United States Patent [19]

Notarius

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[54] **WINE BOTTLE RACK**

[75] Inventor: **Burton Notarius,** Williamsville, N.Y.

[73] Assignee: **Premier Party Goods, Inc.,** Buffalo, N.Y.

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[52] **U.S. Cl.** **211/74;** 211/177; 211/181

[51] **Int. Cl.**[2] **A47B 73/00;** A47F 5/10

[58] **Field of Search** 211/74, 177, 178, 181, 211/182; 248/150, 153; 220/19

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Primary Examiner—Roy D. Frazier
Assistant Examiner—Robert A. Hafer
Attorney, Agent, or Firm—Christel & Bean

[57] **ABSTRACT**

A wine bottle rack made up of welded metal rods and adapted to be assembled and disassembled without resort to screw devices or other extraneous fastening means. A pair of end members extend in fore and aft vertical planes and lateral grid members engage the end members at the opposite side edges of the grid members by means of rigid hook formations on the grid members which engage over cross rods on the end members. The end members have pairs of vertical rod portions which provide locating and retaining guides for the hook formations of the grid members. The grid members and the end members are retained in assembled relationship by the weight of articles supported in the grid members.

4 Claims, 5 Drawing Figures

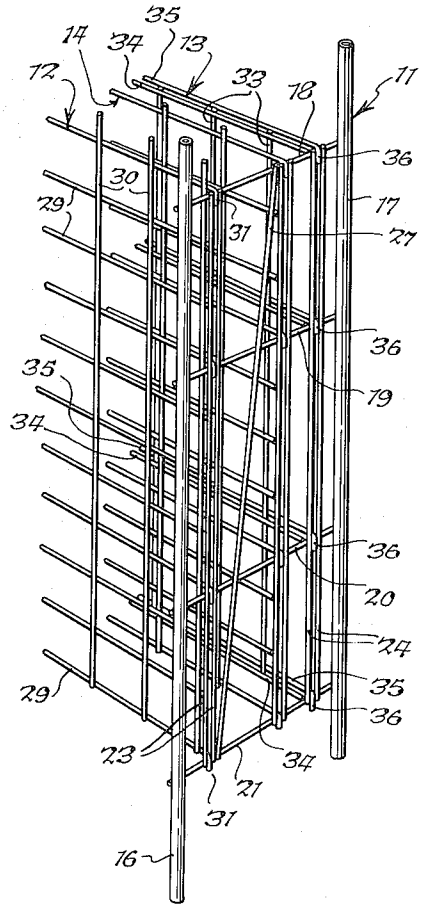

Fig. 1.

