

Energy storage apparatus using spring torsion

Abstract of the disclosure

An Energy storage apparatus using spring torsion for converting the power generated by an energy generating apparatus to the energy stored in the form of spring energy comprises a torsion-converting gear connected to the energy resource and converting the energy to torsion for output. The output side of the torsion-converting gear is connected to a torsion limiter for blocking over-torsion to the following structures and preventing damages. The output side of the torsion limiter is connected to a one-way input bearing for transmitting the torsion unidirectionally to the following structures and preventing the outputted torsion from transmitting backwards to damage the structures aforementioned. The output side of the one-way input bearing is connected to an energy storage set formed with at least two coaxially connecting swivel discs. A torsional spring is wound between the two adjacent swivel discs and the end of the torsional spring is bended in opposite to the winding direction, so that the torsional spring could be bended and wound twice to increase the rotary torsion when the disc rotates. The output side disc of the energy storage set is connected to an accelerating gear for outputting the energy after the rotary torsion is accelerated. The energy storage set (14) could be in serial or parallel configuration so the efficiency of the storage and usage of the energy is improved.

FIG. 3