## ABSTRACT

## PIN LIFTING SYSTEM

An aspect of the present invention is drawn to a device for use with an electrostatic chuck having a top surface and a bottom surface, the top surface being separated from the bottom surface by a width, the electrostatic chuck additionally having a hole therein, the hole having a first width at the top surface and having a second width at the bottom surface, the first width being less than the second width, the top surface being capable of having wafer disposed thereon. The device includes a pin, a shaft, a neck portion and an outer housing portion. The pin has a pin width less than the first width. The shaft has a pin-holding portion, an end portion and a central portion disposed between the pin-holding portion and the end portion. The central portion has a first bearing portion. The outer housing portion has a first end and a second end and includes a second bearing portion. The shaft is disposed within the outer housing portion and is moveable relative to the outer housing portion. The neck portion is disposed at the first end. The second bearing portion is stationary relative to the neck portion. The first bearing portion is movable relative to the second bearing portion.

FIG. 5