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(54) Multi-well support for analysis samples

(57) Multi-well support which comprises a unitary moulded piece formed by a flat upper plate in which open out a large number of cavities that are to receive the analysis samples, and which support has, laterally, flat surfaces capable of receiving identification inscriptions contained within a notional parallelepiped defined by the maximum external length, width and height dimensions of the micro-well strip.

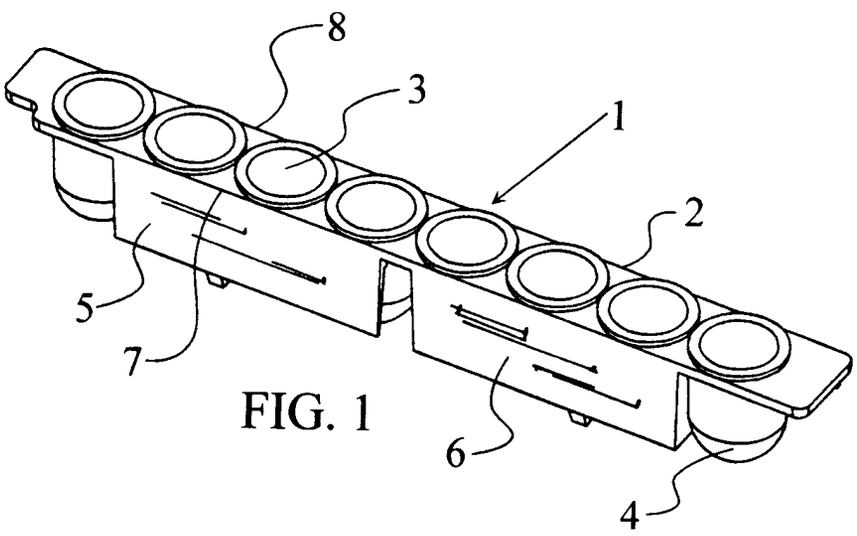

FIG. 1

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Description

[0001] The present invention relates to a multi-well support for analysis samples, which has features of novelty and inventive step over the prior art.

[0002] Multi-well supports for analysis samples or "micro-well strips" are used in clinical analysis techniques in order to carry out analysis with automated reading and evaluation and have a structure based on a large number of wells or small cups in which are deposited the samples which will later be processed in an apparatus for the automatic handling thereof. Micro-well strips are already known in various forms, and are essentially formed by a moulded element of synthetic material, generally produced by injection-moulding, which has an elongate structure having a substantially flat upper face in which the large number of wells or small cups that are to receive the samples open out. The general dimensions of the micro-well strips are usually constant, enabling the strips to be handled in different analysis instruments and apparatus.

[0003] The object of the currently known micro-well strips is to hold a large number of samples in a single support, permitting the performance of the usual operations of mixing reagents and the like in the various wells or cups until the stage of evaluating the analysis results is reached. However, mechanised identification of the micro-well strips in the analysis machines is difficult because, owing to their structural characteristics, it is not possible to arrange identification inscriptions on the external regions of the micro-well strip. The present invention is intended to overcome precisely that disadvantage by providing means that enable inscriptions of the desired type to be arranged on the micro-well strip, particularly allowing the micro-well strip to be readily identified by automated reading methods. In particular, it enables bar code identification systems to be used.

[0004] In order to achieve its aims, the present invention provides for the production, on the micro-well strip, of flat lamellar surfaces arranged parallel with the axes of the wells or cups thereof, being in the form of one or more flat surfaces, arranged on one side on the micro-well strip or on both sides, and being in the form of preferably rectangular surfaces, the dimensions of which are not larger than the respective projections of the micro-well strip, that is to say, the length does not exceed the overall length of the micro-well strip and the width does not exceed the lateral projection of the micro-well strip, generally being arranged inside a notional parallelepiped limited by the maximum external dimensions of the micro-well strip.

[0005] In order to achieve greater overall rigidity in the micro-well strip, the flat surfaces forming the subject-matter of the present invention preferably extend from the longitudinal edges of the micro-well strip, although they could extend directly from the lateral surfaces of the wells or from other parts.

