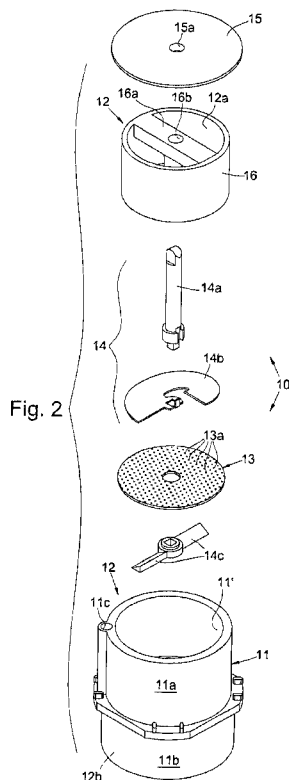




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(54) **Title:** DISGREGATING DEVICE OF BIOLOGICAL MATERIAL AND CORRESPONDING MANUFACTURING METHOD AND METHOD FOR THE PREPARATION OF CELL SUSPENSIONS AND TISSUE MICROGRAFTS



(57) **Abstract:** A disgregating device (10) of biological material, comprising: - a hollow outer body (11), defining an inner chamber (12); - a fixed disgregating grid (13), having a plurality of microholes (13a) provided with sharp edges, and housed transversely in the inner chamber (12) so as to define an upper loading chamber (12a) apt to be loaded with the biological material (MB) to be disgregated and a lower collecting chamber (12b) apt to collect the biological material (MB'), after it has been disgregated; and - a bladed rotor (14), rotating in the inner chamber (12), apt to co-operate, rotating, with the fixed disgregating grid (13), so as to feed and bring the biological material (MB), contained in the upper loading chamber (12a), into contact with the microholes (13a) of the disgregating grid (13) and therefore cause the disgregation of the biological material (MB') making it pass through these microholes. The microholes (13a) of the disgregating grid have dimensions or a diameter comprised between 70 and 80 μm , and are obtained by means of a moulding process of the die-punch type, using a conical or polygonal punch (P) to draw and tear a metal sheet (N) of stainless steel, so as to have each one a jagged sharp edge with several tips, for example six, or also using, again within the sphere of a process of moulding of the die- punch type, a source of laser light. As ascertained by thorough experimental tests, thanks to the special features and configuration of the microholes (13a), it is possible to prepare by means of the disgregating device (10), without the aid of chemical reagents, cell suspensions and tissue micrografts which maintain intact and unaltered the features, the functions and the viability of the original biological material, non-disgregated, and which can therefore be advantageously be used in numerous medical, veterinary and cosmetic applications.



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