Revolutionary Prosthetic Ankle

Track Code: 2016-NAUM-67527

Categories:
- Biomedical Engineering
- Mechanical Engineering

Keywords:
- Biomechanical Engineering
- Biomedical Engineering
- Mechanical Engineering
- Medical/Health
- Prosthesis

Prosthetic devices have improved over time due to changes in design and technology. Today, prosthetics play an important role in allowing amputees to have an active lifestyle. However, these devices are still imperfect and do not mimic various aspects of the human body. Current prosthetics are extremely expensive, weigh between 1.5 and 2 pounds, and frequently break or tear. There is room for improvement in the development of prosthetic devices.

Researchers at Purdue University have developed a new prosthetic ankle that allows for a wider and more natural range of movement. Made out of aluminum, the prosthetic is composed of a toe joint, a pre-existing incline, and an ankle joint. This device allows for toe flexibility and natural lift, enabling more natural walking, running, and jumping for users. This prosthetic is lightweight, is estimated to last for five years, and costs a fraction of the price compared to existing prosthetics.

Advantages:
-Wider range of movement
-Improved natural movement for user
-Lightweight
-Durable
-Low cost

Potential Applications:
-Prosthetics for foot amputees including adolescents, the average person, and athletes

People:
- Nauman, Eric A (Project leader)
- Berry, Rachel Nicole

- Boehm, Jennifer Anne
- Gleason, Allison
- Labban, Sami Imad
- Lasko, Quinton James
- Smith, Haley Elizabeth

Intellectual Property:

Application Date: June 6, 2017
Type: Utility Patent
Country of Filing: United States
Patent Number: 10,857,006
Issue Date: December 8, 2020

Application Date: June 6, 2016
Type: Provisional-Patent
Country of Filing: United States
Patent Number: (None)
Issue Date: (None)

Contact OTC:

Purdue Office of Technology Commercialization
1801 Newman Road
West Lafayette, IN 47906

Phone: (765) 588-3475
Fax: (765) 463-3486
Email: otcip@prf.org