Nov. 2, 1971 M. A. WEISS 3,616,766

METAL PALLET

Filed Sept. 23, 1969 2 Sheets-Sheet 1

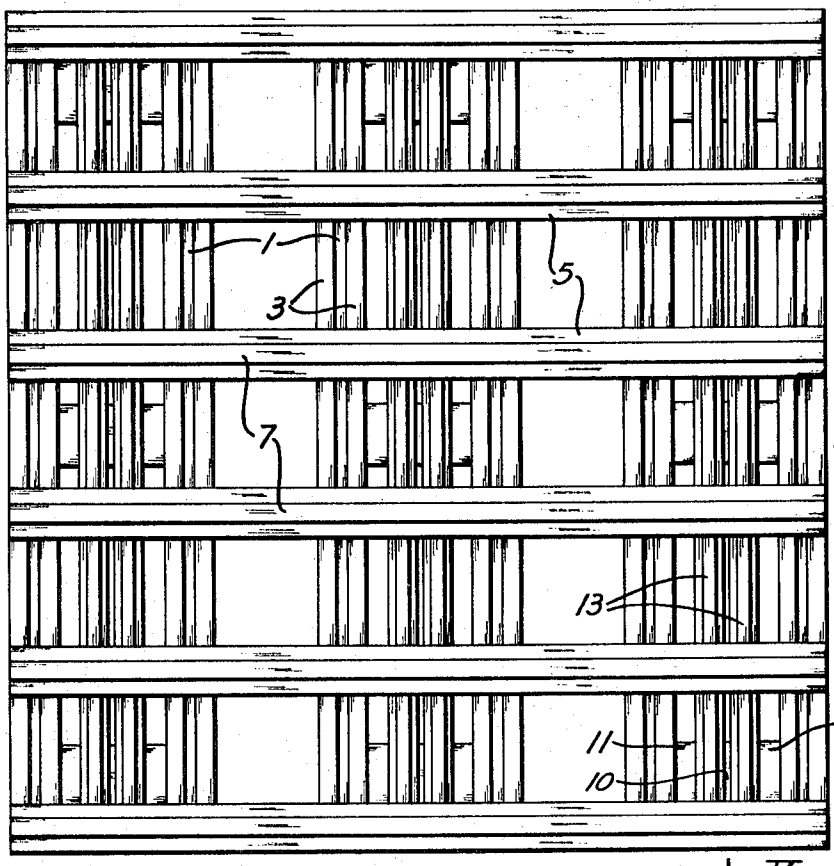


Fig. 1

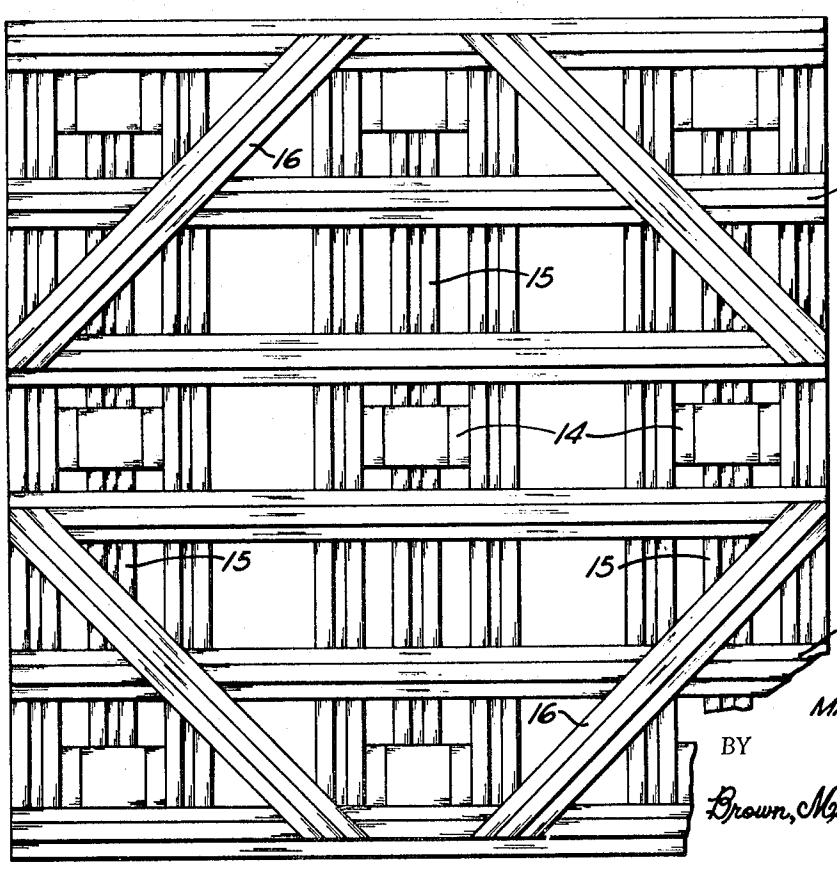


Fig. 4

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Filed Sept. 23, 1969 2 Sheets-Sheet 2

