United States Patent [19]

Weiss

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[54] **METAL PALLET**

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[52] **U.S. Cl.** **108/51**

[51] **Int. Cl.** **B65d 19/18**

[58] **Field of Search** 108/51–58

[56] **References Cited**

UNITED STATES PATENTS

1,715,403	6/1929	Young	108/51 X
2,347,095	4/1944	Garbarino	108/56
2,652,219	9/1953	Arthur	108/51
2,798,685	7/1957	Mooney	108/56
2,909,349	10/1959	Morris	108/54
3,472,182	10/1969	Eklund	108/51
3,602,157	8/1971	Cohen	108/51
3,610,172	10/1971	Wharton	108/53
3,616,766	11/1971	Weiss	108/51

FOREIGN PATENTS OR APPLICATIONS

951,339	3/1964	Great Britain	108/51

Primary Examiner—Paul R. Gilliam

Attorney, Agent, or Firm—Brown, Murray, Flick & Peckham

[57] **ABSTRACT**

A number of spaced parallel sheet metal channels are arranged in two rows, one on top of the other. The upper row is welded to the lower row to form a platform. The platform is supported by sheet metal feet, each of which has a cup-like body disposed between two adjacent channels in the lower row and extending downwardly from them. Two opposite upstanding flanges connected with the top of the body straddle the two channels and are welded to the adjoining upstanding side walls of the two channels. The channels forming the boundary of the platform have upwardly extending outer edges that form side walls for the platform, so a tray is formed.

4 Claims, 4 Drawing Figures

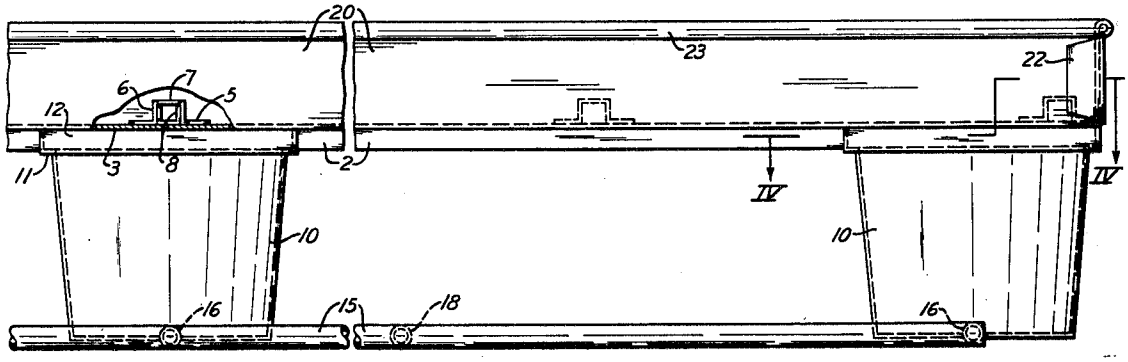
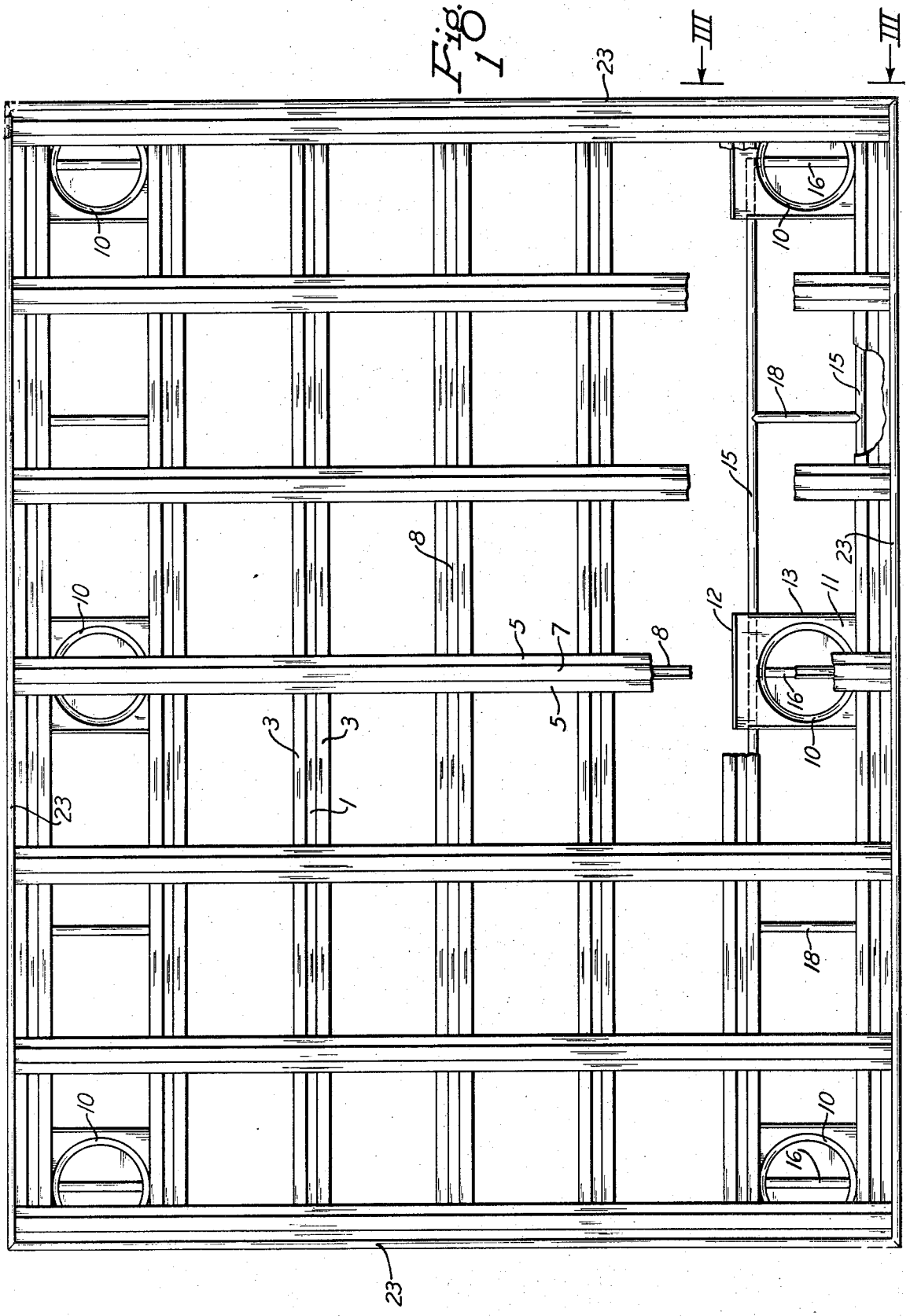


