United States Patent

Wiese

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[54] **KNOCK-DOWN DISPLAY**

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[73] Assignee: **Henschel-Steinau, Inc.**

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[52] **U.S. Cl.** **211/126**, 108/91, 108/111, 211/177

[51] **Int. Cl.**.....**A47f 3/14**, A47f 5/10

[58] **Field of Search**.....211/126, 133, 148, 134, 177, 211/128; 108/91, 53, 111, 109; 312/257; 220/97 B

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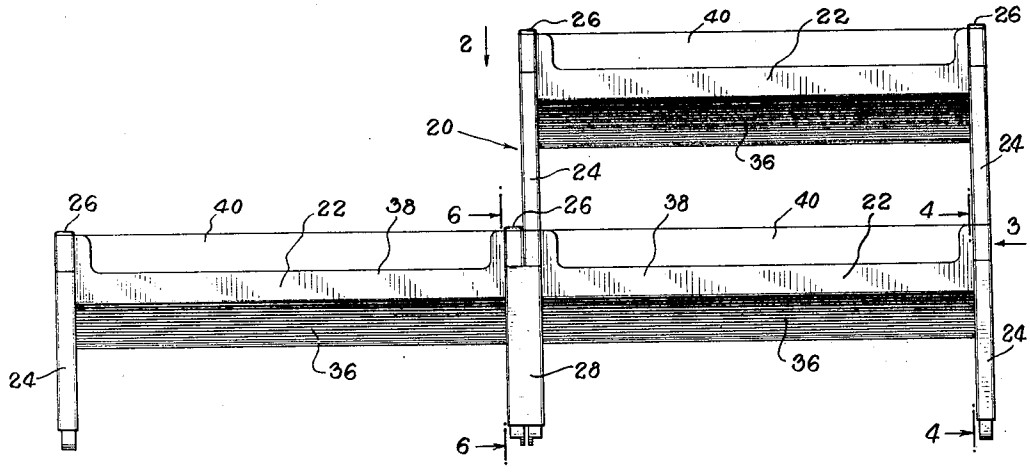
[57] **ABSTRACT**

A knock-down display having a product supporting tray and combined end supports and legs which mate with and support the tray at three points so that a vertically stacked assembly and/or an end to end linear relationship of a plurality of trays may be formed. Each of the combined side supports and legs mates with the tray at three points to thereby provide a rigidly supported structure.

