No. 791,155. PATENTED MAY 30, 1905.

H. P. MACDONALD.

BOOK SHELF.

APPLICATION FILED OCT. 6, 1904.

Fig. 1.

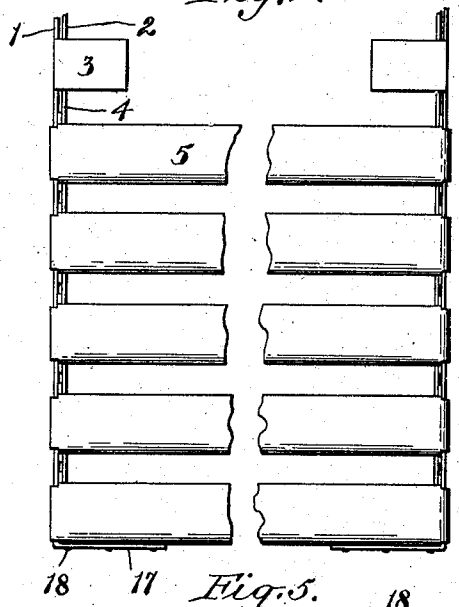


Fig. 2.

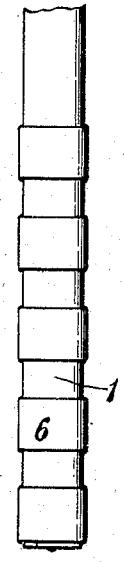


Fig. 3.

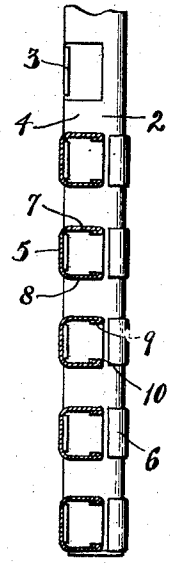


Fig. 4.

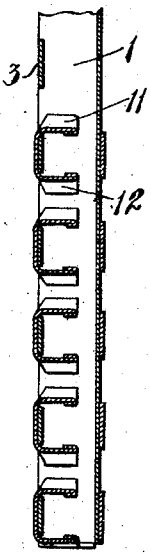


Fig. 5.

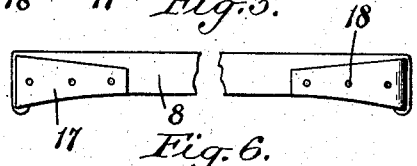


Fig. 6.

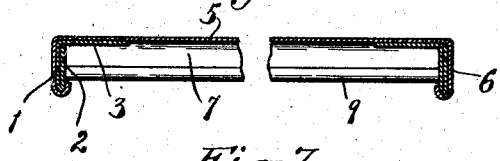


Fig. 7.

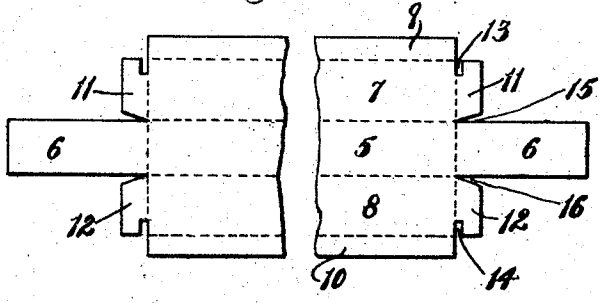
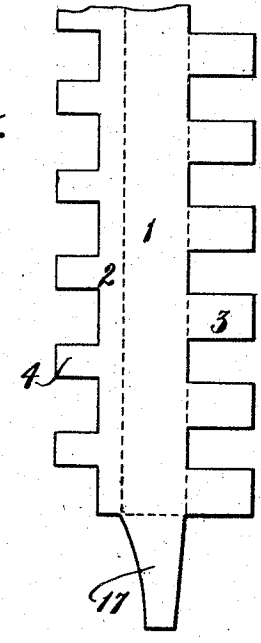


Fig. 8.



Witnesses:-

F. G. Hachenberg.

F. George Barry

Inventor:-

Harry P. Macdonald

by attorneys

Brown & Wright

No. 791,155. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

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

BOOK-SHELF.

SPECIFICATION forming part of Letters Patent No. 791,155, dated May 30, 1905.

