

Jan. 8 , 1924.

1,480,345

H. L. BRADLEY

SHELF STRUCTURE

Filed Feb. 20, 1920

2 Sheets-Sheet 1

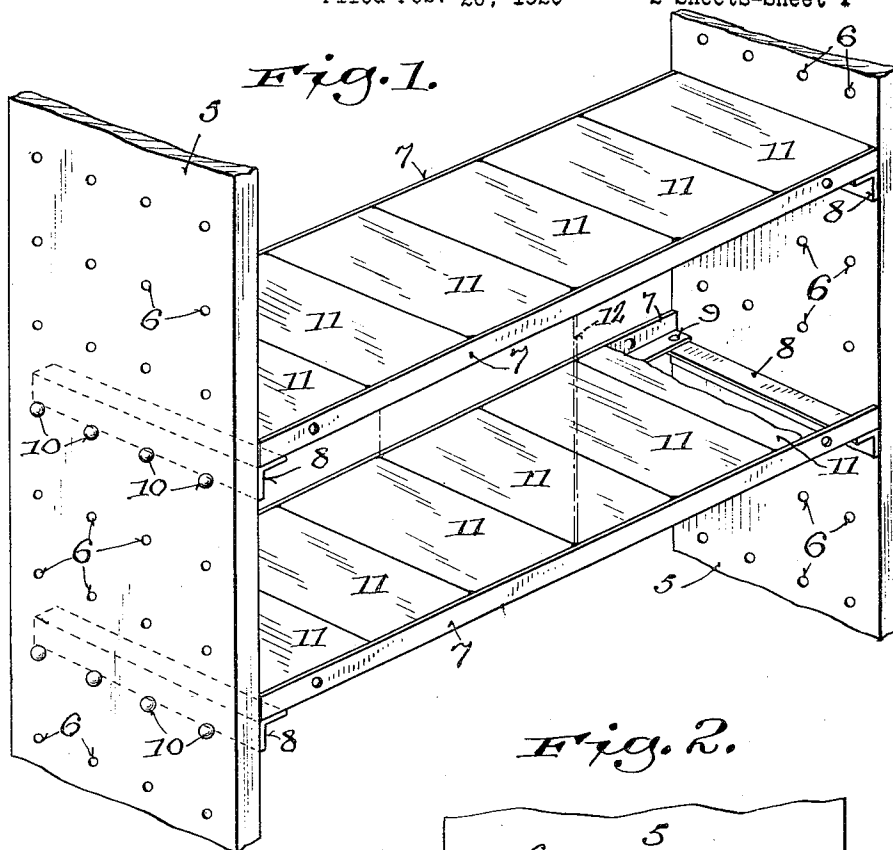


Fig. 2.

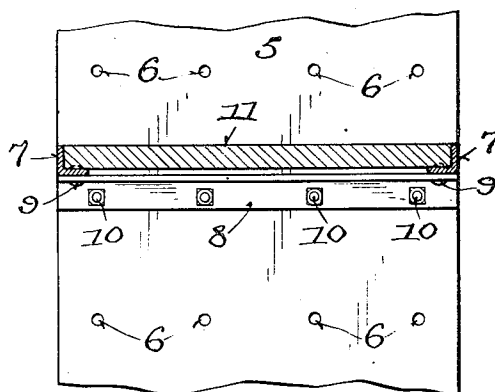
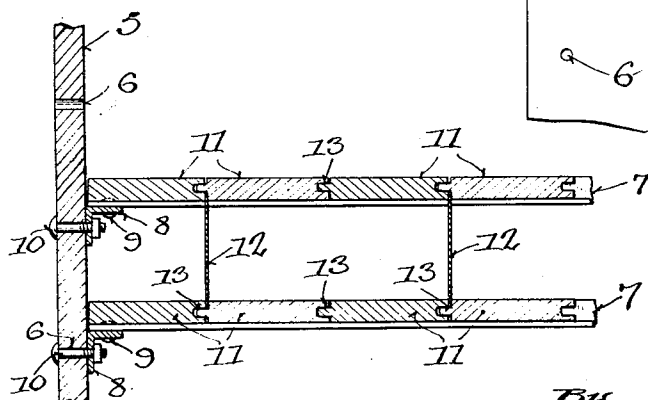


Fig. 3.



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Fig. 4.

