

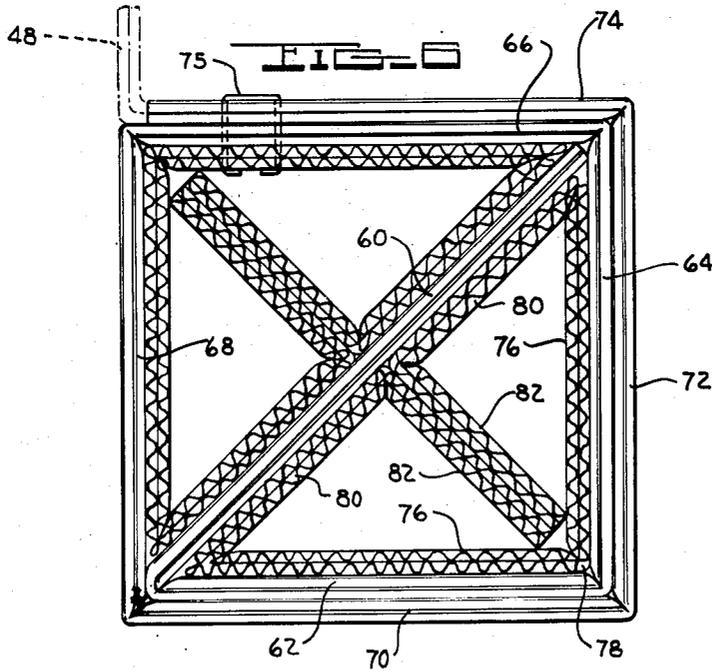
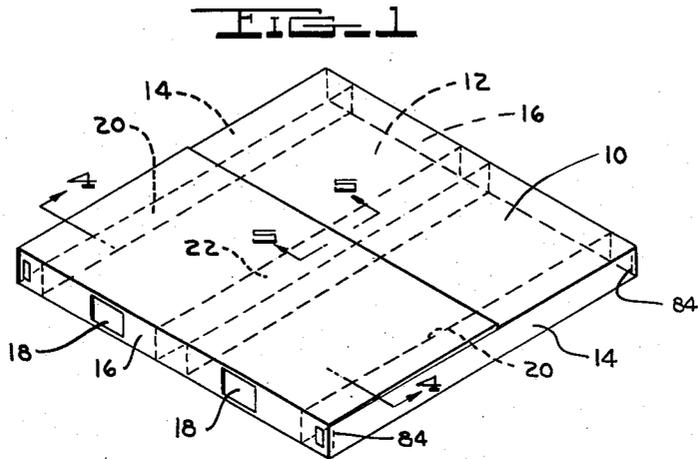
Nov. 27, 1951

J. A. FARRELL  
SHIPPING PALLET

2,576,715

Filed Jan. 31, 1947

4 Sheets-Sheet 1



INVENTOR.  
JAMES A. FARRELL  
BY

*Parker & Burton*  
ATTORNEYS

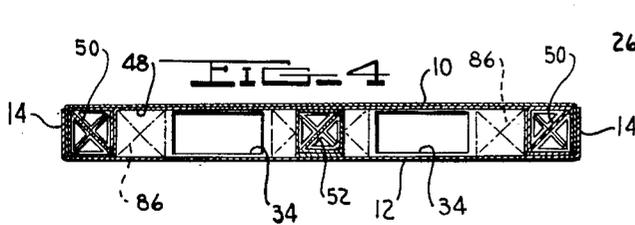
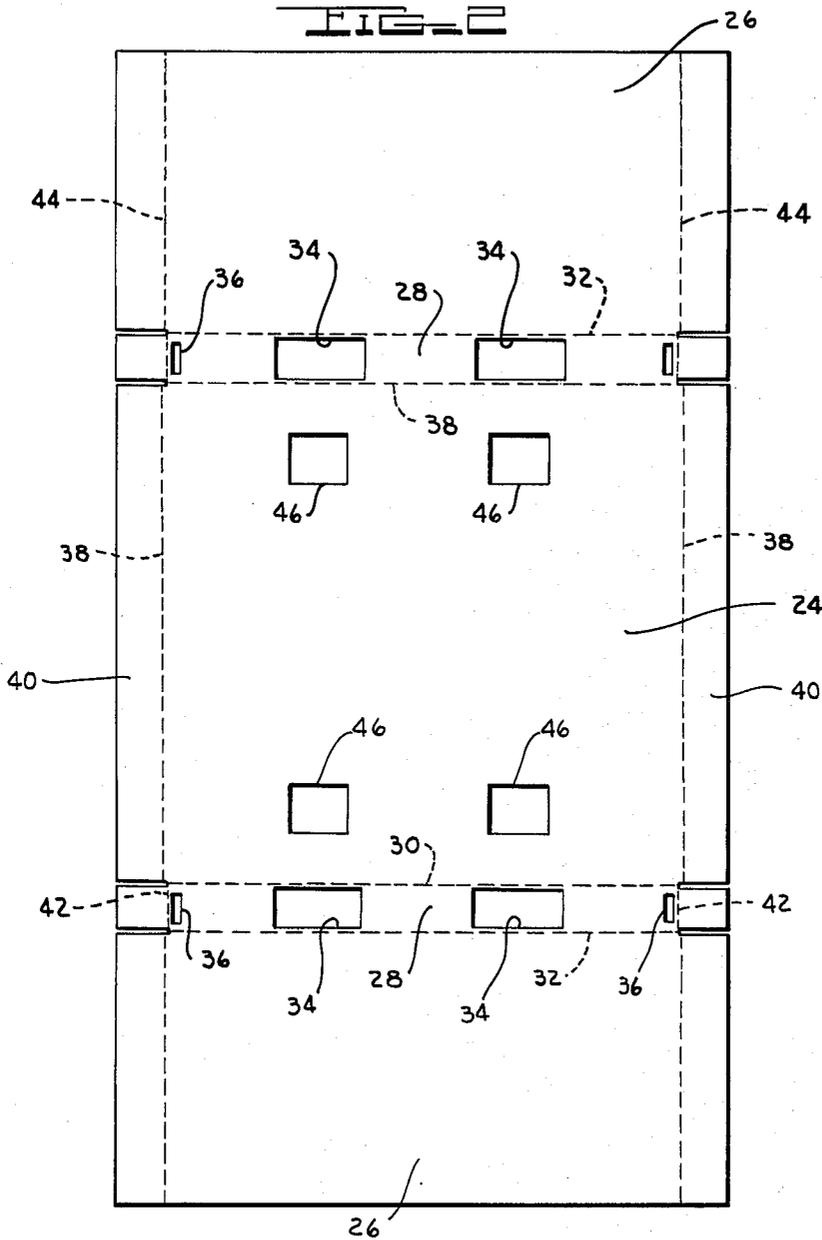
Nov. 27, 1951