[0006] For a better understanding of the invention, drawings representing an embodiment of the multi-well support forming the subject-matter of the present invention are appended by way of non-limiting example.

[0007] Figure 1 is a perspective view of the multi-well support forming the subject-matter of the present invention.

[0008] Figure 2 is a side elevation view of the multi-well support of Figure 1.

[0009] Figure 3 is a cross-section on the indicated plane of the multi-well support.

[0010] Figure 4 is a side elevation view of the multi-well support from the position opposite that of Figure 2.

[0011] Figure 5 is an elevation view from one end of the multi-well support.

[0012] Figure 6 is a plan view.

[0013] As shown in the drawings, the multi-well support forming the subject-matter of the present invention comprises a micro-well strip 1 provided with a flat upper plate 2 and a number of cavities or small cups 3 which open out perpendicularly to the plate 2, with their axes parallel with one another. The cavities normally have a cylindrical structure with lower bases 4 in the form of a spherical cap. In accordance with the present invention, the support has flat surfaces such as 5 and 6 which are arranged laterally on the micro-well strip and have dimensions and an arrangement which do not exceed those of the notional parallelepiped defined by the maximum dimensions of the micro-well strip 1, that is to say, its length, width and height. Thus, for example, the flat surfaces 5 and 6 start from the edge 7 of the plate 2 of the micro-well strip and are directed downwards but do not pass beyond the lower portions of the caps 4.

[0014] Although the example shows two flat surfaces 5 and 6, the embodiment could comprise a larger number of surfaces or only one surface, if desired. Thus, the arrangement of the flat plates on one of the sides of the strip 1 could be complemented by the arrangement of similar plates on the other side, that is to say, the side corresponding to the other longitudinal edge 8 of the micro-well strip.

[0015] Different types of identification inscriptions, such as bar codes, colour codes, descriptions in the form of letters or numbers, etc., may be produced on the surfaces 5 and 6, or the said surfaces may have regions for the manual inscription of information by the analysis operators or other personnel.

[0016] Concerning the production of indelible or erasable marks on the flat surfaces 5, 6, they may be used for the positioning of laminar elements carrying the actual marks, which elements can be joined to the surfaces 5 and 6 by adhesive bonding, by clipping by means of small appendages (not shown) of the flat surfaces 5 and 6 or other similar means.

Claims

1. Multi-well support for analysis samples, of the type

comprising a unitary moulded piece constituted by a flat upper plate in which open out a number of cavities that are to receive the analysis samples, characterised in that it has, laterally, flat surfaces which are capable of receiving identification inscriptions being said flat surfaces inscribed within a notional parallelepiped defined by the maximum external length, width and height dimensions of the micro-well strip.

2. Multi-well support for analysis samples according to claim 1, characterised in that the flat surfaces are defined by extensions of the moulded micro-well strip.

3. Multi-well support for analysis samples according to the preceding claims, characterised in that the flat surfaces extend from the longitudinal edges of the multi-well support.

