WHAT IS CLAIMED IS:

1. A robot adapted to transport an article from a first location to a second location, the robot comprising:

a surface having a region defined thereon for receiving the article; and

at least one element which secures the article in the region by pivoting from a first position to a second position when the article is placed in the region.

2. The robot of claim 1, wherein the element pivots from the second position to the first position when the article is removed from the region.

3. The robot of claim 1, wherein the element is weight activated.

4. The robot of claim 1, wherein said element has a first portion which extends farther into the region when the element is in the first position than when the element is in the second position, and wherein said element has a second portion which extends farther into the region when the element is in the second position than when the element is in the first position.

5. The robot of claim 1, wherein a first portion of the element protrudes into the region when the element is in the second position, and wherein said first portion is withdrawn from the region when the element is in said first position.

6. The robot of claim 5, wherein the first portion of said element presses against the article when said element is in said second position.

7. The robot of claim 1, wherein said element has first and second protrusions disposed on first and second opposing ends thereof.

8. The robot of claim 7, wherein said first and second protrusions contact the article when said element is in said second position.

9. The robot of claim 7, wherein the article has first and second surfaces, wherein the first protrusion presses against the first surface, and wherein the second protrusion presses against the second surface.

10. The robot of claim 9, wherein the first and second surfaces are essentially orthogonal.

11. The robot of claim 9, wherein the first surface is a major surface.

12. The robot of claim 1, wherein the article has a first major surface and a side surface adjacent to said first major surface, and wherein said element pressingly engages the side surface of the article when said element is in said second position.

13. The robot of claim 12, wherein the side surface is a minor surface.

14. The robot of claim 1, wherein the element has first and second protrusions disposed on first and second opposing ends thereof, wherein the first protrusion extends into the region when the element is in the first position, and wherein the second protrusion extends into the region when the element is in the second position.

15. The robot of claim 1, wherein the element has first and second surfaces, wherein the article presses against the first surface of the element when the article is placed in the region, and wherein the second surface of the element presses against the article when the article is placed in the region.

16. The robot of claim 1, wherein said region forms a recessed portion of said surface.

17. The robot of claim 1, wherein the weight of the article moves the element from the first position to the second position.

18. The robot of claim 17, wherein the element contains a pivot and a fulcrum.

19. The robot of claim 1, wherein said element is a tab disposed about the periphery of said region, wherein said tab moves from a first position when no article is present in the region to a second position when an article is disposed in the region, and wherein the tab pressingly engages the article when it is in the second position.

20. The robot of claim 19, wherein said tab pivots about an axis when it moves from the first position to the second position.

21. The robot of claim 20, wherein the weight of said tab is asymmetrically disposed about the axis.

22. The robot of claim 20, wherein the weight of said tab causes it to assume the first position when no article is present in the region.

23. The robot of claim 20, wherein said axis divides said tab into first and second portions, and wherein said first portion has a greater mass than said second portion.

24. The robotic arm of claim 20, wherein each tab comprises a lever and a fulcrum.

25. The robotic arm of claim 24, wherein said lever has first and second opposing ends, wherein said first end has a first protrusion disposed thereon, and wherein said second end has a second protrusion disposed thereon.

26. The robotic arm of claim 25, wherein said second protrusion comprises an elastomeric material.

27. The robotic arm of claim 26, wherein said elastomeric material is disposed in a shoe.

28. The robotic arm of claim 27, wherein said shoe is a raised, U-shaped region on said lever.

29. The robotic arm of claim 25, wherein said first protrusion is hemispherical in shape.

30. The robotic arm of claim 1, wherein the article is a semiconductor wafer.

31. The robotic arm of claim 1, wherein the region is at least partially bounded by a wall, and wherein the element is at least partially disposed in said wall.

32. The robotic arm of claim 31, wherein the element comprises a lever and a fulcrum, wherein the lever has first and second protrusions disposed thereon, wherein the first protrusion is disposed within said wall when the element is in the first position, and wherein the second protrusion is disposed within said wall when the element is in the first position.

