(No Model.)

R. LINKLETTER.

SHELF FOR BOOKS.

No. 536,575. Patented Mar. 26, 1895.

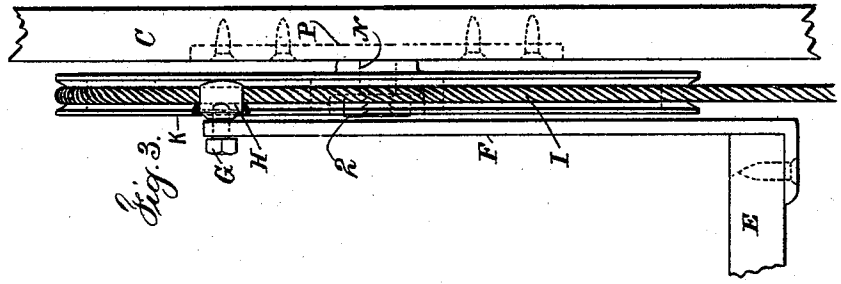


Fig. 3.

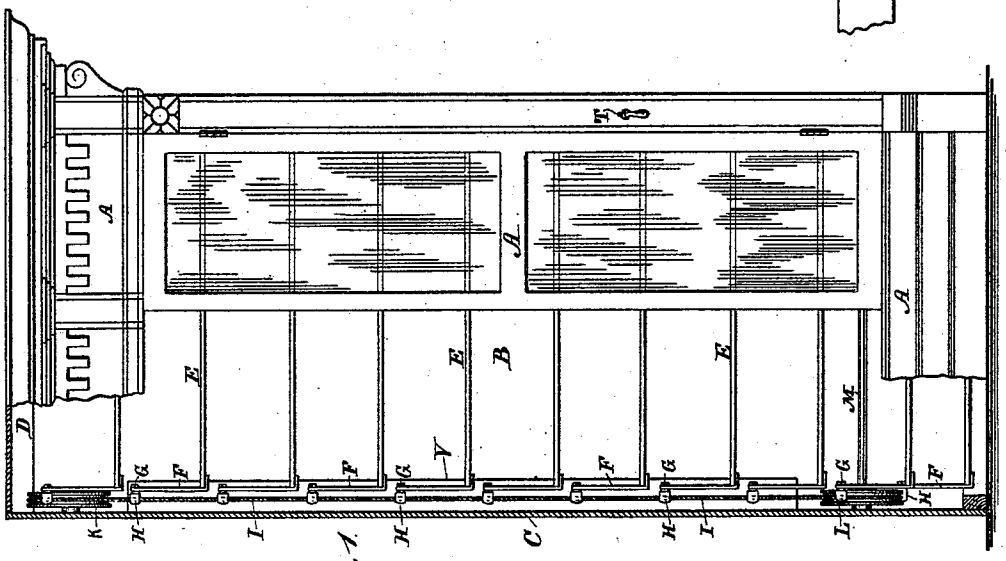


Fig. 1.

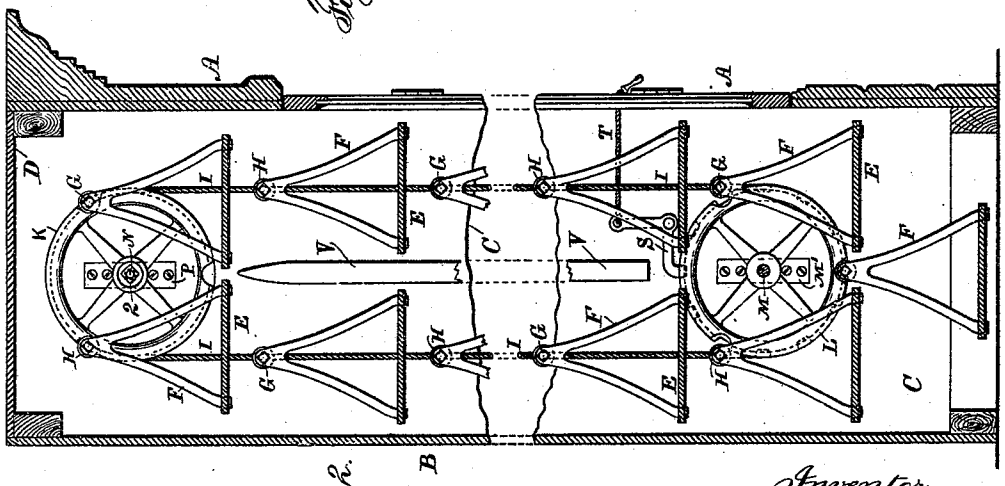


Fig. 2.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT LINKLETTER, OF JERSEY CITY, ASSIGNOR TO HIMSELF, AND HENRY BERG, OF ORANGE, NEW JERSEY.

SHELF FOR BOOKS.

SPECIFICATION forming part of Letters Patent No. 536,575, dated March 26, 1895.

Application filed June 21, 1894. Serial No. 515,234. (No model.)

