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(54) **Title:** TILED BACKING MAT SYSTEM FOR AN INCREMENTAL SHEET FORMING SYSTEM WITH RESILIENT TOOLING

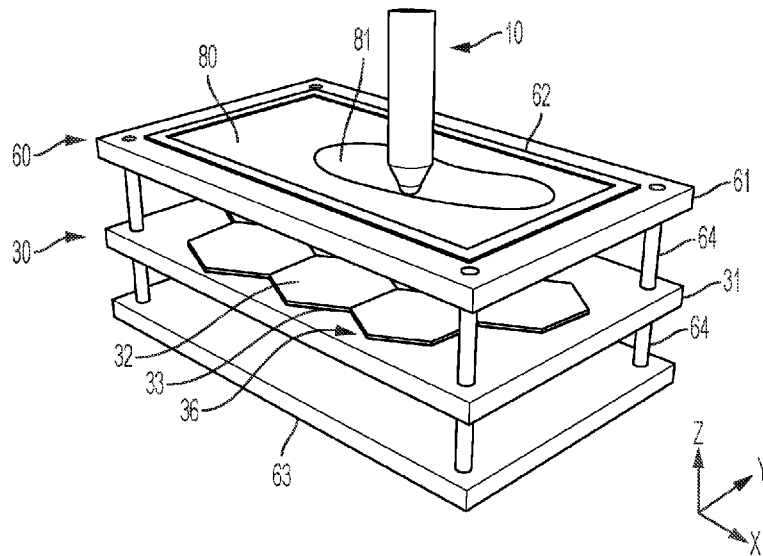


FIG. 1A

(57) **Abstract:** A resilient compressible tiled backing mat system used in an Incremental Sheet Forming (ISF) System, the ISF system having a primary rigid forming tool assembly and a backing flat tool assembly including a flat rigid plate for releasably holding the tiled backing mat that is compressed in response to force provided through a work piece by the primary forming tool. The tiled backing mat includes a plurality of individual tiles arrayed in a packed or nested pattern and being releasably secured to the flat rigid plate via a magnetic layer of the tiles. Individual tiles are easily replaced if damaged or worn without replacing the entire mat. Tiled backing mat configurations can be sized according to the area of the flat rigid plated and/or the particular machine area required for forming a selected work piece.



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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Video entitled The Figur G15 All-New Digital Sheet Forming Technology, available at < https://www.youtube.com/watch?v=6oqeVLILGHY > (DESKTOP METAL) 05 September 2022 (05.09.2022), entire document, especially 0:13 to 0:14; 0:25 to 0:29; 1:00 to 1:02; 1:50 to 1:56; 2:46 to 2:47; 2:55 to 2:56	1-19
A, D	US 2020/0353526 A1 (FIGUR MACHINE TOOLS LLC) 12 November 2020 (12.11.2020), entire document, especially Fig 3A-4B; para [0112]-[0113], [0118], [0120]-[0122], [0124]	1-19
A	US 3,342,051 A (LESZAK) 19 September 1967 (19.09.1967), entire document, especially Fig 1; col 1, ln 40-61, 70-72; col 2, ln 1-2	1-19
A	Website entitled Figur - 3D Sheet Metal Forming, available at < https://web.archive.org/web/20220906113307/https://figur.desktopmetal.com/ > (FIGUR) 06 September 2022 (06.09.2022), entire document	1-19
A, P	KR 10-2495176 B1 (KOREA INSTITUTE OF INDUSTRIAL TECHNOLOGY) 06 February 2023 (06.02.2023), entire document	1-19

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See patent family annex.

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