P A T E N T C L A I M S

1. A container handling and flow system comprising a plurality of base elements for mounting on containers and fasteners for locking the base elements on to corner fittings of a container, c h a r a c t e r i z e d in that base elements are elongate and have a length corresponding to the width of the containers to be handled, said system possibly including base elements of different lengths corresponding to different container standards, that the fasteners are arranged one at each end of the base element at a distance corresponding the distance between the corner fittings, and that said base elements have sufficient strength and stiffness for allowing transfer of the load of one or more container(s) resting on top of or moving across a pair of base elements.

2. A container handling and flow system according to claim 1, further including base elements capable of spanning the width of two or more containers arranged side-by-side.

3. A container handling and flow system according to any of the preceding claims, where at least some of the base elements are equipped with rollers, wheels or conveyors, which may be either passive or driven by roller motors, conveyor drives, push/pull systems or the like capable of moving at least one container, brakes, vibration dampeners and/or means for regaining/collecting kinetic energy.

4. A container handling and flow system according to any of the preceding claims, further comprising one or more functional element(s) chosen from the group consisting of: carriers, cranes, lashing, supply and/or stabilization elements, roof and/or sidewall systems for water, wind and sunlight protection, safety and security solutions, lights, lamps, CCTV and control cameras, remote control units, wireless or Bluetooth systems, network solutions, RFID and/or Memory and control chips, Gensets, Engines, Power Packs, fly wheels, batteries, capacitors, chargers, cooling systems, grooved tracks, weight balancing and trimming means for container, stacks and vessels, sensors for sensing distances, container and stacking stability, damages, motions, weather, etc. as well as supply of air/gas or electricity, said functional element(s) being either separate unit(s) or integrated in the base elements or carriers.

5. A container handling and flow system according to any of the preceding claims, where at least some base elements can be interconnected or include lashing elements or tracks or connectors for attachment of lashing elements, the lashing elements or connectors preferably being automatically operable.

6. A container handling and flow system according to any of the preceding claims, further including attachment or adjustment members for being mounted directly on or which are integrated in containers.

7. A container handling and flow system according to any of the preceding claims, where the base elements are shaped as bridges with a curved side in the length direction.

8. A container handling and flow system according to any of the preceding claims, further including storage facilities and/or supply systems for storing and delivering base elements, respectively, and/or an electronic control system, preferably with remote communication.

9. A container handling and flow system according to any of the preceding claims, further including mounting and/or supply carriers for running onto or along other base elements, which has already been mounted, to mount or dismount base elements on other containers and/or deliver supplies.

10. A container handling and flow system according to any of the preceding claims, where the height of at least one type of base element is bigger than its width, when seen in the mounted position.

11. A container handling and flow system according to any of the preceding claims, where the base elements are made with one or more materials chosen from the group consisting of: metal, such as steel, plastic and composites, including fibres reinforced materials.

12. Use of a container handling and flow system according to any of claims 1-11 in a container terminal, a warehouse or on board a vessel.

13. A method of handling containers comprising the steps of:

a) arranging at least two base elements on a first container,

b) locking the base elements to corner fittings of the first container using fasteners on the base elements, said corner fittings being

located at opposite corners at the same end of the first container,

c) arranging the first container in a stacks with at least one other container so that the load of one or more container(s) resting on top of or moving across a pair of base elements may be transferred via the base elements.

14. A method according to claim 13, further including the step of mounting base elements both at the top and at the bottom of containers before arranging them in a stack, said top and bottom base elements possibly being of different construction.

15. A method according to claim 13 or 14, where base elements are mounted by a robotic or machine system, preferably at first point of contact in a warehouse or a container terminal.

16. A method according to any of claims 13-15, where containers equipped with base elements are arranged to form a path for other containers.

17. A method according to any of claims 13-16, where containers equipped with base elements are arranged in terminals or on vessels so that they form access paths for container carriers.

18. A method according to any of claims 13-17, where two or more containers are interconnected using base elements to form a movable unit.

19. A method according to any of claims 13-18, where base elements are left on the container when it is transferred to a vessel, truck or train.

20. A method according to any of claims 13-19, where the containers are stacked onto carriers or base elements and moved on paths through the terminal, warehouse or vessel, substantially without being lifted.

21. A method according to claim 20, where the paths are inclined and the containers are preferably arranged on negative height equalization carriers.

22. A method according to any of claims 13-21, where containers to be relocated to other rows/stacks are moved onto carriers.

23. A method according to any of claims 13-22, where the han-

dling and operating of containers within terminals, warehouses or vessels are controlled by software and an operational systems controlled centrally or autonomously to move and position containers optimally.

5

PATENT CLAIMS

1. A container handling and flow system comprising:

a plurality of base elements selected from one of the same lengths or different lengths , said base elements having a first side configured to be removably mounted on a top side of a container using container corner fittings, and having a second side configured to support other containers on top of the containers;

fasteners configured to lock base elements on to corner fittings of a container;

a plurality of containers having corner fittings;

wherein base elements are elongate and have a length corresponding to the width of a container,

wherein the fasteners are arranged one at each end of the base element at a distance corresponding the distance between the comer fittings,

wherein said base elements have sufficient strength and stiffness for allowing transfer of a load consisting of at least one of one or more container(s) and a functional element resting on top of or moving across a pair of base elements,

wherein a series of base elements removably mounted on an array of containers forms at least one path on which a load can travel to transport the load to a different location along the top of the array.

