March 9, 1965 E. K. HANSEN 3,172,693

BARREL GRAB ASSEMBLY FOR FORK LIFT VEHICLE

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FIG. 1

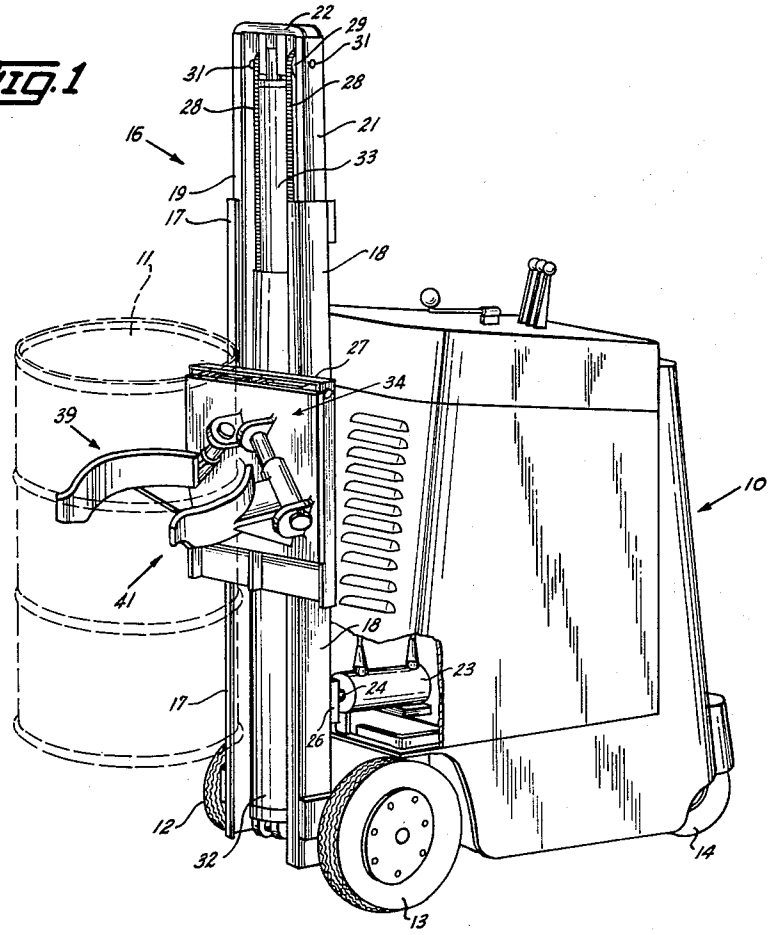
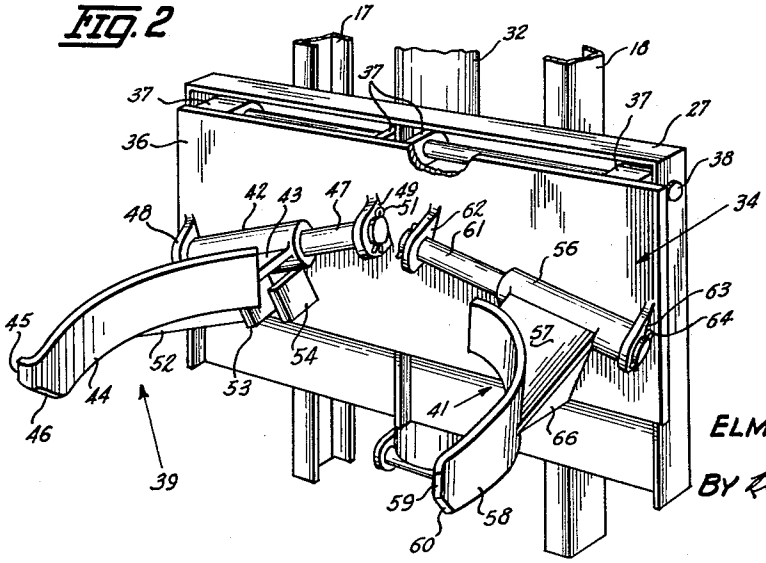


