No. 862,128. PATENTED AUG. 6, 1907.

R. R. BELCHER.

SHELVING CONSTRUCTION.

APPLICATION FILED AUG. 6, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

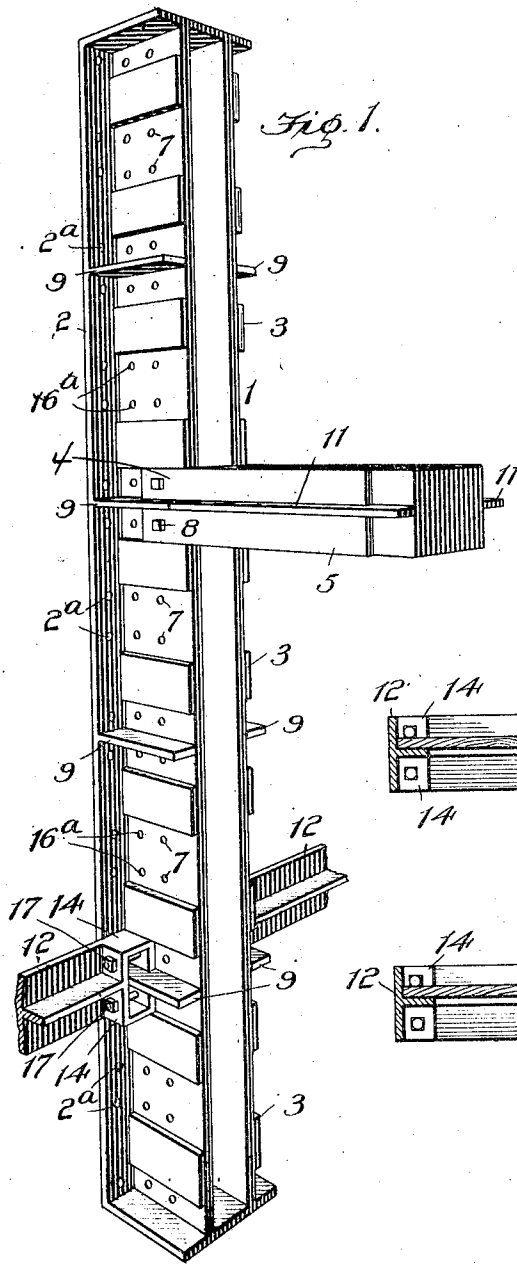
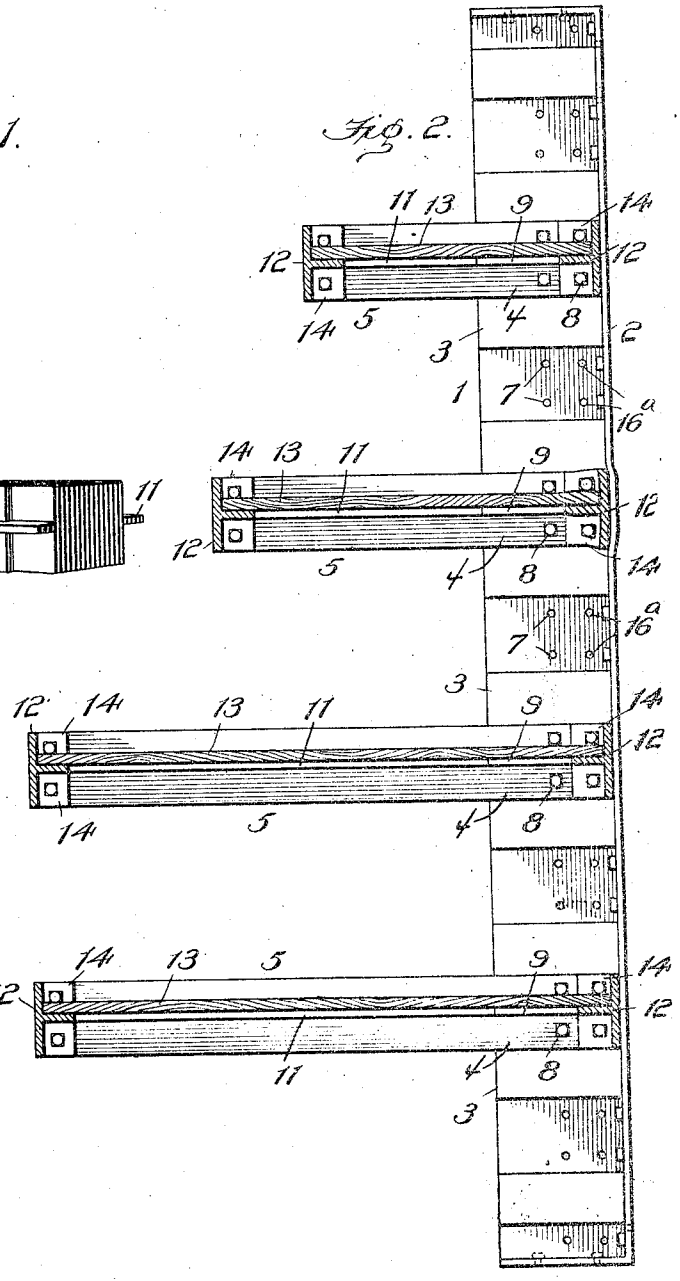


