J. DANNER.
Book-Case.

No. 212,903. Patented Mar. 4, 1879.

Fig. 1

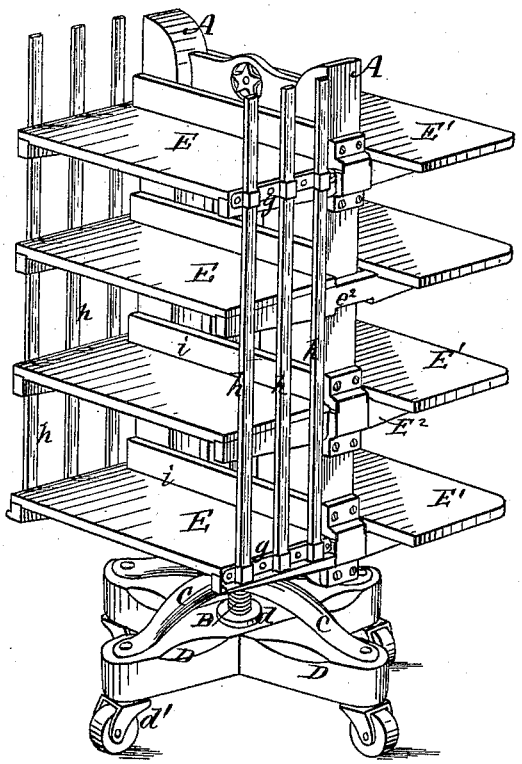


Fig. 2.

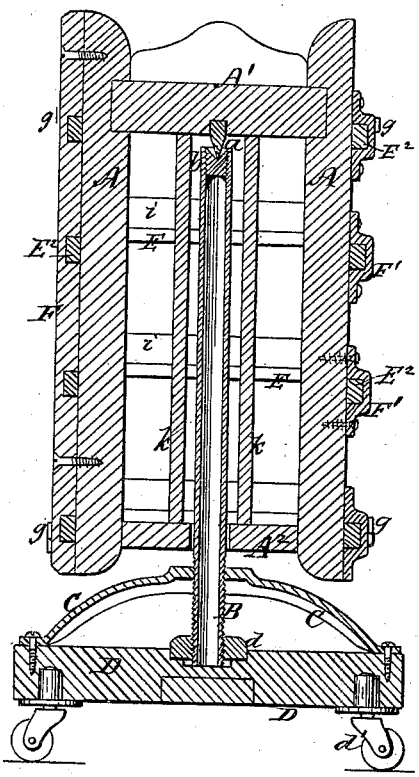


Fig. 3

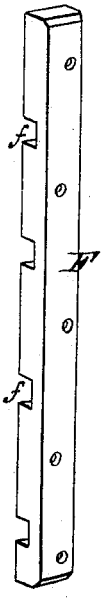
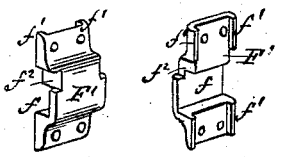


Fig. 4.



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UNITED STATES PATENT OFFICE

JOHN DANNER, OF CANTON, OHIO.

IMPROVEMENT IN BOOK-CASES.

Specification forming part of Letters Patent No. **212,903**, dated March 4, 1879; application filed December 14, 1878.

To all whom it may concern:

Be it known that I, JOHN DANNER, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Revolving Shelves or Book-Cases; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of a series of double shelves, mounted on a frame constructed to revolve around a post, the shelves upon one side having end supports for books, while the other can be used for other classes of goods. Fig. 2 represents a vertical section of the same. Fig. 3 represents a perspective view of one of the clamps used to sustain a series of shelves. Fig. 4 represents in perspective (front and rear) one of the clamps used to sustain one end of a pair of shelves.

This invention relates to revolving shelves used to carry books, albums, music, and dry goods, as described in my inventions patented 16th May, 1876, and 11th December, 1877. My revolving cases as made under former patents give complete satisfaction, but the objection to their general introduction in many States, distant territories, and foreign countries is their bulk, and consequently the high freight, as the latter is charged according to the number of cubic feet occupied.

The object of my invention is to construct a case of a small number of pieces that can be packed for transportation in about one-fourth the space formerly occupied by a case having the same number and size of shelves, and be easily put up ready for use.

My invention consists of a flat rectangular frame, suspended from a yoke upon the end of a standard, in combination with clamps and horizontal supports for a series of double shelves.

It consists, also, in combining with a flat rectangular frame, and a series of horizontal supports connected to said frame by adjustable clamps, a series of shelves arranged in pairs on opposite sides of the frame.

It consists, also, in clamps attached to the main vertical frame to retain the supports of a series of double shelves at any desired height upon it.

In the drawings, A A represent the sides of a flat rectangular frame united at the top and bottom by transverse pieces A^1 A^2, forming a yoke to support a series of shelves. This frame is suspended upon the end of a hollow cylindrical shaft, B, by a pin, *a*, resting in a cup or cavity, *b*, formed in a plug screwed in the end of said shaft. The lower portion of the shaft is screw-threaded, and engages with the thread cut in the center of the metal braces C, attached to the top of the cross-bars or base D, and with the nut *d*, set in a recess of the cross-bars, uniting the two very firmly, and straightening the base D, if it should have become warped or sprung. To the base or cross-bars D are attached the casters *d'*, as usual. The shelves E and E^1 are united in pairs or sections by bars E^2, and the latter are supported against the sides A, either by a long clamp, F, or by a series of independent clamps, F', attached to the frame.

Although the case shown in Fig. 1 could be used, as represented, on one side for books and on the other for other goods, such construction would be very seldom required. It is so represented as to exhibit how its construction can be adapted to various styles, and it is intended to have the cases made with shelves and supports similar on both sides, either as at E for books, or as at E^1 for calicoes, &c. If intended for books, each shelf E (or the top and bottom one only) has attached to its ends metallic loops or holders *g*, generally of cast-iron, bronzed, to receive vertical strips *h*, resting upon a projection or molding attached to the bottom bar, E^2, of a series. Upon the rear side of each shelf E is placed a horizontal strip, *i*, to keep books from being pushed too far back. In cases intended for calicoes or similar goods, such strips are not required at the end of the shelves, but vertical strips *k* are placed on two sides of the post B to keep goods away from the shaft. On the left side of Fig. 2, all the shelf-supporting bars E^2 are represented as held to the frame by the long clamp F. (Shown also in Fig. 3.) This will answer the purpose when it is certain that the distance between the shelves

is not to be changed, but I prefer to use the metallic clamps F′. (Shown on the right side of Figs. 1 and 2 and in Fig. 4.) These clamps are necessarily recessed at f to receive the bars E^2, the latter being also notched at e^2 to enter the recess. The clamps are provided above and under the recess f with flanges f^1, to embrace the edges of the frame A, to keep them perfectly true while putting them on, and relieve the screws or fastenings from all pressure or strain. The flanges are cut away at f^2 to allow the shelves to extend beyond them.

Having now fully described my invention, I claim—

1. The flat rectangular frame A A^1 A^2, in combination with clamps and horizontal supports E^2, extending across the outer edge of said frame A, substantially as and for the purpose described.

2. In combination with a flat rectangular frame and a series of horizontal supports, E^2, connected to said frame by clamps, a series of shelves arranged in pairs on said supports, substantially as and for the purpose set forth.

3. In combination with the side frame A and horizontal supports E^2 for a series of shelves, the clamps F′, recessed at f, and provided with flanges f^1 to embrace the edge of the frame A, substantially as and for the purpose described.

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