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(12) **United States Patent**
Paroly

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(45) **Date of Patent:** **Jan. 27, 2004**

(54) **METHOD AND APPARATUS FOR
PREFABRICATING MODULAR
STRUCTURAL MEMBERS**
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(73) Assignee: **IBI, Inc.**, White Plains, NY (US)
(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 79 days.

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(21) Appl. No.: **09/760,064**
(22) Filed: **Jan. 12, 2001**

(65) **Prior Publication Data**
US 2001/0015045 A1 Aug. 23, 2001

Related U.S. Application Data

- (63) Continuation-in-part of application No. 09/223,666, filed on Dec. 30, 1998, now Pat. No. 6,237,297.
- (60) Provisional application No. 60/070,003, filed on Dec. 30, 1997.
- (51) **Int. Cl.⁷** **B23K 37/00**; B23K 1/14; E04H 12/18; E04H 12/00
- (52) **U.S. Cl.** **228/47.1**; 228/49.1; 29/407.1; 52/643; 52/646; 52/652.1
- (58) **Field of Search** 228/47.1, 49.1, 228/212, 135-140; 29/407.01; 52/650, 652.1, 643-646; 140/112; 219/56, 125.1

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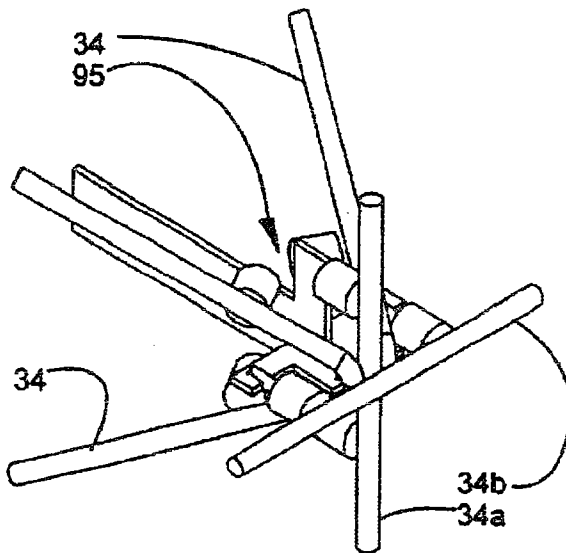
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(57) **ABSTRACT**

Novel prefabricated modular structural members for use in low cost construction of relatively small residential, institutional and commercial buildings with high degrees of resistance to damage by fire, hurricanes, earthquakes, moisture, etc., are disclosed. A structural member of this class basically consists of two spaced shell panels and an intermediate core. The core is a triangulated wire frame composed of a plurality of zig-zag shaped wire trusses having their sets of top and bottom apexes anchored to associated sets of longitudinal and transverse chords and the respective proximate inside faces of the shell panels. A fixture is provided which includes posts for holding the wires before they are welded. The posts and a coupling member such as a welding gun can move with respect to each other to form the joints between the wires.