Fig. 2.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

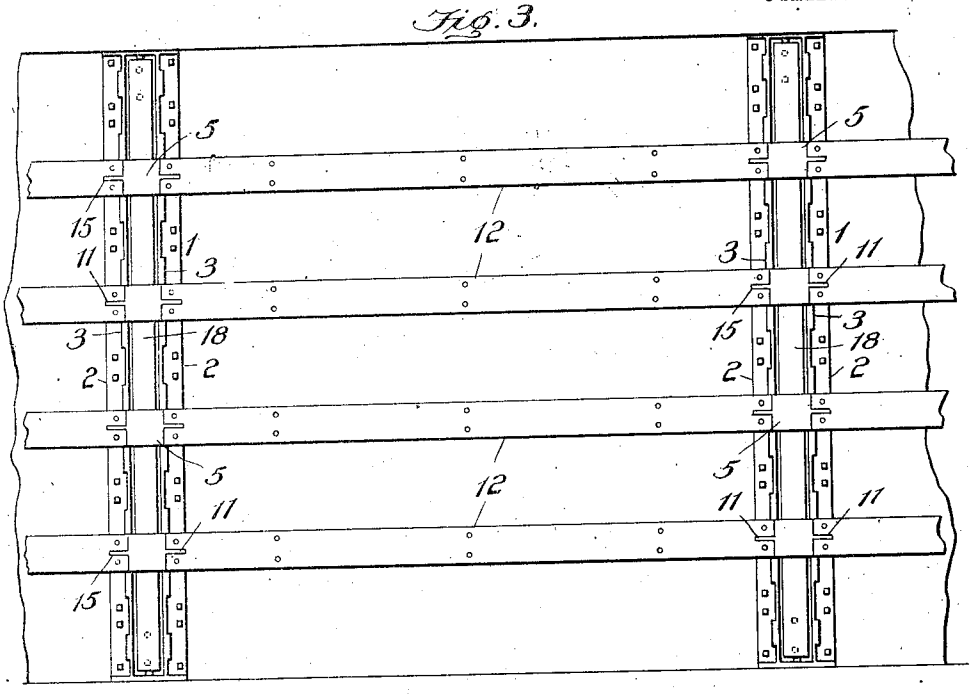


Fig. 4.

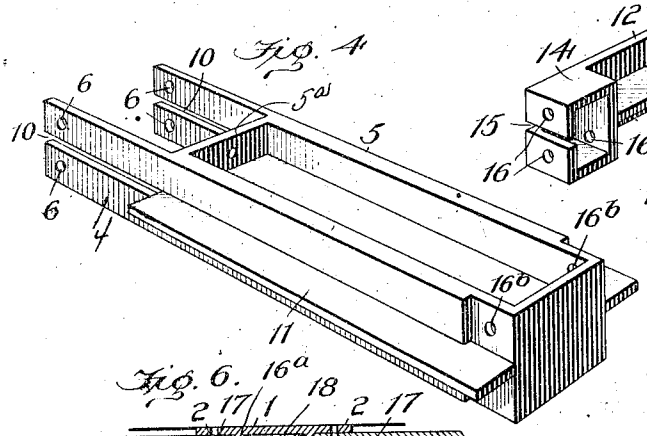


Fig. 5.

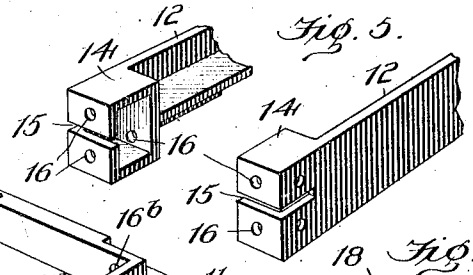


Fig. 6.

