United States Patent [19]

Goyarts

[11] **3,762,754**

[45] **Oct. 2, 1973**

[54] **UNIVERSAL COUPLING MEANS FOR CONTAINER HANDLING**

[75] Inventor: **Wynand M. J. M. Goyarts,** Battle Creek, Mich.

[73] Assignee: **Clark Equipment Company,** Buchanan, Mich.

[22] Filed: **Sept. 13, 1971**

[21] Appl. No.: **179,739**

[52] **U.S. Cl.**..... **294/67 R,** 294/67 DA, 294/81 SF

[51] **Int. Cl.**..... **B66c 1/10**

[58] **Field of Search**..... 294/67 R, 67 DA, 294/67 BB, 81 SF; 105/366 R; 214/390, 392, 394, 396; 248/361 R; 24/211 R, 211 K

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Primary Examiner—Evon C. Blunk
Assistant Examiner—Johnny D. Cherry
Attorney—Kenneth C. Witt et al.

[57] **ABSTRACT**

A universal coupling device in a cargo container spreader which is operable to engage in rigid locked relation a plurality of types of containers by means of a manipulatable variety of top-lifting coupling or latching mechanisms, including engaging container types having a variety of corner casting designs each of which requires a differently configured coupling. The couplings are so constructed that they are actuatable remotely by an operator to different positions in relation to one another as required to correctly engage the different container corner coupling receptacle types.

13 Claims, 13 Drawing Figures

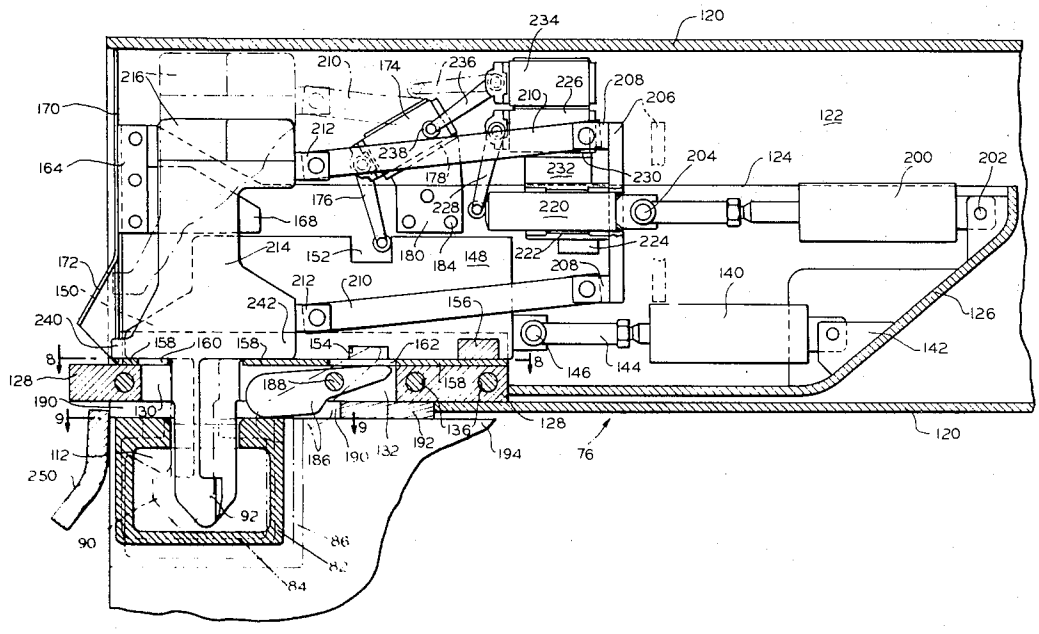
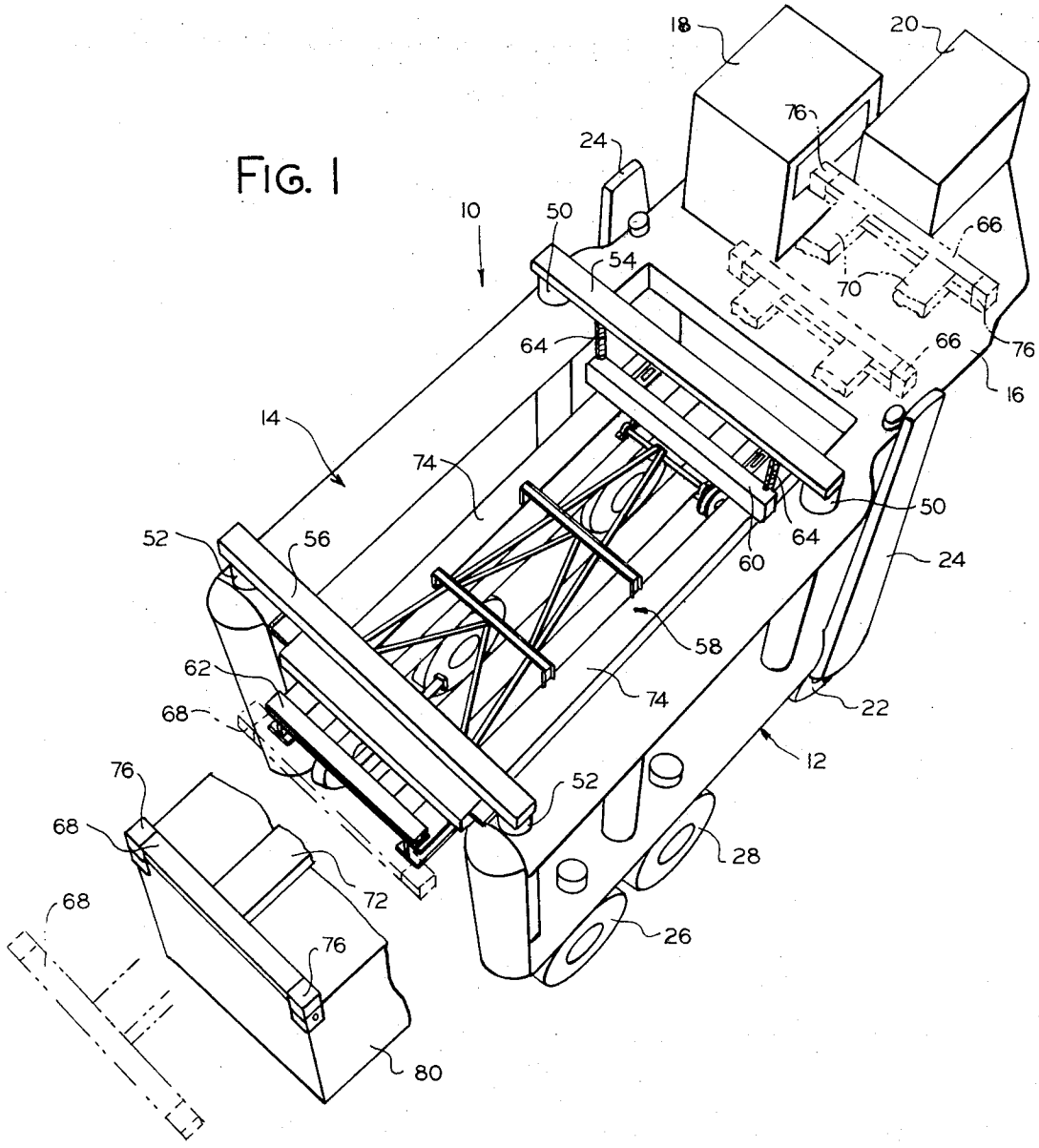


