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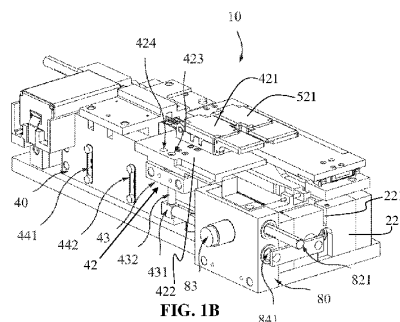
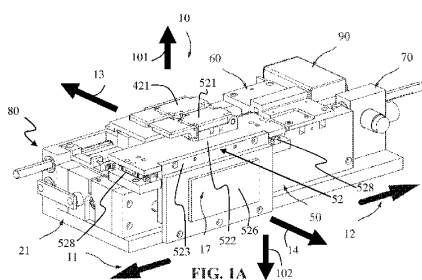
(71) Applicant: **RACER TECHNOLOGY PTE. LTD.**
[SG/SG]; No. 28, Changi South Street 1, Singapore 486772 (SG).

(72) Inventors: **KOH, Kee Joo, Willy**; c/o RACER TECHNOLOGY PTE. LTD., No. 28, Changi South Street 1, Singapore 486772 (SG). **LEE, Chia Ta**; c/o RACER TECHNOLOGY PTE. LTD., No. 28, Changi South Street 1, Singapore 486772 (SG). **GOH, Puay Hian**; c/o RACER TECHNOLOGY PTE. LTD., No. 28, Changi South Street 1, Singapore 486772 (SG). **FOO, Biao Jin Ryan**; c/o RACER TECHNOLOGY PTE. LTD., No. 28, Changi South Street 1, Singapore 486772 (SG).

(74) Agent: **ONG, Lucille Frances, Kheng Lu**; Marks & Clerk Singapore LLP, Tanjong Pagar Post Office, P O Box 636, Singapore 910816 (SG).

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(54) Title: STERILE TUBE CONNECTING DEVICE



(57) Abstract: A sterile tube connecting device for joining a first tubing with a second tubing, the device comprising: a first tube clamp longitudinally moveable forward and backward; a second tube clamp spaced apart from the first tube clamp and laterally moveable leftward and rightward, the first and second tube clamp provided to simultaneously clamp the first and second tubings such that the central longitudinal axes of the first and second tubings are parallel; heating elements; a carriage for supporting and moving a cutting wafer thereon, the carriage being longitudinally moveable forward and backward and vertically moveable upward and downward; a lead screw rotated by a motor, the lead screw having a lead screw nut fixedly connected to the carriage wherein movement of the carriage is driven by rotation of the lead screw; wherein the carriage is moveable when supporting the wafer thereon to bring the wafer into contact with the heating elements to heat the wafer to a pre-determined temperature, wherein movement of the carriage forward and upward after heating of the wafer moves the wafer away from the heating elements and passes the wafer through the first and second tubings between the first and second tube clamps thereby cutting the first and second tubings, the carriage automatically mechanically connected to the first tube clamp after the first and second tubings have been cut such that the first tube clamp moves forward together with the carriage when the carriage moves forward after the first and second tubings have been cut, wherein when the first tube clamp has been moved forward, a retained length of the first tubing clamped by the first tube clamp becomes axially aligned with a retained length of the second tubing clamped by the second tube clamp; the device further configured to automatically and mechanically displace the second tube clamp laterally towards the first tube clamp when the carriage moves forward after the retained lengths of the first and second tubings have been axially aligned and the wafer has been removed from contact with the first and second tubings,

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thereby bringing together melted cut ends of the retained lengths of the first and second tubings to form a weld between the melted cut ends, thus forming a single length of tubing from the retained lengths of the first and second tubings; and an electrical control circuit board programmed to control rotation of the motor to drive movement of the carriage.