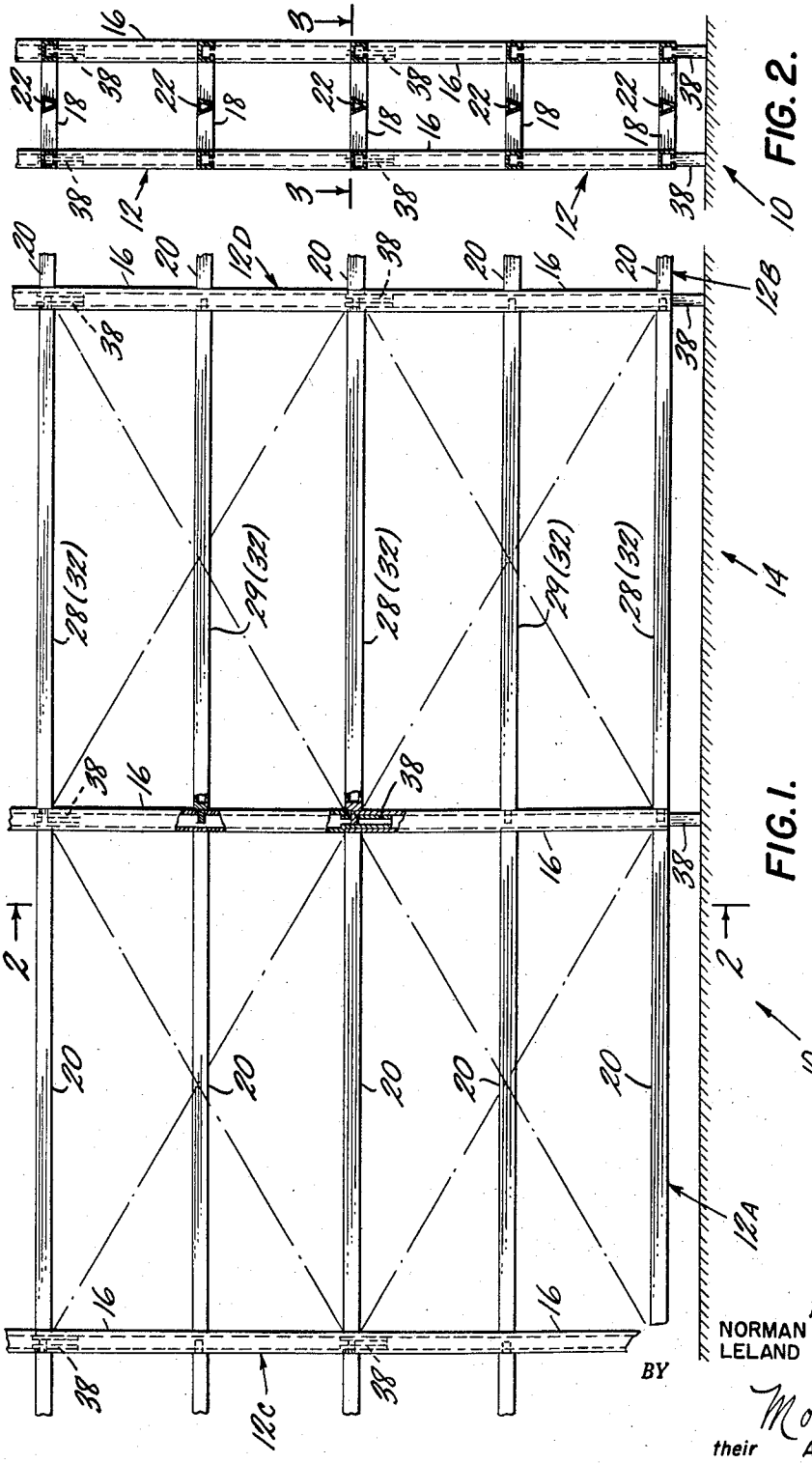
Nov. 24, 1959 N. B. GEDDES ET AL 2,914,190

SHELVING FOR BOTTLES AND OTHER GOODS

Filed Nov. 15, 1956 3 Sheets-Sheet 1



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SHELVING FOR BOTTLES AND OTHER GOODS