FIG. 1



INVENTOR
WYNAND M. J. M. GOYARTS
BY
J. P. Wiesler
ATTORNEY

FIG. 7

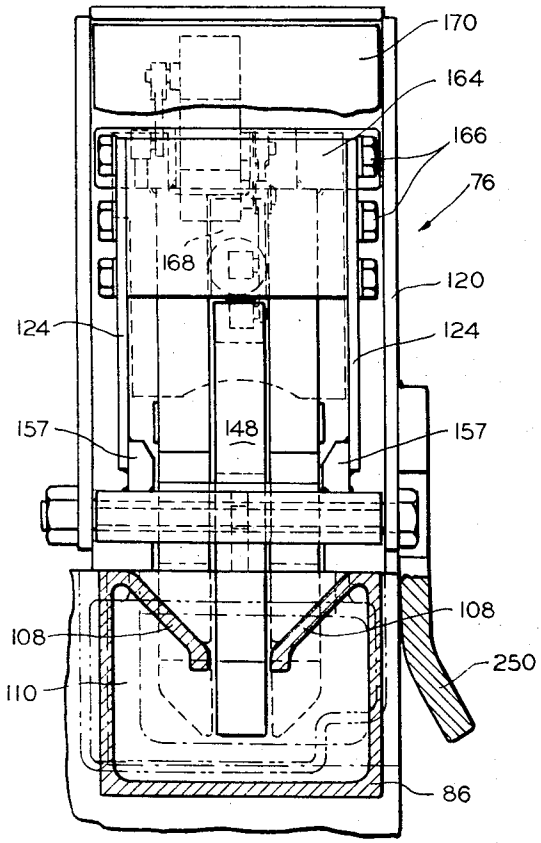


FIG. 9

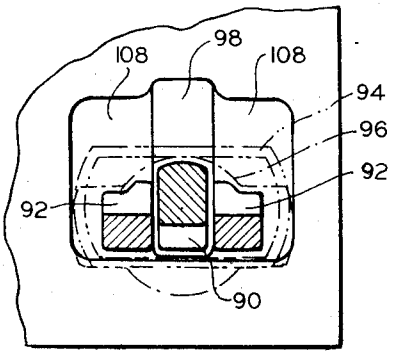


FIG. 3

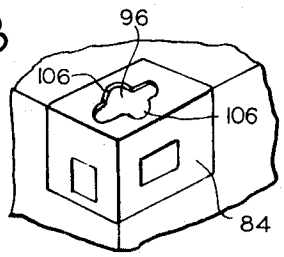


FIG. 4

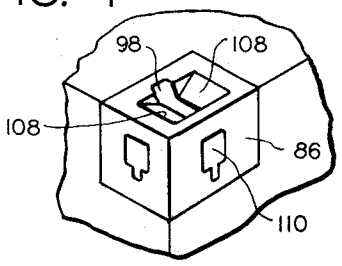
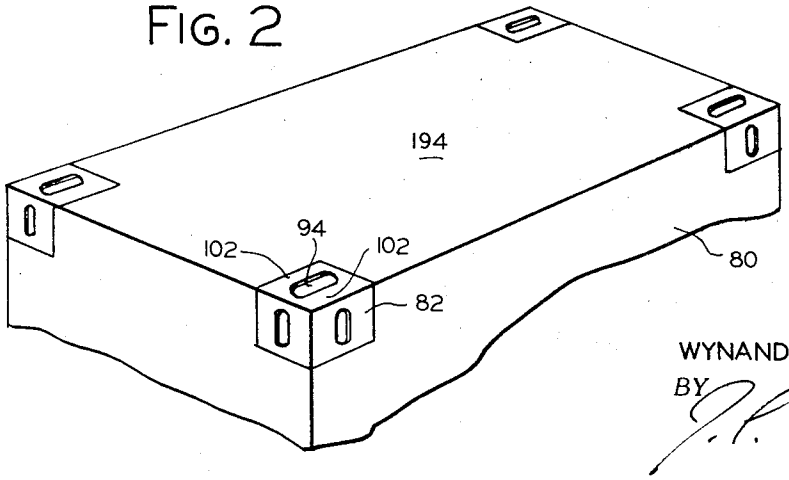


