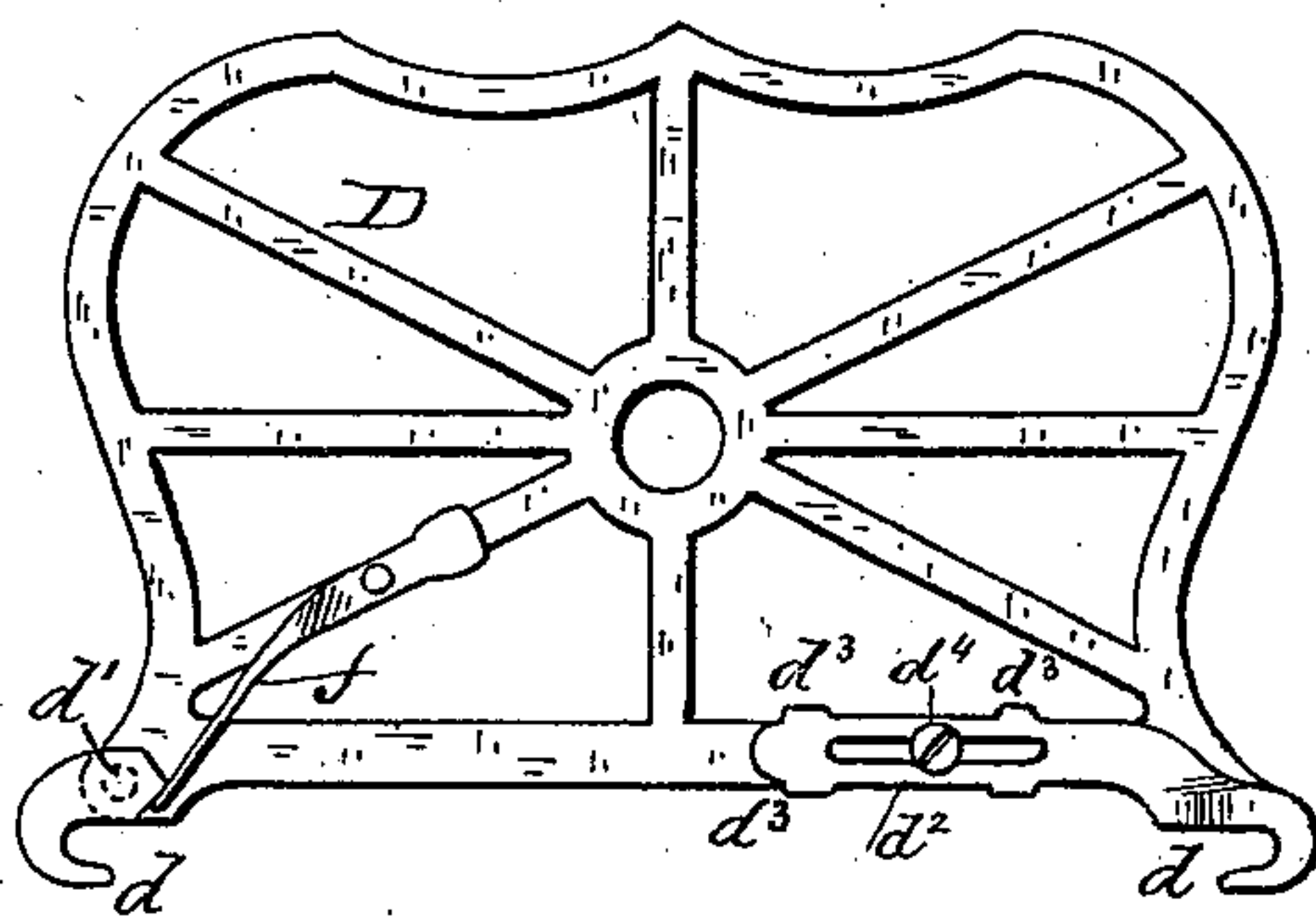


Fig. 5.

