Aug. 15, 1967 P. F. BOEYE 3,336,043

SHIPPING CONTAINER

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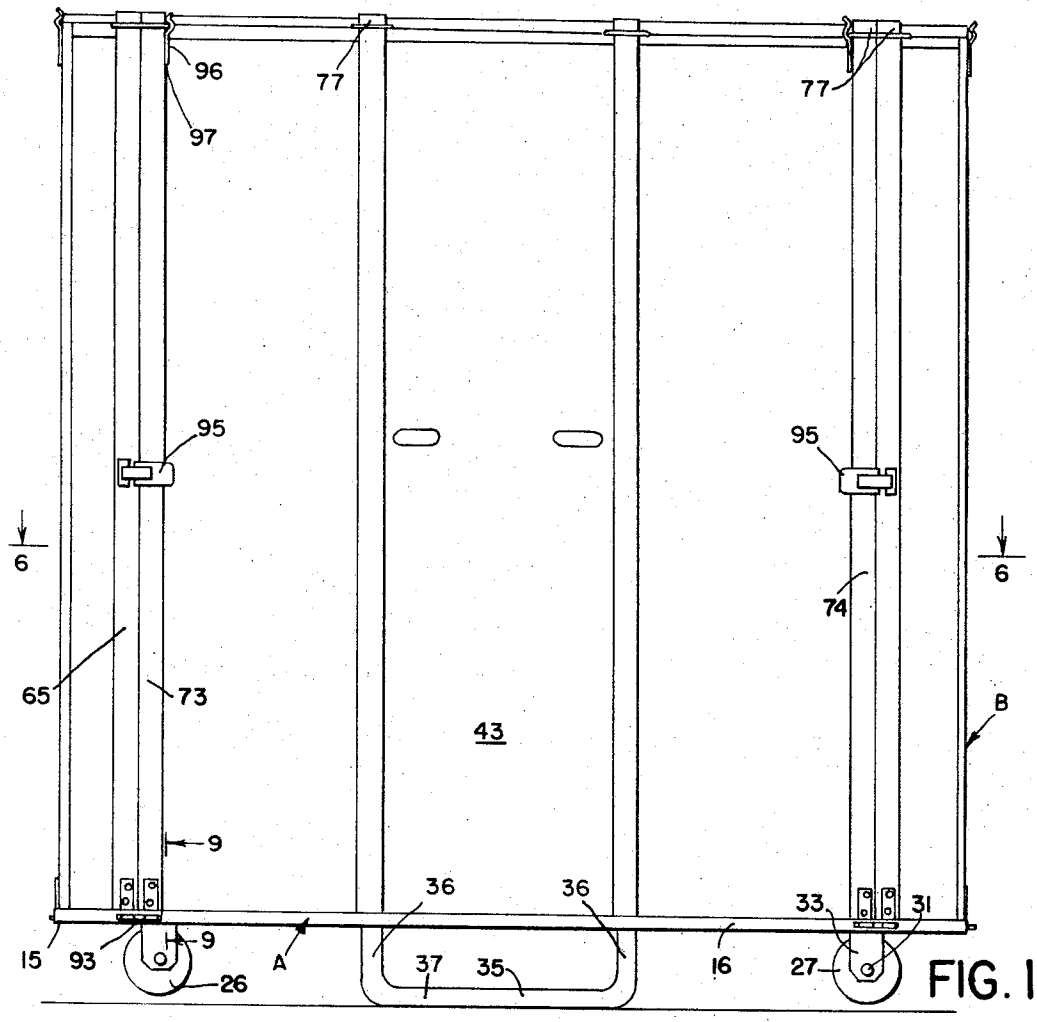