FIG. 2



INVENTOR
WYNAND M. J. M. GOYARTS
BY
J. F. Wiemer
ATTORNEY

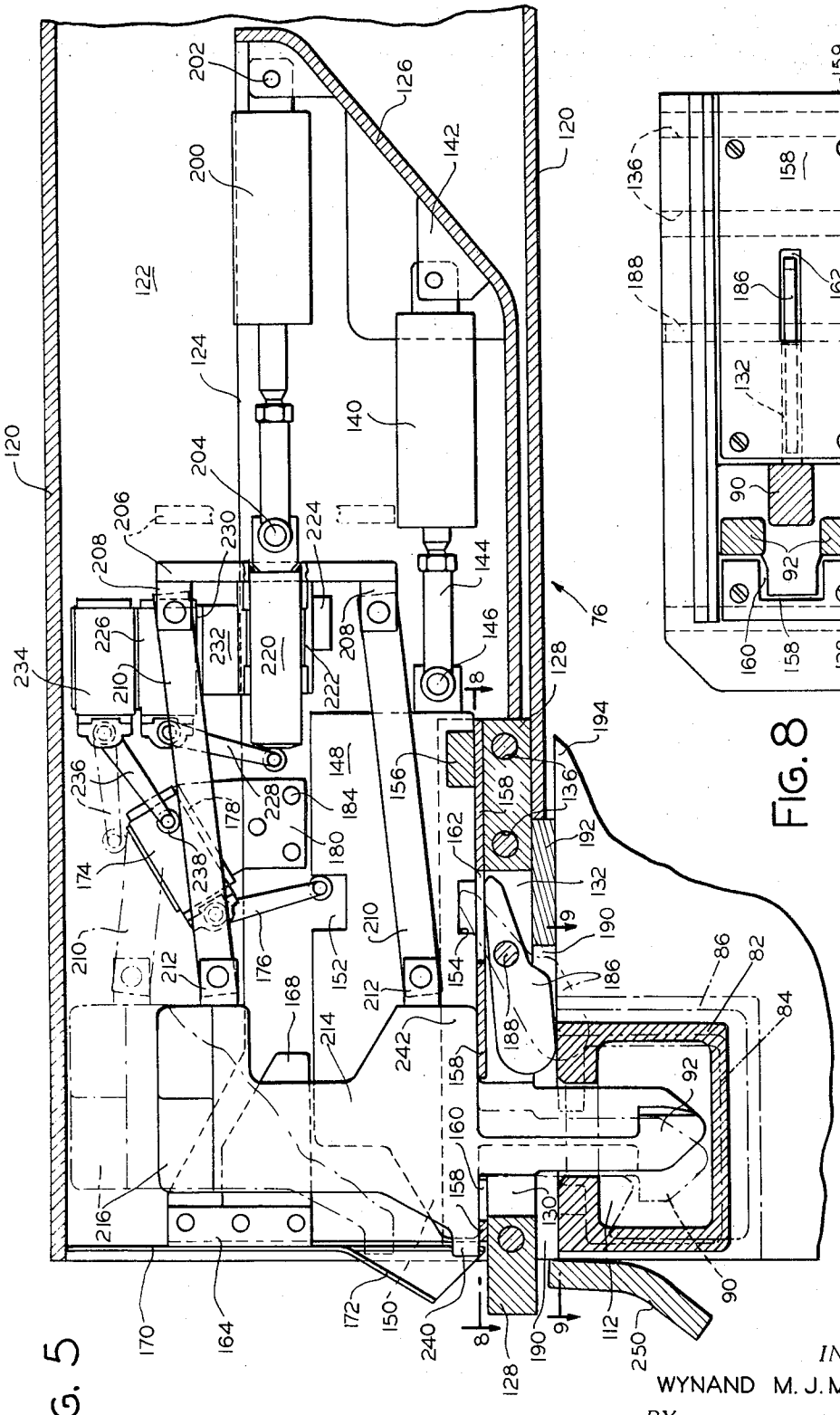


FIG. 5

FIG. 8

INVENTOR
WYNAND M. J. M. GOYARTS
BY
ATTORNEY

FIG. 6

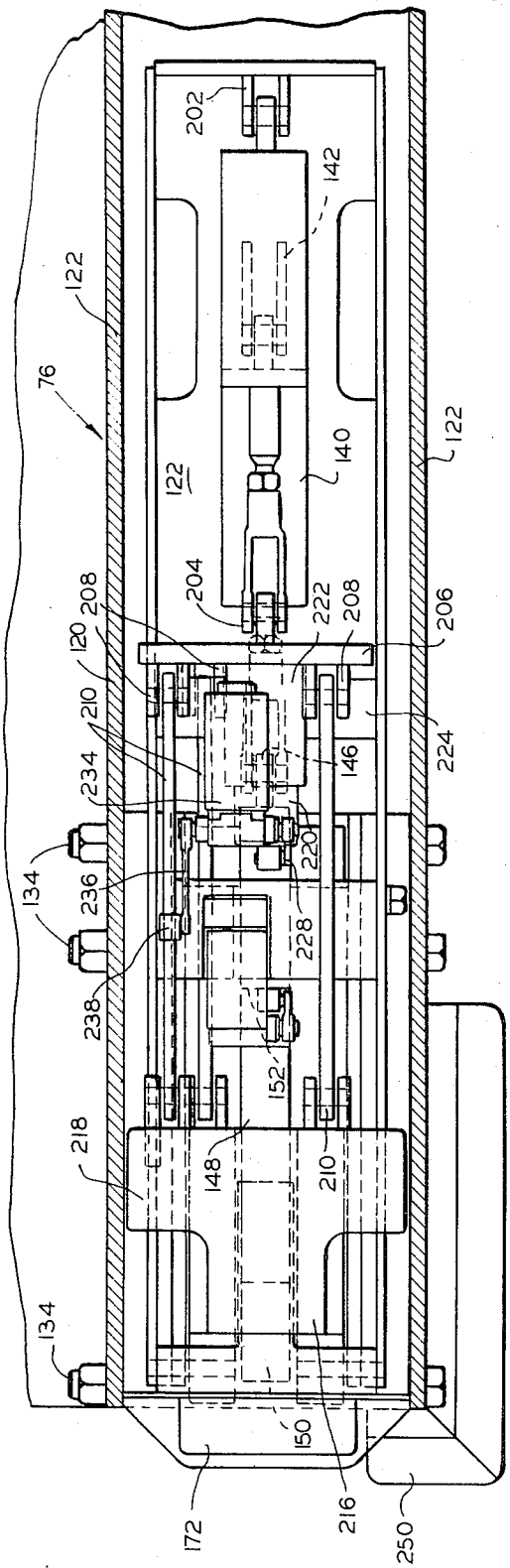


FIG. 13

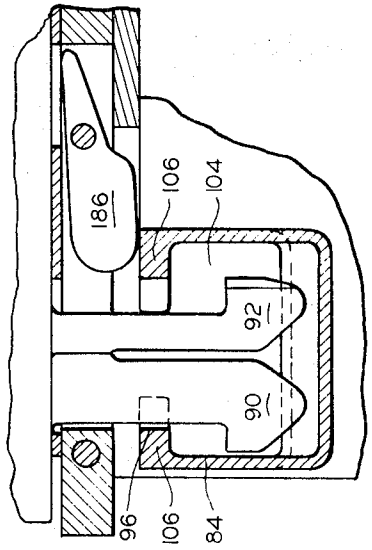
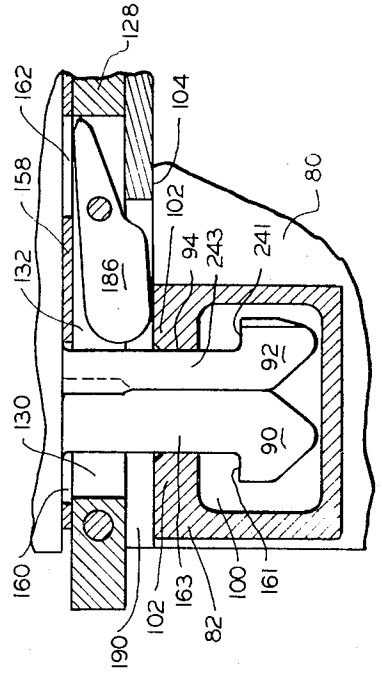


