CLAIMS

1. A carriage of a cot loading and unloading system, the carriage comprising:

a plurality of wheels for engaging a track defined by a fixed rail of the cot loading and unloading system, wherein the carriage is operable to travel to an end of the fixed rail such that a portion of the carriage extends beyond a length of the track; and

a pair of load arms for supporting a cot.

2. The carriage of claim 1, wherein:

the plurality of wheels comprises a pair of first wheels and a pair of second wheels; and

each wheel of the pair of first wheels has a profile to receive a protrusion of the track.

3. The carriage of claim 2, wherein each second wheel of the pair of second wheels has a profile different from the profile of the pair of first wheels.

4. The carriage of claim 2, further comprising a pair of latching mechanisms operable to latch a pair of pins of the cot, wherein the pair of latching mechanisms is operable to be opened to release the cot by at least three inputs.

5. The carriage of claim 4, wherein the at least three inputs comprises:

one or more release levers at a head-end of the carriage;

a button on the cot; and

a release button on a support beam slidably coupled to the fixed rail.

6. The carriage of claim 4, further comprising

a carriage housing;

a pair of release levers;

a bar extending along a width of the carriage housing;

a pair of lever linkages comprising a post, each lever linkage coupled to an end of the bar at a first end and coupled to a release lever of the pair of release levers at a second end; and

a pair of release linkages coupled to the posts of the pair of lever linkages at a first end and the pair of latching mechanisms at a second end;

wherein pulling on at least one release lever of the pair of release levers pulls the pair of lever linkages, which rotates the bar and moves the second end of the pair of release linkages in a direction toward a head-end of the carriage to unlatch the pair of latching mechanisms.

7. A carriage of a cot loading and unloading system, the carriage comprising:

a plurality of wheels for engaging a track defined by a fixed rail of the cot loading and unloading system;

a power drive assembly operable to drive the carriage to travel along the track of the fixed rail; and

a pair of lift arms for supporting a cot.

8. A cot loading and unloading system comprising:

a fixed rail comprising a track, wherein the fixed rail is operable to be fixed to a floor; and

a carriage directly coupled to the track, the carriage comprising:

a plurality of wheels that engage the track of the fixed rail;

a power drive assembly operable to drive the carriage to travel along the track of the fixed rail; and

a pair of lift arms for supporting a cot.

9. The loading and unloading system of claim 8, wherein the power drive assembly is operable to drive the carriage to a foot-end of the fixed rail such that a majority of the carriage extends beyond a length of the track.

10. The loading and unloading system of claim 7 or 8, wherein:

the power drive assembly comprises a drive motor, an axle, a motor pinion, and a drive pinion;

the axle is coupled to the drive motor and the axle;

the axle is coupled to the motor pinion such that rotation of the axle by the drive motor rotates the motor pinion; and

teeth of the motor pinion engage teeth of the drive pinion such that rotation of the motor pinion causes rotation of the drive pinion to drive the carriage on the track.

11. The loading and unloading system of claim 10, wherein:

the track comprises a rack member having teeth; and

the teeth of the drive pinion engage the teeth of the rack member.

12. The loading and unloading system of claim 11, wherein:

the track comprises a first side, a second side, a wheel guide member, and at least two guide members;

the at least two guide members oppose one another at the second side of the track;

the rack member comprises a rack protrusion and the wheel guide member comprises a wheel guide protrusion; and

the rack protrusion and the wheel guide protrusion oppose one another at the first side of the track.

13. The loading and unloading system of claim 12, wherein:

the plurality of wheels comprises a pair of first wheels and a pair of second wheels; and

each wheel of the pair of first wheels has a profile to receive a protrusion of the track.

14. The loading and unloading system of claim 13, wherein the protrusion has a V-shape and the profile has a W-shape.

15. The loading and unloading system of claim 14, each second wheel of the pair of second wheels has a flat profile or a grooved profile.