FIG. 1

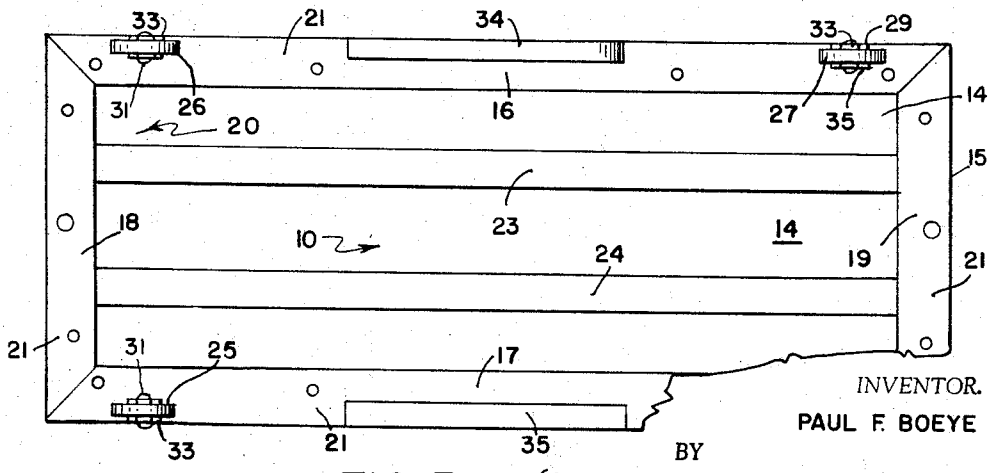


FIG. 5

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SHIPPING CONTAINER

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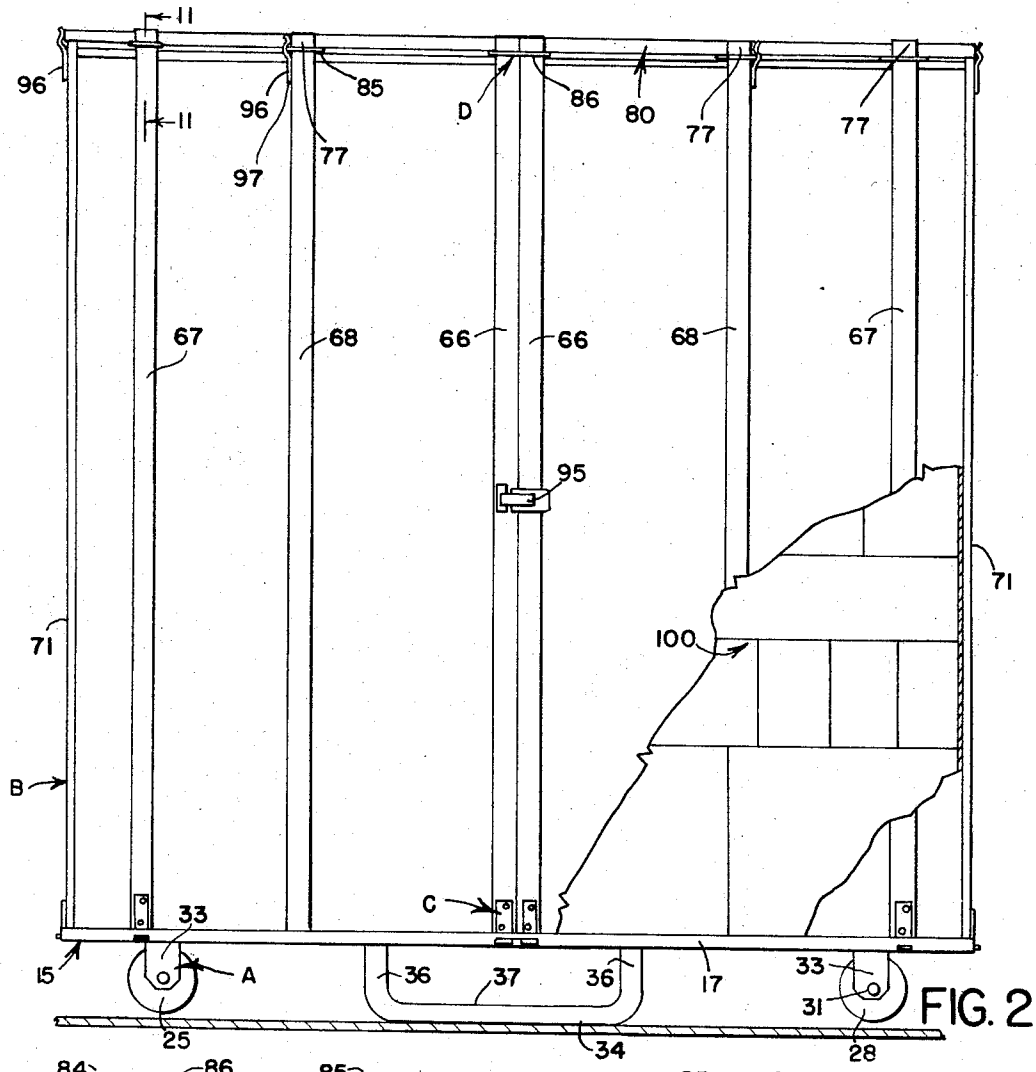