8 Claims, 10 Drawing Figures



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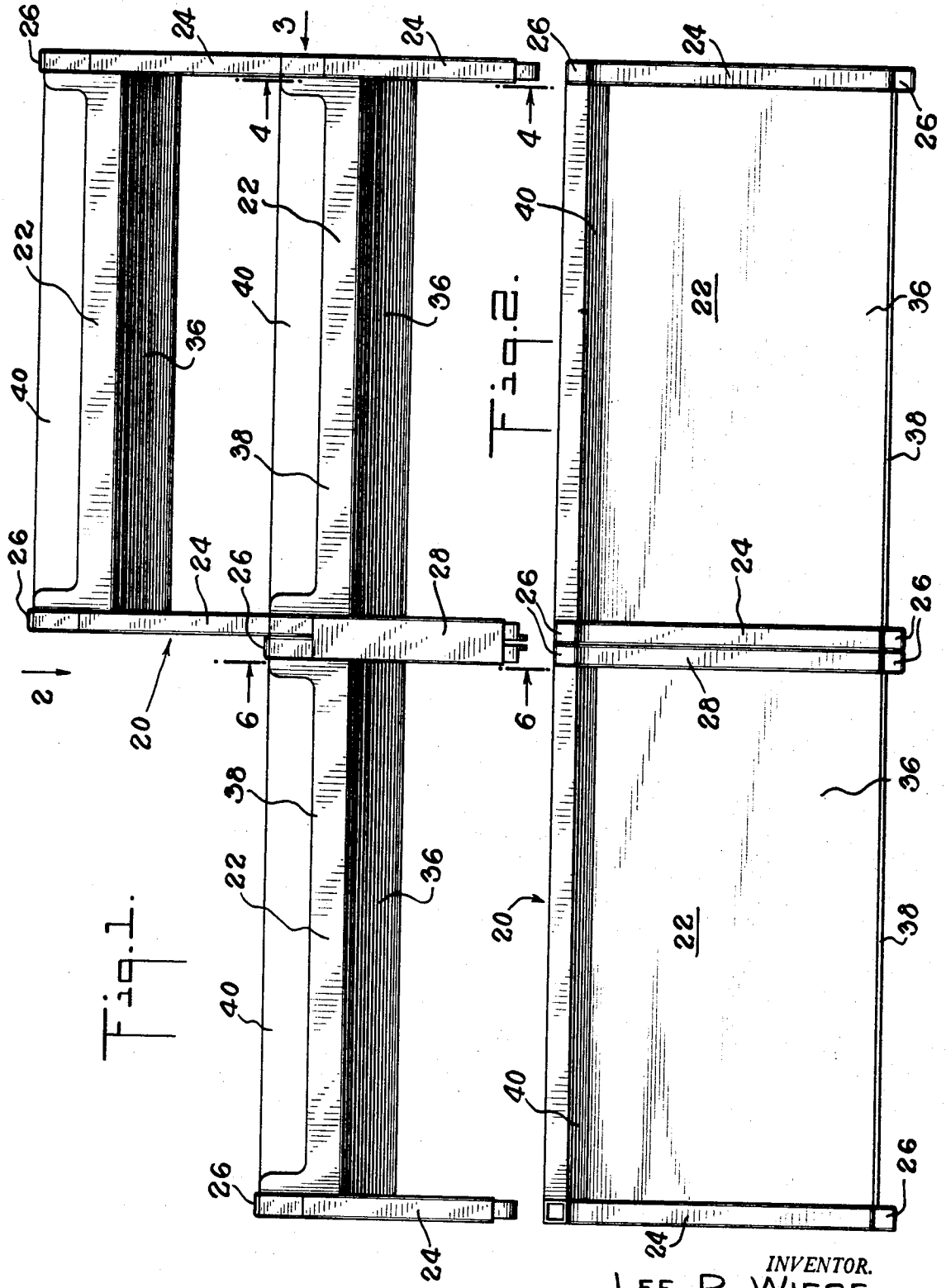

Fig. 1.

Fig. 2.

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Fig. 3.

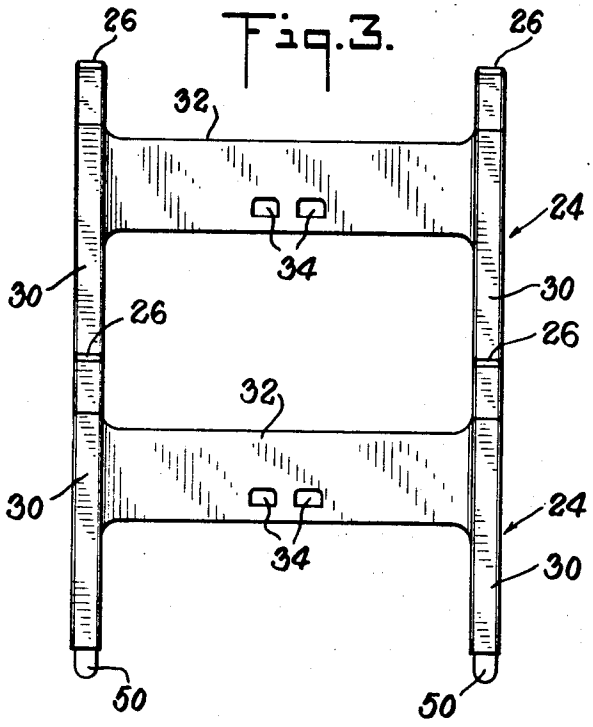
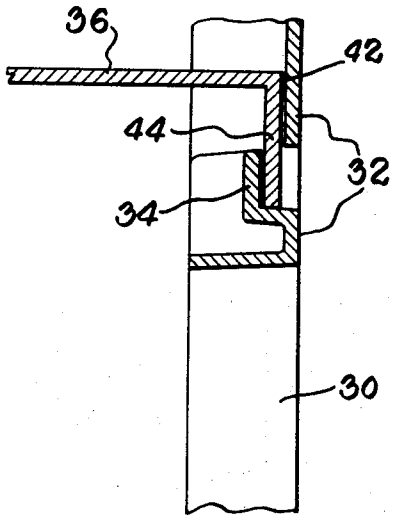


Fig. 5.



