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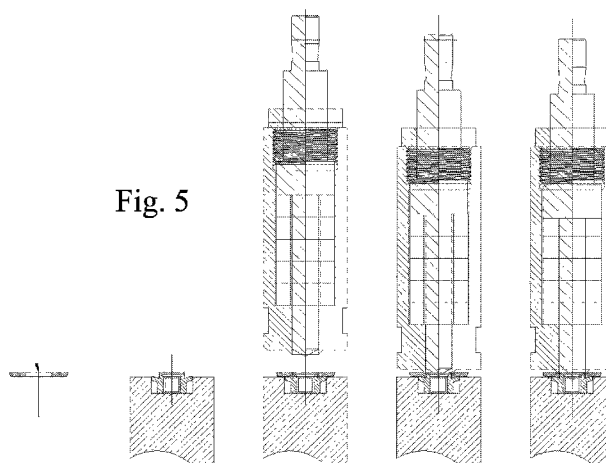
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(54) Title: ONE-HIT TOOLING FOR FLUSH MOUNTED ROTATABLE CAPTIVE NUT

Fig. 5



(57) Abstract: A two-stage punch accomplishes the two-step process of sheet deformation and nut flaring to attach the nut to the sheet in a single stroke of an assembly press. The punch comprises an outer cylindrical sleeve which captivates a resiliently biased center punch. When the punch is moved downward into contact with the sheet, an embossing ring on the sleeve deforms the sheet material around an aperture in the sheet. When the punch is moved farther downward, a pointed end of the center punch extends beyond the embossing ring and into forcible contact with the nut. The nut is thereby flared capturing the sheet between flared edges of the nut and a nut flange.