15 Claims, 13 Drawing Sheets



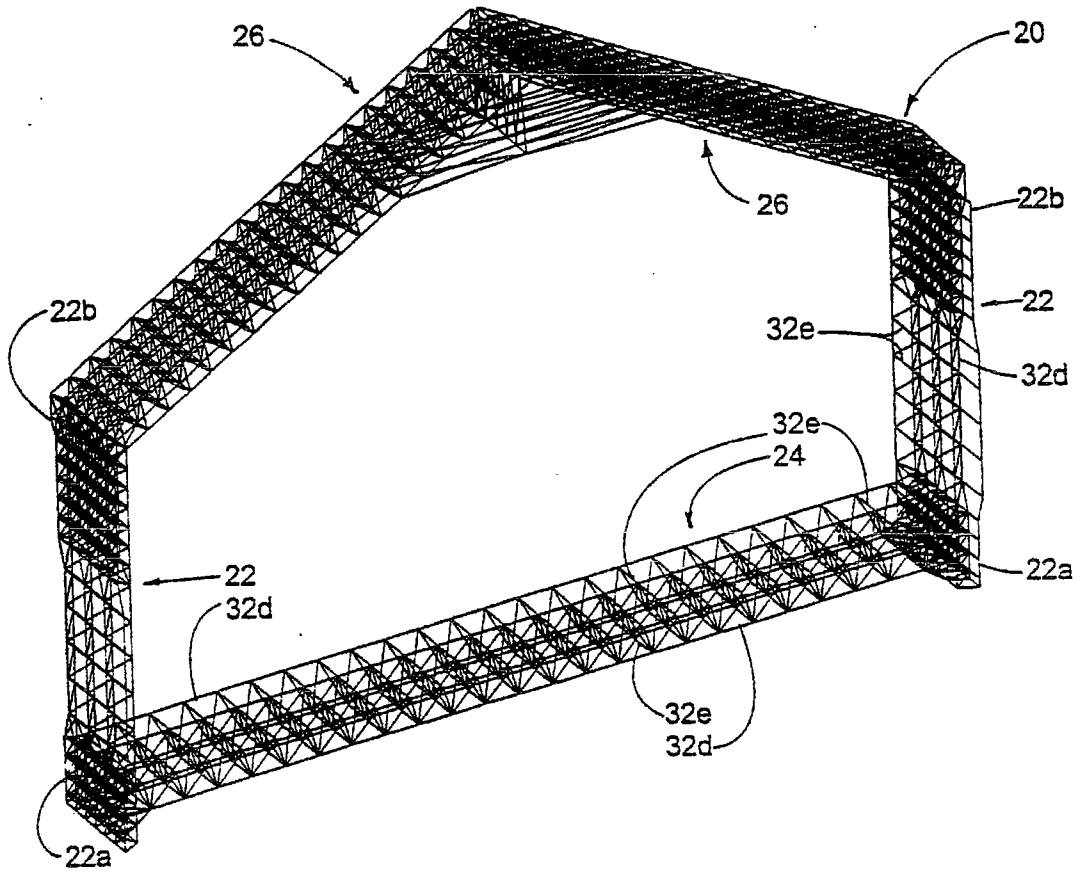


Fig. 1

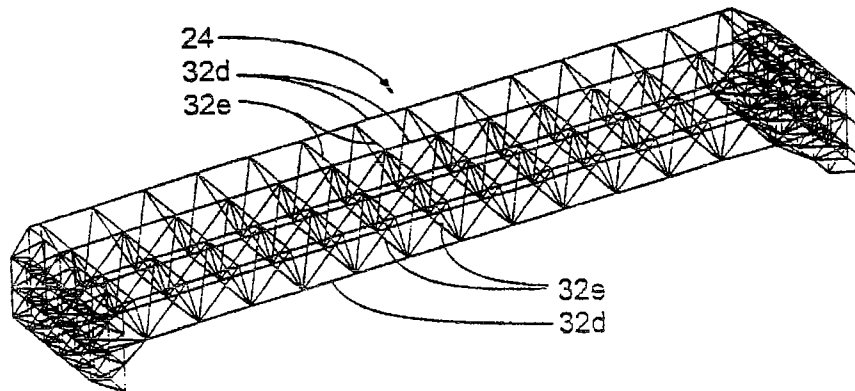
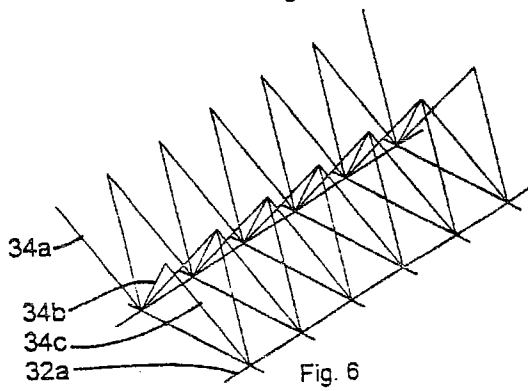
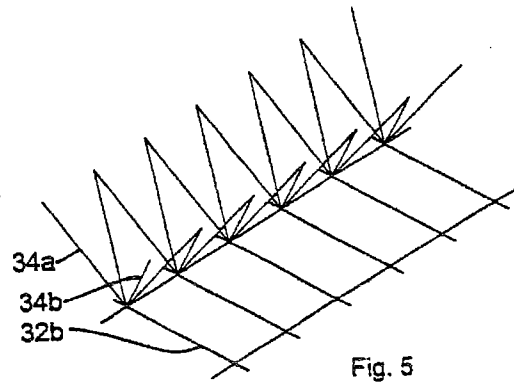
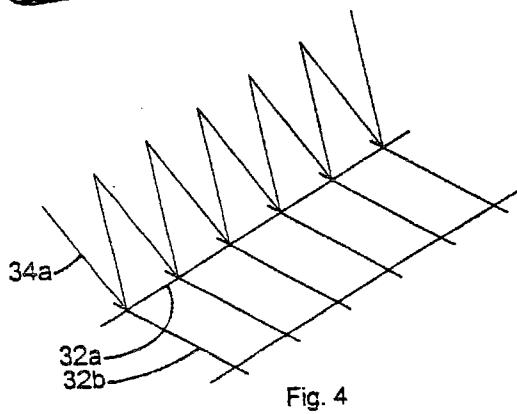
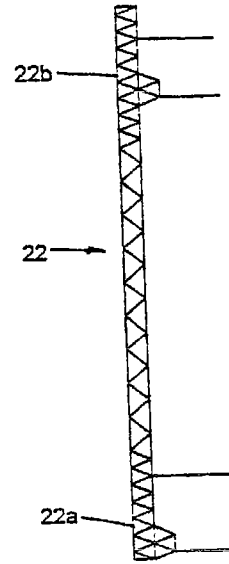
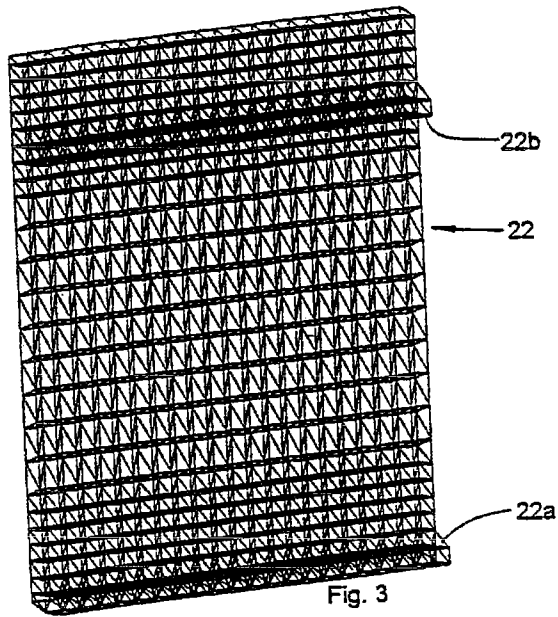