J. A. FARRELL  
SHIPPING PALLET

2,576,715

Filed Jan. 31, 1947

4 Sheets-Sheet 2



INVENTOR.  
JAMES A. FARRELL

BY

*Parker & Burton*  
ATTORNEYS

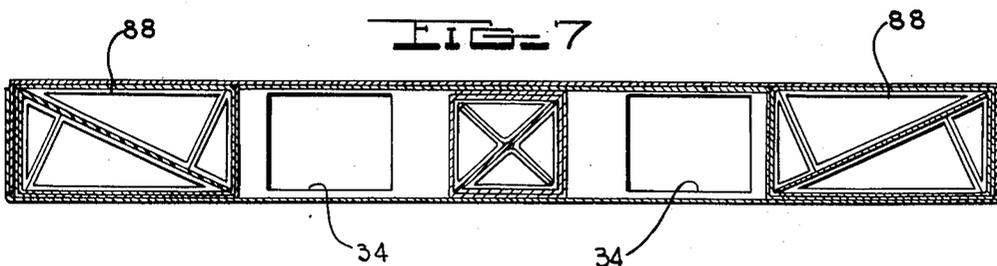
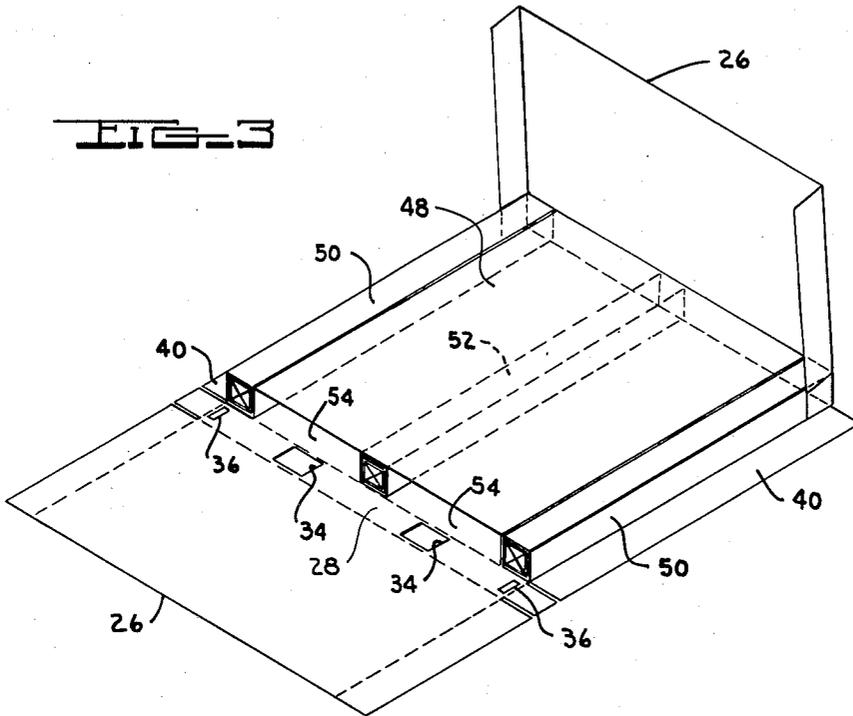
Nov. 27, 1951