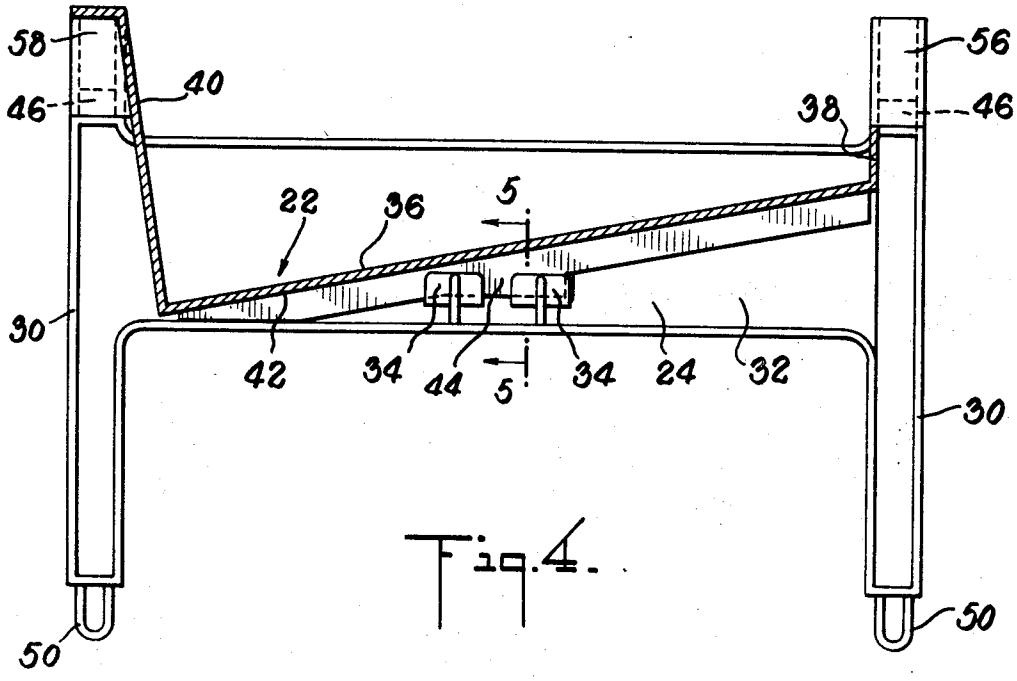


Fig. 4.

