thickness of the blank. Moreover, deformation can be produced by utilizing a reduced pressure on one side of the blank and a superatmospheric pressure on the opposite side thereof.

It will be understood from the foregoing, that the present invention provides methods and apparatus which enable the ready manufacture by a generating operation of aspherical lenses and other optical surfaces and thereby renders the mass production of aspherical optical elements possible.

While representative embodiments of the present invention have been shown and described for purposes of illustration, various changes and modifications may be made therein as pointed out above without departing from the principles of this invention. Therefore, all such changes and modifications are included within the intended scope of the invention as defined by the following claims.

We claim:

1. A method of producing aspherical surfaces on articles comprising applying fluid pressure to an article to flex and deform it, generating a curved surface on said article while it is flexed and deformed and thereafter restoring said article to an unflexed and undeformed state.

2. The method of producing aspherical surfaces set forth in claim **1** in which said article has areas of different thicknesses and is flexed and deformed non-uniformly.

3. The method of producing aspherical surfaces set forth in claim **1** in which the said articles are lenses.

4. The method of producing aspherical surfaces set forth in claim **1** in which the said articles are mirrors.

5. A method of producing aspherical surfaces on articles comprising applying fluid pressure to an article provided initially with at least one convex surface, to flex and deform said surface, generating a curved surface on said initially convex surface while it is flexed and deformed and thereafter restoring said article to an unflexed and undeformed state.

6. A method of producing aspherical surfaces on articles comprising applying fluid pressure to an article provided initially with at least one concave surface to flex and deform said surface, generating a curved surface on said initially concave surface while it is flexed and deformed and thereafter restoring said article to an unflexed and undeformed state.

7. A method of manufacturing optical products comprising applying fluid pressure to a first lens element to deform it, generating a surface on said lens element and relieving said lens element of pressure whereupon the said first lens element is mounted on a second lens element thus forming a lens.

8. A method of producing aspherical surfaces on articles comprising forcing a liquid under pressure against one side of an optical element to flex said element, converting said liquid to a solid while said element is flexed, generating a curved surface on said element while it is flexed, and thereafter separating said element from said solid and restoring said element to an unflexed state.

9. A method of producing aspherical surfaces on articles according to claim **8** wherein said liquid is a molten low melting metal.

10. A method of producing aspherical surfaces on articles according to claim **8** wherein said liquid is a hardenable synthetic resin.

11. A method of producing aspherical surfaces on articles comprising applying liquid under pressure to an article provided initially with at least one curved surface to flex said surface, converting said liquid to a solid while said surface is flexed, generating a curved surface on said initially curved surface while it is flexed and thereafter removing said solid and restoring said article to an unflexed state.

12. A method of producing aspherical surfaces on articles according to claim **11** wherein said liquid is a molten low melting metal.

13. A method of producing aspherical surfaces on articles according to claim **11** wherein said liquid is a hardenable synthetic resin.

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