Sept. 20, 1971 J. D. WILSON 3,606,025

MODULAR RACK

Filed Aug. 27, 1969

Fig. 1

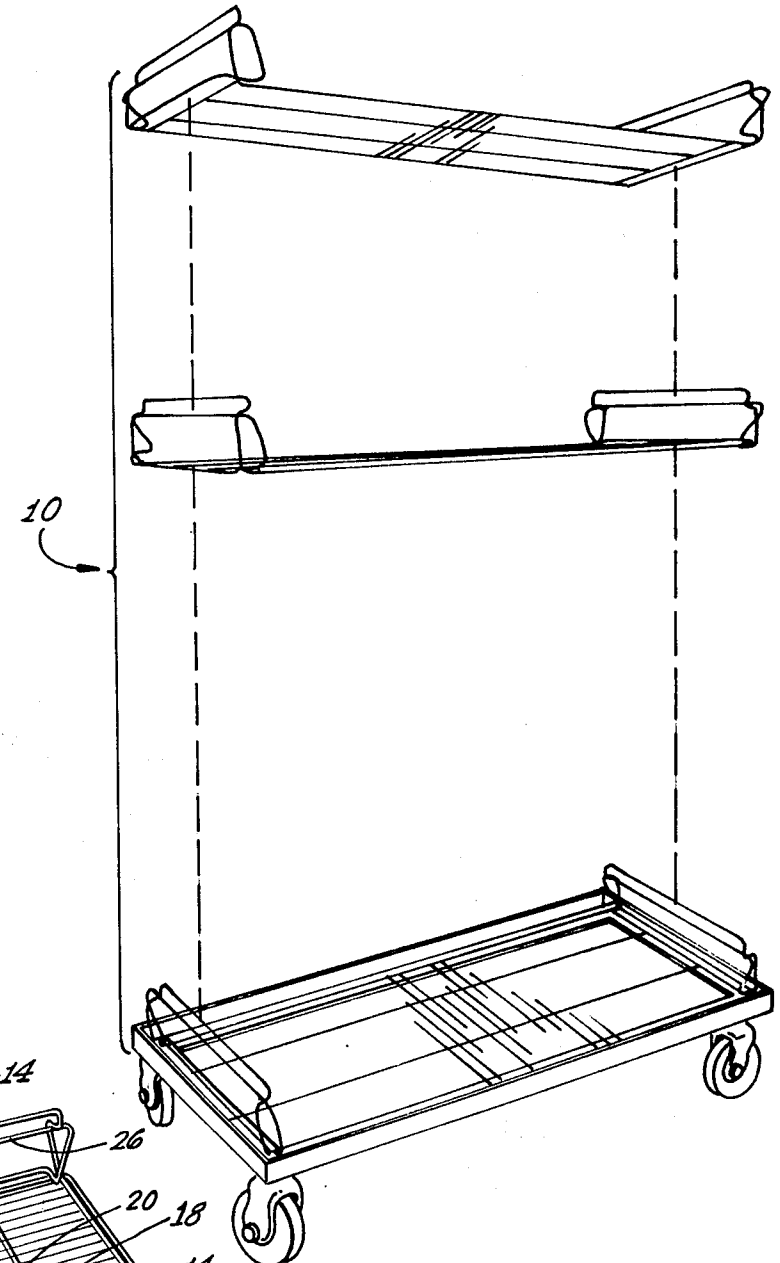
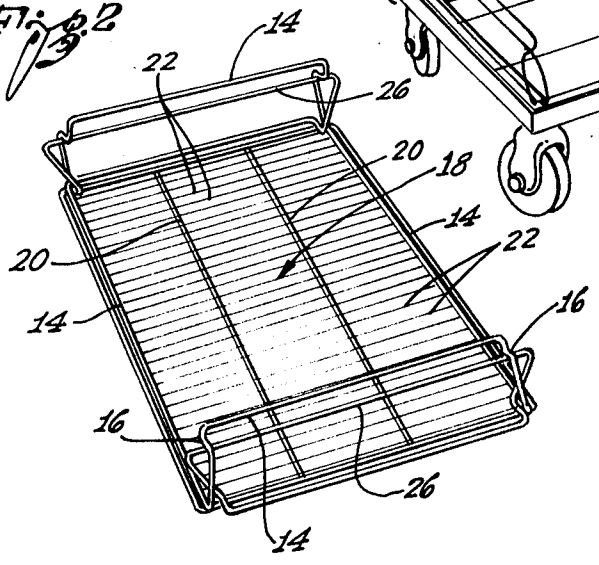


Fig. 2



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MODULAR RACK

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ABSTRACT OF THE DISCLOSURE

A demountable rack formed of separate wire-formed shelf modules capable of being stacked over one another in a spaced and parallel relationship is provided. The demountable rack of the invention has particular utility for the cooling, storage and movement of pies, pastry shells, and the like, and it has general utility in the bakery and other industries. The rack of the invention is intended primarily to replace the prior art type of racks which include solid corner posts and shelves supported thereby.

BACKGROUND OF THE INVENTION

The prior art racks used in the bakery industry, for example, for supporting pies, during the various stages of the baking process, as mentioned above, usually comprise corner posts and shelves supported on a wheeled dolly or equivalent base. The racks must be cleaned periodically, and in the case of the prior art structures described above, this necessitates hand scraping and hose washing. Cleaning the racks in this manner, however, is most unsatisfactory, since it is both costly and unsanitary.