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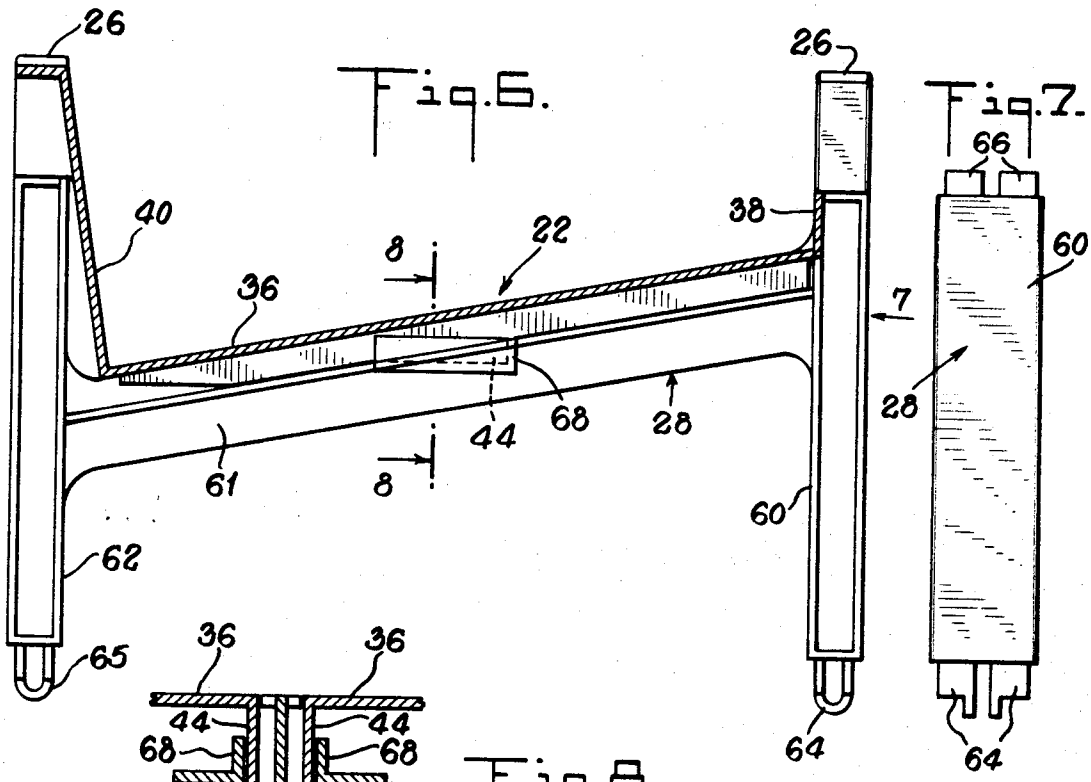

Fig. 6.

Fig. 7.

Fig. 8.

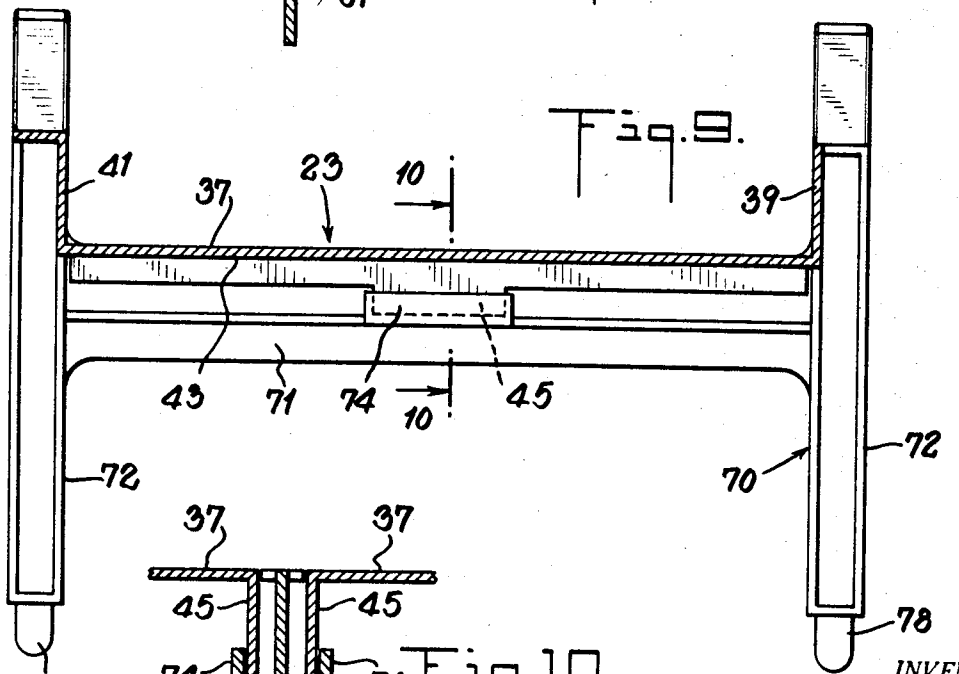

Fig. 9.

Fig. 10.

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KNOCK-DOWN DISPLAY

The invention relates to knock-down displays and more particularly to such displays having separate trays and legs.

