

Storage element having a plurality of compartments

The present invention relates to a storage element having a plurality of compartments for small articles which are commonly used and carried around by businessmen and/or students such as instruments for writing, drawing etc such as pencils, ball pens, fountain pens, small stationery accessories, postage stamps, small documents to be distributed or to be retained such as a visiting card, small operating tools such as a calculator and pocket agenda, a miniaturised recorder and any other small-scale object to be carried around which could easily become lost in a substantial storage volume. The storage element is more particularly intended to be positioned internally in the back, that is to say in the openable lid, of small cases of the 'attache case' type, the originality of the element essentially being that it is so designed that small articles which are stored therein can be easily found and also, in spite of being of a very small dimension in respect of thickness, it makes it possible to dispose therein a series of articles without thereby giving rise to difficulties in finding such articles again and in re-closing and holding closed the lids with which certain compartments are fitted.

For that purpose, the storage element which is of essentially flat form, having a plurality of compartments, generally three, of which one is generally not provided with a lid, produced from moulding totally in plastics material and more particularly ABS or polyamide, except for an elastic retaining strap, in accordance with the invention, is characterised in that it comprises the various following parts which are entirely produced in the moulding operation:

Firstly, a first portion which takes up all the length and the height of the element and which is intended to be placed and fixed in a flat position in the inside back of the lid of a case,

said first portion in one piece forming both the whole of the bottom which is flat, or, in plan, flat parallel, and the flat lateral compartmentalisation portions, and longitudinal portions which extend substantially in rectilinear alignment, the bottom comprising on the outward side a complete base means in the same plane providing for perfect fitment of the storage element to the surface of the back of the case, said base means taking up at least the length of the external studs increasing the depth of the holes provided in the bottom for the passage therethrough of the studs or screws for fixing the storage element to the back of the case, and lateral compartmentalisation portions being provided at least for the compartments provided with a lid and which, on the side thereof, comprise perpendicularly and in the lower portion a small pivot means, and upper longitudinal portions provided at least for the compartments which are intended to receive a lid comprising, in the centre of their lengths, at a downwardly displaced position, a small flat parallel surface provided with a small catch rim portion, and lower rectilinear longitudinal portions forming either completely the lower side of a compartment which is not provided with a lid or partially the lower side of a compartment provided with a lid and, in that case, being intended to form an abutment for limiting the angle of opening of the lids and being disposed in line with the centre of the pivot means;

secondly, lids for all the compartments, except for one which is generally not provided therewith, the lids in themselves forming a location delimited on each side so as to form a box, each of the lids further comprising a usual bottom-forming portion, on the one hand two flat lateral portions which are intended to be subsequently displaced close to and parallel with the lateral compartmentalisation portions of the bottom, lateral lid portions being provided facing the pivot means of the lateral compartmentalisation

portions with a hole in which said pivot means will be disposed, and on the other hand, an upper longitudinal portion completing the upper longitudinal portion of the bottom thereby together to form the upper side of the compartment, the longitudinal

5 portion of the lid also being disposed in substantially rectilinear alignment except for a central portion which is partially displaced from the remainder, comprising on the one hand a flat protrusion terminated by a downwardly turned nose portion capable of bearing against the catch rim portion of the flat

10 surfaces of the upper longitudinal portion of the bottom, and on the other hand, a flat set-back portion serving as a gripping means for releasing the lid, which also comprises two lower straight longitudinal portions, one disposed at the height of or above the axis of rotation of the lid formed by the pivot means

15 and the corresponding hole and forming totally or with the corresponding portions of the bottom, the lower portion of the compartment, and the other, below the preceding portion, the lower limit portion of the storage element, and which will butt against the lower longitudinal portions of the bottom upon

20 opening of the lid and thus limit said opening movement.

Preferably, the storage element is divided into three compartments of which two are provided with a lid, one thereof, being of a length which is slightly greater than the usual length of a fountain pen and thus being about 18 cm, comprises a lid which

25 is internally provided with a plurality of lugs disposed in a parallel condition and inclined upwardly forming a plurality of rows of racks and the other, which is of smaller length, being about 10 cm, comprises a lid which is internally provided in part itself with another small self-closable lid which

30 takes up more or less half the height from the lower end. The third compartment which is also about 10 cm does not have a lid and the corresponding portion of the bottom is so arranged

as to be able to place and fix thereat an elastic strap so that a small flat article, for example a miniaturised recorder or a calculator can be easily slipped thereunder.