J. A. FARRELL  
SHIPPING PALLET

2,576,715

Filed Jan. 31, 1947

4 Sheets-Sheet 3



INVENTOR.  
JAMES A. FARRELL  
BY  
*Parker & Burton*  
ATTORNEYS

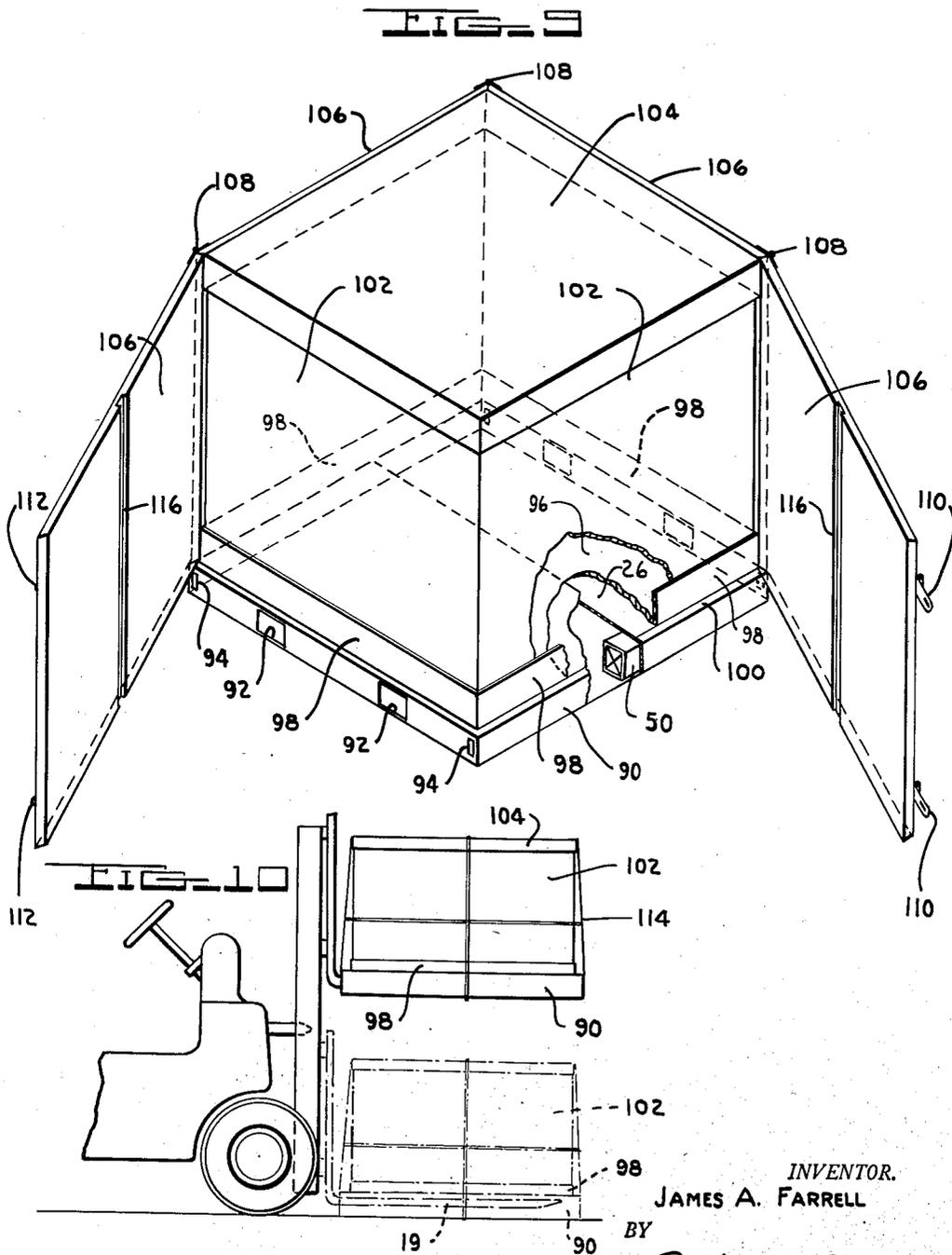
Nov. 27, 1951

J. A. FARRELL  
SHIPPING PALLET

2,576,715

Filed Jan. 31, 1947

4 Sheets-Sheet 4



INVENTOR.  
JAMES A. FARRELL  
BY

*Parker & Burton*  
ATTORNEYS

# UNITED STATES PATENT OFFICE

2,576,715

## SHIPPING PALLET

James A. Farrell, Detroit, Mich.

Application January 31, 1947, Serial No. 725,448

6 Claims. (Cl. 248—120)

1

This invention relates to load supporting pallets used in transporting and shipping heavy articles and particularly to an improved pallet of this character formed from fiber board material.

