EXHIBIT H

US005777854A

United States Patent [19]

Welch et al.

[11] Patent Number: 5,777,854

[45] Date of Patent: Jul. 7, 1998

[54] **INTEGRATE FLEXIBLE CONTACTS GROUNDING SYSTEM FOR A COMPUTER SYSTEM CHASSIS**

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[73] Assignee: **AST Research, Inc.**, Irvine, Calif.

[21] Appl. No.: **866,397**

[22] Filed: **May 30, 1997**

Related U.S. Application Data

[63] Continuation of Ser. No. 445,430, May 19, 1995, abandoned.

[51] **Int. Cl.**[6] **H05K 7/14**

[52] **U.S. Cl.** ..... **361/800**; 364/818; 364/224; 364/816; 364/752; 174/35 R; 174/35 GC; 435/88; 435/109; 435/609; 435/608

[58] **Field of Search** ..... 361/728, 736, 361/738, 752, 753, 757, 800, 816, 818, 820, 821, 212, 220, 744, 784, 790; 174/35 R, 35 GC, 50, 52.1, 51; 439/88, 108, 109, 607–610; 257/678, 659, 660; 307/89, 90; 220/402; 206/275

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Assistant Examiner—Anthony Dinkins
Attorney, Agent, or Firm—Knobbe, Martens, Olson & Bear, L.L.P.

[57] **ABSTRACT**

A computer system chassis, including a base and a cover, implements an improved grounding system by integrally forming a plurality of flexible protruding contacts into predetermined contact regions throughout the base during the metal punching manufacturing phase of the chassis base blank. In this way, when the base and cover are attached to each other, the size of any gaps which may form in these contact regions, as a result of warpage or design tolerances, are reduced. This is due to the number of mechanical contacts being made by the plurality of flexible contacts which protrude and extend across these gaps and connect the base to the cover. In addition to reducing the size of these gaps, the flexible contacts provide an improved electrical grounding to the cover by increasing metal-to-metal contact between the cover and the base, both of which reduce EMI emissions from the computer system chassis.