Fig. 2



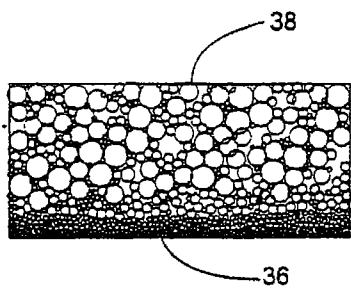


Fig. 7

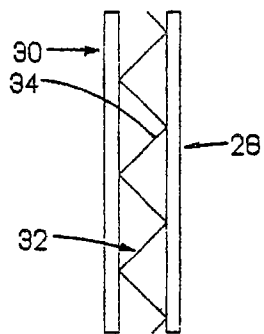


Fig. 8

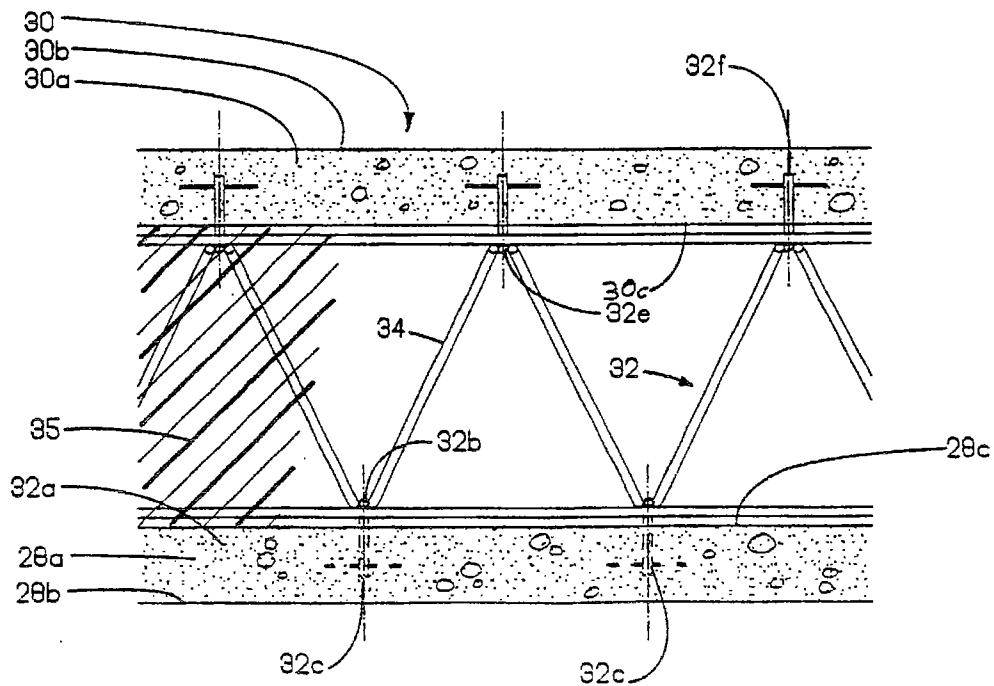


Fig. 9

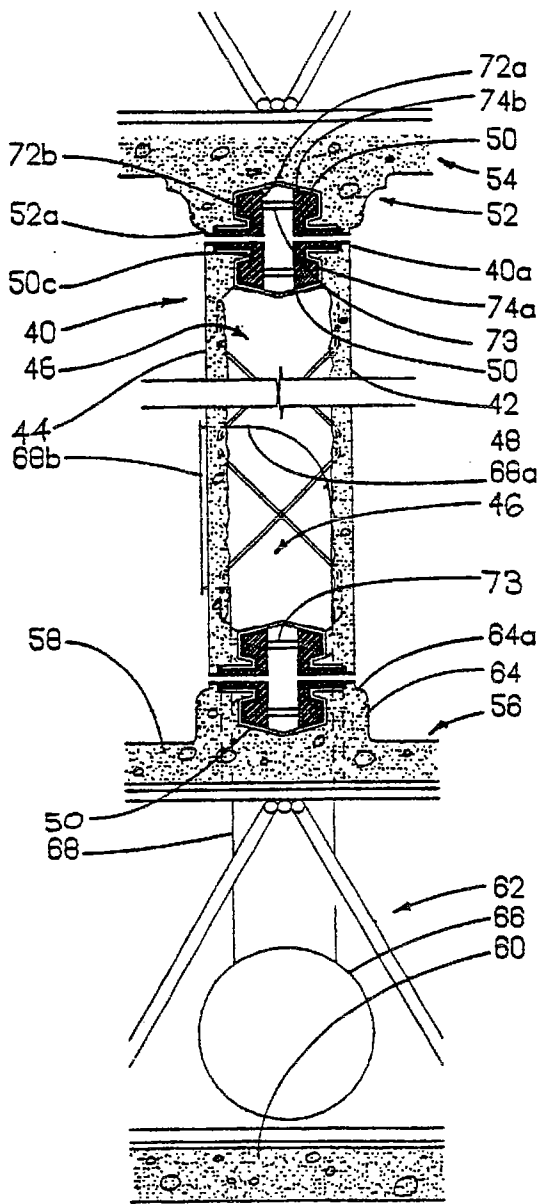


