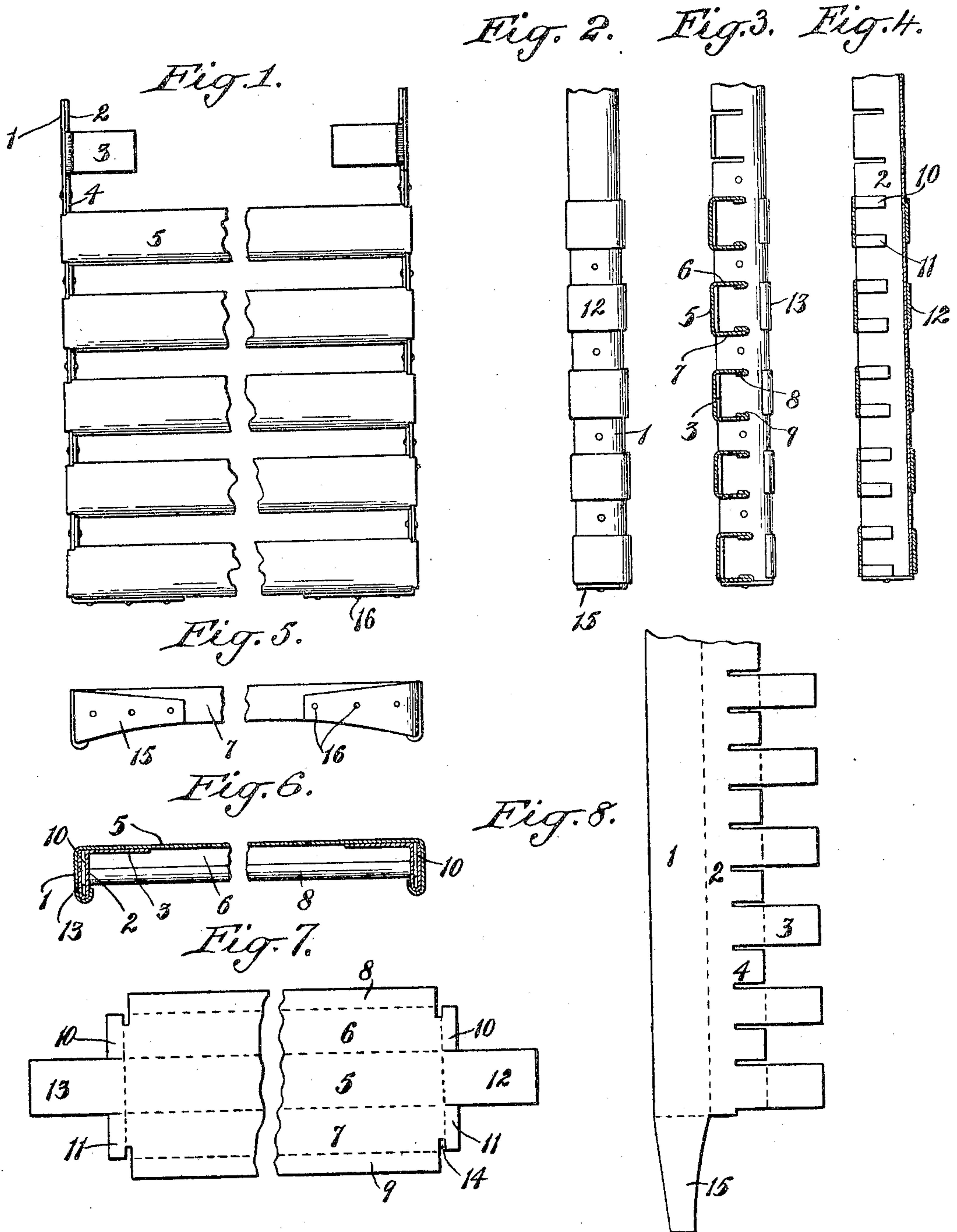


No. 798,430.

PATENTED AUG. 29, 1905.

H. P. MACDONALD.  
BOOK SHELF.

APPLICATION FILED OCT. 5, 1904.



Witnesses:  
F. G. Hachenburg.  
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by attorneys  
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# UNITED STATES PATENT OFFICE.

HARRY P. MACDONALD, OF JERSEY CITY, NEW JERSEY.

## BOOK-SHELF.

No. 798,430.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Original application filed April 29, 1904, Serial No. 205,446. Divided and this application filed October 5, 1904. Serial No. 227,183.

*To all whom it may concern:*

Be it known that I, HARRY P. MACDONALD, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Book-Shelves, of which the following is a specification.

The object of my present invention is to provide a shelf which will be extremely cheap to manufacture, in which the parts are easily assembled, and in which the arrangement of the parts with respect to each other is such that a very strong and light shelf may be formed which is capable of successfully withstanding the weight of the books placed thereon.

This present application is a division of the application filed by me on the 29th day of April, 1904, entitled "Improvement in book-shelves," its serial number being 205,446.

