Claims

We Claim:

1. A modular wall (202) for a room having a plurality of sidewalls, the modular wall (202) comprising:

a supporting member (220) defining a first horizontal axis in a plane of the supporting member and a second horizontal axis perpendicular to the first horizontal axis; and

a pair of wings (228, 230) operatively coupled to the supporting member (220),

wherein each of the supporting member (220) and the pair of wings (228, 230) comprises:

a frame (204); and

one or more gypsum panels (208) attached to the frame (204),

wherein the pair of wings (228, 230) includes a first wing configured to move between an open position extending in a direction of the first horizontal axis towards a first sidewall and a closed position away from the first sidewall, and a second wing configured to move between an open position extending in a direction of the first horizontal axis towards a second sidewall and a closed position away from the second sidewall, wherein the modular wall is configured to move between a first position proximal to a third sidewall and a second position distal from the third sidewall between a first position proximal to the third sidewall and a second position distal from the third sidewall.

2. The modular wall (202) of claim 1, wherein each of the wings (228, 230) is slidably attached to the supporting member and is configured to slide relative to the supporting member along the first horizontal axis between the open position and the closed position.

3. The modular wall (202) of claim 1, wherein each of the wings (228, 230) is pivotally coupled to the supporting member (220) by hinges.

4. The modular wall (202) of claim 1, wherein each of the wings (228, 230) comprise a concertina arrangement.

5. The modular wall (202) according to claim 1, wherein each of the wings (228, 230) further comprise a secondary wing movably attached thereto.

6. The modular wall (202) of claim 1, wherein the supporting member (220) comprises a plurality of shelves (226).

7. The modular wall (202) of claim 1, wherein each of the supporting member (220) and the pair of wings (228, 230) comprise insulation disposed between the frame (204) and one or more gypsum panels (208).

8. The modular wall (202) of claim 1, wherein the frame (204) is made from at least one of metal, wood and plastic.

9. The modular wall (202) of claim 1, wherein the supporting member (220) and the pair of wings (228, 230) are reinforced.

10. The modular wall (202) of claim 1, wherein the gypsum panels (208) comprises a polymeric binder and a plurality of fibres.

11. The modular wall (202) of claim 10, wherein the polymeric binder comprises one of a starch and a synthetic material.

12. The modular wall (202) of claim 10, wherein the polymeric binder and the plurality of fibres, in combination, comprise greater than 1% by weight of the modular wall.

13. The modular wall (202) of claim 10, wherein one among the polymeric binder and the plurality of fibers comprises greater than 1% by weight of the modular wall.

14. The modular wall (202) of claim 1 comprising at least one of a medium density fiber, a plywood, a glass, a metal, a cement, a fiber cement and a plastic sheet.

15. A modular wall system (200) for the room having the plurality of sidewalls and a ceiling (118), the modular wall system (200) comprising:

a support structure (300) coupled to the ceiling (118) of the room; and

the modular wall (202) according to claim 1 movably coupled to the support structure (300),
wherein the support structure (300) comprises:

a rail member (302) disposed parallel to the second horizontal axis (218) of the modular wall when the modular wall is in the second position and fixedly coupled to the ceiling (118);

an elongate member (306) of I- shape having a first end (308) and a second end (310), the first end (308) slidably disposed in the rail member (302);

a first flange member (312) coupled to the first end (310) of the elongate member (306); and

a second flange member (314) coupled to the second end (310) and a top end of the modular wall (202).

16. The modular wall system (200) of claim 15, wherein the modular wall defines a vertical axis along a height thereof, and wherein the modular wall is further configured to rotate at least partially about the first horizontal axis and completely about the vertical axis (215).

17. The modular wall system (200) according to claim 15, wherein the support structure (300) optionally comprises floor tracks disposed on a bottom end of the modular wall (202).

18. The modular wall system (200) of claim 17, wherein the floor tracks are one of rails or wheels.

19. The modular wall system (200) of claim 15, wherein the first wings (228) in the open position is configured to contact the first sidewall and the second wing in the open position is configured to contact the second sidewall.

20. The modular wall system (200) of claim 19, wherein each wing of the pair of wings (228, 230) further comprises a secondary wing movably attached thereto.

21. A modular room (108) comprising:

a plurality of sidewalls including a first sidewall, a second sidewall opposing the first sidewall, and a third sidewall extending between the first sidewall and the second sidewall;

at least one modular wall (202) as claimed in claim 1;

a ceiling (118) disposed on the plurality of sidewalls; and

a support structure (300) as claimed in claim 15 coupled to the ceiling (118), wherein the at least one modular wall (202) is slidably coupled to the support structure (300) and wherein the at least one modular wall is slidably coupled to the rail member such that the modular wall is configured to move between a first position proximal to the third sidewall and a second position distal from/to the third sidewall when the modular wall is in the second position; and

wherein the plurality of sidewalls, the at least one modular wall in the second position and the pair of wings in the open position are configured to form at least two rooms within the modular room.

22. The modular room (108) of claim 21, wherein at least one of the two divided rooms is a closed room.