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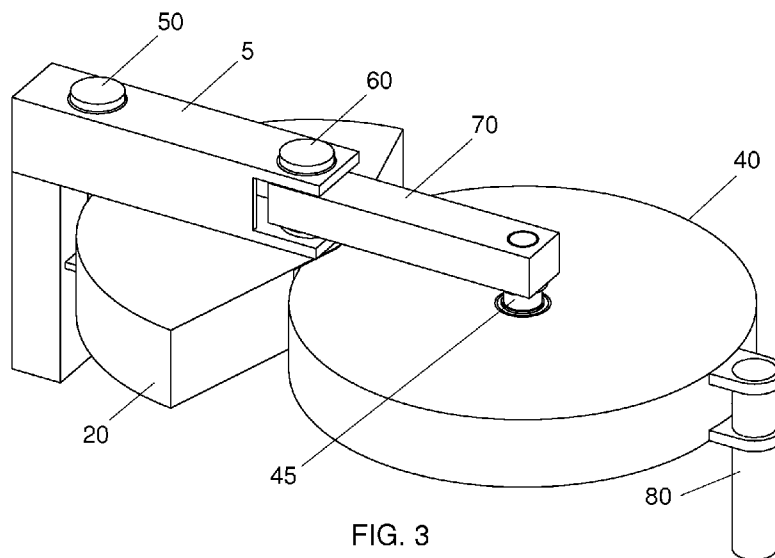


FIG. 3

(57) Abstract: The invention relates to a two degree-of-freedom apparatus comprising a first driven member (20) rotatable about a first driven axis, a first driven member (10) coupled to said first driven member for rotating said first driven member about said first driven axis, a link member (70) fixedly connected to said first driven member, a second driven member (40) rotatable mounted to said link member for rotating about a second driven axis, with said second driven axis generally parallel to said first driven axis, and a second driver member (30) coupled at a drive point to said second driven member for rotating said second driven member about said second driven axis, wherein said drive point is generally coincident with said first driven axis. The invention also provides an extension of the apparatus to three degrees of freedom. The apparatus is a positioning and' manipulating apparatus in one aspect, and a measuring apparatus in another aspect.