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U.S. DISTRICT COURT
DISTRICT OF COLORADO

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JEFFREY P. COLWELL
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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

Civil Action No. '13 -CV-01594 -REB-MEH

DAVID L. HILDEBRAND, an individual,

Plaintiff,

v.

BOULDER COUNTY,
Defendants.

COMPLAINT FOR DAMAGES FOR PATENT INFRINGEMENT

JURY TRIAL DEMANDED

Plaintiff, David Hildebrand, an individual, alleges as follows:

I. PARTIES

1. Plaintiff, David Hildebrand, is an individual and resident of this judicial district.

2. Defendants Boulder County. (hereby referred to as Boulder), are believed to be a County organized and existing under the laws of the State of Colorado.

II. JURISTICTION AND VENUE

3. The Court has original jurisdiction over plaintiff's First through Fifth Claims for relief pursuant to 28 U.S.C. 1338(a).

4. Venue in this District is proper under 28 U.S.C. 1400(a) in that said defendants are engaged in Commercial and/or County activities in this District.

III. OPERATIVE FACTS

5. Plaintiff, David Hildebrand (hereinafter "Hildebrand"), is an owner of United States Patent **#5,651,527**; **"SUPPORT STRUCTURE FOR USE WITH HEAVY EQUIPMENT"**.

6. Defendants Boulder are currently using said invention in there snow sanding/plowing operations and equipment, without authorization, and in violation of Plaintiffs U S Patent 5.651,527.

7. On July 29th, 1997 the invention was granted protection under United States Patent No. 5,651,527. A copy of said Patent (hereinafter "the 527 patent") is attached hereto, labeled Exhibit "A" and incorporated herein by reference.

COMPLAINT FOR DAMAGES

8. Hildebrand is informed and believes that defendants Boulder, or are now engaged; in the manufacturing and/or usage of said invention, which infringe the '527' patent.

IV. CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF

(Infringement of U.S. Patent No. 5,737,981 against Defendant)

9. Hildebrand hereby incorporates paragraphs 1 through 8 as though fully set forth at this point.

10. On the basis of the actions of defendants as alleged above in paragraphs 8, defendant has violated Hildebrand's rights under 35 U.S.C. 271(a) by making, using, selling or offering for sale, within the United States, subsequent to July 29, 1997, and without the express or implied authority or consent of Hildebrand, the invention described in Claims 1-20 of United States Patent No. 5,651,527.

11. As a direct proximate result of Defendants infringing acts, Hildebrand has been damaged in amounts to be determined at trial.

COMPLAINT FOR DAMAGES

12. Plaintiff further alleges, on information and belief, that Defendant has committed the infringing act as alleged herein after having been notified of the fact that said acts infringed U. S. Patent No. 5,651,527, and therefore said Defendants' infringing acts have been and are being committed willfully and intentionally.

13. As a result of the facts alleged in paragraph 12, Hildebrand is entitled to an increase in damages, and an award of attorney's fees and costs, pursuant to 35 U.S.C. 284 and 285.

SECOND CLAIM FOR RELIEF

(Injunction)

14. Hildebrand incorporates paragraphs 1 through 13 as fully set forth at this point.

15. As a result of Defendants' infringing acts, Hildebrand is suffering, and unless Defendants' infringing acts are enjoined will continue to suffer, irreparable and incalculable damage.

16. Hildebrand is therefore entitled to, and prays for, a preliminary and permanent injunction under 35 U.S.C. 283, barring Defendants, and all parties acting by, through or on behalf of said Defendants, from engaging in any further manufacture, use, sale, offering of sale, or exploitation of any products or devices which infringe Hildebrand's Patent

WHEREFORE, Hildebrand prays for judgment as hereinafter set forth.

THIRD CLAIM FOR RELIEF

(Seizure and/or destruction of infringing goods)

17. Hildebrand incorporates paragraphs 1 through 16 as though fully set forth at this point.

COMPLAINT FOR DAMAGES

18. Hildebrand alleges on information and belief that as a result of Defendants' infringing acts there exists, within the United States, devices and materials which infringe Hildebrand's patent as well as marketing and promotional materials in which said infringing devices are offered for sale, in violation of 35 U.S.C. 271(a).

19. Pursuant to 35 U.S.C. 283 Hildebrand prays for an order directing the immediate seizure and/or destruction of all of said infringing devices and related marketing materials.

WHEREFORE, Hildebrand prays for judgment as hereinafter set forth.

FOURTH CLAIM FOR RELIEF

(Accounting)

Hildebrand incorporates paragraphs 1 through 20 as though fully set forth at this point.

20. Hildebrand is informed and believes that Defendants have realized income as a result of their infringing acts.

21. Hildebrand requests that Defendants be ordered to furnish full accounting of all such income or other value realized from their infringing acts.

WHEREFORE, Hildebrand prays for judgment as hereinafter set forth

FIFTH CLAIM FOR RELIEF

(Imposition of constructive trust)

22. Hildebrand incorporates paragraphs 1 through 23 as though fully set forth at this point.

COMPLAINT FOR DAMAGES

23. Hildebrand is informed and believes that Defendants have realized and continue to realize income from their infringing acts.

24. Hildebrand requests that all income realized by Defendants from their infringing acts be placed in constructive trust for the benefit of Hildebrand.

WHEREFORE, Hildebrand prays for judgment as hereinafter set forth.

V. PRAYER FOR DAMAGES

Hildebrand seeks the following relief:

1. General Damages.
2. A preliminary and permanent injunction barring Defendants, and all persons acting by, through or on their behalf, from using, making, distributing, selling or offering for sale any devices currently sold, or any other devices, which infringe U. S. Patent 5,651,527.
3. An order directing the immediate seizure and/or destruction of all devices which infringe U. S. Patent No. 5,651,527
4. Punitive damages according to proof.
5. Enhanced damages according to proof.
6. An award of all costs and attorney's fees incurred in this action.
7. An award of any other costs associated with the filing and maintaining of this action that the Court can enter, using its inherent power.

COMPLAINT FOR DAMAGES

PLAINTIFF DEMANDS A TRIAL BY JURY AS TO ALL CAUSES.

Respectfully submitted this 18 day of June, 2013

David L. Hildebrand
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(303) 466-1938 FAX.

The United States of America



The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

Bruce Lehman

Commissioner of Patents and Trademarks

PLAINTIFF'S EXHIBIT A

Marjorie V. Turner

US005651527A

United States Patent [19]

Clarkson

[11] Patent Number: 5,651,527

[45] Date of Patent: Jul. 29, 1997

[54] **SUPPORT STRUCTURE FOR USE WITH HEAVY EQUIPMENT**

[76] Inventor: **Michael Clarkson**, 3035 15th St., Boulder, Colo. 80304

[21] Appl. No.: **505,672**

[22] Filed: **Jul. 21, 1995**

[51] **Int. Cl.**[6] **F16M 5/00**

[52] **U.S. Cl.** **248/676**; 248/354.5; 414/498

[58] **Field of Search** 414/498; 248/188.5, 248/354.5, 676, 677, 678

[56] **References Cited**

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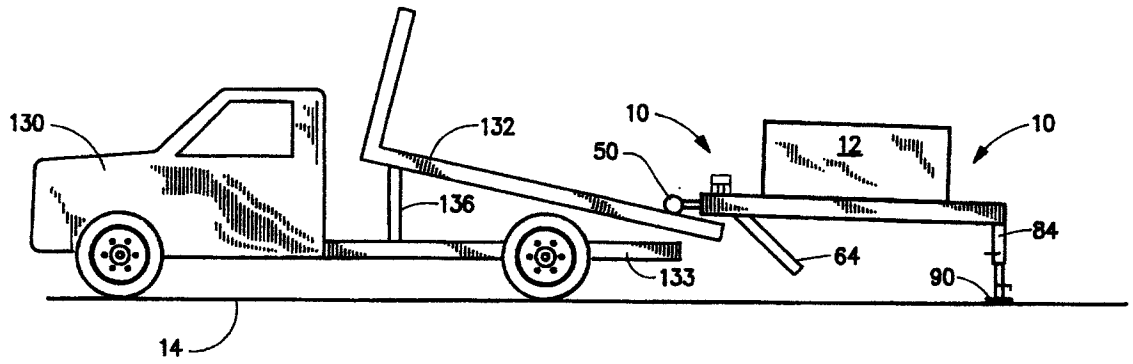
Primary Examiner—Ramon O. Ramirez

