

(54) Title of the invention : DEVELOPMENT AND FABRICATION OF FILAMENT EXTRUDER FOR 3D PRINTER AND MATERIAL RECYCLING

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(57) Abstract :

[0001] 3D Printing technology, also known as Additive Manufacturing (AM), refers to processes used to generate a 3D object in which layers of material are successively formed under a computer controlled program to create a physical object. The industry of 3D printing in India is fast gathering pace with a large number of 3D printing machines being sold in our country. As 3D printing is growing fast and giving a boost to product development, the factories doing 3D printing need to continuously meet the printing requirements and maintain an adequate amount of inventory of the filament. Presently the 3D printing filaments are being imported from other countries. This results in very high overall costs of the filaments due to the high import duties. As the manufactures have to buy these filaments from various vendors, the cost of 3D printing increases. To overcome the problem faced by the manufacturers, small workshop owners' So the main aim of this invention is to design and Fabricating a portable fused deposition 3D printer filament making machine with cheap and easily available components Such that the input materials are thermoplastics in the form of granules or plastic waste which can be made into filament, this creates a possibility of recycling the 3D printing waste back into filament.

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