sections, the first and second end sections being attached to the first and second end rings, respectively, and the middle section of each contact beam being longer and wider than each of the first and second end sections such that each contact beam has a generally teardrop shape, and wherein the middle section of each contact beam has a contour that defines an inner contact area such that the middle section extends further into the inner receiving area than the first and second end sections and such that the inner contact areas are positioned for contact with the mating pin when inserted into the inner receiving area, the contour of the middle section being a substantially concave form that curves into the inner receiving area such that a cross-section of the middle section is generally curved.

[0004b] In another aspect, the present disclosure refers to a method of making an electrical socket, comprising the steps of: providing a conductive blank having opposite first and second connecting portions and a plurality of contact beams extending between the first and second connecting portions, each contact beam having a middle section between first and second end sections, the first and second end sections being attached to the first and second connecting portions, respectively; contouring each of the middle sections of the contact beams of the blank to define a contact area; after contouring, rolling the blank to form a cylindrical body wherein the first and second connecting portions form opposite first and second end rings of the body; and then twisting the first and second end rings in opposite directions with respect to a longitudinal axis of the body, thereby twisting the contact beams into a hyperbolic geometry and forming an inner receiving area of the body configured to accept a mating pin with the contact areas of the contact beams facing inside; wherein a contour of each of the middle sections resulting from the step of contouring is a substantially concave form that curves into the inner receiving area such that a cross-section of the middle section is generally curved.

[0005] According to an example, the present disclosure may provide an electrical socket that comprises a cylindrical body defining a longitudinal axis and having opposite first and second end rings, a plurality of spaced contact beams extending between the first and second end rings, and an inner receiving area for accepting a mating pin. The first and second end rings are rotatably offset from one another with respect to the longitudinal axis, thereby twisting the contact beams into a hyperbolic geometry. Each of the contact beams may comprise a middle

section between first and second end sections. The first and second end sections are attached to the first and second

WHAT IS CLAIMED IS:

1. An electrical socket, comprising

a cylindrical body defining a longitudinal axis and having opposite first and second end rings, a plurality of spaced contact beams extending between the first and second end rings, and an inner receiving area for accepting a mating pin, the first and second end rings being rotatably offset from one another with respect to the longitudinal axis, thereby twisting the contact beams into a hyperbolic geometry,

each of the contact beams comprising a middle section between first and second end sections, the first and second end sections being attached to the first and second end rings, respectively, and the middle section of each contact beam being longer and wider than each of the first and second end sections such that each contact beam has a generally teardrop shape, and

wherein the middle section of each contact beam has a contour that defines an inner contact area such that the middle section extends further into the inner receiving area than the first and second end sections and such that the inner contact areas are positioned for contact with the mating pin when inserted into the inner receiving area, the contour of the middle section being a substantially concave form that curves into the inner receiving area such that a cross-section of the middle section is generally curved.

~~2.~~ The electrical socket of claim 1, wherein the cross-section ~~contour~~ of the middle section of each contact beam ~~comprises a substantially concave form extending into the inner receiving area~~ is generally C-shaped.

~~3.~~2. ~~The electrical socket of claim 1, wherein the contour of the middle section of each contact beam comprises angled radii forms extending across the middle section substantially parallel to the longitudinal axis defining the inner contact area therebetween.~~

~~4.~~3. The electrical socket of claim 1, wherein the end rings have substantially the same diameter and width.

~~5.~~4. The electrical socket of claim 4, wherein the width of each end ring is greater than the width of each middle section of the contact beams.

~~6.~~5. The electrical socket of claim 1, wherein the hyperbolic geometry has a twist of about 40 to 70 degrees.

~~7.~~6. The electrical socket of claim 1, wherein the cylindrical body is a one-piece unitary member.

~~8.~~7. The electrical socket of claim 1, wherein the contact beams are uniformly spaced.

~~9.~~8. The electrical socket of claim 1, wherein the cylindrical body is made of copper, copper alloy, or silver plating.

~~10.~~9. A method of making an electrical socket, comprising the steps of:

providing a conductive blank having opposite first and second connecting portions and a plurality of contact beams extending between the first and second connecting portions, each contact beam having a middle section between first and second end sections, the first and second end sections being attached to the first and second connecting portions, respectively;

contouring each of the middle sections of the contact beams of the blank to define a contact area;

after contouring, rolling the blank to form a cylindrical body wherein the first and second connecting portions form opposite first and second end rings of the body; and

then twisting the first and second end rings in opposite directions with respect to a longitudinal axis of the body, thereby twisting the contact beams into a hyperbolic geometry and forming an inner receiving area of the body configured to accept a mating pin with the contact areas of the contact beams facing inside;

wherein a contour of each of the middle sections resulting from the step of contouring is a substantially concave form that curves into the inner receiving area such that a cross-section of the middle section is generally curved.

~~11.~~ The method of claim ~~10~~9, wherein the cross-section of the middle section is generally C-shaped~~step of contouring provides a substantially concave form in each middle section of each contact beam such that the middle sections extend into the inner receiving area after the step of twisting the first and second end rings~~.

~~12.~~10. ~~The method of claim 10, wherein the step of contouring provides angled radii forms across each middle section of each contact beam which define the contact areas therebetween.~~

~~13.~~11. The method of claim ~~13~~9, wherein the step of twisting includes twisting the first and second end rings until the angled radii forms are substantially parallel to the longitudinal axis.

~~14.~~12. The method of claim ~~10~~9, wherein the step of twisting the first and second end rings provides a twist between about 40 and 70 degrees with respect to the longitudinal axis.

~~15.~~13. The method of claim ~~10~~9, wherein after the step of rolling the blank, attaching respective ends of the first connecting portion of the cylindrical body to form the first end ring and attaching respective ends of the second connecting portion~~s~~ of the cylindrical body to form the ~~first and~~ second end ring~~s, respectively~~.

~~16.~~14. The method of claim ~~10~~9, further comprising the step of welding or mechanically ~~inter~~locking opposing end edges of the blank after ~~contouring and~~ rolling the blank to form the cylindrical body.

~~17.~~15. The method of claim ~~10~~9, wherein providing the conductive blank further comprises ~~comprising the step of~~ stamping ~~the blank from~~ a sheet of conductive material to form the conductive blank.

~~18.~~16. The method of claim ~~17~~15, wherein the sheet is made of copper, copper alloy, or silver plating.

~~19.~~17. The method of claim ~~10~~9, ~~further comprising the step of forming~~wherein the cylindrical body is formed as a one-piece unitary member.

~~20.~~18. The method of claim ~~10~~9, ~~further comprising the step of~~wherein ~~uniformly spacing~~ the contact beams are uniformly spaced.