33. The robotic arm of claim 32, wherein the first protrusion extends into the region when the element is in the second position.

34. The robotic arm of claim 33, wherein the first protrusion does not extend into the region when the element is in the first position.

35. A robot adapted to transport an article from a first location to a second location, the robot comprising:

a surface having a region defined thereon for receiving the article; and

at least one weight-activated element which moves from a first position to a second position when the article is placed in the region, and which moves from the second position to the first position when the article is removed from the region;

wherein the element pressingly engages the article when it is in the second position.

36. A robot adapted to transport an article from a first location to a second location, the robot comprising:

a surface having a region defined thereon for receiving the article; and

at least one element disposed about the periphery of said region, wherein said element moves from a first position when no article is present in the region to a second position when an article is disposed in the region, and wherein the tab pressingly engages the article when it is in the second position.

37. The robot of claim 36, wherein said tab pivots about an axis when it moves from the first position to the second position.

38. The robot of claim 37, wherein the weight of said tab is asymmetrically disposed about the axis.

39. The robot of claim 38, wherein the weight of said tab causes it to assume the first position when no article is present in the region.

40. The robot of claim 37, wherein said axis divides said tab into first and second portions, and wherein said first portion has a greater mass than said second portion.

41. A robotic arm, comprising:

an end effector having a region defined thereon for receiving an article; and

a plurality of tabs disposed about the periphery of said region, wherein each tab moves from a first position when no article is present in the region to a second position when an article is disposed in the region, and wherein each tab pressingly engages the article when it is in the second position.

42. The robotic arm of claim 41, wherein each tab comprises a lever and a fulcrum.

43. The robotic arm of claim 42, wherein said lever has first and second opposing ends, wherein said first end has a first protrusion disposed thereon, and wherein said second end has a second protrusion disposed thereon.

44. The robotic arm of claim 43, wherein said second protrusion comprises an elastomeric material.

45. The robotic arm of claim 43, wherein said elastomeric material is disposed in a shoe.

46. The robotic arm of claim 43, wherein said shoe is a raised, U-shaped region on said lever.

47. The robotic arm of claim 43, wherein said first protrusion is hemispherical in shape.

48. The robotic arm of claim 41, wherein the article is a semiconductor wafer.

49. The robotic arm of claim 41, in combination with a wafer.

50. The robotic arm of claim 41, wherein aid end effector comprises a blade having the region defined thereon.

51. A method for transporting an article from a first location to a second location, the method comprising:

providing a robot having a surface with a region defined thereon for receiving the article, and having at least one element which secures the article in the region by pivoting from a first position to a second position when the article is placed in the region;

placing the article in the region at the first location; and

transporting the article to the second location with the robot.

52. The method of claim 51, further comprising:

removing the article from the region at the second location, thereby causing the element to pivot from the second position to the first position.

53. A method for transferring an article from a first location to a second location, comprising:

providing a robotic arm equipped with an end effector having a region defined thereon for receiving an article, wherein the end effector has at least one tab disposed about the periphery of said region which moves from a first position when no article is present in the region to a second position when an article is disposed in the region, and wherein the tab pressingly engages the article when it is in the second position;

placing the article on the region, thereby causing the first tab to move from the first position to the second position; and

transferring the article from the first location to the second location.

54. The method of claim 53, wherein the tab is moved from the second position to the first position when the article is in the second location.

55. The method of claim 54, wherein the tab is moved from the second position to the first position by lifting the article from the region.

56. The method of claim 54, wherein the tab moves from the second position to the first position when the article is lifted from the region.

57. The method of claim 53, wherein the tab is moved from the second position to the first position when the article is in the second location.

58. The method of claim 53, wherein the tab is withdrawn from the region when it is in the first position, and extends into the region when it is in the second position.

59. The method of claim 53, wherein the tab comprises a lever that pivots about a fulcrum as the tab moves from the first position to the second position.