2. A container handling and flow system according to claim 1, wherein the base elements are configured to and are of the length sufficient to span the width of two or more containers arranged side-by-side.

3. A container handling and flow system according to claim 1, where at least some of the base elements also comprise rollers, wheels or conveyors, which may be either passive or driven by roller motors, conveyor drives, push/pull

systems or the like capable of moving at least one container, brakes, vibration dampeners and/or means for regaining/collecting kinetic energy.

4. A container handling and flow system according to claim 1, further comprising one or more functional element(s) chosen from the group consisting of: carriers, cranes, lashing, supply and/or stabilization elements, roof and/or sidewall systems for water, wind and sunlight protection, safety and security solutions, lights, lamps, CCTV and contra! cameras, remote control units, wireless or Bluetooth systen1s, network solutions, RFID and/or Memory and control chips, Gensets, Engines, Power Packs, fly wheels, batteries, capacitors, chargers, cooling systems, grooved tracks, weight balancing and trimming means for container, stacks and vessels, sensors for sensing distances, sensors for container and stacking stability, sensors for sensing damage, sensors for sensing motion, sensors for sensing weather, sensors for sensing supply of air/gas or electricity, wherein said functional element(s) are either separate units or are integrated into the base elements.

5. A container handling and flow system according to claim 1, where at least some base elements are configured to be interconnected or wherein at least some base elements include at least one of lashing elements, tracks, and connectors for attaching the lashing elements, wherein the lashing elements or connectors are manually or automatically operable.

6. A container handling and flow system according to claim 1, further including attachment or adjustment members configured to be mounted directly on or integrated into containers.

7. A container handling and flow system according to claim 1, where the base elements are shaped as bridges with a curved side in the length direction.

8. A container handling and flow system according to claim 1, further comprising at least one of storage facilities, supply systems for storing and delivering base elements, and an electronic control system.

9. A container handling and flow system according to claim 1, further including at least one of mounting carriers and supply carriers for running on top of or along other base elements which have already been mounted, in order to mount or dismount base elements on other containers and/or to deliver supplies.

10. A container handling and flow system according to claim 1, where the height of at least one type of base element is greater than its width, when seen in the mounted position.

11. A container handling and flow system according to claim 1, where the base elements are made with one or more materials chosen from the group consisting of metal, plastic and composites.

12. A method for handling a container and flow system comprising the step of implementing and the system of claim 1 system in at least one of container terminal, a warehouse or on board a vessel.

13. A method of handling containers comprising the steps of: a) providing an array of containers, b) arranging at least two base elements each having a length corresponding to the width of a first container in the array, c) locking the base elements to corner fittings of the first container using fasteners on the base elements, said corner fittings being located at opposite corners at the same end of the first container, d) arranging the first container so that at least one or more other container(s) can be positioned to be resting on top of, moving across, or transferred via the pair of base elements to at least another container in the array, e) arranging additional base elements on another container adjacent to the first container in the array so that other container(s) can be positioned to be

resting on top of, moving across, or transferred across the first container to at least one another container thus forming a path, and optionally f) repeating step e) with a series of base elements on a series of containers in the array thus elongating the path .

14. A method according to claim 13, further including the step of mounting base elements both at the top and at the bottom of containers before arranging them in a stack, said top and bottom base elements possibly being of different construction.

15. A method according to claim 13, where base elements are mounted by a robotic or machine system, preferably at first point of contact in a warehouse or a container terminal.

16. A method according to claim 13, where the first container and a plurality of other containers is equipped with a series of removably mounted base elements, and wherein the containers are arranged side by side so that the base elements form a path across on top of the containers to transport other containers across the path.

17. A method according to claim 13, where containers equipped with base elements are arranged in terminals or on vessels so that they form access paths for container carriers.

18. A method according to claim 13, where two or more containers are interconnected using base elements to form a movable unit.

19. A method according to claim 13, where base elements are left on the container when it is transferred to a vessel, truck or train.

20. A method according to claim 13, wherein the containers are stacked onto carriers or base elements and moved on paths through the terminal, warehouse or vessel, substantially without being lifted.

21. A method according to claim 20, where the paths are inclined and the containers are arranged on negative height equalization carriers.

22. A method according to claim 13, where containers to be relocated to other rows/stacks are moved onto carriers.

23. A method according to claim 13, where the handling and operating of containers within terminals, warehouses or vessels is controlled by software and an operational systems controlled centrally or autonomously to move and position containers optimally.

24. A fixed container handling and flow system comprising:

a plurality of containers having corner fittings;

fasteners configured to lock container base elements on to the corner fittings of a container, wherein the fasteners are arranged one at each end of the container base element at a distance corresponding the distance between the corner fittings of a container;

a plurality of base elements selected from one of the same lengths or different lengths with a length sufficient to span the width of at least one container, said base elements having a first side configured to be removably mounted on a container using container corner fittings, and having a second side configured to engage with a shelf element affixed horizontally between adjacent beams;

a plurality of beams affixed to a floor and extending vertically from a floor mounted position, spaced apart by and configured to be stabilized by shelf elements extending horizontally between each beam and forming a plurality of paths therebetween,

wherein shelf elements are elongate, extend a length corresponding to a distance between the beams and have connectors between each shelf element to further extend and form a path between the beams,

wherein a series of shelf elements horizontally mounted between an array of beams forms at least one path which moveably engages containers via the container base elements and through which at least one container can travel to a different location along the array of beams.