Original application filed April 29, 1904, Serial No. 205,446. Divided and this application filed October 5, 1904. Serial No. 227,185.

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 this invention is to provide a book-shelf which will be extremely cheap to manufacture, in which the parts are easily assembled, and in which the arrangement of the several parts with respect to each other is such that a very strong and light shelf structure may be formed which will be 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 partial top plan view of the shelf. Fig. 2 is an end view. Fig. 3 is a transverse section taken at a distance from one of the transverse bars. Fig. 4 is a transverse section taken at one of the transverse bars. 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.

Each of the transverse bars is formed from a blank which is so shaped that when the bar is completed it will have two vertical portions 1 2 connected along their lower edges, the portion 1 having a plurality of inwardly-extended flaps 3, spaced apart and projecting inwardly from the upper edge of the said portion, and the vertical portion 2 having a plurality of flaps 4, spaced apart and alternating with the flaps 3. The blank from which one of the longitudinal bars is formed is so shaped that when the bar is completed it will have a horizontal portion 5, flaps 6, projecting from its ends, downwardly-extended sides 7 8, upwardly-folded lips 9 10, and locking-flaps 11 12, projecting from the ends of the sides 7 8. These locking-flaps 11 12 are partially separated from the sides by slits 13 14 and from the flaps 6 by **V**-shaped recesses 15 16.

When the shelf is set up, the flaps 3 extend inwardly beneath the horizontal portions 5 of the longitudinal bars and the flaps 11 12 of the longitudinal bar are folded between the tongues 4 and the vertical portion 1 of the transverse bar. The flaps 6 of the longitudinal bars are folded downwardly over the outer face of the transverse bar and thence upwardly a short distance on the inner face of the said bar.

The transverse bars may be provided with tongues 17, fitted to be folded over the outer side of the outermost longitudinal bars and secured thereto by rivets 18 or other fastening devices.

What I claim is—

1. A book-shelf comprising transverse bars and longitudinal bars, each transverse bar having inner and outer vertical portions connected along their lower edges, the outer portion having a plurality of flaps projecting inwardly from its upper edge.

2. A book-shelf comprising transverse bars and longitudinal bars, each transverse bar having inner and outer vertical portions, the outer portion having a plurality of flaps projecting inwardly from its upper edge and the inner vertical portion having a plurality of flaps alternating with the first-named flaps.

3. A book-shelf comprising transverse bars and longitudinal bars, the transverse bars having inner and outer vertical portions, flaps projecting inwardly from the upper edges of the outer portions into the longitudinal bars and flaps projecting from the inner vertical portions into the spaces between the longitudinal bars.

4. A book-shelf comprising transverse bars and longitudinal bars, the transverse bars having inner and outer vertical portions, flaps projecting inwardly from the upper edges of the outer vertical portions into the longitudinal bars, flaps projecting from the inner vertical portions into the spaces between the said bars and tongues carried by the trans-

verse bars folded along the outer sides of the outermost longitudinal bars and secured thereto.

5. A book-shelf comprising transverse bars and longitudinal bars, the transverse bars having inner and outer vertical portions, flaps projecting inwardly from the outer portions, flaps projecting upwardly from the inner vertical portions, the longitudinal bars having downwardly-extended sides provided with flaps folded between the outer vertical portions and the tongues of the inner vertical portions of the transverse bars.

6. A book-shelf comprising transverse bars and longitudinal bars, the transverse bars having inner and outer vertical portions, flaps projecting inwardly from the outer portions and flaps projecting upwardly from the inner portions, the longitudinal bars having horizontal portions, downwardly-extended sides provided with flaps folded between the outer vertical portions and the flaps of the inner vertical portions of the transverse bars and flaps projecting from the horizontal portions folded downwardly along the outer sides of the transverse bars.

7. A book-shelf comprising transverse bars and longitudinal bars, the transverse bars having inner and outer vertical portions flaps projecting inwardly from the outer portions and flaps projecting upwardly from the inner portions, the longitudinal bars having horizontal portions, downwardly-extended sides provided with flaps folded between the outer vertical portions and the flaps of the inner vertical portions of the transverse bars and flaps projecting from the horizontal portions folded downwardly along the outer sides of the transverse bars and upwardly on the inner sides thereof.

In testimony that I claim the foregoing as 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.