Heretofore load supporting shipping pallets have usually been made of wooden parts and constructed with passages between the top and bottom surfaces for receiving the lift forks of manual or power operated stevedore trucks and similar material handling equipment. Some attempt has also been made to construct pallets of this character of metal parts. In either event, the cost of materials heretofore used has been relatively high and although it would be desirable to expend the pallet after shipping of the load carried thereby, the high cost of manufacturing even simple wooden pallets has necessitated the consideration of establishing pallet pools in various sections of the country to facilitate the return and reuse of the pallets rather than complete disposal of the same.

An important object of this invention is to provide a novel load supporting shipping pallet formed of low cost materials which is easily and inexpensively shaped into the desired configuration and which because of its low cost may be expended after one or more uses. Another important object of this invention is to provide a novel pallet of this character formed from fiber material and particularly fiber board which is so constructed that it will support extremely heavy loads and will withstand considerable abuse without affecting its performance. A further important object of this invention is to provide a shipping pallet of this character of fiber board folded upon itself and secured together into a strong relatively rigid structural unit which although light in weight will withstand heavy loads encountered in handling, transporting and shipping.

More particularly, it is an important object of this invention to provide a shipping pallet formed from a sheet of fiber board material folded in a novel manner upon itself to form a hollow interior and provided with inserts of fiber board material which strengthen the pallet for heavy duty use. Another important object of the invention is to provide a novel method of shaping a sheet of fiber board to accomplish this purpose and at the same time provide means for the ready insertion of lift members of the conventional fork trucks. Another important object of the invention is to provide a novel method of shaping a single sheet of fiber board so that it may be folded upon itself to form a strong carton and which prior to its being folded is provided with strengthening in-

2

serts also formed of fiber board material arranged in the interior of the carton for supporting heavy loads. In carrying out this novel method it is preferred to die cut a single sheet of fiber board material with marginal flap or folding portions so shaped that when they are folded they form a substantially completely closed carton having passages opening through one or more sides of the carton for accommodating the conventional lifting forks and apertures in one or more sides adjacent to the corners thereof for receiving the operating head of a stapling device.

Another important object of the invention is to provide a novel pallet of this character formed of fiber board material which is folded and stapled into a box-like structure or carton for shipping use and which if desired may be unstapled and opened out into flat condition after use for returning the pallet without occupying more space than the normal thickness of the sheet material employed in the fabrication of the carton.

Another important object of the invention is to provide novel inserts or bracing cells shaped from sheets of fiber board material which stiffen and strengthen the carton for sustaining heavy loads and against damage in the event of careless use.

Various other objects, advantages and meritorious features will become more fully apparent from the following specification, appended claims and accompanying drawings wherein:

Fig. 1 is a perspective view of a shipping pallet constructed of fiber board material in accordance with this invention,

Fig. 2 is a plan view of the single sheet of fiber board prior to its folded state showing the manner of shaping the various portions thereof for folding and securement,

Fig. 3 is a perspective view illustrating the method of folding the sheet of fiber board into a carton and the manner of disposing the fiber board strengthening inserts therein,

Fig. 4 is a vertical sectional view through the pallet along line 4—4 of Fig. 1,

Fig. 5 is a detailed sectional view along line 5—5 of Fig. 1,

Fig. 6 is an enlarged end elevation of one of the bracing cells employed as an insert in the pallet,

Fig. 7 is a vertical cross sectional view through the pallet illustrating the modification thereof for widening the pallet,

Fig. 8 is a detailed sectional view illustrating the modification of the arrangement shown in Fig. 5,

3

Fig. 9 is a perspective view of a modification of the invention illustrating a combination shipping pallet and container, and

Fig. 10 is a side elevation of the forward end of a stevedore truck showing manner of lifting and transporting the pallet of this invention.

The pallet in general is illustrated in Fig. 1 and comprises top supporting surface or deck 10, a bottom floor or ground engaging surface 12 paralleling the top surface or deck and four relatively narrow vertical side wall surfaces extending between the top and bottom surfaces. Two side walls are indicated on opposite sides of the pallet at 14-14. The remaining two sides of the pallet are indicated at 16-16. These last two vertical sides may be provided with two apertures between the ends thereof as indicated at 18-18 which are of a size to receive the conventional lift forks 19 of stevedore trucks and the like, such as that illustrated in Fig. 10, employed in the handling and shipping of heavy material. The pallet is low in height and relatively wide and has the general dimensional characteristics of shipping pallets.

The pallet of Fig. 1 is constructed entirely of fiber board material, preferably corrugated, and since it is provided with a hollow interior it may be referred to as a carton or box-like enclosure. At spaced locations in the interior of the carton strengthening inserts are provided. These are preferably of fiber board material and are spaced apart in the interior of the carton so as to provide passages for the reception of the lift forks. In general, at least three such inserts are provided as shown in dotted outline in Fig. 1. Two of these inserts are located at 20-20 adjacent to the side walls 14-14. The middle insert 22 is disposed intermediate the side walls 14-14 in position between the two apertures 18-18. The inserts preferably extend the full length of the pallet from the side walls 16-16 as shown in Fig. 1 and the spaced relation of the middle insert 22 from the outer inserts 20-20 forms two elongated passages in the interior of the carton which align with the openings 18-18 and are of a size to receive and accommodate the conventional lift forks.

