Claims

1. A vibrational lens comprising at least two focusing members, each of the at least two focusing members having a proximal end for attachment to a vibrational source and a distal end, wherein the at least two focusing members are arranged such that the separation between the focusing members decreases from the proximal ends towards the distal ends.

2. A vibrational lens as claimed in claim 1, wherein the at least two focusing members each comprise a first portion located between the proximal end and distal end and the first portions of the at least two focusing members are angled relative to each other such that the at least two focusing members converge at the distal ends.

3. A vibrational lens as claimed in claim 2, wherein the at least two focusing members each comprise a second portion located at the proximal end and the second portions of the at least two focusing members are substantially parallel.

4. A vibrational lens as claimed in any of the preceding claims, wherein the vibrational lens further comprises a backplate.

5. A vibrational lens as claimed in claim 4, when dependent on claim 3, wherein the second portions of the at least two focusing members are fixed to the backplate.

6. A vibrational lens as claimed in any of claims 3 to 5, wherein the at least two focusing members each comprise a third portion located at the distal end and the third portions of the at least two focusing members are substantially parallel.

7. A vibrational lens as claimed in claim 6, wherein the third portions of the at least two focusing members define a focal point of the vibrational lens.

8. A vibrational lens as claimed in any of the preceding claims, wherein the at least two focusing members comprise brass.

9. A vibrational lens as claimed in any of the preceding claims, wherein the at least two focusing members comprise a first layer and a second layer and the first layer is fixed to the second layer.

10. A vibrational lens as claimed in claim 9, wherein the first layer has a different coefficient of thermal expansion to the second layer.

11. A vibrational lens as claimed in claims 9 or 10, wherein the first layer comprises brass and the second layer comprises steel.

12. A vibrational lens as claimed in any of the preceding claims, wherein the vibrational lens further comprises one or more springs and the one or more springs connect the at least two focusing members.

13. A vibrational lens as claimed in any of the preceding claims, wherein the vibrational lens further comprises one or more weights attached to one or more of the at least two focusing members.

14. A vibrational lens as claimed in any of the preceding claims, wherein the vibrational lens further comprises a dynamic control system.

15. A vibrational lens as claimed in any of the preceding claims, wherein the vibrational lens comprising three focusing members.

16. A vibrational lens as claimed in any of the preceding claims, wherein the focusing members are focusing plates and or focusing rods.

17. An energy harvesting system comprising a vibrational lens as claimed in any of claims 1 to 16, a vibrational source and an energy conversion means.

18. An energy harvesting system as claimed in claim 17, wherein a proximal end of the vibrational lens is configured to be fixed to the vibrational source.

19. An energy harvesting system as claimed in claims 17 or 18, wherein the vibrational source is an internal combustion engine.

20. An energy harvesting system as claimed in any of claims 17 to 19, wherein the energy conversion means is located at a distal end of the vibrational lens.

21. An energy harvesting system as claimed in claim 20, wherein the energy conversion means is one or more piezoelectric crystals.

22. An energy harvesting system as claimed in claim 20, wherein the energy conversion means is one or more magnets and one or more coils.

23. An energy harvesting system as claimed in any of claims 17 to 22, wherein the energy harvesting system further comprises one or more bimetallic strips

24. An energy harvesting system as claimed in any of claims 17 to 23, wherein the energy harvesting system further comprises one or more vibration chambers.

25. An energy harvesting system as claimed in claim 24, wherein the vibration chamber comprises a first surface and a second surface and the vibration chamber is dimensioned relative to the distal end of the bimetallic strip such that the bimetallic strip can strike the first and second surfaces of the vibration chamber

26. A method of manufacturing a vibrational lens comprising~~:~~

providing ~~providing~~ at least two focusing members, each having a proximal end for attachment to a vibrational source and a distal end; ~~and~~the method comprising

- arranging the at least two focusing members such that the separation between the at least two focusing members decreases from the proximal ends towards the distal ends.

27. A method of manufacturing a vibrational lens as claimed in claim 26, wherein the method further comprises determining the characteristics of the vibrational source.

28. A method of manufacturing a vibrational lens as claimed in claim 27, wherein determining the characteristics of the vibrational source comprises quantifying any one of the following parameters: revolutions per minute, noise level, engine gas temperature, output power, torque and ambient temperature.

29. A method of manufacturing a vibrational lens as claimed in any of claims 26 to 28, wherein the method further comprises determining the optimum parameters of the vibrational lens for use with the vibrational source.

30. A method of manufacturing a vibrational lens as claimed in claim 29, wherein determining the optimum parameters of a vibrational lens comprises determining an optimum length, width and or depth of the at least two focusing members; and or the optimum separation of the proximal ends of the at least two focusing members; and or the optimum separation of the distal ends of the at least two focusing members; and or the optimum distance for the at least two focusing members to converge; and or the optimum material or materials for the at least two focusing members; and or the optimum coefficient of thermal expansion of the material or materials of the at least two focusing members.

31. A method of manufacturing a vibrational lens as claimed in claim 30, wherein determining the optimum length of the at least two focusing members comprises attaching brass rods of different lengths to the vibrational source to determine the resonant frequency across the operational range of the vibrational source.

32. A method of manufacturing a vibrational lens as claimed in any of claims 26 to 31, wherein the method may further comprise determining the characteristics of a cyclic temperature variation.

33. A method of manufacturing a vibrational lens as claimed in any of claims 26 to 32, wherein determining the optimum parameters may also include: determining the depth of a first layer and a second layer of the at least two focusing plates; the material of the first layer; and the material of the second layer.

34. A method of manufacturing a vibrational lens as claimed in claim 33, wherein the first layer has a different coefficient of thermal expansion to the second layer.