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Analysis on slot curvature and contact stresses on Geneva wheel

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Many of the manufacturing industries use sheet metal for optimizing the weight of the products. Forming process has been successively increasing during the past few decades. Indexing mechanisms have been used in milling, weaving, packing, etc. for continuous production purpose. Shearing of sheet metals has been widely used for optimizing the weight of the components and products. Crank slotter mechanism was widely used in the mechanisms for intermittent operations. This has been replaced by Geneva mechanism. The paper aims at deriving the mathematical relations for slotted Geneva wheel using curve theory. The kinematic characteristics are derived using the DH notations Finite element analysis has been done on the designed Geneva wheel with pin. It is analysed for the contact stresses when the drive crank pin slides along the slots of the wheel to operate the mechanism.

Topics

[Materials forming](#), [Finite-element analysis](#), [Industry](#)

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