Fig. 1



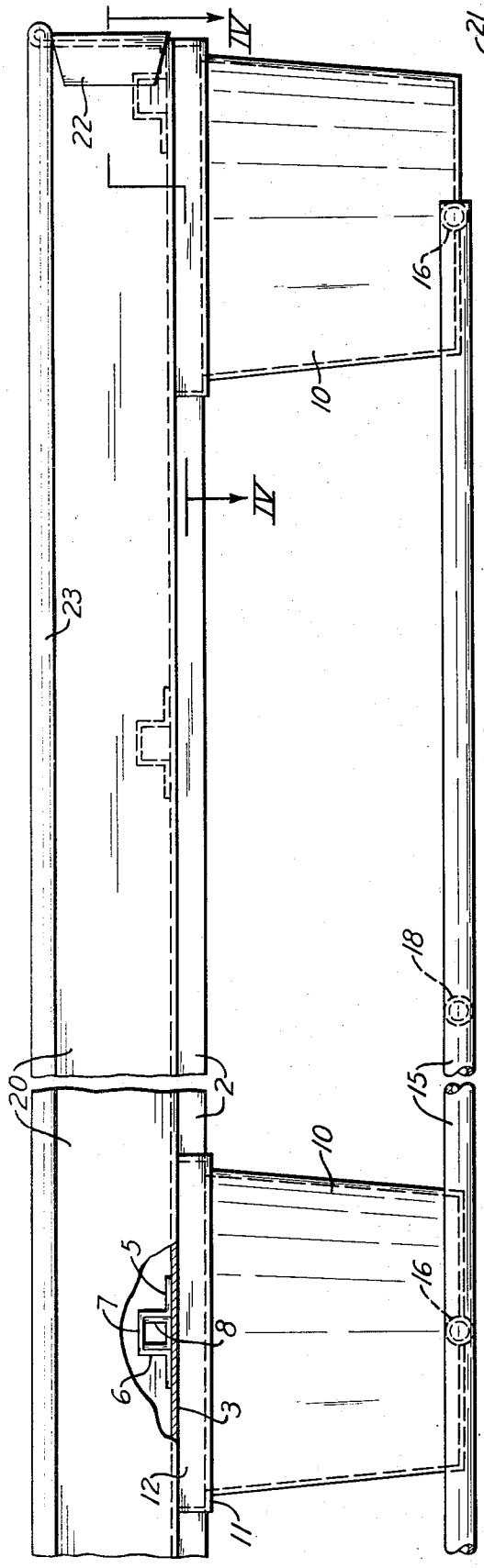


Fig. 2

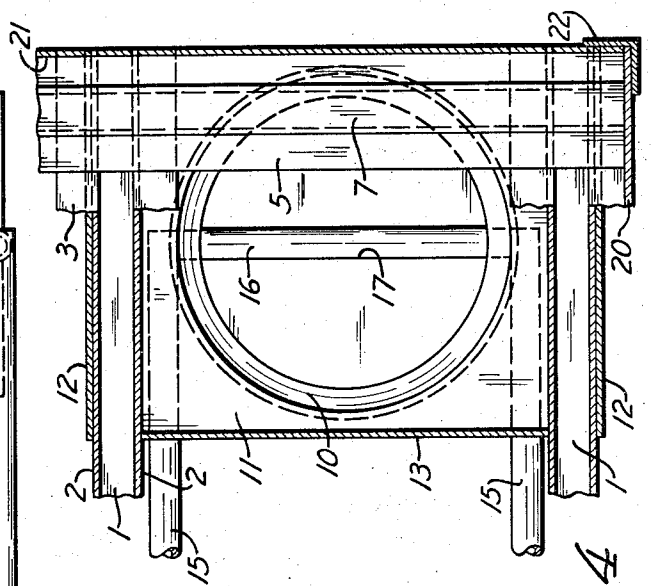


Fig. 4

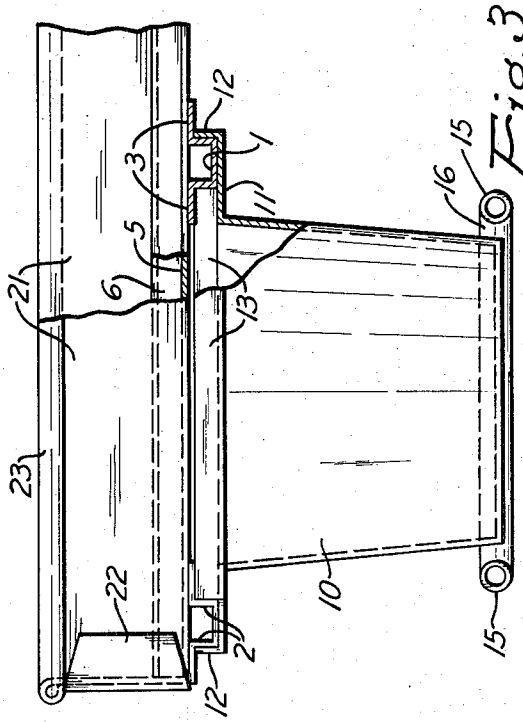


Fig. 3

METAL PALLET

In U.S. Pat. No. 3,616,766 a metal pallet is shown that likewise is formed from upper and lower rows of sheet metal channels supported by sheet metal feet. It is among the objects of this invention to improve upon that pallet by making it stronger for greater weights and by modifying it so that it can serve as a tray for containers.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which

FIG. 1 is a plan view, with parts broken away;

FIG. 2 is an enlarged fragmentary side view;

FIG. 3 is an enlarged fragmentary end view taken on the line III—III of FIG. 1; and

FIG. 4 is a fragmentary horizontal section taken on the line IV—IV of FIG. 2.

Referring to the drawings, the pallet is formed from two layers of horizontal sheet metal channels and a number of feet supporting the channels. All of the channels are alike, except for the four forming the border of the pallet, which differ from the other channels in one respect that will be explained later. The channels in the lower layer are disposed in a row in laterally spaced parallel relation. Each of these channels has a bottom **1** that preferably is flat, from which side walls **2** extend upwardly to laterally projecting flanges **3.** It is preferred that the side walls be substantially parallel as shown in FIG. **3.** Each channel is small and light in weight. It is made of very light gauge metal.