FIG. 2



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BARREL GRAB ASSEMBLY FOR FORK LIFT VEHICLE

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FIG. 3

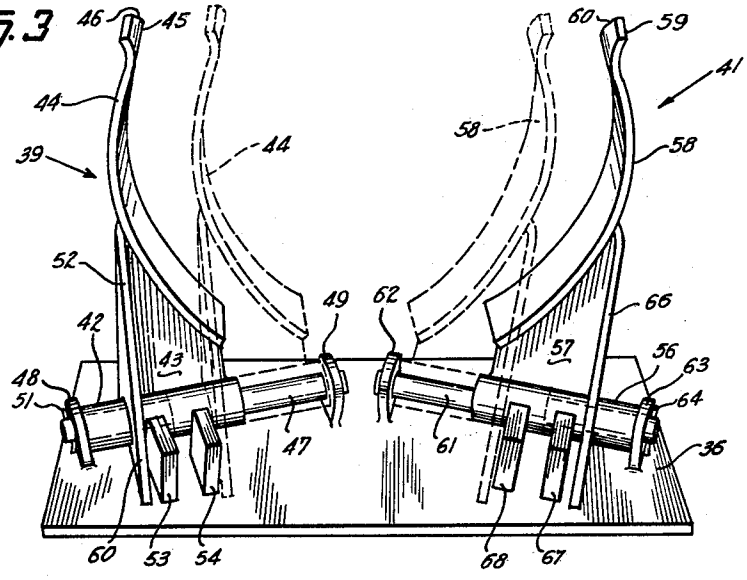
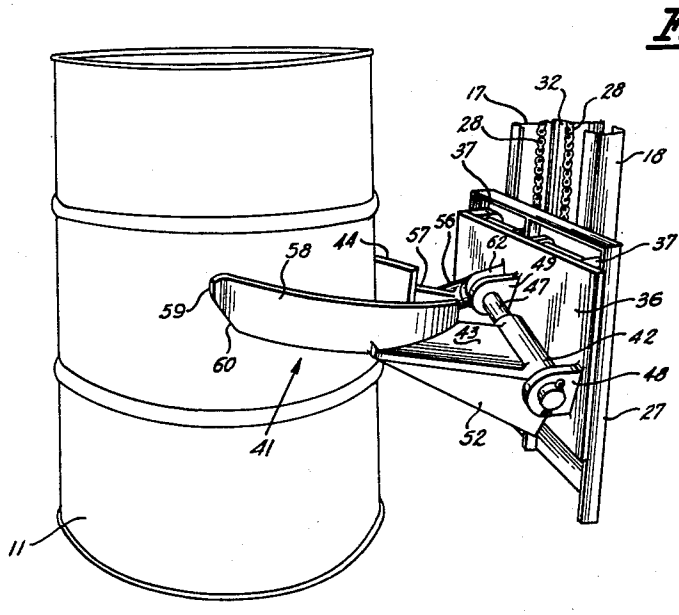