Fig. 10

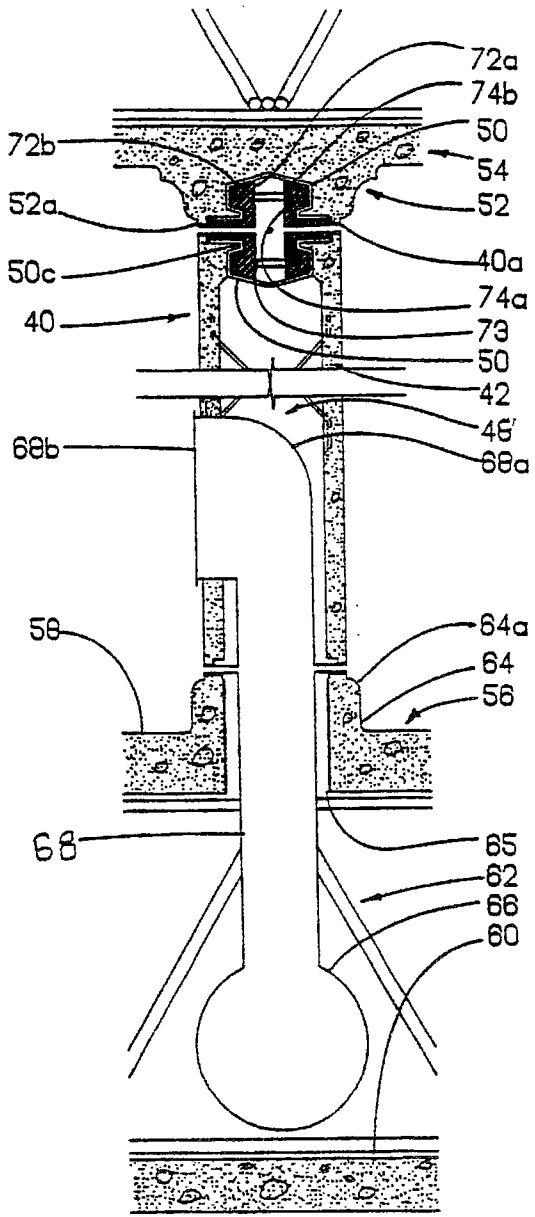


Fig. 11

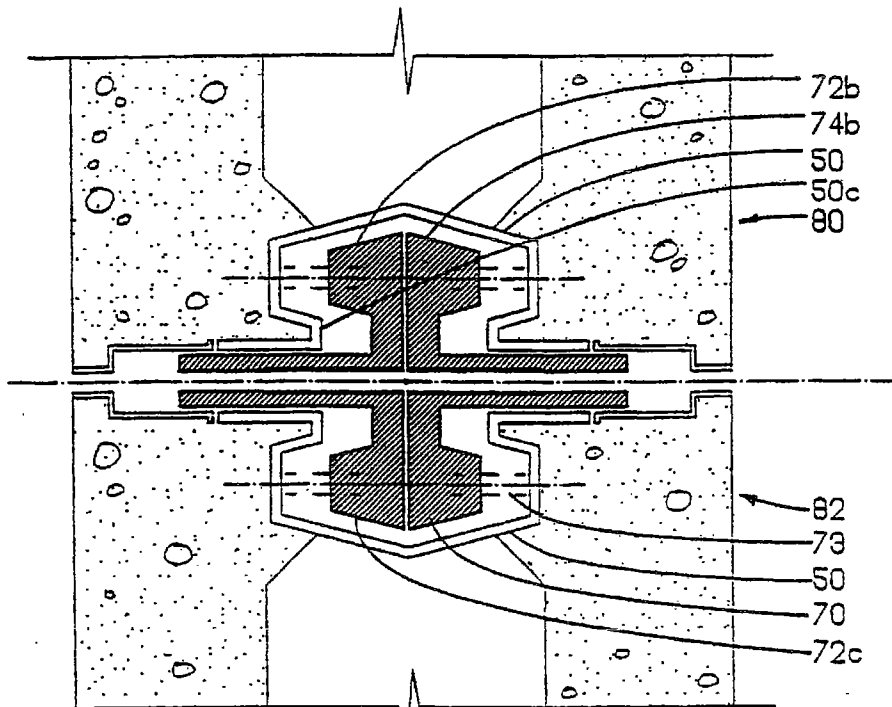


Fig. 12

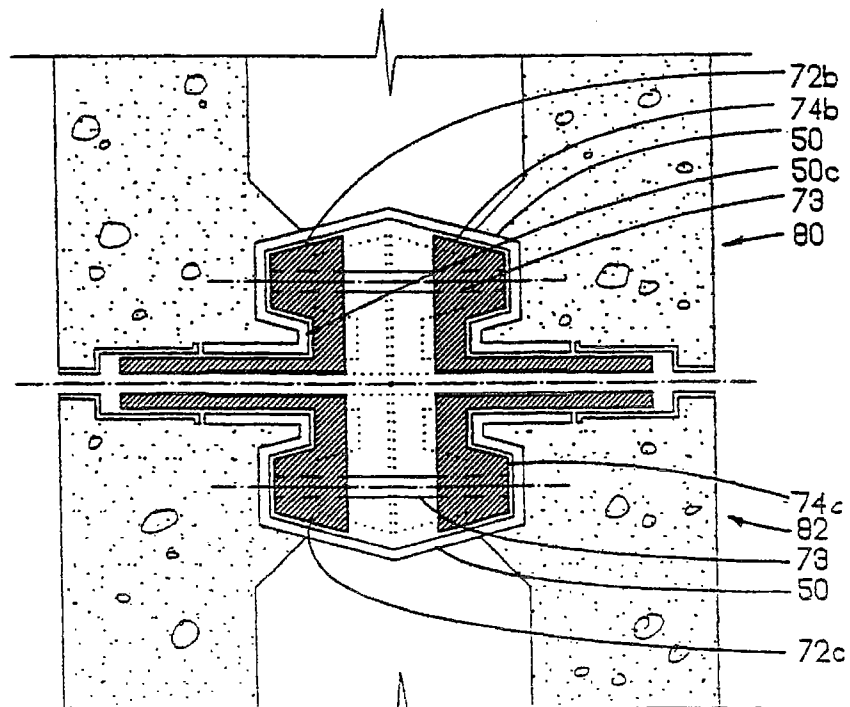


Fig. 13

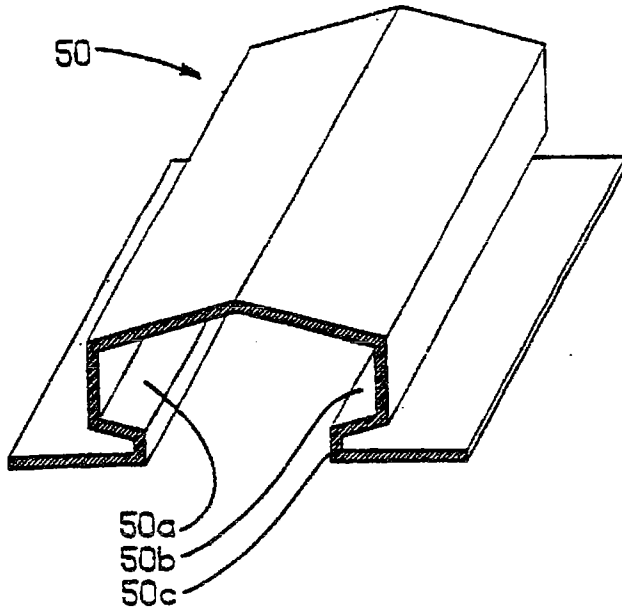