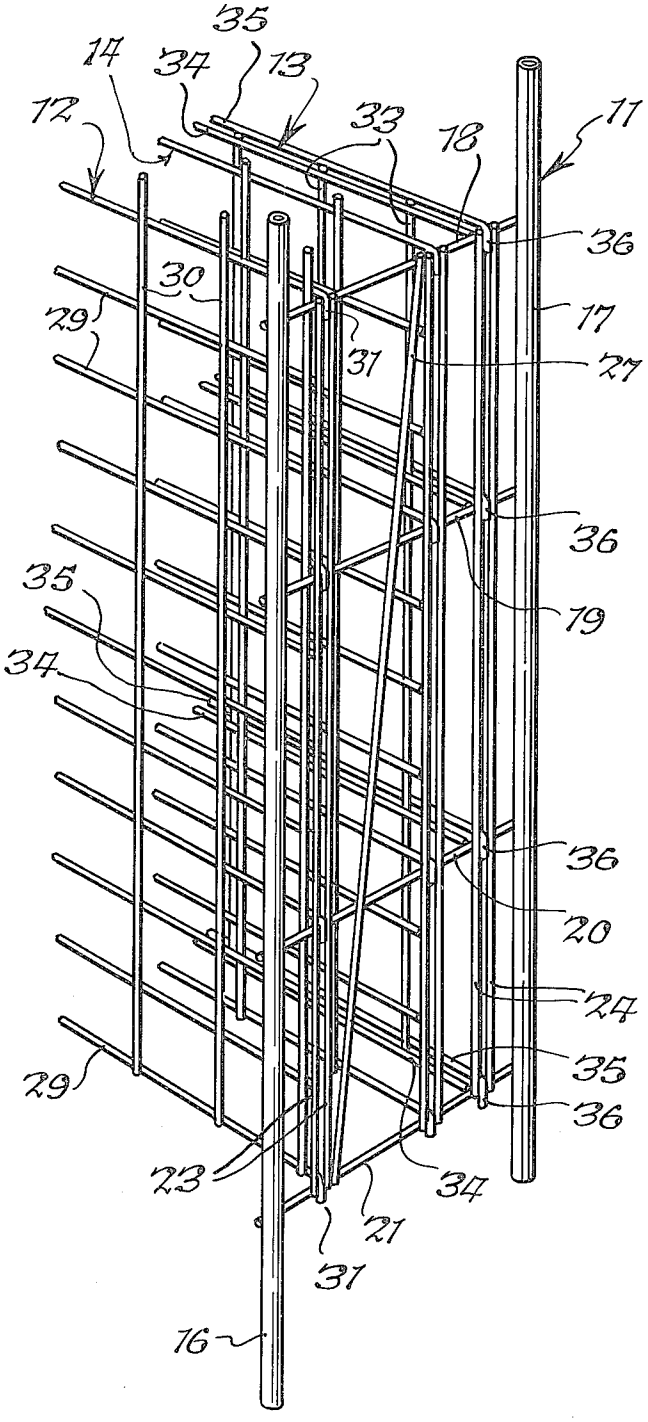
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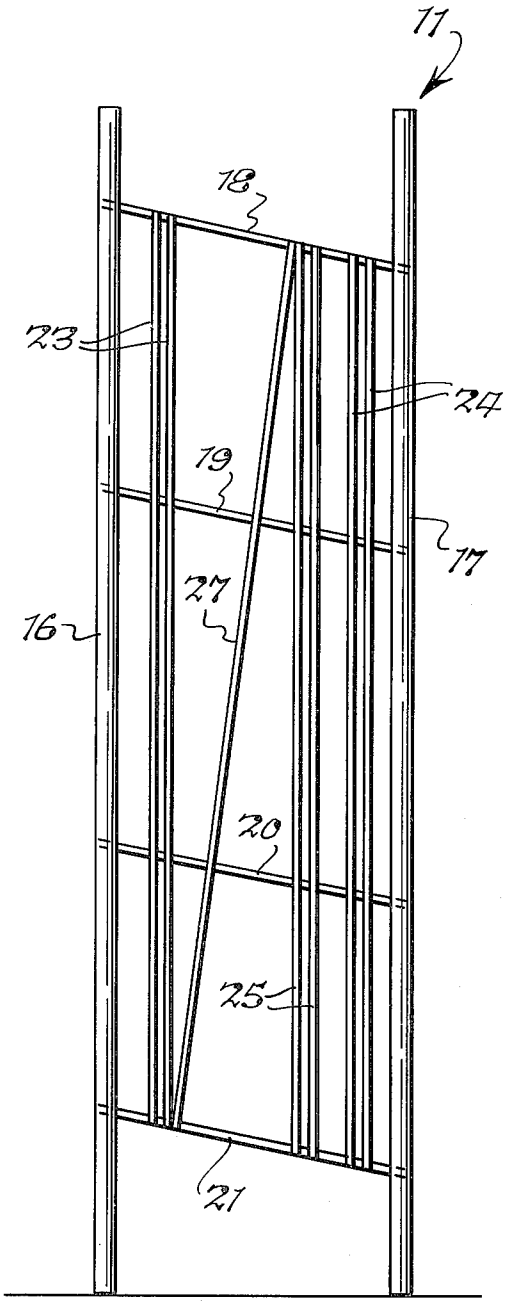