In order better to appreciate the present invention, and in order more clearly to show the characteristics and advantages thereof, the invention will now be described by way of non-limiting example, with reference to an accompanying drawing in which:

Figure 1 shows a general front view of the storage element in a fully assembled condition,

10 Figure 2 is an end view from the left-hand side in Figure 1,
 Figure 3 is an end view from the right-hand side in Figure 1,
 Figure 4 is a general front view of the single bottom portion,
 Figure 5 is a general view from the back of the single bottom portion,

15 Figure 6 is a view from above in longitudinal section taken along line I-I in Figure 4,

 Figure 7 is a view from above in longitudinal section taken along line II-II in Figure 4,

 Figure 8 is a side view in cross-section taken along line
20 III-III in Figure 4,

 Figure 9 is a side view in cross-section taken along line IV-IV in Figure 4,

 Figure 10 is a side view in cross-section taken along line V-V in Figure 4,

25 Figure 11 is a side view in cross-section taken along line VI-VI in Figure 4,

 Figure 12 is a general view from the rear into the lid of the large compartment in the middle,

 Figure 13 is a side view in cross-section taken along line
30 VII-VII in Figure 12,

 Figure 14 is a side view in cross-section taken along line VIII-VIII in Figure 12,

Figure 15 is a general view from the rear into the lid of the small side compartment (without its small inside lid),

Figure 16 is a general view from the rear into the lid of the small side compartment (with its small inner lid),

5 Figure 17 is a side view in cross-section taken along line IX-IX in Figure 15,

Figure 18 is a side view in cross-section taken along line X-X in Figure 15,

Figure 19 is a top view in partly broken-away form of Figure
10 15,

Figure 20 is a flat view from the front of the small lid (as shown from the rear in Figure 16),

Figure 21 is a side end view in Figure 20,

Figure 22 is a view from above of Figure 20, and

15 Figure 23 is a view from above in longitudinal section along line XI-XI in Figure 20.

Referring to the various Figures of drawings, shown therein is a storage element comprising three compartments A, B and C which are each arranged in a different manner, the first compartment A
20 of reduced width comprising a lid 1 which is itself internally provided with another lid 2 (see Figure 16) and which is intended to store very small articles therein; the second compartment B of larger width comprising a lid 3 which is internally provided with parallel lugs 4 forming a rack (Figure 12) intended for
25 storing therein pencils, fountain pens and other elongate articles; and the third compartment C being provided with an elastic strap 5 under which an object such as a pocket calculator can be slid and held.

Referring to Figures 4 to 11 and more particularly Figure
30 5, shown therein is the disposition of the outward side of the essentially main bottom portion 6 (the face to be placed in the

inside back of the lid of a case which is not shown), said portion 6 being provided with a base means, in the same plane, forming a complete frame structure 7, providing for a good fit in respect of the storage element in the back of the case but also being provided 5 in order to make it possible to have collars 8 which are outside the holes 9 for fixing studs (not shown) to pass therethrough, and also to make it possible to provide a portion 10 which is set back in regard to the general flat portion of the bottom 6, over a height corresponding to the height of the small lid 2, the frame 10 structure 7 is also completed by transverse and longitudinal members 11 so as to impart improved rigidity to the bottom 6.

Referring to Figures 4 and 6 to 11, shown more particularly therein is the arrangement of the inward side (that on which the lids 1 and 3 will be disposed) of the essentially main bottom 15 portion 6, also comprising lateral portions 12 for each compartment A and B which are provided on the inward side and towards the base with a pivot means or journal 13, and partially, the upper longitudinal portions 14 of each compartment A and B which, at their centres (at the middles of their lengths) comprise a small 20 flat surface 15 which is displaced downwardly and provided with a small catch rim portion 16 which is turned upwardly, and also partially, the lower longitudinal portions 17 of each compartment A and B which are intended to serve as abutment means in regard to the opening movement of the lids 1 and 2 and the 25 lower total longitudinal portion 18 of the compartment C. In addition, also shown in Figure 4 are the holes 9 for fixing studs (not shown) to pass therethrough, said holes being so arranged as to bury or conceal the heads of the studs; in the compartment C, there are slots 19 for the elastic strap 5 to pass therethrough, 30 and also small transverse rim or edge portions 20 which hold the strap 5 slightly spaced away from the bottom 6, and small

longitudinal slightly longer edge or rim portions 21 for guiding the strap (see Figure 11).

