CLAIMS

What is claimed is:

1. A unitary fastener for joining a top element and a deformable bottom element face-to-face, the fastener comprising:

a head including a cone-shaped flange being the largest diameter of the fastener, said flange having an uninterrupted circular periphery adapted to resiliently deflect upwardly; and

a shank extending immediately downward from said head, said shank having one of (a), (b), and (c) as follows:

(a) attachment means including

(1) a collar immediately downward from the head; and

(2) an undercut immediately downward from the collar and adapted to receive the cold flow of material from the deformable bottom element, the largest diameter of the undercut being smaller than the diameter of the collar;

(b) attachment means including:

(1) a collar immediately downward from the head; and

(2) a helically threaded shaft adapted to receive the cold flow of material from the deformable bottom element, the largest diameter of the shaft being smaller than the diameter of the collar; and

(c) attachment means including a helically threaded shaft immediately downward from the head and adapted to receive the cold flow of material from the deformable bottom element.

2. An assembly of parts, comprising:

a fastener according to claim 1;

a top element in face-to-face abutment with a deformable bottom element , said top element including an aperture through which the shank: of said fastener passes, wherein;

the shank of said fastener is engaged with preformed hole cavity in said deformable bottom element to a depth where the periphery of the fastener head flange is in forcible contact with the top element and deflected sufficiently to apply a downward resiliently biasing residual clamp load between said elements.

3. The assembly of claim 2 wherein said fastener is a unitary metal structure.

4. The assembly of any one of claims 2 and 3 wherein said shank attachment means is only the undercut.

5. The assembly of any one of claims 2-4 wherein the diameter of the fastener is 1.0 mm.

6. The assembly of any one of claims 2-5 wherein the cold flow of material of the deformable bottom element is caused by a downward installation force applied to the head.

7. The fastener of claim 1 wherein the fastener is a unitary metal structure.

8. The fastener of any of claims 1 and 7 wherein said shank attachment means is only the undercut.

9. The fastener of any one of claims 1, 7, and 8 wherein the diameter of the shank is 1.0 mm.

10. The fastener of any one of claims 1 and 7-9 wherein the cold flow of material of the deformable bottom element is caused by a downward installation force applied to the head.