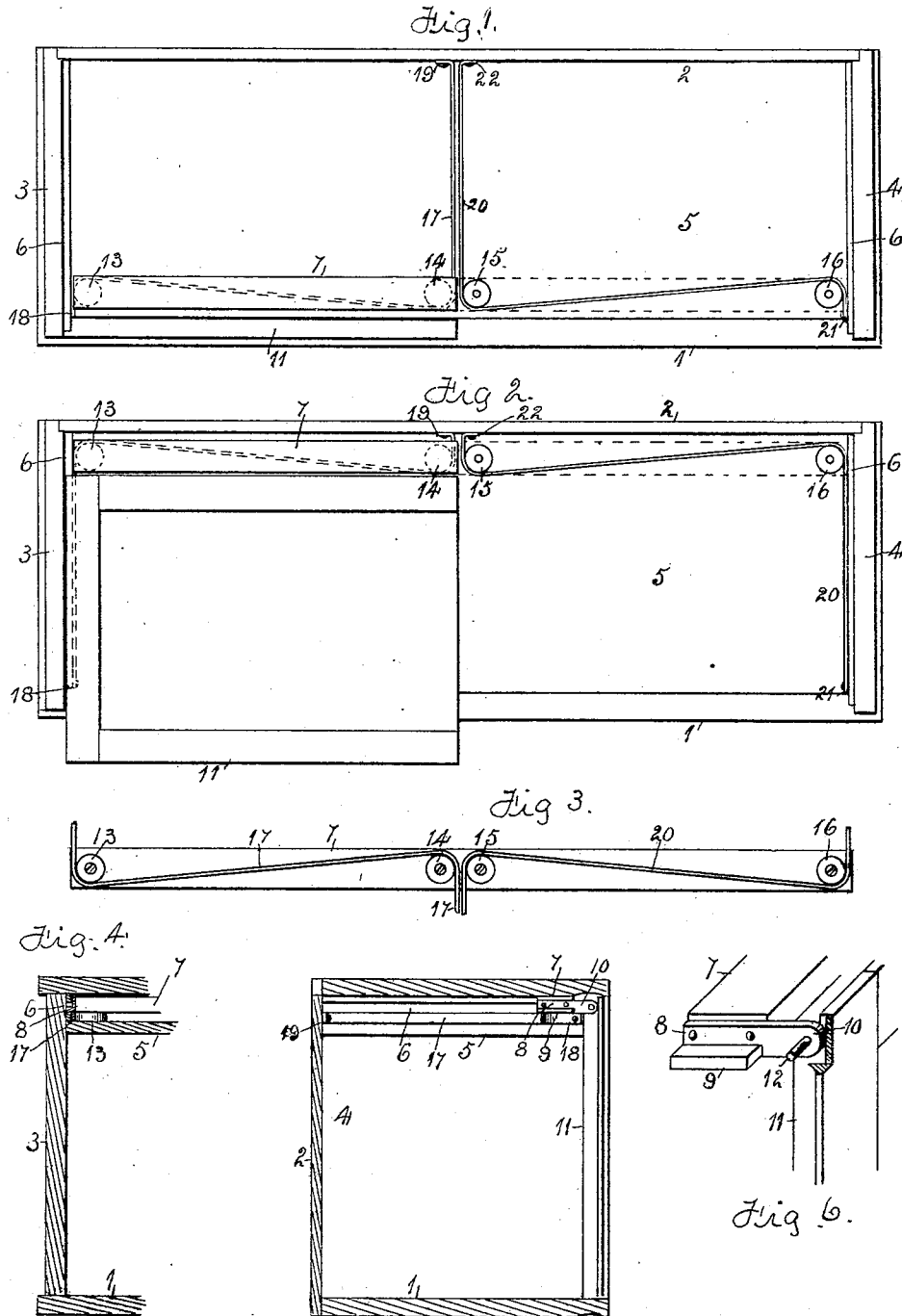


L. NELSON.
BOOKCASE.

APPLICATION FILED JAN. 23, 1909.

941,168.

Patented Nov. 23, 1909.



Witnesses:
Ruth Hatch.
E. Behel.

Fig. 5.

Inventor:
Louis Nelson.
By A. A. Behel.
Atty.

UNITED STATES PATENT OFFICE.

LOUIS NELSON, OF ROCKFORD, ILLINOIS.

BOOKCASE.

941,168.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed January 23, 1909. Serial No. 473,931.

To all whom it may concern:

Be it known that I, LOUIS NELSON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Bookcases, of which the following is a specification.

The object of this invention is to construct an equalizer for the doors of bookcases in order that both ends of the door will move parallel thereto preventing cramping of the door in its connection with the case.

In the accompanying drawings, Figure 1 is a plan view in which one-half of the bar 7 and door 11 are broken away, the door being in its closed position. Fig. 2 is a similar view in which the door is in its open position. Fig. 3 is an underface representation of the bar 7 and the rollers connected therewith. Fig. 4 is a vertical section through the end 3 and the parts immediately connected therewith. Fig. 5 is a transverse section with the door closed. Fig. 6 is a perspective view of one end of the bar 7 and the upper portion of the door showing the pivotal connection between them.

The book-case section comprises the bottom 1, back 2, ends 3 and 4 and supplemental top 5. The bottom of one section forms the top of the section next below it.

In each of the ends 3 and 4 is formed a grooved guide way 6 extending transversely thereof.

A bar 7 is located over the supplemental top and has a plate 8 secured to each end and formed with a projection 9 which projections move in the grooved guide-ways 6.

From the plates 8 extend perforated projections 10, and a door 11 has pins 12 extending from its upper end which enter the perforations of the projections, thereby forming a pivotal connection between the door 11 and the bar 7. These pins 12 move in the grooved guide-ways 6.

To the underface of the bar 7 are pivoted four rollers 13, 14, 15 and 16 located in the lengthwise direction of the bar, one at each end and two near the center thereof.

A band 17 has one end 18 thereof secured to the side 3 of the section, and its other end 19 secured to the back 2 of the section. This band passes around the rollers 13 and 14.

A band 20 has one end 21 thereof secured to the side 4 of the section, and its other end 22 secured to the back 2 of the section. This band passes around the rollers 15 and 16.

As the door 11 has a pivotal connection with the bar 7 the door will assume a vertical position when closed and will assume a horizontal position when open, and when moved into its horizontal position it and the bar will slide together toward the back of the section.

As the bands pass around the front face of the center rollers 14 and 15, and around the rear face of the end rollers 13 and 16 they will always remain taut in whatever the position the bar 7 may be.

As the door is moved toward the back of the section the bar 7 moves with it, and as both ends of the bands are fixed, the rollers will travel along the bands, and both ends of the bar 7 and consequently the door will move together, thereby preventing cramping in connection with the ends of the book-case section.

I claim as my invention.

1. The combination of a case, guide-ways in the ends of the case, a bar having its ends movable in the guide-ways, a door pivotally connected to the bar, rollers supported by the bar, and flexible connections passing around the rollers and secured to the case.

2. The combination of a case, guide-ways in the ends of the case, a bar having its ends movable in the guide-ways, a door pivotally connected to the bar, four rollers supported by the bar, one near each end thereof and two near its center, flexible connections passing between the inner rollers and around the end rollers and having their ends connected to the sides of the case near their front edges, and their other ends connected to the back of the case.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LOUIS NELSON.

Witnesses:

A. O. BEHEL,
E. D. E. N. BEHEL.