19 Claims, 3 Drawing Sheets

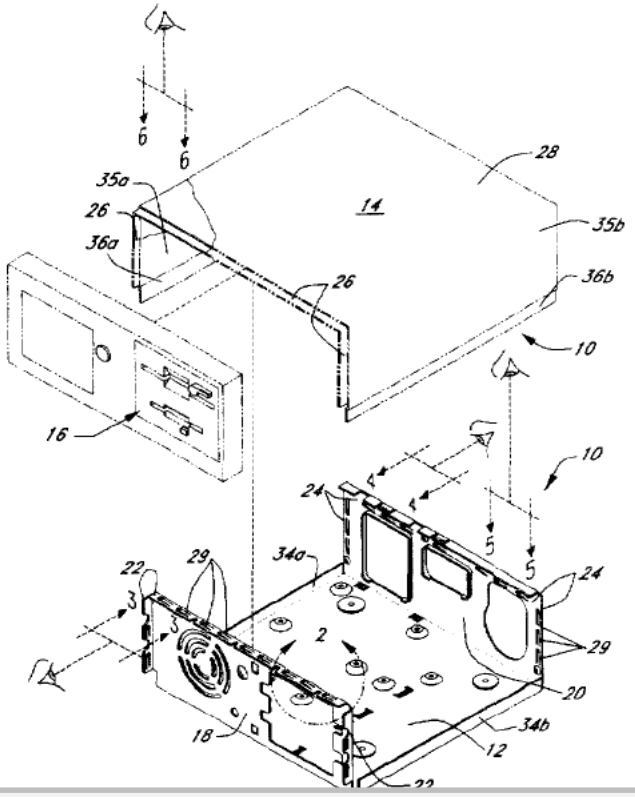


FIG. 1

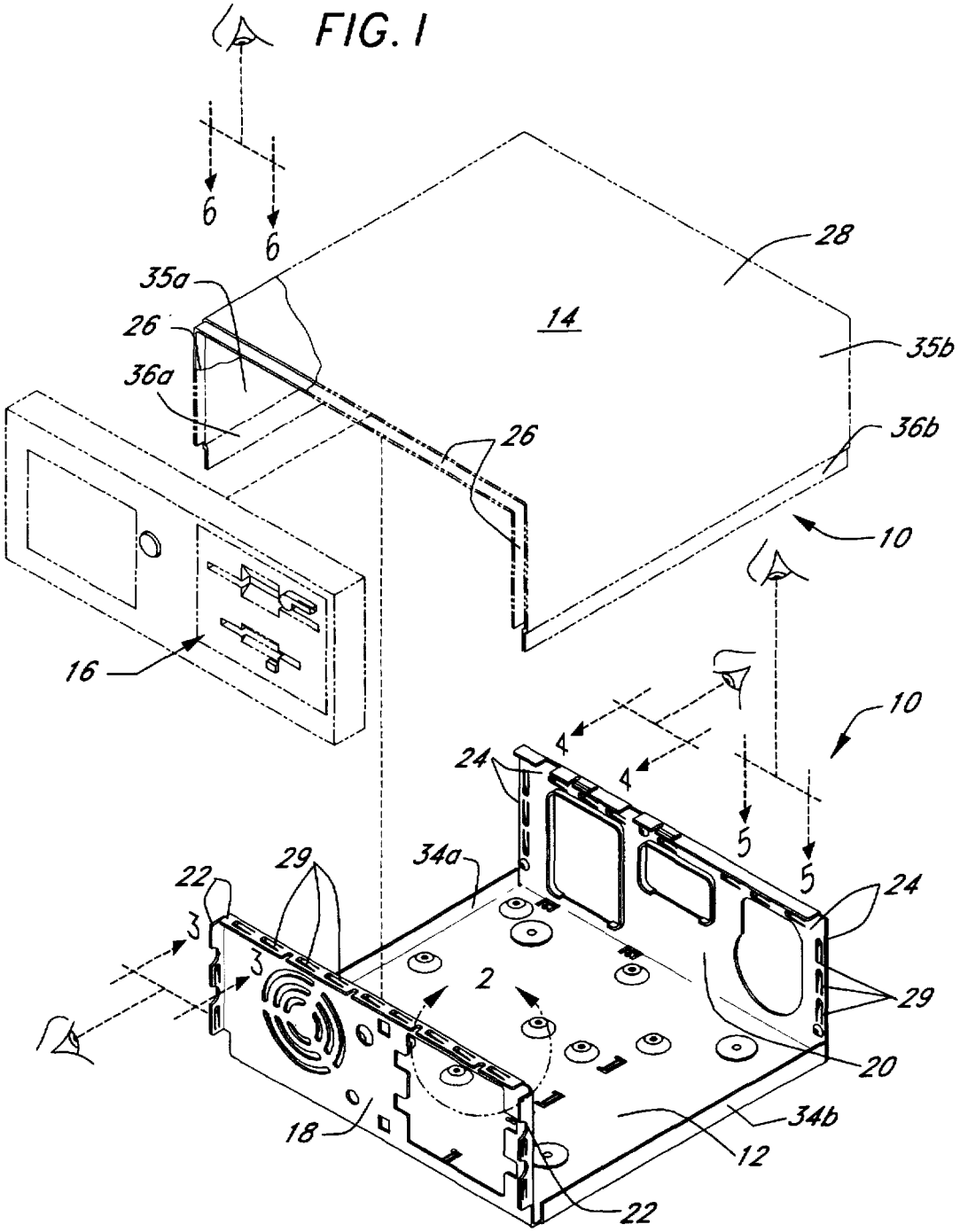


FIG. 2

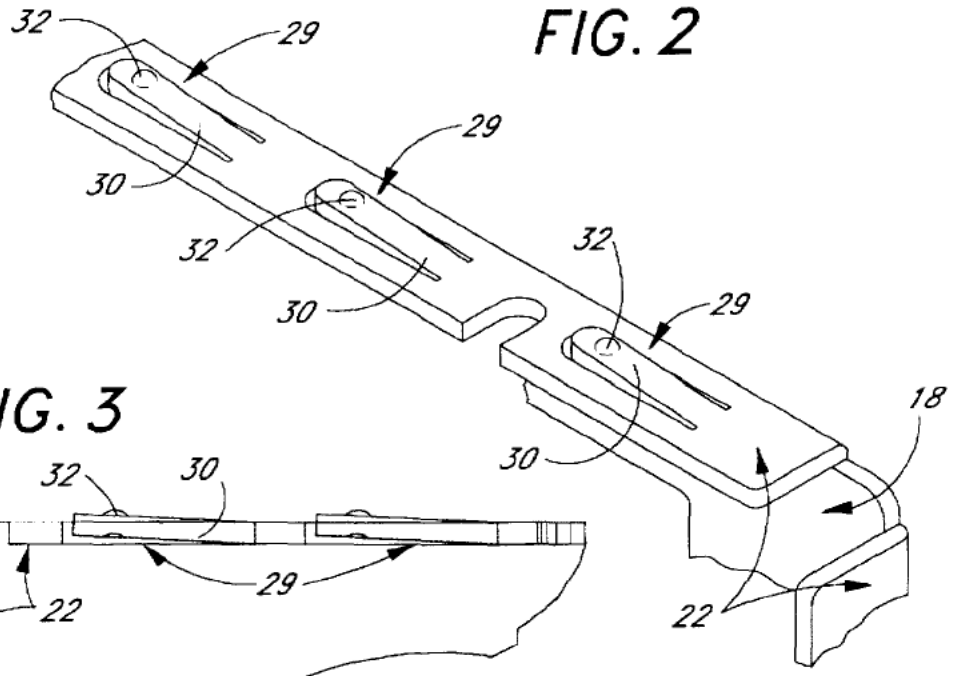