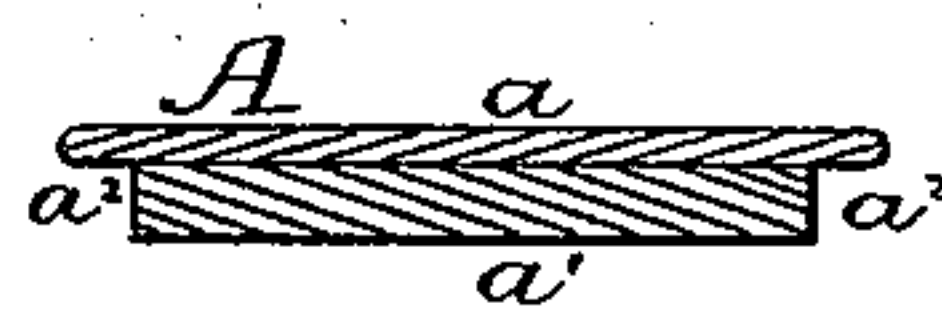
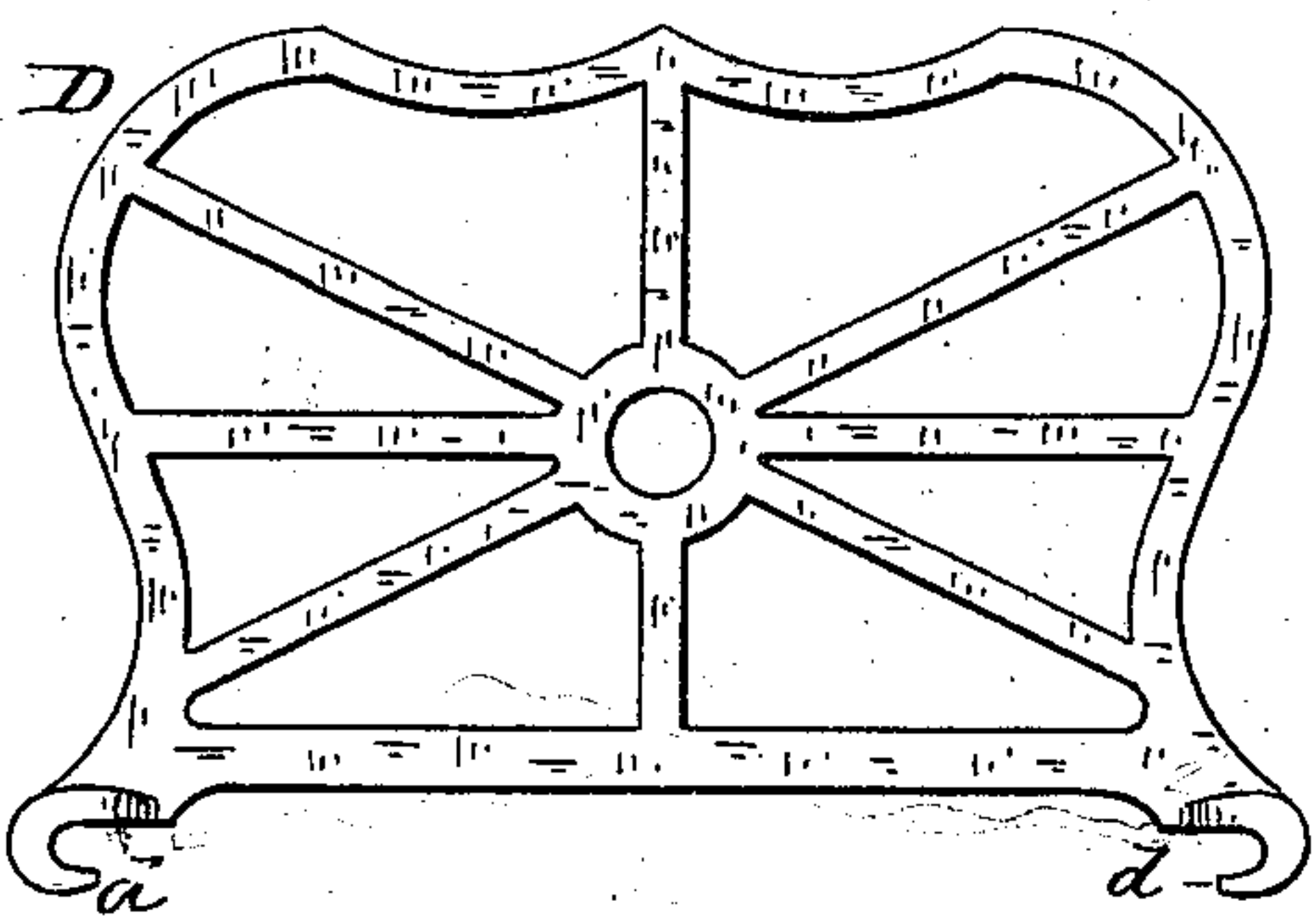


Fig. 4.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN DANNER, OF CANTON, OHIO.

## BOOK-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 355,511, dated January 4, 1887.

Application filed June 6, 1882. Serial No. 63,475. (No model.)

*To all whom it may concern.*

Be it known that I, JOHN DANNER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Book-Supports, of which the following is a specification.

My invention relates to book-supports that can be folded and packed into a small compass for transportation; and the objects of my improvements are, first, to provide shelves of two thicknesses of material glued and secured together, the upper thickness of fine-grain wood and the under one of inexpensive lumber, united in such a manner that the upper thickness projects all around the edges of the other; second, to provide shelves constructed as above stated with supports provided with a horizontal groove at one end and hinges at the other; third, to provide said shelves, having the upper thickness projecting all around the lower one, with metallic holders made or provided with a hook at each end to engage with the edges of said upper thickness.