FIG. 12



INVENTOR
WYNAND M. J. M. GOYARTS
BY
ATTORNEY

FIG. 10

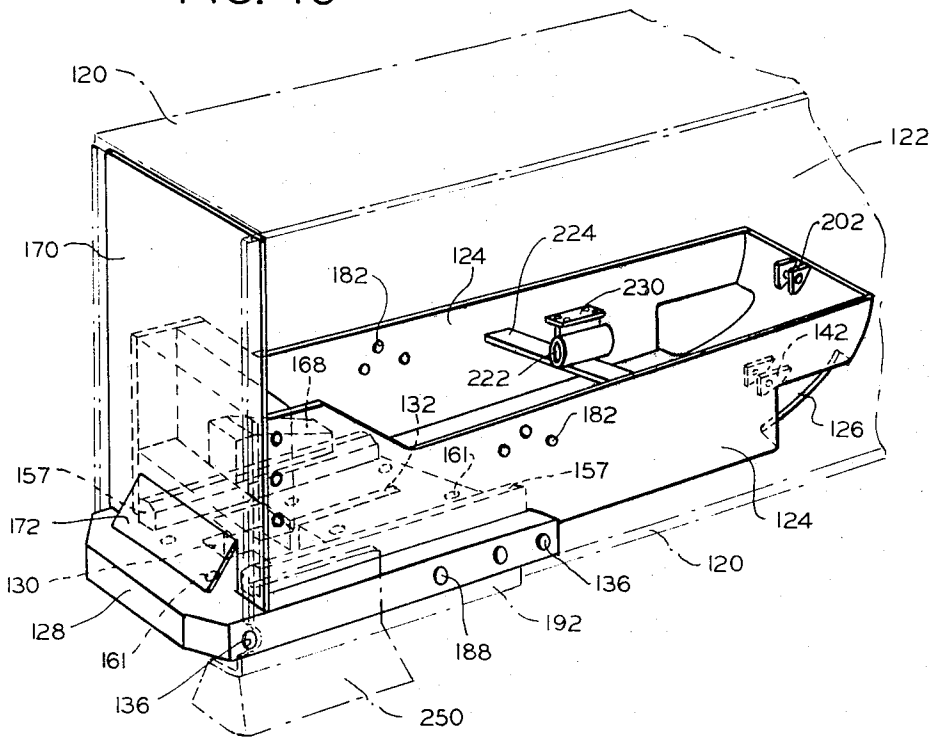
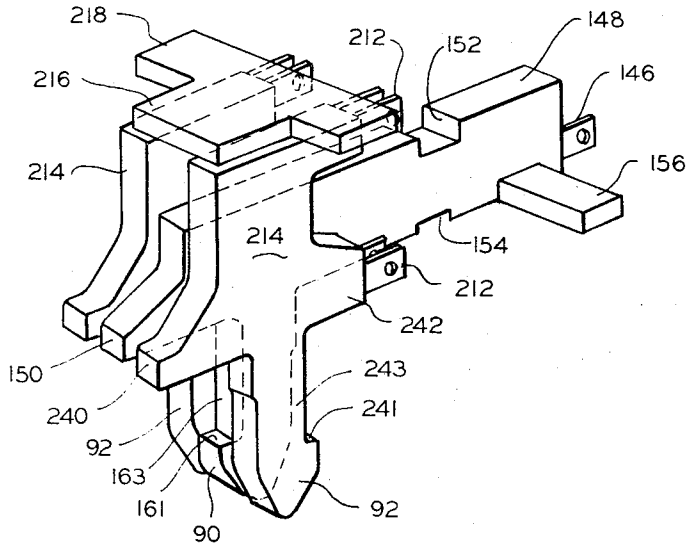


FIG. 11



INVENTOR
WYNAND M. J. M. GOYARTS
BY
J. P. Wiesle
ATTORNEY

UNIVERSAL COUPLING MEANS FOR CONTAINER HANDLING

BACKGROUND OF THE INVENTION

The field of art to which the invention pertains includes container handling devices.

The present invention is concerned with the problem of handling expeditiously and with a minimum amount of equipment a variety of types and sizes of cargo-containers which, as a complex of containers and container handling equipment in the transportation industry, has come to be known as "containerization." This term embraces the concept of transporting freight packed in large crane or vehicle portable containers from the shipper's dock to the consignee's dock by any type of carrier, or by different carriers, without intermediate opening of the containers or any handling of the goods in less than container load quantities.

A desirable pick-up arrangement for a container resides in cooperating construction of a container in a hoist device therefor (known as a "spreader") which enables coupling of the container and the spreader at the extreme upper corners of the container. The design of cargo-containers has rapidly assumed the type which is of rectangular configuration in three perpendicular planes and comprises four top corner casting receptacles or fixtures at the corners of the upper surface capable of receiving coupling hooks, latches, or any such connecting means and is adapted to project downwardly from the four corners of a spreader.

Differences in container length have necessitated either the use of spreaders of different sizes or an expansible spreader capable of adjustment to various lengths for use with straddle carrier type vehicles or crane equipment capable of engaging and transporting by means of the spreader such cargo-containers, e.g., at freight terminals, at which capability is desird for receiving all types of containers for delivery or forwarding further along respective routes of shipment. Differences in container lengths have been adopted to accommodate inevitable differences in the size of shipments, the size of carriers, and other factors in order to contribute flexibility and economy to the handling of freight particularly in view of standardization of the height and width of all such containers. Various length containers are manufactured by different manufacturers which have adopted independent and non-standard corner receptacle constructions resulting in certain disadvantages of present spreader designs. To illustrate, containers of 20, 30 and 40 feet in length are made by one manufacturer which has adopted a container corner receptacle design of a first type, containers of 24 feet are made by a second manufacturer which has adopted a significantly different corner receptacle design, and containers of 35 feet are made by a third manufacturer having still a third different corner receptacle design.