60. The method of claim 59, wherein the lever comprises a first end having a first protrusion thereon, and a second end having a second protrusion thereon.

61. The method of claim 60, wherein the first protrusion is a rounded bump.

62. The method of claim 60, wherein the second protrusion comprises an elastomeric material.

63. The method of claim 62, wherein the elastomeric material is encased in a metal housing which is open on one side.

64. The method of claim F3, wherein elastomeric material protrudes from the open side of the metal housing.

65. The method of claim 60, wherein the first protrusion extends into the region when the tab is in the first position.

66. The method of claim 60, wherein the second protrusion extends into the region when the tab is in the second position.

67. The method of claim 60, wherein the first protrusion extends into the region when the first tab is in the first position, and wherein the second protrusion extends into the region when the tab is in the second position.

68. The method of claim 67, wherein placement of the article in the region depresses the first protrusion, thereby causing the lever to pivot about the fulcrum such that the second protrusion comes into contact with the article.

69. The method of claim 60, wherein said tab is disposed in a recess on the surface of the end effector.

70. The method of claim 69, wherein said first protrusion extends out of the recess when the tab is in the first position.

71. The method of claim 69, wherein said second protrusion extends out of the recess when the tab is in the second position.

72. The method of claim 53, wherein the first and second locations are first and second processing chambers.

73. The method of claim 72, wherein the first and second processing chambers are disposed in a semiconductor tool.

74. The method of claim 53, wherein the article is a semiconductor wafer.

75. The method of claim 53, wherein the at least one tab includes first and second tabs.

76. The method of claim 53, wherein the end effector comprises a blade, and wherein said region is a recessed portion disposed on said blade.

77. The method of claim 76, wherein said region is essentially planar.

78. A method for transferring an article from a first location to a second location, comprising:

providing a robotic arm equipped with an end effector having a region defined thereon for receiving the article, wherein the end effector has first and second sets of opposing tabs disposed about the periphery of said region, wherein each tab comprises a lever that pivots about a fulcrum as the tab moves from a first position to a second position, wherein the lever comprises a first end having a first protrusion thereon and a second end having a second protrusion thereon, and wherein the second protrusion comprises an elastomeric material;

placing an article on the region in the first location, thereby causing the first tab to move from the first position to the second position, wherein the first tab pressingly engages the article when the tab is in the second position; and

transferring the article from the first location to the second location.

What is claimed is:

1. A robotic arm, comprising:

an end effector having a region defined thereon for receiving an article;

a beveled, arcuate wall which is disposed along a portion of the periphery of said region and which slopes away from said region in a direction going from the bottom of said wall to the top of said wall; and

a plurality of tabs disposed about the periphery of said region, wherein each tab moves from a first position when no article is present in the region to a second position when an article is disposed in the region, and wherein each tab pressingly engages the article when it is in the second position;

wherein each tab comprises a lever which is pivotably connected to an outer body by way of a fulcrum and which pivots about said fulcrum as the tab moves from the first position to the second position, and wherein said outer body is removably connected to said end effector; and

wherein the lever comprises a first end having a first protrusion thereon, and a second end having a second protrusion thereon, and wherein the first protrusion extends into the region when the tab is in the first position.

2. The robotic arm of claim 1, wherein said second protrusion comprises an elastomeric material.

3. The robotic arm of claim 1, wherein said first protrusion is hemispherical in shape.

4. In combination with the robotic arm of claim 1, a semiconductor wafer, wherein said semiconductor wafer is disposed in said region.

5. The robotic arm of claim 1, wherein said end effector comprises a blade having said region defined thereon.

6. A method for transferring an article from a first location to a second location, comprising:

providing a robotic arm equipped with an end effector having a region defined thereon for receiving an article, wherein the end effector is equipped with a beveled, arcuate wall which is disposed along a portion of the periphery of said region and which slopes away from said region in a direction going from the bottom of said wall to the top of said wall, and wherein the end effector is further equipped with at least one tab disposed about the periphery of said region which moves from a first position when no article is present in the region to a second position when an article is disposed in

the region, wherein the tab pressingly engages the article when it is in the second position, wherein each tab comprises a lever which is pivotably connected to an outer body by way of a fulcrum and which pivots about said fulcrum as the tab moves from the first position to the second position, and wherein said outer body is removably connected to said end effector;

placing the article on the region, thereby causing the first tab to move from the first position to the second position; and

transferring the article from the first location to the second location.