Fig. 2.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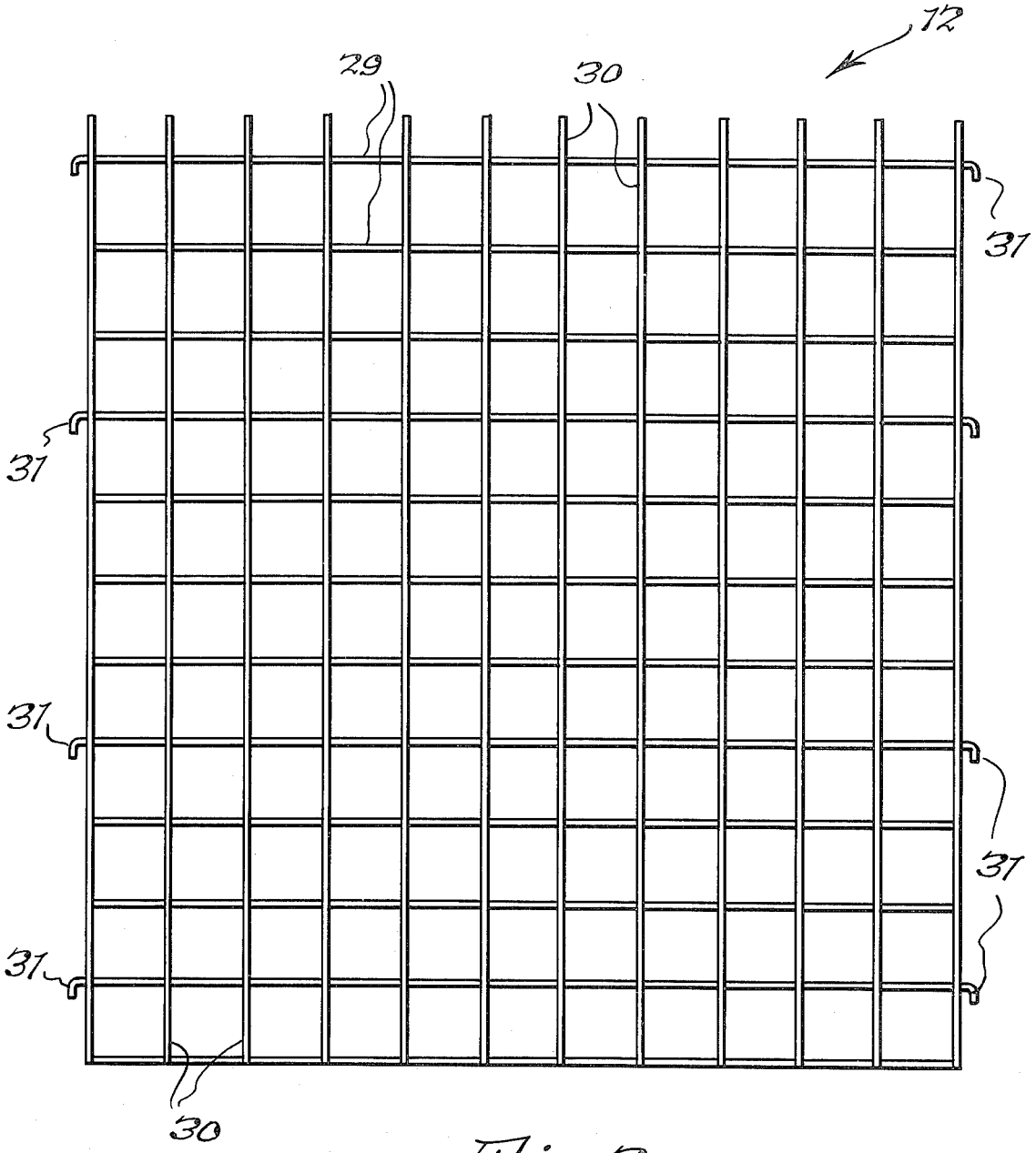