The parallel channels in the upper row forming the upper layer of the pallet likewise are spaced apart, but they extend transversely of the lower channels. Also, they are inverted relative to the lower channels so that their flanges **5** are at the lower edges of their side walls **6** and seat on the flanges **3** of the lower channels. Where the channels intersect they are secured together, such as by spot welding. A very rigid rectangular platform thus is formed, in which the flat tops **7** of the upper channels form its supporting surface. To further strengthen the platform, a U-shape metal strip **8** as shown in FIGS. **1** and **2** is inserted in the middle channel of each row and welded therein so that the channel becomes a tubular member as shown in FIG. **2.** The platform can be square, or longer in one direction than the other.

To elevate the platform so that the pallet can be picked up by a forklift truck or the like, the platform is supported by sheet metal feet located beneath its four corners and also at intermediate points. Three of these feet at each side of the platform usually are sufficient. It is a feature of this invention that each of these feet is drawn from a rectangular metal sheet to form a cup-like body **10** that preferably is circular in horizontal section and tapers downwardly to a flat bottom. The upper end of this body is encircled by a flat rectangular rim **11** that is integral with it. The circular bodies of the feet extend downwardly from between an outer lower channel and the channel next to it as shown in FIGS. **1** and **3,** and these two channels rest on the flat rims of the three legs beneath them. Two opposite edges of each rim of these legs are turned upwardly to form parallel upstanding flanges **12** straddling the two channels and engaging their adjoining side walls **2.** These flanges and channel walls are spot welded together. The other two edges of each rim may also be turned upwardly to form upstanding flanges **13** than span the space between the two channels. These flanges reinforce the rim against bending and, if desired, their upper edges can be welded to the overlying flanges **3** of the two channels. These legs are very sturdy so that the pallet can carry a heavy load safely.

To help brace the feet and also to facilitate sliding the pallet on a floor, it is provided with runners secured to the feet. The runners are made of rod-like members that may be solid or tubular. Each runner is formed from straight parallel side members **15** that extend lengthwise of a row of feet at opposite sides of the bottoms of those feet and are welded to cross members **16** that extend across the bottoms of the feet. To secure the cross members to the feet, the bottom of each foot is provided with a transverse slot **17** that receives one of the cross members. The ends of the slot in the side wall of the circular body **10** are not deep enough to receive the entire cross member but cause its lower portion to project below the bottom of the foot. Consequently, the runners, and not the feet, engage the floor. The cross members are welded to the feet. Additional cross members **18** may be welded to the two side members of each runner between the adjoining feet to stiffen the side members, as shown in FIG. **1.**

A further feature of this invention is that the pallet can also serve as a tray for baskets and other containers filled with bulk articles. For this purpose the outer flange of each of the four border channels; that is, the channels at the ends of the two rows of channels, originally is much wider than the inner horizontal flange to provide material that can be turned upwardly to provide a vertical side wall several inches high. The ends of these side walls **20** and **21** at the corners of the platform are secured together. This can be done by right angle clips **22** fitted over the corners of the tray and welded to the side walls. The side walls are reinforced by rolling their upper edges outwardly to form beads **23,** extending lengthwise of the top of the walls. The platform and side walls together form a tray.

According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A metal pallet comprising a lower row of laterally spaced parallel horizontal sheet metal channels having upstanding side walls with laterally projecting flanges along their upper edges, an upper row of laterally spaced parallel horizontal sheet metal channels extending transversely across the channels in said lower row and inverted relative thereto, each of the inverted upper channels having downwardly extending side walls with laterally projecting flanges along their lower edges, the flanges of the upper row of channels seating on the flanges of the lower row of channels and secured thereto to form a platform, and sheet metal feet supporting the platform, each foot having a hollow cup-like body disposed between two adjacent channels in said lower row and extending downwardly therefrom, a flat rectangular rim surrounding the top of said body and engaging the bottoms of said two channels, and two opposite flanges extending upwardly from two opposite edges of said rim and straddling said two channels, and

means welding said foot flanges to the adjoining upstanding side walls of said two channels.

2. A pallet according to claim 1, in which said foot is provided with a second pair of reinforcing flanges extending up between said two channels from the other two edges of said rim.

3. A pallet according to claim 1, in which said feet are disposed in parallel rows and the bottoms of the feet at the ends of each row are provided with transverse slots, the pallet including rod-like runners each having parallel side members extending lengthwise of said rows of feet and joined to the ends of parallel end members rigidly mounted in said slots.

4. A pallet according to claim 1, including side walls extending upwardly from the edges of said platform, the bottom of each of said platform walls being integral with the edge of the outer flange of the underlying channel that is parallel to that wall, and means securing the ends of adjoining platform walls together at the corners of the platform, whereby the platform and its side walls form a tray.

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