CLAIMS

1. A tank system comprising:

a first outer tank having a bottom wall, end walls, enclosing side walls, and an open top,

a second inner tank having a bottom wall, end walls, enclosing side walls and a closed top, and including an aperture for filling and/or emptying said inner tank,

said second inner tank being arranged within said first outer tank,

said first outer tank has a volume of at least 110% the volume of said second inner tank, and

said first outer tank being sized to fit inside the confines of an ISO standard 20 foot half height container.

2. A tank system as claimed in claim1, wherein at least said enclosing side walls of said first outer tank are corrugated.

3. A tank system as claimed in claim 1 or claim 2, wherein at least said end walls of said first outer tank are corrugated.

4. A tank system as claimed in any one of the preceding claims, wherein said bottom wall of said first outer tank is ribbed.

5. A tank system as claimed in claim 4, wherein said bottom wall of said second inner tank is ribbed, and

said ribs of said bottom wall of said second inner tank interlock with said ribs of said bottom wall of said first outer tank.

6. A tank system as claimed in any one of the preceding claims, wherein the corrugated spaces between the first outer tank and the second inner tank, together comprise at least approximately 10% of the volume of said second inner tank.

7. A tank system as claimed in any one of the preceding claims, wherein said first outer tank is constructed in a single piece.

8. A tank system as claimed in any one of the preceding claims, wherein said second inner tank is constructed in a single piece.

9. A tank system as claimed in any one of the preceding claims, wherein said first outer tank has forklift pockets adapted to receive the prongs of a forklift.

10. A tank system as claimed in any one of the preceding claims, wherein said second inner tank includes a collection point at a lowest region of said bottom wall and the remaining portions of said bottom wall slope towards said collection point.

11. A tank system as claimed in any one of the preceding claims, wherein said collection point is located at approximately the centre of said bottom wall of said second inner tank.

12. A tank system as claimed in any one of the preceding claims, wherein said aperture in said second inner tank is located at approximately the centre of said closed top.

13. A tank system as claimed in any one of the preceding claims, wherein said end walls of said second inner tank are substantially planar.

14. A tank system as claimed in any one of the preceding claims, wherein said side walls of said second inner tank are substantially planar.

15. A tank system as claimed in any one of claims 2 to 14, wherein said corrugated walls of said first outer tank define inner wall portions and outer wall portions, and

wherein neighboring walls of said second inner tank are adjacent and abut said inner wall portions of said first outer tank.

16. A tank system as claimed in any one of claims 1 to 15, wherein said tank assembly further comprises a lid for covering said aperture in the closed top of said second inner tank.

17. A tank system as claimed in claim 10 or claim 11, further comprising a tube extending from the vicinity of said collection point to a location proximate said aperture in the closed top of said second inner tank.

18. A tank system as claimed in claim 17, wherein said tube is associated with a lid for covering said aperture in the closed top of said second inner tank.

19. A tank assembly comprising a plurality of tanks as claimed in any one of the preceding claims when dependent on claim 1, wherein said tanks are positioned adjacent and aligned with each other such that correspondingly adjacent corrugated walls of at least two said first outer tanks contact and interlock with each other.

20. A tank assembly as claimed in claim 19, comprising a plurality of said tanks positioned adjacent and aligned with each other and fitted inside the confines of an ISO standard 20 foot half height container and wherein said plurality is:

a) two tanks, or
b) three tanks, or
c) four tanks, or
d) five tanks, or
e) six tanks, or
f) seven tanks, or
g) eight tanks.

21. A tank assembly as claimed in claim 20, wherein said container is a half height high cube container.

22. A tank assembly as claimed in any one of claims 19 to 21, wherein the total volume of said second inner tanks combined does not exceed approximately 10,000 L.

23. A tank assembly as claimed in any one of claims 1 to 19, wherein the volume of each inner tank does not exceed 3,000L.

24. A tank assembly as claimed in any one of claims 1 to 19, wherein the volume of each inner tank is approximately 2,500L.