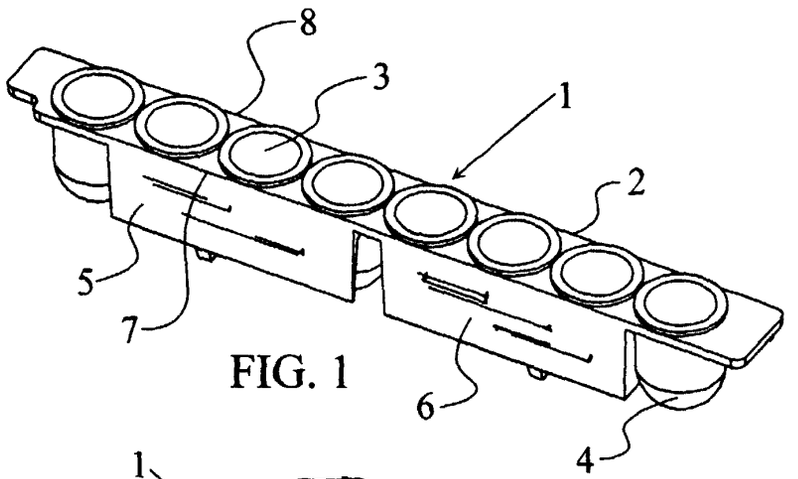

FIG. 1

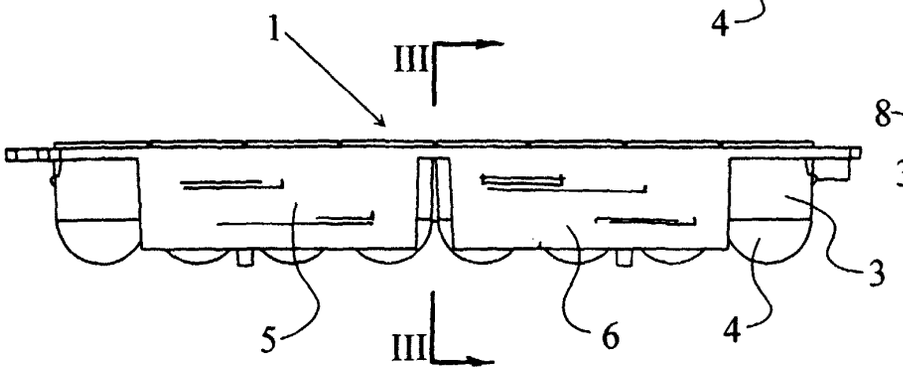

FIG. 2

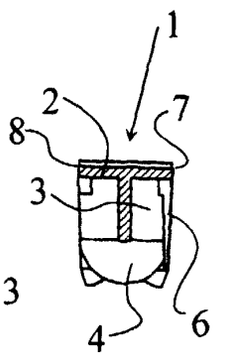

FIG. 3

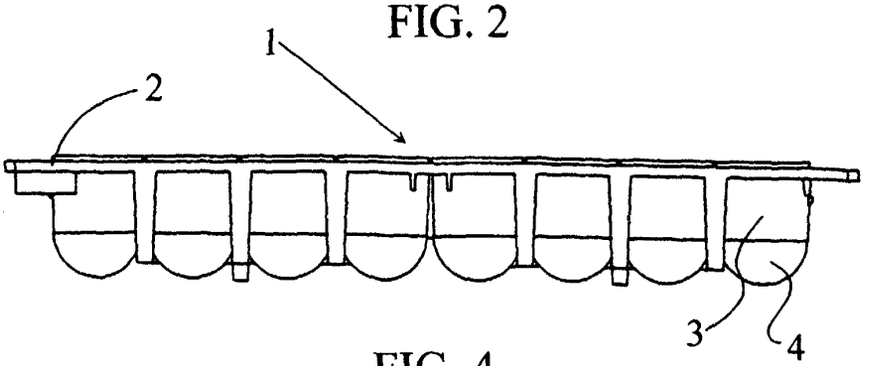

FIG. 4

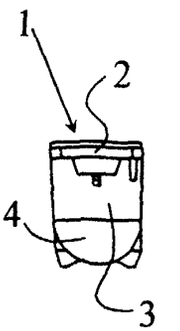

FIG. 5

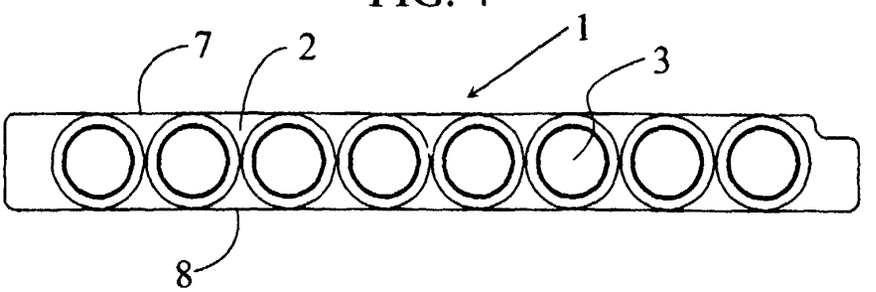

FIG. 6