It will be seen from Figure 4 that the longitudinal portions 17 are provided at their ends with rearwardly displaced portions 5 22 permitting the lids 1 and 3 to be set in position.

Referring to Figures 12 to 14, shown therein is the arrangement in respect of the lid 3 of the compartment B which comprises the following equivalent portions: with the lid 1 of the compartment A (see Figures 15, 18 and 19), a flat bottom-forming portion 23, 10 lateral portions 24 comprising towards the lower edge thereof a hole 25 in which may be disposed a pivot means 13 provided on the lateral portions 12 of the bottom portion 6; in part and completing the upper longitudinal portions 14 of the bottom part 6, an upper longitudinal portion 26 which comprises, at its centre 15 which is partially apertured so as to permit a certain degree of bending thereof, a plate 27 which is divided into two portions that are slightly at an angle to each other, one portion 28 extending towards the interior and in a downward direction being provided with a small nose portion 29 which is directed downwardly, 20 capable of bearing against the rim portion 16 of the longitudinal portion 14 of the bottom part 6, and the other portion 30 extending upwardly and outwardly to form gripping means; because the plate portion 27 is inclined, with the portion 30 thereof being the high side, by applying a pulling force thereto, the 25 portion 28 is accordingly moved downwardly and upward and the nose portion 29 is released. The lids 1 and 3 also comprise two lower parallel rectilinear longitudinal portions, one portion 31 (lid 1) being above the axis of rotation (pivot means 13 and hole 25) forming alone the lower portion of compartment A and the other 30 portion 32 (lid 3) at the height of the centre of said axis of rotation partially forming the lower part of the compartment B,

while the other portion 33 forms the lower end of the lids 1 and 3, which extends only over half the main depth of the compartments A and B and whose edge, upon opening of the lids 1 and 3, butts against the longitudinal bottom parts of said portions 33, limiting the degree of opening of said lids 1 and 3 to a right angle. To permit the small pivot members or journals 13 to be fitted into the holes 25, it is necessary to provide for the possibility of a slight degree of bending of the lateral side portions 24 and hence the arrangement provides that the longitudinal portions 32 do not extend to a position against said side portions 32 but there is a small space 34.

Moreover, the lid 1 will have certain particularities having regard to the fact that, in the embodiment illustrated in the drawing, it is intended internally to receive a small lid 2 and in particular the lateral portions 24 having a protrusion 35 facing the set-back portion 10 of the bottom 6, likewise the lower portion 31 is longer than the corresponding lower portion 32 of the lid 3 to take up the whole the depth of the compartment A at that level and moreover (see Figure 19), in addition to the empty space 34, there is also a supplementary cut-out portion 36 required for positioning of the lid 2. In addition, the depth of the hole 25 is increased by a thickness 37 disposed on the inward side.

Likewise, and in accordance with its particular mode of use, the lid 3, comprises parallel, aligned lugs 4 forming a rack. The lugs, as can be seen in Figure 13, are inclined upwardly so as to hold in a stored position the articles which are placed therein when the lid 3 is closed and opened; moreover, the length of the lugs 4 is approximately equal to the depth of the compartment B so that the storage element itself can be put into all possible positions without mixing up the articles carried on the rack.