In the rack of the present invention, on the other hand, each shelf is in the form of a complete wire-formed module which fits over a like module in a spaced tiered relationship and as a demountable stack, and in which the solid corner posts of the prior art racks are eliminated.

An advantage inherent in the demountable rack of the present invention is that each module may be disassembled from the rack merely by lifting it or sliding it off a lower shelf module. The individual modules may then be washed in a standard industrial dish washer, or equivalent mechanized washing system. Then, when the modules are cleaned and dried, they may be restacked easily and conveniently.

A further advantage inherent in the combination of the present invention, is that the rack assembly constructed in accordance with the concepts of the invention may be used in coolers and freezers in which the access door is a limiting factor to the height of the rack which normally may be moved into the interior of the cooler or freezer unit. In the use of the assembly of the present invention, the modules may be stacked to a height corresponding to that acceptable by the access door of the cooler, and the resulting rack assembly may then be wheeled into the cooler or freezer. Subsequently, additional modules may be brought into the freezer or cooler and stacked onto the previous modules, so as to bring the rack up to ceiling height, so that efficient use may be made of the available space within the unit.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing a rack constructed of demountable shelf modules and incorporating the concepts and teachings of the present invention; and

FIG. 2 is a perspective view of one of the shelf modules of the rack shown in FIG. 1.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

As shown in FIG. 1, for example, the demountable rack **10** of the present invention may be conveniently

stacked on a wheeled dolly **12**, or equivalent base so that it may be moved from place to place. The rack is made up of individual shelf modules, as will be described, and each shelf is accessible in the illustrated embodiment from both the front and back of the rack.

The shelves, as illustrated, are completely wire formed, and the solid elongated corner posts of the prior art racks are eliminated. The rack **10** in FIGURE 1, for example, is formed by stacking any number of shelf modules one on top of the other to any desired height. For cleaning purposes, the individual shelf modules are merely lifted or slid off the next lower modules and individually cleaned by any appropriate sanitary industrial cleaning mechanism. When the individual modules are clean and dry, they may be easily stacked on the dolly **12** to reform the rack **10** to any desired height.

As best shown in FIG. 2, for example, each of the shelf modules includes a closed wire loop member **14** having a rectangular configuration, and having turned-up ends, with the intermediate portion of the loop member **14** being disposed in a particular plane, and with the turned-up ends extending in planes essentially perpendicular thereto. The extremities of the ends **14** are offset inwardly, so as to form individual shoulders **16**.

A wire formed bottom **18** is affixed to the intermediate portion of the loop member **14**, and is disposed in essentially uniplanar relationship with the intermediate portion. The bottom member **18**, as shown, comprises a pair of support wires **20** which extend along the length of the shelf module, and it also comprises a plurality of small transverse wires **22** which extend in spaced and parellel relationship across the intermediate portion of the closed wire loop member and are affixed thereto and to the support wires **20**.

The shelf module shown in FIG. 2 also includes a pair of wire loop end members **26** which are secured to the turned-up ends of the wire loop member **14**, and which are in substantially the same planes as the corresponding turned-up ends. The wire loop end members **26** each include a lower side which extends across the ends of the bottom member **18**, and which serve as supports for the support wires **20**.

The lower sides of the wire loop end members **26** also rest on the shoulder **16** of a lower like module when the modules are in place, so as to constitute a support for the module. The upper side of each of the wire loop end members **26** extends under the corresponding shoulder **16** so as to constitute a support for the shoulders, so as to provide a rigid supporting structure for the modules supported on the shoulders **16**.

The invention provides, therefore, a simple and convenient rack assembly which is formed of a plurality of identical shelf modules which may be stacked on top of one another to any desired rack height, and which may be supported by appropriate wheeled dolly, or similar base.

As mentioned above, the rack assembly of the invention is advantageous in that the individual modules may be easily removed and individually washed by sanitary washing equipment. Moreover, the rack is flexible, in that it can be introduced into restricted areas, such as coolers or freezers, and then built up to maximum height while actually within the cooler or freezer unit.

What is claimed is:

1. A demountable rack structure comprising superimposed shelf modules stacked in spaced and parallel relationship and permitting free access to each shelf module from at least one side of the rack, each of said shelf modules comprising: a closed wire loop member having a rectangular configuration and having turned-up ends positioned in planes essentially perpendicular to the plane of the intermediate portion thereof; a wire-formed bottom

member secured to the intermediate portion of said closed wire loop member and disposed in essentially uniplanar relationship with said intermediate portion; and wire-formed end members at each end of said bottom member and shaped to engage the extremities of said turned-up ends of the aforesaid closed wire loop member of a like module so as to permit the modules to be removably stacked on one another, the extremities of the turned-up ends of said closed wire loop member being offset inwardly to define shoulders for receiving the aforesaid wire-formed end members of a like module, and in which said wire-formed end members each has a rectangular looped configuration disposed in a plane essentially perpendicular to the plane of said intermediate portion, and each has a first side extending across the edge of said bottom to be received on the shoulders formed by the aforesaid end members of a like module, and each has a second side extending across the corresponding turned-up end of said closed wire loop member and under the shoulders formed thereby to constitute a support means thereof, the turned-up ends of the closed wire loop member and the rectangular looped end members also constituting handles for the individual modules.

2. The demountable rack structure defined in claim 1, in which said bottom member includes a plurality of support wires extending longitudinally of said intermediate portion of said closed wire loop member and secured at each end of said end members, and a plurality of transverse wires extending across said intermediate portion in spaced parallel relationship and secured to said support wires and to the intermediate portion of said closed wire loop member.

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