Fig. 14

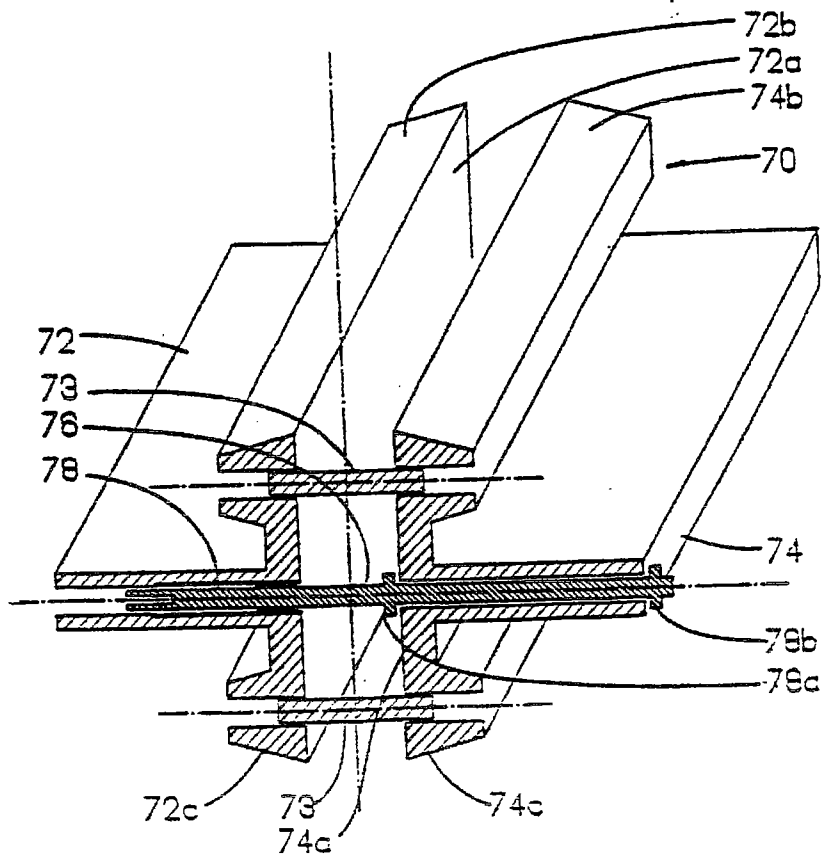
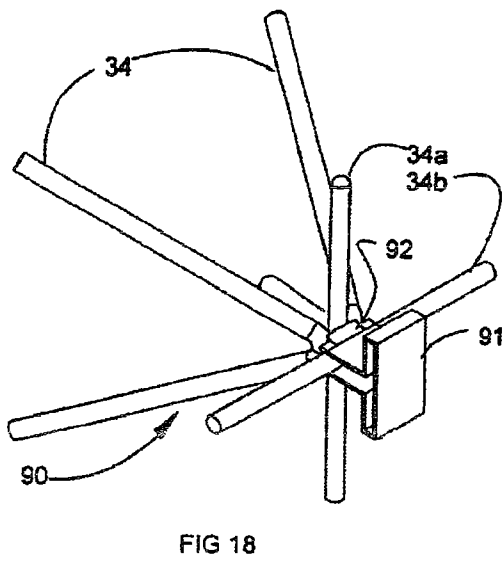
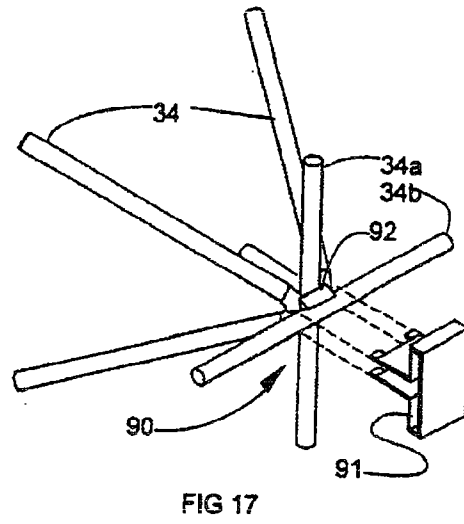
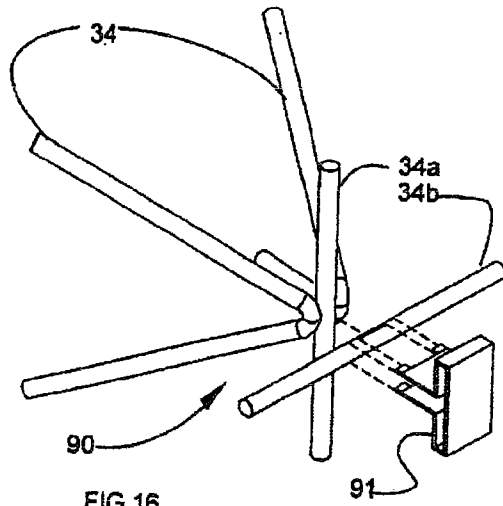


