Wearable robotic device for moving a user

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Invention

In recent decades, biomedical tools are becoming more and more established with new innovative technologies that make devices more and more performing.This is also true for prosthetics that manage to have higher performances both in terms of weight and in terms of functionality. The patent protects a mechanism which has the characteristic of adding a small energy introduced into the step cycle by a mechanical actuator to a commercial prosthesis whose operation can be considered as a spring.In practice, the action of the actuator is added to the potential energy of the spring mainly due to the weight of the user to automatically return it at the right moment of the walk identified with the push-off.The peculiarity of the device is that it wants to become an option for full prosthetics currently on the market.

Main advantages are:

- Making a passive prosthesis in a semi-active one;
- Little and portable device
- Simple in its use

Drawings
& pictures

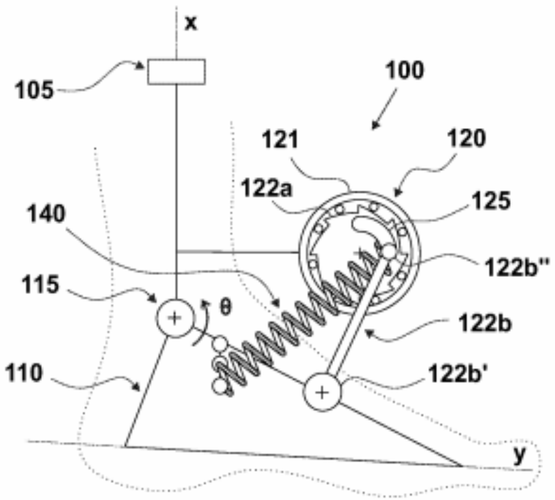

Fig. 6A

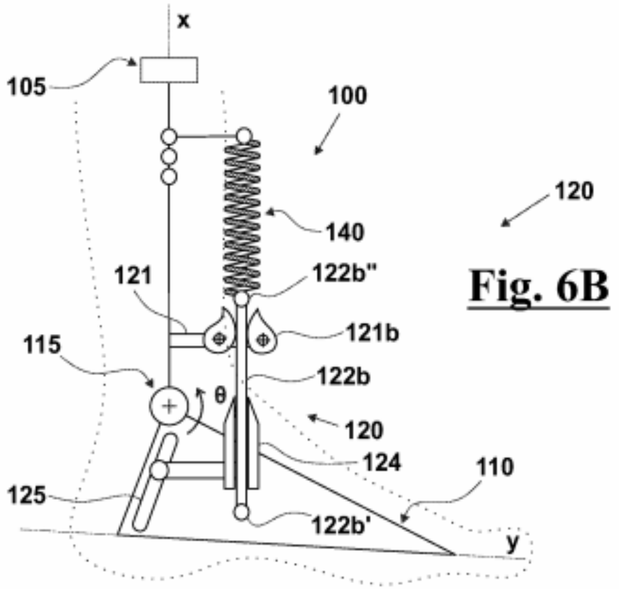

Fig. 6B

Applicabilità Industriale

The field of industrial applications is represented by wearable robotics.

Possible developments

The technology underlying the patent is in a development phase that is not yet fully mature for the market with the respective products.

The TRL is still to be considered low (eg: 2/3) suitable for experimental validation prototypes but has a great potential to enable the technology.

Still numerous other insights are needed by the research team to make the technology effectively applicable to a product.

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