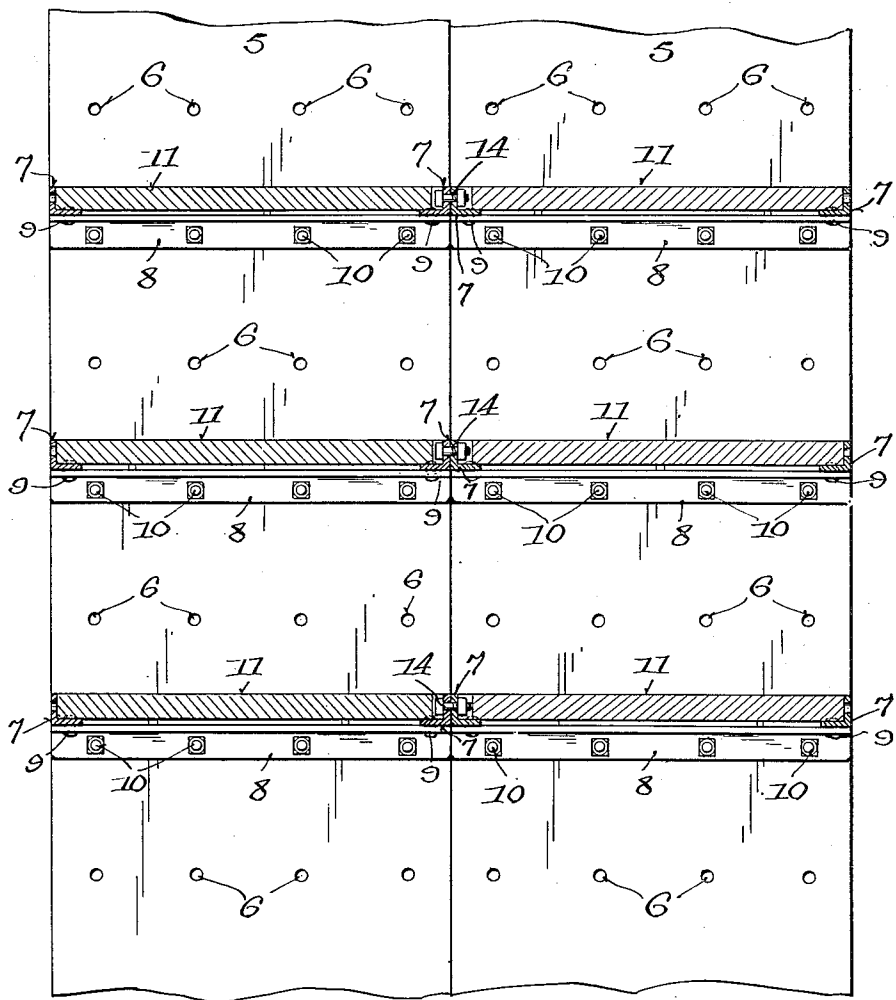
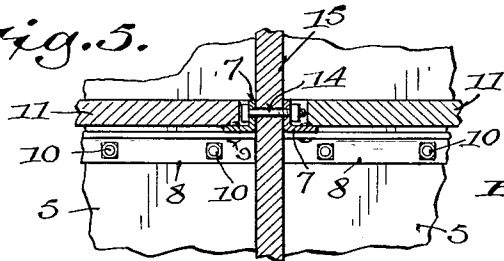


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SHELF STRUCTURE.

Application filed February 20, 1920. Serial No. 390,084.

To all whom it may concern:

Be it known that I, HARRY L. BRADLEY, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Shelf Structures; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in shelf structures, more particularly of that type comprising a tier of superposed shelf units which are vertically adjustable to vary the distance between the shelf units in accordance with the desired conditions of use of the shelf structure, the present structure being more particularly adapted for use in factories or other places to carry a diversified stock of supply parts or other articles, the shelving requirements of which might vary from time to time.

It is in general the object of my invention to simplify and otherwise improve the structure and to increase the efficiency and convenience of manipulation of devices of this character in setting up or adjusting the units thereof.

It is more particularly my object to provide a shelf structure which may be formed of stock angle iron and wooden parts, and wherein the angle iron parts form the means for adjustable assembly of the shelf structure, as well as strengthen the wooden shelf parts and shield the edge portions thereof.

A further object resides in the provision of an arrangement wherein the structure of the shelf units affords a means for detachably mounting partition walls therebetween.

With the above and other objects and advantages in view, my invention resides more particularly in the novel combination, formation and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings:

Fig. 1 is a perspective view of the adjustable shelf structure embodied in my invention.

Fig. 2 is a transverse sectional view through one of the shelf units.

Fig. 3 is a vertical sectional view taken longitudinally through a pair of adjacent shelf units and showing the partitions mounted therebetween.

Fig. 4 is a vertical sectional view taken transversely through a pair of connected shelf structures, and showing the means for securing said structures together.

Fig. 5 is a similar view showing longitudinal partition.

Referring now more particularly to the drawings, I provide a pair of vertical supports 5 for the shelf units, these supports comprising, in the present instance, wooden boards which form the end walls for the shelf spaces, and said boards are provided with transverse series of bolt openings 6.