FIG. 3

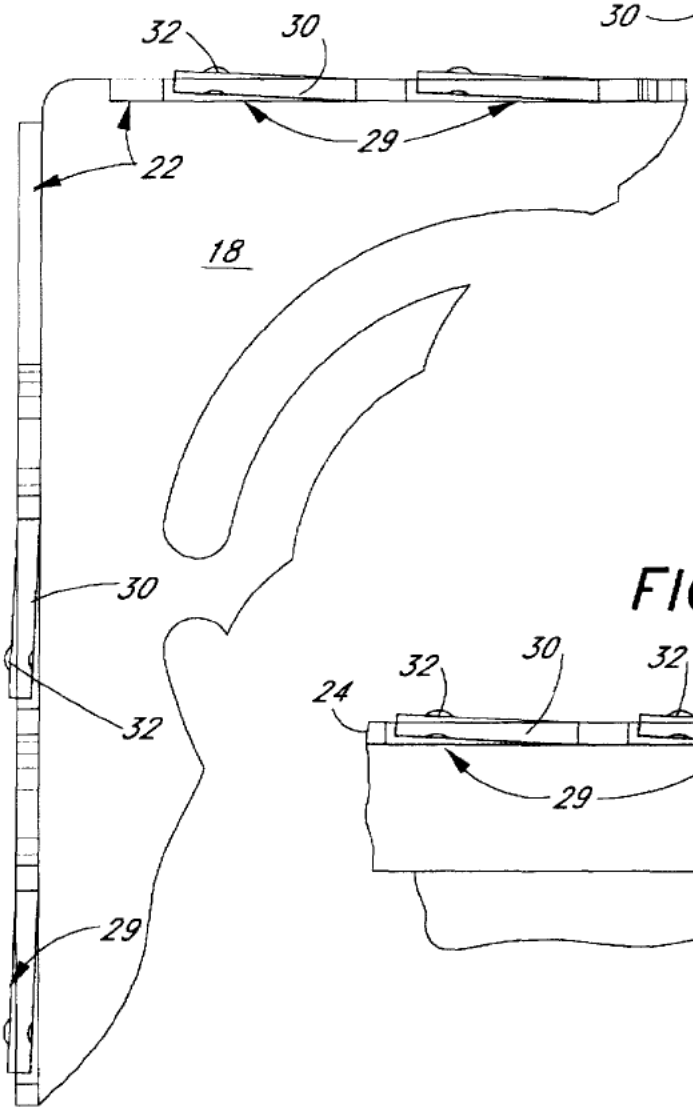


FIG. 5

FIG. 4

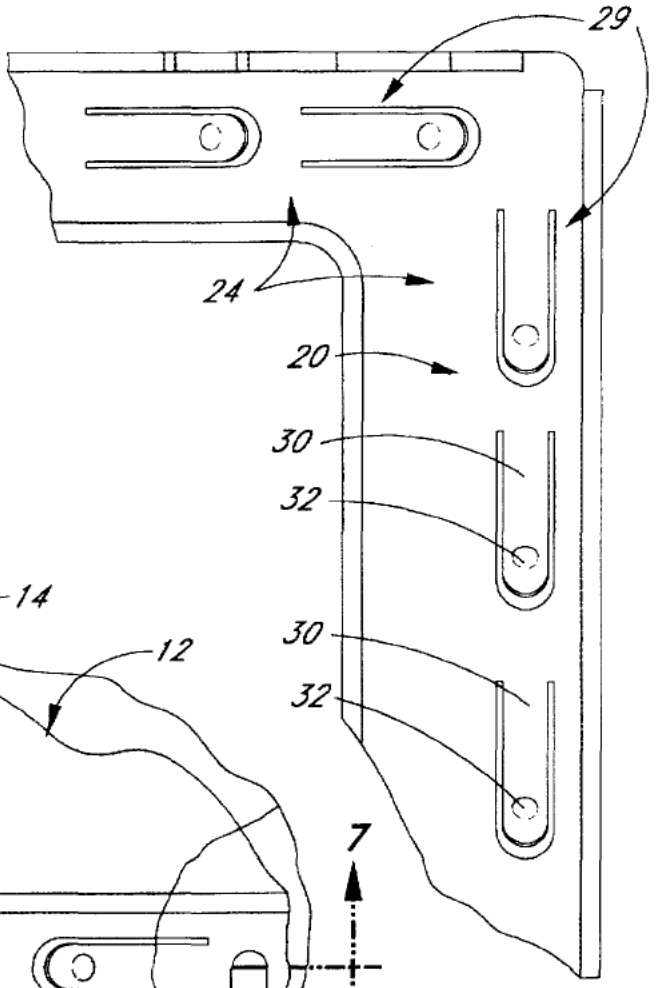


FIG. 6

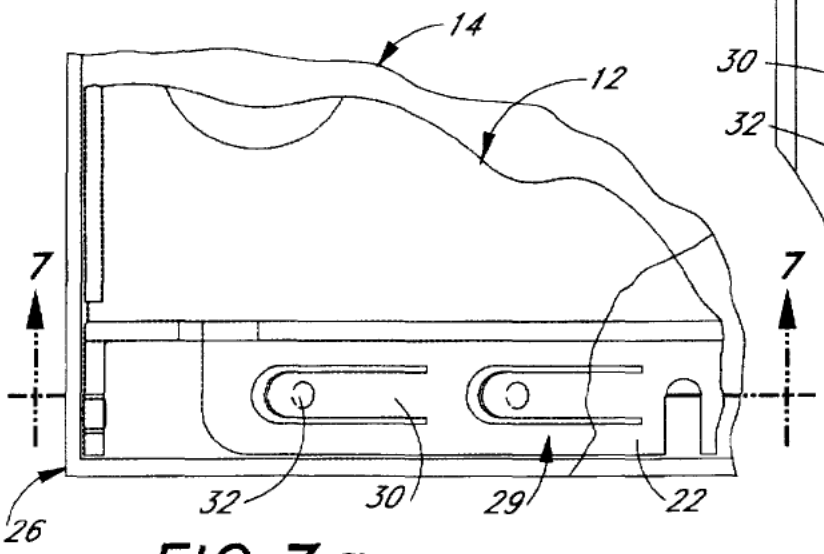


