US010286943B1

(12) **United States Patent**
Greenblatt et al.

(10) **Patent No.: US 10,286,943 B1**
(45) **Date of Patent: May 14, 2019**

(54) **MATERIAL HANDLING DEVICE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/963,961**

(22) Filed: **Apr. 26, 2018**

(51) **Int. Cl.**

B62B 3/10	(2006.01)
B62B 15/00	(2006.01)
B65D 19/42	(2006.01)
B65D 19/08	(2006.01)

(52) **U.S. Cl.**
CPC ***B62B 15/008*** (2013.01); *B62B 2203/00* (2013.01); *B62B 2301/04* (2013.01); *B62B 2301/254* (2013.01); *B65D 19/08* (2013.01); *B65D 19/42* (2013.01); *B65D 2519/00308* (2013.01); *B65D 2519/00407* (2013.01); *B65D 2519/00781* (2013.01)

(58) **Field of Classification Search**
CPC B62B 15/008; B62B 2301/04; B62B 2301/254; B62B 2203/00; B62B 1/264; B62B 3/104; B62B 2202/02; B62B 3/028; B65D 2519/00781; B65D 2519/00407; B65D 2519/00308; B65D 19/08; B65D 19/42
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

422,729	A *	3/1890	Clark	248/129
973,029	A *	10/1910	Froese	B62B 3/00 220/630
1,013,605	A *	1/1912	Lyon	248/129
1,328,458	A *	1/1920	Schiek	A47J 47/18 16/30
1,628,722	A *	5/1927	Haertel	B62B 5/0083 248/129

(Continued)

OTHER PUBLICATIONS

"Stainless Steel Drum Dolly for 30 Gallon Drum—800 Lb. Capacity," https://www.globalindustrial.com/p/material-handling/drumbarrel/drum-dollies/stainless-steel-drum-dolly-30-gallon-drum, Global Industrial, Port Washington, NY (visited Mar. 23, 2018).

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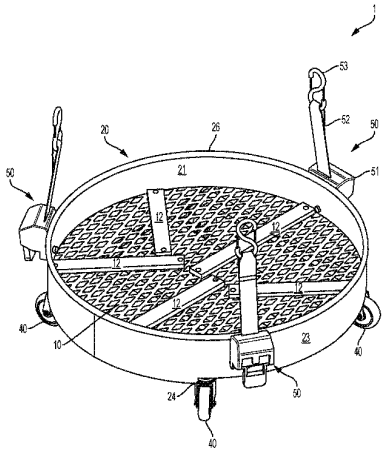
(57) **ABSTRACT**

A material handling device is provided. The material handling device includes a bottom, a frame, a wall, an a plurality of wheels. The bottom includes an upper surface and a lower surface. The frame includes an upper surface and a lower surface. The wall surrounds the bottom and the frame, and includes an inner surface, an outer surface and an inner shelf attached to a lower portion of the inner surface. The inner surface includes an upper surface attached to a portion of the lower surface of the bottom, and a lower surface attached to a portion of the upper surface of the frame. Each wheel is attached to the lower surface of the frame.

15 Claims, 12 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

2,078,119 A * 4/1937 Benedict B62B 1/264 280/47.24
2,531,131 A * 11/1950 Johnson A47J 47/16 248/129
2,573,085 A * 10/1951 Yonkers A47L 9/009 15/327.2
2,818,271 A * 12/1957 Saeli B62B 5/0083 248/129
2,917,769 A * 12/1959 Kasper A47L 9/009 15/246.4
2,930,561 A * 3/1960 Bittle B62B 1/264 211/85.19
2,947,548 A * 8/1960 Bard A47L 13/48 280/79.2
3,298,704 A * 1/1967 Dewers B62B 5/0083 280/35
3,377,085 A * 4/1968 Fralick B60D 1/00 280/408
3,554,573 A * 1/1971 Miller B62B 5/0083 248/154
3,734,527 A * 5/1973 Bard B62B 5/0083 280/79.5
3,802,717 A * 4/1974 Eitreim B62B 5/0083 248/154
3,845,968 A * 11/1974 Larson B62B 1/264 248/129
3,923,318 A * 12/1975 Renard A45C 13/385 280/35
4,071,163 A * 1/1978 Martin B44D 3/128 215/393
4,635,951 A * 1/1987 Berfield B62B 5/0006 280/47.34
4,640,521 A * 2/1987 Berfield B62B 3/104 248/129
4,650,200 A * 3/1987 Berfield B62B 3/104 248/154
4,799,699 A * 1/1989 Berfield B62B 3/104 15/323
4,862,909 A * 9/1989 Kim F04B 43/08 137/150
D309,811 S * 8/1990 Terrizzi D34/23
5,074,572 A * 12/1991 Delmerico B62B 5/0083 220/298
5,088,751 A * 2/1992 Zint B62B 3/104 280/47.34
5,110,147 A * 5/1992 Gershman B60D 1/00 248/907
RE34,130 E * 11/1992 Berfield B62B 3/104 248/129
D340,563 S * 10/1993 Kean D34/23
5,261,350 A * 11/1993 Vavrek A01K 1/0353 119/165
5,445,396 A * 8/1995 Sebor B62B 3/16 108/53.3
5,472,220 A * 12/1995 Stephan B62B 5/0083 280/79.11
5,515,573 A * 5/1996 Frey A47L 5/365 15/323
D370,757 S * 6/1996 Loftus D34/23
5,580,205 A * 12/1996 Frystak A01D 87/127 242/557
D381,171 S * 7/1997 Culverson D34/23
5,678,976 A * 10/1997 Rodriguez B62B 1/264 414/448
5,752,543 A * 5/1998 Groening B62B 3/104 137/312
6,027,128 A * 2/2000 Stich B60B 33/0002 280/47.16
6,209,891 B1 * 4/2001 Herrmann B44D 3/14 280/32.6
6,237,187 B1 * 5/2001 Hult A47L 5/365 15/323
RE37,350 E * 9/2001 Stephan B62B 5/0083 280/79.11
6,315,310 B1 * 11/2001 Hurt B62B 1/264 206/373
6,419,246 B1 * 7/2002 Neal B62B 5/0083 280/47.34
6,488,293 B1 * 12/2002 Mitchell B62B 3/104 280/47.34
6,655,084 B1 * 12/2003 Missry A01G 9/04 47/39
6,729,631 B2 * 5/2004 Trine B62B 3/008 280/47.11
6,815,036 B1 * 11/2004 Romero B44D 3/128 118/504
6,893,032 B2 * 5/2005 Kershaw B62B 5/0083 280/47.11
6,964,423 B1 * 11/2005 Chieh B62B 5/0083 248/129
7,114,288 B1 * 10/2006 Kershaw A47G 7/041 47/39
7,281,720 B1 * 10/2007 Richards B62B 3/104 280/79.11
7,364,172 B1 * 4/2008 Archer B62B 3/104 220/625
7,540,508 B2 * 6/2009 Shragge B62B 1/125 220/737
7,584,973 B2 * 9/2009 Brager B25H 3/026 108/141
7,823,907 B1 * 11/2010 Coholan B62B 15/008 280/47.26
7,845,656 B2 * 12/2010 Thompson B25H 3/00 280/47.35
8,262,108 B2 * 9/2012 Al-Hasan B62B 3/04 280/47.34
8,376,376 B2 * 2/2013 Thibault A47L 13/58 280/79.11
8,602,425 B1 * 12/2013 Meier, III B62B 1/14 280/47.26
9,162,694 B1 * 10/2015 Fucarino B62B 1/264
9,446,777 B2 * 9/2016 Umbro B62B 1/12
9,610,963 B2 * 4/2017 Jensen B62B 3/10
9,815,622 B2 * 11/2017 Dafoe B65F 1/068
9,845,215 B1 * 12/2017 Willard B65H 16/00
2004/0145139 A1 * 7/2004 Kershaw B62B 5/0083 280/79.5
2004/0245735 A1 * 12/2004 Pins B62B 1/142 280/79.5
2006/0188362 A1 * 8/2006 Link B65G 65/24 414/403
2006/0214384 A1 * 9/2006 Gwin A47L 13/51 280/79.5
2007/0096413 A1 * 5/2007 Staracino B62B 1/12 280/47.26
2007/0120337 A1 * 5/2007 Gibbs A01B 1/00 280/79.3
2008/0164669 A1 * 7/2008 Stone B62B 1/12 280/79.5
2008/0272566 A1 * 11/2008 Thompson B25H 3/00 280/79.5
2009/0050761 A1 * 2/2009 Gunsaullus E06C 7/14 248/242
2010/0038883 A1 * 2/2010 Thedford B60P 3/07 280/490.1
2012/0286486 A1 * 11/2012 Varney B62B 5/0093 280/47.11
2013/0186919 A1 * 7/2013 Jacques A47L 13/26 222/608
2013/0334797 A1 * 12/2013 Umbro B62B 1/042 280/654
2014/0265194 A1 * 9/2014 Gwin B62B 3/104 280/47.34
2014/0299068 A1 * 10/2014 Kupka A01K 1/0107 119/501
2015/0001820 A1 * 1/2015 Cormier B62B 1/14 280/47.26