FIG. 2

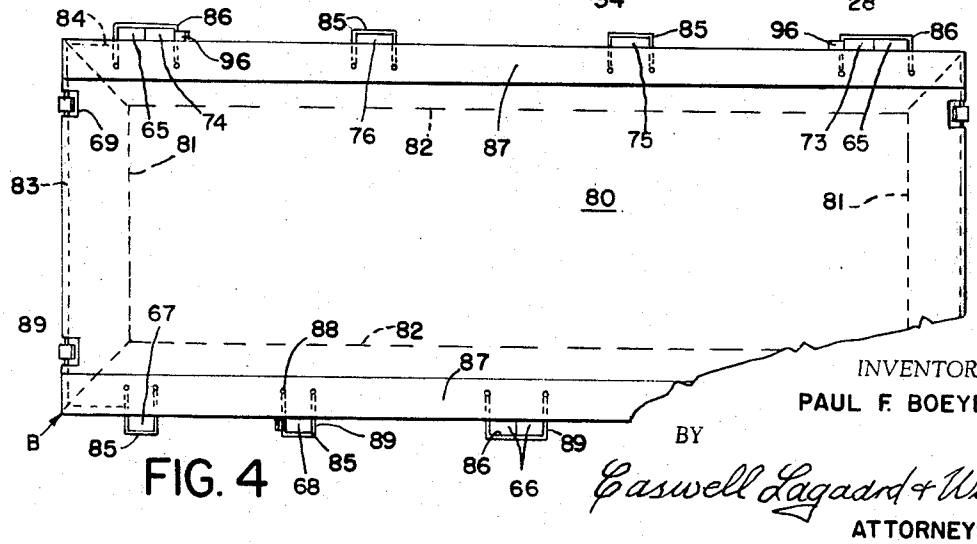


FIG. 4

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SHIPPING CONTAINER

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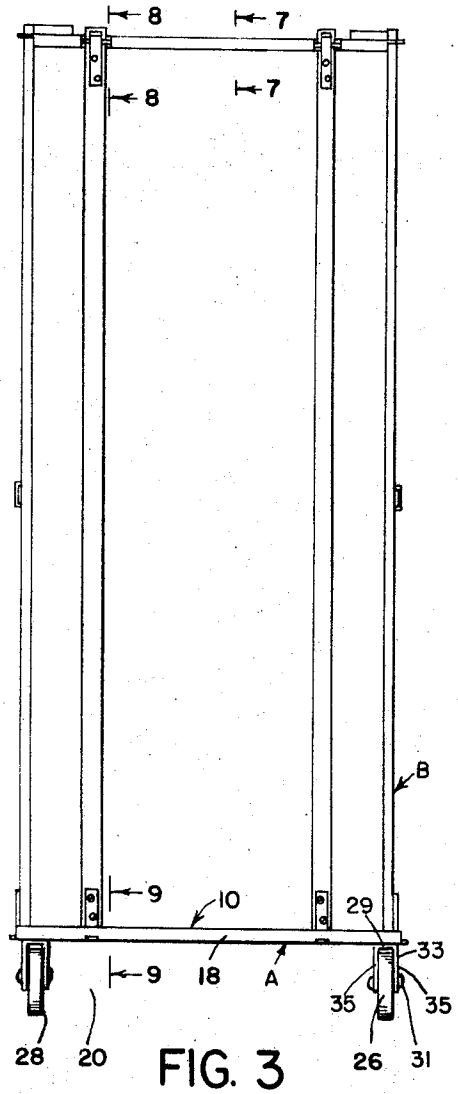


