April 28, 1964 L. O. BURK ETAL 3,130,692

EXPENDABLE PALLET AND LEG

Filed Nov. 28, 1961

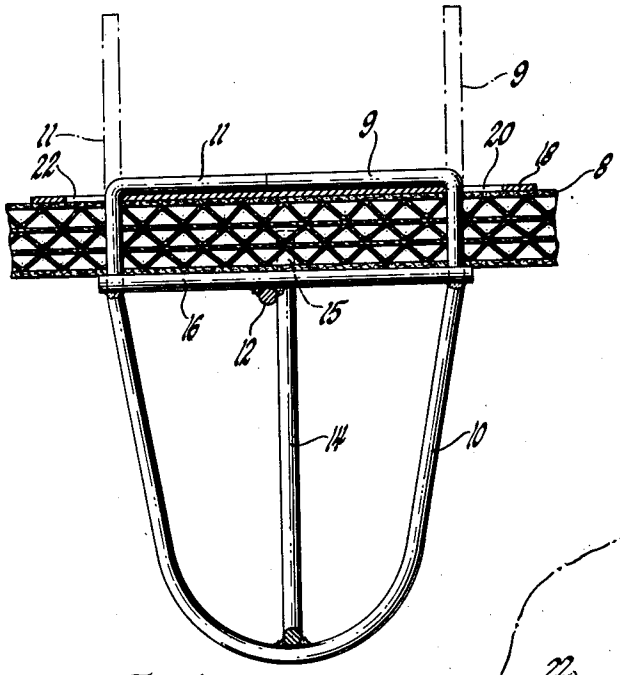


Fig. 1

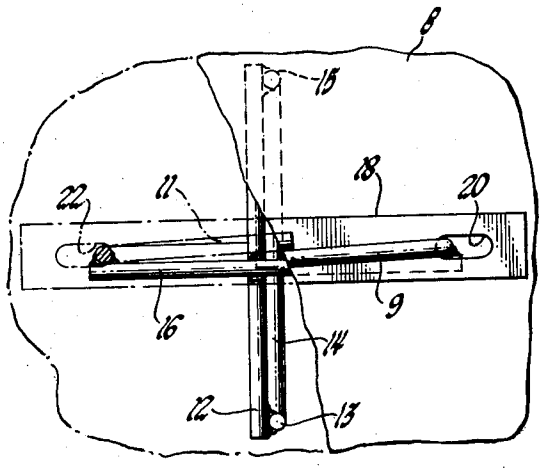


Fig. 2

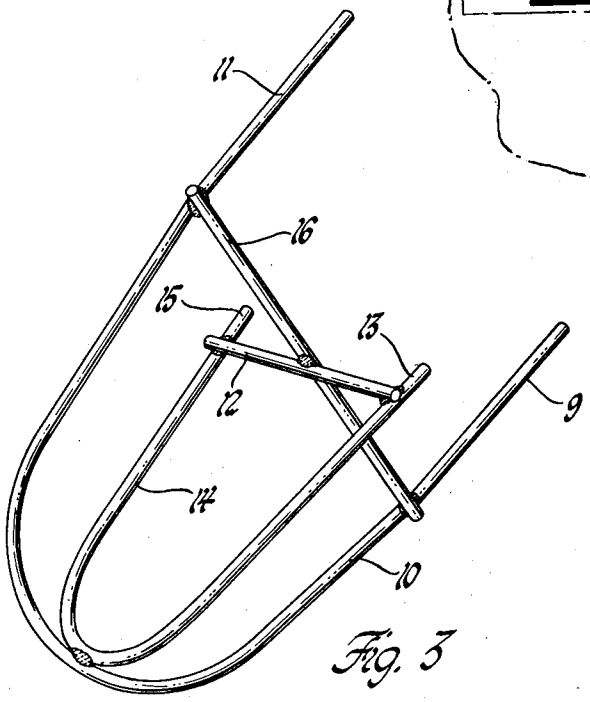


Fig. 3

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United States Patent Office 3,130,692 Patented Apr. 28, 1964

3,130,692

EXPENDABLE PALLET AND LEG

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Filed Nov. 28, 1961, Ser. No. 155,410
7 Claims. (Cl. 108—51)

This invention relates to pallets, and more particularly to pallets made of paperboard and provided with expendable wire legs.

The usual method of supporting cardboard containers for shipping bulk material is by a pallet assembled from wood or steel members which are shipped with the container. These pallets are made with channels to accommodate the tines of a fork lift truck and are relatively expensive to build, easily damaged in use, and add to the shipping charges by virtue of their weight. Further, these pallets must be returned from the consignee's location, in many cases, due to the total investment involved which prohibits scrapping of the pallets. Obviously, the return expense adds still more to the overall freight costs. When thousands of such pallets are used, the economic considerations become acute. This invention provides a solution in the form of an expendable paperboard shipping pallet which is inexpensive to build, light in weight, and capable of withstanding normal loads.

In accordance with this invention, a wire pallet leg made of low carbon steel wire is fashioned for use with corrugated paperboard material of suitable thickness, however, other pallet materials may be used. The pallet leg is uniquely constructed of wire to permit low cost fabrication and minimum unit weight while retaining sufficient strength. The leg requires no auxiliary fastening means in order to secure it to the pallet. More than one may be provided for any single pallet so as to equally distribute the load on the floor. The legs are long enough and may be spaced so that the tines of a fork lift truck are easily accommodated beneath the pallet. When the cardboard pallet arrives at the consignee's location, it is merely discarded for whatever salvage value may be obtained from the paper and attached wire legs.