(56) **References Cited**

U.S. PATENT DOCUMENTS

2015/0108729	A1*	4/2015	Kolesnikova	B62B 3/104 280/79.5
2016/0031467	A1*	2/2016	Beaver	B62B 3/10 280/659
2016/0325772	A1*	11/2016	Jensen	B62B 3/10
2018/0340813	A1*	11/2018	Cowles	B62B 3/104

* cited by examiner

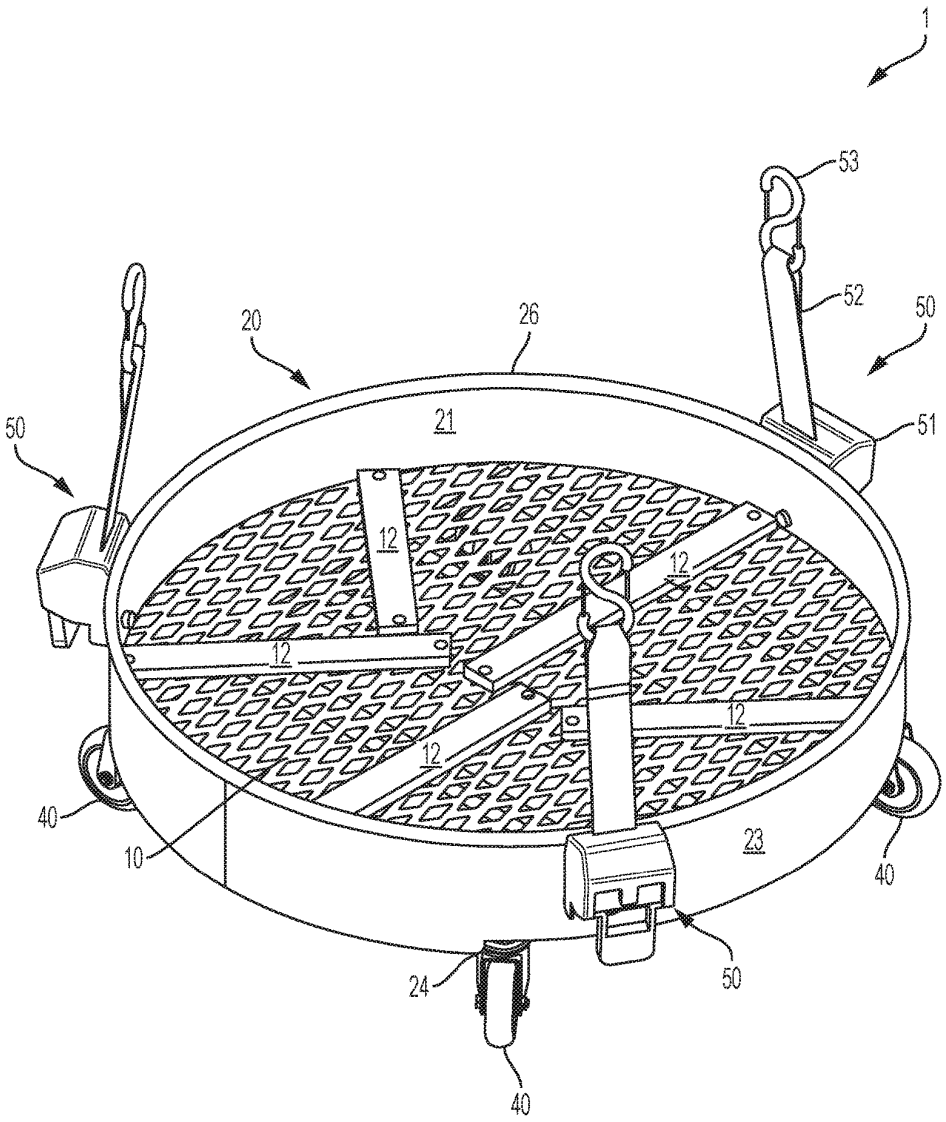


FIG. 1

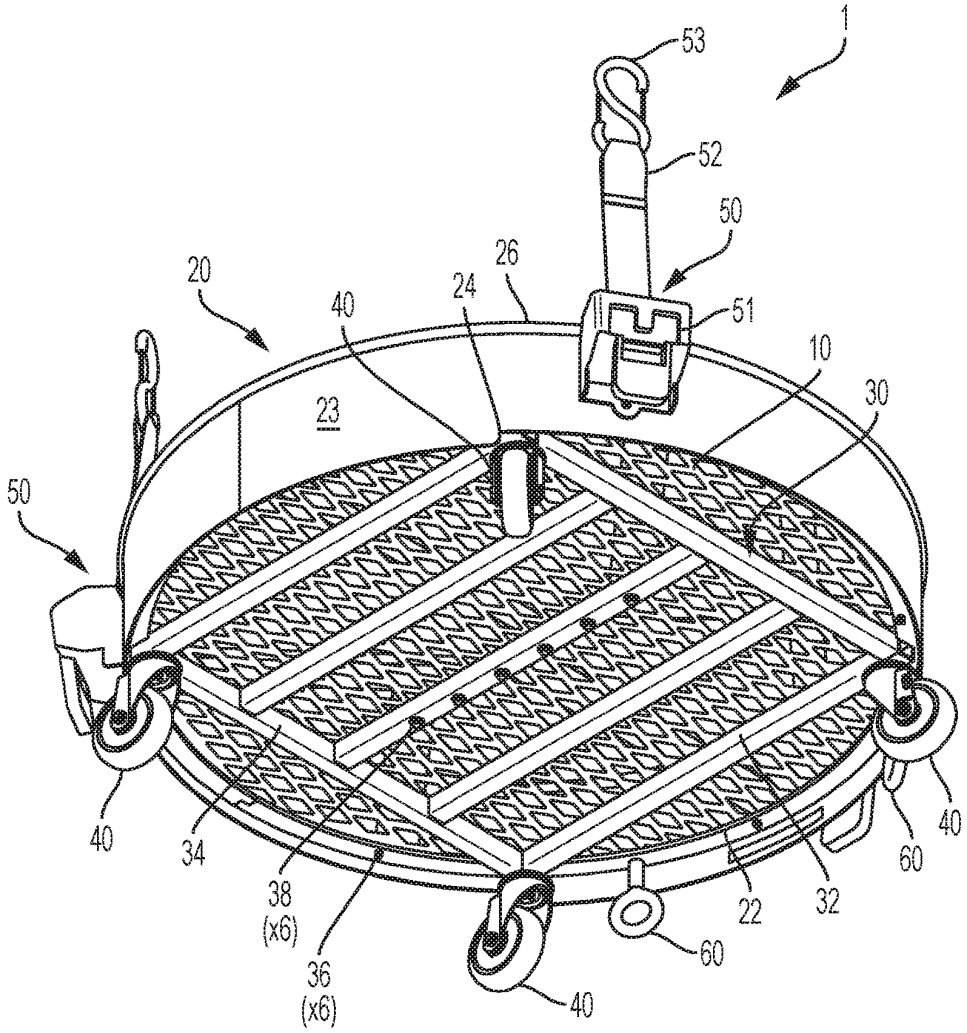