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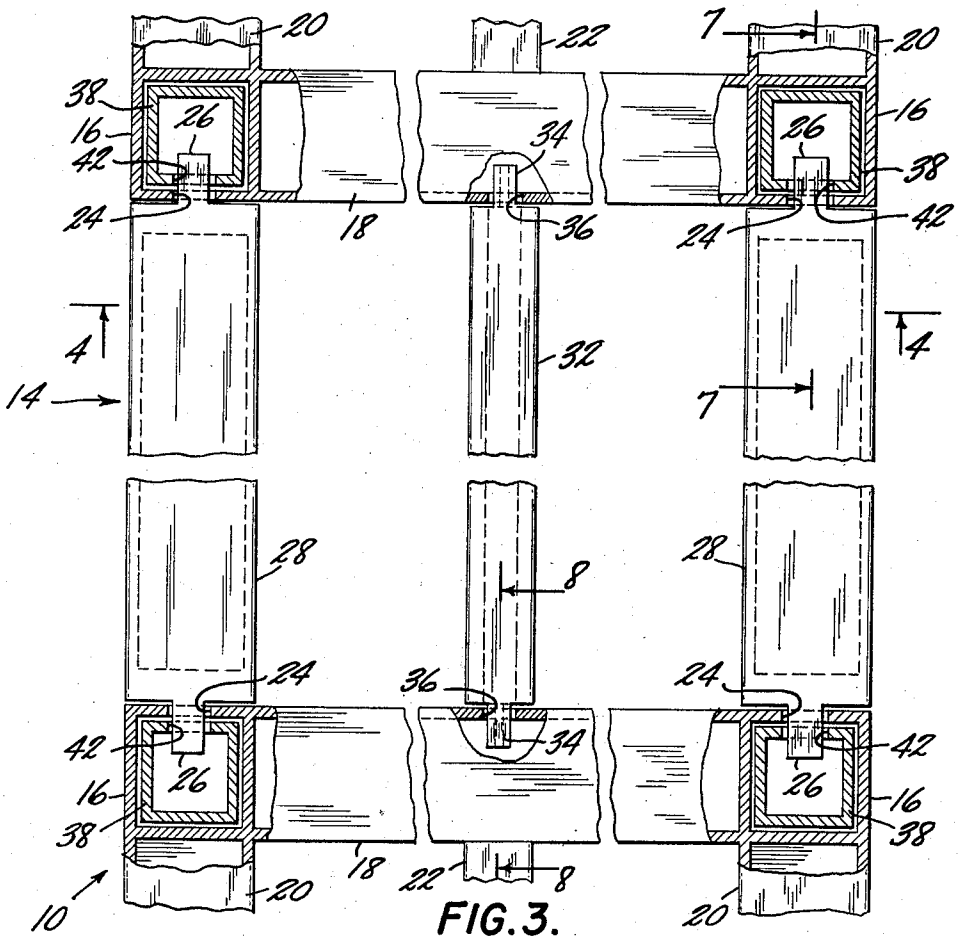


FIG. 3.

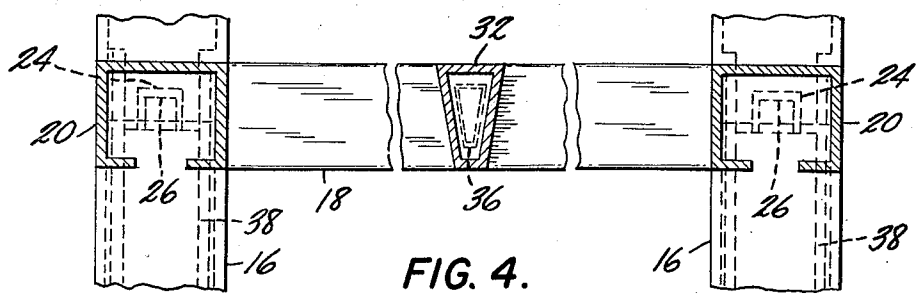


FIG. 4.