Preferably the outside portions of the pallet are formed from a single sheet of fiber board such as that illustrated in Fig. 2. The single sheet is provided with marginal or end sections which are foldable upon themselves to form the top, bottom and side walls of the box-like structure or carton in Fig. 1. The central expanse of the sheet indicated at 24 in Fig. 2 normally forms the bottom surface 12 of the pallet. The sheet is preferably subjected to a die cutting operation which simultaneously forms the foldable marginal flap portions and the apertures 18-18 and other apertures which will be described in more detail hereinafter. In forming the foldable marginal portions, the sheet is scored to provide lines of weakness which enables the flap portions to be folded upon themselves as is well understood in the art relating to the fabrication of fiber board cartons. The dotted lines in Fig. 2 represent such lines of weakness.

Referring to Fig. 2 the top surface or deck of the pallet is formed by two relatively large foldable sections 26-26 which when folded and brought around into substantial abutting relationship form the top surface 10 of the pallet. These sections may slightly overlap as shown in Fig. 5, completely overlap to form a top wall 10 of double thickness throughout, or substantially

4

about one another as shown in Fig. 8. The two vertical side walls 16-16 of the finished pallet are represented in the sheet at 28-28. These two sections are relatively narrow and are disposed intermediate the central section 24 and the two outer sections 26-26. The lines of weakness about which the sections 26-26 and 28-28 are folded mark the inner and outer boundaries of the sections 28-28. The inner scored boundary line of each section 28 is indicated at 30; the outer line at 32. During the die cutting operation, it is preferred to simultaneously cut out a pair of apertures 34-34 in each section 28 of the sheet. These apertures are of a size and spaced apart a distance to receive the conventional pair of lift forks employed on stevedore trucks and when the sheet is folded form the apertures 18-18 previously described. During the die cutting operation it is preferred to simultaneously form two smaller apertures 38-38 in each section 28 adjacent to the outer ends thereof which, as will be described more particularly hereinafter, are of a size to receive the operating head of a stapling device.

The sheet of Fig. 2 is also scored with lines of weakness extending perpendicularly to the scored lines 30 and 32. Each section 24, 26-26 and 28-28 of the sheet is provided with two such scored lines, each line of each section being adjacent to and paralleling the side edges of the section. The central section 24 is provided with two such lines of weakness indicated at 38-38 and forming two corresponding side flap portions 40-40. Each narrow section 28-28 is provided with two such lines of weakness indicated at 42-42 which are offset inwardly from the scored lines 38-38 previously described. Each end section 26-26 is provided with two such lines of weakness indicated at 44-44 which are offset inwardly from the scored lines 38-38 of the central expanse 24 but not to the extent that the scored lines 42 of the narrow sections 28. In other words, as is evident in Fig. 2 the projections of the scored lines 44-44 will carry them between the two sets of scored lines 38-38 and 42-42. This will enable the separate flap sections of the sheet to be folded upon one another without difficulty in the manner illustrated in Fig. 3.

The central section 24 of the sheet illustrated in Fig. 2 may also be provided with one or more sets of apertures 46-46 which are of a size and so located with respect to one another that the forward pair of wheels of the stevedore trucks used to shift and raise the pallet may project downwardly therethrough into engagement with the ground or floor. For those types of trucks where such wheels are not employed these openings or apertures may be omitted from the sheet.

Fig. 3 illustrates the manner of folding the sheet into a pallet. Prior to the folding operation there is preferably disposed upon the central section 24 a filler or insert of fiber board material which in the completed folded state of the pallet assists in strengthening the pallet for supporting heavy loads. The preferred form of such insert or filler is illustrated in Fig. 3 and comprises, in general, three spaced apart tubular structures or cells formed of fiber board material and connected together by a sheet section of fiber board indicated at 48. Two of these cells are disposed adjacent to the sides of the sheet section 24 just within the scored lines 38-38 thereof. These two cells are similarly formed and are indicated by the reference numeral 50-50. Located substantially in the

5

middle of the section 24 is a third strengthening cell indicated by the reference numeral 52. This cell is preferably stapled or otherwise secured to the sheet section 48 to maintain it against movement within the pallet.

In the pallet construction the three strengthening cells 50—50 and 52 correspond in position and function to the inserts 20—20 and 22 previously described in connection with Fig. 1. Their spaced relationship to one another provides two elongated passages on either side of the central cell 52 which are of a size to accommodate the conventional lift forks. The open ends of these passages are indicated at 54—54 in Fig. 3 and it is evident that they align with the openings 34—34 formed in the side wall sections 28 when the latter is folded into position. Lift forks are therefore capable of entering the openings 34 and entering the passages between the cells 50—50 and 52. As in the case of the inserts of Fig. 1 the cells preferably extend the full length of the sheet 24 and sheet section 48 likewise extends the full length of the section 24.