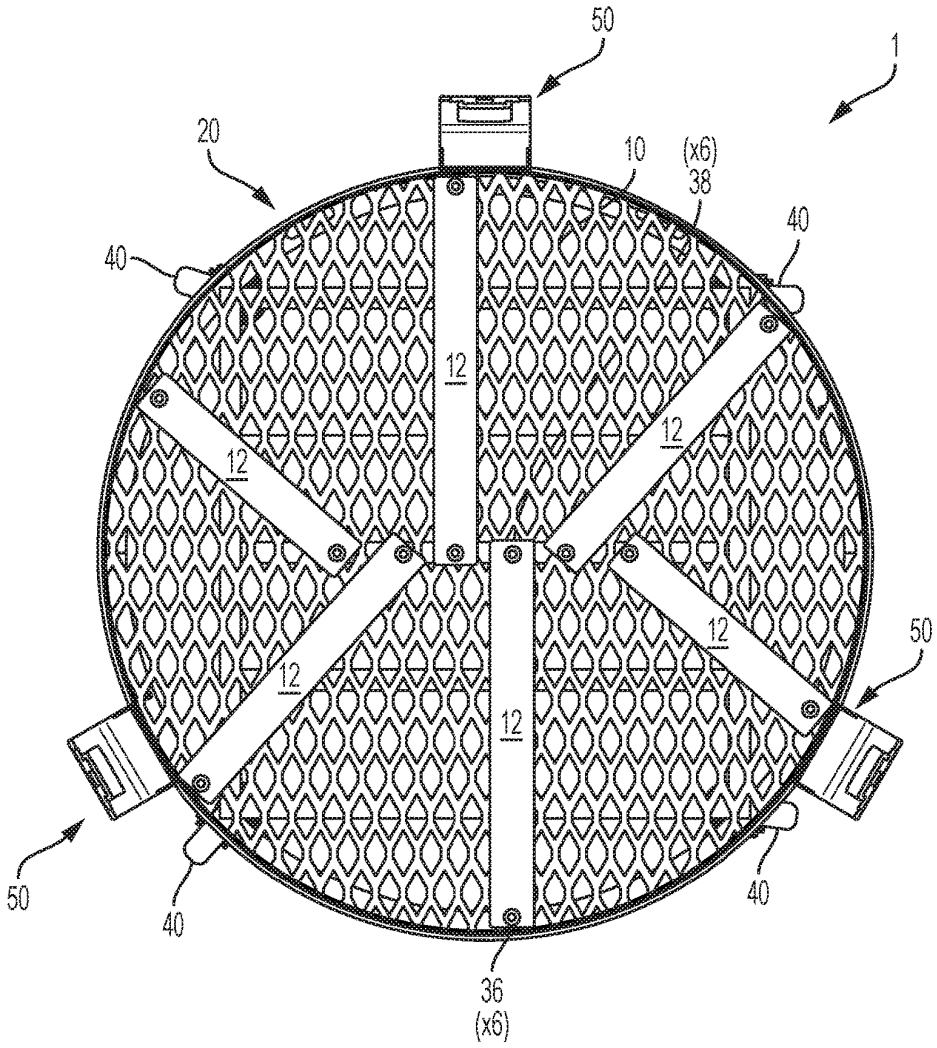


FIG. 2



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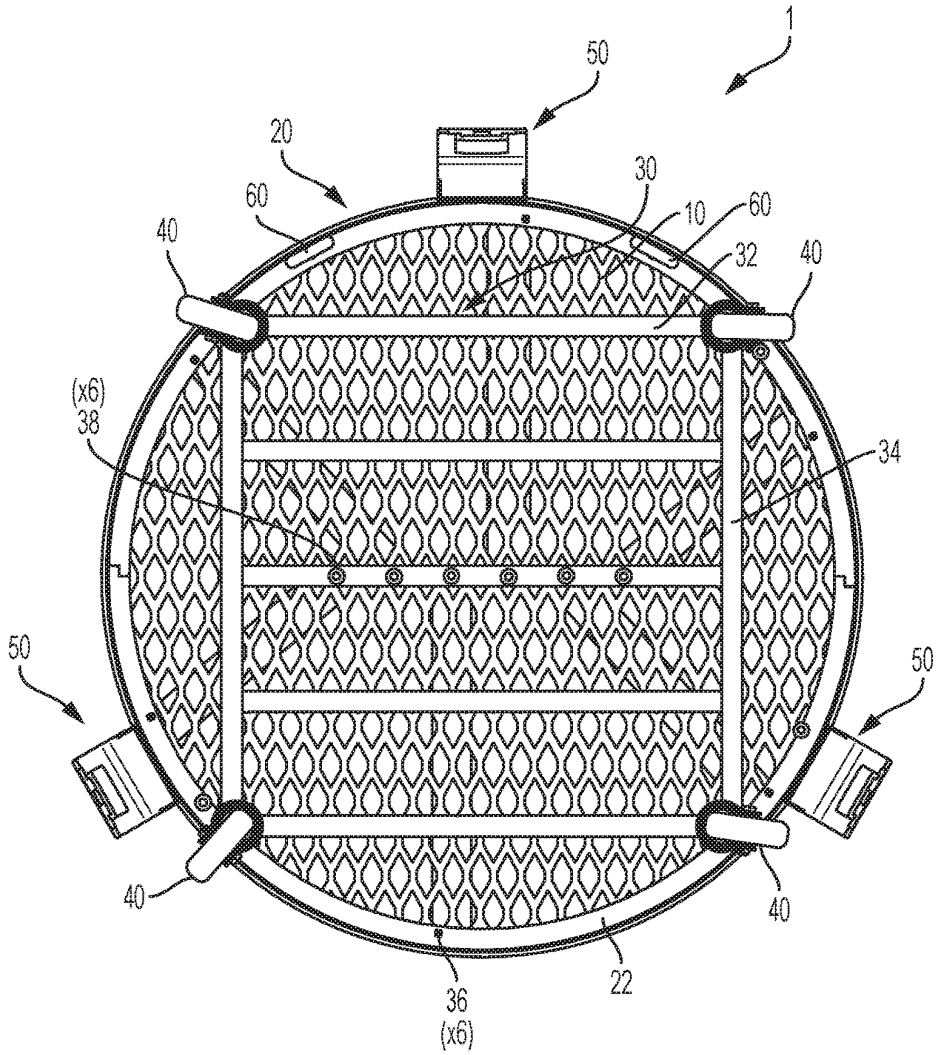

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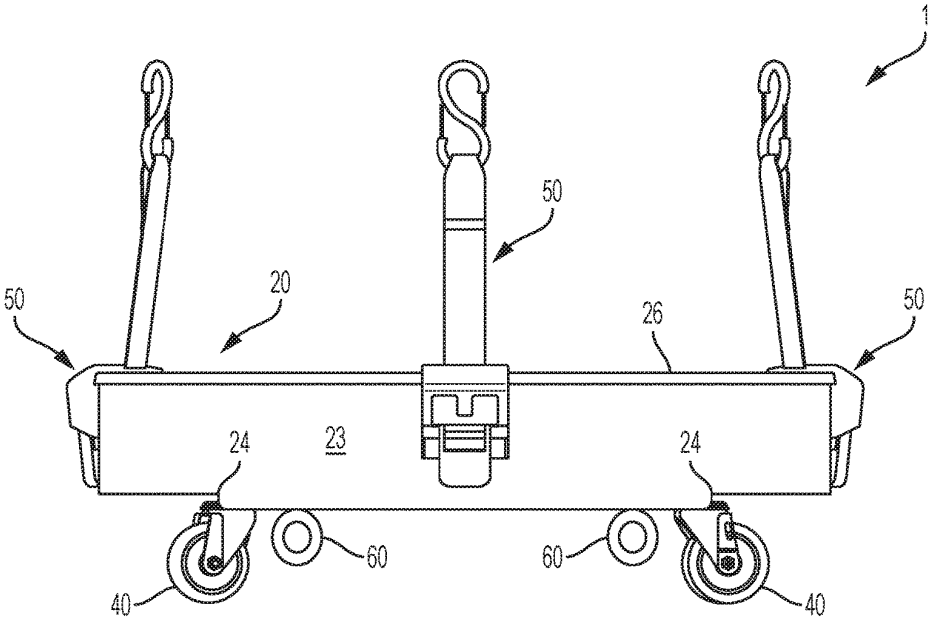
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60
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40

