

F. W. TOBEY.
BOOKCASE.

APPLICATION FILED JAN. 17, 1905.

2 SHEETS—SHEET 1.

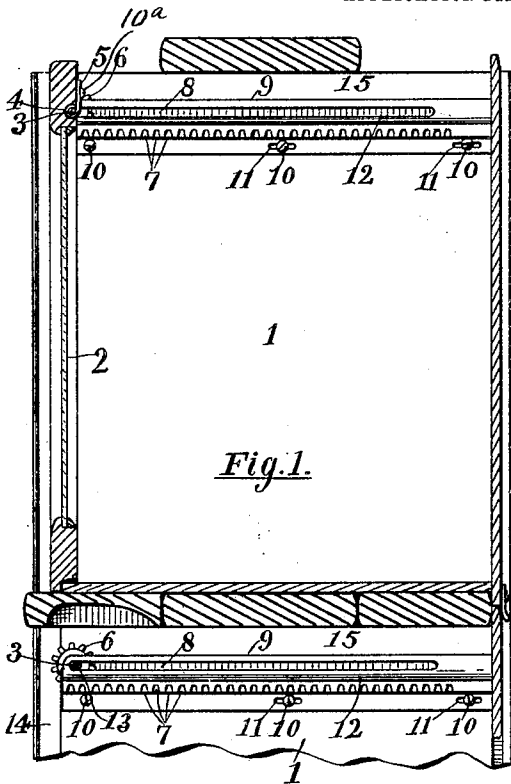


Fig. 1.

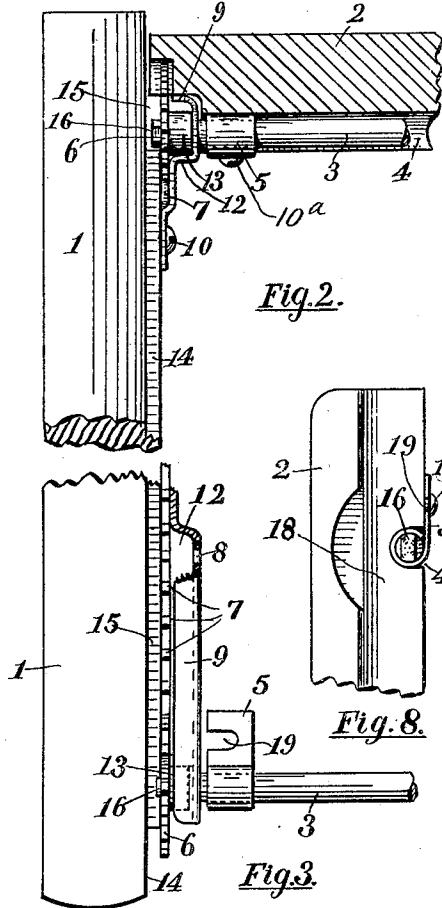


Fig. 2.

Fig. 8.

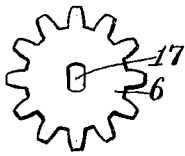


Fig. 5.



Fig. 6.

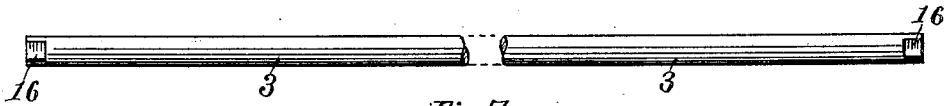


Fig. 7.

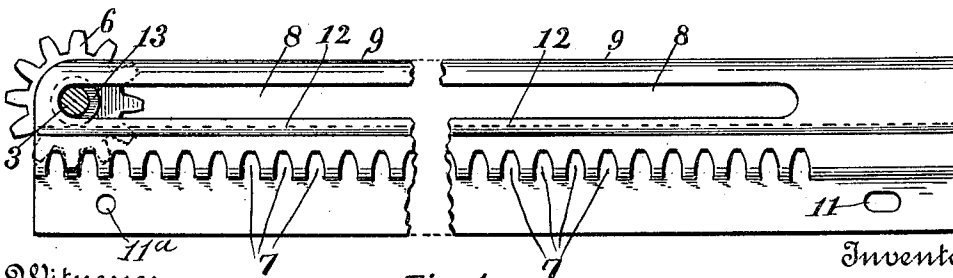


Fig. 4.

Witnesses

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Georgiana Chase

Inventor

Fred W. Tobey

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No. 810,233.

PATENTED JAN. 16, 1906.

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BOOKCASE.

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2 SHEETS—SHEET 2.

