CLAIMS

1. A patient transport device comprising:

a rigid structural member;

a patient support member coupled to the rigid structural member and configured to support a patient disposed thereon;

a propulsion assembly coupled to the rigid structural member, wherein the rigid structural member comprises

a motor operable to oscillate between frontward rotation and backward rotation,

first and second continuous tracks responsive to the motor and rotatably coupled to the rigid structural member, and

a power source configured to energize the motor and exchange electrical energy with the motor; and

at least one controller communicatively coupled with the power source and programmed to execute machine readable instructions to oscillate the motor between frontward rotation and backward rotation, the oscillation of the motor being operable to cause the first continuous track and the second continuous track to stop.

2. The patient transport device of claim 1 wherein the power source is configured to not energize the motor when the motor is in backward rotation, and the motor is configured to generate a current that resists movement of the first continuous track and the second continuous track in a reverse direction.

3. The patient transport device of claim 1 further comprising a user interface device.

4. The patient transport device of claim 3 wherein the user interface device comprises one or more buttons.

5. The patient transport device of claim 3 wherein the oscillation of the motor between frontward rotation and backward rotation operator is triggered by a user's failure to actuate the user interface device, the oscillation being configured to automatically stop the first and second continuous tracks.

6. The patient transport device of claim 1 wherein the motor is manually rotatable without current supplied to the motor, the manual rotation of the motor being configured to generate current which resists but does not prevent movement of the first and second continuous tracks.

7. The patient transport device of claim 6 wherein the current generated by the motor is at least partially supplied to the power source.

8. The patient transport device of claim 6 wherein the current generated by the motor is at least partially supplied to a shunt circuit configured to dissipate the electrical energy generated by the motor.

9. The patient transport device of claim 8 wherein the shunt circuit comprises resistive elements selected from the group consisting of resistors, potentiometers, or combinations thereof.

10. The patient transport device of claim 8 further comprising a switching device in electrical communication with the motor, the power source, and the shunt circuit.

11. The patient transport device of claim 1 wherein the power source is a rechargeable battery.

12. The patient transport device of claim 1 wherein the propulsion assembly is removably coupled to the rigid structural member.

13. The patient transport device of claim 1 wherein the patient support member comprises a seat configured for transporting a patient in a seated position.

14. The patient transport device of claim 1 wherein the patient support member comprises a flat surface operable for transporting a patient in a prone position.

15. The patient transport device of claim 1 wherein the patient transport device is a stair chair.

16. The patient transport device of claim 1 wherein the first and second continuous tracks are aligned with the rigid structural member at an acute angle α.

17. The patient transport device of claim 1 wherein the first and second continuous tracks are operable to lock in a deployed state or stowed state.

18. The patient transport device of claim 1 wherein the first and second continuous tracks each comprise a drive surface configured for engaging a drive wheel of the propulsion assembly and a frictional surface configured for traversing over stairs.

19. The patient transport device of claim 1 wherein the motor is engaged with the first and second continuous tracks via a gearbox, a gear assembly, a drive axle, and a drive wheel.

20. The patient transport device of claim 1 further comprising front and back drive lights.

CLAIMS:

1. A patient transport device (10) comprising:

a rigid structural member (12);

a patient support member (14) coupled to the rigid structural member and configured to support a patient disposed thereon;

a propulsion assembly (20) coupled to the rigid structural member, wherein the rigid structural member comprises

a motor (30) operable to oscillate between frontward rotation and backward rotation,

first and second continuous tracks (40) responsive to the motor and rotatably coupled to the rigid structural member, and

a power source (50) configured to energize the motor and exchange electrical energy with the motor; and

at least one controller (60) communicatively coupled with the power source and

programmed to execute

machine readable instructions to oscillate the motor between frontward rotation and backward rotation, characterized in that

the oscillation of the motor causes the first continuous

track and the second continuous track to stop.

2. The patient transport device (10) of claim 1 wherein the power source (50) is configured to not energize the motor (30) when the motor is in backward rotation, and the motor is configured to generate a current that resists movement of the first continuous track (40) and the second continuous track (40) in a reverse direction.

3. The patient transport device (10) of claim 1 further comprising a user interface device (66), wherein the oscillation of the motor (30) between frontward rotation and backward rotation is triggered by a user's failure to actuate the user interface device (66), the oscillation being configured to automatically stop the first and second continuous tracks (40).

4. The patient transport device (10) of claim 1 wherein the motor (30) is manually rotatable without current supplied to the motor, the manual rotation of the motor being configured to generate current which resists but does not prevent movement of the first and second continuous tracks (40).

5. The patient transport device (10) of claim 4 wherein the current generated by the motor (30) is at least partially supplied to:

(i) the power source (50); or

(ii) a shunt circuit (64) configured to dissipate the electrical energy generated by the motor.

6. The patient transport device (10) of claim 5, part (ii) wherein the shunt circuit (64) comprises resistive elements selected from the group consisting of resistors, potentiometers, or combinations thereof.

7. The patient transport device (10) of claim 5, part (ii) further comprising a switching device (62) in electrical communication with the motor (30), the power source (50), and the shunt circuit (64).

8. The patient transport device (10) of claim 1 wherein the propulsion assembly (20) is removably coupled to the rigid structural member (12).

9. The patient transport device (10) of claim 1 wherein the patient support member (14) comprises:

(i) a seat configured for transporting a patient in a seated position; or

(ii) a flat surface operable for transporting a patient in a prone position.

10. The patient transport device (10) of claim 1 wherein the patient transport device is a stair chair.

11. The patient transport device (10) of claim 1 wherein the first and second continuous tracks (40) are aligned with the rigid structural member (12) at an acute angle α.

12. The patient transport device (10) of claim 1 wherein the first and second continuous tracks (40) are operable to lock in a deployed state or stowed state.

13. The patient transport device (10) of claim 1 wherein the first and second continuous tracks (40) each comprise a drive surface (140) configured for engaging a drive wheel (42) of the propulsion assembly (20) and a frictional surface configured for traversing over stairs.

14. The patient transport device (10) of claim 1 wherein the motor (30) is engaged with the first and second continuous tracks (40) via a gearbox (32), a gear assembly (34), a drive axle (48), and a drive wheel (42).

15. The patient transport device (10) of claim 1 further comprising front and back drive lights.