In the accompanying drawings, Figure 1 is a top plan view of a portion of a shelf. Fig. 2 is an end view. Fig. 3 is a transverse section taken at a distance from the transverse bar. Fig. 4 is a transverse section at the transverse bar. Fig. 5 is a side view. Fig. 6 is a longitudinal section. Fig. 7 is a partial top plan view of the blank from which the longitudinal bar is formed, and Fig. 8 is a partial top plan view of the blank from which the transverse bar is formed.

The blank from which the transverse bar is formed is so shaped as to provide two vertical portions 1 and 2, connected along their lower edges, the inner vertical portion 2 being provided with alternating series of long and short tongues 3 and 4, the long tongues being bent inwardly in a line with the top edges of the short tongues.

The blank from which the longitudinal bar is formed is so shaped that when the bar is completed it will have a horizontal portion 5, downwardly-extended sides 6 and 7, upwardly-folded lips 8 and 9, and locking-flaps 10 11 at the ends of the sides. The horizontal portion 5 is further provided with flaps 12 and 13, which are fitted to fold downwardly over the outer faces of the transverse bars and thence upwardly a short distance along the inner faces of the said bars. Slits 14 are formed between the sides and their flaps. When the shelf is set up, the flaps 10 and 11 are located between the vertical portions 1 and 2 of the transverse bar, folded inwardly toward each other at right angles to the sides. The horizontal portion of the long

tongue 3 of the transverse bar is inserted inwardly beneath the horizontal portion 5 of the longitudinal bar. The transverse bars are provided with projections 15, which are fitted to fold over the outer side of the outermost longitudinal bars and secured thereto by rivets 16 or other suitable fastening devices.

What I claim is—

1. A book-shelf comprising transverse bars and longitudinal bars both the transverse and longitudinal bars having flaps, the said bars being interlocked by means of their respective flaps.

2. A book-shelf comprising transverse bars and longitudinal bars, each longitudinal bar having a horizontal portion, downwardly-extended sides, and locking-flaps at the ends of both of the sides.

3. A book-shelf comprising transverse bars, and longitudinal bars, each longitudinal bar having a horizontal portion, downwardly-extended sides, and flaps at the ends of both of the sides folded at right angles thereto.

4. A book-shelf comprising transverse bars and longitudinal bars, each longitudinal bar having a horizontal portion, downwardly-extended sides and flaps at the ends of both of the sides folded toward each other at right angles thereto.

5. A book-shelf comprising transverse bars and longitudinal bars, each longitudinal bar having a horizontal portion, downwardly-extended sides, laterally-folded flaps at the ends of both of the sides and flaps at the ends of the horizontal portion folded downwardly over the outer faces of the transverse bars.

6. A book-shelf comprising transverse bars and longitudinal bars, each longitudinal bar having a horizontal portion, downwardly-extended sides, laterally-folded flaps at the ends of both of the sides and flaps at the ends of the horizontal portion folded downwardly over the outer faces of the transverse bars and thence upwardly along the inner faces of the said bars.

7. A book-shelf comprising transverse bars and longitudinal bars, each longitudinal bar having a horizontal portion, downwardly-extended sides, laterally-folded flaps at the ends of the sides and slits extended a short distance between the flaps and the sides.

8. A book-shelf comprising transverse bars and longitudinal bars, each transverse



bar having vertical portions connected along their lower edges, the inner vertical portion being provided with a series of tongues.

5 9. A book - shelf comprising transverse bars and longitudinal bars, each transverse bar having vertical portions connected along their lower edges, the inner vertical portion being provided with alternating series of long and short tongues.

10 10. A book - shelf comprising transverse bars and longitudinal bars, each transverse bar having vertical portions connected along their lower edges, the inner vertical portion being provided with alternating series of  
15 long and short tongues, the long tongues being bent inwardly in a line with the top edges of the short tongues.

20 11. A book - shelf comprising transverse bars and longitudinal bars, each transverse bar having vertical portions connected along their lower edges, the inner vertical portion being provided with a series of tongues for engaging the ends of the longitudinal bars and the outer vertical portion being pro-

vided with a projection folded over the side 25 of the outermost longitudinal bar and secured thereto.

12. A book - shelf comprising transverse bars and longitudinal bars, each transverse bar having vertical portions connected at 30 their lower ends, the inner vertical portion having an alternating series of long and short tongues and each longitudinal bar having a horizontal portion, downwardly - extended sides and flaps at the ends of the sides folded 35 between the vertical portions of the transverse bar, the long tongues of the transverse bar being projected inwardly beneath the horizontal portions of the longitudinal bars.

In testimony that I claim the foregoing as 40 my invention I have signed my name, in presence of two witnesses, this 4th day of October, 1904.

HARRY P. MACDONALD.

Witnesses:

FREDK. HAYNES,  
F. GEORGE BARRY.