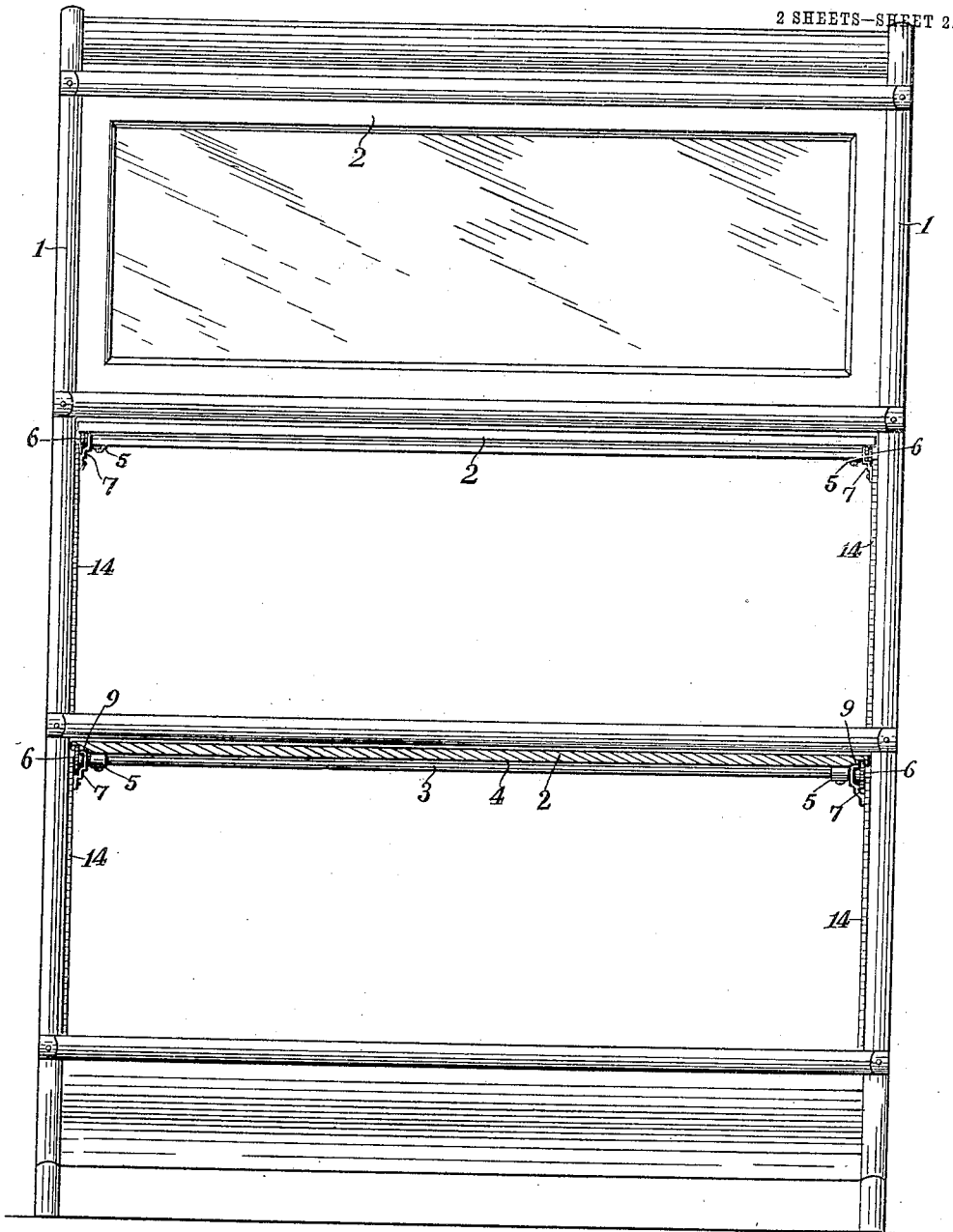


Fig. 9.

Witnesses
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UNITED STATES PATENT OFFICE.

FRED W. TOBEY, OF GRAND RAPIDS, MICHIGAN.

BOOKCASE.

No. 810,233.

Specification of Letters Patent.

Patented Jan. 16, 1906.

Application filed January 17, 1905. Serial No. 241,512.

To all whom it may concern:

Be it known that I, FRED W. TOBEY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Bookcases; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improved guides and supports for the fronts of bookcases; and its object is to provide a cheap and effective device for the purpose having various new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My invention consists, essentially, of supports extending horizontally within the case and provided with various features, hereinafter described, in combination with a rod journaled on the front and pinions on the rod engaging teeth in the supports, and in various features of construction, combination, and arrangement, as hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a portion of a bookcase having my device applied thereto; Fig. 2, an enlarged detail, in front elevation; Fig. 3, the same in plan view; Fig. 4, an enlarged detail of a support; Fig. 5, a detail of one of the pinions; Fig. 6, a detail of one of the rolls; Fig. 7, a detail of the rod; Fig. 8, a detail of one corner of the front, and Fig. 9 a front elevation of a bookcase embodying my invention.

Like numerals refer to like parts in all of the figures.

1 represents one of the ends of any form of bookcase having a front 2 to each compartment, said front being adapted to turn from vertical to horizontal position and to run back horizontally within the upper part of the compartment.

3 represents a rotative rod extending horizontally across the upper part of the front and preferably within a groove 4 in the inner surface of the front.

