CLAIMS:

1. A pedal transmission system comprising:

an elliptical active driving wheel (112),

an eccentric passive driven wheel (413), and

a tooth-shaped belt or chain (100) betweencoupling the elliptic active driving wheel andto the eccentric passive driven wheel and arranged suchso that the eccentric passive wheel is driven by the elliptic active driving wheel, and

a tensioning wheel (312) mounted on a swinging support (301) and being biased by a spring to tension the tooth-shaped belt or chain (100) to ensure the tooth-shaped belt or chain is coupled to both the elliptic driving wheel (112) and the eccentric passive driven wheel (413),

wherein the elliptic driving wheel (112) has a circumference that is twice a circumference of the eccentric driven wheel (413) so that the elliptic driving wheel (112) twice generates an increase and a decrease in a speed ratio to the eccentric driven wheel (413) during each pedal rotation

the eccentricity characteristics of the passive wheel being synchronous with the active wheel, so that the system has a periodically varying speed ratio.

2. A system according to claim 1, wherein the elliptic active driving wheel (112) is mounted on an active wheel shaft (111) which is combined with first and second cranks (101, 201) provided with pedals (102, 202).

3. A system according to claim 1 or 2, comprising a plurality of sets of transmission which are arranged in parallel and having different speed ratios.

4. A system according to claim 1 or 2, comprising a plurality of sets of

transmission wheels providing multiple-step speed ratios by switching between the elliptic active driving wheel (112) and the eccentric passive driven wheel (413).

~~5. A system according to any one of the preceding claims, wherein the active wheel (112) periodically twice generates an increase and a decrease of the speed ratio to the passive wheel (413) during each pedal rotation.~~

~~6. A system according to any one of the preceding claims, further comprising an auxiliary wheel (312) to perform pre-stressed tightening of the belt or chain (100).~~

5~~7~~. A system according to any one of the preceding claims, wherein the eccentric passive driven wheel (413) is mounted on a passive wheel shaft (211) and the system comprises a load wheel set (600) directly driven by the eccentric passive driven wheel (413).

6~~8~~. A system according to any one of claims 1 to 6, wherein the eccentric passive driven wheel (413) is mounted on a passive wheel shaft (211) and the system comprises a load wheel set (600) driven through a middle transmission (5000).

7~~9~~. A system according to claim ~~7~~5 or ~~8~~6, wherein the load wheel set (600) is driven by the output end of a step or continuous inner variable speed device (2000), the input end of the inner variable speed device (2000) is driven by the eccentric passive driven wheel (413).

8~~10~~. A system according to claim ~~7~~5 or ~~8~~6, wherein the load wheel set (600) is driven by the eccentric passive driven wheel (413), which is driven by the

output end of a step or continuous outer variable speed device (3000).

9~~11~~. A system according to any one of claims ~~8~~6-8, wherein the load wheel set (600) is mounted on a rotatable sleeve (601).