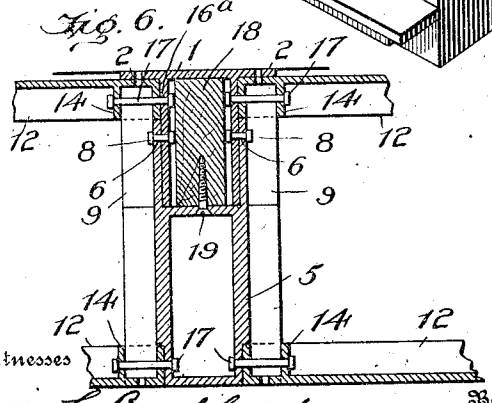
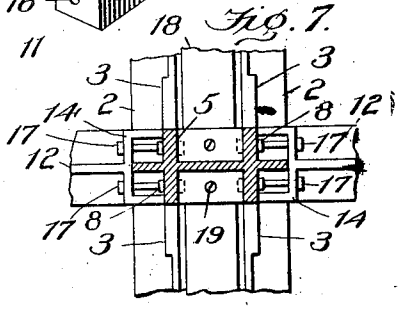


Fig. 7.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 8

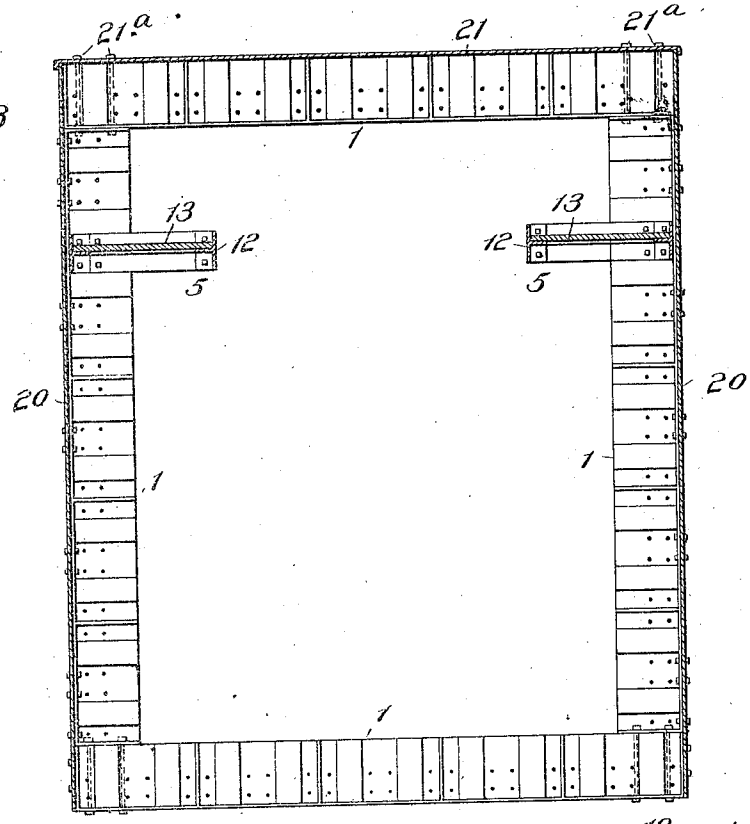


Fig. 9.

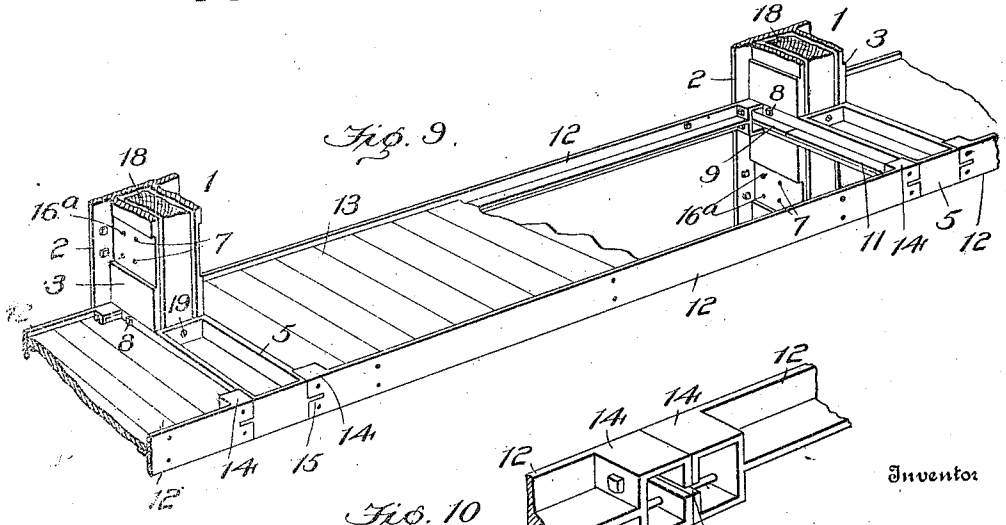


Fig. 10

Witnesses

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UNITED STATES PATENT OFFICE.