FIG. 4



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BARREL GRAB ASSEMBLY FOR FORK LIFT VEHICLE

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FIG. 6

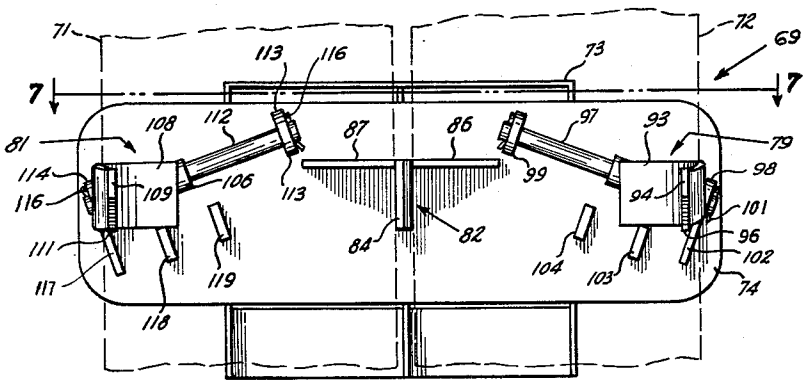


FIG. 7

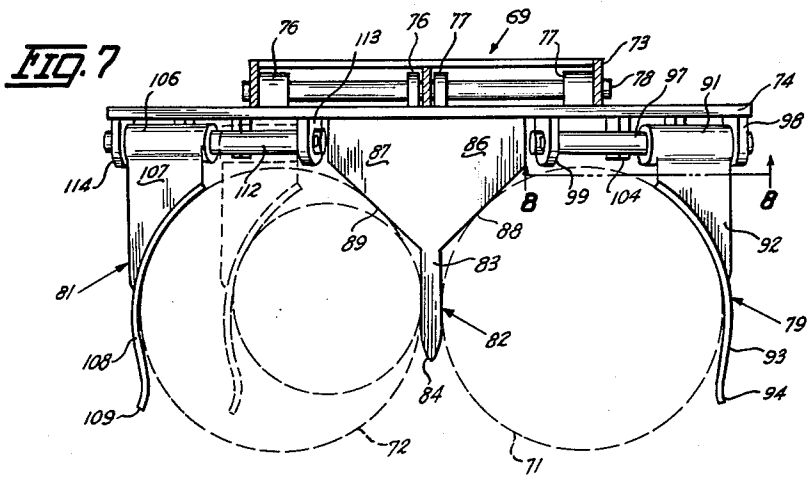


FIG. 5

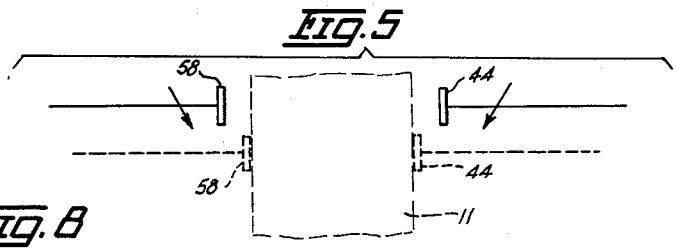
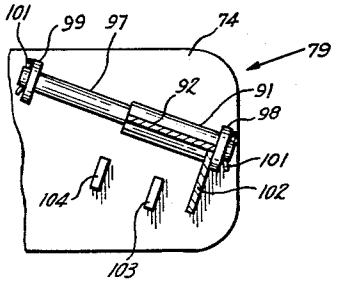


FIG. 8



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3,172,693
BARREL GRAB ASSEMBLY FOR FORK LIFT VEHICLE

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Filed July 22, 1963, Ser. No. 296,668
12 Claims. (Cl. 294—90)

This invention relates to a device for gripping and retaining objects and more particularly to a barrel grab assembly for a fork lift vehicle.

It is the object of the invention to provide an improved barrel grab assembly which is mountable on the carriage of a fork lift vehicle and engageable with opposite sections of a barrel to grip the barrel whereby upon upward movement of the carriage the barrel is moved to a raised position.

Another object of the invention is to provide a barrel grab assembly having barrel engaging jaw units which are pivoted on reversely inclined axes and are axially adjustable to accommodate barrels of varying sizes.

A further object of the invention is to provide a fork lift vehicle with a barrel grab assembly which is operable to automatically receive and release a barrel in response to forward and reverse movement of the vehicle.

Still another object of the invention is to provide a barrel grab assembly which is readily mounted on and detachable from a carriage of a fork lift vehicle.

Another object of the invention is to provide a barrel grab assembly for a fork lift vehicle which is capable of handling a pair of barrels.

An additional object of the invention is to provide a versatile barrel grab assembly which has a minimum number of movable parts and which is sturdy in construction and reliable and efficient in use.

The exact nature of the invention as well as other objects and advantages thereof will be readily apparent from a consideration of the following specification relating to the annexed drawing in which:

FIG. 1 is a perspective view of a fork lift vehicle provided with the barrel grab assembly of the invention;

FIG. 2 is an enlarged perspective view of the barrel grab assembly and lift carriage of FIG. 1;

FIG. 3 is an enlarged perspective view of the barrel grab assembly of FIG. 1 showing the adjusted positions of the barrel jaw units;

FIG. 4 is a side perspective view of the barrel grab assembly mounted on the lift carriage carried by the vehicle's mast showing the position of the jaw unit for receiving a barrel;

FIG. 5 is a diagrammatic view illustrating the clamping action of the jaw units of the barrel grab assembly of FIG. 2;

FIG. 6 is a front elevational view of a modified barrel grab assembly;

FIG. 7 is a sectional view taken along the line 7—7 of FIG. 6; and

FIG. 8 is an enlarged sectional view taken along the line 8—8 of FIG. 7.

Referring to the drawing there is shown in FIG. 1, a fork lift vehicle 10 in assembly relation with the barrel grab assembly 34 of this invention. The vehicle 10 has a motor (not shown) which drives a pair of front drive wheels 12 and 13. A steering caster wheel 14 is rotatably mounted on the bottom of the rear end of the vehicle.

The vehicle 10 has a mast 16 which extends in an upward direction from the drive wheels 12 and 13. The mast 16 comprises a pair of outer channel beams 17 and 18 which are pivotally mounted at their lower ends on the vehicle frame. A pair of inner channel beams 19 and 21 telescope within the beams 17 and 18, respectively, and are connected at their upper ends by a cross member 22. The mast 16 is maintained in an upright position and tilted about the axis of the drive wheels 12 and 13 by a double acting cylinder assembly 23 which is mounted on the vehicle frame. The cylinder assembly 23 has a piston rod 24 connected to the outer beams 17 and 18 by a transverse beam 26.