7. The method of claim 6, wherein the tab is moved from the second position to the first position when the article is in the second location.

8. The method of claim 7, wherein the tab is moved from the second position to the first position by lifting the article from the region.

9. The method of claim 7, wherein the tab moves from the second position to the first position when the article is lifted from the region.

10. The method of claim 6, wherein the tab is moved from the second position to the first position when the article is in the second location.

11. The method of claim 6, wherein the tab is withdrawn from the region when it is in the first position, and extends into the region when it is in the second position.

12. The method of claim 6, wherein the tab comprises a lever that pivots about a fulcrum as the tab moves from the first position to the second position.

13. The method of claim 12, wherein the lever comprises a first end having a first protrusion thereon, and a second end having a second protrusion thereon.

14. The method of claim 13, wherein the first protrusion is a rounded bump.

15. The method of claim 13, wherein the second protrusion comprises an elastomeric material.

16. The method of claim 15, wherein the elastomeric material is encased in a metal housing which is open on one side.

17. The method of claim 15, wherein elastomeric material protrudes from the open side of the metal housing.

18. The method of claim 13, wherein the first protrusion extends into the region when the tab is in the first position.

19. The method of claim 13, wherein the second protrusion extends into the region when the tab is in the second position.

20. The method of claim 13, wherein the first protrusion extends into the region when the first tab is in the first position, and wherein the second protrusion extends into the region when the tab is in the second position.

21. The method of claim 20, wherein placement of the article in the region depresses the first protrusion, thereby causing the lever to pivot about the fulcrum such that the second protrusion comes into contact with the article.

22. The method of claim 13, wherein said tab is disposed in a recess on the surface of the end effector.

23. The method of claim 22, wherein said first protrusion extends out of the recess when the tab is in the first position.

24. The method of claim 22, wherein said second protrusion extends out of the recess when the tab is in the second position.

25. The method of claim 6, wherein the first and second locations are first and second processing chambers.

26. The method of claim 15, wherein the first and second processing chambers are disposed in a semiconductor tool.

27. The method of claim 6, wherein the article is a semiconductor wafer.

28. The method of claim 6, wherein the at least one tab includes first and second tabs.

29. The method of claim 6, wherein the end effector comprises a blade, and wherein said region is a recessed portion disposed on said blade.

30. The method of claim 29, wherein said region is essentially planar.

31. A method for transferring an article from a first location to a second location, comprising:
providing a robotic arm equipped with an end effector having a region defined thereon for receiving the article, wherein the end effector is equipped with a beveled, arcuate wall which is disposed along a portion of the periphery of said region and which slopes away from said region in a direction going from the bottom of said wall to the top of said wall and wherein the end effector is further equipped with first and second sets of opposing tabs disposed about the periphery of said region, wherein each tab in said first and second sets of tabs comprises a lever which is pivotably connected to an outer body by way of a fulcrum and which pivots about said fulcrum as the tab moves from the first position to the second position, wherein said outer body is removably connected to said end effector, and wherein said lever comprises a first end having a first protrusion thereon and a second end having a second protrusion thereon;
placing an article on the region in the first location, thereby causing the first tab to move from the first position to the second position, wherein the first tab pressingly engages the article when the tab is in the second position; and
transferring the article from the first location to the second location.

32. The method of claim 31, wherein the second protrusion comprises an elastomeric material.

33. The robotic arm of claim 2, wherein said elastomeric material is disposed in a shoe.

34. The robotic arm of claim 33, wherein said shoe is a raised, U-shaped region on said lever.