CLAIMS

What is claimed is:

1. An elevator system comprising:

one or more elevator shafts;

two or more elevator cabs positioned within each of said one or more elevator shafts, said two or more elevator cabs including at least a first elevator cab positioned above a second elevator cab, each of said two or more cabs having a first and a second wall that are substantially parallel to each other, wherein each cab moves independently of each other cab vertically through each of the one or more elevator shafts; and

a first set of at least four cables connected to said second elevator cab, at least two cables of said first set of at least four cables positioned on said first wall of said second elevator cab and at least another two cables of said first set of at least four cables positioned on said second wall of said second elevator cab, wherein said cables are connected to respective counterweights in a first set of counterweights;

a set of four counterweight channels, each of said four counterweight channels for guiding one of said counterweights; and

said set of four counterweight channels is attached to two or more elevator shaft walls of the elevator shaft, a first subset of the set of four counterweight channels is attached to a first elevator shaft wall and a second subset of the set of four counterweight channels is attached to a second elevator shaft wall.

2. The elevator system of claim 1, wherein the at least two cables of said first set of at least four cables positioned on said first wall of said second elevator cab are positioned on a first set of connection points extending from an exterior of said first wall of said second elevator cab, and

the at least another two cables of said first set of at least four cables positioned on said second wall of said second elevator cab are positioned on a second set of connection points extending from an exterior of said second wall of said second elevator cab.

3. The elevator system of claim 2, wherein each connection point of the first set of connection points is positioned horizontally away from each other connection point of the first set of connection points in a symmetrical manner; and

wherein each connection point of the second set of connection points is positioned horizontally away from each other connection point of the second set of connection points in the symmetrical manner.

4. The elevator system of claim 1, wherein said elevator cabs further comprise:

a first set of one or more guides, positioned on said first wall of each elevator cab, for engaging a first vertical track located in the elevator shaft; and

a second set of one or more guides, positioned on said second wall of each elevator cab, for engaging a second vertical track located in the elevator shaft.

5. The elevator system of claim 4, wherein said first vertical track is positioned substantially along a center axis of said first wall of each elevator cab and said second vertical track is positioned substantially along a center axis of said second wall of each elevator cab.

6. The elevator system of claim 1, further comprising: a lift cable connected to at least one location of said second elevator cab and an associated lift motor, said -lift cable capable of moving said second elevator cab in response to activation of said associated lift motor.

7. The elevator system of claim 6, wherein during movement of the second cab, no portion of said lift cable is stored.

8. The elevator system of claim 1, further comprising a second set of at least four cables connected to said first elevator cab, at least two cables of said second set of at least four cables positioned on said first wall of said first elevator cab and at least another two cables of said second set of at least four cables positioned on said second wall of said first elevator cab, wherein each of said at least four cables of said second set is connected to a respective counterweight in a second set of counterweights.

9. The elevator system of claim 8, wherein said two or more elevator cabs further including said second elevator cab positioned above a plurality of additional elevator cabs, each cab of the plurality of additional elevator cabs having cables connected to such additional cab and connected to respective counterweights in substantially a same manner as the first elevator cab and the second elevator cab.

10. The elevator system of claim 8, wherein said second set of counterweights are positioned external to a vertical path of the cabs in the elevator shaft.

11. The elevator system of claim 1, wherein each of said cables is horizontally separated from each other and connected to its respective counterweight positioned external to a vertical path of the cabs in the elevator shaft.

12. The elevator system of claim 1, further comprising a set of pulleys, each pulley positioned to engage one cable of the first set of at least four cables.

13. The elevator system of claim 1, wherein said first set of counterweights are positioned external to a vertical path of the cabs in the elevator shaft.

14. The elevator system of claim 1, wherein said first set of counterweights comprises four counterweights, and each of said four counterweights in said first-set of counterweights connected to at least one of said cables in said first set of at least four cables.

15. The elevator system of claim 1, wherein each counterweight and its respective counterweight channel is horizontally separated from every other counterweight and its respective counterweight channel, and is positioned external to a vertical path of the cabs in the elevator shaft.

16. The elevator system of claim 1, further comprising a second set of at least two cables connected to said first elevator cab, said second set of at least two cables positioned on a top of said first elevator cab, wherein each of said cables of said second set is connected to a respective counterweight guided within a separate counterweight channel located on a wall of the elevator shaft.

17. The elevator system of claim 1, wherein a first vertical track is positioned substantially along a center axis of the first elevator shaft wall, and a second vertical track is positioned substantially along a center axis of the second elevator shaft wall.

18. An elevator system comprising:

one or more elevator shafts;

two or more elevator cabs positioned within each of said one or more elevator shafts, said two or more elevator cabs including at least a first elevator cab positioned above a second elevator cab, each of said two or more cabs having a first and a second wall that are substantially parallel to each other, wherein each cab moves independently of each other cab vertically through each of the one or more elevator shafts; and

a first set of at least four cables connected to said second elevator cab, at least two cables of said first set of at least four cables positioned on said first wall of said second elevator cab and at least another two cables of said first set of at least four cables positioned on said second wall of said second elevator cab, wherein said cables are connected to respective counterweights in a first set of counterweights;

a set of four counterweight channels, each of said four counterweight channels for guiding one of said counterweights; and

wherein said set of four counterweight channels is attached to two or more dividing walls within the elevator shaft, a first subset of the set of four counterweight channels is attached to a first dividing wall and a second subset of the set of four counterweight channels is attached to a second dividing wall.