Attorney, Agent, or Firm—Timothy J. Martin; Michael R. Henson

[57] **ABSTRACT**

A support structure is adapted to support vehicle-mounted equipment in an elevated stored state above ground and further adapted to mount onto a bed of a vehicle to assist in loading and off-loading of equipment. The vehicle comprises a support frame, first and second rigid leg structures mounted to the support frame, and a pair of stop elements. The first rigid leg structure includes a first pair of legs each pivotally mounted to the support frame on a respective pivot axis so that each leg includes a ground engaging portion located on one side of the axis and a second portion located on another side of the axis. Each of the legs is pivotable between a support position wherein the first portion engages the ground and stowed position wherein the leg is oriented proximate to the support frame with the second portion extending into a region between the support frame and a respective pivot axis. Each of the stop elements is selectively movable into the region to define a stop position wherein the stop element obstructs the region to prevent pivoting of the respective leg into the stowed position. The stop element is further movable out of the region to permit pivoting of the respective leg into the stowed position.

20 Claims, 6 Drawing Sheets



U.S. Patent Jul. 29, 1997 Sheet 1 of 6 5,651,527

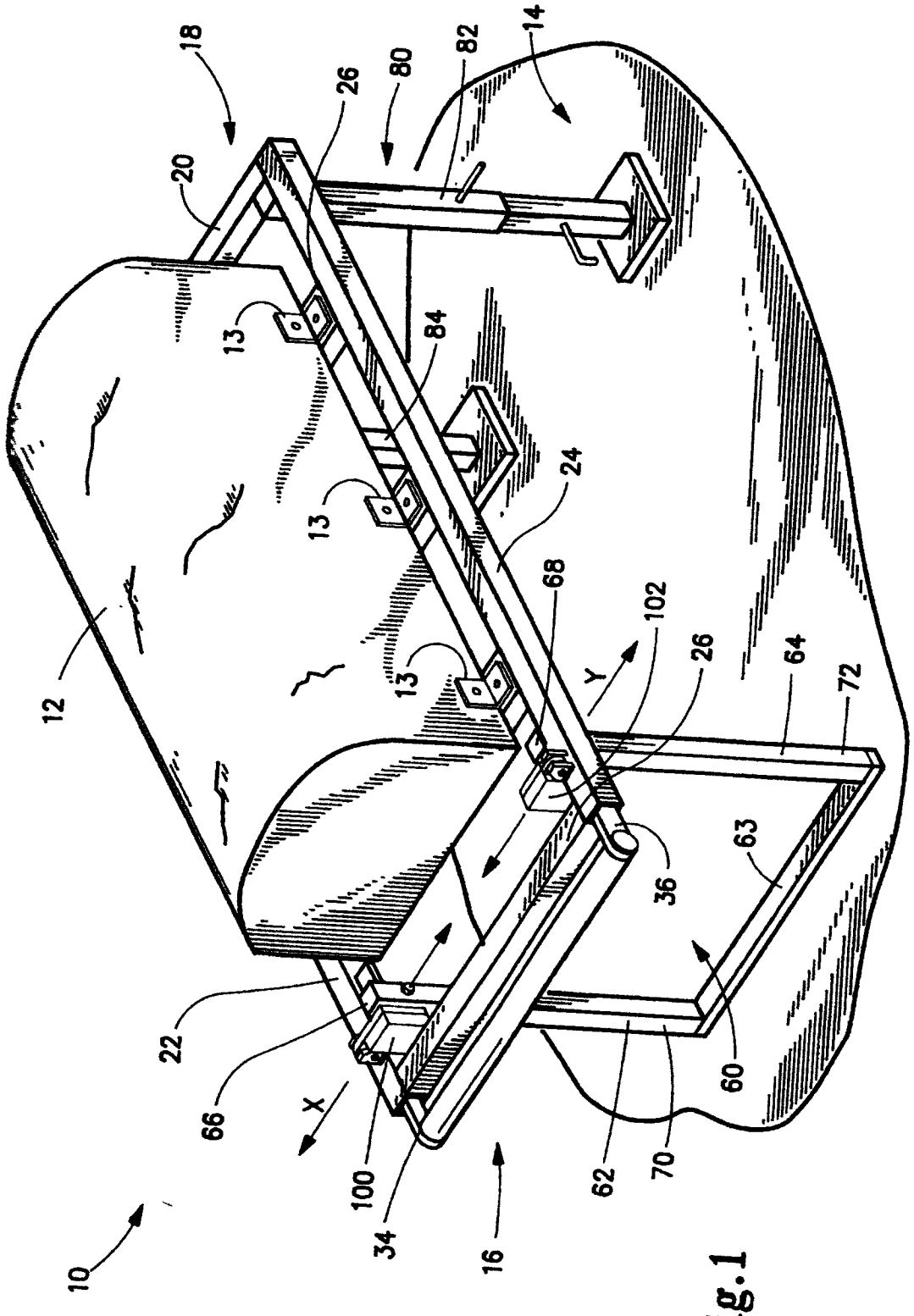