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SHELVING CONSTRUCTION.

No. 862,128 Specification of Letters Patent. Patented Aug. 6, 1907.

Application filed August 6, 1906. Serial No. 329,449.

To all whom it may concern:

Be it known that I, RALPH ROY BELCHER, a citizen of the United States, residing at Bainbridge, in the county of Decatur and State of Georgia, have invented new and useful Improvements in Shelving Construction, of which the following is a specification.

My invention relates to improvements in shelving construction for stores and has for its object to provide a flexible, sectional shelving composed of units capable of being variously assembled according to the number and disposition of shelves desired.

With this, and other objects referred to hereinafter, the invention resides in the units; in the combinations of units, and in the construction of units hereinafter described, reference being made to the accompanying drawings showing the preferred embodiment thereof.

That which is new will be set forth in the claims appended to the description.

In the accompanying drawings: Figure 1 is a perspective view of a column with shelves and rails connected thereon. Fig. 2 is a side elevation of the column, showing the shelves in sections. Fig. 3 is a front elevation of a shelving construction installed against a wall. Fig. 4 a perspective view of one of the tray shelves. Fig. 5 are perspective views of the coupling heads of the rails. Fig. 6 a horizontal sectional view. Fig. 7 a detailed section showing the connection of the rails to the column. Fig. 8 an elevation showing the columns arranged to constitute a frame to which the walls, roof and flooring may be secured. Fig. 9 a perspective showing the rails reaching between two columns and supporting a shelf or counter. Fig. 10 a detail perspective illustrating two rail coupling-heads connected together.

The reference numeral 1 in said drawings designates a column or pillar, preferably, as are the other elements of the construction, of metal, constituting a support for, and provided with means for detachable connection thereto, of shelves. The column 1 is designed to be secured to the wall of a store-room and preferably in such manner that it may be disconnected therefrom for removal if desired; and the particular, though not exclusive, means for accomplishing this consists of lateral flanges 2 provided with bolt-holes 2^a to receive bolts or other suitable fastening devices which may enter through the store-room wall and be held by means of nuts, as shown.

To one, or if desired, and as illustrated, to both side-walls of the column, and at any distance apart, cleats 3 are formed or secured, and serve to receive between them the attaching members 4 of shelves 5 which shelves extend forwardly from the column, may be of any desired form and dimensions. The attaching members consist of wings which fit against the side-walls of the column 1 and in between the cleats 3; and are provided with means to receive fastening devices, such means consisting of bolt-holes 6 adapted to register with similar holes 7 in the walls of the column, through which are passed bolts 8 with retaining nuts. By this manner of attachment the shelves are secured firmly in place. The wings 4 engaging the opposite side-walls of the column 1 and also the adjacent cleats 3 are held securely and rigidly against movement in any direction when the bolts 8 are in place.

The shelves 5 are, preferably, provided with abutments 5^a which fit against the column and serve to assist the cleats and fastening-bolts to sustain the weight of the shelves and the load imposed thereon.

The shelves may be quickly and easily detached by removing the bolts 8, and as quickly and easily adjusted and secured in place between any two adjacent cleats, the sectional shelving being thus quite flexible; as few or as many shelves, as may be desired, within the maximum capacity of the column 1, (and this is optional) may be used, and may be positioned at various elevations to suit varying conditions or needs in the place or the use to which the shelving is to be put. As shown, also the shelves may be of various length to facilitate getting at the articles thereon, especially when the shelves are of tray form as shown. The column 1, is also provided, at one or both its side-walls with rail-attaching tongues 9, located between adjacent cleats 3, the number and relative disposition of which may be varied at will. The wings 4 of the shelves are slotted as at 10 to accommodate said tongues, and are provided with similar tongues 11 which aline with and form continuations of the tongues 9. Adapted to be connected to said tongues are rails 12 for supporting an extended shelf or counter 13, of which there may be as many as desired, arranged at the elevation or elevations desired. These rails are provided with coupling heads 14, slotted at 15 to take over the tongues 9, 11. The rails are provided with means, preferably perforations 16, to receive attaching devices, such as bolts whereby the same may be removably secured to a wall of the store in which the structure is installed.