FIG. 3

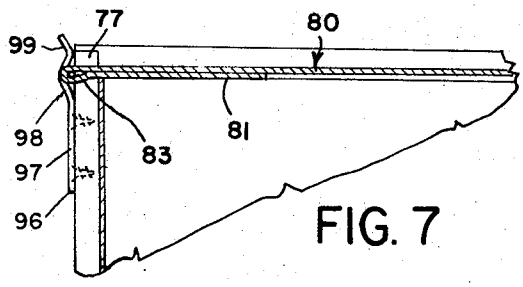


FIG. 7

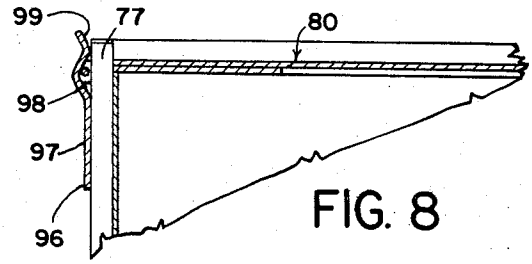


FIG. 8

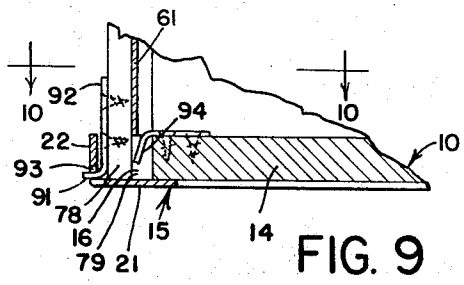


FIG. 9

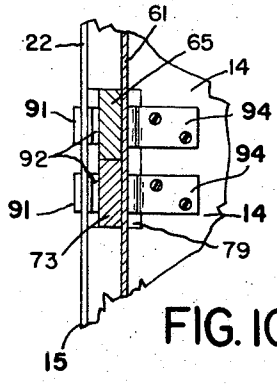


FIG. 10

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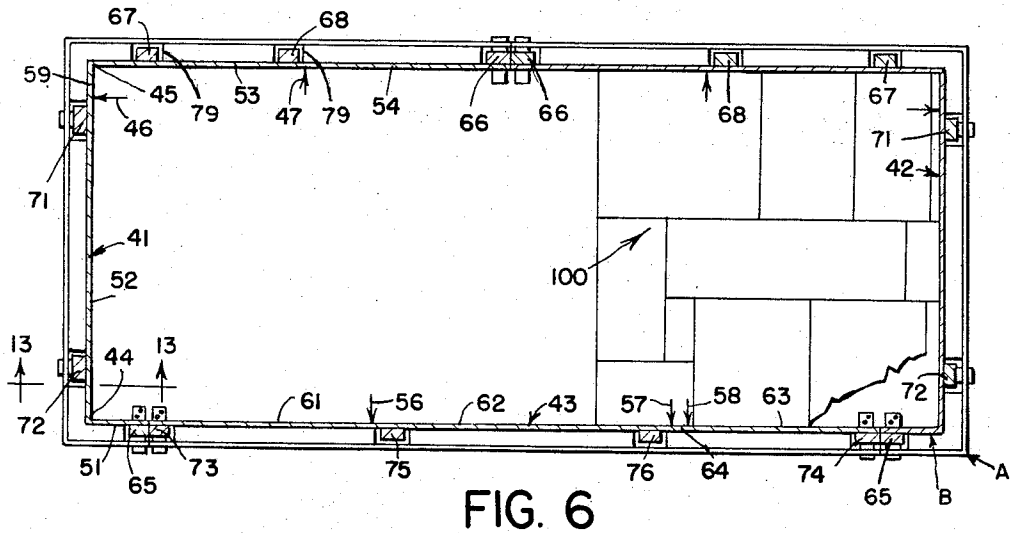


