

Claims:

1. A support arrangement for solar panels, comprising: a base support, a swivel plate mounted to pivot relative to the base support about a horizontal axis, a plurality of solar panels mounted on the swivel plate for pivotal movement relative to the swivel plate about a fan-out axis, at least one crank mounted to pivot relative to the base support, and a connecting rod coupled between the at least one crank and the swivel plate such that pivotal movement of the at least one crank pivots the swivel plate about the horizontal axis.
2. The support arrangement of claim 1, wherein the swivel plate is mounted at a first end to pivot about the horizontal axis, and the connecting rod is coupled to a second end of the swivel plate, the second end of the swivel plate being opposite the first end of the swivel plate.
3. The support arrangement of claim 1, wherein the swivel plate is movable about the horizontal axis between a horizontal position and a vertical position.
4. The support arrangement of claim 1, comprising first and second cranks that are mounted to a common shaft arranged to pivot relative to the base support, and first and second connecting rods that are respectively coupled between the first and second cranks and the swivel plate.
5. The support arrangement of claim 1, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support, wherein the at least one crank is pivotally mounted to the rotary table, and the swivel plate is pivotally mounted to the rotary table.
6. The support arrangement of claim 1, further comprising a fanning shaft mounted to the swivel plate to pivot about the fan-out axis relative to the swivel plate, wherein the plurality of solar panels are mounted to the fanning shaft such that at least one of the plurality of solar panels is movable with the fanning shaft.
7. The support arrangement of claim 6, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support, wherein the at

least one crank is pivotally mounted to the rotary table, and the swivel plate is pivotally mounted to the rotary table, and a coupling is arranged between the fanning shaft and the rotary table such that movement of the rotary table pivots the fanning shaft about the fan-out axis.

5 8. The support arrangement of claim 7, wherein movement of the swivel plate about the horizontal axis engages and disengages the coupling between the fanning shaft and the rotary table.

9. The support arrangement of claim 6, further comprising a brake arranged to resist movement of the fanning shaft about the fan-out axis.
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10. The support arrangement of claim 9, wherein the brake is engaged and disengaged based on movement of the swivel plate about the horizontal axis.

15 11. The support arrangement of claim 10, wherein the brake is disengaged with the swivel plate in a horizontal position, and is engaged to resist movement of the fanning shaft with the swivel plate positioned away from the horizontal position.

12. The support arrangement of claim 1, wherein the at least one crank is arranged to pivot about a mounting axis which is located below the horizontal axis.
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13. A support arrangement for solar panels, comprising: a base support, a rotary table mounted on the base support for pivotal movement about a vertical axis, a swivel plate mounted to pivot relative to the base support about a horizontal axis, a plurality of solar panels mounted on the swivel plate for pivotal movement relative to the swivel plate about a fan-out axis between fanned out and fanned in positions, and a single motor drive arranged to both move the rotary table about the vertical axis and move the plurality of solar panels about the fan-out axis.
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14. The support arrangement of claim 13, further comprising: at least one crank mounted to pivot relative to the rotary table, and a connecting rod coupled between the at least one crank and the swivel plate such that pivotal movement of the at least one crank pivots the swivel plate about the horizontal axis.
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15. The support arrangement of claim 14, wherein the at least one crank is pivotally mounted to the rotary table, and the swivel plate is pivotally mounted to the rotary table.

5 16. The support arrangement of claim 13, wherein the swivel plate is mounted at a first end to pivot about the horizontal axis, and the connecting rod is coupled to a second end of the swivel plate, the second end of the swivel plate being opposite the first end of the swivel plate.

10 17. The support arrangement of claim 13, wherein the swivel plate is movable about the horizontal axis between a horizontal position and a vertical position.

18. The support arrangement of claim 13, further comprising a coupling arranged between the plurality of solar panels and the rotary table such that movement of the rotary table about the vertical axis pivots at least one solar panel about the fan-out axis.

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19. The support arrangement of claim 18, wherein movement of the swivel plate about the horizontal axis engages and disengages the coupling between the plurality of solar panels and the rotary table.

20 20. The support arrangement of claim 13, wherein the single motor drive is arranged to move the rotary table about the vertical axis, and a coupling between the rotary table and the plurality of solar panels drives at least one solar panel to pivot about the fan-out axis with movement of the rotary table about the vertical axis.

25 21. The support arrangement of claim 20, further comprising a fanning shaft mounted to the swivel plate to pivot about the fan-out axis relative to the swivel plate, wherein the plurality of solar panels are mounted to the fanning shaft such that at least one of the plurality of solar panels is movable with the fanning shaft.

30 22. The support arrangement of claim 21, wherein the coupling is arranged between the fanning shaft and the rotary table such that movement of the rotary table pivots the fanning shaft about the fan-out axis.

23. The support arrangement of claim 22, wherein movement of the swivel plate about the horizontal axis engages and disengages the coupling between the fanning shaft and the rotary table.

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24. The support arrangement of claim 13, further comprising a brake arranged to resist movement of the plurality of solar panels about the fan-out axis.

25. The support arrangement of claim 24, wherein the brake is engaged and disengaged based on movement of the swivel plate about the horizontal axis.

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26. The support arrangement of claim 25, wherein the brake is disengaged with the swivel plate in a horizontal position, and is engaged to resist movement of the fanning shaft with the swivel plate positioned away from the horizontal position.