Heretofore book-holders made of wood have been provided with metal hooks to engage in grooves formed into the edges of shelves having their bottom smaller or of even size with the top. Said holders have also been hinged to the ends of shelves; but they could not be removed from the shelves without first unscrewing and taking off at least one of the hooks from the holder.

The objects of my improvements are to overcome this difficulty and to enable a person's fingers to readily engage under the projecting upper edge of a shelf, and thus permit a series of books placed upon said shelf to be easily carried with it. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of two shelves united by end supports and the upper shelf provided with adjustable book-holders. Fig. 2 represents a side view of the same parts folded together for transportation. Fig. 3 represents a side view of a metallic holder provided with adjustable hooks. Fig. 4 represents a side view of the metallic holder adapted for use with the improved shelves. Fig. 5 represents a transverse section of one of the shelves.

In said drawings, A represents the shelves constructed, according to my improvement, of an upper thickness,  $a$ , of fine-grain wood having an attractive appearance, and a lower thickness,  $a'$ , of inexpensive lumber, the two being glued and otherwise permanently secured together. The top  $a$  is about one half the thickness of the bottom  $a'$ , and has its edges projecting over the sides and ends of the latter, as shown at  $a^2$  and  $a^3$ , so that a person can easily take hold of the projecting edges, and thus carry a shelf loaded with books.

The component parts forming the stand shown in Fig. 1 are united, as follows: Two end pieces, B, of suitable form and height, are provided with a transverse groove,  $b$ , adjoining their lower end. The width of this groove corresponds with the thickness of the top  $a$  of the lower shelf. To the upper portion of the end pieces, B, is secured one leaf of hinges  $c$ , and the other leaf of said hinges is secured to the under side of the bottom part,  $a'$ , of the upper shelf, so that when the hinges are open, as in Fig. 1, the upper edges of the pieces B will rest under the top  $a$  of the shelf and at the same time abut against the end of the part  $a'$  and retain the end pieces, B, at an angle of ninety degrees to the surface of the upper shelf. The bottom shelf is then connected with the end pieces, B, by sliding its projecting ends  $a^3$  along the grooves  $b$ , adjoining the bottom of the end pieces.

To retain books vertically upon their edges on top of the upper shelf, or a similarly-constructed shelf, I have provided the metallic holders D. They are formed with open designs, to render them lighter, and to cause a person's fingers to readily engage with them and lift a shelf thereby, if desired. These holders are provided with hooks  $d$ , to engage with the edge of the upper thickness,  $a$ , of the shelves, and can be placed in position, as shown in Fig. 1, by sliding them forward from the end of the shelf toward its center or against books that may be placed thereon. These holders D can be nickel-plated and have an attractive appearance. To keep them as close to the ends of the shelf as possible without escaping, screw-buttons  $e$  may be inserted vertically in the ends of said shelf.

It is often desired to retain a few books together upon a shelf already secured at its



ends—as, for example, the lower shelf shown in Fig. 1. For this purpose I have provided some of the holders D with movable hooks, as shown in Fig. 3. Upon the left side of said figure the hook  $d$  is pivoted at  $d'$  to the holder, so that its hooked portion will fall by its own gravity and engage with the edge of the shelf; and for additional security the inner portion of the hub of this pivoted hook is made of angular form, and the free end of a sheet-metal spring,  $f$ , secured to the holder D, is made to press against it and retain the hook either with its point turned up to pass over the edge of a shelf or turned down into engagement with said shelf. Upon the right-hand side of Fig. 3 the hook  $d$  is provided with a long slotted stem,  $d^2$ , having projections  $d^3$ , flanged over the lower cross-bar of the holder D, and a screw,  $d^4$ , passing through its slot permits said hook to be extended over and made to engage with the edge of the shelf.

I am aware that the legs of tables or benches have been secured by means of hinges to the under side of these articles of furniture, so as to be readily folded, and that they have been retained extended by means of a horizontal brace engaging with the lower portion of said

legs, and I do not claim such construction. Neither do I claim, broadly, any wooden vertical supports having hooks to engage in channels made in the edges of shelves.

Having now fully described my invention, I claim—

1. In book-supports, the combination of two standards or end pieces, B, having transverse grooves  $b$  at one end and hinges  $c$  at the other, with a lower shelf consisting of a bottom board,  $a'$ , having its ends abutting against the end pieces, B, and a top board,  $a$ , the ends whereof enter the grooves  $b$ , and the sides whereof project over the edges of the boards  $a'$ , and a similarly-constructed upper shelf, substantially as and for the purpose described.

2. The combination of a shelf, A, composed of a bottom board,  $a'$ , a top board,  $a$ , projecting over the four edges of the board  $a'$ , with metallic supports D, provided with adjustable hooks  $d$ , substantially as and for the purposes described.

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Witnesses:

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