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Terpstra

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[54] **AUTOMATIC ASSEMBLY MACHINE AND METHOD UTILIZING SIX-AXIS POSITIONING DEVICE**

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[51] Int. Cl.⁷ **B23P 21/00**

[57] ABSTRACT

[52] U.S. Cl. **29/889.21; 29/889.22;**
29/889.5; 29/23.51; 29/703

An apparatus and method for automatically assembling a plurality of identical first articles onto a second article. The second article is supported by a platform which is movable about three linear axes and three rotational axes by a six-axis positioning device. The first articles are held in a fixed position and the second article is positioned so as to insert the first articles into the second article as required. In the preferred embodiment, a torque converter turbine drum is supported by the platform to engage turbine blades which are supported in fixed position with respect thereto. The turbine drum is rotated with respect to the blades so as to permit the insertion of the blades into the drum by rotation and positioning of the drum in six axes.

[58] Field of Search 29/23.51, 701,
29/703, 72 D, 714, 464, 466, 468, 889.21,
889.22, 889.2, 889.5

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31 Claims, 5 Drawing Sheets

