1. A clinch-in fastener, comprising:

a. a body having a central axis, a top, a distal bottom end, a side wall, and an internal bore coaxial with the central axis; and

b. a single shank fixed to said side wall ~~proximate~~ at the bottom end of said body and extending radially relative to said central axis, said shank having:

i. a topmost surface that lies in a single plane orthogonal to the central axis of the body that faces upwardly toward the top of the body,

ii. a cylindrical side surface co-axial with said central axis;

iii. a chamfer adjacent said side surface and extending at an angle that is skew to said central axis, and tapering downwardly-inwardly from said side surface towards the bottom of said body;

iv. a plurality of peripheral lugs which extend to an outer perimeter of the shank

wherein the topmost surface of said shank is constructed and arranged for receiving the cold flow of workpiece material surrounding a hole in a workpiece.

2. The clinch-in fastener of claim 1, wherein said internal bore is threaded and extends through said body from the top to the bottom.

~~3. The clinch-in fastener of claim 1, wherein said shank has a plurality of peripheral notches.~~

~~4. The clinch-in fastener of claim 3, wherein at least one of said notches is formed in an outermost edge of said shank.~~

~~5. The fastener of claim 4, wherein at least one of said notches extends through at least one of said top surface of said shank and said chamfer.~~

~~6. The clinch-in fastener of claim 4, wherein said at least one notch extends through said top surface, side surface and chamfer.~~

~~7. The clinch-in fastener of claim 1, wherein said shank has a plurality of peripheral lugs formed on at least the top surface of said shank.~~

~~8~~3. The clinch-in fastener of claim ~~7~~ 1, wherein said ~~s~~lugs do not extend radially farther than the outer perimeter of said shank.

~~9~~4. The clinch-in fastener of claim 1, including an installation tool constructed and arranged to clinch-in fasten said fastener in a blind hole of a workpiece, said installation tool having:

a. a cylindrical tool body having an axial, proximal end, cylindrical side walls, and an axial distal end having a central, axially-extending blind tool bore;

b. a wedge-shaped displacer extending axially from the distal end of said tool body and surrounding the opening of said tool bore;

c. a compression spring seated in said tool bore and connected to a fastener pusher having a shape and size that compliments the shape and size of said tool bore and permits said pusher to freely reciprocate within said tool bore;

wherein the displacers of the tool are constructed and arranged to cold deform inwardly the material surrounding the blind hole onto the top surface of said shank when the fastener is inserted in the blind hole, the tool engages the fastener and the workpiece, and the tool is rotated.

10. An assembly of a clinch-in fastener and a workpiece, comprising:

a. a workpiece; and,

b. the fastener of claim 1 rigidly affixed in a blind receiving hole of said workpiece.

11. The assembly of claim 10, wherein workpiece material is displaced onto the top surface of said shank.

12. The assembly of claim 11, wherein workpiece material is displaced against at least one of said notches and said lugs.

13. The assembly of claim 12, wherein said internal bore has threads, and workpiece material is displaced from a central raised area of workpiece material in the receiving hole into at least one of said threads.

14. The assembly of claim 10, including two fasteners of claim 1 that cooperatively connect, wherein said body of a first fastener captivates a fastener pin between said body and the workpiece.

15. The assembly of claim 14, wherein said body of a second fastener captivates a catch between said body and a second workpiece, said catch adapted to receive and interconnect with the fastener pin of said first fastener.

16. The assembly of claim 15, wherein the first and second workpieces are elements of electronic equipment.

17. A fastener installation tool, comprising:

a. a casing having a top end, a bottom end, and a central rotational axis;

b. a spindle tool fixed to said top end and adapted for affixation to a rotary and vertically reciprocal element of an industrial machine;

c. a tip at the bottom end adapted for deforming a workpiece as the tip rotates and is pressed against the workpiece; and

d. an axial bore within said tip adapted for holding a fastener installed by the tool.

18. The tool of claim 17, wherein said tip has a distal end surface orthogonal to the axial bore which is constructed and arranged to engage and deform the workpiece.

19. The tool of claim 18, including a displacer on said distal end surface.

20. The tool of claim 19, wherein said displacer is vertically tapered along an arcuate ridge centered about said axial bore from a back end of greatest height down to a front end of minimum height where the ridge meets the end face.