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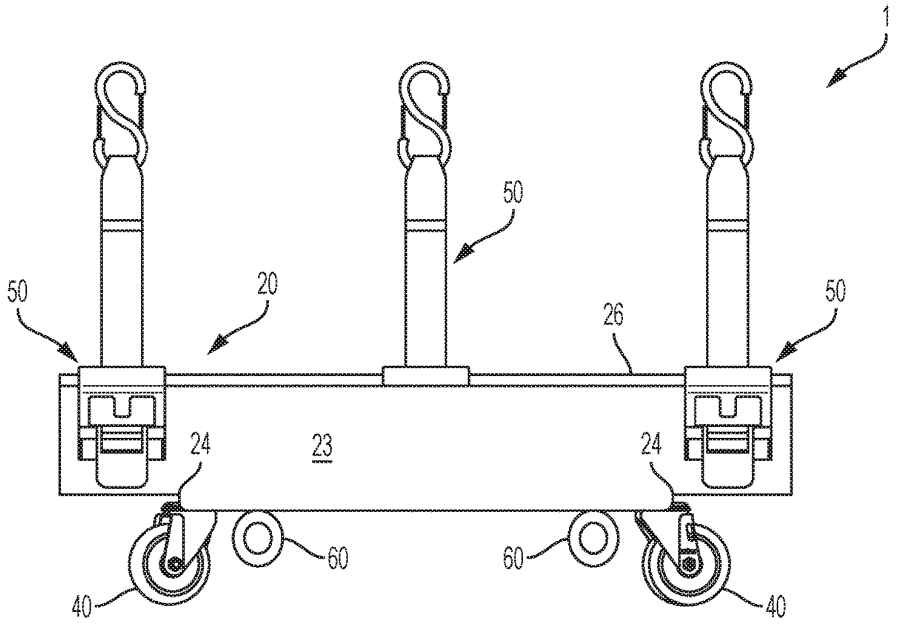
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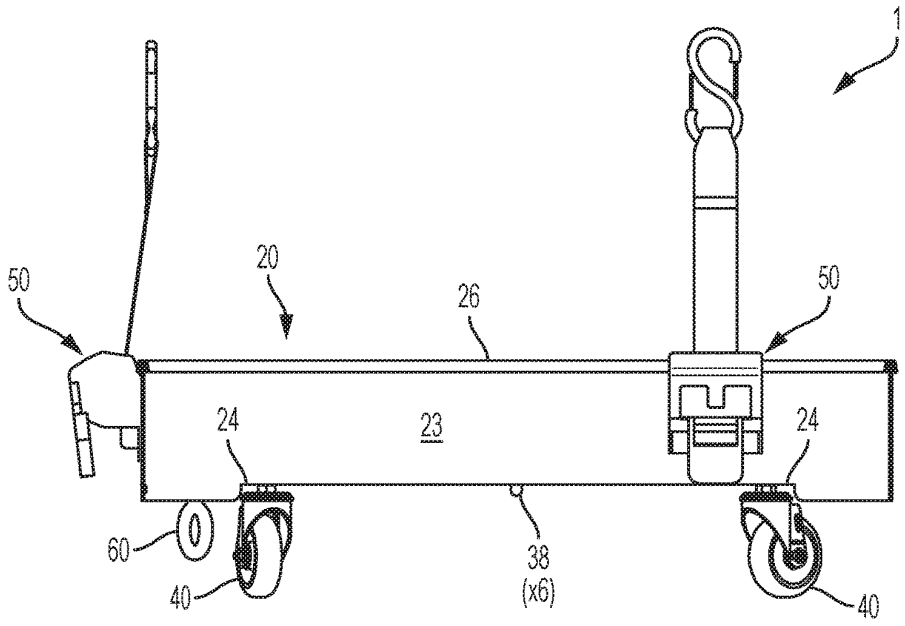
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38
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40
40

FIG. 7

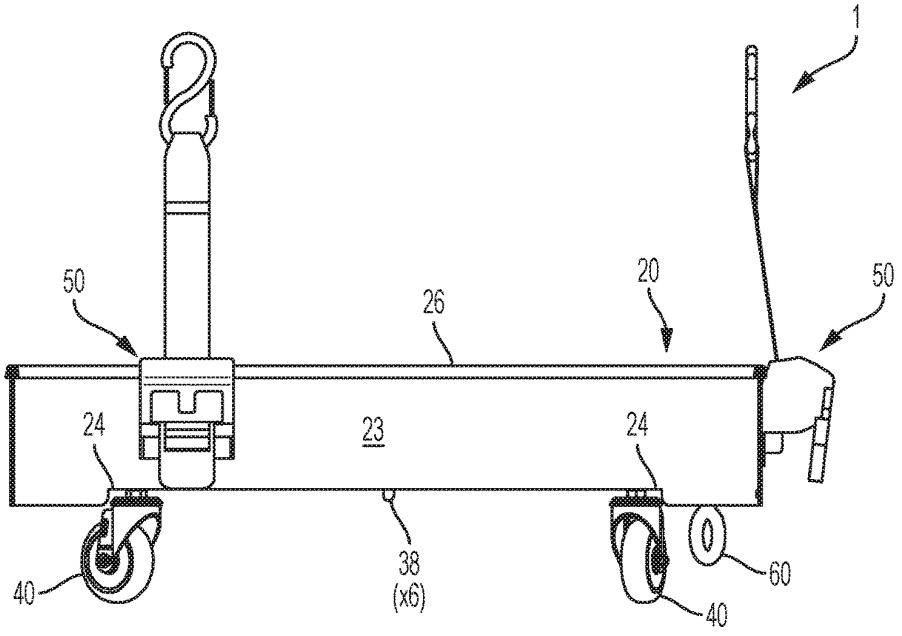
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FIG. 8

