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SHELVING

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*Fig. 1.*

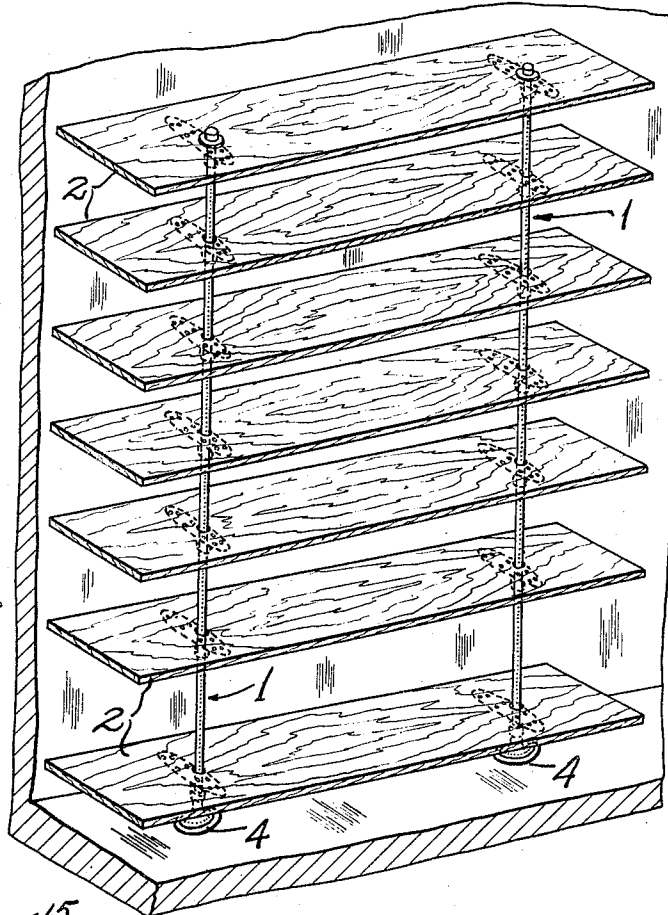
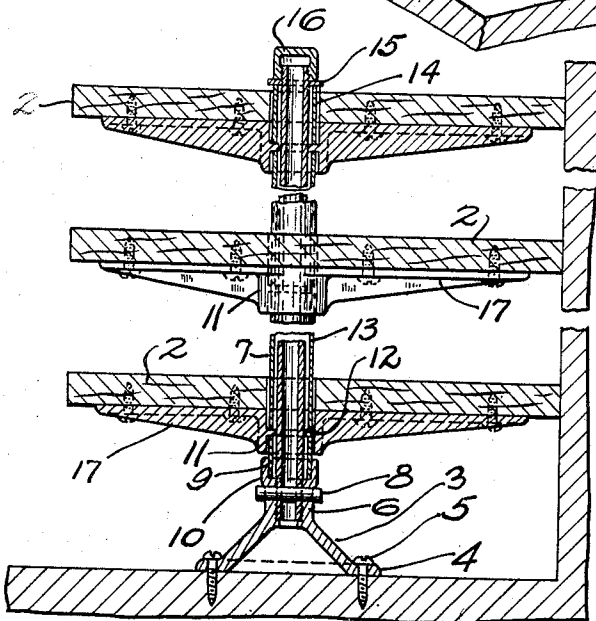


*Fig. 2.*

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## UNITED STATES PATENT OFFICE

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## SHELVING

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2 Claims. (Cl. 211-148)

The invention relates to shelving adapted particularly for use in retail stores where ready installation of the shelving, a neat appearance, and maximum capacity is desired.

5 One of the objects of the invention is to support the shelves stably but with a minimum of elements securing the structure to the building floor or walls, thereby facilitating the installation and moving of the shelving and rendering the same of a "non-fixture" type.

10 Another object of the invention is to provide maximum surface area for given over-all dimensions and to support the shelves by members which do not conceal goods placed upon the shelves.

15 Another object of the invention is to simplify changing the spaces between the shelves without requiring complete new support structure when such a change is to be made.

20 Another object of the invention is to provide clamping means for tightly securing the supporting structure together without subjecting the individual shelves to clamping stresses thereby facilitating the use of glass or similar shelf material and avoiding the loosening of the structure by shrinkage of the shelf material.

25 These and other detailed objects which will be apparent from the specification and drawing are attained by the structure illustrated in the drawing, in which—

30 Figure 1 is an isometric view of a complete unit of shelving, the same being shown applied to the floor and wall of a building which is indicated in section.