Not only do the various length containers necessitate either a plurality of spreaders adapted to handle each different length container, or longitudinally adjustable spreaders, but each spreader of one manufacturer's group requires presently a different top-lift coupling design adapted particularly for use with one or another of the various container corner receptacle designs. The result has been in part either to restrict a given containerization operation to using containers only of a particular manufacturer, or, in the event containers of more than one manufacturer are handled using various corner receptacle types, the proliferation of spreader equipment having all the necessary types of top-lift coupling devices embodied therein.

It will be appreciated, of course, that different containers of any single length may embody corner receptacles of various designs suitable for use with a complementary fixed length spreader having a manipulatable top-lift coupling mechanism, such as shown in U.S. Pat. No. 3,344,940, capable of coupling with complementary corner receptacle configurations of such single length containers. Likewise, it is usable with either multiple adaptor type spreader units utilizing "master" and "slave" spreaders such as shown in U.S. Pat. No. 3,493,258, or in longitudinally adjustable single spreader assemblies such as shown in U.S. Pat. No. 3,558,176, or as is available from the assignee of the present application under its Part No. 2302039.

SUMMARY

My invention comprises a universal coupling device adapted especially for use with top-lift spreaders of any type, viz., fixed, adjustable or adaptor types, for engaging two or more different types of corner casting receptacles of containers in any containerization system wherein the spreader and the containers may be engaged, transported and deposited by any one of a variety of devices, including van carrier vehicles and cranes. The designs of container corner receptacles may vary widely, thereby necessitating correlatd variations in my universal coupling design, the essence of which is in concept of providing coupling means capable of locking engagment with coupling receptacles having various configurations. A main object of the invention is therefore to provide spreader means having a single integrated coupling device at each corner engageable with any one of a variety of configurations of container corner coupling receptacles.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an elevated rear quarter perspective view of a van carrier vehicle using my invention;

FIG. 2 is a perspective view of the top portion of a container utilizing corner coupling receptacles of one exemplary design;

FIG. 3 is an enlarged partial view of one corner of a container utilizing a corner coupling receptacle of a second exemplary design;

FIG. 4 is similar to FIG. 3, but utilizes a corner coupling receptacle of a third esemplary design;

FIG. 5 is an enlarged cut-away view in side elevation of one of the transverse beam ends of the spreader which houses my invention, including a cut-away schematized corner section of the container with which my coupling device is adapted to operate and having superimposed in the container corner the three different coupling receptacle configurations of FIGS. 2–4;

FIG. 6 is a plan view of FIG. 5, but does not include the three superimposed coupling receptacles;

FIG. 7 is a left end view of FIG. 5;

FIG. 8 is a section taken along line 8—8 of FIG. 5, but does not include the three superimposed coupling devices;

FIG. 9 is a partial sectional view taken along line 9—9 of FIG. 5 showing the relationship of the coupling hooks of the invention to a superimposed showing of

the three exemplary container corner receptacle designs in non-engaged condition;

FIG. 10 is a perspective view of the end portion of one of the spreader beams which houses the coupling device;

FIG. 11 is a perspective view of the actuatable coupling books which are adapted to be mounted in the beam housing portion of FIG. 10; and

FIGS. 12 and 13 are partial sectional views showing the hook portions of the coupling device in two different actuated positions for engaging upon elevation of the spreader the container corner receptacles of FIGS. 2 and 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in detail to the drawings, a straddle type van carrier is illustrated generally at numeral 10 having an open bay formed between a pair of longitudinally extending parallel side frame constructions 12 and 14 secured together at the forward ends by a transverse frame from which is suitably supported a rearwardly cantilevered operator's platform 6 having an operator's station 18 and an engine and a transmission compartment 20 located thereon, the power train components being suitably connected to a pair of steering-driving rear wheels 22 through a differential drive chain and sprocket mechanism, the latter being located in a pair of vertical housings 24. Additional pairs of dirigible wheels 26 and 28 are mounted upon the opposite side frames in tandem relationship.

Two pairs of longitudinally spaced hydraulic cylinder and telescopic upright assemblies 50 and 52 are mounted in opposite end portions of the U-shaped bay formed by the side and end frame assemblies of the vehicle, and are connected in pairs as shown to the opposite ends of each of a pair of transversely extending lifting arches 54 and56 located in opposite end portions of the vehicle frame for vertical movement with the hydraulic cylinder and upright assemblies 50 and 52. A spreader frame shown generally at numeral 58 is suspended in the U-shaped vehicle frame from lifting arches 54 and 56 by suitable chain and sprocket mechanism which is located at each assembly 50 and 52 and is connected to respective ones of a pair of longitudinally spaced fixed transverse beams 60 and 62 for elevating the spreader frame from a ground level position to substantially the maximum design elevation of the lifting arches at a 2:1 ratio in relation to the lifting arches. A portion of the pair of rear lifting chains is shown at 64.

An extensible portion of the spreader is represented schematically by three illustrated longitudinally spaced positions of opposite transverse beam ends 66 and 68, beam end 66 being mounted from the ends of a pair of longitudinal transversely spaced extensible support members 70 and beam ends 68 being mounted from a single central extensible longitudinal support member 72. Support members 70 and 72 are adapted to be suitably supported from carriages mounted within the fixed main portion of the spreader 60, 62, 74, and operator controlled motor driven sprocket and chain means, not shown, may be located within the spreader for selectively driving the transverse beam ends 66 and 68 to any selected longitudinal extension position.

The construction of the van carrier 10 and extensible spreader 58 are not a part of this invention, except as may be in functional combination with the universal coupling device to be described below, and so need not be described in further detail herein. The assignee of this application manufactures various models of such vehicles, and one such model is disclosed in greater detail in above referred to U.S. Pat. No. 3,344,940. The extensible spreader frame may be as constructed pursuant to assignee's Part No. 2302039, also referred to above.