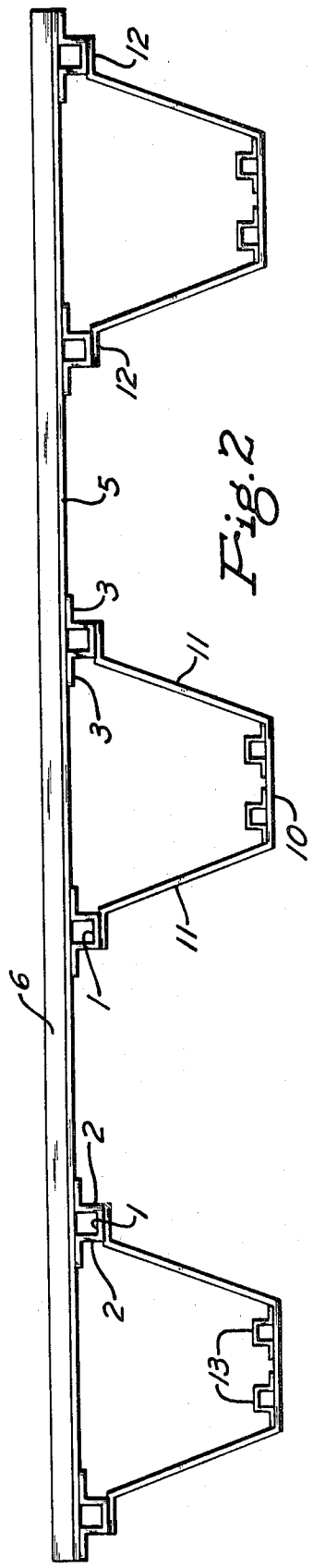


Fig. 2

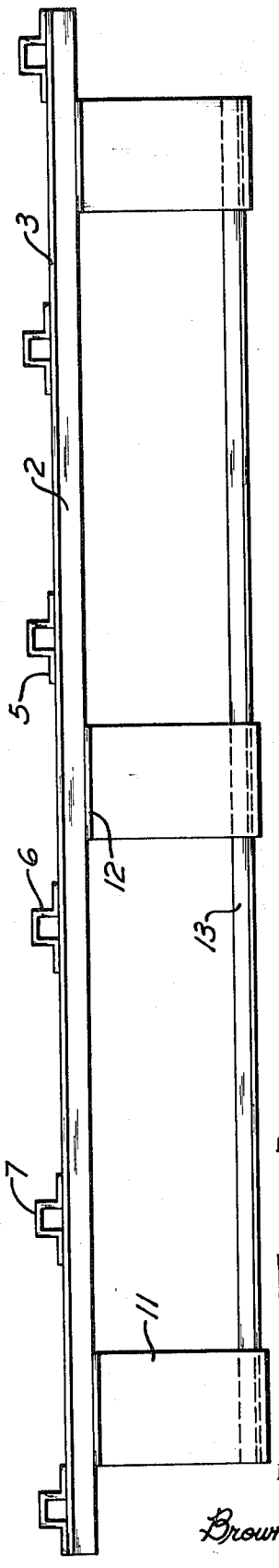


Fig. 3

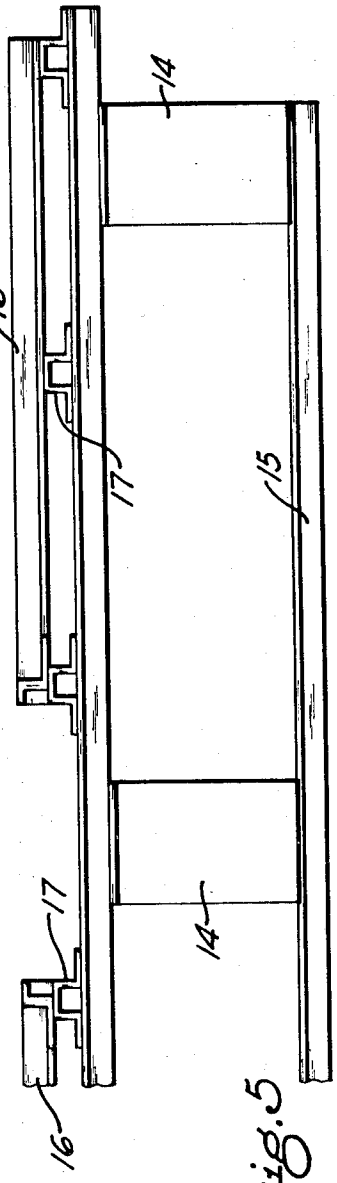


Fig. 5

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METAL PALLET

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Int. Cl. B65d 19/18
U.S. Cl. 108—51 6 Claims

ABSTRACT OF THE DISCLOSURE

Several 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. Each channel in the lower row has a flat bottom, and upstanding side walls with laterally projecting flanges along their upper edges supporting and welded to the channels in the upper row, which are inverted. The channels are supported by a number of sheet metal feet, each of which has a bottom, and upwardly diverging side walls with laterally projecting flanges along their upper edges welded to the bottoms of the channels in the lower row.

It is among the objects of this invention to provide a metal pallet of simple and inexpensive construction, which is very strong but light in weight.