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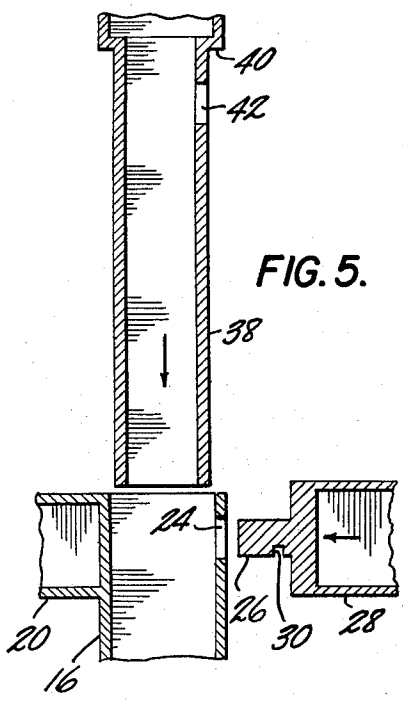


FIG. 5.

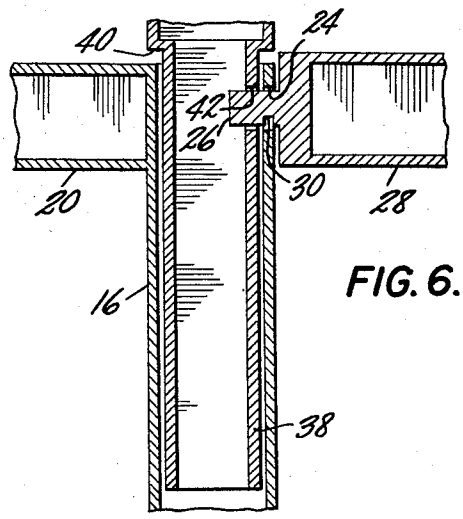


FIG. 6.

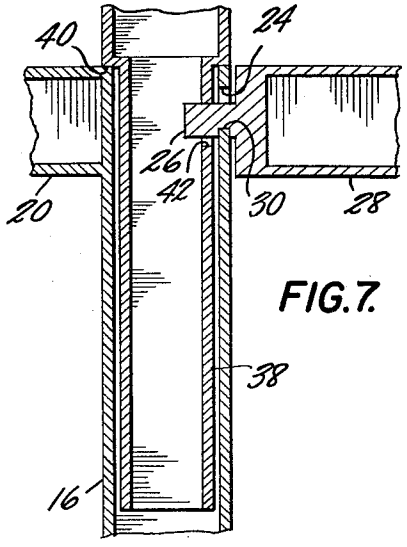
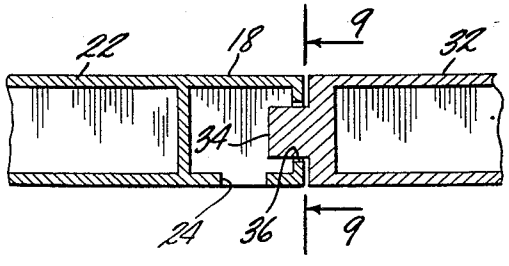


FIG. 7.

FIG. 8.



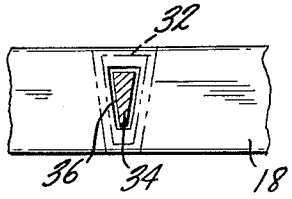


FIG. 9.

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SHELVING FOR BOTTLES AND OTHER GOODS

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Application November 15, 1956, Serial No. 622,388

3 Claims. (Cl. 211—148)

This invention relates to novel shelving for goods particularly bottles, cases and cartons.

The invention provides a novel shelving structure of open framework construction, and is composed of units which telescope into each other and interlock into a rigid formation. Goods may then be displayed on the shelves thereof in any desired array, or by leaving them enclosed in their shipping containers for storage.

It is also an object of the invention to provide a unique arrangement of shelving that enables telescoping and interlocking units thereof together to meet the requirements for the same.

A feature of the invention permits the assembly or disassembly of portions of the shelving construction as the need arises, thereby providing a wide variety of assembly arrangements to make it possible to use in the most efficient manner, any given space for the storage, and/or display of goods.

Other and further objects of my invention reside in the structures and arrangements hereinafter more fully described with reference to the accompanying drawings in which:

Fig. 1 is a front elevation of a typical assembly of four shelving units shown partially in broken vertical section, together with fragmentary portions of superposed and adjacent units.

Fig. 2 is a section of Fig. 1 taken along the line 2—2.

Fig. 3 is an enlarged section taken on the line 3—3 of Fig. 2.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5, Fig. 6 and Fig. 7 are sectional views illustrating the method by which the units are telescoped and interlocked to provide a rigid structure, with Fig. 7 taken along lines 7—7 of Fig. 3.