The universal coupling device of the present invention is mounted in each corner section of the spreader at numeral 76 for engaging in a well-known top-lift relationship upper corner coupling receptacles of a container, such as shown partially at numeral 80, for lifting the container in the open U-shaped bay of the vehicle and transporting the same to any desired location.

Three different container constructions are represented by FIGS. 2, 3 and 4, each embodying a different type top corner coupling receptacle as illustrated. Any spreader usable for engaging any such cntainer, must, of course, utilize a coupling device which is particularly designed to engage with the corner receptacle type which is to be engaged to transport the container in question. These exemplary corner receptacle designs, which as mentioned above are currently used by different container manufacturers, are identified generally by numerals 82, 84 and 86. Each of the container corners comprise in essence open box-like receptacles designed to receive in differing lock engaging relationship, one or both of coupling hook elements 90 and 92 of the universal coupling assembly mounted in each beam end portion 76 (best shown in FIGS. 11, 12 and 13) through variously configured apertures each in the upper surfaces of ea corner receptacle as shown at numerals 94, 96 and 98, respectively. Aperture 94 is oblong in shape, and provides access to a compartment 100 in which the short dimension of access opening 94 forms with the upper receptacle wall opposed wall portions 102, 102 which are adapted to be engaged in a manner to be described by coupling hooks 90 and 92 when elevated from the position of the hooks shown in FIG. 12.

Aperture 96 is of a rounded cross form comprising two intersecting oblong apertures, the short one of which extends in the same relative direction as does the short side of aperture 94, and which provides access to an interior compartment 104 of the container corner 84 also adapted to receive, as best shown in FIG. 13, coupling hooks 90 and 92 which when elevated engage in lcoked relationship the opposed inwardly extending upper wall portions 106, 106.

Aperture 98 of container corner 86 is also generally oblong in shape, in this instance having its long dimension transverse of the container and depressed in the top wall of the corner receptacle in that it is formed between two opposed inwardly and downwardly biased ramp portions 108, as shown best in FIG. 7. Aperture 98 provides access to a compartment 110 within which is formed at the outer wall an inwardly extending nose 112 (FIG. 5) which is adapted to be engaged in locking relationship with coupling hook 90 when it is elevated from the position shown in FIG. 5, coupling hooks 92 having been interrupted during insertion of hook 90, through aperture 98 by ramp portions 108, so that only coupling hooks 90 of my invention are effective to engage and lift a container having corner receptacles of the type shown in FIG. 4.

The structure, control and manipulation of the universal coupling device in use with the exemplary corner receptacles of FIGS. 2, 3 and 4 will now be described.

Each of the end portions 76 of end beam 66 and 68 of the spreader contain the coupling latch assembly and parts shown in FIGS. 5–13. Each beam end 76 comprises a hollow boxed-in portion 120 forming a substantially closed compartment 122 in which is housed actuating and control means for coupling hooks 90 and 92. Interiorly of the beam end is an inner housing for the coupling latch mechanism as best shown in FIG. 10. It comprises a pair of parallel elongated plate members 124 connected together at the lower longitudinal and inner end edges by a transverse plate 126 which curves upwardly as shown at the inner end, the outer ends of said parallel plates being supported from a relatively thick metal slab 128 in which is formed a T-shaped apertue 130 having a thin longitudinal slot 132 extending inwardly thereof. Slab 128 is secured by three bolts 134 which extend through the side members of the box-like beam end and through openings 136 in the slab thereby securing the fixed inner housing assembly to the beam end. Removal of bolts 134 permits the complete universal coupling mechanism and housing to be removed from beam 120.

A double-acting hydraulic cylinder assembly 140 is pin connected at brackets 142 centrally of housing plate 126 and is operatively connected to coupling hook 90 by piston rod 144 which is connected at 146 to an elongated sliding block 148 having an outer nose portion 150. A pair of vertically spaced transverse slots 152 and 154 are formed in the top and bottom edges of block 148, and a lower transverse tie-bar 156 is secured rigidly in another notched portion of block 148 and abuts at its opposite ends a pair of spaced reinforcing bars 157 to prevent cocking of block 148 when it is actuated rectilinearly inwardly or outwardly of the beam end 76, as will be described. Bars 157 secure side plates 124 to slab 128. A pair of slide plates 158, best shown in FIG. 8, are connected by screws 159 in tapped openings 161 to slab 128 (FIG. 10). Plates 158 provide a smooth support surface for sliding movements of support blocks of the coupling hooks, and form longitudinally spaced apertures 160 and 162 in registry with opening 130 and slot 132, respectively. Depending downwardly from and forming a part of block member 148 is the single central coupling hook 90, which includes an outwardly extending toe portion 161 at the unsupported end of a shank 163. A transverse block member 164 extends between housing side plates 124 and is secured thereto by a plurality of bolts 166, having secured thereto and extending inwardly and centrally therefrom a projection 168 which extends over the outer portion of slide block 148 to prevent movement upwardly thereof in the beam end. An end cover plate 170 is secured to block member 164 to close the end of the beam. It is flared outwardly at 172 to provide space for outward movement of the nose end 150 of block 148.

A switch unit 174 has a pivoted operating arm 176 which cooperates with notch 152 of slide block 148 and functions through a light circuit, not shown, to provide the vehicle operator a visual indicator of whether the coupling hook 90 is in a neutral of a load engaging position, as will be described more fully below. The switch unit is supported from a biased ramp plate 178 which is connected to a transverse support member 180 secured at its opposite ends by bolts to housing side plates 124 through openings 182 in the side plates and openings 184 in the support member. Member 180 also functions as a keeper preventing the inner end portion of block 148 from rising away from plate 158.

A pivoted stop member 186 is mounted in slot 132 by a pivot pin 188 which extends transversely through the slab 128 (FIG. 8). It is gravity unbalanced in a counterclockwise direction as shown in FIG. 5 so that when the spreader frame is not in abutment with the top of a conainer the left end portion of stop 186 extends down through an outwardly directed U-shaped opening 190 formed centrally in the bottom end plate portion 192 of the bottom plate 120 of each beam end. When in such position, and with cylinder 140 retracted, stop member 186 assumes the broken line position shown in FIG. 5 wherein the tip end engages notch 154 and prevents actuation of block 148 and coupling hook 90 out of a neutral position. When the spreader engages a container the container top surface 194 interfaces with bottom end plate 192 of each beam end which causes stop 186 to pivot out of notch 154 to the solid line position indicated in FIG. 5, thereby permitting actuation of coupling hook 90.

