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(54) Title: MACHINE TOOL SYSTEM CONTROL HAVING AUTOMATIC SAFE REPOSITIONING

(57) Abstract: The present disclosure includes a motion control system for a machine tool system configured to shape a part with a tool, including an I/O module with machine configuration information that defines limits of a three-dimensional working space of the machine tool system. The I/O module further includes a part program that specifies first and second positions of the tool without reference to the working space limits. The motion control system further includes a software controller configured to internally process moves to determine whether the tool can be repositioned from the first position to the second position while maintaining the tool above a minimum clearance from the part and within the working space limits, output the internally processed moves to the machine tool system to cause movement of the tool if the tool can be safely repositioned, and output an error if the tool cannot be safely repositioned.

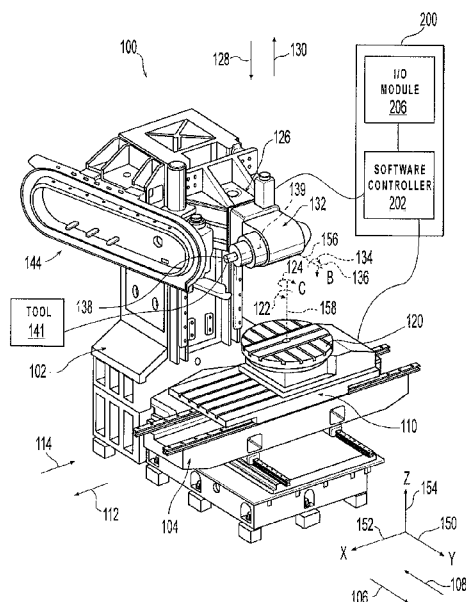


Fig. 1



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, — *with amended claims (Art. 19(1))*
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