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AZ 85704 (US). **DIPRINZIO, Steven, John**; 11412 North
Twin Spur Court, Ora Valley, AZ 85737 (US).

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(74) Agent: **SOWELL, John, B.**; 182 Midfield Road, Ard-
more, PA 19003-3213 (US).

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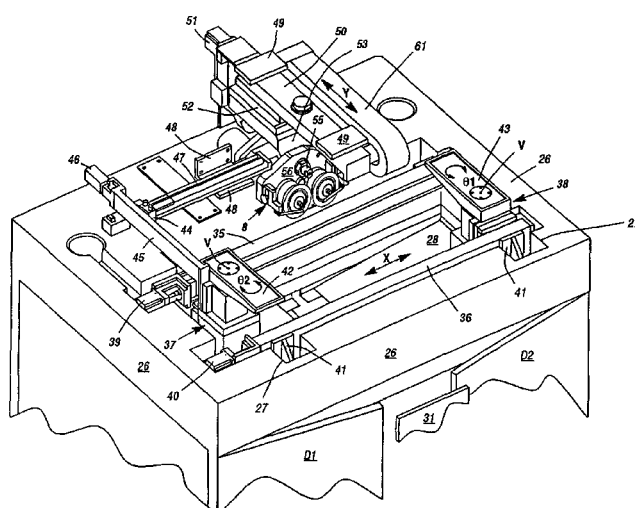
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(71) Applicant: **PRIMECA USA LLC** [US/US]; 2620 East
Rosegarden Lane, Suite 1, Phoenix, AZ 85050 (US).

(72) Inventors: **SMITH, David, Walter**; 11481 East Bella
Vista Drive, Scottsdale, AZ 85259 (US). **BREHM,**
William, Albert; 6525 North Shadow Bluff Dr., Tucson,

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(54) Title: BIDIRECTIONAL SINGULATION SAW AND METHOD



(57) **Abstract:** In a singulation saw (6) for sawing either substrates or wafers there is provided a pair of counter-rotating saw blades (57, 58) mounted for independent movement in a vertical direction for alternately engaging with a first substrate (12) to be singulated. A transport system (33, 34) comprising a pair of substrate carriers (42, 43) reciprocates the first substrate under the pair of saw blades (57, 58) while alternate ones of the saw blades are engaged to cut the substrate. While the first substrate is being cut, the second or other substrate carrier sequentially unloads a cut substrate, loads a new uncut substrate and then moves the uncut substrate to a vision system (44) for determining the position of the substrate relative to the second carrier and then positions the second carrier and its substrate in a standby position ready to be cut by the pair of saw blades that are cutting the first substrate.



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