FIG. 6

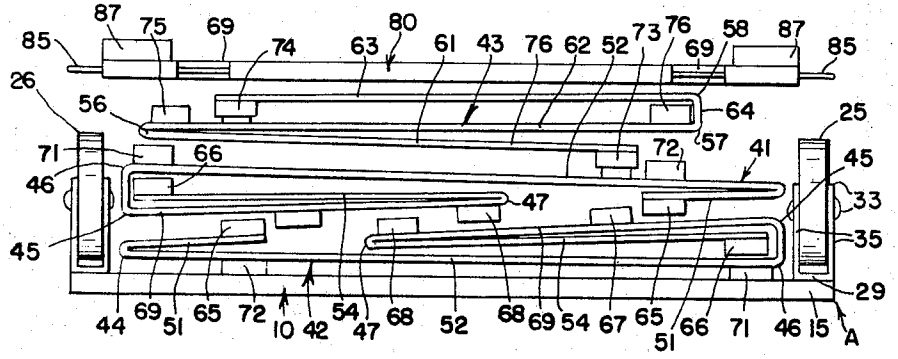


FIG. 12

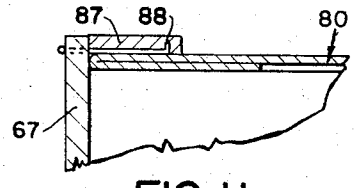


FIG. 11

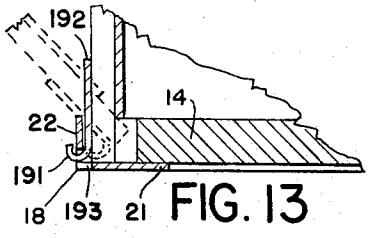


FIG. 13

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United States Patent Office 3,336,043 Patented Aug. 15, 1967

3,336,043

SHIPPING CONTAINER

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Filed Jan. 3, 1966, Ser. No. 518,420
10 Claims. (Cl. 280—79.1)

The herein disclosed invention relates to shipping containers and has for an object to provide a container in which packaged goods may be placed and which can be handled without the use of the transfer truck usually employed at railway stations or which can be directly loaded on freight trucks and shipped with the goods.

Another object of the invention resides in providing a shipping container which can be knocked down and collapsed into a compact bundle and returned to the shipper for further use.

A still further object of the invention resides in providing the container with a hand truck which can be wheeled about and on which is mounted a collapsible body which can be knocked down and supported on the truck.

An object of the invention resides in constructing the truck with a platform and with wheels at the corners of the platform.

Another object of the invention resides in constructing the truck with supports disposed on each side of the platform and between the wheels on the sides of the platform to leave a clear space therebetween.

A still further object of the invention resides in making the supports of such a height that the wheels clear the floor when the truck rests on the supports.

An object of the invention resides in constructing the body with a wall structure formed of corrugated board in three sections, and scored to divide the sections into panels, which when the board is folded fit in the space between the wheels and supports of the truck.

Another object of the invention resides in attaching vertical cleats to the board and having ends projecting above and below the upper and lower edges of the wall structure.

A feature of the invention resides in providing a top for the body and in providing means forming sockets for the reception of the ends of the cleats in both the top and platform of the truck.

An object of the invention resides in providing anchoring means for holding the lower ends of the cleats in the sockets of the platform and in providing attaching means for securing the upper ends of the cleats to the top of the body.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction herein illustrated and/or described.

In the drawings:

FIG. 1 is a front elevational view of a shipping container illustrating an embodiment of the invention.

FIG. 2 is rear elevational view of the shipping container.

FIG. 3 is an end elevational view of the shipping container viewed from either end.

FIG. 4 is a plan view of the shipping container.

FIG. 5 is an inverted view of the shipping container.

FIG. 6 is a sectional plan view of the shipping container taken on line 6—6 of FIG. 1.

FIG. 7 is a fragmentary elevational sectional view taken on line 7—7 of FIG. 3 and drawn to a greater scale.

FIG. 8 is a view similar to FIG. 7 taken on line 8—8 of FIG. 3.

FIG. 9 is a view similar to FIG. 8 taken on line 9—9 of FIG. 3.

FIG. 10 is a plan sectional view of the structure shown in FIG. 9 and taken on line 10—10 of FIG. 9.

FIG. 11 is a view similar to FIG. 7 taken on line 11—11 of FIG. 2.

FIG. 12 is a side elevational view of the truck inverted and the sections of the wall structure collapsed and folded and disposed in the space between the wheels.

FIG. 13 is a sectional view similar to FIG. 9 taken on line 13—13 of FIG. 6.

