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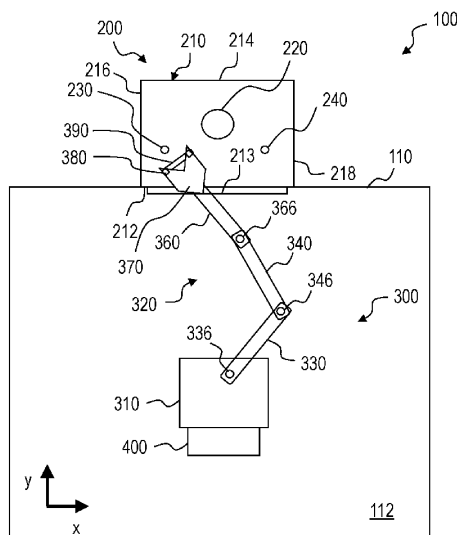
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(54) Title: THROUGH-BEAM AUTO TEACHING

FIG. 1



(57) Abstract: A method of teaching a robot including providing a pin at a location within a work station, and the robot in an area adjacent to the station. The robot having an arm and an end effector that pivots. The end effector has a through-beam sensor including a light emitter and a light receiver to sense when an object is present therebetween. The robot is moved to perform sensing operations in which the sensor senses the pin, such operations are performed while a position and/or an orientation of the end effector are varied to gather sensed position and orientation data. The sensing operations are performed such that the pin is located at different distances between the emitter and the receiver as the robot moves the sensor across the pin. Calculations are performed on the data to determine the location of the pin with respect to a coordinate system of the robot.