Fig. 1

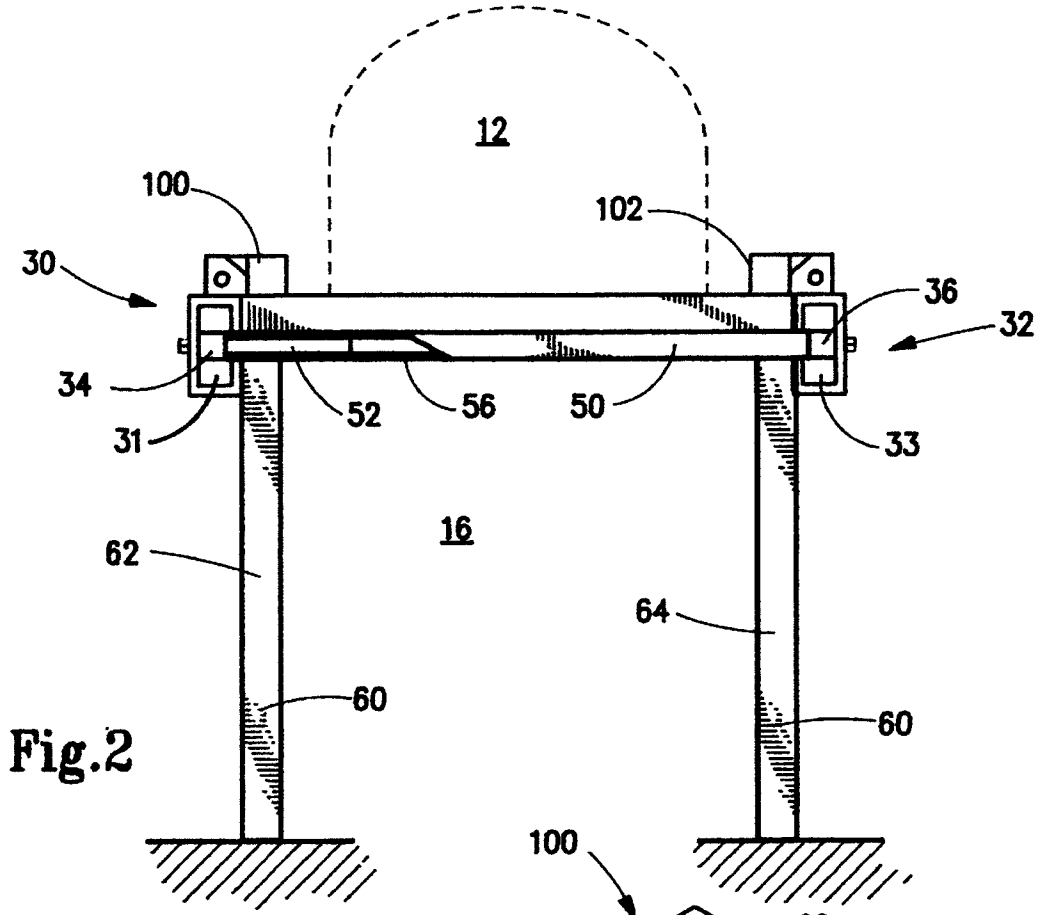

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Fig.2

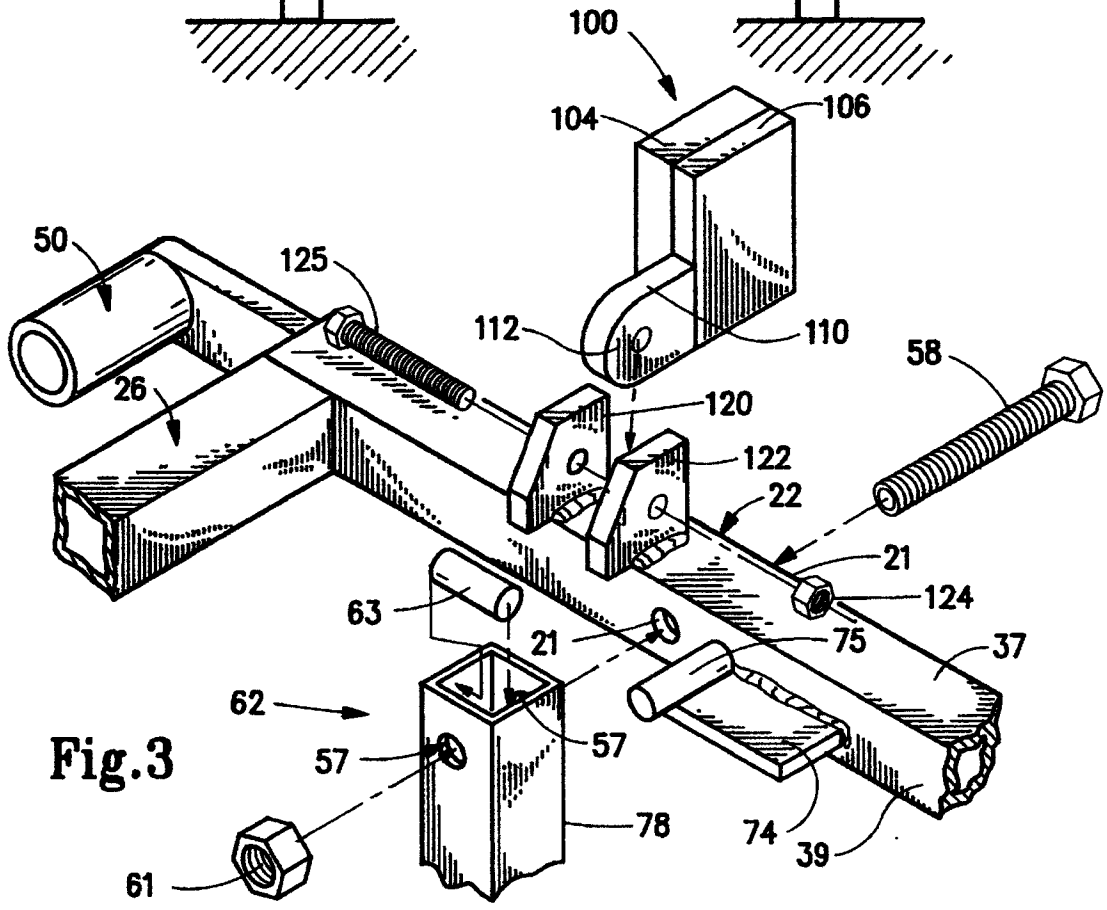

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Fig.3

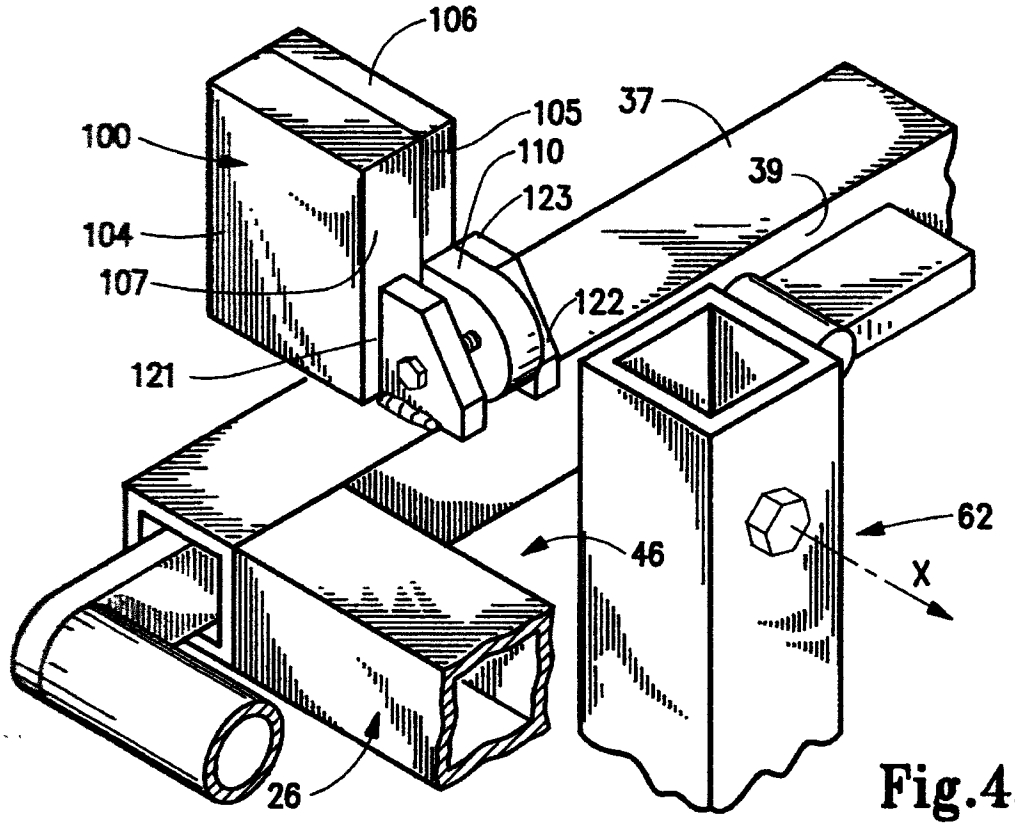

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Fig.4a

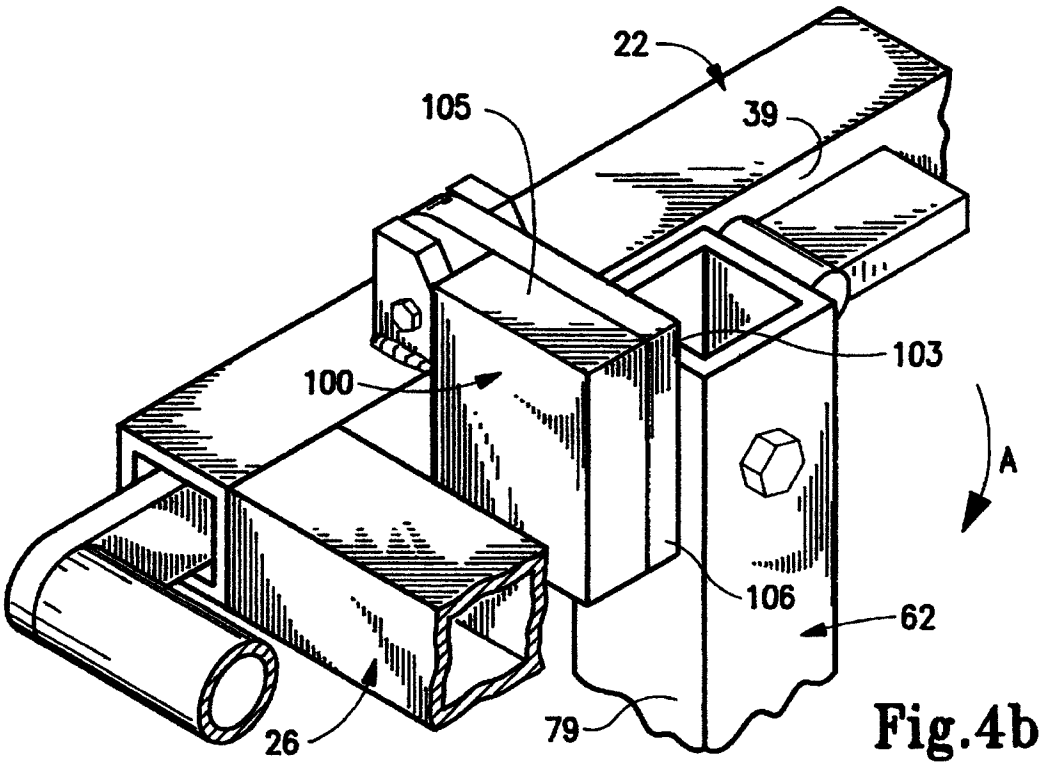

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Fig.4b

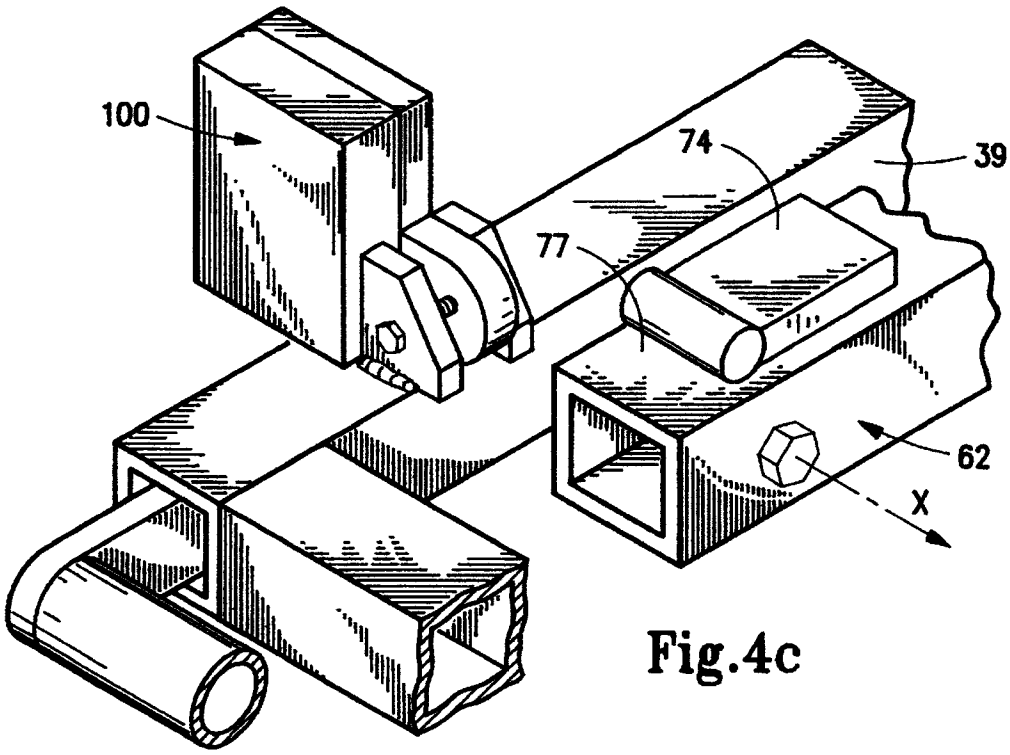


Fig.4c

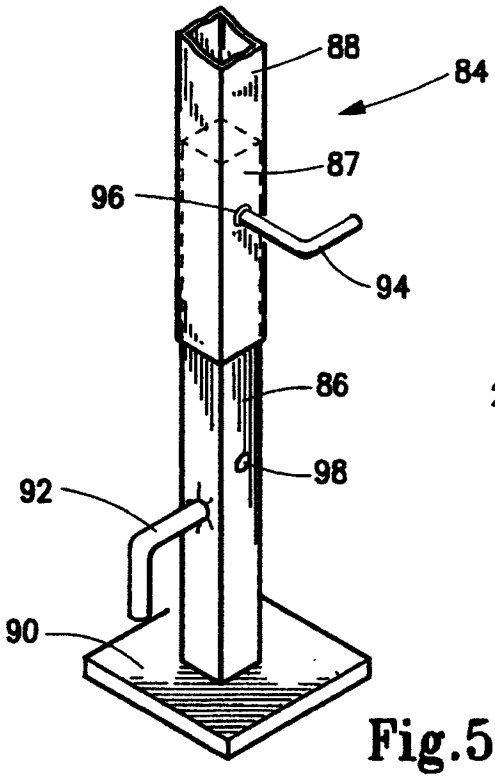


Fig.5

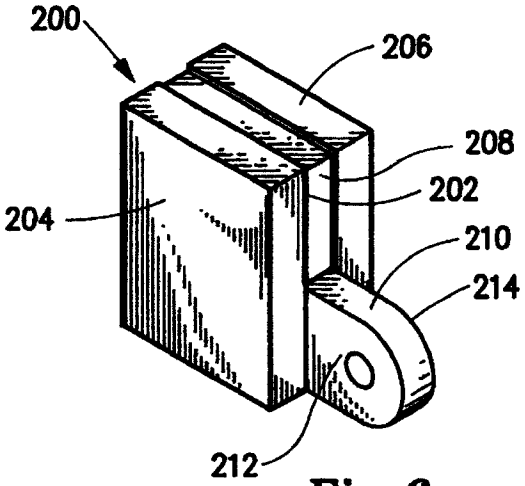


Fig.6

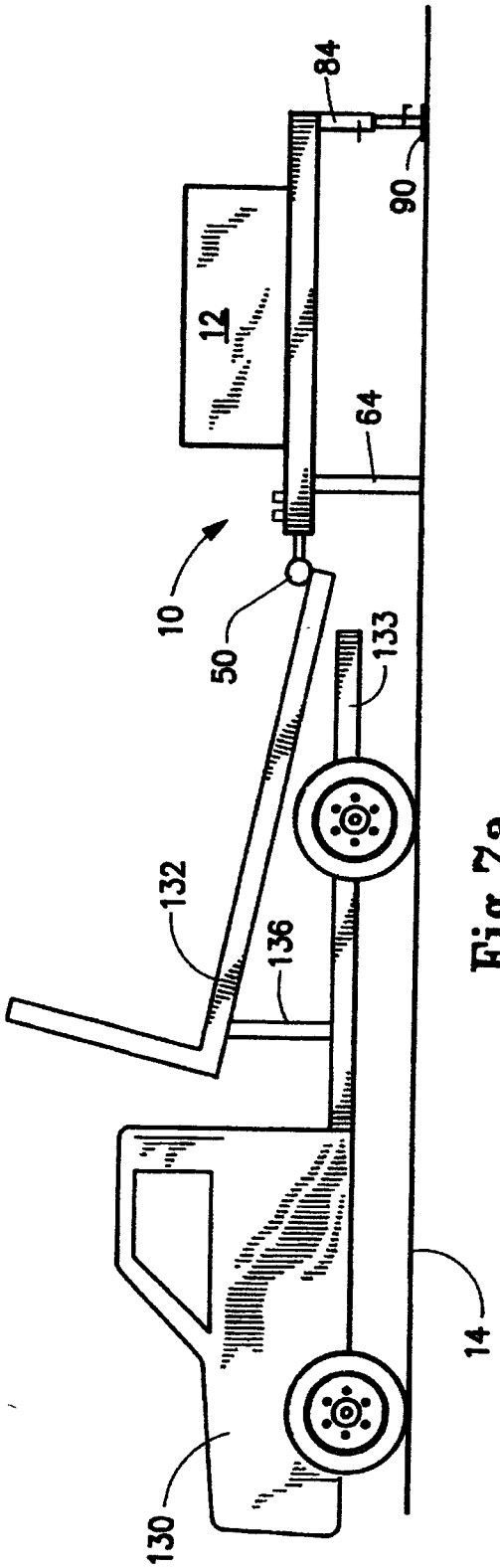

84
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Fig.7a

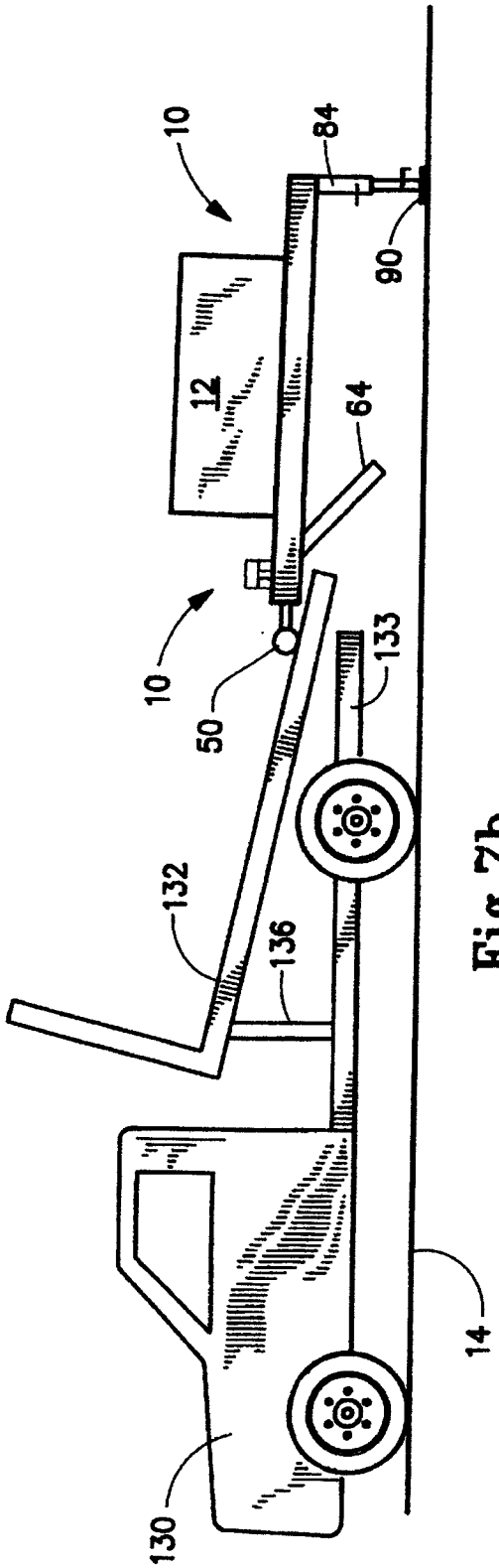