Although the sheet section 48 connecting the various cells may be stapled to the two outer cells 50—50, it is preferred to integrally form the outer cells and sheet section 48 from one larger sheet of fiber board material. This is accomplished by folding opposite end portions of such sheet upon itself to form the two cells 50—50 leaving the central section 48 as a bridging member connecting and maintaining the outer cells in proper spaced relationship. Preferably the outer cells 50—50 and the middle cell 52 are similarly formed, the only difference being the fact that the outer cells are integrally connected together by sheet section 48 whereas the central cell 52 is separately formed and secured to the sheet section.

Fig. 6 illustrates the preferred method of forming the strengthening cell structures 50—50 and 52. This figure represents the end elevation of the cell 52, it being understood that the outer cells 50—50 are similarly formed. Each cell is preferably formed by initially forming the diagonal section 60 thereof and then folding the balance thereof into a square or rectangular formation around the diagonal section 60. Following the forming of the diagonal section 60 the side sections are folded into position. The side section immediately adjacent to the diagonal section is indicated at 62 in Fig. 6 and at right angles thereto the next succeeding section is indicated at 64. This last section is joined by a section 66 which extends at right angles thereto and in opposed relationship to the section 62. In the formation of the cell a fourth side is completed by the forming of the section indicated at 68 which extends at right angles to the sections 62 and 66 and in opposed relationship to the section 64. The cell structure, once the square or rectangular formation is completed, may be left in that formation but preferably it is desired to further fold the sections around those previously formed in order to provide a double thickness on at least two sides of the cell. Fig. 6 shows additional sections 70, 72 and 74 which are folded into facial contact with the sections 62, 64 and 66 respectively. As a result, the cell is provided on three sides with a double thickness of fiber board material. For additional strength, more sections may be folded around the cell to increase its thickness. When once folded into final forma-

6

tion, the side sections thereof may be stapled together or otherwise secured such as by the staple indicated at 75.

The cell is divided by the diagonal section 60 into two triangular areas on opposite sides thereof. In these triangular areas it is desired to fit triangular shaped inserts also formed of fiber board material. In the cell illustrated in Fig. 6 two such inserts correspond to one another in formation and are referred to by the same reference numerals. A sheet section of fiber board is folded to form two corresponding side sections 76—76 of each insert which extend at right angles to one another, the connecting fold for these sections forming the apex 78 of the triangle. Each insert is further provided with two correspondingly inwardly projecting sections 80—80 which abut one another to form the base of the triangle. Along their line of abutment the sections 80—80 are folded inwardly to provide two corresponding flap portions 82—82 which enter the interior of the triangular insert and extend toward and abut the inner faces of the side sections 76—76 immediately adjacent to the apex 78 of the triangle. Since all three sides of the inserts are closely bounded by and in facial contact with the sections forming the outside portions of the cell, the abutting edges of the sections 80—80 with one another and the abutting edges of the flap portions 82—82 with the side sections 76—76 are pressed relatively firmly together to form a strengthening insert characterized by the fact that forces or strains imposed on any part thereof are distributed throughout the triangular structure of the insert. Two such triangular inserts mounted on opposite sides of the diagonal section 60 of the cell substantially increase the resistance of the cell against forces tending to collapse the same. The triangular inserts as indicated in Fig. 6 are so constructed that they slidably fit the triangular areas on either side of the diagonal section 60. These inserts may extend the full length of the cell or extend for short distances inwardly from opposite ends of the cell depending upon the weight of the loads for which the pallet is intended.

As previously mentioned, Figure 6 illustrates an elevation of the middle strengthening cell 52, and that the outer cells 50—50 are preferably of similar formation except that they are joined by the sheet section 48 which is an integral part of the outer cells. For the outer cells the sheet section 48 is indicated in dotted outline in Fig. 6 as integrally joined to and forming an extension of the outside folded section 74 of the cell illustrated in this figure. It is understood that the sheet section 48 is similarly joined to the other cell 50 to form a unitary structure of a size to fit the interior of the carton when the foldable sections thereof are formed.

Throughout the drawings, the shipping pallet is shown as composed entirely of sheet sections of corrugated fiber board material. This is the preferred material, but it is understood that the pallet may be formed of other types of fiber board such as solid fiber board. In the latter event, it may be desirable to impregnate the solid fiber board with asphaltum or a resinous or plastic substance. The various types of fiber board material that may be used are very inexpensive as compared with wood and metal structures heretofore used, and by one or more simple die cutting operations the fiber board blanks can be quickly and cheaply shaped to the desired size

and for folding into the completed article. Metal staples or other securing means may be used to hold the folded sections into the final shape of the pallet. The die cut apertures 36 are so located with respect to folded sections of the pallet that the simple act of inserting and operating a stapling head thereinto will secure several overlapping portions of the pallet into the final shape shown in Fig. 1. Two such staples are shown at 84 adjacent the opposite ends of the side wall 14 visible in Fig. 1. A similar set of staples is used on the other side wall. If the pallets are not disposed of after use, they may be unstapled and opened out flat in order to return them at low cost for reuse.