To all whom it may concern:

Be it known that I, ROBERT LINKLETTER, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Shelves for Books and other Articles, of which the following is a specification.

This invention relates to that class of book cases in which the shelves are suspended at their ends upon endless connections, so that the shelves hang at each side of suspending pulleys.

In cases where receptacles of different kinds have been connected in endless series, chains with links have usually been made use of, but such devices were not well adapted to use with book shelves because of the space required by the chains and oonnections, and the difficulty in varying the distances between the shelves.

The present invention relates to the peculiarities of construction and combination of devices hereinafter set forth and claimed.

In the drawings, Figure 1 is an elevation partially in section illustrating the case and shelves. Fig. 2 is a cross section in larger size. Fig. 3 is an edge view of one of the rope pulleys and the clamping and suspending devices at one end of a shelf.

The case is of any desired size and shape having a front A preferably with doors, a back B, sides C, and a top D, and these parts may be more or less ornamental as desired, and the depth of the case from front to back is sufficient for the reception of two ranges of shelves.

The shelves E are of suitable length and width according to the size of books, or the intended use, and at each end of each shelf there is a hanger F preferably of metal in a triangular form with an eye at the upper end, and the screw G passes through such eye into the clamping thimble H through which passes the wire or other rope I, so that by slackening the screw G the thimble H can be moved to any desired position on the wire rope I, and by tightening the screw G the thimble will be rigidly clamped to the wire rope, and the screw G forms a pivot from which the triangular hanger F and its shelf are suspended.

The wire ropes I pass over upper pulleys K and beneath lower pulleys L, and these lower pulleys L are upon and rigidly connected with a shaft M which has at its ends suitable bearings M′ firmly connected with the interior of the sides C of the book case, and the upper pulleys K are preferably made without any cross shaft, but they are upon pivot pins N that project from the plates P that are screwed or otherwise secured to the inner faces of the sides C at the proper distance from the top of the book case; and it is advantageous to employ nuts 2 upon the outer ends of the pivot pins N for holding the upper pulleys K in position and for allowing them to be rotated, and the lengths of the endless wire ropes are to be such that they will pass above and below the pulleys at the respective sides of the book case and will be sufficiently tight around such pulleys not to slip off, and the shelves and their hangers are connected with the respective endless wire ropes by the screws and clamping thimbles as aforesaid, so that the shelves are level or nearly so and at the proper distances apart.

It is desirable to prevent the wire ropes slipping upon the pulleys, for which purpose the edges of the pulleys are recessed or notched at the proper places for receiving the clamping thimbles H. Hence the shelves will be suspended from the upper pulleys and will be level or nearly so, and the range of shelves can be moved, the shelves at one side going up as the shelves at the other side come down, and in consequence of the cross shaft at the upper end being dispensed with, the hangers F can be longer than the radial line of the upper pulleys to allow for the shelf that is suspended by the endless ropes at the top of the upper pulleys, passing across from one side to the other, which could not be the case if the two upper pulleys were connected by a cross shaft, and the range of pulleys can be moved so as to bring around into the convenient position desired either one of the shelves and its contents, and the contents of the shelves should be so balanced that the shelves can be moved with facility either up or down.

To prevent the range of shelves moving when required to remain stationary, I make use of a holding pawl S that enters notches

in one of the pulleys, preferably one of the bottom pulleys, and this holding pawl is advantageously provided with a cord T passing through a hole in the book case, so that the holding pawl can be lifted to disengage the end thereof from the notches in the pulley by drawing on the cord, or the reverse.

In order to steady the shelves and prevent them swinging unduly upon their end hangers and pivots, I employ parting strips V fastened to the interior of the case and advantageously upon the sides C and projecting sufficiently to pass in between the shelves near their ends, such parting strips terminating above the lower pulleys and below the upper pulleys, as shown in Fig. 2 of the drawings.

I claim as my invention—

1. The combination with an inclosing case, of upper and lower pulleys, a shaft extending across and uniting the lower pair of pulleys, endless wire ropes passing over and under the respective pulleys, clamping thimbles surrounding the ropes, screws passing through the thimbles and securing them upon the ropes in the required positions, shelves and end hangers connected with the shelves and having eyes at their upper ends through which the clamping screws pass for suspending the shelves from the endless ropes and for allowing such shelves to be placed in the desired relation one to the other, substantially as set forth.

2. The combination with an inclosing case, of upper and lower pulleys, a shaft extending across and uniting the lower pair of pulleys, endless wire ropes passing over and under the respective pulleys, clamping thimbles through which the ropes pass, and screws through the thimbles and clamping them to the ropes, shelves suspended from the screws of the thimbles, a ratchet wheel upon the shaft of the lower pair of pulleys, a pawl engaging such ratchet wheel, and a connection to the same passing through the front of the book-case, substantially as set forth.

Signed by me this 18th day of June, 1894.

ROBERT LINKLETTER.

Witnesses:
ALEX. W. BAXTER,
VICTOR BAXTER.