Other objects and advantages of the present invention will be apparent from the following description, reference being made to the accompanying drawings wherein a preferred form of the invention is clearly shown.

In the drawings:

FIGURE 1 is a sectional view showing the wire pallet leg fastened to the pallet material;

FIGURE 2 is a plan view of the leg and pallet partially broken away; and

FIGURE 3 is a perspective view of the wire pallet leg.

Referring to the drawings, FIGURE 3 shows the leg prior to being attached to the pallet **8**. The leg is made of low carbon steel wire of an acceptable diameter. Wire elements **10** and **14** are cut to the desired length, bent in U-shape, and welded at their mid-points with their respective end pairs extending in the same direction. Ends **9** and **11** are longer than ends **13** and **15** for reasons to be described later. Cross-pieces **12** and **16** are welded between the ends and are spot welded to each other at their intersection. FIGURE 2 is a view from the top of the pallet **8**, partially broken away, showing the anvil member **18** having slots **20** and **22** which coincide with holes pre-formed in the pallet material. When the leg is to be attached to the pallet, ends **9** and **11** are inserted through the holes in the pallet material and extend beyond the anvil member **18** as shown by the dotted lines in FIGURE 1. At this stage of assembly, ends **13** and **15** are resting against the bottom of the pallet. With sufficient pressure applied to the top of the pallet, ends **13** and **15** will puncture the bottom wall and one intermediate wall

of the triple thickness paperboard material. This construction allows the leg to have greater lateral stability as well as to resist twisting. Finally, ends **9** and **11** are bent down toward each other flush with anvil member **18**. The cross-pieces **12** and **16** serve as the load carrying elements for the leg since they bear flush against the bottom of the pallet.

We have found that to facilitate attaching of the leg while maintaining strength, 3/16 inch wire is the optimum size. The paperboard pallet material used is preferably triple thickness, corrugated paper glued to two interconnecting walls and to two outer surface layers. This material has relatively high strength and when combined with the wire leg will withstand high unit loads and boxcar impact loads with ease. A sample leg formed from 3/16 inch wire and attached to a 6 x 6 x ½ inch section of the preferred pallet material sustained a load of 1200 pounds before puncturing through the bottom. With the legs bearing firmly on a steel support and the pallet sufficiently backed up, the legs supported a load of 1400 pounds before the wire collapsed.

Obviously, the subject leg could be attached directly to a container bottom, that had been sufficiently reinforced, thus eliminating any pallet. Accordingly, while the preferred embodiment of the invention has been described, it is to be understood that modification in structure may be made without deviating from the scope of the invention.

We claim:

1. An expendable pallet leg comprising a first curved element, at least one other curved element secured thereto with said elements being mutually secured substantially at their mid-points and each having end pairs curving in the same direction, load support means connected to each end of said end pairs and each of said ends continuing beyond said load support means to a substantially vertical position and upon installation of said leg each of said ends extending into the lower pallet surface, and at least one of said ends terminating above the upper pallet surface.

2. An expendable pallet leg as described in claim 1 having, in addition, attaching means cooperating with said one end during the installation of said leg to provide a bending anvil surface therefor.

3. An expendable pallet leg in combination with a paperboard pallet, said pallet leg comprising a first curved element, at least one other curved element secured thereto with said elements secured substantially at their mid-points and each having end pairs curving in the same direction, load support means connected to each end of said end pairs, and each of said ends continuing beyond said support means to a substantially vertical position, one of said end pairs being longer than the others and extending through the pallet and projecting beyond the upper surface thereof, and attaching means cooperating with said one end pairs for connecting said pallet leg on the lower surface of the pallet whereby said pallet leg is positioned relative to said pallet to withstand a compressive load.

4. The device as described in claim 3 wherein said attaching means comprises a bar element having a plurality of openings adapted to receive therethrough said one end pairs thereby providing a bending anvil surface for said ends.

5. An expendable wire pallet leg comprising a pair of substantially U-shaped wire members welded at their mid-points and each having end pairs extending in a substantially vertically upwardly direction, cross members welded between each end of said end pairs and each of said end pairs extending beyond each of said cross members and at least one of said end pairs being longer than the other of said end pairs, a bar member having a plurality of slots

formed therein and spaced apart to accommodate said longer end pairs during installation of said pallet leg to provide a bending anvil surface therefor.

6. An expendable wire pallet leg in combination with a paperboard pallet, said pallet leg comprising a pair of substantially U-shaped wire members welded at their midpoints and each having end pairs extending in a substantially vertically upwardly direction, cross members welded between each end of said end pairs and each of said end pairs extending beyond each of said cross members and into said paperboard pallet and at least one of said end

pairs projecting beyond the upper surface thereof whereby said last mentioned ends may be deformed against the upper surface of said pallet for attaching said support leg.

7. The device as described in claim 6 and, in addition, comprising a bar element having a plurality of slots spaced apart to accommodate said last mentioned ends and providing a bending anvil surface therefor.

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