Where corrugated fiber board is used, it is preferred to cut the blanks shown in Fig. 2 in such a manner that the corrugation thereof run transversely to the longer dimension of the sheet. This is illustrated in the sectional views of Figs. 5 and 8. Also as illustrated in these two figures, it is desired to employ corrugated fiber board having two corrugated elements interleaved with three flat sheets extending over the top and bottom side of the elements and between the two elements. For lighter loads, fiber board material containing a single corrugated element may be used. For the filler illustrated in Fig. 3 comprising the sheet section 48 and the supporting cells 50—50 and 52 it is also desired to have the corrugations run in the same direction as the main sheet shown in Fig. 2. This characteristic is illustrated in the enlarged end view of the cell 50 depicted in Fig. 6. However, for the triangular inserts mounted in the cells on opposite sides of the diagonal section 60 it is preferred to run the corrugations in a direction opposite or perpendicular to the corrugations in the sheet section 48 and the cell walls. This is also shown in Fig. 6.

Fig. 4 is a vertical section through the finished pallet and illustrates in full lines the position of the strengthening cells therein. The full lines indicate the location of the outer cells 50—50 along the opposite sides of the pallet and the inner cell 52 in the middle between the two fork receiving openings 34—34. For pallets of wider extent, additional cells may be employed, such as two cells 86—86 shown in dotted outline against each of the side cells 50—50. In place of one central cell 52, two such cells may be disposed side by side as shown in dotted outline. Fig. 7 represents an arrangement whereby the square-shaped cells 50—50 are replaced by cells of wider extent having a rectangular cross section. Two such cells are illustrated in Fig. 7 at 88—88.

Shipping pallets constructed in accordance with this invention are capable of supporting loads from 4,000 pounds to 10,000 pounds or more. They may be made in various sizes, such as 48" x 48", 48" x 40", 48" x 36" and 36" x 36". The weight of the fiber board pallet of this invention compares very favorably with other types heretofore used. The conventional wooden pallets weigh approximately 60 to 70 pounds. Metal pallets heretofore used weigh approximately 75 to 100 pounds. In contradistinction pallets of the present inventor of the largest size mentioned above weigh approximately 14 pounds.

In Fig. 9 there is illustrated a modification of the invention wherein a pallet of fiber board material is associated with a container likewise of fiber board material to form a combined shipping pallet and container forming a single disposable unit. The pallet proper is indicated at 90 and

is constructed in the manner previously described including spaced apertures 92—92 for the lift forks and corner apertures 94—94 for receiving the stapling device. Surmounting the pallet and fixed thereto is a tray member of fiber board material comprising a flat base or bottom section 96 and four side walls 98. The base section has a dimension preferably just slightly less than that of the pallet so that when centrally mounted thereon a ledge or shelf 100 of approximately ½ inch extends completely around the pallet. The base of the tray is preferably adhesively secured to the top of the pallet but may be stapled or otherwise fastened thereto.

Removably supported upon the base of the tray and within the side walls 98 thereof is a rectangularly shaped sleeve of fiber board material consisting of four abutting side walls 102. The sleeve is preformed to slidably fit the walls of the tray and be supported in upright position as shown in Fig. 9. It may be die cut from a single elongated sheet of fiber board and folded on lines of weakness into four equal sized side wall sections. When dropped into position in the tray the side walls form an opened top container into which various types of articles for shipment may be packed. The sleeve may be made in an assortment of height sizes of from 12 to 36 inches high and the shipper may have several sizes on hand, one of which will be selected for the particular contents to be shipped. When loaded, the sleeve may be closed by a cover member 104 of fiber board material having the general formation of the tray but inverted and fitted upon the upper edges of the sleeve proper.

The ledge 100 previously described forms a supporting shelf upon which may be supported a removable frame of rigid material which holds the side walls of the sleeve against deformation while articles to be shipped are packed therein. Such a frame is illustrated in Fig. 9 and consists of four sections 106 three of which are hinged together as indicated at 108 so that it may be folded around the box. The fourth unhinged corner is left open when in non-use and is closed and secured in folded position around the box container by any suitable fastening means such as the hasps 110 on an unhinged edge of one section which are shaped to interlock with projections 112 on the unhinged edge of the opposite end section of the frame. The bottom edges of all four sections 106 of the frame rest on the ledge 100 when folded around the container and fastened into position. The frame will of course be made of a size to rest on the ledge and facially engage the side walls 102 of the container.

After the container on the pallet has been packed with the articles to be shipped, the cover member 104 is positioned thereon and metal straps 114 or other suitable means are then wrapped entirely around both the container portion and the pallet before the supporting frame is removed. The metal straps are inserted between the frame and the container portion of the unit. To facilitate this operation, vertical grooves 116 may be provided in the inside faces of the frame sections 106. After the straps have been tightly secured around the combined container and pallet in the manner shown in Fig. 10, the frame may be removed. A stevedore truck may lift and carry the wrapped unit by inserting its lift forks through the apertures 92—92. Due to its cheapness of construction, part or all of the unit may be discarded when the shipment reaches its destination.