In the customary manner of handling a multiplicity of packages for shipment by rail, the packages are picked up by a hand truck in the factory or warehouse where the goods are disposed and brought to a motor-driven delivery truck and packed in the same. The goods are then delivered to the railway station and individually transferred from the delivery truck to the manually operated transfer truck in the railway station. The goods are again individually transferred from the transfer truck to the railway car, thus requiring handling twice before the goods are in the car. With applicant's invention the goods are placed in the shipping container which is delivered to the railway station, loaded on the railway car and shipped, thus avoiding the two extra handlings required by the present method.

The invention comprises a truck A and a collapsible knock down body B detachably mounted on said truck. These parts will now be described in detail.

The truck A comprises a platform 10 constructed with a floor 14 of heavy plywood and which is supported in a frame 15. This frame is constructed with a number of angle members 16, 17 and 18 and 19 mitered at their corners and welded together. These angle members have horizontal flanges 21 and vertical flanges 22 extending upwardly therefrom. Between the flanges 21 of the angle members 18 and 19 are flat bars 23 and 24 which are welded to said flanges. The floor 14 rests on the flanges 21 and the bars 23 and 24 and extends up to the flanges 22.

At the corners of the platform 14 are wheels 25, 26, 27 and 28 which are mounted in frames 33 which are U-shaped in form having legs 35 with connecting portions 29 therebetween. These connecting portions are welded to the flanges 21 of the angle members 16 and 17. The wheels 25, 26, 27 and 28 are rotatably mounted on pintles 31 which extend through the legs 32 of the frames 33.

Between the wheels 25 and 28 is a support 34 and between the wheels 26 and 27 is a support 35. These supports are constructed from rectangular tubular metal and are U-shaped in form having legs 36 with a connecting portion 37 therebetween. The legs 26 are welded to the flanges 21 of angle members 16 and 17. The wheels 25 and 26 are in axial alignment and likewise the wheels 27 and 28. Wheels 25 and 28 track with one another and likewise wheels 26 and 27. The support 34 is in alignment with wheels 26 and 27 and similarly support 35 is in alignment with wheels 25 and 28, thus leaving a space 20 between the two sets of wheels and supports.

The body B utilizes platform 10 as a bottom and has a wall structure 40 resting thereon. Overlying the wall structure 40 is a top 80.

The wall structure 40 is constructed from corrugated board which is divided in three sections 41, 42 and 43. The section 42 is identical with section 41 except that the same is of the opposite hand as compared to section 41. The same reference numerals will hence be used to designate corresponding parts and the description will not be repeated.

The section 41 has a number of vertical scores 44, 45, 46 and 47 which divide the section into panels 51, 52, 53 and 54 and a corner portion 59 between scores 45 and 46.

The section 43 has three scores 56, 57 and 58 which divide said section into panels 61, 62 and 63 and a corner portion 64 between the scores 57 and 58.

Adjacent the ends of the section 41 are provided vertically extending cleats 65 and 66. On the panel 53 there are provided two additional cleats 67 and 68, the cleat 68 being disposed adjacent the score 47 and the cleat 67 being disposed a short distance from the score 45. In addition, two more cleats 71 and 72 are attached to the panel 52 and are located the same distance from the scores 44 and 45, as the cleat 67 is positioned from score 45.

On the panels 61 and 63 of section 43 are provided cleats 73 and 74 which extend close up to the ends of the said section. In addition, two more cleats 75 and 76 are provided intermediate to the cleats 73 and 74, the cleat 76 being adjacent the score 57. All of the cleats have extensions 77 extending above the sections 41, 42 and 43 of the wall structure. Similar extensions 78 extend below the lower edges of these sections, the extensions 77 and 78 being best shown in FIGURES 7, 8, 9 and 13. The extensions 78 are received in sockets 79 in the floor 14 of the truck A.

Overlying the upper end of the wall structure 40 is a top 80. This top is constructed from corrugated board the same as the wall structure 40 and is formed with flanges 81 and 82 which are folded back upon the underside of the top proper, mitered at the corners and glued to the top. In the corner 83 formed between the top 80 and the flanges 81 are wire rods 89 having ends 84 bent outwardly from said rods at right angles thereto and extending into the corresponding corners formed by said flanges 82 and the top. The extensions 77 of the various cleats are received in sockets formed by U-shaped wire confines 85 and 86. These confines are located opposite the various cleats and the legs 89 of the same extended into the space between the flanges 82 and the top 80. Extending along the marginal portion of the top 80 from which the flanges 82 are turned, are cleats 87 which are glued to said top. The confines 85 and 86 have turned-up portions 88, FIG. 11, which extend into the cleats 87 and anchor said confines to the top.