25. A tank assembly as claimed in claim 15 or claim 17, wherein said lid includes a valve according to any one of claims 26 to 29.

26. A tank assembly as claimed in any one of claims 20 to 25 wherein said tanks are surrounded on at least 3 sides by an open wire mesh cage.

~~27. A valve comprising:~~

~~a valve body defining a cavity and having a float translatable therein,~~

~~a first aperture in said valve body and in fluid communication with said cavity,~~

~~a second aperture in said valve body and in fluid communication with said cavity,~~

~~a passageway around said float and in fluid communication with said first and second apertures,~~

~~said valve having two operating conditions wherein in a first operating condition said float does not block fluid communication between said first aperture and said second aperture, and~~

~~wherein when in said second operating condition said float blocks fluid communication between said first aperture and said second aperture.~~

~~28. A valve as claimed in claim 27, wherein said float includes a sealing surface and when in said second operating condition said sealing surface engages with a portion of said valve body to block fluid communication from said passageway to said first aperture.~~

~~29. A valve as claimed in claim 27 or claim 28, wherein said sealing surface includes a resilient element.~~

~~30. A valve as claimed in any one of claims 27 to 29, wherein said passageway extends between said first aperture and said second aperture.~~

~~31.~~27. A container lock comprising:

a shaft having a locking lug at a first end, said shaft being rotatable about a longitudinal axis and translatable along said axis,

a lifting arm pivotally mounted about a point intermediate a first end and a second end, and

a link between said second end of said lifting arm and said shaft such that rotating said lifting arm about its pivot point causes said link to translate said shaft.

~~32.~~28. A container lock as claimed in claim 27~~31~~, wherein a second end of said shaft includes a locking handle.

~~33.~~29. A container lock as claimed in claim ~~31~~27 or claim ~~32~~28, wherein said lifting arm includes a lifting handle at said first end.

~~34.~~30. A container lock as claimed in any one of claims 27~~31~~ to ~~33~~29, wherein said shaft is rotatable by at least 90 degrees and rotation of said locking handle rotates said shaft.

~~35.~~31. A container lock as claimed in any one of claims ~~31~~27 to ~~34~~30, wherein said shaft is indexed to prevent rotation when said index is engaged.

~~36.~~32. A container lock as claimed in claim 31~~35~~, wherein said shaft is indexed at 90 degree intervals.

~~37.~~33. A container lock as claimed in any one of claims ~~31~~ 27 to ~~36~~32, wherein said locking lugs are adapted to engage with a corner block of an ISO container.

~~38.~~34. A container comprising one or more container locks according to one of claims 27~~31~~ to ~~37~~33, wherein said container locks are positioned on said container to align and engage with a standard ISO container lock configuration.

~~39.~~35. A container according to claim 34~~38~~, comprising two container locks.

~~40.~~36. A container according to claim 34~~38~~, comprising four container locks.

~~41.~~37. A container according to claim 3~~6~~40, wherein said container locks are located at each corner of the top of said container.

~~42.~~38. A container according to claim 34~~38~~, comprising six container locks.

~~43.~~39. A method of securing a container including a container lock according to any one of claims 27~~31~~ to ~~42~~38, comprising:

placing said container on a support surface having the standard ISO container lock pattern apertures, such that said container locks are aligned with said apertures,

rotating said lifting arm to translate said shaft such that said locking lug enters said aperture,

rotating said shaft through 90 degrees such that said locking lug engages said support surface.

~~44.~~40. A method of securing a container including a container lock according to claim 39~~43~~, wherein said step of rotating said lifting arm is carried out by moving said lifting handle through 90 degrees.

~~45.~~41. A method of securing a container including a container lock according to claim ~~39~~43 or claim ~~44~~40, wherein said step of rotating said shaft is carried out by moving said locking handle through 90 degrees.