Fig. 3.

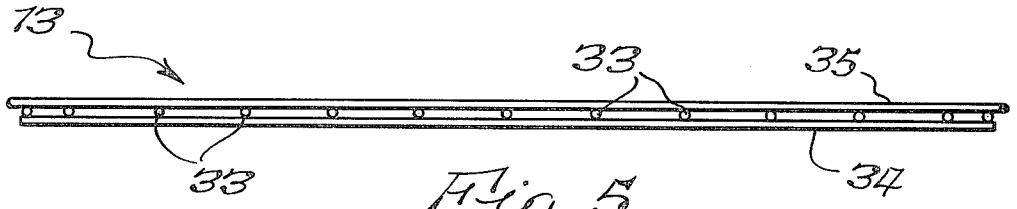

Fig. 5.

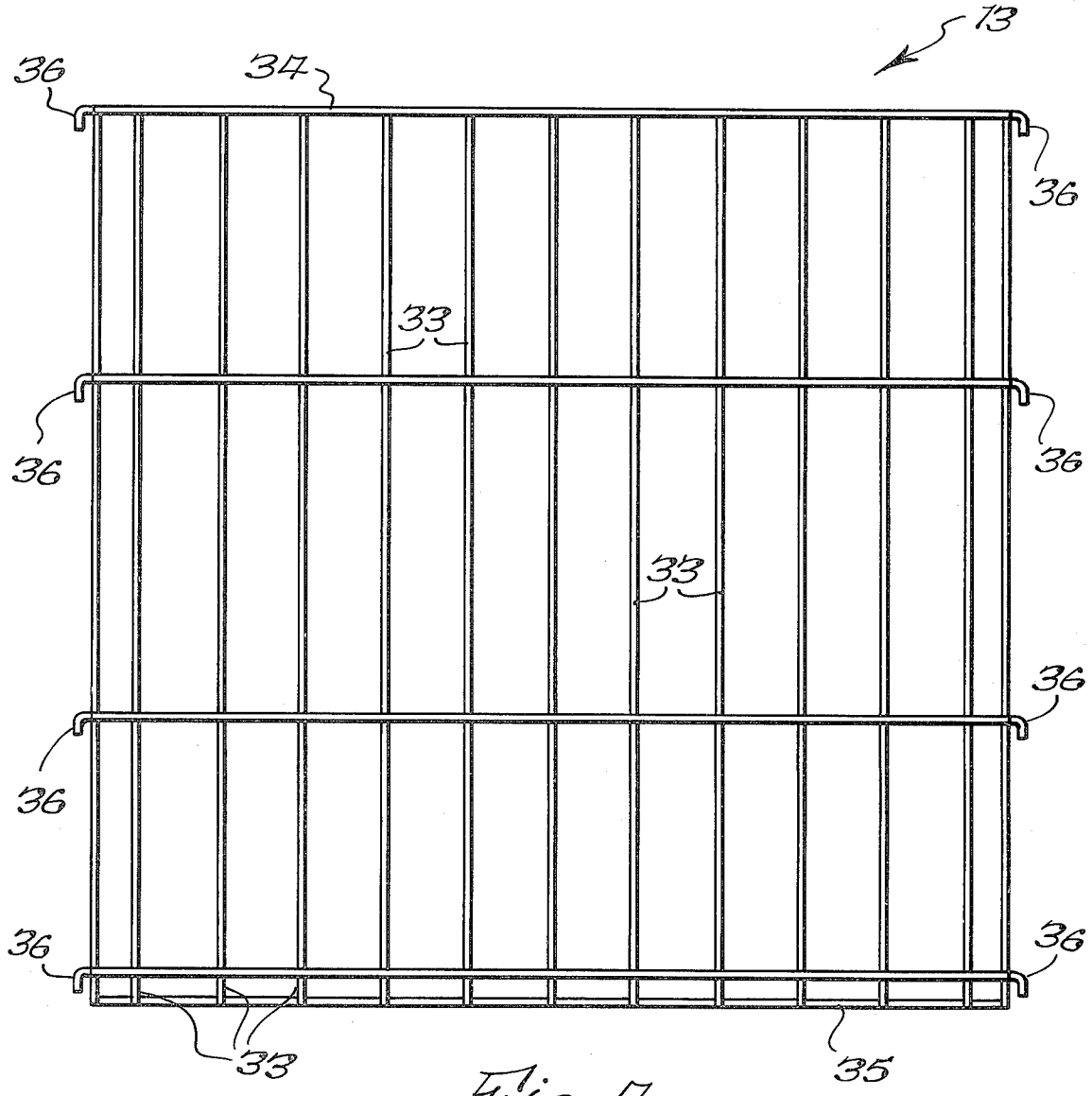

Fig. 4.