A carriage 27 extends transversely across the front side of the mast 16 and is guided by the inner beams 19 and 21 by rollers (not shown) which are positioned in the channels of the beams 19 and 21. The carriage 27 is connected to the vehicle frame by a pair of lift chains 28 which are secured at one end to the carriage 27. From the carriage 27, the lift chains 28 extend in an upward direction over sprockets 29 which are rotatably mounted on the inner beams 19 and 21 adjacent the cross member 22 by a transverse shaft 31. The opposite ends of the lift chains 28 are connected to the vehicle's frame.

The inner beams 19 and 21 are moved relative to the outer beams 17 and 18 by an upwardly extended cylinder assembly 32 which is pivotally mounted at its lower end to the vehicle frame. The upper end of the cylinder assembly 32 includes a piston 33 connected to the shaft 31. When hydraulic fluid under pressure is supplied to the bottom of the cylinder assembly 32, the piston 33 is moved in an upward direction carrying the inner beams 19 and 21 and the carriage 27 in an upward direction. The carriage 27 moves in a downward direction when the hydraulic fluid in the cylinder assembly 32 is permitted to flow back into a reservoir (not shown).

The barrel grab assembly 34 is mounted on the carriage 27 and as shown in FIG. 2, comprises a base plate 36 which is positioned transversely across the carriage 27. The top edge of the back surface of the plate 36 has rearwardly extended spaced projections 37 which maintain the plate 36 in transverse alignment with the carriage 27. A shaft 38 projects through the sides of the carriage 27 and the projections 37 to pivotally mount the plate 36 on the carriage.

A pair of forwardly extended jaw units 39 and 41, respectively, are pivotally mounted on the plate 36 for movement about reversely inclined axes. The jaw unit 39 has a sleeve 42 which extends parallel to the plane of the plate 36. An arm 43 is secured to the sleeve 42 and extends in a forward direction away from the plate 36 above the center line of the sleeve 42. The arm 43 has secured thereto an arcuate-shaped hand or jaw member 44 having an inside wall with a concave curvature substantially that of the curvature of the side wall of a barrel 11 to be gripped. The forward end of the jaw member 44 terminates in a lip 45 which has an upwardly and forwardly directed bottom edge 46. The lip 45 extends in an outward direction so as to guide the jaw member 44 around the barrel.

The sleeve 42 is positioned about a rod 47 which projects inwardly and upwardly from the side of the plate 36. The opposite ends of the rod 47 are rotatably mounted in tabs 48 and 49 which are secured to the forward surface of the plate 36. Each tab has a bore for receiving an end of the rod 47. Retaining means 51, such as snap rings and cotter keys, are fastened to the ends of the rod 47 and function to hold the rod 47 against axial movement.

The arm 43 and jaw member 44 are held in a horizontal position, lateral from the forward surface of the plate 36, by a triangular-shaped leg member 52 secured to the sleeve 42 and the arm 43 and extended in a downward direction. As shown in FIG. 3, the rear end of the leg member 52 is secured to the sleeve 42 and engages the plate 36.

The rod 47 has an axial length which is greater than

the axial length of the sleeve 42 so that the sleeve 42 can be axially moved relative to the rod 47 providing for a change in position of the jaw member 44 transversely of the truck as shown in broken lines in FIG. 3. The leg member 52 is in alignment with a pair of axially spaced blocks 53 and 54 which are secured to the plate 36 adjacent the rod 47. The blocks 53 and 54 function as stops for the arm 43. The leg member 52 coacts with either the block 53 or the block 54 to position the arm 43 axially of the rod 47. An additional transverse adjustment of the arm 43 is obtained by moving the sleeve 42 into engagement with the tab 48. This position defines the maximum transverse or outward location of the jaw member 44.

The jaw unit 41 has a construction which is similar to the jaw unit 39. The jaw unit 41 has a sleeve 56 and a forwardly extended arm 57 secured to the sleeve. An arcuate-shaped jaw member 58 is secured to the forward end of the arm 57 above the axis of the sleeve 56. The jaw member 58 has an inside wall having a concave contour which substantially coincides with the curvature of the barrel. The forward end of the jaw member terminates in an outwardly directed lip 59 which has a bottom edge 60 projected upwardly and forwardly to guide the barrel into the jaw member 58. A rod 61, positioned adjacent the plate 36 in a plane which is reversely inclined from the rod 47, is fastened to the plate 36 by spaced tabs 62 and 63 secured to the plate 36. The tabs 62 and 63 have axially aligned openings for receiving the ends of the rod 61. Retaining means 64, such as cotter keys or snap rings, extend through the ends of the rod 61 and hold the rod in engagement with the tabs 62 and 63.