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Fig.7b

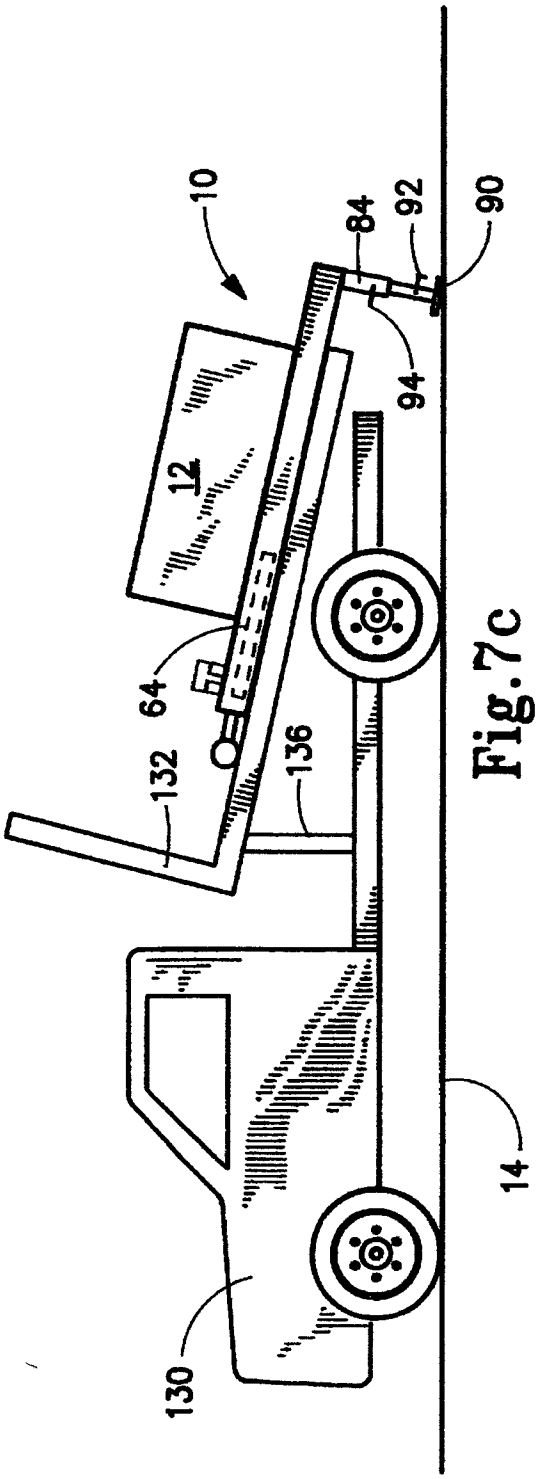


Fig.7c

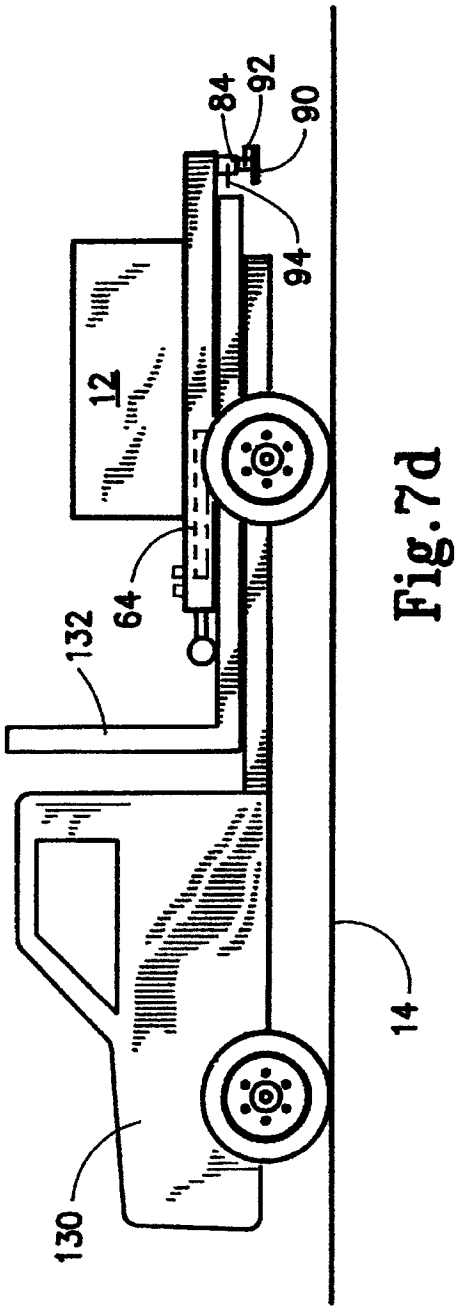


Fig.7d

SUPPORT STRUCTURE FOR USE WITH HEAVY EQUIPMENT

FIELD OF INVENTION

The present invention is directed to a support structure adapted to support equipment in an elevated stored state above the ground. The present invention more particularly relates to a free-standing support structure for supporting heavy vehicle-mounted equipment and assisting in loading and off-loading the equipment relative to a bed of the vehicle so that the equipment and the support structure may be transported from one location to another with relatively little difficulty.