Fig. 8 is a section on the line 8—8 of Fig. 3.

Fig. 9 is a section taken along the line 9—9 of Fig. 8, showing the method of supporting non-interlocking horizontal means and crossbars.

Referring now to the figures of the drawings wherein the novel shelving construction assembly is generally identified by the numeral 10, the basis for the shelving assembly resides in what is termed a "basic or base unit." The base or basic unit is identified generally by the numeral 12 (Fig. 1).

The basic unit 12 is employed in the shelving assembly 10 in such manner as to be built upon to expand the system upwardly in height and also sideways in length. The shelving system 10 is expanded in height by adding further units 12, one on top of the other. It is expanded in length by spacing additional units 12 from each other and supporting filler shelving units 14 therebetween.

The basic unit 12 is comprised of four vertical or upright posts or pillars 16 of hollow detail. Secured to the pillars 16 of each unit 12 are front and back cross beams tending in depth of the shelving system 10. The crossbars 18 interconnect and secure together as by welding or other permanent connection, the front and rear aligned pillars 16. Extending in lengthwise securement of the

pillars 16 of each unit 12 are front and back cross beams 20 and intermediately positioned beams or shelves 22 that interconnect the crossbars 18. The three lengthwise beams 20 and 22 aligned in a horizontal plane, define a shelf level between the pillars 16 of each base unit 12. The shelves of each unit 12 may thus be of varied height and number.

A complete shelving system of any length may be constructed with a number of units 12 located lengthwise across a space or wall. Each unit 12 is adapted to permit its use with a filler unit 14 therebetween. To do this, the units 12 are each provided with locking apertures 24 defined in the pillars 16 thereof, in opposed alignment with the crossbeam shelving 20. The apertures 24 are substantially square in shape to accept locking fingers or lugs 26 projecting from both ends of the cross beams 28 and 29 of the filler shelving unit 14.

The locking fingers or lugs 26 are each adapted to project into the locking apertures 24, and are provided with undercuts or notches 30 that engage with the walls of the pillars 16 as defined by the locking apertures 24. When the projections 26 are so secured to the pillars 16 between two adjacent but spaced units 12, as seen in Figs. 1 and 3, the spaced units 12 are also held from relative movement. Further intermediate crossbeam shelves 32 of the filler unit 14 are positioned in alignment between the two spaced adjacent units 12. The beams 32 are of non-interlocking construction, and may be trapezoidal in cross-section, or of any other suitable shape.

The intermediate filler beams 32 have finger projections 34 that are preferably shaped in the formation of a trapezoid, to fit into non-locking apertures 36 defined in the sides of the crossbars 18, which apertures are also trapezoidal in shape. The cooperation defined between the walls of the finger 34 and the walls of the aperture 36, limits the tilting or pivoting of the cross beams 32.

The shelving system 10 shown in Fig. 1 comprises four basic units, 12A, B, C, and D, with filler units 14 interconnecting the units 12A and B together, and 12C and D together. The lowermost units 12A and B, each contain three vertically spaced sets of shelves, while the upper units 12C and D, each contain two vertically spaced sets of shelves, it being recognized that each set of shelves is defined by the two cross beams 20 and an intermediate cross beam 22.

When the like upper units 12C and D are superposed onto their respective like lower units 12A and B, they are securely mounted to prevent their relative displacement. This is accomplished in a very unique manner. Each one of the basic units 12 is provided with a telescoping, narrowed leg 38 that terminates at a shoulder 40 (Figs. 5, 6 and 7).

The legs 38 are of slightly smaller size and of the same cross-section as the hollow of the pillars 16, so that they may extend downwardly thereinto. The legs 38 are of sufficient length as to assure against accidental displacement from their position within the pillars 16. Although the drawings show the legs 38 to be of much smaller size than the hollow of the pillars, this has been done for the purpose of explanation of the structure only, and to show its manner of assembly. It will be recognized that the size of the legs 38 need be smaller only to such extent as to permit their insertion into the hollow of the pillars 16 up to the shoulders 40.