Referring to Figures 20 to 23, shown therein is the arrangement in respect of the lid 2 which is internal to the lid 1 and which

comprises a flat rectangular portion 38, the length of which is equal to the length of the lid 1 that it totally covers over a certain height, that height being equal to the height of the set-back portion 10 of the bottom 6. As will be seen, there is a small
5 upper central cut-out portion 39 marking the location for preferably gripping the lid 2 for opening same. On its inside, the lid 2 comprises two small sides 40 which are perpendicular to the flat portion 38, being positioned in such a way as to come to bear against the protrusions 35 of the lid 1, on the outside surface
10 and towards the top of said sides 40 there is a small protrusion 41 in the form of a longitudinal bead which is intended to provide for gripping the lid 2 and thus holding it in the closed position in the lid 1. Each of the above-mentioned sides 40 is prolonged and extended beyond the flat portion 38 in a downward
15 direction and inwardly by means of a plate 42 carrying a small pivot means or journal 43 which is intended to be fitted into the hole 25 of the lateral portion 24 of the lid 1, thus permitting the lid 2 to be opened and closed with respect to the lid 1. It should be noted that the lid 2 is so designed that, if it is
20 open with respect to the lid 1, with the latter also being open, when the latter is totally closed, the lid 2 is positioned in the lid 1 and is held closed by means of the protrusions 41 when the lid 1 is opened. The lid 2 forms, but only partially, a box or casing and is provided solely in its interior and at the bottom
25 of its flat portion 38 with a longitudinal portion 44. In order to hold the lid 2 in a closed condition in the lid 1, it is also provided that, at each end, the longitudinal portion 44 is terminated by an upwardly extending portion 45, whose face 46 that is parallel to the side A comprises a protrusion 47 in
30 the form of a longitudinal bead which is intended to be positioned by force above the edge of the cut-out portion 36 of the lower part of the lid 1; it will be appreciated that it

would be possible to provide either only the two protrusions 41 or the two protrusions 47.

As can be seen from the drawing, both the upper and lower longitudinal sides of the bottom 6 and the lids 1 and 3 are rounded and hence also the end of the various lateral side portions. That is essentially an arrangement whose aim is an aesthetic one, and the situation is the same in regard to the rounded longitudinal portion 48 (see Figure 11) which extends from the side portion 18, which was provided only for that purpose.

10 As can be seen from Figure 1, provision is made for sliding on the elastic strap 5 a plate carrier member 49 which can be used to indicate the name or the abbreviated style of the manufacturer. It will be appreciated that the invention is not limited to the embodiment described and illustrated and that it would not be

15 a departure from the subject thereof to make modifications therein and for example to provide a storage element with a different number of compartments, to provide for them all to be fitted with a lid, or only one,

CLAIMS

1. A storage element of substantially flat form, having a plurality of compartments (ABC), of which generally one is not provided with a lid, produced from moulding totally in plastics material and more particularly ABS or polyamide except for an elastic retaining strap (5) provided in the case of a compartment without a lid, characterised in that it comprises the various following parts which are entirely finished in the moulding operation:

firstly, a first portion (6) which takes up all the length and the height of the element and which is intended to be placed and fixed in a flat position in the inside back of the lid of a case, the first portion which is in one piece forming both the whole of the bottom which is flat or in plan flat parallel, and the flat lateral compartmentalisation portions (12) and longitudinal portions (14, 17, 18) which extend substantially in rectilinear alignment, the bottom (6) comprising on the outward side a base means (7) which takes up at least the length of the external studs (8) increasing the depth of the holes (9) provided in the bottom for the passage therethrough of the studs or screws for fixing the storage element to the back of the case, and lateral compartmentalisation portions (12) provided at least for the compartments (A,B) provided with a lid and which, on the side thereof, comprise, perpendicularly and in the lower portion, a small pivot means (13), and upper longitudinal portions (14) provided at least for the compartments (A, B) which are intended to receive a lid comprising, in the centre of their lengths, at a downwardly displaced position, a small flat parallel surface (15) provided with a small catch rim



(16), and lower rectilinear longitudinal portions (17, 18) forming either completely the lower side (18) of a compartment (C) which is not provided with a lid or partially the lower side (17) of a compartment (A, B) provided with a lid and in that case being intended to form an abutment for limiting the angle of opening of the lids (1, 3) and being disposed in line with the centre of the pivot means (13);