FIG. 7a

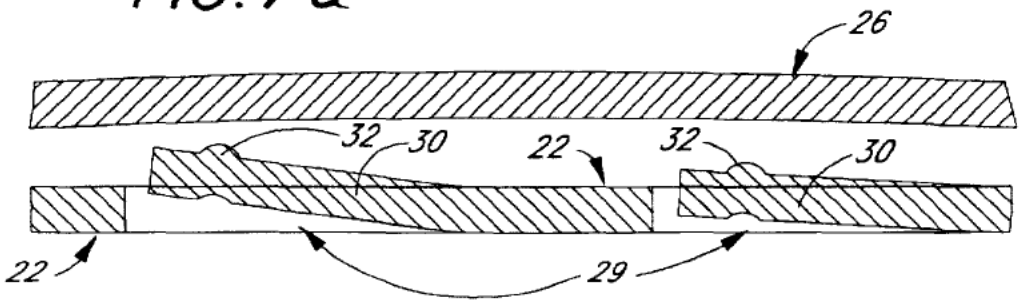
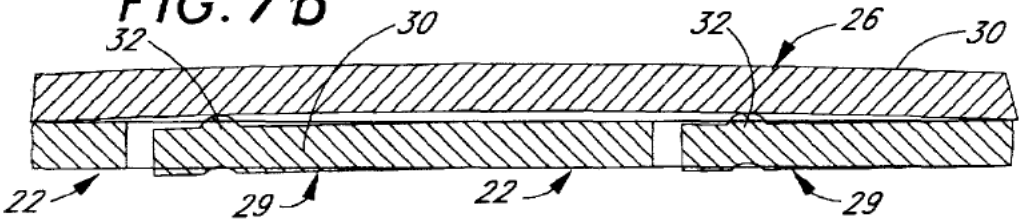


FIG. 7b



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