As shown in FIG. 3, a triangular-shaped leg member 66 is secured to the outside edge of the arm 57. The leg member 66 extends in a downward direction with the outer end thereof in engagement with the mid-section of the jaw member 58 and the inner end secured to the sleeve 56 and extended into engagement with the plate 36. The leg member 66 functions to hold the arm 57 and jaw member 58 in a forward direction away from the outer surface of the plate 36.

As shown in FIG. 3, the rod 61 extends between the tabs 62 and 63 and has an axial length which is greater than the axial length of the sleeve 56. The transverse position of the jaw member 58 may be varied by moving the sleeve 56 axially of the rod 61. The adjusted position of the sleeve 56 relative to the rod 61 is established by the tab 63 which is engageable with the end of the sleeve 56 and a pair of axially spaced blocks 67 and 68 which are secured to the plate 36 below the rod 61. The blocks 67 and 68 are transversely spaced and define stops which coact with the inner end of the leg member 66 to maintain the axial position of the sleeve 56 on the rod 61.

In use, the jaw units 39 and 41 are adjusted along the rods 47 and 61 until the space between the jaw members 44 and 58 is substantially equal to the diameter of a barrel. Each jaw unit is adjusted by pivotally moving the arm in an upward direction to move the leg member out of engagement with the plate 36. With the arm member held in an upward direction the sleeve is movable relative to its associated rod to an adjusted position. This adjusted position is retained on return of the arm and its associated jaw member back to its forward extended position by the coacting engagement of the leg member with one of the blocks. This coaction between the leg member and the blocks maintains the jaw unit in its adjusted position.

As shown in FIG. 4, in order to position the jaw units 39 and 41 about the barrel 11 the carriage 27 is lowered to the bottom end of the mast 16 to locate the arm and jaw members adjacent the mid-section of the barrel 11. The vehicle 10 is then moved in a forward direction until the barrel is received between the facing concave contoured side walls of the jaw members 44 and 58. During the forward movement of the vehicle the upwardly and forwardly projected bottom lip edges 46 and 60 of the jaw members 44 and 58, respectively, ride up on the opposite sides of the barrel 11 as shown in full lines in FIG. 5. When the barrel 11 is between the facing contour sections of the jaw members 44 and 58 they move downwardly and inwardly as shown by the broken lines in FIG. 5, to grip or embrace opposite portions of the midsection of the barrel 11.

With the application of fluid pressure to the cylinder assembly 32 the carriage 27 and the barrel grab assembly 34 are moved in an upward direction. The arms and associated jaw members rotate in a downward direction until the leg members 52 and 66 engage the plate 36. Additional upward movement of the barrel grab assembly results in the lifting of the barrel in an upward direction. When the jaw units 39 and 41 rotate in a downward direction about the rods 47 and 61, respectively, the jaw members 44 and 58 move downwardly and toward each other to effect a clamping or hugging action on the mid-section of the barrel 11 between the beads thereof. See FIG. 5.

After the barrel 11 has been transported by the vehicle 10 to its new location the carriage 27 is lowered until the barrel 11 rests on the ground. The jaw members 44 and 58 may be removed from the barrel 11 by continuing the lowering of the carriage 27 after the barrel is in engagement with the ground so as to pivot the arms 43 and 57 in an upward direction about the rods 47 and 61. Pivotal movement of the arms 43 and 57 in an upward direction moves the jaw members 44 and 58 out of engagement with the opposite sides of the barrel 11 as the plane of movement of the jaw members 44 and 58 is defined by the reversely inclined axes of the rods 47 and 61. As a result of this reversed inclination of the axes for the rods 47 and 61, the free ends of the jaw members move away from each other, in relatively diverged paths, on upward movement of the jaw members, and toward each other in relatively converging paths on downward movement of the jaw members. After the jaw members 44 and 58 have been moved out of clamping engagement with the opposite sides of the barrel 11 the vehicle 10 is driven in a reverse direction moving the jaw units 39 and 41 from the barrel 11.

The modified barrel grab assembly shown in FIGS. 6 and 7 is indicated generally with the number 69 and is operable to concurrently grip a pair of barrels or drums 71 and 72. The assembly 69 is similar in construction to the barrel grab assembly 34 and is mounted on a vertically movable carriage 73 of a fork lift vehicle.

The assembly 69 has a flat base plate 74 positioned adjacent the forward side of the carriage 73 and extended transversely of the vehicle. As shown in FIG. 7, the plate 74 is maintained in transverse alignment with the carriage 73 by a pair of projections 76 and 77 secured to the top of the back side of the plate 74. The projections 76 and 77 abut the inside facing surfaces of the sides of the carriage to limit the movement of the plate 74 transversely of the carriage. A transverse shaft 78 extends through the sides of the carriage and projections 76 and 77 to pivotally connect the plate 74 to the carriage.