secondly, lids (1, 3) for all the compartments (A, B) except for one (C) which is generally not provided, lids (1, 3) in themselves forming a location delimited on each side so as to form a box, each of the lids (1, 3) further comprising a usual bottom-forming portion (23), on the one hand two flat lateral portions (24) which are intended to be subsequently disposed close to and parallel with the lateral compartmentalisation portions (12) of the bottom (6), lateral portions (24) of the lid (1, 3) which are provided, facing the pivot means (13) of the lateral compartmentalisation means (12), with a hole (25) in which said pivot means (13) will be disposed, and on the other hand an upper longitudinal portion (26) completing the upper longitudinal portion (14) of the bottom (6) thereby together to form the upper side of the compartment, a longitudinal portion (26) of the lid (1, 3) which is also disposed in substantially rectilinear alignment except for a central portion (27) which is partially displaced from the remainder, comprising on the one hand a flat protrusion (28) terminated by a downwardly turned nose portion (29) capable of bearing against the catch rim portion (16) of the flat surfaces (15) of the upper longitudinal portion (14) of the bottom (6) and, on the other hand, a flat set-back portion (30) serving as a gripping means for releasing the lid (1, 3), the latter also comprising two lower straight longitudinal portions (31, 32, 33), one (31) being disposed at



the height of or (32) above the axis of rotation of the lid (1, 3) formed by the pivot means (13) and the corresponding hole (25) and forming totally or with the corresponding portions of the bottom, the lower portion of the compartment, and the other portion (33), below the preceding portion (31, 32), being the lower limit portion of the storage element and which will butt against the lower longitudinal portions (17) of the bottom (6) upon opening of the lid (1, 3) and thus limit said opening movement.

2. A storage element according to claim 1 characterised in that it is divided into three compartments (A, B, C) of which two (A, B) are provided with a lid (1, 3), one (B) of said compartments being of a length which is approximately 18 cm comprises a lid (3) which is internally provided with a plurality of lugs (4) disposed in a parallel condition and inclined upwardly, forming a plurality of rows of racks, and the other compartment (A) being of a length of approximately 10 cm comprises a lid (1) which is internally provided in part itself with another small self-closable lid (2), and the third compartment (C) which is approximately 10 cm in length and which does not have a lid has the part of the corresponding bottom portion so arranged as to be able to place and fix thereat an elastic strap (5).

3. A storage element according to claim 2 characterised in that, to make it possible to place the inner lid (2) with which the lid (1) of a compartment (A) is provided, the corresponding portion (10) of the bottom (6) is set back with respect to the general flat portion over a part of the height thereof and the lid (1) of the compartment (A) comprises at each of said lateral portions (24) a protrusion (35) facing the set-back portion (10) of the bottom (6), and that said inner lid (2) comprises a flat rectilinear rectangular portion (38), the length of which is equal to the length



of the lid (1) that it totally covers over a certain height equal to the height of the set-back portion (10) of the bottom (6), and two small perpendicular sides (40) and the inward side of the flat portion (38), said sides (40) being so placed as to bear against the protrusions (35) of the lid (1) of the compartment (A) and provided on their outside face and top with a small projection (41) intended to provide the closing action; each of said sides (40) being prolonged and extended downwardly beyond the flat portion (38) by a plate (42) bearing a small pivot means (43) which is intended to be positioned in the hole (25) of the lateral portion (24) of the lid (1) of the compartment (A).

4. A storage element according to claim 3 characterised in that the inner lid (2) of the lid (1) of a compartment (A) partially forms a box and is provided but only internally and at the bottom of the flat portion thereof with a longitudinal portion (44).

5. A storage element according to claim 4 characterised in that for closing and locking the inner lid (2) of the lid (1) of a compartment (A), there is provided only or in addition a small protrusion (47) on the outside surfaces of the small perpendicular sides (40) of the inner lid (1), the longitudinal portion thereof terminating at each end with an upwardly directed portion (45) whose face (46) that is parallel to the small sides (40) comprises a small protrusion (47) intended for closure of the small lid (1) and to be positioned by force above the edge of a corresponding cut-out portion (36) which is provided in this case at the ends of the lower rectilinear portion (31) of the lid (1) of the compartment (A) which is provided with an inner lid (2).

6. A storage element according to claim 2 characterised in that the part of the bottom portion of the compartment (A) which does



not have a lid comprises slots (19) for the elastic strap (5) to pass therethrough and transverse edge portions (20) holding it slightly spaced away from the bottom and small, slightly longer, longitudinal edge portions (21) for guiding the strap.