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Terpstra

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## [54] ROTATE/TRANSLATE CONVEYOR MODULE

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## [57] ABSTRACT

A rotate/translate conveyor module enables a workpiece to be selectively rotated and translated between adjacent sections of a conveyor without having to be lifted above the plane of the adjacent conveyor sections. The rotate/translate conveyor module comprises a plurality of roller modules that are arranged along the path of the workpiece. Each roller module has at least one roller that is driven by an independent electric motor. The rollers of the roller modules support the workpiece in the same plane as the rollers of the conveyor sections. In one embodiment, four roller modules are symmetrically located about the workpiece path, with the longitudinal axes of the rollers intersecting at 90 degrees and at a point on the workpiece path. By operating the electric motors in different combinations of directions, four translational and two rotational motions can be imparted to the workpiece. The conveyor module is thus able to accept a workpiece from an adjacent upstream conveyor section and selectively reorient it by rotating it on the conveyor module and then translate the workpiece downstream to an adjacent downstream conveyor section. The downstream conveyor section may be in line with the adjacent upstream conveyor section, or it may be perpendicular thereto. Side guide mechanisms guide the workpiece as it is translated along the conveyor module. Center guide mechanisms prevent translation of the workpiece during rotation thereof on the rollers.

25 Claims, 5 Drawing Sheets