The rails are arranged in pairs in common planes, and the ledges or rests thereof receive and support the movable shelf or counter 13 which may, as shown, consist of a number of leaves which rest upon said ledges. As shown one member of each pair of rails takes over the tongue 9, and the other takes over the tongue 11 and the coupling-heads 14 are provided with means, preferably perforations 16, that register with similar perforations 16^a and 16^b in the side wall of the column 1 and in the shelves 2 to receive bolts 17.

Within the scope of my invention the tongues 9 and 11, may be omitted, in which event the coupling heads 14, would be secured to the wall of the column 1 and the shelves 2 by the bolts 17 passing through the openings 16, 16^a and 16^b, and to illustrate this the tongues

9 are not shown between a number of the cleats. I prefer the interlocking tongue connection, however, as it is much stronger.

When the column 1 is arranged along the wall of a store-room, intermediate the corners of the room, and it is desired to have shelves or counters 13 extend each side of the column, then both side walls of the latter will be provided with the cleats 3 and tongues 9. And in fact, in order that th shelf construction of my invention may be manufactured in predetermined sizes and proportions to meet all possible exigencies in use, the said column will preferably be provided with the duplex arrangement of cleat and tongues and other features enumerated hereinabove. If desired the columns, for additional strength may be provided with a filling of wood 18, in which event the shelves may be further secured by a wood screw 19.

The several units, that is to say the columns, shelves, and rails will be made in predetermined form and dimensions so that any of the elements may be fitted in any desired position to the other or others, and the several units may be extended indefinitely, that is to say columns 1 may be arranged one upon the other, in superposed relation, to attain any desired height; and the rails may be fitted to each other by means of bolts passing through the coupling heads thereof, as shown in Fig. 10, or the columns may be arranged at desired distances apart and the rails reach across between such columns.

A system of shelving construction embodying my invention is capable of very great extension and a great variety of inter-connection or combination of the several constituent elements.

Another utility of the invention may be mentioned, that is to say, it is useful in respect to migratory store-rooms, in such cases constituting as well the shelving as the skeleton frame work therefor. One manner of such use is illustrated, wherein the columns are arranged as vertical and horizontal members of a skeleton frame, to which may be secured the wall, roof and floor to make up a knock-down store-room which may be readily taken apart and transferred from place to place and set up for use. In Fig. 8 one manner in which this may be done is shown, 20 designating the walls and 21 the roof.

Having thus described my invention what I claim is:

1. In a sectional shelving construction, a column provided with a series of cleats, and shelves having attaching members adapted to embrace the walls of said column and enter in between adjacent cleats.

2. In a sectional shelving construction, a column provided on opposite walls with equi-distant means to receive attaching members of shelves and with tongues located intermediate some of said means to receive coupling heads of shelf supporting rails.

3. In a sectional shelving construction the combination with a column having a series of cleats and a series of means for attachment of shelf-supporting rails, of shelves having attaching wings adapted to enter between any of said cleats, and shelf-supporting rails adapted to coöperate with said means of attachment therefor.

4. In a sectional shelving construction the combination with a column, having means for attachment of shelf-supporting rails, of shelves having means for detachable connection to said column and provided with means for attachment of a shelf-supporting rail, and shelf-supporting rails adapted to be detachably connected to said column and shelves.

5. In a sectional shelving construction, the combination with a column provided with series of cleats at its opposite walls, and shelves having attaching wings to embrace the walls of said column and enter in between adjacent pairs of cleats, and having an abutment bridging across between the wings to rest against a face of the column.

6. In a sectional shelving construction, a column provided with a uniform series of cleats, and provided between the successive cleats with means for attachment of shelves, and with means for attachment shelf-supporting rails.

7. In a sectional shelving construction, a column provided with a series of equi-distant means for attachment of shelves, and a series of coincident means for attachment of shelf-supporting rails.

8. In a sectional shelving construction, a column provided with a series of equi-distant cleats, and with tongues between some of the cleats.

9. In a sectional shelving construction, the rails 12, for supporting an extended shelf or counter, each rail having coupling heads 14, at its opposite ends and each head provided with a longitudinal slot 15, for the purpose described.

10. In a sectional shelving construction, the rails 12, for supporting an extended shelf or counter, each rail having coupling heads 14, at its opposite ends and each head provided with a longitudinal slot 15, and bolt perforations, for the purpose specified.

11. In a sectional shelving construction, a shelf 5, having slotted wings 4, at one end and lateral tongues 11, on its opposite sides.

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

RALPH ROY BELCHER.

Witnesses:
J. FRANK CULVERWELL,
GEO. W. REA.