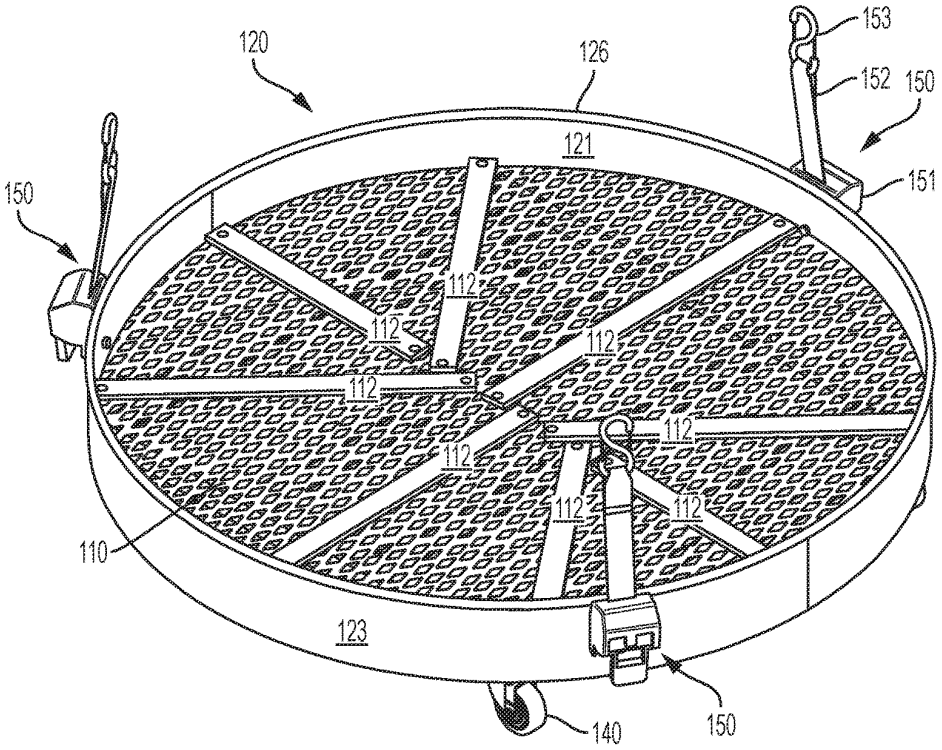
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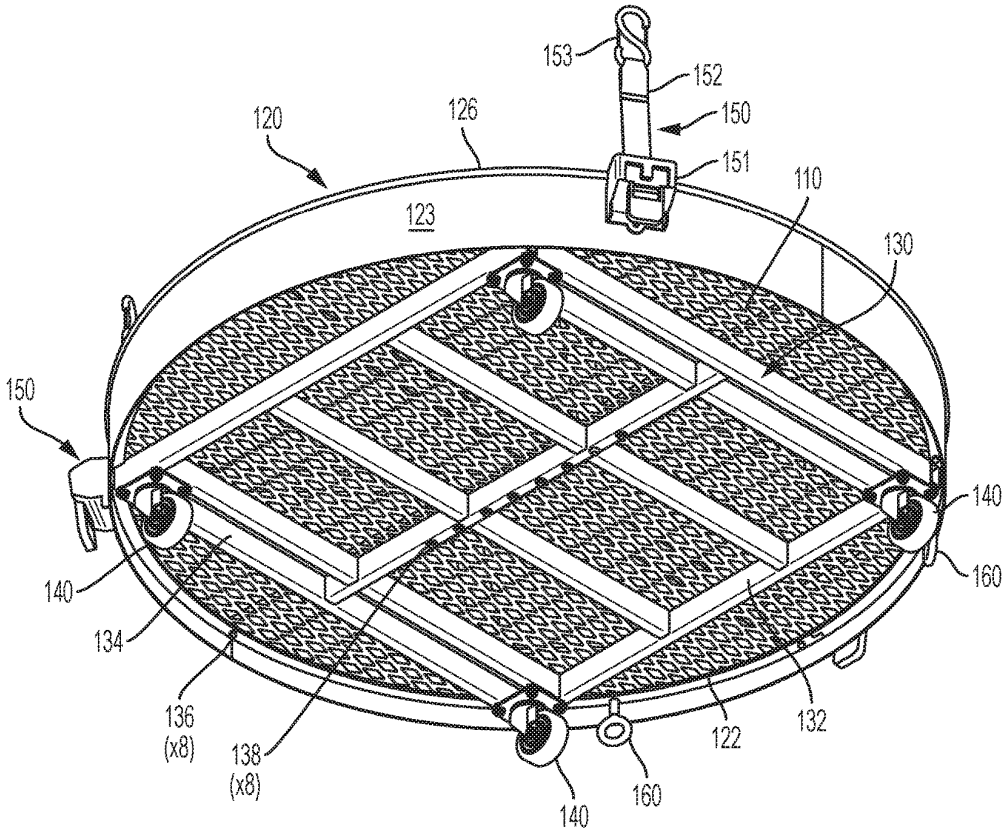
FIG. 9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122
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FIG. 10

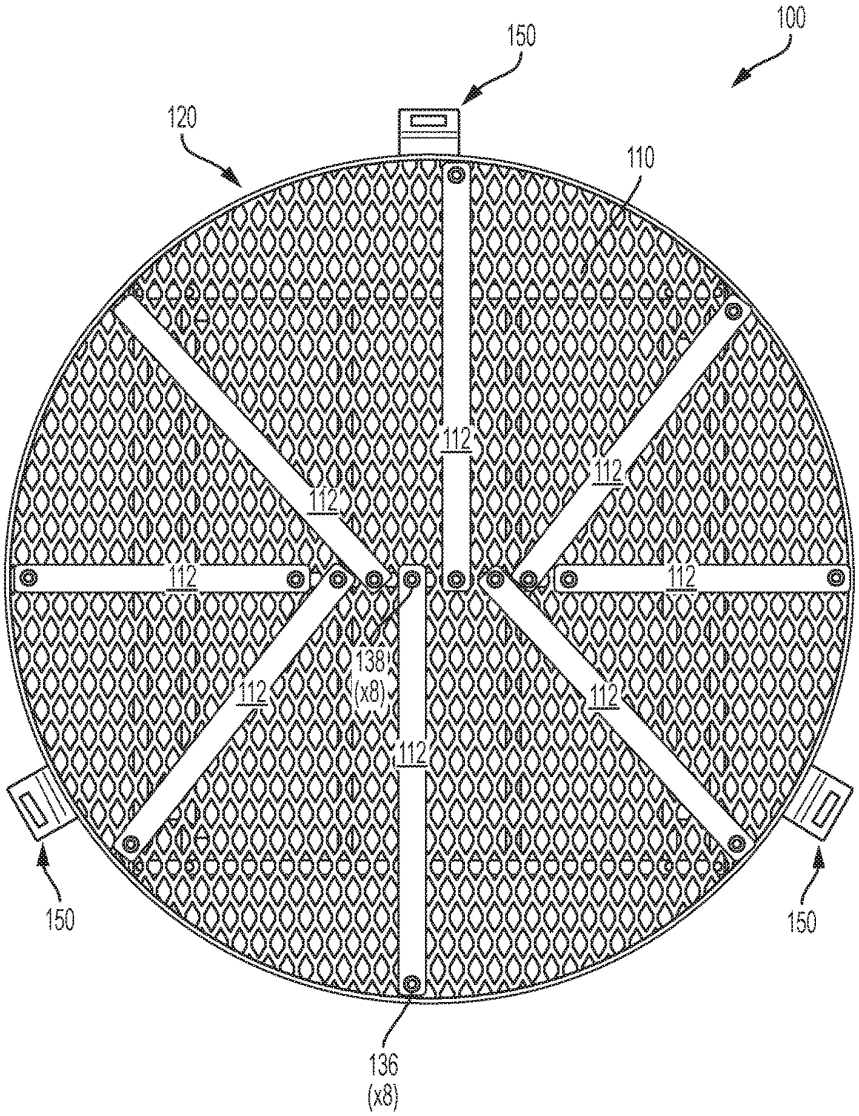
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FIG. 11

