

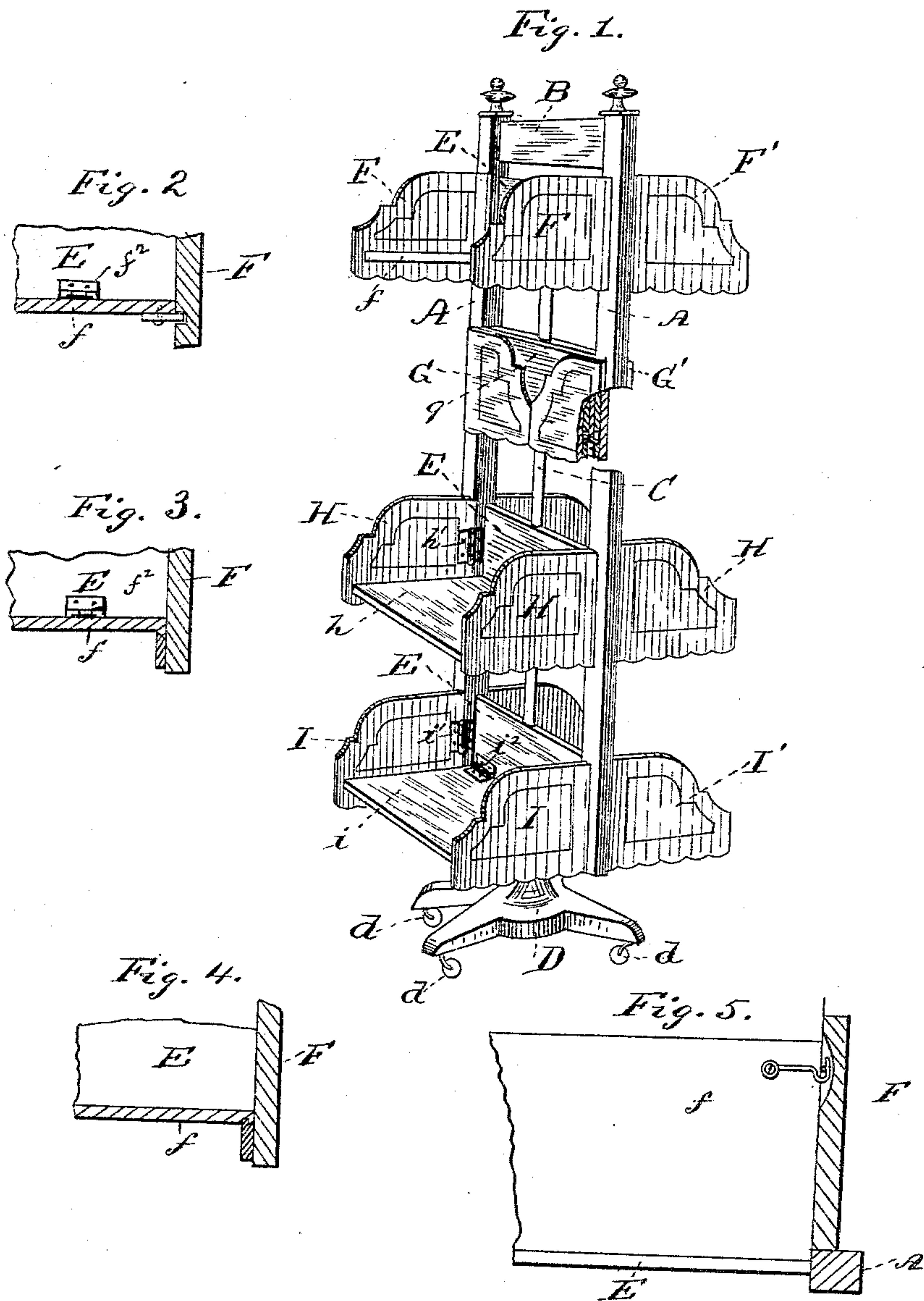
(No Model.)

H. S. HALE.

BOOK CASE.

No. 300,361.

Patented June 17, 1884.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA.

BOOK-CASE.

SPECIFICATION forming part of Letters Patent No. 300,361, dated June 17, 1884.

Application filed August 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. HALE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Book-Cases, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a perspective view of my improved book-case. Figs. 2, 3, and 4 are detached views in vertical section, showing different devices for locking the shelves to the swinging end boards; Fig. 5, a detached view enlarged, in horizontal section, of part of one of the shelves, looking up.

In the drawings, A A are the posts, and B the top girt, there being a corresponding girt at the lower ends of the posts. (Not shown.) C is the central shaft or spindle, supported at its lower end in a base-piece, D, provided with three or more feet, each having by preference at its outer end a caster, *d*.

E E are a series of vertical partitions, secured at their ends to the posts A A, it being of course understood that the frame-work consisting of the posts, girts, and partitions is connected with the spindle and base D by suitable bearings or boxings, so that it (the frame) can be readily rotated about the spindle as a center.