As shown in FIG. 7, a pair of movable jaw units 79 and 81 project in a forward direction from the opposite end sections of the plate 74. The jaw units 79 and 81 pivot about reversely inclined axes which lie in a transverse plane which is substantially parallel to the plate 74. Each jaw unit moves in an upward and outward direction away from the sides of an associated barrel.

A fixed arm 82 is secured to the mid-section of the plate 74 and lies substantially midway between the jaw units 79 and 81. The arm 82 comprises an upright plate 83 secured to the plate 74 and projected in a forward direction. The plate 83 terminates in a pointed forward end 84. A pair of horizontal gusset plates 86 and 87 are secured to the plate 74 and to opposite sides of the upright plate 83. The top surface of each plate 86 and

87 is coextensive with the top wall of the upright plate 83. The gusset plates 86 and 87 have rearwardly and outwardly directed forward walls 88 and 89, respectively, which are engageable with side walls of the barrels 71 and 72.

The jaw unit 79 has a sleeve 91 positioned in the plane of the reversely inclined axes. Secured to the sleeves 91 and extended in a forward direction away from the plate 74 is an arm 92. An arcuate-shaped jaw member 93 is secured to the arm 92 and positioned above the axis of the sleeve 91. As shown in FIG. 6, the forward end of the jaw member 93 terminates in an outwardly directed lip 94 which has an upwardly and forwardly directed bottom edge 96. The lip 94 functions as a cam follower to guide the jaw member around the barrel. The inside wall of the jaw member 93 has a concave curvature which substantially conforms to the curvature of the side walls of a large barrel.

As shown in FIG. 8, sleeve 91 is positioned about a rod 97 which extends inwardly and upwardly from the side of the plate 74. The opposite ends of the rod 97 are rotatably mounted in forwardly projected tabs 98 and 99 which are secured to the plate 74. Retaining means 101, such as snap rings and cotter keys, are fastened to the ends of the rod 97 and function to hold the rod in the tabs 98 and 99.

The arm 92 and jaw member 93 are held in a substantially horizontal position by a triangular-shaped leg member 102 which extends downwardly and inwardly as shown in FIG. 8. The leg member 102 is secured to sleeve 91 and the arm 92 and is engageable with the forward surface of the plate 74 to limit the downward angular movement of the arm and sleeve about the rod 97.

As shown in FIG. 8, the rod 97 has a length which is substantially greater than the length of the sleeve 91 thereby permitting the sleeve 91 to be moved axially relative to the rod 97 to change the position of the jaw member 93 transversely of the vehicle for the purpose of accommodating barrels of varying diameters. The adjusted position of the jaw unit 79 is maintained by a pair of spaced blocks 103 and 104 which are secured to the plate 74 below the rod 97. The blocks 103 and 104 determine the stop positions of the jaw 79. The leg member 102 coacts with either the block 103 or the block 104 to fix the position of the sleeve 91 and arm 92 relative to the rod 97. An additional transverse adjustment of the jaw member 93 is obtained when the sleeve 91 abuts the tab 98. This position defines the maximum outward location of the hand member 93.

The jaw unit 81 is similar in construction to jaw unit 79 and comprises a sleeve 106, an arm 107 secured to the sleeve and extended in a forward direction, and a curved jaw member 108 secured to the arm 107 and positioned above the axis of the sleeve 106. The inside wall of the jaw member 108 has a concave contour which substantially coincides with the curved shape of the side walls of the barrel 71. The jaw member 108 terminates in a forward lip 109 which projects in an outward direction. As shown in FIG. 6, the bottom edge 111 of the lip 109 extends upwardly and forwardly and forms a cam follower surface which rides on the curved side wall of the barrel 71 during the positioning of the barrel grab assembly about the barrels 71 and 72.

A rod 112 extends through the sleeve 106 and is rotatably mounted in tabs 113 and 114 which are secured to the plate 74. The rod 112 projects inwardly and upwardy from the side of the plate 74. Retaining means 116, such as cotter keys or snap rings, are connected to the opposite ends of the rod 112 to retain the rod in the tabs 113 and 114.

The sleeve 106 has an axial length which is shorter than the length of the rod 112 thereby enabling the jaw unit 81 to be moved in a direction transversely of the vehicle as shown by the broken line position in FIG. 7. The transverse position of the jaw unit 81 is maintained by a downwardly and inwardly extended leg member 117 which coacts with a pair of spaced blocks 118 and 119 secured to the plate 74 below the rod 112. The maximum adjusted outward position of the jaw member 108 is obtained by moving the sleeve 106 in engagement with the tab 114 as shown in solid lines in FIG. 7.