Fig. 15



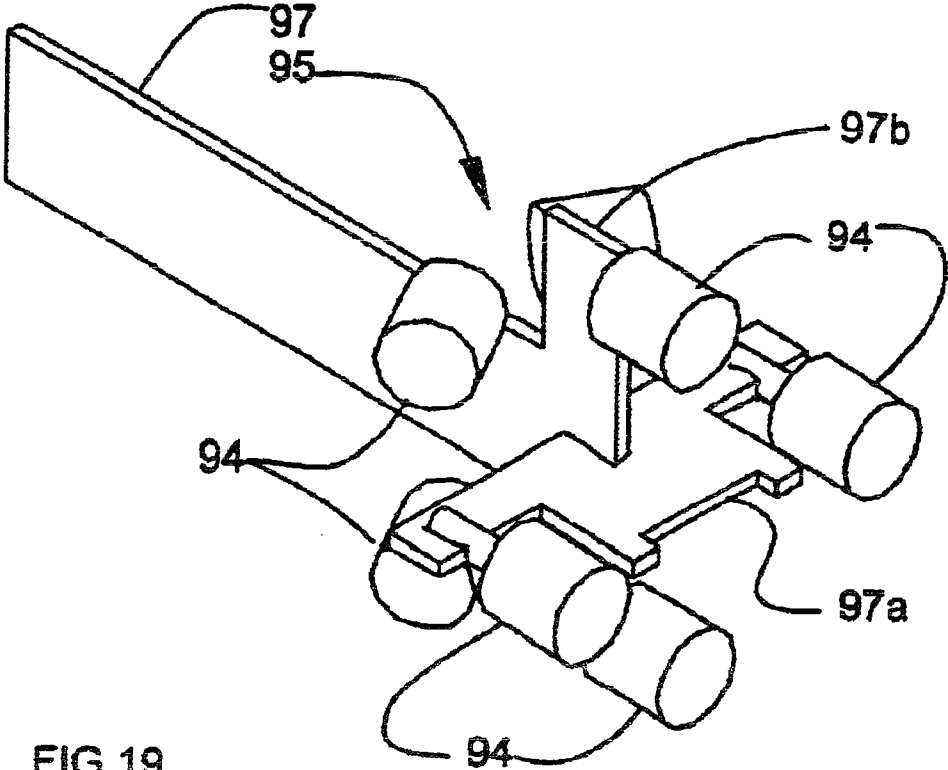


FIG 19

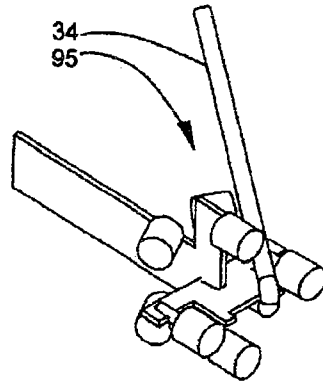


FIG 20

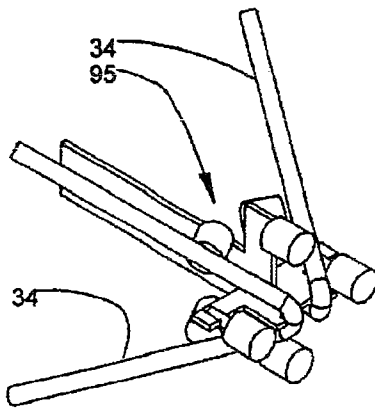


FIG 21

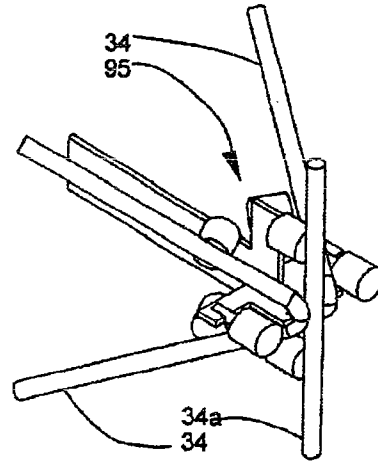


