(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :03/05/2025
(21) Application No.202511043085 A
(43) Publication Date : 23/05/2025

(54) Title of the invention : A 3D PRINTING FILAMENT RECYCLING AND EXTRUSION APPARATUS FOR IN-HOUSE REUSE

(51) International classification	:B29C0064118000, B29C0048920000, C02F0001440000, B29C0048090000, B29C0048050000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY
Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)PULKIT SRIVASTAVA
Address of Applicant :Department of Mechanical Engineering, Noida Institute of Engineering & Technology, Greater Noida. Greater Noida ---------- ----------

(57) Abstract :
A 3D Printing Filament Recycling and Extrusion Apparatus comprises a shredding chamber (101), extrusion unit (102), filtration module (103), cooling chamber (104), monitoring sensor (105), spool winder (106), control unit (107), and feedback system (108). The system converts waste prints into reusable filament with real-time diameter control and customizable extrusion settings, enabling sustainable in-house reuse.

No. of Pages : 13 No. of Claims : 5