The anchoring means for the wall structure at the platform C as shown in FIG. 13 consists of hooks 191 which have shanks 192 screwed to the cleats 71 and 72. These hooks are adapted to be hooked into openings 193 formed at the flange 22 of channels 18 and 19, when the folded structure is set at an angle as shown in dotted lines in FIG. 13. Other anchoring means for the panels 51, 53 and 54 of sections 41 and 42 consist of shanks 92 having fingers 91 projecting outwardly, said shanks being screwed to the lower ends of the cleats 65 and 66. These fingers are adapted to enter openings 93 formed in the flanges 22 of the angle members 16 and 17 of frame 15. When the sections 51, 53 and 54 are moved into erect position the extensions 78 of cleats 67 and 68 drop into the sockets 79 and the fingers 93 on shanks 92 secured to cleats 73 and 74 are urged into their corresponding sockets against the action of springs 94, which engage the cleats and urge the same outwardly to bring the fingers 91 into the openings 93. A similar construction is utilized with the cleats 66, 73 and 74. Where sections adjoin each other, the cleats are disposed adjacent one another, and the openings 93 are wide enough to receive the fingers on both of the adjoining cleats. The adjoining cleats may also be secured together intermediate their upper and lower ends by means of a hasp, or other type of latching device indicated at 95.

For holding the top 80 in position with the ends 77 of the cleats received in the confines 85 and 86, a number of spring catches 96 are employed best shown in FIGURES 7 and 8. These spring catches have shanks 97 secured to the various cleats. Indentations 98 are formed at the free ends of said catches and which are adapted to receive portions of the confines 85 and 86. Cams 99 on the outer

ends of said catches guide the confines 85 and 86 into the indentations 98 which hold the same in place. The catches 96 at the panels 52 engage the wires forming the said confines and also the rods 83 in the folds between the flaps 81 and the top 80. For this purpose a portion of the top 80 is cut away as indicated at 69 in FIGURE 4.

The method of using the invention is as follows:

A dolly, not shown, is employed in moving the shipping container about. A dolly found most desirable is one in which the end of the container may be raised by inserting the dolly under it, with the handle up, and then moving the handle downward. When such a dolly is employed the wheels at the opposite end of the container are brought into engagement with the floor and the supports disengaged from the floor. The shipping container may then be wheeled about and placed wherever desired. In loading the shipping container, the top 80 is removed. The section 43 which serves as a door is next removed by disengaging the latches 95 and forcing the fingers 91 inwardly against the action of the springs 94. When the said fingers clear the flange 22, the section 43 may be raised and removed from the sections 41 and 42 and the floor 14. The whole side of the shipping container is now open and may be loaded with the merchandise to be shipped. Merchandise previously packed in cartons or boxes may be piled, one upon the other to fill the container as indicate at 100 in FIGS. 2 and 6. When the container is filled, the section 43 is again applied and similarly, the top 80, to close the container. The dolly is then again employed and the container wheeled about.

For the purpose of returning the shipping container to the shipper, the container is knocked down by removing the top 80 and likewise the sections 41, 42 and 43 of the wall structure 40. The platform of the truck is then flat and clear with no projections extending outwardly therefrom. The truck is then inverted and the various sections folded along the score lines in the same. The score lines are so disposed that all of the sections are of a width less than the distance between the aligning wheels which provides the space 20 therebetween. The folded structures are then placed within the space 20 and stacked one upon the other as shown in FIGURE 12. It will be noted that the height of the container is substantially equal to its length, so that a compact package of the knocked down structure is procured.

The double scores 44, 45, 46 and 47 provide panels 59 forming the corners of the body B. The double folds also permit of folding the panels so that the various sections lie parallel to one another. After sections 41, 42 and 43 have been placed upon the bottom of the floor 18, the top 80 is placed on the uppermost of these sections and straps not shown placed about the assembled structure. The assembled structure is then ready to be shipped back to the shipper.