What I claim is:

1. A load supporting shipping pallet composed entirely of fiber board comprising, in combination, a carton formed of fiber board sheet material folded and stapled into a substantially closed hollow structure of rectangular formation having relatively wide parallel spaced apart top and bottom sections and relatively narrow vertical side wall sections on all four sides thereof, a strengthening insert for the interior of the carton formed from a single sheet of fiber board and having the opposite end portions thereof folded upon themselves and stapled to form a pair of spaced apart bracing cells connected by the middle portion of the sheet, said insert being disposed in the interior of the carton and being of such a size that the bracing cells extend substantially the length of the carton adjacent to the opposite side wall sections of the carton and assist in supportingly spacing the top and bottom sections from one another, a third bracing cell formed of a sheet of fiber board folded and stapled upon itself and being disposed in the interior of the carton between and in spaced relation to said pair of bracing cells, said third bracing cell assisting in supportingly spacing the top and bottom sections of the carton from one another and cooperating with said pair of bracing cells to form two elongated passages in the interior of the carton of a size to accommodate two lift forks, and at least one end wall section of the carton provided with two spaced apart apertures aligning with said passages and being of a size to receive the lift forks.

2. The invention described in claim 1 characterized by the provision of apertures in certain of the side wall sections immediately adjacent to the vertical corner edges thereof of a size to admit a head of a stapling device for stapling overlapping portions of the carton together.

3. In a load supporting shipping pallet formed of fiber board sheet material folded and secured into a substantially closed hollow box-like structure of rectangular formation having relatively wide parallel top and bottom sections and relatively narrow vertical side wall sections connected to the top and bottom sections, a strengthening member in the hollow interior of said pallet formed from a single sheet of fiber board having successive portions thereof bent at right angles to one another to form a hollow open ended cell of rectangular cross section, said cell having a vertical height such that the top and bottom portions thereof respectively engage the top and bottom sections of the pallet, and a pair of similarly shaped bracing inserts in the hollow interior of the cell each formed from a single sheet of fiber board having successive portions thereof bent relative to one another to form a hollow insert of triangular cross section, said pair of inserts being arranged in the cell in complementary opposed relation on opposite sides of a plane diagonally dividing the cell and substantially occupying the entire cross sectional area of the cell to assist the cell in carrying loads imposed thereon.

4. In a load supporting shipping pallet formed of fiber board sheet material folded and secured into a substantially closed hollow box-like struc-

ture of rectangular formation having relatively wide parallel top and bottom sections and relatively narrow vertical side wall sections connected to the top and bottom sections, a strengthening insert in the hollow interior of said pallet formed from a single sheet of fiber board having successive portions thereof bent at right angles to one another to form a hollow open ended cell of rectangular cross section, said cell having a vertical height such that the top and bottom portions thereof respectively engage the top and bottom sections of the pallet, and a pair of strengthening inserts in said cell each formed from a sheet of fiber board bent into a triangular cross-sectional formation, said triangularly shaped inserts disposed within the cell with their respective hypotenusal faces in juxtaposition to one another and extending diagonally from one corner of the cell to the opposite corner thereof, the size of said triangular inserts being so related to the cross-sectional dimension of the cell that they are slidably received therein and have their shorter sides engaging the inner surfaces of the bent portions of the cell.

5. A strengthening load supporting cell formed of a single sheet of fiber board material having successive portions thereof bent at right angles to one another to form a hollow open ended cell of rectangular cross section, a pair of strengthening inserts in said cell each formed from a sheet of fiber board material bent into a triangular formation, said triangularly shaped inserts being disposed within the cell with their respective hypotenusal faces extending parallel to one another in slight spaced apart relationship and diagonally of the cell from one corner thereof to the opposite corner thereof, and the inner end portion of the sheet forming the said cell being bent so as to extend diagonally across the cell between the hypotenusal faces of said triangular inserts and dividing the cell into two triangularly shaped areas, the cross sectional dimension of each triangular insert being such that it slidably fits the triangular area of the cell within which it is received.

6. The invention described in claim 5 characterized by the use of corrugated fiber board for forming said cell and for forming said triangular inserts, the corrugations of said cell extending perpendicularly to the corrugations of the triangular inserts.

JAMES A. FARRELL.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
1,022,722	Clinger	Apr. 9, 1912
1,603,547	La Bombard et al.	Oct. 19, 1926
1,832,759	Bennett	Nov. 17, 1931
2,134,051	Kirby	Oct. 25, 1938
2,317,884	Clouston	Apr. 27, 1943
2,388,730	Fallert	Nov. 13, 1945
2,420,640	Acteson	May 20, 1947
2,444,183	Cahners	June 29, 1948
2,446,914	Fallert et al.	Aug. 10, 1948