FIG 22

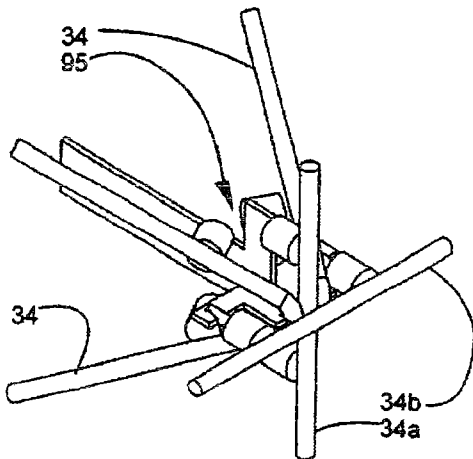


FIG 23

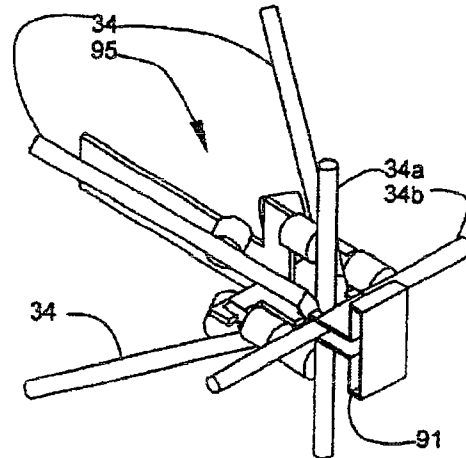


FIG 24

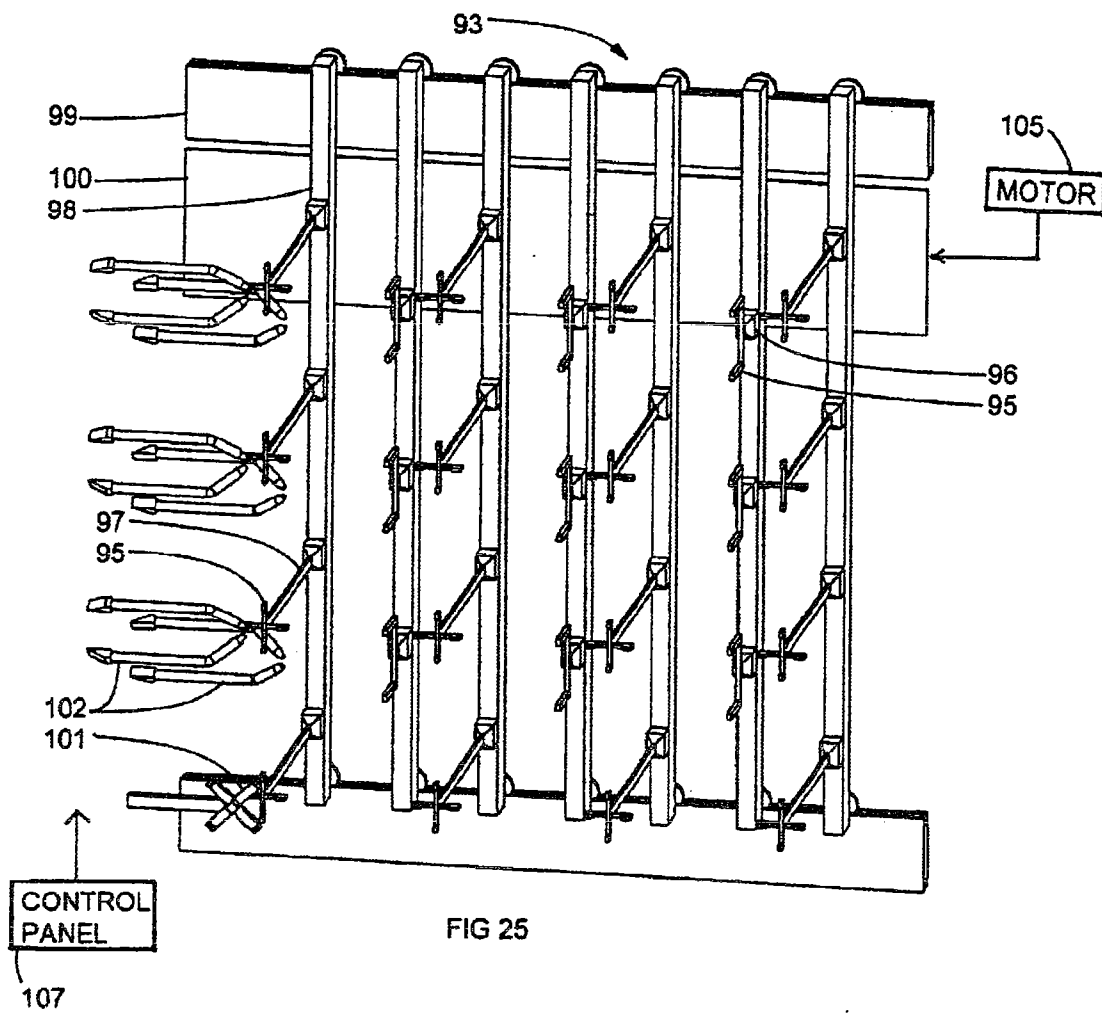
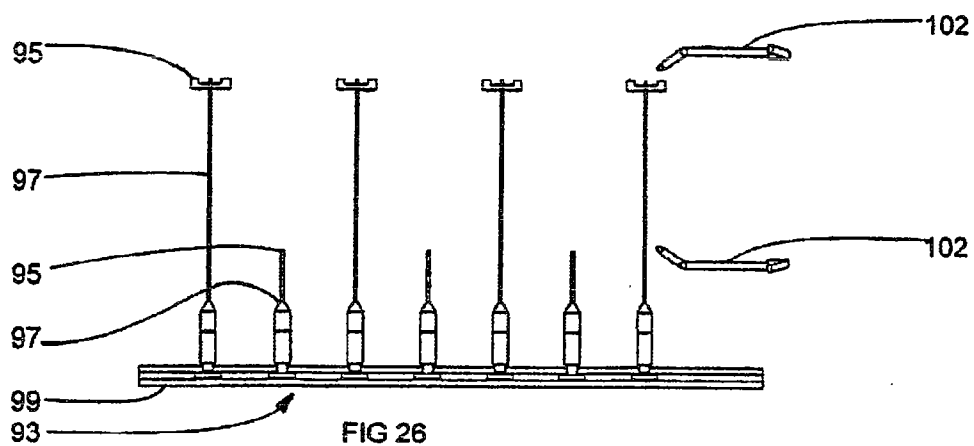