F F', G G', H H', I I' are end boards, and *f g h i* are bottom boards or shelves for the reception of books or other articles. Each end board is hinged at its inner end to one of the posts by a butt-hinge, as indicated at *h' i'*, of such character and under such arrangements of parts as to prevent the end board from being swung too far outward. Each bottom board is also hinged at its inner edge to either the adjacent partition or to the posts, and the inner face of each end board is provided near its lower edge with a rib or cleat in proper position to further support its respective bottom board when the latter is in a horizontal position, and the end boards are swung outward into vertical planes which are substantially parallel with the ends of the bottom board, the construction of the hinges and relation of parts being such that the end boards cannot swing outward beyond the positions in

which they are shown in those parts of the drawings where the bottom board is let down for the reception of books. The end boards G G' and bottom board *g* are folded up, it being of course understood that the bottom board is first folded into an upright position, after which the outer ends of the end boards are swung inward into close contact with the bottom board.

As will be seen by an examination of the drawings, I prefer to make the posts of a width about equal to the thickness of a partition and of the adjacent bottom boards when folded up against the partition; and I also propose to hinge the end boards in such position upon the posts that when they (the end boards) are swung outward at about a right angle to the adjacent partition the inner faces of the end boards shall be about on a line with the inner faces of the posts and of the ends of the bottom boards, thus insuring closely-fitting joints and a neat, workman-like, and finished appearance.

I prefer that devices other than simple cleats upon the inner faces of the end boards might be employed to assist in supporting the bottom boards. For instance, the cleats may have their upper surfaces ribbed or grooved, with corresponding ribs or grooves in the adjacent under sides of the bottom boards, such interlocking ribs and grooves serving also to support the end boards against outward thrust.

It will of course be understood from the drawings that the lower edges of the end boards project sufficiently below the bottom boards to permit the use of these cleats, and insure that they (the cleats) shall pass under the hinged edges of the bottom boards when the parts are folded, as at G G'; or the parts might be connected with each other by means of hooks pivoted to the under sides of the bottom boards, and taking into eyes or sockets formed for their reception in the adjacent faces of the end boards; or buttons might be applied to the under sides of the bottom boards, the inner faces of the end boards being recessed to receive the ends of the buttons.

Among the advantages of this construction are the following: The stand may be provided upon both sides with a great number of shelves, some of which may be folded up, thus pro-

viding that some of the shelves may be used for the reception of large books, while others are used to hold smaller books, whereby all of the space between the upper and lower shelves may be utilized. So, also, in case it may be found desirable, the distances between the shelves may be varied at different times to suit the character of the books or other material which it is desired to store upon them. Again, all the shelves upon one side may be folded when those upon its opposite side are all that are needed, in which case the folded shelves can be placed close against the wall and a saving of room thereby effected. So, also, all the shelves may be folded, thus economizing room for storage or when transporting the article.

I am aware that "what-nots" have been constructed of two vertical side boards connected at their inner edges by hinges, and having a series of shelves hinged at one end to one of the side boards. I am also aware that a book-case has been constructed with a vertical supporting-frame mounted upon a vertical pivot, and provided with a swinging shelf inclining outwardly and downwardly to receive and support a book in convenient position for being read by a person sitting in front of the book-case; hence I do not claim either of such constructions; but my book-case differs radically from either of these earlier contrivances, in that it contains a vertical supporting-frame, with end boards projecting laterally therefrom, and horizontal shelves hinged between the end boards, so that they can be folded into vertical position without affecting the stability or upright position of the supporting-frame.

A further advantage growing out of the employment of a series of folding shelves and end boards upon opposite sides of the vertical supporting-frame is, that a part of the shelves upon one side may be folded into vertical position, with the end boards folded close against the bottoms of the shelves, while the remaining shelf or shelves upon that side of the frame may remain in position for the reception of books, in which condition the book-case may be placed against a mantel-shelf, a table, or some article of furniture, with the shelf or shelves which contain books projecting over the top of the mantel, table, or other article—a capability which is not found in any earlier construction of which I have knowledge.

What I claim is—

1. In a book-case, the combination of a vertical supporting-frame, end boards projecting from the frame at the ends of the shelves, and shelves hinged at their inner edges to the vertical frame at points intermediate between the end boards, substantially as set forth.

2. In a book-case, the combination of a vertical supporting-frame, end boards hinged at their inner edges to the supporting-frame by vertical pivots, and shelves arranged between the end boards and supported upon horizontal pivots, substantially as set forth.

3. The combination of a vertical supporting-frame, end boards hinged at their inner edges to the supporting-frame by vertical pivots, shelves arranged between the end boards, and hooks and staples attached to the end boards and the horizontal shelves, and connecting them, and adapted to support the end boards against outward thrust, substantially as set forth.

4. In a book-case, the combination of a vertical supporting-frame, end boards projecting from the supporting-frame at the ends of the shelves, shelves arranged between the end boards and hinged to the main frame by horizontal pivots, and vertical partitions which constitute a part of the main frame between the inner hinged edges of two adjacent horizontal shelves, substantially as set forth.

5. In a book-case, the combination of a vertical supporting-frame, end boards hinged by their inner edges to the supporting-frame, swinging shelves hinged by their inner edges to the main frame intermediate between the end boards, and devices for connecting the ends of the shelves with the swinging end boards, substantially as set forth.

6. In a book-case, the combination of a base-piece adapted to rest upon the floor, a vertical shaft supported at its lower end in a base-piece, a vertical supporting-frame pivoted upon the vertical shaft, a series of horizontal shelves hinged at their inner edges upon opposite sides of the frame, and a series of vertical end boards hinged at their inner ends to opposite sides of the frame, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY S. HALE.

Witnesses:

JNO. S. HENKELS,
GEO. H. RAPSON.