radial position **366** inboard of position **364** define an annular recess **368** with a trapezoidal cross section and a predetermined depth at position **370**.

[**0096**] Bottom ring **354** has distal surface **374**, proximal surface **376**, outer perimeter **378** and inner perimeter **380**. Radial position **382** on proximal surface **374** and radial position **384** inboard of position **376** define an annular recess **386** with a trapezoidal cross section and a predetermined depth at position **388**. Thin film **390** is sandwiched between beveled annular gasket **392** secured in recess **368**, and beveled annular gasket **394** secured in recess **386**.

[**0097**] In one mode, gaskets **392**, **394** grip thin film **390** and transfer strain as a result of shape change of top ring **352** and bottom ring **354**. In another mode, gaskets **392**, **394** are made of silicon or other flexible material to produce uniform, radial strain. In a further mode, gaskets **392**, **394** stretch in response to the strain on thin film **390**. In a still further mode, outer perimeters **360**, **378** are about 3 mm in diameter and inner perimeters **362**, **380** are about 1 mm to about 2 mm in diameter. In a still further embodiment, inner perimeters **362**, **380** are non circular.

[**0098**] In another embodiment, top ring **352** is reversibly contracted and bottom ring **354** is reversibly expanded before coupling. In one mode of this embodiment, gaskets **392**, **394** are coupled to respond as one enlarged perimeter member on thin film **390**. In another mode of this embodiment, top ring **352** and bottom ring **354** or electrically isolated. In a further mode, temperature change is applied to top ring **352** or bottom ring **354** with electric current.

[**0099**] Although the description above contains many details, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. Therefore, it will be appreciated that the scope of the present invention fully encompasses other embodiments which may become obvious to those skilled in the art, and that the scope of the present invention is accordingly to be limited by nothing other than the appended claims, in which reference to an element in the singular is not intended to mean "one and only one" unless explicitly so stated, but rather "one or more." All structural, chemical, and functional equivalents to the elements of the above-described preferred embodiment that are known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the present claims. Moreover, it is not necessary for a device or method to address each and every problem sought to be solved by the present invention, for it to be encompassed by the present claims. Furthermore, no element, component, or method step in the present disclosure is intended to be dedicated to the public regardless of whether the element, component, or method step is explicitly recited in the claims. No claim element herein is to be construed under the provisions of 35 U.S.C. 112, sixth paragraph, unless the element is expressly recited using the phrase "means for."

What is claimed is:

1. An apparatus for adjustably changing biaxial strain on a thin film, comprising:

a ring of shape memory alloy having a first inner perimeter;

wherein said ring has been reversibly changed to a second inner perimeter; and

means for securing a thin film to said ring;

wherein said ring adjusts between said second and said first inner perimeter in response to a change in temperature applied to said ring; and

wherein said ring is adapted to impart biaxial strain on said thin film in response to a change between said second and said first inner perimeter of said ring.

2. An apparatus as recited in claim 1, wherein said shape memory alloy comprises Nickel Titanium.

3. An apparatus as recited in claim 1, wherein said means for securing a thin film comprises:

a top portion and a bottom portion in said ring;

wherein said top portion has a first continuous groove;

wherein said bottom portion has a second continuous groove;

wherein said first continuous groove is adapted to align with said second continuous groove;

wherein said first continuous groove and said second continuous groove are adapted to grip a thin film; and

means for coupling said top portion and said bottom portion of said ring.

4. An apparatus as recited in claim 3:

wherein said first continuous groove in said top portion is configured in a first shape;

wherein said second continuous groove in said bottom portion is configured in said first shape; and

wherein said first shape is selected from the group consisting essentially of a circle, an oval and a polygon.

5. An apparatus as recited in claim 3, further comprising:

a plurality of gaskets adapted to couple to said thin film;

wherein said gaskets are further adapted to grip said thin film;

wherein said gaskets are further adapted to align with said first continuous groove and said second continuous groove; and

wherein said gaskets are configured to change biaxial strain on said thin film in response to a change between said second inner perimeter and said first inner perimeter of said ring.

6. An apparatus as recited in claim 3, wherein said means for coupling comprises:

a circular ridge in said top portion of said ring;

said circular ridge in said top portion of said ring having male threads;

a circular recess in said bottom portion of said ring;

said circular recess in said bottom portion of said ring having female threads;

wherein said male threads on said top portion are adapted to mate with said female threads on said bottom portion; and