FIG 25



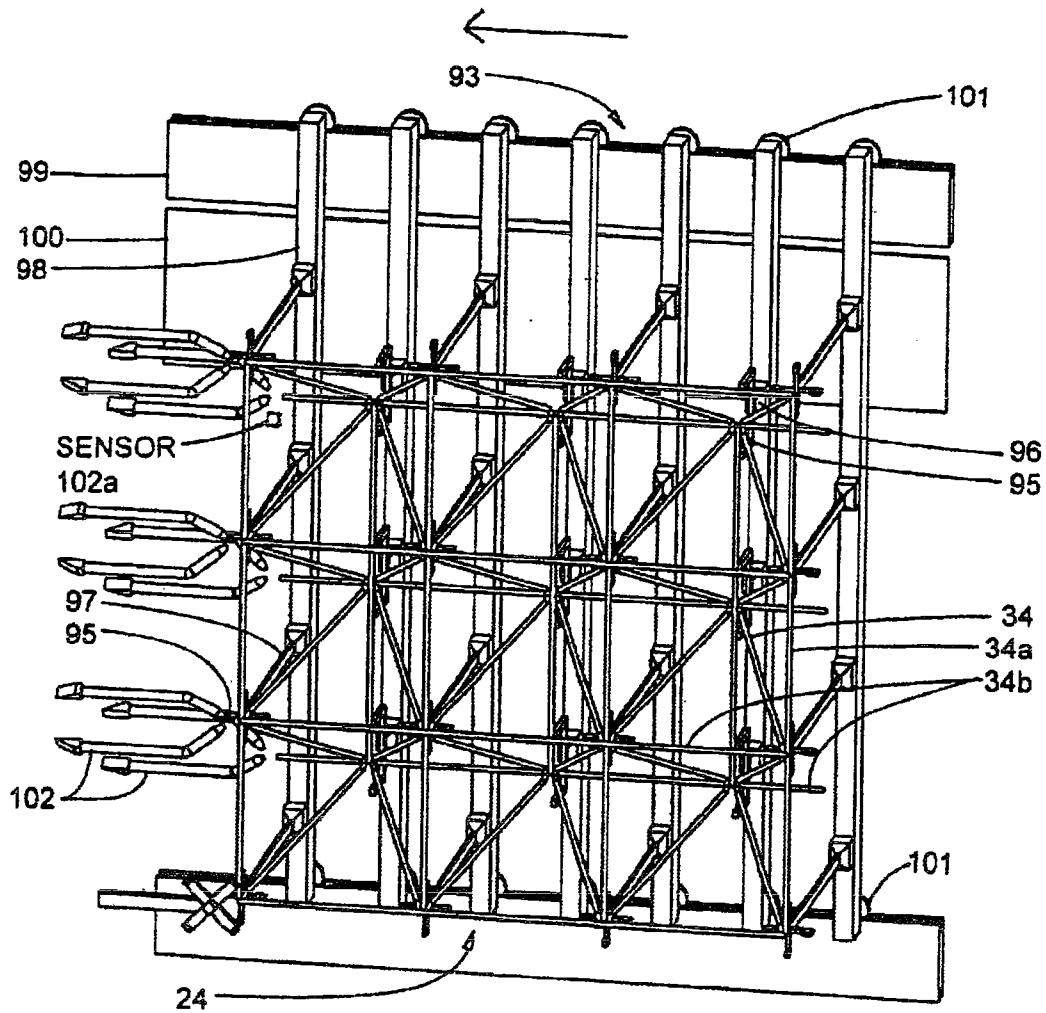


FIG 27