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27. A support arrangement for solar panels, comprising: a base support, a swivel plate mounted to pivot relative to the base support about a horizontal axis, a plurality of solar panels mounted on the swivel plate for pivotal movement relative to the swivel plate about a fan-out axis between fanned out and fanned in positions, and a coupling arranged to selectively couple at least one of the plurality of solar panels to a drive for movement of the at least one solar panel about the fan-out axis and decouple the at least one solar panel from the drive such that the drive is incapable of moving the at least one solar panel about the fan-out axis.

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28. The support arrangement of claim 27, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support.

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29. The support arrangement of claim 28, further comprising: at least one crank mounted to pivot relative to the rotary table, and a connecting rod coupled between the at least one crank and the swivel plate such that pivotal movement of the at least one crank pivots the swivel plate about the horizontal axis.

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30. The support arrangement of claim 29, wherein the at least one crank is pivotally mounted to the rotary table, and the swivel plate is pivotally mounted to the rotary table.

5 31. The support arrangement of claim 30, wherein the swivel plate is mounted at a first end to pivot about the horizontal axis, and the connecting rod is coupled to a second end of the swivel plate, the second end of the swivel plate being opposite the first end of the swivel plate.

10 32. The support arrangement of claim 27, wherein the swivel plate is movable about the horizontal axis between a horizontal position and a vertical position.

33. The support arrangement of claim 27, wherein movement of the swivel plate about the horizontal axis engages and disengages the coupling between the at least one of the plurality of solar panels and the drive.

15 34. The support arrangement of claim 27, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support, wherein the drive is arranged to move the rotary table about the vertical axis, and the coupling is arranged to move at least one solar panel to pivot about the fan-out axis with movement of the rotary table about the vertical axis.

20 35. The support arrangement of claim 27, further comprising a fanning shaft mounted to the swivel plate to pivot about the fan-out axis relative to the swivel plate, wherein the plurality of solar panels are mounted to the fanning shaft such that at least one of the plurality of solar panels is movable with the fanning shaft.

25 36. The support arrangement of claim 35, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support, wherein the coupling is arranged between the fanning shaft and the rotary table such that movement of the rotary table pivots the fanning shaft about the fan-out axis.

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37. The support arrangement of claim 36, wherein movement of the swivel plate about the horizontal axis engages and disengages the coupling between the fanning shaft and the rotary table.

5 38. The support arrangement of claim 27, further comprising a brake arranged to resist movement of the plurality of solar panels about the fan-out axis.

39. The support arrangement of claim 38, wherein the brake is engaged and disengaged based on movement of the swivel plate about the horizontal axis.

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40. The support arrangement of claim 39, wherein the brake is disengaged with the swivel plate in a horizontal position, and is engaged to resist movement of the plurality of solar panels about the fan-out axis with the swivel plate positioned away from the horizontal position.

15 41. A support arrangement for solar panels, comprising: a base support, a swivel plate mounted to pivot relative to the base support about a horizontal axis, a plurality of solar panels mounted on the swivel plate for pivotal movement relative to the swivel plate about a fan-out axis between fanned out and fanned in positions, and a brake arranged to selectively resist movement of at least one of the plurality of solar panels about the fan-out axis.

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42. The support arrangement of claim 41, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support.

25 43. The support arrangement of claim 42, further comprising: at least one crank mounted to pivot relative to the rotary table, and a connecting rod coupled between the at least one crank and the swivel plate such that pivotal movement of the at least one crank pivots the swivel plate about the horizontal axis.

30 44. The support arrangement of claim 43, wherein the at least one crank is pivotally mounted to the rotary table, and the swivel plate is pivotally mounted to the rotary table.

45. The support arrangement of claim 43, wherein the swivel plate is mounted at a first end to pivot about the horizontal axis, and the connecting rod is coupled to a second end of the swivel plate, the second end of the swivel plate being opposite the first end of the swivel plate.

5 46. The support arrangement of claim 41, wherein the swivel plate is movable about the horizontal axis between a horizontal position and a vertical position.

47. The support arrangement of claim 41, wherein movement of the swivel plate about the horizontal axis engages and disengages the brake to selectively resist movement of the at least
10 one solar panel about the fan-out axis.

48. The support arrangement of claim 41, further comprising a fanning shaft mounted to the swivel plate to pivot about the fan-out axis relative to the swivel plate, wherein the plurality of solar panels are mounted to the fanning shaft such that at least one of the plurality of solar
15 panels is movable with the fanning shaft.

49. The support arrangement of claim 48, further comprising a rotary table mounted to the base support for pivotal movement about a vertical axis relative to the base support, and a coupling arranged between the fanning shaft and the rotary table such that movement of the
20 rotary table pivots the fanning shaft about the fan-out axis.

50. The support arrangement of claim 49, wherein movement of the swivel plate about the horizontal axis engages and disengages the coupling between the fanning shaft and the rotary table.
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51. The support arrangement of claim 41, wherein the brake is engaged and disengaged based on movement of the swivel plate about the horizontal axis.

52. The support arrangement of claim 51, wherein the brake is disengaged with the swivel
30 plate in a horizontal position, and is engaged to resist movement of the plurality of solar panels about the fan-out axis with the swivel plate positioned away from the horizontal position.