~~46. A tank system substantially as herein described and with reference to any one or more of Figures 1 to 12.~~

~~47. A tank assembly substantially as herein described and with reference to any one or more of Figures 1 to 12.~~

~~48. A valve substantially as herein described and with reference to any one or more of Figures 16 to 18.~~

~~49. A container lock substantially as herein described and with reference to any one or more of Figures 13a to 14b.~~

~~50. A container substantially as herein described and with reference to any one or more of Figures 11 to 12.~~

~~51. A method of securing a container substantially as herein described and with reference to any one or more of Figures 13a to 14b.~~

~~52. A containerized tank system comprising:~~

~~a first outer tank having a bottom wall, end walls, enclosing side walls, and an open top,~~

~~a second inner tank having a bottom wall, end walls, enclosing side walls and a closed top, and including an aperture for filling and/or emptying said inner tank, and~~

~~an ISO standard container,~~

~~said first outer tank having a volume of at least 110% the volume of said second inner tank,~~

~~at least the side walls and/or end walls of the first outer tank being substantially as wide as the internal width of the ISO standard container,~~

~~said second inner tank being arranged within said first outer tank to form a tank assembly, and~~

~~said tank assembly being arranged within the ISO standard container.~~

~~53. A containerized tank system as claimed in claim 52, comprising a plurality of tank assemblies, wherein the plurality is:~~

~~a) two tank assemblies, or~~

~~b) three tank assemblies, or~~

~~c) four tank assemblies, or~~

~~d) five tank assemblies, or~~

~~e) six tank assemblies, or~~

~~f) seven tank assemblies, or~~

~~g) eight tank assemblies.~~

~~54. A containerized tank system as claimed in claim 52 or 53, wherein the ISO standard container is a 20 foot half height container.~~

CLAIMS

1. A tank system comprising a plurality of tank assemblies each including:

a first outer tank having a bottom wall, end walls, enclosing side walls, and an open top, wherein at least the enclosing side walls or the end walls of said first outer tank are corrugated, and said corrugated walls of said first outer tank define inner wall portions and outer wall portions,

a second inner tank having a bottom wall, end walls, enclosing side walls and a closed top, and including an aperture for filling and/or emptying said inner tank,

said second inner tank being arranged within said first outer tank, and wherein neighboring walls of said second inner tank are adjacent and abut said inner wall portions of said first outer tank,

said first outer tank has a volume of at least 110% the volume of said second inner tank, and

wherein said tank assemblies are positioned adjacent and aligned with each other such that correspondingly adjacent corrugated walls of at least two said first outer tanks contact and interlock with each other, and wherein

said plurality of tank assemblies are fitted within the confines of an ISO standard container.

2. A tank system as claimed in claim 1, wherein the ISO standard container is a 20 foot half height container.

3. A tank system as claimed in claim 1 or claim 2, wherein the corrugations of said corrugated walls are parallel to the vertical axis of the tank in use.

4. A tank system as claimed in any one of the preceding claims, wherein said bottom wall of said first outer tank is ribbed.

5. A tank system as claimed in claim 4, wherein said bottom wall of said second inner tank is ribbed, and

said ribs of said bottom wall of said second inner tank interlock with said ribs of said bottom wall of said first outer tank.

6. A tank system as claimed in any one of the preceding claims, wherein the corrugated spaces between the first outer tank and the second inner tank, together comprise at least approximately 10% of the volume of said second inner tank.

7. A tank system as claimed in any one of the preceding claims, wherein said first outer tank is constructed in a single piece.

8. A tank system as claimed in any one of the preceding claims, wherein said second inner tank is constructed in a single piece.

9. A tank system as claimed in any one of the preceding claims, wherein said first outer tank has forklift pockets adapted to receive the prongs of a forklift.

10. A tank system as claimed in any one of the preceding claims, wherein said second inner tank includes a collection point at a lowest region of said bottom wall and the remaining portions of said bottom wall slope towards said collection point.

11. A tank system as claimed in any one of the preceding claims, wherein said collection point is located at approximately the centre of said bottom wall of said second inner tank.

12. A tank system as claimed in any one of the preceding claims, wherein said aperture in said second inner tank is located at approximately the centre of said closed top.