In use, the jaw units 79 and 81 are moved along their respective rods 97 and 112 until the transverse space between each jaw member and the fixed arm 82 is substantially equal to the diameters of the barrels 71 and 72 which are to be transported.

Each jaw unit is adjusted by rotating the arm in an upward direction thereby moving the leg member away from the plate 74. When the leg member is moved from a coacting relationship with respect to the blocks secured to the plate 74 the sleeve can be moved axially relative to the rod. Rotation of the arm and its associated jaw member back to its forward extended position places the leg member into a coacting relationship with one of the blocks. When the arm member is in its maximum transverse or outward position the end of the sleeve engages the outside tab.

When the jaw units 79 and 81 and the fixed arm 82 are to be positioned about a pair of barrels 71 and 72, the carriage 73 is lowered until the hand members 93 and 108 are adjacent the mid-section of the barrels. The vehicle is moved in a forward direction positioning the lips 94 and 109 in engagement with opposite portions of the barrels 71 and 72. The upwardly directed bottom edges 96 and 111 of the respective lips ride up on the opposite sides of the barrels rotating the jaw units 79 and 81 in an upward direction. The reverse inclined position of the rods 97 and 112 effect an outward movement of the jaw members 93 and 108 when the jaw units are rotated in an upward direction thereby permitting the jaw units 79 and 81 to be positioned about the barrels.

In the loaded position the barrels 71 and 72 are in engagement with the inside walls of the jaw members 93 and 108, the opposite sides of the upright plate 83 and the forward walls 88 and 89 of the gusset plates 86 and 87. When the carriage 73 is moved in an upward direction the jaw units rotate in a downward direction until their respective leg members engage the plate 74. The inclined position of the rods 97 and 112 define the plane of movement of the hand members 93 and 108 which on downward movement is toward each other to perfect a concurrent clamping action on the sides of the barrels 71 and 72. The jaw members hug the section of the barrels between the fixed arm 82 and the jaw members 93 and 108.

After the barrels 71 and 72 have been transported to their new location the carriage 73 is lowered until the barrels rest upon the ground and are released by the jaw units. The barrel grab assembly is removed from the barrels by driving the vehicle in a reverse direction. During the reverse movement the jaw units 79 and 81 slide over the sides of the barrel and pivot in an upward direction to release the clamping action of the jaw members 93 and 108 on the mid-sections of the barrels.

In summary, the barrel grab assembly is mounted on the carriage of the fork lift vehicle 10 and has a pair of jaw units which engage opposite sections of the sides of the barrels. Upon upward movement of the carriage the barrel is moved to a raised position. The jaw units are pivoted on reversely inclined axes which diverge downwardly from the center section of the carriage. Pivotal movement of the jaw units in an upward direction effect movement thereof in planes which diagonally intersect the opposite sections of the sides of the barrels. Each jaw unit has a leg member which coacts with a fixed block for adjusting the position of the jaw unit transversely of the truck in order to accommodate barrels of varying sizes.

While there have been shown, described, and pointed

out the fundamental novel features of the invention, it is to be understood that various omissions, substitutions, changes in form, and details of the apparatus illustrated may be made by those skilled in the art, without departing from the spirit of the invention. It is intended to be limited only as indicated by the scope of the following claims.

I claim:

1. A barrel grab assembly adapted to grip a barrel for use with a fork lift vehicle having an upright mast and a carriage mounted on said mast for up and down movement comprising:

(a) a base plate mounted in an upright position on said carriage,

(b) a first jaw and a second jaw extended laterally from said base plate,

(c) hand means secured to each jaw, said hand means having an inside concave side wall which substantially conforms to the contour of the side of a barrel and engageable with opposite sides of the barrel,

(d) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downward direction,

(e) leg means secured to each jaw and engageable with said plate to limit the rotational movement of the jaws whereby the jaws are retained in said lateral position and said hand means in clamping engagement with the opposite sides of the barrel, and

(f) stop means secured to said base plate adjacent said pivot means, said stop means engaged with said leg means to adjust the axial position of the first and second jaw on the associated pivot means.

2. A barrel grab assembly adapted to grip a barrel for use with a fork lift vehicle having an upright mast and a carriage mounted on said mast for up and down movement comprising:

(a) plate means mounted in an upright position on said carriage,

(b) a first arm and a second arm extended laterally from said plate means,

(c) hand means secured to each arm, said hand means having a curved shape which substantially conforms to the contour of the side of a barrel and engageable with opposite sides of the barrel,

(d) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downward direction, and

(e) leg means secured to each arm and engageable with said plate means to limit the rotational movement of the arms whereby the arms are retained in said lateral position and said hand means in clamping engagement with the opposite sides of the barrel.