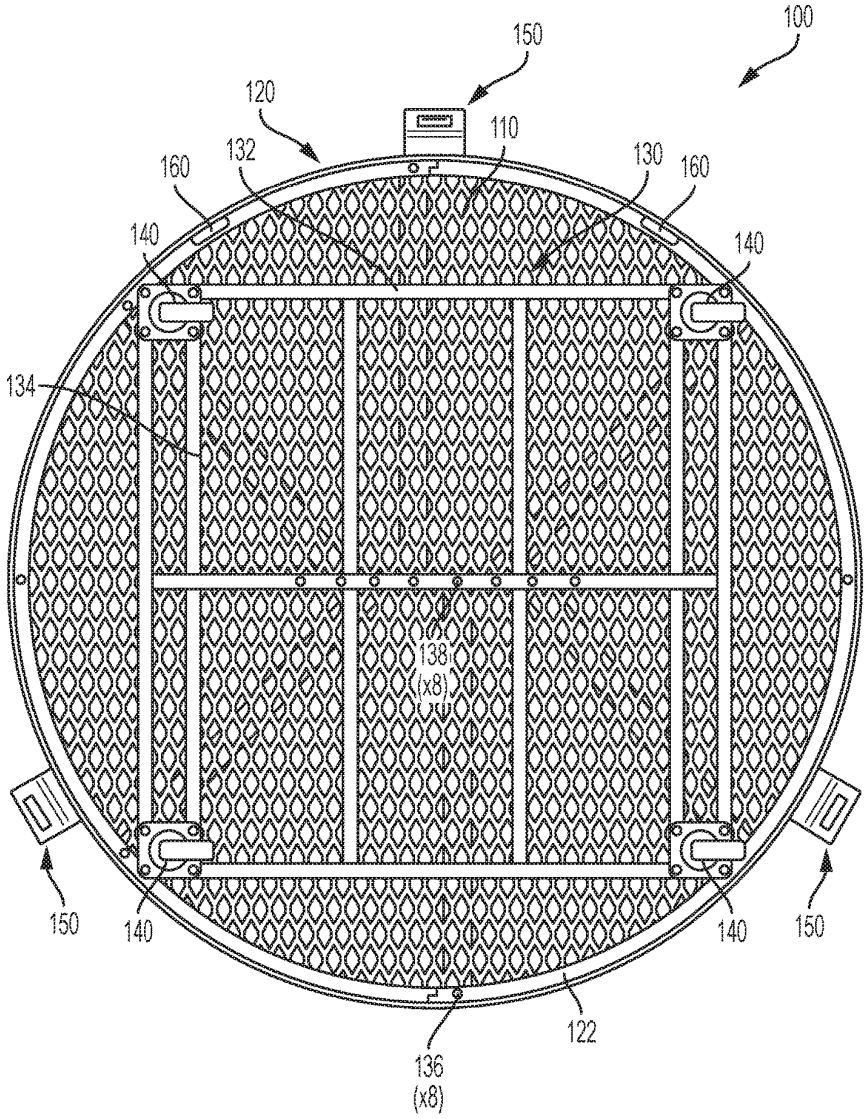
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FIG. 12

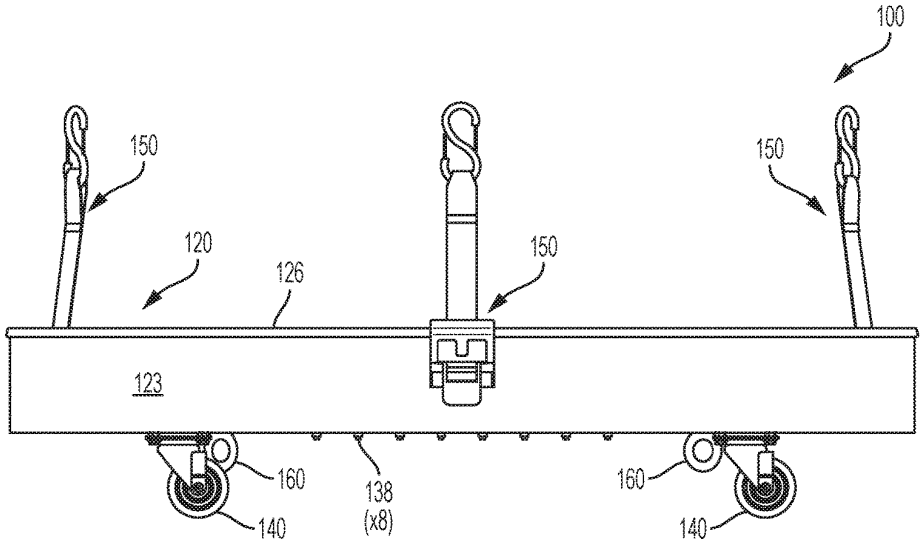
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FIG. 13

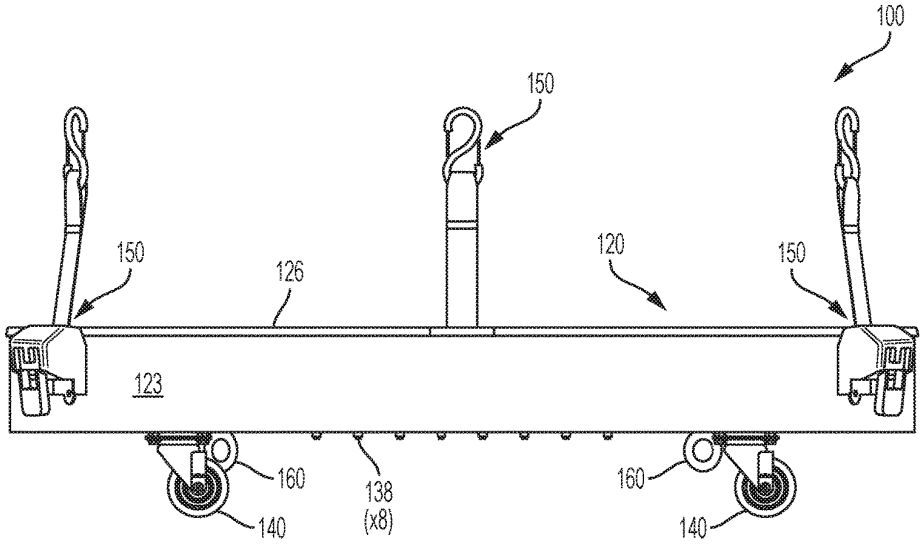
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FIG. 14

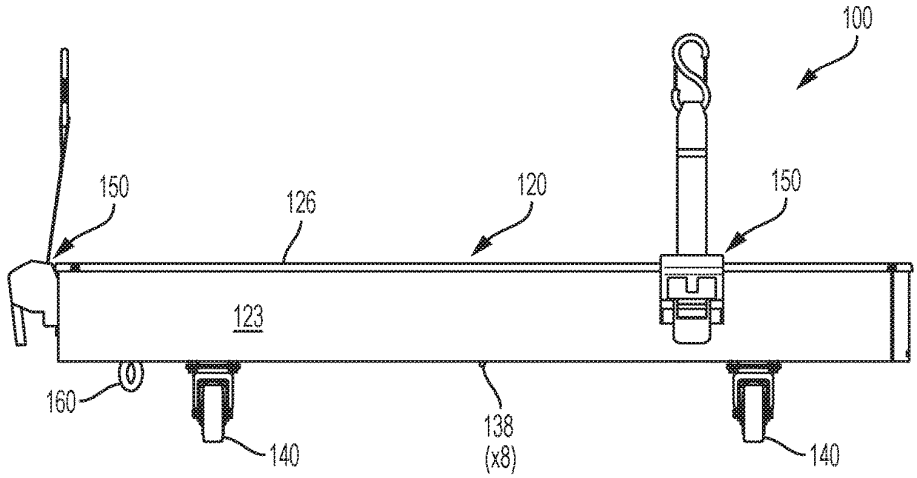
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FIG. 15

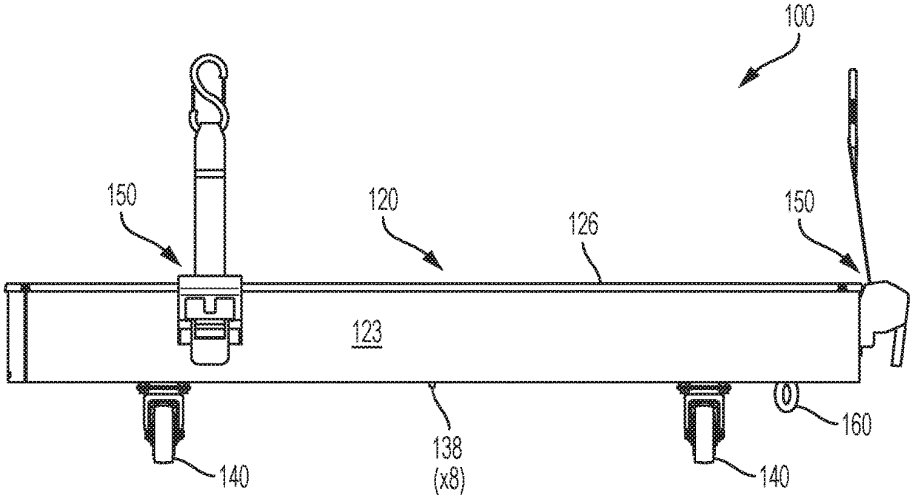
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FIG. 16

MATERIAL HANDLING DEVICE

TECHNICAL FIELD

The present invention relates to a material handling device. More particularly, the present invention relates to a material handling device for use in a manufacturing facility.