BACKGROUND OF THE INVENTION

Support structures are used in a wide variety of environments today for the purpose of storing items for a selected duration of time. Some of these support structures, such as wooden pallets used in industrial environments, are adapted to store stacked items in an elevated state above the ground for access at a later time by a vehicle. Other structures are more durable in construction and provide support for heavier items. These include, among other types, steel frames used predominately in the shipping industry.

Regardless of the type of support structure utilized, it is often desirous to load and off-load items onto a vehicle for transportation to a desired location or to load and off-load equipment that is used while being transported such as, for example, equipment for road deicing, sanding or salting. For most loads, however, manual labor is too inadequate and potentially dangerous and the assistance of a vehicle, such as a forklift or a crane, is required. Even these vehicles, though, are of little practical use for many applications.

The public works departments of many cities are frequently called upon to maintain access routes in a safe condition for use by the general public. For instance, when winter weather conditions become severe, the public works department is responsible for depositing salt or sand on the roads to alleviate any unnecessary risk of harm to commuters. At other times it may be necessary to deposit other compounds on the roads. Irrespective of the particular application, a truck or other comparable vehicle is required to transport these compounds which compounds are typically stored in large cargo containers. Because these containers can be quite heavy and need to be accessed in a short amount of time in order to satisfy everyday demands, it is desirous to efficiently load and off-load the containers onto the bed of a vehicle, and various solutions have been developed in an attempt to accomplish this objective.

One such solution has been to suspend the containers in an elevated state above the ground so that a vehicle operator can position the vehicle's bed under the container for loading purposes. Typically, the containers are suspended by a number of chains which interconnect them to an overhead support frame. Several containers may be suspended next to each other in this fashion. A problem with this approach, however, is that the structure is somewhat precarious in design and can become unstable or unsturdy from continued use, resulting in potential damage to either the containers themselves or anyone in the near vicinity of the support structure.

Another type of support structure which has found extensive use in the area is a generally rectangular steel frame which has a plurality of support legs (usually four) and which is adapted to securely support a container in an elevated condition. Two of the support legs are pivotally connected to a first end of the support frame, while the remaining two rear legs are connected to a second end of the support frame and retractable relative thereto.

Both the steel frame and the container may be loaded onto a hydraulically actuated bed of a vehicle by slightly elevating the bed and backing up the vehicle until the bed Is positioned underneath a portion of the support surface proximate the pivotal legs. At this point, a user pivots the pivotable legs into a stowed, horizontal condition proximate to the support frame. Then, once the support structure and the container are properly positioned on the vehicle's bed, retractable legs may be adjusted into a retracted state. The entire device is now loaded onto the truck bed and transportable to the desired location. While these prior art support structures have prove quite useful, a problem with their construction is that improper positioning of the truck bed may cause the support legs to pivot prematurely which can result in collapse of the entire structure.

Accordingly, numerous needs exist to overcome the deficiencies inherent in prior art support structures. One such need is to provide a support structure that is better equipped to supporting heavy cargo in an elevated state yet that is adapted to facilitate the loading and off-loading of the cargo onto the bed of a carrier vehicle. Another need is to provide a support structure which is more durable in construction. It is from these considerations and others that the present invention has evolved.

SUMMARY OF INVENTION

It is an object of the present invention to provide a new and useful support structure which is capable for supporting vehicle-mounted equipment in an elevated stored state above the ground.

Another object of the present invention is to provide a support structure which may better assist in loading and off-loading vehicle-mounted equipment relative to a bed of a vehicle with a reduced risk of collapse during loading procedures.

A still further object of the present invention is to provide a free-standing support structure which is relatively easy to manufacture, yet which has a more durable construction existing comparable structures.

Yet another object of the present invention is to provide a support structure for vehicle-mounted equipment which is pivotable to permit loading and off-loading of the equipment onto the bed of the vehicle.

The present invention is directed to a support structure which is adapted to support vehicle-mounted equipment is an elevated stored state above the ground. The support structure according to the present invention is further adapted to mount onto a bed of the vehicle thereby to assist in loading and off-loading of the equipment relative to the bed.

In its broadest form, the support structure comprises a support frame adapted to receive and support the equipment in the stored state, a first rigid leg structure pivotally mounted to the support frame, a second rigid leg structure mounted to the support frame and a pair of stop elements. The first rigid leg structure includes a first pair of legs, each of which Is pivotally mounted to the support frame on respective pivot axles such that each of the legs includes a first ground engaging portion located on one side of the axle and a second portion located on the other side of the axle. Each of the legs of the first rigid leg structure is pivotable between a support position wherein the first portion engages the ground and a stowed position wherein the leg is oriented

proximately to or alongside the support frame with the second portion extending into a region between the support frame and the axle. Preferably, the support frame is constructed to prevent additional pivoting of each of the legs beyond the stowed position. This may be accomplished by providing a shoulder associated with each of the first pair of legs, which shoulder is mounted to the interior of the support frame and preferably formed as a rectangular plate.

Each of the pair of stop elements is selectively movable into the region between the frame and the axle of a respective one of the legs to define a stop position wherein the stop member obstructs the region thereby preventing pivoting of the respective leg into the stowed position. Each of the stop elements is also movable out of the region to permit pivoting of the respective leg into the stowed position.

The support frame is preferably rectangular in construction and includes a pair of elongated members each having a first end portion mounted to a respective one of the first pair of legs and a second end portion mounted to the second leg structure. The first end portions may be interconnected by a roller bar which is journaled for rotation relative to the support frame. This roller bar may be rotatably supported by a pair of opposed spaced apart axles.

It is preferred that both the first leg structure and the second leg structure be mounted interiorly of the support frame and that the second leg structure include a second pair of legs, each of which is selectively adjustable in length between an extended state and a retracted state. Each of these legs may be constructed to include a hollowed upper portion and a lower portion telescopically received within the hollowed upper portion and a removable pin which is insertable through the upper portion and the lower portion to selectively retain the leg between the extended state and the retracted state. Preferably, a handle is provided and is connected to each lower portion to facilitate manual adjustment of its respective leg between the extended state and the retracted state.

Each of the stop elements is pivotally coupled to the support frame for movement into and out of the region, and it is preferred that they are movable in a first plane that is transverse, and preferably perpendicular, to a second plane within which their respective legs are pivotable. These stop elements may be pivotally coupled to the support frame by a cross-piece which has a first end mounted to a bracket on the support frame and a second end connected to its respective stop element such that the cross-piece is also pivotable in a plane which is perpendicular to the plane within which its respective leg is pivotable. It is preferred that each of the stop elements be rectangular in configuration and have a surface which is a facing relationship to the second portion of its respective leg when the leg is in the support position and the stop element is in the stop position.