WINE BOTTLE RACK

BACKGROUND OF THE INVENTION

The present invention relates to a rack which is especially adapted to support wine bottles in a desired generally horizontal position but which may be employed for supporting other articles.

In the prior art the use of welded metal rod construction for wine racks and similar supporting devices is well known. In some of these prior art proposals the metal rods are fabricated and welded to form a fixed unitary rack structure but devices of this type are difficult to ship and to store and are frequently damaged in shipment.

Certain other prior art devices involve knock-down structures in which the end members and the lateral members are separate and are attached by screw devices or other special separate attaching means. In still further examples of prior art wine rack structures the end members and the lateral members are hinged so that they collapse generally in diamond fashion. Devices of this type require special attachments or securing devices for holding the wine rack in expanded operative condition.

SUMMARY OF THE INVENTION

The present invention provides a metal rod wine rack structure in which the two end members and the several lateral members each form separate rigid welded entities which may be packaged and shipped in a secure and compact fashion. The lateral members comprise grids formed of vertical and horizontal rod members welded at their intersections to form a checkerboard pattern of wine bottle receiving and supporting openings. The horizontal metal rods of the lateral members or certain of them have laterally extending and downbent portions which hook over cross rods on the end members so that the device may be set up quickly and conveniently and without any extraneous fastening devices.

The end members have vertically spaced rod portions welded thereto to form guides which accurately locate the lateral members with respect to fore and aft directions. The weight of wine bottles or the like in the rack maintains the same against inadvertent disassembly when the rack is in use.

The lateral grid members comprise front and intermediate members which support bottles at their under sides and a rear member which includes vertical rods which are generally central of the spaces formed by the lateral grid members so that the bottoms of the bottles stop against the vertical rods of the rear lateral grid member.

In a preferred form the cross rods of the end members slope rearwardly downwardly so that the spaces in the intermediate grid member are substantially lower than the corresponding spaces of the front grid member. Accordingly, wine bottles rest in such spaces with the bodies of the bottles resting on horizontal rods of the intermediate grid member and the necks of the bottles resting on the horizontal rods of the front grid member. The relationship of the front and intermediate grid members is further such that the bottoms of the bottles are inclined slightly downwardly so that sediment tends to collect in the bottoms of the bottles as they rest in the wine rack.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary perspective view of one form of the wine rack of the present invention in assembled form, showing the right-hand end of the device;

FIG. 2 is a right-hand end view of the right-hand end member of the present structure;

FIG. 3 is a front elevational view of the front lateral grid member;

FIG. 4 is a front elevational view of the rear lateral grid member; and

FIG. 5 is a top plan view of the rear grid member shown in FIG. 4.

DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

In the embodiment illustrated in the drawings the wine rack comprises, essentially, five unitary subassemblies each sub-assembly comprising an integral unit of rigidly welded rods. The five sub-assemblies comprise a left hand end member (not shown), a right hand end member **11**, a front grid member **12**, a rear grid member **13**, and an intermediate grid member **14**.

Referring particularly to FIG. **2**, the right hand end member designated generally by the numeral **11** comprises front and rear upright metal tubes **16** and **17** joined by inclined cross rods **18** through **21** which are welded to the inner sides of the uprights **16** and **17** at their ends. Three pairs of vertical rods **23, 24** and **25** are welded to the exteriors of the cross rods **18** through **21** as shown in FIG. **2** and the rods of each pair are spaced to provide guides for assembling the front, rear and intermediate grid members respectively with the end members, as will presently appear. In the illustrated embodiment a diagonal brace rod **27** is welded to the several cross members **18** through **21.**

In the drawings FIG. **3** shows the front grid member **12** which comprises a series of horizontal rods **29** and a series of vertical rods **30,** all welded to form the grid shown in FIG. **3.** Certain of the horizontal rods **29** have lateral extensions which are bent down to form hooks **31.** In assembling the present device the hooks **31** engage over the cross rods **18** through **21** of the end members **10** and **11** and between the vertical rods **23** of the end members to be guided and accurately located by such vertical rods.

