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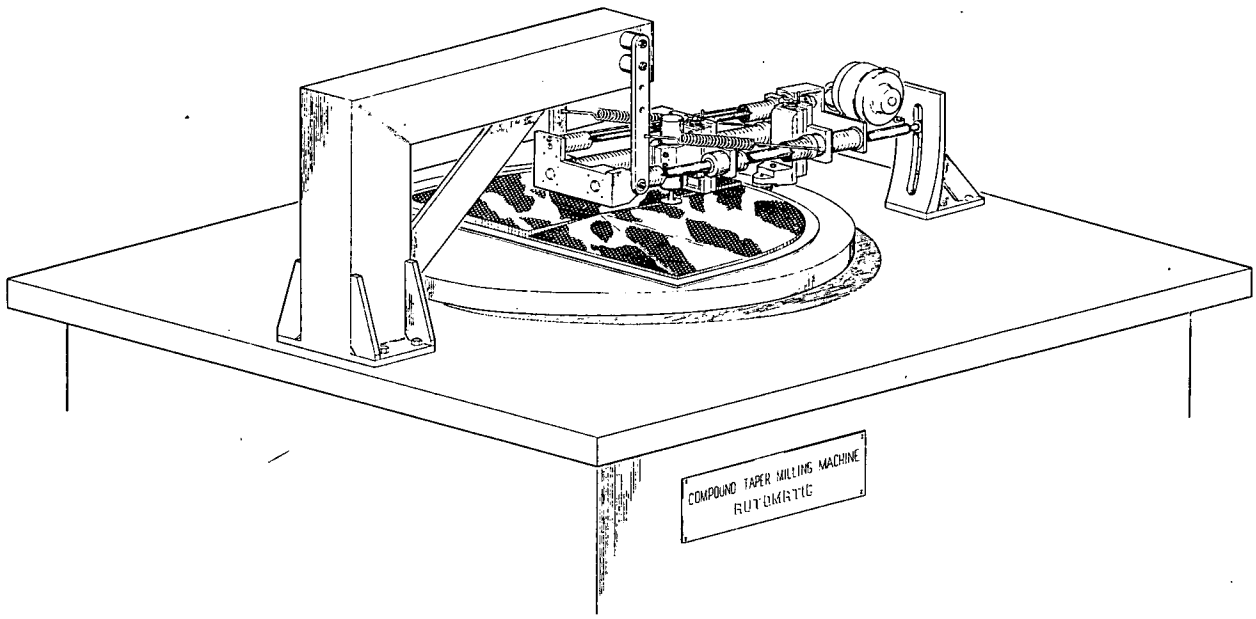
NASA TECH BRIEF

Compound Taper Milling Machine



A milling machine has been designed to taper panels from a common apex to a uniform height at panel edge regardless of the panel perimeter configuration. While this can be done by expensive and sophisticated equipment having at least 3-axis motion, the subject device is simple and cheap to construct and operate, performs efficiently, and can be automated.

The machine consists essentially of an adjustable angled beam upon which the milling tool moves back and forth above a rotatable table upon which the workpiece is held. The tool moves down the beam from workpiece center to perimeter, machining a predetermined cut; the table is rotated the necessary increment, the tool moves up to the beam to the workpiece center and machines another cut. For workpieces with other than round bases, the beam angle is adjusted for each cut in accordance with the desired finished pattern. On nonround workpieces the shape at the apex is theoretically round, regardless of the shape at the base, because all tapered cuts pass through a common apex.

Notes:

1. This device can be successfully operated by a technician with a skill level well below that required to operate 3- or 5-axis machines of conventional design.
2. Documentation for the innovation is available from:
   Clearinghouse for Federal Scientific
   and Technical Information
   Springfield, Virginia 22151
   Price $3.00
   Reference: B69-10018

(continued overleaf)

Patent status:

No patent action is contemplated by NASA.

Source: Noel R. Campbell
of North American Rockwell Corporation
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