These and other objects of the present invention will become more readily appreciated and understood from a consideration of the following detailed description of the exemplary embodiments of the present invention when taken together with the accompanying drawings, in which:

BRIEF DESCRIPTION OF DRAWINGS

FIG. **1** is a perspective view of an exemplary embodiment of the support structure of the present invention shown supporting a container on a support surface;

FIG. **2** is a front elevational view of the support structure according to the exemplary embodiment of the present invention (with the container shown in phanthom), specifically showing the construction of the roller bar;

FIG. **3** is an exploded perspective view, partially broken away, showing the construction and mounting of a representative stop element according to the exemplary embodiment of the present invention and its associated leg of the first leg structure;

FIGS. **4**(*a*)–**4**(*c*) are perspective views of a stop element and its associated first (front) support leg showing different orientation positions therefor;

FIG. **5** is a perspective view partially broken away showing the telescoping adjustability of a representative leg of the second (rear) support structure according to the exemplary embodiment of the present invention;

FIG. **6** is a perspective view of an alternative construction of the stop element according to the exemplary embodiment of the present invention; and

FIGS. **7**(*a*)–**7**(*d*) are diagrammatic views illustrating the operation of the support structure according to the exemplary embodiment of the present invention as it and a container are loaded onto a vehicle.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

The present invention is directed to a support structure which is adapted to support vehicle-mounted equipment in an elevated stored state above the ground, and which is further adapted to assist in loading and off-loading of the equipment relative to a bed of the vehicle. The present invention is particularly useful in providing a storage structure for relatively heavy equipment when the equipment is not in use, yet which is capable of facilitating the loading and off-loading of the equipment when it is desirous to transport the equipment from one location to another.

To this end, then, the support structure **10** according to the present invention Is generally shown in FIG. **1** in its erected state supporting equipment, shown here as a container **12** for any of a wide variety of contents, such as salt or sand to be deposited on roadways.

As is shown in this figure, support structure **10** supports container **12** and its contents in an elevated state above support surface **14** and broadly includes a support frame **20**, first and second leg structures **60** and **80** mounted to the support frame and a pair of stop elements **100** and **102**. Support frame **10** is formed by a pair of elongated, spaced apart beams **22** and **24** which extend from the front **16** of support structure **10** to the rear **18**. Elongated beams **22** and **24** are preferably parallel and are formed as tubular members of square-shaped cross-section. Beams **22** and **24** are interconnected by a plurality of transversely extending beams **26** to form a rectangular framework for supporting container **12** in the elevated state. As shown in FIG. **1**, container **12** is secured to support frame **20** by mounting brackets **13**.

First leg structure **60** is located at the front **16** of support structure **10** and includes a first pair of rigid legs **62** and **64** which are each pivotally mounted to support frame **20** along respective pivot axes X and Y. Legs **62** and **64** are mounted intertorly of support frame **20** proximate the front **16** and between two of the transverse beams **26** and are connected by a brace **63**. Legs **62** and **64** are also elongated tubular members having a square-shaped cross-section, and each includes a first portion **66** and **68** located, respectfully, above axes X and Y and a second portion **70** and **72** located, respectively, below axes X and Y for engaging support surface **14**. Each of legs **62** and **64** are pivotable between a support position wherein the first portions **66** and **68** engage support surface **14** and a stowed position wherein legs **62**

and **64** are oriented proximate to and alongside support frame **20**, as will be discussed in greater detail below with reference to FIG. **4**(*c*).

Second leg structure **80** includes a second rigid pair of legs **82** and **84** which are also mounted interiorly of support frame **20** proximately to rear **18**. Each of legs **82** and **84** is a telescoping member which may be adjusted to selected relative extensions, as will be described later with reference to FIG. **5**.

As shown in FIG. **2**, front **16** of support structure **10** includes a roller bar **50** which extends in a transverse direction between the front of elongated beams **22** and **24**. Roller bar **50** is mounted to first ends **30** and **32** of elongated beams **22** and **24**, respectively, by welding or other conventional means. Elongated beams **22** and **24** have their first ends **30** and **32** formed as cavities, **31** and **33**, respectively, within which interconnecting arms **34** and **36** are respectively received. Roller bar **50** includes a central rotatable portion **56** is journaled for rotation about a pad trunnion axles, such as axle **52**, which each extend transversely inward from interconnecting arms **34** and **36**. A first exemplary construction and the pivotable movement of a representative stop element **100** and its associated leg **62** may be seen with reference to FIGS. **3** and **4**(*a*)–**4**(*c*). While these figures only represent the construction of one of the stop elements and its associated leg, it should be appreciated that leg **64** and its associated stop element **102** may be constructed identically. In each of these figures, leg **62** is pivotally mounted to elongated beam **22** rearwardly of stop element **100** and roller bar **50**. It is preferred that leg **62** be formed as a hollowed body of rectangular cross-section with a mounting wall **78** in facing relationship to a flat interior wall **39** of elongated beam **22**. Leg **62** is mounted to beam **22** by a nut and bolt combination including a bolt **58** which is sized and adapted to threadedly engage nut **61** which may be a locking stop nut. Bolt **58** passes through opposed holes **21** formed within opposite sides of beam **22** and through holes **57** in leg **62**. When mounted as such bolt **58** and nut **61** form an axle about which leg **62** is able to pivot first in a plane that is parallel to flat face **39**. Rod **63** is affixed in the interior of leg **62** to reinforce the upper portion **66** against collapse under a load. A shoulder element **74** is welded to interior wall **39** which acts as a barrier to prevent leg **62** from pivoting in this first plane beyond the stowed position. Shoulder **74** is formed as a rectangular plate and includes a cylindrical portion **75** which provides a roll surface for leg **62** and specifically wall **77** thereof, as leg **62** pivots toward the stowed position.

Stop element **100** is preferably disposed between leg **62** and transverse beam **26**. Stop element **100** is of a rectangular construction and includes a pair of rectangular plates **104** and **106** which are fastened to a crosspiece **110** that In turn is interleaved between a pair of spaced apart upstanding brackets **120** and **122** affixed to an upper surface **37** of elongated beam **22**. Preferably, plates **104** and **106** have different dimensional widths and cross-piece **110** is formed integrally with plate **106** so that the combination forms an L-shaped member. Cross-piece **110** includes a monolytic portion **112** which is mounted for pivotal movement between brackets **120** and **122** by matable nut and bolt fasteners **124** and **125** which extend through brackets **120** and **122** and cross-piece **110**. This permits stop element **100** to pivot in a second plane which is preferably perpendicular to the first plane in which leg **62** pivots.

FIGS. **4**(*a*)–**4**(*c*) show the pivotability of stop element **100** into and out of a region **46** which is located between axis X, interior wall **39** and transverse beam **26**. FIG. **4**(*a*) depicts one of the positions stop element **100** may assume when leg **62** is in the erected support position of FIG. **1**. Here stop element **100** is pivoted to a position which is outside of the space or region **46** so that it does not obstruct pivotal movement of leg **62** in the first plane. In this position, cross-piece **110** extends transversely to elongated beam **22** and adjacent edges **105** and **107** of plates **104** and **106** are respectively disposed in a facing relationship to upper surface **37** of beam **22** and outwardly facing walls **121** and **123** of brackets **120** and **122**.

In FIG. **4**(*b*) stop element **100** is shown pivoted into region **46** so that edges **107** are now in abutting relationship to interior wall **39** of elongated beam **22**. In this position, stop element **100** operates to prevent any pivotal movement of leg **62** in the first plane in the direction of arrow "A". In the event of such a happening, either inadvertent or otherwise, wall **79** of the upper or first portion **66** of leg **62** will contact rearwardly facing surface **103** of plate **106** to obstruct any further pivotal movement of leg **62**.

FIG. **4**(*c*) shows stop element **100** pivoted outside of region **46** to the position described above with reference to FIG. **4**(*a*) to permit leg **62** to be pivoted about axis X and into the stowed position. Here, leg **62** is oriented alongside and proximate to interior wall **39** and is prevented from pivoting beyond the stowed position by shoulder **74** mounted to wall **39**. In FIG. **4**(*c*), leg **62** is not prevented from returning to the support position. However, as will be understood shortly in reference to the operation of the support structure **10** of the present invention, once support structure **10** and container **12** are securely loaded onto the bed of the vehicle, leg **62** would be prevented from returning to the support position by the bed itself.