BACKGROUND

Material handling devices are widely employed in a variety of industries, and transport raw material, parts, components, subassemblies, assemblies, finished products, etc., throughout a manufacturing facility. Floats or dollies can transport drums or other containers to and from work areas in a manufacturing facility.

For example, Global Industrial manufactures a stainless steel drum dolly for transporting a 30 gallon drum (https://www.globalindustrial.com/p/material-handling/drum-barrel/drum-dollies/stainless-steel-drum-dolly-30-gallon-drum). This dolly has a cross-shaped frame that supports the drum, a circumferential lip that holds the drum in place, and four caster wheels that are attached to the cross-shaped frame.

This simple design has drawbacks in many different manufacturing environments.

SUMMARY

Embodiments of the present invention provide a material handling device. The material handling device includes a bottom, a frame, a wall, and a plurality of wheels. The bottom includes an upper surface and a lower surface. The frame includes an upper surface and a lower surface. The wall surrounds the bottom and the frame, and includes an inner surface, an outer surface, and an inner shelf attached to a lower portion of the inner surface. The inner surface includes an upper surface attached to a portion of the lower surface of the bottom, and a lower surface attached to a portion of the upper surface of the frame. Each wheel is attached to the lower surface of the frame.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view from above of a material handling device, in accordance with an embodiment of the present invention.

FIG. **2** is a perspective view from below of the material handling device depicted in FIG. **1**.

FIG. **3** is a top view of the material handling device depicted in FIG. **1**.

FIG. **4** is a bottom view of the material handling device depicted in FIG. **1**.

FIG. **5** is a front view of the material handling device depicted in FIG. **1**.

FIG. **6** is a rear view of the material handling device depicted in FIG. **1**.

FIG. **7** is a left side view of the material handling device depicted in FIG. **1**.

FIG. **8** is a right side view of the material handling device depicted in FIG. **1**.

FIG. **9** is a perspective view from above of a material handling device, in accordance with an embodiment of the present invention.

FIG. **10** is a perspective view from below of the material handling device depicted in FIG. **9**.

FIG. **11** is a top view of the material handling device depicted in FIG. **9**.

FIG. **12** is a bottom view of the material handling device depicted in FIG. **9**.

FIG. **13** is a front view of the material handling device depicted in FIG. **9**.

FIG. **14** is a rear view of the material handling device depicted in FIG. **9**.

FIG. **15** is a left side view of the material handling device depicted in FIG. **9**.

FIG. **16** is a right side view of the material handling device depicted in FIG. **9**.

DETAILED DESCRIPTION

The invention will now be described with reference to the drawing figures, in which like reference numerals refer to like parts throughout.

Embodiments of the present invention advantageously provide a material handling device that securely holds delicate and/or sensitive components and inhibits metal-on-metal contact while moving around a manufacturing facility. Additionally, the inventive material handling device advantageously supports multiple transportation configurations.

FIGS. **1-8** present various views of material handling device **1**, in accordance with an embodiment of the present invention.

In this embodiment, material handling device **1** has a round shape approximately 36 inches in diameter, and includes bottom **10**, wall **20**, frame **30** and wheels **40**. In other embodiments, material handling device **1** may have different dimensions and shapes, such as, for example, a 48 inch diameter, a square shape, a rectangular shape, a triangular shape, etc.

Bottom **10** may be formed from steel mesh, such as, for example, 1½" #9 flattened expanded steel. In other embodiments, bottom **10** may be formed from solid steel sheet, perforated steel sheet, aluminum mesh, aluminum sheet, perforated aluminum sheet, etc. When present, the openings in the material selected for bottom **10** advantageously allow smaller items to fall through while preventing larger items from falling through. The size of the openings determines whether a particular item will fall through bottom **10**.

Rubber strips **12** may be attached to the upper surface of bottom **10**, which advantageously prevents metal parts loaded into material handling device **1** from touching the metal of bottom **10**. In this embodiment, six rubber strips are arranged on the upper surface of bottom **10**; other numbers of rubber strips **12** may also be used. In one embodiment, rubber strips **12** are 0.5 inches thick and have a Shore 70A hardness.

Wall **20** may be formed from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., having a thickness of approximately 0.1 inches. In other embodiments, wall **20** may have a different thickness, wall **20** may be formed from a different material (such as, for example, aluminum, etc.), etc. In this embodiment, wall **20** surrounds or encloses bottom **10** and frame **30**; in other embodiments, wall **20** may surround or enclose either bottom **10** or frame **30**, wall **20** may partially surround or enclose bottom **10** or frame **30**, wall **20** may partially surround or enclose bottom **10** or frame **30**, etc.

Inner shelf **22** is disposed along the lower portion of the inner surface **21** of wall **20**. Inner shelf **22** is formed from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., and has a thickness of approximately 0.25 inches and a depth of approximately 0.5 inches. In other embodiments,

inner shelf **22** may have a different thickness or depth, and may be formed from a different material (such as, for example, aluminum, etc.), etc. Inner shelf **22** is attached to inner surface **21** of wall **20** using, for example, a TIG weld, a MIG weld, etc. Similarly, bottom **10** is attached to the upper surface of inner shelf **22** using, for example, a TIG weld, a MIG weld, etc., and frame **30** is attached to the lower surface of inner shelf **22** using, for example, a TIG weld, a MIG weld, etc.; other attachment mechanisms may also be used. In this embodiment, rubber strips **12** are secured to the upper surface of inner shelf **22** using countersunk flat head screws **38**; other permanent, semi-permanent or temporary attachment mechanisms may also be used, such as, for example, hex head screws, plastic cable ties, etc.

In certain embodiments, inner surface **21** and upper edge **26** of wall **20** may be coated with a polyurethane-elastomer compound, such as, for example, Rhino Tuffgrip®, which advantageously prevents metal parts loaded into material handling device **1** from touching the metal of wall **20**. In another embodiment, a rubber cap (not shown) may be attached to the upper edge **26** of wall **20**.

Retractable ratchet straps **50** may be attached to the upper portion of the outer surface **23** of wall **20** to advantageously secure a variety of part sizes to material handling device **1**. In this embodiment, three retractable ratchet straps **50** are depicted; other numbers and types of tie down mechanisms may also be used. Each retractable ratchet strap **50** includes a ratchet mechanism **51**, a retractable strap **52** and an S biner **53**. In one embodiment, retractable ratchet straps **50** are Reese retractable transom tie downs (2"×43").

Eye bolts **60** may be attached to, and depend from, the lower surface of inner shelf **22** to advantageously allow several material handling device **1** to be attached to one another, pulled by a forklift, tug, etc. Eye bolts **60** are formed from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., and are affixed to the lower surface of inner shelf **22** at the front of material handling device **1** using, for example, a TIG weld, a MIG weld, etc. In this embodiment, two eye bolts are used; other numbers and types of tow points may also be used.

Frame **30** generally provides support for bottom **10** and wall **20**. Generally, frame **30** is formed in a grid pattern from tubes made from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., that are attached together using, for example, TIG welds, MIG welds, etc. The upper surfaces of each tube collectively form the upper surface of frame **30**, while the lower surfaces of each tube collectively form the lower surface of frame **30**. In this embodiment, frame **30** includes five (5) transverse rectangular tubes **32** and two longitudinal rectangular tubes **34**. Other shapes and numbers of transverse rectangular tubes **32** and longitudinal rectangular tubes **34** may also be used.