Each of the shelf units comprises a pair of longitudinal angle iron sections 7 extending between the supports and having their flanges extending respectively upwardly and inwardly, the inwardly extending or horizontal flanges being secured at their ends to the horizontal flanges of a pair of end angle iron sections 8 by bolts or other securing means 9, the vertical flanges of said end sections 8 extending downwardly. Bolts 10 are passed through these downwardly extending flanges and selectively engageable in series of openings 6 of the supports 5 whereby to adjustably mount the shelf unit at a desired elevation. The horizontal flanges of the longitudinal angle irons 7 form seats for the shelf boards of the shelf units, while the vertical flanges prevent displacement laterally of the shelf, and in the present instance the body of each shelf unit is formed by a series of short boards 11 extending transversely of the shelf, with their ends seating on the angle iron flanges and in substantially abutting relation to the vertical flanges. The thickness of the shelf boarding is such that its top surface is substantially flush with the upper edges of the angle irons 7 and thus an even surface is provided for the shelf, and the vertical flanges of the angle irons shield the edges of the boarding to prevent possible chipping and wear thereof.

By using a plurality of short transverse shelf board sections, I am enabled to employ a cheap grade of lumber and I eliminate all danger of inefficiency of the shelf structure incidental to warping. The spaces between these transverse shelf board sections also afford seating recesses for the edges of the partition wall plate 12 which may be inserted between the shelf units, and the meeting edges of the board sections may

be provided with tongue and groove portions 13 to support said partition walls.

I have thus provided an exceedingly simple and economical shelf structure which may be formed of simple angle iron and wooden board parts and which may be most readily assembled in setup position and readily adjusted after such assembling, the angle iron parts affording simple means for adjustable support of the shelf units and serving to brace and shield the wooden shelf parts. Should a single shelf board be employed for each shelf unit, the angle irons afford edge braces for the board, and the ends of the board, if of sufficient width, may seat on the transverse angle iron sections 8.

The shelf structures formed by the pairs of wall boards 5 and their attached shelf units are preferably connected together in pairs to provide a sufficiently stable base to prevent tilting and thus render such structures self-supporting. The vertical sides of adjacent longitudinal angle-irons 7 of the units form the means for such connection of the shelf structures and bolts 14 are passed through said vertical angle-iron sides. This arrangement may be utilized to provide structures having a relatively great shelf width, or, as shown in Fig. 5 of the drawings, vertical partition boards 15 may be interposed between the shelf structures, the bolts 14 passing through said boards and serving to secure them in place. When an uninterrupted transverse width of shelving is desired, the adjacent longitudinal angle-irons 7 of the shelf units are disposed in positive abutment and the flush relation of the shelf-board surfaces and upper edges of the longitudinal angle-irons 7 provides an unbroken expanse of shelf surface in this wider structure. When the supports for the shelf ends are in the form of wall plates or boards as shown, the end members 8 of the shelf unit provide a reinforcement for such walls, materially strengthening the same, particularly when the walls are made of wood, and by securing the end members 8 at a plurality of points, any splitting tendencies which might occur in the wall boards would be prevented by this reinforcing action. By forming the metallic members of my shelf structure of simple stock angle iron, I provide an exceedingly compact and readily assembled structure, as described, and inasmuch as the only operations necessary in the manufacture of said boards resides in cutting the same and boring them for the bolt holes, extremely flexible conditions of

manufacture are afforded, since the shelf units may be made of any desired length or width without requiring any change whatever in the manufacturing equipment. Inasmuch as the longitudinal angle iron members employed are of relatively light metal, having a flange width approximating thickness of the shelf board members, the shelf space of my structure is entirely unobstructed, and when the shelves are set up in use and painted, the shelf units present the casual appearance of simple board members extending between the wall supports.

While I have shown and described a preferred embodiment of my invention, it will be appreciated that various changes and modifications of structure may be employed, to meet different conditions of use and manufacture, without departing in any manner from the spirit of my invention as defined by the appended claims.

What I claim as my invention, is:

1. A shelf structure comprising end supports, a plurality of shelf units each comprising longitudinal angle iron sections extending between and carried by said end supports and having their flanges extending respectively upwardly and inwardly and a series of transversely extending shelf boards having their ends seated on the inwardly extending flanges and confined between the upwardly extending flanges, certain of said shelf boards defining seating recesses therebetween, and partition members extending between the shelf units and having their edges engaged in said recesses.

2. A shelf structure comprising end supports, a plurality of shelf units each comprising longitudinal angle iron sections extending between and carried by said end supports and having their flanges extending respectively upwardly and inwardly and a series of transversely extending shelf boards having their ends seated on the inwardly extending flanges and confined between the upwardly extending flanges, certain of said shelf boards defining seating recesses therebetween and being each provided with a longitudinal groove in one edge, tongues on the edges of adjacent boards extending into said grooves and partition members extending between the shelf units with their edges engaged in said recesses and seated on the tongues.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

HARRY L. BRADLEY.