Each leg 38 has a locking aperture 42 defined therein at the upper portion thereof and located thereon for alignment with the locking aperture 24. Hence, when a filler unit 14 is employed between two spaced adjacent units 12, the filler cross beams 28 are locked to the pillars 16 by first aligning the aperture 42 with the aperture 24, and then inserting the finger 26 into the aligned

apertures. The telescoping length **38** is then lowered into the hollowed pillar **16** therebeneath, until its movement is arrested by its shoulder **40**.

The downward telescoping movement of leg **38** misaligns its aperture **42** with aperture **24**, and thus moves the finger **26** downwardly with it. In consequence of the described movements, the locking of the cut or notch **30** engages with the wall of the pillars **16**. The filler cross beam **28** is thus locked to the pillars **16** and cannot be removed therefrom without first realigning the apertures **42** and **24**.

From what has been described, it will be clear that when two units **12** are spaced from each other, a third filler unit **14** may be added, thus providing a shelving construction of three units. Any desired number of basic units **12** may be superposed upon the lowermost unit. Such superposed units may also have any desired number and spacing of horizontally disposed shelves.

The shelving units may be formed as hollow tubular beams having a square or rectangular cross-section of any suitable size. They may be of any metal, although extruded aluminum has been found to be suitable because of its lightness. The cross beams of the basic units **12** are generally electrically welded to the pillars **16**.

In any single installation of the invention, the end units **12** of the shelving construction **10**, will not support the filler units **14**. Accordingly, it is possible to make the initial installation with at least two units **12** that differ from the standard units only in that they do not contain the openings **24** and **42** in the pillars thereof.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to a preferred embodiment thereof, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art, without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

We claim:

1. A shelving assembly comprising a plurality of vertically tiered superposed identical preassembled basic shelf units, each of said preassembled basic units having a plurality of upright pillars, said pillars each having an opening at the tops thereof and a narrowed leg at the bottom thereof, said legs of said vertically tiered superposed preassembled basic units being telescopically inserted into said openings of underlying preassembled basic units to retain said telescopic units in vertically tiered superposed alignment, locking apertures in said pillars at said openings and legs thereof facing horizontally in the direction of further horizontally spaced vertically tiered superposed preassembled basic units, horizontally disposed filler cross beams extending between said horizontally spaced vertically tiered superposed basic shelf units and securing the same together in said horizontal spaced relationship, said filler beams each having notched locking finger means projecting horizontally therefrom at opposite ends thereof into said apertures of said openings of said pillars and of the telescoping leg of a superposed preassembled basic unit, whereby the aperture of said telescoping leg of said superposed basic unit receives the locking finger therein to move the notched means on said finger into locking engagement with a wall of the aperture of said opening as the telescoping leg moves progressively into said opening, cross beams securing said pillars upright, certain of said cross beams of said preassembled basic units each having trapezoidal openings therein and further filler cross beams extending between said spaced preassembled basic units, each of said filler beams having a trapezoidal projection on the opposite ends thereof and inserted into a corresponding one of said trapezoidal openings.

2. The combination of claim 1, wherein the legs of said vertically tiered basic units terminate in shoulder portions, said shoulder portions resting on the tops of said pillars whereby the lower walls of the apertures of said pillars receive said notched means and the upper walls of said telescoping legs engage said locking fingers to misalign the apertures so that the filler cross beams are locked and cannot be removed until the apertures are again aligned.

3. A shelving assembly comprising a plurality of vertically tiered superposed identical preassembled basic shelf units, each of said preassembled basic units having a plurality of upright pillars, said pillars each having an opening at the top thereof and a narrowed leg at the bottom thereof, said legs of said vertically tiered superposed preassembled basic units being telescopically inserted into said openings of underlying preassembled basic units to retain said telescopic units in vertically tiered superposed alignment, locking apertures in said pillars at said openings and legs thereof facing horizontally in the direction of further horizontally spaced vertically tiered superposed preassembled basic units, horizontally disposed filler cross beams extending between said horizontally spaced vertically tiered superposed basic shelf units and securing the same together in said horizontal spaced relationship, said filler beams each having notched locking finger means projecting horizontally therefrom at opposite ends thereof into said apertures of said openings of said pillars and of the telescoping leg of a superposed preassembled basic unit, whereby the aperture of said telescoping leg of said superposed basic unit receives the locking finger therein to move the notched means on said finger into locking engagement with a wall of the aperture of said opening as the telescoping leg moves progressively into said opening and cross beams securing said pillars upright.

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