Broadly, the invention is directed toward providing displays having separate trays and combined end supports and legs. The trays are used to support the product and are provided with means which engage complementary engaging means on the legs and on a web joining the legs. In this construction, the tray is supported at its end at three points which results in a rugged, sturdy construction. By providing suitable engaging means at the bottoms of the legs, a vertically stacked assembly may be formed and by providing two pairs of legs joined by a single web, a linear end to end relationship of trays may be obtained. It is also contemplated to utilize the teachings of the invention to obtain a combination of vertical and end to end assemblies of the trays.

It is an object of the invention to provide product supporting trays and separate combined end supports and legs which cooperatively form a knock-down display and wherein the tray is supported at three points by the combined end support and legs.

It is another object of the invention to provide such a display wherein it is simple to form stacks of vertical trays.

It is a still further object of the invention to provide such a display wherein a group of trays may be joined in linear end to end relationship.

It is also an object of the invention to provide such a display wherein a combination of vertical stacking and linear end to end arrangements of the trays may be obtained.

These and other objects, advantages, features and uses will be apparent during the course of the following description when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a front elevational view of an assembled knock-down display of the invention showing both vertical stacking and end to end linear relationship of the trays;

FIG. 2 is a top plan view, viewed in the direction of arrow 2 of FIG. 1;

FIG. 3 is an end view, viewed in the direction of arrow 3 in FIG. 1;

FIG. 4 is an enlarged sectional view taken along lines 4—4 of FIG. 1, viewed in the direction of the arrows;

FIG. 5 is an enlarged sectional view taken on lines 5—5 of FIG. 4, viewed in the direction of the arrows;

FIG. 6 is an enlarged sectional view taken on lines 6—6 of FIG. 1, viewed in the direction of the arrows;

FIG. 7 is a view of the leg of FIG. 6, viewed in the direction of the arrow 7 of FIG. 6;

FIG. 8 is an enlarged sectional view taken on lines 8—8 of FIG. 6, viewed in the direction of the arrows;

FIG. 9 is a view similar to that of FIG. 6 wherein the product supporting tray is horizontal; and

FIG. 10 is an enlarged sectional view taken along the lines 10—10 of FIG. 9, viewed in the direction of the arrows.

In the drawings, wherein, for the purpose of illustration, are shown preferred embodiments of the invention, the numeral 20 designates an assembly utilizing the knock-down display of the invention.

Display 20 is seen to comprise (FIGS. 1 and 2) a plurality of product supporting trays 22 which are arranged in a vertical stack and in an end to end linear relationship. The trays are supported by combined end supports and legs 24 and by a dual combined end support and legs 28. The top corners of the uppermost tray in each stack is finished, for appearance, by a plug 26.

Combined end support and legs 24 comprises a pair of legs 30 joined by a web 32. A tab 34 is struck in from web 32. Tray 22 comprises a bottom 36, a back 40 running upwardly from a back edge, a front lip 38 upwardly turned from a front edge, and opposite end edges 42. A downwardly depending lip 44 depends from end edge 42 and it engages tab 34 when the unit is assembled. Back 40 is provided with a socket 58 which receives a pin 46 on the upper end of leg 30 and front lip 38 is provided with a socket 56 which receives pin 46 on the top of front leg 30.

The bottoms of the legs 30 are provided with pins 50 which are shaped to rest on the floor with a minimum of friction and wear or to fit in sockets at the top of front lip 38 and back 40 to facilitate vertical stacking.

For end to end linear assembly of trays 22, a combined support and legs 28 is provided. It comprises two legs 60 at the front end and two legs 62 at the back end joined by a web 61. Front legs 60 are provided with bottom pins 64 and top pins 66 to engage the sockets at the front lips 38 of two adjacent trays 22. Rear legs 62 are provided with lower pins 65 and upper pins (not shown) to engage the rear sockets of adjacent trays 22.

Web 61 is provided with two tabs 68 on opposite sides of web 61 which engage the tabs 44 of adjacent trays 22. Combined support and legs 28 permits the ready assembly of trays in an end to end linear relationship and in a vertical stack.