35 Figure 2 is a transverse section through typical portions of the support structure and the adjacent shelves and indicating the application of the same to the floor and wall of the building.

40 A relatively short unit (approximately 6 feet) will comprise, preferably, two support structures 1 which carry the shelves 2 exclusively. Each support structure is mounted on a base 3 having a flange 4 through which screws or other holding elements 5 may be inserted to secure the base to the floor. The base includes an upwardly opening shoulder socket preferably having a narrower portion 6. A tubular upright 7 extends continuously throughout the height of the shelving and at its lower end is seated in the narrower portion 6 of the base and is anchored therein by the transverse pin 8. Upright 7 consists of an ordinary pipe or tube and is free of machine work except for threading at its upper end and the transverse passage through its lower end for pin 8.

55 A short tube-like spacer 9 is seated on the

shoulder between the narrower portion 6 of the socket and the wider portion 10 and surrounds but does not necessarily fit closely upon upright 7. A bracket is mounted upon the upper end of spacer 9 and includes a central hub 11 having a substantially cylindrical opening therethrough interrupted by rib 12 intermediate the top and bottom of the bracket, which rib rests upon the upper end of spacer 9 and supports the lower end of the next upper spacer 13. This arrangement of spacer and bracket is repeated throughout the height of the shelving and terminates in an upper spacer 14. A washer 15 overlies the upper end of spacer 14 and a cap 16 is threaded upon the upper end of upright 7 and upon being screwed down, clamps all of the spacers and brackets against each other to form a rigid unit.

Each bracket includes oppositely extending arms 17 and preferably these arms project transversely of the shelving. The shelves 2 are individually secured to the bracket arms independently of the spacers and are not subjected to the clamping forces which hold the upright rigid.

Each support structure is located preferably intermediate the front and back edges of the shelving so that the weight will be better balanced and goods, particularly small package goods, can be stacked on the shelves all around the supports and completely hiding the latter. However, if the supports are visible, their small transverse dimensions and smooth finish presents an attractive appearance to the observer.

If the unit is to comprise wall shelving, the shelves may be mounted on the supports and the brackets so that the larger portion of the shelves is on the wall side of the support tending, if loaded, to tilt the unit rearwardly. Then by abutting the edges of the shelves against the upright wall, the stability of the structure is increased.

If the unit is to be located where a wall or similar steadying surface is not available, it will be preferable to have the shelves in balanced relation to the support structure.

Obviously the parts comprising the assembled unit may be furnished in quantities and may be readily assembled in situ by ordinary workmen without use of special tools and without fitting of individual pieces to each other. The brackets may be applied to the shelves at the factory and each shelf with its brackets applied as a unit to its uprights. The support structure will be as strong as if completed at the factory and possess the additional advantage of being flexible in the sense that any desired spacing of shelves

can be quickly arranged by selecting the appropriate spacers. Even after the shelving is installed the proprietor can readily dismantle the shelving and substitute other spacers for those originally provided.

5 Since the shelves themselves are not included in the clamping structure, the rigidity of the support structure does not depend upon the toughness or size of the shelves and, as indicated above, 10 glass or steel or lumber may be used interchangeably without affecting the support structure or requiring different lengths of spacers to maintain the same distance between shelves.

The details of the seats for the various parts 15 and the means for clamping the parts together may be varied substantially without departing from the spirit of the invention and the exclusive use of these and other modifications coming within the scope of the claims is contemplated.

20 I claim:

1. In a shelving structure, a base for attachment to a floor and including an upwardly opening socket with an upwardly facing shoulder intermediate its length, an upright pipe seated in

the bottom of said socket, a horizontal pin extending through said socket and pipe below said shoulder, a tubular spacer slidable over said pipe and seated on said shoulder, a bracket surrounding said pipe and having a downwardly facing 5 socket receiving the upper end of said spacer and seated thereon and having an upwardly facing socket, another tubular spacer seated in said latter mentioned bracket socket, another similarly 10 constructed bracket receiving and seated on said latter mentioned spacer, means clamping said spacers and brackets against each other and said base, and shelves carried on said brackets independently of the other elements mentioned.

2. In a shelving structure, an upright, a plurality of tubular spacer members thereon, bracket 15 members intermediate said spacer members and having upwardly and downwardly opening sockets, there being a rib between said sockets with opposite sides disposed to seat spacer members inserted into said sockets from above and 20 below respectively, and shelves carried by said brackets independently of said spacer members.

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