The advantages of the invention are manifest. The shipping container, with the contents therein, is loaded but once, shipped to destination and unloaded. The container may then be knocked down and returned to the sender for further shipment. The loaded container may be transported directly from the motor driven truck delivering it to the railway station, and into the railway car, and hence there is no loading of the individual parcels to the transfer truck at the railway station, and unloading them at the railway car, and again loading them in the delivery truck. The shipping container can be constructed of inexpensive material so as to reduce the cost of returning the same to the sender. Thus, economy in the transportation of various types of goods results in the use of the invention.

Changes in the specific form of the invention as herein described may be made within the scope of what is claimed without departing from the spirit of the invention.

Having described the invention, what is claimed as new and desired to be protected by Letters Patent is:

1. A shipping container comprising a truck with a body detachably mounted thereon, said truck having
(a) an elongated platform,
(b) laterally spaced wheels mounted at the ends of the platform,
(c) supporting means on the platform disposed intermediate the wheels at the ends of the platform,
(d) said supports having a straight longitudinal surface adapted to rest on the floor,
(e) said wheels being free from the floor when the supports rest on the floor and when the wheels at one end of the truck are sufficiently raised the wheels at the other end of the truck engage the floor and the supports are free from the floor,
(f) said body comprising a wall structure and a top,
(g) said wall structure being formed in sections,
(h) each section being formed with panels hingedly connected together along vertical lines,
(i) each section when folded being of a width conforming to the width of the truck,
(j) anchoring means for detachably securing the wall structure to the platform and
(k) attaching means for detachably securing the top to the wall structure.

2. A shipping container according to claim 1 in which the sections of the wall structure
(a) are constructed from corrugated board and scored to form the panels thereof, and
(b) the panels are stiffened with vertical cleats,
(c) said cleats having ends projecting above and below the upper and lower ends of the panels,
(d) the top and platform have sockets for the reception of the ends of the cleats, and
(e) the attaching means between the top and wall structure and the anchoring means between the wall structure and platform maintaining the ends of the cleats within said sockets.

3. A shipping container in accordance with claim 2 in which:
(a) the platform is constructed with a frame having
(b) angle members formed with
(c) a horizontal flange and
(d) an upwardly extending vertical flange
(e) a platform resting on the horizontal flange of said frame and having
(f) holes therein forming sockets for the ends of said cleats and which rest on the lower flange of said frame.

4. A shipping container in accordance with claim 3 in which:
(a) the anchoring means utilizes slots formed in the vertical flanges of said frame, and
(b) hooks attached to some of said cleats at the lower ends thereof and adapted to hook into said slots.

5. A shipping container in accordance with claim 3 in which:
(a) the attaching means has wire loops extending outwardly from the top of the container and forming the sockets for the upper ends of the cleats and

(b) catches secured to the upper ends of some of the cleats adapted to engage the loops to hold the top in place.

6. A hand truck comprising
(a) an elongated platform
(b) laterally spaced wheels at the corners of the platform,
(c) supports on each side of the platform, laterally spaced from one another and disposed intermediate the wheels on each side of the platform,
(d) said supports having a straight longitudinal surface adapted to rest on the floor,
(e) said wheels being free from the floor, when the supports rest of the floor and when the wheels at one end of the truck are sufficiently raised the wheels at the other end of the truck engage the floor and the supports are free from the floor.

7. A truck according to claim 6 in which the supports are constructed with:
(a) legs depending from said platform and
(b) floor engaging members at the lower ends of the said legs and connected thereto.

8. A truck according to claim 6 in which:
(a) the supports are U-shaped in form and each having
(b) a pair of spaced legs with an elongated ground engaging portion therebetween.

9. A truck according to claim 6 which
(a) the supports are disposed substantially in alignment with the wheels on each side of the truck to leave a clear space below said platform and between the wheels and supports on each side of said truck.

10. A shipping container in accordance with claim 1 in which
(a) the wheels at each end of the truck are laterally spaced from one another,
(b) the supporting means consists of two supports laterally spaced from one another,
(c) the supports are disposed on opposite sides of the truck in alignment with the wheels on each side of the truck to provide a clear space between the wheels and supports on each side of the truck extending throughout the length of the truck and
(d) the sections when folded being of a width less than the distance between the wheels and supports on the two sides of the truck to fit into said space.

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