13. A tank system as claimed in any one of the preceding claims, wherein said end walls of said second inner tank are substantially planar, and said inner tank is substantially rectangular.

14. A tank system as claimed in any one of the preceding claims, wherein said side walls of said second inner tank are substantially planar, and said inner tank is substantially rectangular.

15. A tank system as claimed in any one of claims 1 to 14, wherein said tank assembly further comprises a lid for covering said aperture in the closed top of said second inner tank.

16. A tank system as claimed in claim 10 or claim 11, further comprising a tube extending from the vicinity of said collection point to a location proximate said aperture in the closed top of said second inner tank.

17. A tank system as claimed in claim 16, wherein said tube is associated with a lid for covering said aperture in the closed top of said second inner tank.

18. A tank system as claimed in any one of claims 1 to 17, wherein said tank is surrounded on at least 5 sides by an open wire mesh cage.

19. A tank assembly as claimed in claim 18, comprising a plurality of said tanks positioned adjacent and aligned with each other and fitted inside the confines of an ISO standard 20 foot half height container and wherein said plurality is:

a) two tanks, or

b) three tanks, or

c) four tanks, or

d) five tanks, or

e) six tanks, or

f) seven tanks, or

g) eight tanks.

20. A tank assembly as claimed in claim 19, wherein said container is a half height high cube container.

21. A tank assembly as claimed in any one of claims 18 to 20, wherein the total volume of said second inner tanks combined does not exceed approximately 10,000 L.

22. A tank assembly as claimed in any one of claims 1 to 18, wherein the volume of each inner tank does not exceed 3,000L.

23. A tank assembly as claimed in any one of claims 1 to 18, wherein the volume of each inner tank is approximately 2,500L.

24. A tank assembly as claimed in any one of claims 20 to 23 wherein said tanks are surrounded on at least 3 sides by an open wire mesh cage.

25. A container lock comprising:

a shaft having a locking lug at a first end, said shaft being rotatable about a longitudinal axis and translatable along said axis,

a lifting arm pivotally mounted about a point intermediate a first end and a second end, and

a link between said second end of said lifting arm and said shaft such that rotating said lifting arm about its pivot point causes said link to translate said shaft.

26. A container lock as claimed in claim 25, wherein a second end of said shaft includes a locking handle.

27. A container lock as claimed in claim 25 or claim 26, wherein said lifting arm includes a lifting handle at said first end.

28. A container lock as claimed in any one of claims 25 to 27, wherein said shaft is rotatable by at least 90 degrees and rotation of said locking handle rotates said shaft.

29. A container lock as claimed in any one of claims 25 to 28, wherein said shaft is indexed to prevent rotation when said index is engaged.

30. A container lock as claimed in claim 29, wherein said shaft is indexed at 90 degree intervals.

31. A container lock as claimed in any one of claims 25 to 30, wherein said locking lugs are adapted to engage with a corner block of an ISO container.

32. A container comprising one or more container locks according to one of claims 25 to 31, wherein said container locks are positioned on said container to align and engage with a standard ISO container lock configuration.

33. A container according to claim 32, comprising two container locks.

34. A container according to claim 32, comprising four container locks.

35. A container according to claim 34, wherein said container locks are located at each corner of the top of said container.

36. A container according to claim 32, comprising six container locks.

37. A method of securing a container including a container lock according to any one of claims 25 to 36, comprising:

placing said container on a support surface having the standard ISO container lock pattern apertures, such that said container locks are aligned with said apertures,

rotating said lifting arm to translate said shaft such that said locking lug enters said aperture,

rotating said shaft through 90 degrees such that said locking lug engages said support surface.

38. A method of securing a container including a container lock according to claim 37, wherein said step of rotating said lifting arm is carried out by moving said lifting handle through 90 degrees.

39. A method of securing a container including a container lock according to claim 37 or claim 38, wherein said step of rotating said shaft is carried out by moving said locking handle through 90 degrees.