Rubber strips **12** are secured to the middle transverse rectangular tube **32** of frame **30** using countersunk flat head screws **36**; other permanent, semi-permanent or temporary attachment mechanisms may also be used, such as, for example hex head screws, plastic cable ties, etc. Cutout regions **24** may be located on either side of wall **20**, opposite each longitudinal rectangular tube **34**, and a wheel **40** may be attached to each lower corner of frame **30**. The layout of the tubes of frame **30** and the location of wheels **40** advantageously allow the material handling device **1** to be raised by a forklift from either side, to be raised by a pallet jack device from any side, etc. In this embodiment, wheels **40** are swivel caster wheels.

FIGS. **9-16** present various views of material handling device **100**, in accordance with an embodiment of the present invention.

In this embodiment, material handling device **100** has a round shape approximately 60 inches in diameter, and includes bottom **110**, wall **120**, frame **130** and wheels **140**. In other embodiments, material handling device **100** may have different dimensions and shapes, such as, for example, a 48 inch diameter, a square shape, a rectangular shape, a triangular shape, etc.

Bottom **110** may be formed from steel mesh, such as, for example, 1½" #9 flattened expanded steel. In other embodiments, bottom **110** may be formed from solid steel sheet, perforated steel sheet, aluminum mesh, aluminum sheet, perforated aluminum sheet, etc. When present, the openings in the material selected for bottom **110** advantageously allow smaller items to fall through while preventing larger items from falling through. The size of the openings determines whether a particular item will fall through bottom **110**.

Rubber strips **112** may be attached to the upper surface of bottom **110**, which advantageously prevents metal parts loaded into material handling device **100** from touching the metal of bottom **110**. In this embodiment, eight rubber strips are arranged on the upper surface of bottom **110**; other numbers of rubber strips **112** may also be used. In one embodiment, rubber strips **112** are 0.5 inches thick and have a Shore 70A hardness.

Wall **120** may be formed from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., having a thickness of approximately 0.1 inches. In other embodiments, wall **120** may have a different thickness, wall **120** may be formed from a different material (such as, for example, aluminum, etc.), etc. In this embodiment, wall **120** surrounds or encloses bottom **110** and frame **130**; in other embodiments, wall **120** may surround or enclose either bottom **110** or frame **130**, wall **120** may partially surround or enclose bottom **110** or frame **130**, wall **120** may partially surround or enclose bottom **110** or frame **130**.

Inner shelf **122** is disposed along the lower portion of the inner surface **121** of wall **120**. Inner shelf **122** is formed from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., and has a thickness of approximately 0.25 inches and a depth of approximately 0.5 inches. In other embodiments, inner shelf **122** may have a different thickness or depth, and may be formed from a different material (such as, for example, aluminum, etc.), etc. Inner shelf **122** is attached to inner surface **121** of wall **120** using, for example, a TIG weld, a MIG weld, etc. Similarly, bottom **110** is attached to the upper surface of inner shelf **122** using, for example, a TIG weld, a MIG weld, etc., and frame **130** is attached to the lower surface of inner shelf **122** using, for example, a TIG weld, a MIG weld, etc.; other attachment mechanisms may also be used. In this embodiment, rubber strips **112** are secured to the upper surface of inner shelf **122** using countersunk flat head screws **138**; other permanent, semi-permanent or temporary attachment mechanisms may also be used, such as, for example, hex head screws, plastic cable ties, etc.

In certain embodiments, inner surface **121** and upper edge **126** of wall **120** may be coated with a polyurethane-elastomer compound, such as, for example, Rhino Tuffgrip®, which advantageously prevents metal parts loaded into material handling device **100** from touching the metal of wall **120**. In another embodiment, a rubber cap (not shown) may be attached to the upper edge **126** of wall **120**.

Retractable ratchet straps **150** may be attached to the upper portion of the outer surface **123** of wall **120** to

advantageously secure a variety of part sizes to material handling device **100**. In this embodiment, three retractable ratchet straps **150** are depicted; other numbers and types of tie down mechanisms may also be used. Each retractable ratchet strap **150** includes a ratchet mechanism **151**, a retractable strap **152** and an S biner **153**. In one embodiment, retractable ratchet straps **50** are Reese retractable transom tie downs (2"×43").

Eye bolts **160** may be attached to, and depend from, the lower surface of inner shelf **122** to advantageously allow several material handling device **100** to be attached to one another, pulled by a forklift, tug, etc. Eye bolts **160** are formed from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., and are affixed to the lower surface of inner shelf **122** at the front of material handling device **100** using, for example, a TIG weld, a MIG weld, etc. In this embodiment, two eye bolts are used; other numbers and types of tow points may also be used.

Frame **130** generally provides support for bottom **110** and wall **120**. Generally, frame **130** is formed in a grid pattern from tubes made from steel, such as, for example, 1008 plain steel, 1010 plain steel, etc., that are attached together using, for example, TIG welds, MIG welds, etc. The upper surfaces of each tube collectively form the upper surface of frame **130**, while the lower surfaces of each tube collectively form the lower surface of frame **130**. In this embodiment, frame **130** includes three (3) transverse rectangular tubes **132** and six (6) longitudinal rectangular tubes **34**. Other shapes and numbers of transverse rectangular tubes **132** and longitudinal rectangular tubes **134** may also be used.

Rubber strips **112** are secured to the middle transverse rectangular tube **132** of frame **130** using countersunk flat head screws **138**; other permanent, semi-permanent or temporary attachment mechanisms may also be used, such as, for example, hex head screws, plastic cable ties, etc. A wheel **140** may be attached to each lower corner of frame **130**. The layout of the tubes of frame **130** and the location of wheels **140** advantageously allow the material handling device **100** to be raised by a forklift from any side, to be raised by a pallet jack device from any side, etc. In this embodiment, wheels **140** are swivel caster wheels.

The many features and advantages of the invention are apparent from the detailed specification, and, thus, it is intended by the appended claims to cover all such features and advantages of the invention which fall within the true spirit and scope of the invention. Further, since numerous modifications and variations will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation illustrated and described, and, accordingly, all suitable modifications and equivalents may be resorted to that fall within the scope of the invention.

What is claimed is:

1. A material handling device, comprising:

a bottom including an upper surface and a lower surface;

a frame including an upper surface and a lower surface;

a wall, surrounding the bottom and the frame, including:

an inner surface,

an outer surface, and

an inner shelf, attached to a lower portion of the inner surface, including:

an upper surface attached to a portion of the lower surface of the bottom, and

a lower surface attached to a portion of the upper surface of the frame; and

a plurality of wheels, each wheel attached to the lower surface of the frame.

2. The material handling device according to claim **1**, wherein the bottom is round, the wall is round, and the frame is rectangular.

3. The material handling device according to claim **1**, wherein the bottom is flattened expanded steel, and the wall is steel.

4. The material handling device according to claim **3**, wherein the frame includes a plurality of steel tubes arranged in a grid pattern.

5. The material handling device according to claim **4**, wherein the portion of the lower surface of the bottom is welded to the upper surface of the inner shelf, the portion of the upper surface of the frame is welded to the lower surface of the inner shelf, and the plurality of steel tubes are welded together to form the frame.

6. The material handling device according to claim **1**, further comprising a plurality of rubber strips disposed on the upper surface of the bottom.

7. The material handling device according to claim **6**, wherein each rubber strip is attached to one of the steel tubes of the frame and to the inner shelf of the wall.

8. The material handling device according to claim **7**, wherein each rubber strip is attached using countersunk flat head screws.

9. The material handling device according to claim **7**, wherein each rubber strip is attached using plastic cable ties.

10. The material handling device according to claim **1**, further comprising an eye bolt attached to, and depending from, the lower surface of the inner shelf.

11. The material handling device according to claim **10**, wherein the eye bolt is welded to the lower surface of the inner shelf.

12. The material handling device according to claim **1**, further comprising a plurality of retractable ratchet straps attached to the outer surface of the wall.

13. The material handling device according to claim **12**, wherein each retractable ratchet strap includes a ratchet mechanism, a retractable strap and an S biner.

14. The material handling device according to claim **1**, wherein the wheels are swivel caster wheels.

15. The material handling device according to claim **1**, wherein a lower portion of the wall includes a cut out region.

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