To readily and quickly attach and detach the front and to provide suitable journal-bearings for the rod, I provide loops 5, preferably of strips of sheet metal bent around the rod and extended tangentially upon the inner surface of the front and also provided with re-

cesses 19, in which are inserted screws 10^a to secure the loops to the front. The front can thus readily be detached by slackening the screws and slipping the loops along on the rod or quickly attached by a reverse operation. This rod 3 is provided at each end with rolls 13, adapted to support the rod and to traverse the horizontal portion 12 of the support, which support I prefer to make of sheet metal formed by means of dies and provided with various features, as hereinafter described. These supports are secured to the inner surfaces of the ends 1 by means of screws 10 inserted in openings near the lower edge of the support.

The front end of each support is rigidly secured to case end, flush with the front edge thereof, by means of a screw inserted through round opening 11^a, and in order to compensate for shrinkage or swelling of the wood I provide elongated openings 11 in the support, through which are passed fastening-screws. It will thus be seen that the front end of the support will always remain flush with the front edge of the case end regardless of any shrinking or swelling of the wood. Above this lower portion are upwardly-projecting portions of the plate, forming teeth 7, and the portions of the plate between the teeth and above the same are pressed away from the surface of the end 1 a sufficient distance to form a guideway therebetween for a pinion 6 on each end of the rod 3. These pinions are one or both longitudinally movable on the rod and rotate therewith, being provided with axial openings 17 to fit the end of the rod, which end is flattened at one or both sides, as at 16, to prevent the pinion from turning on the rod. These pinions engage the teeth 7 of the support at each end of the case, and thus accurately guide the rod, so that its respective ends simultaneously traverse to and fro in slots 8 of the supports. The upper edge of each support is turned horizontally to afford a suitable surface on which the lower or front part of the front 2 is supported and slides as the front is run to and fro in the compartment.

The ends are each provided with a vertical front rabbet affording a shoulder 14 to engage the front when the same is closed and a horizontal rabbet 15 to permit the front to run back within the upper part of the compartment. It will be noted that by this construction I provide supports at each end of the case, which are not affected by the shrinking or swelling of the end of the case and

which can be made readily and cheaply of strips of sheet metal by means of dies and which also provide metallic supports traversed by the front and the rolls 13; also, that in the event that the end 1 should warp so that its inner surface is not a true plane one or both of the pinions will move longitudinally of the rod 3, and thus freely traverse between the support and the end without binding.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a bookcase, a front, loops having extensions provided with lateral recesses, screws in the inner side of the front and near the upper edge thereof, which screws engage the recesses in loop extensions, and a rod for supporting the front horizontally and rotatively mounted in said loops.

2. In a bookcase, a front having a horizontal groove in its inner surface, a rod rotative in the groove, means for supporting and guiding the rod in the case, loops surrounding the rod and having tangential extensions provided with lateral recesses, and screws inserted in the front and engaging the recesses.

3. In combination with the movable front and the ends of a bookcase, a horizontally-movable rod to support the front, a pinion rotative with the rod and longitudinally movable on one end of the same, a rack engaging the pinion and fixed on one end of the case, a plate spaced apart from said end of the case to form a channel therebetween to guide the pinion, a pinion on the other end of the rod, and a rack on the other end of the case to engage the said pinion.

4. In combination with the movable front and the ends of a bookcase, a horizontally-movable and rotative rod, means for attaching the front to the rod, pinions on the rod, and plates attached to the ends and having upwardly-projecting portions engaging the teeth of the pinions, and also having inwardly-pressed portions engaging the inner sides of the pinions.

5. In combination with the front and ends of a bookcase, a rod journaled on the front,

rolls and pinions on the rod, and plates secured to the ends of the case and having upwardly-projecting teeth engaging the pinions, said plates also extending upward opposite the pinions to guide the same and thence extended horizontally to form tracks for the rolls.

6. In combination with the front and ends of a bookcase, a rotative rod attached to the front and supporting the same, a pinion on each end of the rod, said pinions being rotative with the rod, supports attached to the ends and having slots to receive the rod and also having an upper surface to support the front, and teeth on the supports to engage the teeth of the pinions.

7. In combination with the ends and the movable front of a bookcase, a rod journaled on the front and supporting the same, rolls rotative on the rod, pinions movable longitudinally of the rod and rotative therewith, and plates secured to the ends and having upwardly-projecting portions forming teeth to engage the pinions, said plates also having inwardly-pressed portions engaging the sides of the pinions, horizontally-extended portions supporting the rolls and traversed thereby, slots traversed by the rod, and upper horizontal portions to support the front.

8. In a bookcase, a front having a horizontal groove, a rod rotative in the groove, a roll on each end of the rod, a pinion on each end of the rod and rotative therewith, said pinions also being movable toward and from each other, ends having vertical rabbets and horizontal rabbets, and plates secured to the ends below the horizontal rabbets, said plates having portions forming teeth to engage the teeth of the pinions, inwardly-pressed vertical portions to engage the sides of the pinions, horizontal portions supporting the rolls and traversed thereby, slots traversed by the rod, and upper portions supporting the front.

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

FRED W. TOBEY.

Witnesses:

LUTHER V. MOULTON,
EDWARD R. MONROE.