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(71) Applicants and

(72) Inventors: **FIELD, Stephen** [CA/CA]; 745 Lonsdale Road, Ottawa, Ontario K1K 0J9 (CA). **GLOVER, Michael** [CA/CA]; 44 Dufferin Road, Ottawa, Ontario K1M 2A8 (CA).

(74) Agents: **O'GORMAN, Hugh** et al.; Smart & Biggar, P.O. Box 2999, Station D, 900-55 Metcalfe Street, Ottawa, Ontario K1P 5Y6 (CA).

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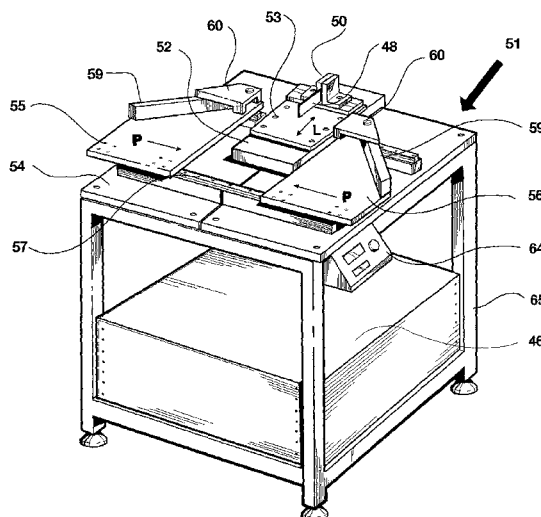
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(54) Title: METHOD AND APPARATUS FOR VIBRATION WELDING OF THERMOPLASTIC COMPONENTS



(57) Abstract: Vibratory welded connections are formed between first and second members (32, 33) of thermoplastic material by interposing a junction piece (47) of similar material and vibrating the junction piece (47) at high speed while pressing the first and second members (32,33) in a controlled manner against opposite sides of the junction piece (47). Friction created by the vibration generates heat which melts a small amount of material at the engaging surfaces which upon cooling provides a strong welded joint having minimal flash. Entire frame systems such as window frames can be fabricated by an apparatus system (120) which forms a friction welded joint between adjacent ends of the frame members (134, 135, 136, 137). Furthermore the frame can be fabricated around a panel such as a glazing panel. The welded connections formed by the system do not mar the finish of the frame members and produce no unsightly flash bead requiring subsequent machining steps for its removal.



WO 02/098635 A1