Portable, Parallel Bar System Assembly

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Novel design of folding, portable parallel bars for use in rehabilitation and physical therapy

Technology
Folding, portable parallel bar system for rehabilitation and physical therapy

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Key Features
- Portable, folding system
- Provides flexibility of equipment layout and storage
- Could be used in a variety of rehabilitative and physical therapy applications
- Allows clinicians to observe gait patterns of patients

Stage of Development
Early stage prototype development

Keywords
Physical therapy
Parallel bars
Rehabilitation equipment
Portable system

Patent Status
Patent pending

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Technology
The Department of Veterans Affairs has developed folding, portable parallel bars, which improve product mobility and usability when compared to competitive bar systems. Current bar systems are either fixed to the ground, wall or even the ceiling, limiting the movement of the systems. In addition, current systems require dedicated space for the equipment. The novel parallel bar system with folding bars permit the system to be collapsed to occupy a small fraction of the normal floor space of a parallel bar system, thus permitting valuable therapy gym space to be used for multiple purposes.

The base of each section of the system includes wheels, permitting the entire system to be moved in the folded state from location to location, fitting through standard doorways, further enhancing the flexibility of space usage and permitting storage in non-patient areas. In addition, the system has the ability to have multiple sections of bars thus extending the range of applications for use of the bars. Furthermore, by linking the vertical bars at the ends with a semi-circular tube, the stability of the bars is enhanced.

Opportunity
The use of parallel bars in rehabilitative and physical therapy is vitally important in the healthcare profession. Parallel bars are used to help people regain their strength, balance, range of motion, and independence. Therapy parallel bars are also used for general conditioning exercises. This rehabilitative therapy combines range of motion, muscle strengthening, and ambulatory exercises to counteract effects from being in a wheelchair for a sustained period of time or from prolonged bed rest and immobilization.

The overall market for rehabilitation and physical therapy products is one of fastest growing markets in the healthcare industry and is estimated at over $2 billion. The overall market has experienced significant growth over the last decade, which is expected to continue. Equipment sales comprise two-thirds of the overall rehab and physical therapy market, and services represent the remaining third.

Competitive Advantage
There are a number of advantages of the parallel bar system. The system would appeal to facilities that need mobility or have restricted space. In addition, the system would allow facilities to provide patients with their own set of bars in their private rooms or areas since the system is mobile and collapsible. Unlike other parallel bar systems, the developed system would not have restrictions on the length of the bars allowing clinicians to observe more gait patterns of patients over the length of the bars.

Status
The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license, and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).