The invention is illustrated in the accompanying drawings, in which

FIG. 1 is a plan view;

FIG. 2 is an enlarged side view;

FIG. 3 is an enlarged side view at right angles to FIG. 2;

FIG. 4 is a plan view of a modification; and

FIG. 5 is a fragmentary side view taken on the line V—V of FIG. 4.

Referring to FIGS. 1 to 3 of 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. Those in the lower layer are disposed in a row in laterally spaced parallel relation. Each channel in the lower row has a flat bottom **1**, from which side walls **2** extend upwardly to laterally projecting flanges **3**. Preferably, the side walls are substantially parallel. Each channel is small and light-weight. It is made of very light gauge metal. It may be only 3/8 of an inch wide at its bottom, 3/8 inch high and about 1 1/8 inches wide at its top.

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 rest on the flanges **3** of the lower channels. Where the channels intersect they are spot welded together. A very rigid rectangular platform thus is formed, in which the flat tops **7** of the upper channels form its supporting surface. 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 channels are supported by sheet metal feet. As shown best in FIG. 2, each of these feet has a bottom **10**, that preferably is flat, and upwardly diverging side walls **11** that merge into laterally projecting horizontal flanges **12**. The feet are so arranged beneath the channels that the bottoms of the lower channels rest on the flanges of the feet, to which they are welded. In other words, each foot spans the space between a pair of channels. A plurality of feet are welded to each outer pair of lower channels. For example, a foot is located near each corner of the pallet and another foot may be welded to each outer pair of channels midway between

the feet at their ends. Three more feet may be welded to the central pair of channels. If only six channels are disposed in the lower row, all of them are directly supported by the three sets of feet. The pallet can be reinforced and strengthened, if desired, by securing channels **13** to the upper surfaces of the bottoms of the feet. These channels span the spaces between the feet in each row, as shown in FIG. 3. The channels may be the same as or similar to the rest of the channels making up the pallet.

If desired, instead of attaching two or more separate feet to a pair of channels, one continuous sheet metal foot could be used, which could extend substantially the full length of the channels. Also, the various members forming the pallet can be secured together by fasteners instead of by welding, if desired.

The pallet just described is inexpensive to make because it contains a minimum of metal and the parts are easy to weld together. Channels of the shape shown are much more rigid for their weight than metal rods or bars. The use of these superimposed rigid channels welded together at their intersections provides a very rigid pallet. Yet, the pallet is lightweight because a large proportion of its area is open. The pallets readily nest together and, since they are lightweight, many more can be transported on a truck returning them to their point of origin than is possible with wooden pallets. This reduces the cost of transportation.

In the modification shown in FIGS. 4 and 5, the feet **14** in each row are tied together by a channel **15** like those above. The feet rest on the flanges of the upwardly opening channel and are spot welded to them. These tying channels form additional means for strengthening the pallet without adding materially to its weight. This idea could also be used with the pallet shown in FIG. 1.

Another difference in the pallet shown in FIGS. 4 and 5 is that it is especially adapted to support a large object that might slide off the pallet. Such an object might be an oil drum standing on end. To hold the drum in place, guard channels **16** like those forming the two layers of the pallet extend diagonally across the corners of the pallet. These channels open downwardly like the channels **17** on which they rest, and the flanges of the diagonal guard channels are welded to the tops of the channels supporting them. The guard channels also help to stiffen the pallet.

I claim:

1. A metal pallet comprising a lower row of laterally spaced parallel horizontal sheet metal channels with flat bottoms, each channel being separate from the other channel in said row and 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 upper channels being separate from the other channels in said upper row and having side walls extending downwardly from a flat top with laterally projecting flanges along their lower edges, and the flanges of the upper row of channels seating on the flanges of the lower row of channels and secured thereto, and sheet metal feet supporting the channels, each foot having a bottom and upwardly diverging side walls with laterally projecting flanges along the upper edges of those walls, and said flanges of each foot underlying and being welded to the lower surfaces of a pair of the channels in one of said rows.

2. A metal pallet according to claim **1**, in which there is a central pair of said channels in the lower row and an outside pair of channels at each side of the central pair, and a row of said feet is secured to each outside

pair of channels and another row of feet is secured to the central pair of channels.

3. A metal pallet according to claim 1, in which said feet are disposed in parallel rows, and a sheet metal channel like those above the feed extends along each row of feet and has its laterally projecting flanges secured to the lower surfaces of the bottoms of the feet.

4. A metal pallet according to claim 1, including sheet metal guard channels resting on top of the channels in said upper row and extending diagonally across the corner portions of the pallet, said guard channels being shaped like the channels below with their laterally projecting flanges secured to the tops of the channels in said upper row.

5. A metal pallet according to claim 4, in which said feet are disposed in parallel rows, and a sheet metal channel like those above the feet extends along each row of feet and has its laterally projecting flanges secured to the lower surfaces of the bottoms of the feet.

6. A metal pallet according to claim 1, in which said feet are disposed in parallel rows, and a reinforcing member extends across the feet in each row of feet and is secured to the upper surfaces of said bottoms of the feet.

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