Device for the selective transmission of driving torques

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Invention

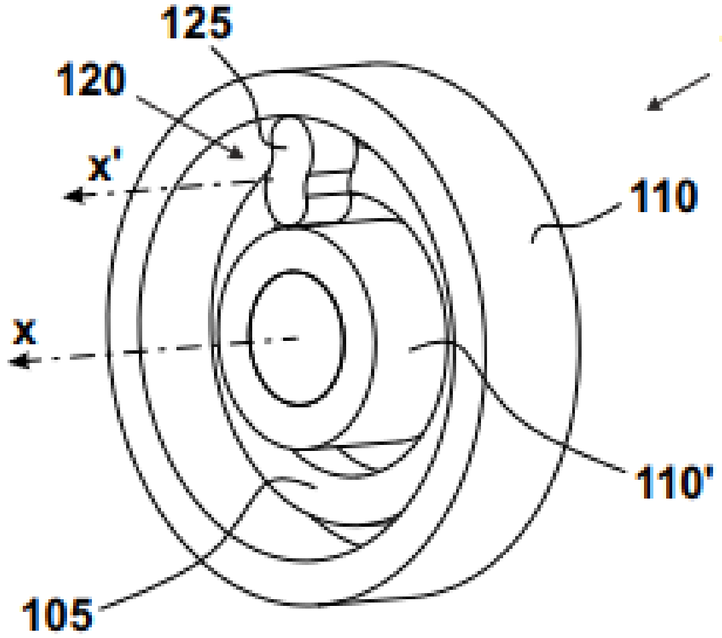
In mechanics it is very common to use devices capable of transmitting power between different components of a kinematic chain.This patent arises from the need to make power transmission selective and, at the same time, to keep the weight of the device under control. The invention can be considered a discovery of classical mechanics. The device has only one power input which houses inside eccentrics capable of engaging one or more outputs depending on the type of drive to be operated.

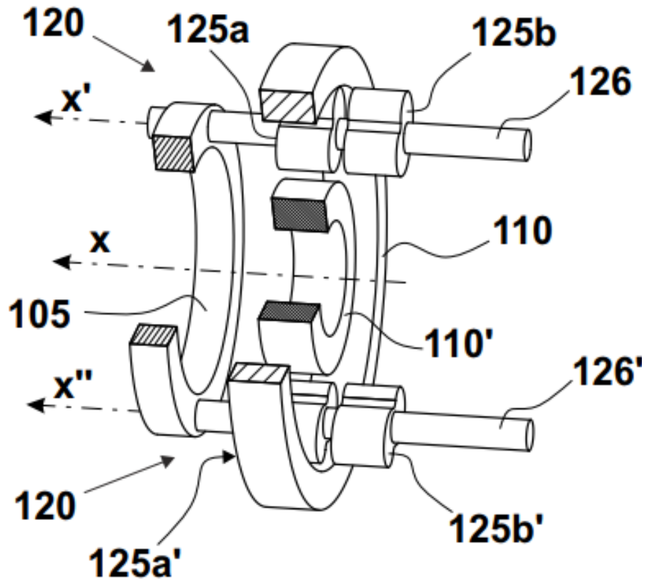
The patent provides for many embodiments protected by the main claim that amplify its versatility and protection.

Main advantages are:

- Lightweight device with the same transmitted torque
- One input, several outputs
- Low cost construction
- As the torque increases, the safety of torque transmission increase
- Thanks to the lightness it was possible to insert it in a wearable robot

Drawings & pictures





The system behind the idea is to have a high-performance selector that works thanks to elements that interact by jamming

Industrial applications

The main applications are:

- Mechanical power transmissions
- Selective transmission
- Wearable robotics
- Agricultural vehicles

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.

For more information:

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