Patent claims:

1. A power collector structure (10) connected to a base (11) ~~being~~ that is repetitively deformed or bent, **characterized** ~~in, that~~in that:

- the power collector structure (10) is a bar-like pin,
- the power collector structure (10) is radially connected to ~~a~~ the base (11) in an essentially rigid manner, and
- a power collector (3) for converting mechanical energy to electric power is ~~connected to~~in the tip of the power collector structure (10).

2. The power collector structure according to Claim 1, **characterized** ~~in, that~~in that the power collector structure (10) is connected to the base (11) so rigidly, that the intrinsic resonance frequency of the power collector structure (10) determines the total resonance frequency to at least 50%.

3. The power collector structure (10) according to any one of the preceding patent claims, **characterized** ~~in, that~~in that the power collector structure (10) comprises an electromechanical converter.

4. The power collector structure (10) according to any one of the preceding patent claims, **characterized** ~~in, that~~in that the base (11) is the inner surface (11) of the periphery of a car tyre (12).

5. The power collector structure (10) according to any one of the preceding Claims 1–3, **characterized** ~~in, that~~in that the base (11) is a shoe or a part of it.

6. The power collector structure (10) according to any one of the preceding patent claims, **characterized** ~~in, that~~in that the power collector comprises bias means for providing a MEMS element with a bias voltage.

7. The power collector structure (10) according to Claim 6, **characterized** ~~in, that~~in that the bias means for providing the bias voltage is implemented by means of a piezoelectric element.

8. The power collector structure (10) according to Claim 6, **characterized** ~~in, that~~in that the bias means for providing the bias voltage is implemented by means of a suitable material couple.

9. The power collector structure (10) according to any one of the preceding patent claims, **characterized** ~~in, that~~in that the power collector (3) comprises a piezoelectric element.

10. The power collector structure (10) according to any one of the preceding patent claims, **characterized** ~~in, that~~in that gauging electronics (2) are integrated in the power collector (3).

11. The power collector structure (10) according to any one of the preceding patent claims, **characterized** ~~in, that~~in that transmission electronics (6) are integrated in the power collector (3).

12. A method for collecting power of a base (11) ~~being~~ that is repetitively deformed or bent, in which method a power

collector structure (10) is being used, **characterized** ~~in, that~~in that~~,~~ in the method there is being utilized

- a bar-like pin as a power collector structure (10) connected radially and essentially rigidly to a base (11), and a power collector (3) for converting mechanical energy to electric power ~~being connected to~~in the tip of the power collector structure (10).

13. The method according to Claim 12, **characterized** ~~in, that~~in that the power collector structure (10) is so rigidly connected to the base (11) that the intrinsic resonance frequency of the power collector structure (10) determines the total resonance frequency to at least 50%.

14. The method according to ~~any one of the preceding claims~~claim 12 or 13, **characterized** ~~in, that~~in that an electromechanical converter is being used as the power collector structure (10).

15. The method according to any one of the preceding claims 12 to 14, **characterized** ~~in, that~~in that the inner surface (11) of the periphery of a car tyre (12) is being used as the base (11).

16. The method according to any one of Claims 12~~–~~ to 14, **characterized** ~~in, that~~in that a shoe, or a part of it, is being used as the base (11).

17. The method according to any one of the preceding claims~~,~~ 12 to 16 **characterized** ~~in, that~~in that a MEMS element (3) provided with a bias voltage is being used as the power collector.

18. The method according to Claim 17, **characterized** ~~in, that~~in that, in the method, the bias voltage is implemented by means of a piezoelectric element.

19. The method according to Claim 17, **characterized** ~~in, that~~in that, in the method, the bias voltage is implemented by means of a suitable material couple.

20. The method according to any one of the preceding claims 12 to 19, **characterized** ~~in, that~~in that, in the method, a piezoelectric element is being used as the power collector (3).

21. The method according to any one of the preceding claims 12 to 20, **characterized** ~~in, that~~in that, in the method, gauging electronics (2) are integrated in the power collector (3).

22. The method according to any one of the preceding claims 12 to 21, **characterized** ~~in, that~~in that, in the method, transmission electronics (6) are integrated in the power collector (3).

23. A car tyre, characterized ~~in, that~~in that it comprises a power collector according to any one of the preceding Claims 1– to 11.

24. A shoe, characterized ~~in, that~~in that it comprises a power collector according to any one of the preceding Claims 1– to 11.

25. A roller structure, characterized ~~in, that~~in that it comprises a power collector according to any one of the preceding Claims 1– to 11.

26. A method for manufacturing a power collector structure, **characterized** in, that, in the method, the power collector structure is being formed by connecting to the power collector structure a part presented by a method according to any one of Claims 12–22.

27. The method according to Claim 26, characterized in, that the power structure is a part of a structure according to any one of Claims 23–25 being a car tyre, a part of a car tyre, a rim, or a combination of such items, a shoe, or a roller structure.