The previously described knock-down display of the invention utilizes a product supporting tray with the rear tilted downward from the front. This permits product such as cigar "five packs" to be displayed so as to have their front faces tilted slightly upward toward the eye of the prospective purchaser. This type of construction also results in stable rows of product.

There are many products which are preferably displayed on a horizontal tray. Such a unit for end to end linear assembly is illustrated in FIGS. 9 and 10. Other elements, which are not illustrated, are formed in a manner similar to those previously described and illustrated. Horizontal tray 23 comprises a horizontal platform or bottom 37, front lip 39, back 41 and opposite end edges 43 with a depending lip 45 depending from each opposite end edge 43.

Combined support and legs 70 comprises two pairs of legs 72 joined by a web 71 which has a pair of opposite tabs 74. The legs are provided with upper pins (not shown) which engage the sockets at the front and back of the trays and lower pins 78 which rest on the floor or engage sockets at the top of the back and front of the tray for vertical stacking.

Since it can readily be seen that the inventive concept of the embodiment of FIGS. 9 and 10 is the same as that of the embodiment of FIGS. 1–8, all the details of the later shown and described embodiment are not illustrated. Both embodiments of the invention utilize a three point support on the end of the tray to provide a rigid construction for both vertical stacking and end to end linear assemblies.

While preferred embodiments of the invention have been illustrated and described, it is obvious to one skilled in the art that modifications and changes may be made without departing from the spirit of the invention or the scope of the subjoined claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A knock-down display for supporting and displaying products thereon comprising;
- a product supporting tray having a bottom, opposite end edges, a front edge and a back edge;
- an upstanding back integral with the back edge and having oppostie ends adjacent the opposite end edges and an upstanding front lip integral with the front edge and having opposite ends adjacent the opposite end edges;
- a downwardly depending lip integral with each of the two end edges intermediate the front edge and the back edge;
- an end member having a pair of legs and a web joining the legs;
- the web having a tab for engaging the downwardly depending lip of one end edge of the tray;
- cooperative engaging means at one of the ends of the back and at one of the ends of the front lip and a complementary engaging means at the top of each leg so that when the engaging means of the tray and of the end member and the downwardly depending lip and the tab are mated together, the tray is supported rigidly at three points at that end so as to be able to hold product thereon.

2. The invention of claim 1 wherein the engaging means at the end of the back and at the end of the front lip are sockets and the complementary engaging means at the top of the legs are pins.

3. The invention of claim 2 including:
- a bottom pin at the bottom of each leg and a socket at one end of the back and at one end of the front lip for engaging the bottom pins of the legs to thereby stack a plurality of trays vertically one above the other.

4. The invention of claim 1 including:
- engaging means at the bottom of each leg and complementary engaging means at one of the ends of the back and at one of the ends of the front lip so that when the said engaging means are mated together a plurality of trays are stacked vertically one above the other.

5. The invention of claim 1 wherein:
- the end member comprises:
- two pairs of legs and a web joining the two pairs of legs;
- the web having a pair of tabs on opposite sides thereof for engaging the downwardly depending lips of one end edge of two adjacent trays;
- the two pairs of legs having complementary engaging means at the top of each leg for engaging the cooperative engaging means at the adjacent ends of the back and the front lip of each of two adjacent trays so that when the engaging means of the trays and of the end members and the downwardly depending lips and the tabs are mated together, the trays are supported rigidly in end to end linear relationship so as to support product thereon.

6. The invention of claim 5 wherein the engaging means at the end of the back and at the end of the front lip are sockets and the complementary engaging means at the tops of the legs are pins.

7. The invention of claim 6 including:
- a bottom pin at the bottom of each leg and a socket at one end of the back and at one end of the front lip for engaging the bottom pins of the legs to thereby stack a plurality of trays vertically one above the other.

8. The invention of claim 5 including:
- bottom engaging means at the bottom of each leg and complementary engaging means at one end of the back and at one end of the front lip for engaging the bottom engaging means of the legs to thereby stack a plurality of trays vertically one above the other.

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