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Design of Sesame Mowing Machine

In Ethiopia, harvesting is practiced in primitive method of mowing trends while it is mechanized in most of the other parts of the globe showing that the future promises to be even more dynamic to widen the gap among the nations in the world requiring us to make our agriculture mechanized. Provided that there are problems regarding mechanizing the agriculture, designing appropriate equipments in a way that they can be manufactured inland is a step in mechanizing the farming to handle the associated problems. Therefore, in this work, the design of sesame mowing component for sesame and other similar cash crops is developed comprising of problem identification, product design of the mower, analytical mechanical designs, and orthographical representation of the mower. In preparing the design of the mower, the problems are identified through professional survey of the plantation areas and literatures, and verbal information obtained from the owners of the plantations. Based on the problems that are identified by the gathered information, the basic preliminary specifications of the mower are set. Once the specifications are set, before the analytical design of a product is started, the alternative ideas generation and concepts development for each of its components that have competitor alternatives need to be developed, and the best alternative concept that overweigh the other optional alternatives has to be select to get a more reliable and refined design of the product in consideration of product design aspects of any component. For this reason, the product design of the mower is included in this work starting from the development of the functional structure of the mower conceptual design up to the selection of the best alternative concepts for each of its components among their available competitors, and the analytical mechanical design details are also included for the product design at hand to determine the dimensional parameters of the mechanical parts of the mower. Moreover, for the purpose of manufacturing aspect, design of a mechanical component needs to incorporate graphical representation, and the orthographical representations of the mower are prepared in assembled and parts drawing using the graphical application software AutoCAD2007.

Biography

Dr. Thomas Tsegaye, has completed his PhD at the age of 35 years from Addis Ababa Univeristy. He is the director of departement of civil engnereeing . He has published more than 8 papers in reputed journals and has been serving as an editorial board member of repute.

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