A second hydraulic cylinder 200 is pivotally mounted above and inwardly of cylinder 140 from brackets 202, the rod end being pivotally connected at 204 to an actuator plate 206 having connector brackets 208 at the four corner portions thereof from which are mounted pivoted link rods 210 which are connected pivotally at outer ends to aligned brackets 212 mounted from the inner edges of a pair of parallel mounted slidable support block members 214 integral with the coupling hook members 92 which depend downwardly therefrom. FIG. 11 shows most clearly the assembly of hook elements 92 and block members 214, the latter being secured together at the upper edges by a connecting transverse T-shaped plate 216 having the cross member 218 thereof extending transversely to maintain a close clearance with the beam side plates 122 (FIG. 6) in order to prevent any longitudinal misalignment or cocking of the hook 92 assembly in operation. A tubular projection 220 is secured rigidly to plate 206, is coaxial with cylinder 200, and is slidably located in a support sleeve 222 which is in turn supported by a transverse bar 224 secured to housing side plates 124.

Tubular member 220 both supports the link rod assembly and is adapted to actuate a switch device 226 by a pivoted lever arm 228 which responds to the position of piston 200 to indicate to the operator through a lighting circuit, not shown, the position longitudinally of coupling hooks 92, i.e., when the cylinder is extended the coupling hooks are located in a neutral non-engaging position, and when retracted are in a condition for container engagement, as will be described below. Extensions 240 and 242 of the upper plate portions of hooks 92 are adapted to contact and slide upon the upper surface of slide plates 158 during operation of the coupling hooks, the same as is the bottom edge of block member 148 of hook 90. Each hook 92 has a toe portion 241 at the unsupported end of a shank 243 which extends in a direction opposite to the toe portion 161 of hook 90. Switch device 226 is mounted on a platform 230 which is located adjacent one side of sleeve 222, being supported by a vertical plate 232 from the support member 224. Mounted directly on top of switch unit 226 is a third switch unit 234 which

is adapted to be operated by one upper link rod **210** which is transversely offset for vertical alignment with a pivoted lever arm **236** connected to unit **234** at the transverse outer side thereof. Lever **228** is connected to switch unit **226** at the transverse inner side thereof (FIG. **6**). A roller **238** at the outer end of lever **236** is in continuous contact with the upper edge of the one link rod **210** and is adapted to operate the switch to indicate to the operator through the lighting circuit the lowered or raised condition of coupling hooks **92**, as will be explained below.

In operation, the van carrier **10** is maneuvered to locate within its bay a container to be engaged. When the vehicle and spreader are in correct aligned position to engage the container the spreader is lowered onto the top of the container during which operation final guidance into aligned position is aided by flared corner plate members **250**. During this maneuver the four corner coupling hook assemblies should be in a neutral position in which the indicator lighting circuits as controlled by switch units **174, 226** and **234** are in an "off" or unlit condition, whereupon the spreader frame may be lowered into abutment with the top surface of the container in which position one or both coupling assemblies **90** and **92** have entered the respective compartments of the corner coupling receptacles depending upon the configuration thereof as in FIGS. **2, 3** or **4**. If the receptacle of FIG. **4** is to be engaged hook **90** enters the compartment thereof, but hook assembly **92** is actuated upwardly out of operative relationship to the receptacle by virtue of the engagement thereof by ramp plates **108**. Superimposition of the various receptacle designs as shown in FIGS. **5, 7** and **9** clarifies the relationship of the operative surface of each in relation to the hook assemblies, particularly when compared with the individual showing of the hook assembly ready for engagement in each individual of the three different receptacles as shown in FIGS. **5** (in broken lines), **12** and **13**.

In respect to FIG. **12**, it will be noted that the hooks **90** and **92** have been actuated in opposite directions by retracting cylinder **200** from a normally extended position and extending cylinder **140** from a normally retracted position which has moved the shanks **163** and **243** of the respective hooks into abutment with the adjacent surfaces of top wall portions **102** of the receptacle. In such condition block member **148** has been actuated leftwardly and upper supports **214** for hook members **92** rightwardly, as seen in FIG. **12**, which actuates switch units **174** and **226** by means of lever arms **176** and **228**, respectively, which in turn indicates to the operator on the indicator light panel the actuated condition at each of the four corners. Following this lift cylinders **50** and **52** may be energized to elevate the spreader which engages the hook portions of each assembly **90, 92** with the bottom surfaces of the upper plate portions **102, 102**, thereby suspending the container rigidly from the spreader for subsequent transport and deposit as desired in a freight terminal yard, or delivery to any common carrier type adapted to handle such containers.

The same operation is carried out in respect of a container utilizing the corner receptacle design of FIG. **3**. Referring to FIG. **13**, it will be noted that the cylinder actuation of the hooks **90** and **92** in opposite directions effects a different separation thereof than in the case of the FIG. **2** receptacle since the edges of the upper wall portions **106, 106**, into abutment with which the hook shanks are actuated, are more widely spaced; otherwise, the operation may be the same. Of course, the containers to be engaged may be of the same or different lengths, and the length of the spreader frame is adjusted or accommodated as required.

In respect of the corner receptacle design of FIG. **4** it will be recalled that ramp plates **108, 108** interfere with the entry of hooks **92** into the compartment **110** such that upon lowering hook **90** into compartment **110** hooks **92** are elevated. In fact, the entire hook assembly **92, 214** is elevated to the broken line position shown in FIG. **5** with link arms **210** pivoting upwardly about brackets **208**. The one offset link arm actuates switch lever **236** to the broken line position thereby actuating switch unit **234** and a light indicator to inform the operator of the condition of each hook assembly **92**. Proper alignment of hook assemblies **92** is maintained during this operation by T-plates **216**, link arms **210**, and by the opposite side portions of ramp plates **108** which engage the tip ends of hooks **92**.

From the above it will be observed that in the use of the receptacle design of FIG. **4** only hooks **90** are utilized to engage and lift the container upon energization of cylinders **140** to extend hooks **90** the short distance outwardly illustrated in FIG. **5** to engage the nose portion **112** of each such receptacle, hook assemblies **92** remaining in elevated inoperative condition during any such operation.

