the cam piece into the locking position, whereby it holds the latch parts against the counter holes in the shackle. The latch parts are normally balls.

Known electronic padlock solutions, which have an electronic actuator, are presented in publications WO 2018184070, US 2013276487, CN 206158371 and WO 2019223522.

In electronic padlocks like the ones described above, the electronic actuator can break, when it turns the cam piece to lock the electronic padlock. If a jerk is simultaneous directed at the shackle, which jerk strives to move the shackle to the open position, the latch parts start to move back into the recesses in the cam piece, which in turn causes the cam piece to turn against the turning force of the electronic actuator. The turning of the cam piece against the turning direction of the electronic actuator can break the electronic actuator.

Brief description of the invention

~~The object~~Embodiments of the invention ~~is to~~ provide an electronic padlock, which eliminates or at least significantly reduces the possibility of breaking of the electronic actuator of the electronic padlock, when the electronic padlock is being locked. ~~This is achieved in the manner presented in the independent claim. The dependent claims present different embodiments of the invention.~~

According to an aspect of the present invention, there is provided an electronic padlock, which comprises a body and a shackle, which body has latch parts, a cam piece and an electronic actuator, which electronic actuator is arranged to turn the cam piece to release the latch parts from the locking state and to turn the cam piece to hold the latch parts in the locking state, in which locking state the latch parts prevent the moving of the shackle to open the electronic padlock, wherein the cam piece comprises a cover part and a shaft part, which cover part has a central hole for the shaft part and recesses on the surface of the cover part, and which shaft part has a shaft pin, which is set in the central hole, and a connecting part, which is arranged to be in contact with the electronic actuator, which cam piece additionally comprises a spring between the shaft pin and the cover part, which spring comprises a first end and a second end, which first end is arranged to be in contact with the cover part and

which second end is arranged to be in contact with the shaft part, which spring is arranged to transmit turning force of the electronic actuator from the shaft pin to the cover part in the direction of said locking state and which shaft part further comprises at least one protrusion on the surface of the shaft pin and/or on the surface of the connecting part, which protrusion is arranged to transmit turning force of the electronic actuator from the shaft pin to the cover part to release the latch parts, and which spring is further arranged to allow turning of the cover part against the turning force of the electronic actuator if the spring is tensioned due to external force, and the central hole comprises at least one recess for said at least one protrusion, which recess is wider than the protrusion, and the cover part comprises a hole for the first end of the spring, which hole has a side surface for transmitting turning force between the end of the spring and the cover part.

The electronic padlock according to the invention comprises a body 2 and a shackle 3. The body has latch parts 7, a cam piece 5 and an electronic actuator 4. The electronic actuator is arranged to turn the cam piece 5 to release the latch parts 7 from a locking state, and to turn the cam piece 5 to hold the latch parts 7 in the locking state. In the locking state, the latch parts 7 prevent the shackle 3 from being moved to open the electronic padlock. The cam piece 5 comprises a cover part 5A and a shaft part 5B. The cover part has a central hole 12 for the shaft part and recesses 10 on the surface of the cover part. The shaft part 5B has a shaft pin 15, which is set into the central hole 12. The shaft part also has a connecting part 19, which is arranged to be in contact with the electronic actuator 4. The cam piece further comprises a spring 9, which is between the shaft pin 15 and the cover part 5A. The spring comprises a first