FIG. **5** shows an exemplary construction for a representative leg **84** of second leg structure **80**. It should be appreciated that the structure shown in FIG. **5** and described herein corresponds to leg **82** as well. As mentioned above, leg **84** is selectively adjustable between an extended state and a retracted state thereby to alter elevation and inclination of support frame **20** relative to support surface **14**. Leg **84** comprises a hollow, tubular inner telescoping member **86** and a hollow, tubular outer telescoping member **88** each of square-shaped cross-section. Outer telescoping member **88** slidably receives an internal end portion **87** of member **86**. Inner telescoping member **86** terminates in a ground engaging foot or end **90** opposite its internal end. Both of members **86** and **88** are provided with at least one hole **96** so that when these holes are aligned, a pin **94** may be removably inserted therethrough to allow for selective adjustment of telescoping members **86** and **88** into the extended state as is known in the art. Hole **98** permits adjustment to the retracted state. Member **86** is also provided with a handle **92** proximately to the ground engaging foot portion **90** to facilitate adjustment of the telescoping members **86** and **88**.

FIG. **6** shows an alternative construction for the stop element according to the exemplary embodiment of the present invention. Here, stop element **200** is formed as a pair of spaced apart plates, **204** and **206** which are of relatively equivalent dimensions. Crosspiece **210** is L-shaped In configuration and is interleaved between plates **204** and **206** and has its sides **212** and **214**, respectively, affixed to inner surfaces **202** and **208**. While this construction of stop element **200** is somewhat different than that described above with reference to FIG. **3**, it should be understood that it operates in the same manner to either permit or prevent pivotability of leg **62** into the stowed position. The operation of the support structure **10** may now be better understood with the foregoing description of its preferred construction

in mind. FIGS. 7(*a*)–7(*d*) show how support structure **10** may be loaded onto the cargo bed **132** of a vehicle **130**. Vehicle **130** has its bed **132** adjustable relative to support surface **14** by a hydraulic lift **136**. In FIG. 7(*a*) support structure **10** supports container **12** in an elevated state above the ground with legs **62** and **64** of first leg structure **60** arranged in the support position and legs **82** and **84** of second leg structure **80** adjusted to the extended state. Stop elements **100** and **102** are each positioned to obstruct pivotal rearward movement of legs **62** and **64**, as described above with reference to FIG. 4(*b*). Initially, the operator of vehicle **130** elevates bed **132** relative to support surface **14** by adjusting the hydraulic lift mechanism **136** and positioning the vehicle so that the end **133** of the bed **132** engages roller bar **50**. As the operator continues the rearward movement of vehicle **130**, as shown in FIG. 7(*b*), roller bar **50** moves forwardly up inclined bed **132** to raise support structure **10** in a tilted position above surface **14**. During this time stop elements **100** and **102** are in the position shown in FIG. 4(*b*) so that inadvertent pivoting of legs **62** and **64** due to contact with end **133** of bed **132** or otherwise is prevented. At this point, support structure **10** and container **12** become stabilized on bed **132**, and the operator may now pivot stop elements **100** and **102** to the unobstructed position described in FIG. 4(*a*) and pivot each of legs **62** and **64** to the stowed position where they are oriented proximate to and alongside support frame **20**.

In FIG. 7(*b*) the operator continues to back up vehicle **130** so that support structure **10** and container **12** slide upwardly onto bed **132** toward the front of vehicle **130**. Once the support structure **10** and the container **12** are securely positioned on bed **132**, the operator lowers the bed **132** to the horizontal position shown in FIG. 7(*d*) and selectively adjusts each of legs **82** and **84** to the retracted position by manipulation of the handles **92** and removable pins **94**. At this point, the operator may transport container **12** and support structure **10** to a desired location without risk of second leg structure contacting the ground.

To unload support structure **10** and container **12**, it should be understood that the opposite procedure is utilized. Mainly, the operator would first adjust legs **82** and **84** to the extended state and then gradually drive vehicle **130** forward until the support structure **10** is positioned as shown in FIG. 7(*b*), after which each of legs **62** and **64** may be pivoted from the stowed position to the support position and each of stop elements **100** and **102** may be adjusted so that they obstruct pivotal movement of legs **62** and **64**. Further advancement of vehicle **130** to the position shown in FIG. 6(*a*) completes the off-loading procedure.

Accordingly, the present invention has been described with some degree of particularity directed to the exemplary embodiment of the present invention. It should be appreciated, though, that the present invention is defined by the following claims construed in light of the prior art so that modifications or changes may be made to the exemplary embodiment of the present invention without departing from the inventive concepts contained herein.

I claim:

1. A support structure adapted to support vehicle-mounted equipment in an elevated stored state above ground and further adapted to mount onto a bed of the vehicle thereby to assist in loading and off-loading said equipment relative to said bed, comprising:

(a) a support frame adapted to receive and support said equipment in the stored state;

(b) a first rigid leg structure including a first pair of legs each pivotally mounted to said support frame on a respective pivot axis such that each of said legs includes a first portion located on one side of said axis, said first portion adapted to engage ground, and a second portion located on another side of said axis, each of said legs pivotable between a support position wherein said first portion engages the ground and a stowed position wherein said leg is oriented proximate to said support frame with said second portion extending into a region between said support frame and a respective said axis;

(c) a second rigid leg structure mounted to said support frame; and

(d) a pair of stop elements each being selectively movable into the region between said support frame and the respective said axis of a respective one of said legs to define a stop position wherein said stop element obstructs the region thereby to prevent pivoting of said respective leg into the stowed position and movable out of the region to permit pivoting of said respective leg into the stowed position.

2. A support structure according to claim **1** wherein each of said legs pivots in a respective first plane and wherein each of said stop elements is movable in a second plane that is transverse to the first plane of its said respective leg.

3. A support structure according to claim **2** wherein said first leg structure is mounted interiorly of said support frame and each of said first pair of legs is operative to move toward said second leg structure when pivoted into the stowed position.

4. A support structure according to claim **1** wherein each of said stop elements is pivotally coupled to said support frame for movement into and out of said region.

5. A support structure according to claim **1** wherein said second rigid leg structure includes a second pair of legs.

6. A support structure according to claim **5** wherein said second pair of legs are selectively adjustable in length between an extended state and a retracted state.

7. A support structure according to claim **6** wherein each of said second pair of legs includes a hollowed upper portion and a lower portion telescopically received within said hollowed upper portion and including a removable pin insertable through said upper portion and said lower portion to selectively retain said legs between the extended state and the retracted state.

8. A support structure according to claim **7** including a handle connected to each said lower portion to facilitate manual adjustment of said second pair of legs between the extended state and the retracted state.

9. A support structure according to claim **1** wherein said support frame includes a pair of elongated members each having a first end portion mounted to a respective one of said first pair of legs and a second end portion mounted to said second leg structure, said elongated members interconnected at their first end portions by a roller bar which is journaled for rotation relative to said support frame.

10. A support structure according to claim **9** wherein said roller bar is rotatably supported by a pair of spaced apart axles.

11. A support structure adapted to support vehicle-mounted equipment in an elevated stored state above ground and further adapted to mount onto a bed of the vehicle thereby to assist in loading and off-loading said equipment relative to said bed, comprising:

(a) a support fame adapted to received and support said equipment in the stored state;

(b) a first rigid leg structure including a first pair of legs each pivotally mounted to said support frame on a

18. A support structure according to claim 17 wherein said support frame includes a pair of elongated beams each having a first end portion mounted to a respective one of said first pair of legs and a second end portion mounted to said second leg structure, said elongated beams interconnected at their first ends by a roller bar which is rotatably relative to said support frame.

19. A support structure according to claim 17 including a handle associated with each of said second pair of legs to facilitate adjustment of said second pair of legs between the extended state and the retracted state.

20. A support structure according to claim 17 wherein each of said legs is pivotal in a first plane and wherein said stop elements are each pivotally coupled to said support frame for movement in a second plane that is perpendicular to the first plane.

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