21. The tool of claim 20, wherein an inside edge of said displacer is chamfered from the ridge to the axial bore.

22. The tool of claim 21, wherein said displacer is chamfered from the displacer ridge to an outer edge of the displacer.

23. The tool of claim 22, wherein the width of said displacer is tapered such that the front end of said displacer intersects said distal end surface at a point.

24. The tool of claim 23, including two displacers located 180 degrees apart around the central rotational axis.

25. The tool of claim 24, wherein said displacers are substantially identical and wherein the length of each displacer extends approximately 90 radial degrees around the central rotational axis from the front end to the back end.

26. The tool of claim 17, including fluid communication channels extending from the spindle to the tip for creating vacuum at the tip when the spindle is connected to a vacuum source, wherein the vacuum holds the fastener within the tip bore while the tool body rotates.

27. The tool of claim 26, further including a center punch extending axially through said tool tip and the fastener when it occupies the tip.

28. The tool of claim 17, further including CNC milling machine connected to said spindle.

30. The tool of claim 17, further including a spring-biased fastener pusher constructed and arranged to apply an axial insertion force on a fastener within the tip.

31. A method of clinch-in fastening a fastener in a blind hole of workpiece, comprising the steps of:

a. providing a fastener;

b. inserting the fastener in the blind hole; and,

c. displacing workpiece material surrounding the blind hole against the fastener by:

i. applying a localized force to a segment of the workpiece material proximate the perimeter of the hole, said localized force having force components in both the parallel and perpendicular direction relative to the plane of the workpiece;

ii. increasing the localized force until it induces the yield stress in the workpiece and workpiece material deforms radially toward the fastener;

iii. radially advancing the localized force around the hole perimeter to a new segment;

iv. repeating steps (i) - (iii) until the localized force has been applied to the entire perimeter of the hole.

32. The method recited in claim 31, including the step of repeating steps (i) - (iv) until a sufficient amount of workpiece material has been deformed into contact with the fastener to clinch the fastener in the hole.

33. The method recited in claim 31, wherein the localized force is applied to the workpiece with a rotatable tool having displacer adapted for deforming the workpiece.

34. The method recited in claim 33, wherein said displacer applies both components of the localized force when the displacer is driven normally into the surface of the workpiece.

35. The method recited in claim 33, wherein said displacer applies both components of the localized force when the displacer is driven normally into the surface of the workpiece and is simultaneously rotated around the perimeter of the hole.

36. The method of claim 32, wherein the fastener comprises a cylindrical body having a central axis, a top, a bottom, a side wall, an internal, threaded bore, and a single shank at the bottom of the body extending radially relative to the central axis, said shank having a top surface orthogonal to the internal bore, and wherein workpiece material is deformed onto said top surface of said shank.

37. The method of claim 35, including the step of deforming workpiece material into at least one of the threads of said internal bore.

~~38. The method of claim 37, wherein the step of pressing the fastener into the receiving hole performed by a spring-biased pusher on said tool.~~

5. The fastener of claim 1 wherein the peripheral lugs comprise portions of the topmost surface.

6. A clinch-in fastener, comprising:

a. a body having a central axis, a top, a distal bottom end, a side wall, and an internal bore coaxial with the central axis; and

b. a single shank fixed to said side wall at the bottom end of said body and extending radially relative to said central axis, said shank having:

i. a topmost surface that lies in a single plane orthogonal to the central axis of the body and that faces upwardly toward the top of the body,

ii. a cylindrical side surface co-axial with said central axis;

iii. a chamfer adjacent said side surface and extending at an angle that is skew to said central axis, and tapering downwardly-inwardly from said side surface towards the bottom of said body;

iv. a bottommost surface that lies in a single plane orthogonal to the central axis of the body and faces downwardly away from the body;

v. a plurality of peripheral notches formed in an outermost edge of said shank

wherein at least one of said notches extends through at least one of said topmost surface of said shank and said chamfer; and wherein the topmost surface of said shank is constructed and arranged for receiving the cold flow of workpiece material surrounding a hole in a workpiece.

7. The clinch-in fastener of claim 6, wherein said at least one notch extends through said topmost surface, side surface and chamfer.

8. The fastener of claim 6 wherein said threads are constructed and arranged to receive material displaced from the workpiece.