Indicator lights are provided the operator on a panel board for each of the hooks **90** and **92** of each beam end assembly of the spreader to indicate the condition thereof in relation to any container engaged or to be engaged and irrespective of the corner receptacle design. Thus, the operator is at all times informed of the operative or inoperative relationship between each corner of the spreader and any container. If, for example, prior to engagement the operator should mistakenly energize cylinder **140**, stop member **186** prevents actuation out of a neutral position of hook **90**, and said hook will not be prevented from entering the respective receptacle. Since cylinder **140** is fully retracted when hook **90** is in neutral there is no special means required to prevent hook movement in retraction.

On the other hand, when cylinder **200** is fully extended hooks **92** are in a neutral postion. Should cylinder **200** be mistakenly energized prior to engagement in a receptacle, hooks **92** will be actuated inwardly of the beam end which will actuate the indicator light connected to switch unit **226**. However, hooks **92** will be prevented from entering any of the receptacles of FIGS. **2, 3** or **4** since it will be located such that subsequent lowering of the spreader upon the container top will cause hooks **92** to contact the upper wall of any of the corner receptacles which will actuate the hook assembly to the broken line position shown in FIG. **5**, thereby pivoting the link arms **210** upwardly and actuating switch unit **234** which will signal the raised condition of the hooks to the operator. However containers utilizing the receptacle designs of FIGS. **2** and **3** cannot be properly engaged because of the elevated non-operative condition of hooks **92**. In that situation the indicator lights warn the operator not to attempt to lift the container, even though hooks **90** may be engaged following insertion into the receptacles.

From the above-detailed description it will now be apparent to persons skilled in the art that my invention

effects an important advance in the art, and that the essential concept is subject to many variations and modifications in design in addition to the exemplary embodiments herein as respect of the use thereof with particular corner receptacle designs, all without departing from the spirit and scope of the invention. The concept of universal applicability of a single spreader unit to either a small or wide variety of container types is, to my knowledge, essentially novel, and it i contemplated that many changes may be made in the form and arrangement of parts, including substitutions, additions, omissions and manner of operation of the parts, without necessarily departing from the scope of the invention as defined in the following claims.

I claim:

1. Coupling means comprising a pair of hook members each having a shank extending lengthwise between a supported end and a free end and a toe member extending laterally in one direction from one shank and laterally in the opposite direction from the other shank, said shanks being in side-by-side relation in a generally vertical plane which extends transversely to the lateral directions of said toe members, a first coupling receptacle having a first configuration adapted to receive said hook members in a first coupling relation, a second coupling receptacle having a second configuration adapted to receive independently said hook members in a second coupling relation, and means for actuating said hook members in opposite directions such that said shanks are actuatable at least partially out of said side-by-side relation when located in either said first or second receptacle to effect said first or second coupling relation.

2. Coupling means as claimed in claim 1 wherein a third coupling receptacle having a third configuration is adapted to engage said hook members in a third coupling relation wherein one of said hook members is rendered inoperative to engage the third coupling receptacle and the other hook member is received in the third receptacle and actuated to effect a third coupling relation therewith.

3. In combination, a spreader having coupling means adapted for container corner top-lift pick-up, first and second containers having first and second coupling receptacle types adapted for successive engagement by said coupling means, said coupling means including first and second hook members receivable as a unit successively in each of said first and second receptacle types preparatory to full coupling engagement, and means for actuating said first and second hook members in opposed substantially rectilinear movement to a first position in which both hook members engage said first receptacle and to a second and different position in which both hook members engage said second receptacle.

4. A combination as claimed in claim 3 wherein said actuating means is operator controlled, is mounted in each corner portion of the spreader to effect opposed reciprocable straight-line movement of said first and second hook members when the latter are received in either said first or second receptacles, said hook members when in said first engaging position being spaced one from the other a greater distance than when in said second engaging position.

5. A spreader as claimed in claim 3 wherein one of said hook members is receivable in a third coupling receptacle type preparatory to coupling engagement and is actuatable by said actuating means to engage said third receptacle, said other hook member being prevented by the third receptacle from operative engagement therewith while said one hook member is received in said third receptacle.

6. A combination as claimed in claim 3 wherein said first and second hook members are located in each corner section of the spreader and are guided independently in predetermined paths of movement during actuation thereof to both said first and second positions, and means responsive to movements of each hook member for indicating to the operator the engaged or not engaged condition of the hook member in respect of each coupling receptacle.

7. A spreader as claimed in claim 3 wherein said first hook member comprises a single element and said second hook member comprises a pair of parallel spaced elements straddling the first element.

8. A spreader as claimed in claim 7 wherein said actuating means includes first and second actuators connected to said first and second hook members, and guide members connected to each hook member and slidable in guided rectilinear movement to effect said first and second said positions.

9. In combination, a spreader having coupling means adapted for container top-lift pick-up, first and second containers having first and second coupling receptacle designs for successive engagement by said coupling means, said coupling means including first and second members, said first member being receivable in each of said first and second receptacles preparatory to coupling engagement therewith and said second member being receivable with said first member in one only of said receptacles preparatory to coupling engagement therewith, and means for actuating said first and second members to a first condition where engaging said first receptacle and to a second condition when engaging said second receptacle.

10. A spreader as claimed in claim 9 wheein said actuating means includes privoted link means connected to the second member such that during engagement of the first member with said second receptacle said second member is elevated to prevent coupling engagement therewith.

11. In a containerization handling system wherein containers have coupling receptacles located in the upper corner portions thereof, a spreader having coupling means adapted for container top-lift pick-up, including first and second latch members receivable in each receptacle preparatory to coupling engagement between the spreader and any such container, said latch members each including a shank extending lengthwise between a supported end and the free end and a toe member extending laterally in one direction from one shank and laterally in the opposite direction from the other shank, said latch members being in normal side-by-side relationship when not engaged, and actuating means connected to said latch members for actuating the latter in opposite directions out of side-by-side relation while located in said coupling receptacle to effect a rigid coupling relation initially upon elevation of said spreader, the support end of each latch member including means guiding each said latch member in substantially rectilinear movement during actuation thereof to either engage or disengage the coupling receptacle.

12. A spreader as claimed in claim 11 wherein a safety device is operable to permit actuation of one of said latch members of each pair thereof only when the spreader abuts the container and the latch members are located in the respective coupling receptacles.

13. A coupling means as claimed in claim 11 wherein the supported end of each of said latch members includes a support member secured to the shank and supported from the spreader, each said support member being actuatable with the respective latch member rectilinearly.

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