3. A barrel grab assembly adapted to grip a barrel for use with a fork lift vehicle having an upright mast and a carriage mounted on said mast for up and down movement comprising:

(a) support means mounted on said carriage,

(b) a first arm and a second arm extended laterally from said support means,

(c) hand means secured to each arm, said hand means having a curved shape which substantially conforms to the contour of the side of a barrel and engageable with opposite sides of the barrel, and

(d) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downward direction.

4. A device for clutching an object comprising:

(a) a base plate,

(b) a first means and a second means extended laterally from said base plate and positionable about said object and engageable with opposite portions of the object,

(c) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downwardly direction,

(d) leg means secured to said first means and said second means and engageable with said base plate to hold said first and second means in a lateral position with respect to said base plate, and

(e) stop means secured to said base plate and engageable with said leg means to adjust the axial position of the first and second means on the associated pivot means.

5. A device for clutching an object comprising:

(a) a base plate,

(b) a first means and a second means extended laterally from said base plate and positionable about said object and engageable with opposite portions of the object,

(c) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downwardly direction, and

(d) leg means secured to said first means and said second means and engageable with said base plate to hold said first and second means in a lateral position with respect to said base plate.

6. In a device for holding an object,

(a) a base plate having a flat surface,

(b) a pair of jaw means extended laterally from said surface, and engageable with said object,

(c) means pivotally mounting the jaw means on the base plate for movement about corresponding axes which extend in a common plane substantially parallel to said surface, said axes being reversely inclined relative to each other to form an angle whose sides diverge in downward direction, whereby each jaw means is movable in a path normal to the corresponding axis thereof toward and away from the object, and

(d) leg means coacting with said jaw means and base plate to limit the movement of said jaw means toward said object.

7. In a device for holding an object,

(a) a base plate having a surface,

(b) a pair of jaw means extended laterally from said surface, and engageable with said object, and

(c) means pivotally mounting the jaw means on the base plate for movement about corresponding axes which extend in a common plane substantially parallel to said surface, said axes being reversely inclined relative to each other to form an angle whose sides diverge in a downward direction, whereby each jaw means is movable in a path normal to the corresponding axis thereof toward and away from the object.

8. A device for clutching a pair of objects comprising:

(a) a base plate having end sections and a center section,

(b) fixed arm means extended laterally from said base plate and secured to said center section thereof, said

fixed arm means having opposite sections engageable with adjacent portions of said pair of objects,

(*c*) first jaw means and second jaw means extended laterally from said base plate and engageable with portions of the objects opposite said adjacent portions of the objects,

(*d*) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downward direction, and

(*e*) leg means secured to said first jaw means and second jaw means, said leg means engageable with said base plate to hold said first and second jaw means in a lateral position with respect to said base plate.

9. The device defined in claim 8 including:

(*f*) stop means secured to said support means and engageable with said leg means to hold the first and second jaw means in adjusted axial positions on their associated pivot means.

10. A device for clutching a pair of objects comprising:

(*a*) a base plate having end sections and a center section,

(*b*) fixed arm means extended laterally from said base plate and secured to said center section thereof, said fixed arm means having opposite sections engageable with adjacent portions of said pair of objects,

(*c*) first jaw means and second jaw means extended laterally from said base plate and engageable with portions of the objects opposite said adjacent portions of the objects, and

(*d*) means pivotally mounting the first jaw on the base plate on a first axis inclined with respect to the horizon and means for pivotally mounting the second jaw on the base plate on a second axis which is reversely inclined with respect to the first axis, the two axes forming an angle whose sides diverge in a downward direction.

11. A grab assembly for barrels usable with a fork lift vehicle having a lift carriage comprising:

(*a*) support means mountable on the lift carriage of the vehicle,

(*b*) fixed jaw means extended in a horizontal plane laterally from said support means and engageable with one side section of a barrel,

(*c*) movable jaw means extended laterally from said support means and engageable with the side section opposite said one side section of the barrel, and

(*d*) means pivotally mounting said movable jaw means on the support means for movement about an axis located in a vertical plane extended transversely of said support means, said axis being inclined downwardly from said fixed jaw means to provide for the movement of said movable jaw means in a path normal to said axis toward and away from said opposite side section of the barrel.

12. The grab assembly defined in claim 11 including:

(*e*) leg means secured to said movable jaw means and engageable with said support means to limit the downward movement of said movable jaw means relative to said support means, and

(*f*) stop means secured to said support means and engageable with said leg means to hold the movable jaw means in an adjusted axial position on said pivot means.

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