The intermediate grid member **14** is substantially the same as front grid member **12** and its hook formations **31** likewise engage over cross rods **18** through **21** of the end members and between the pairs of vertical rods **25** of such end members. The rearward and downward inclination of the cross rods **18** through **21** is such that the bodies of wine bottles may rest on the horizontal rods of intermediate grid member **14** with the necks thereof resting on the horizontal rods **29** of front grid member **12** with the bottles slightly inclined so that their rear ends are lowered sufficiently to cause sediment in the wine to gravitate to the bottom portions of bottles.

The rear grid member **13** shown in FIGS. **4** and **5** further rigidifies the assembled structure and serves as a rear stop for bottles resting on the horizontal rods of the front and intermediate grids **12** and **14.** Rear grid **13** comprises a series of vertical rods **33** and four horizontal front rods **34** and four registering horizontal rods **35.** The first and rear horizontal rods are welded to the vertical rods to form a rigid rear grid structure and the

rear horizontal rods **35** have downwardly bent lateral extensions designated **36** which engage across the cross rods **18** through **21** and between the pair of vertical rods **24** of the end members **10** and **11**, all as in the case of the front and intermediate grid members.

The vertical rods **33** of the rear grid member are staggered with respect to the vertical rods **30** of the front and intermediate grid members so that they lie across the compartments formed by the rods of the front and intermediate grid members and thus serve as rear stops for bottles placed in the compartments formed by the front and intermediate grid members.

From the foregoing it will be noted that the members may be stored and shipped in perfectly flat compact condition and for setting up require only placing the several hook formations of the grid members in assembly with the end members without the use of any separate tools or fastening devices. The weight of bottles in the rack holds the grid members securely down in assembled position against inadvertent disassembly.

A preferred embodiment of the present invention has been described herein and shown in the accompanying drawings to illustrate the underlying principles of the invention but it is to be understood that numerous modifications may be made without departing from the broad spirit and scope of the invention.

I claim:

1. In a rack for wine bottles and the like, a pair of end members each comprising front and rear vertical posts and a plurality of vertically spaced cross rods welded at their ends to said posts to form a unitary end member, a plurality of laterally extending grid members engageable at their side edges with said end members, said grid members comprising a front member, a rear member and an intermediate member, said members each comprising a vertical series of spaced horizontal rods and a lateral series of vertical rods welded at the rod intersections to form a rigid grid arrangement, the rods of the front and intermediate members forming spaces for receiving individual bottles, the vertical rods of the rear grid members being staggered with respect to the vertical rods of the front and intermediate members whereby the bottoms of bottles stop against said rear member vertical rods, certain of the horizontal rods of said grid members having laterally projecting downwardly opening hook formations formed integrally therewith for engagement over the cross rods of the end members, the vertical rods at the ends of said grid members being disposed inwardly of said hook formation at such distance that the hook formations and the end vertical rods fit over the cross rods to prevent lateral movement of the end members, and means on said end members comprising abutting surfaces at each side of each hook formation for preventing substantial movement of said hook formations relative to said end members in a fore and aft direction.

2. A rack according to claim **1** wherein said end member cross rods are inclined rearwardly downwardly whereby the horizontal rods of the intermediate grid members are disposed lower than the corresponding horizontal rods of the front member.

3. A rack according to claim **1** wherein said last mentioned means comprises pairs of vertically extending spaced rods fixed to said cross members to define guideways for said hook formations to locate said grid members in accurately defined lateral planes spaced fore and aft between said end members.

4. A rack according to claim **2** wherein each end member has pairs of vertically extending spaced rods fixed to said cross members to define guideways for said hook formations to locate said grid members in accurately defined lateral planes spaced fore and aft between said end members.

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