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(54) Drug dispensing device

(57) A container for drugs (5) comprises program-
mable signalling means (6) suitable for emitting a signal

when a user has to take said drugs (5), and a plurality
of compartment means (2; 2E) suitable for containing
said drugs (5).

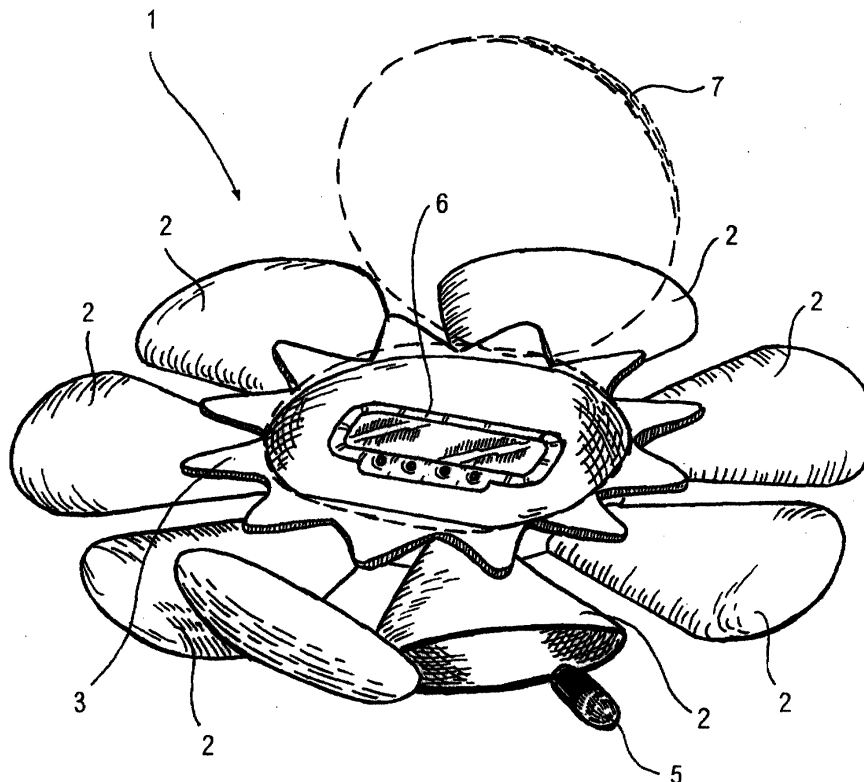


Fig.1

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Description

[0001] The invention relates to a drug container provided with compartments, each of which is suitable for containing a number of drugs as capsules or pills.

[0002] Frequently, people suffering from one or more diseases have to take a certain drug more times every day or a plurality of different drugs at subsequent moments of the day. It is clear that a proper posology and a regular taking of the above-mentioned drugs are essential in order to adequately face the pathological condition. Unfortunately, it may happen that the patients, mainly the older ones, forget to take the prescribed drug at the pre-established moment.

[0003] A first type of known containers comprises containers subdivided into a plurality of compartments suitable for containing the drugs as capsules, or pills, which have to be taken.

[0004] US5762199 discloses a cylindrically shaped container consisting of a base body subdivided into a plurality of circular sectors defining compartments inside which the pills or the capsules may be placed. An openable cover may be associated to said base body, so as it is possible to pick up the drugs from the compartments containing them.

[0005] US3700095 discloses a container for pills and capsules consisting of a bottom portion and an upper portion suitable for being closed one in contact with the other and in which recesses, having a suitable shape, are obtained. Said pills and capsules are placed into the recesses, one per each recesses. The upper and bottom portions of the container have circular shape, the recesses are obtained in the two portions in two annular, concentric regions and are arranged so as to define twelve equal sectors. The two annular regions correspond to the morning and the afternoon of a same day, and each of the twelve sectors indicates one hour. The container is produced in transparent plastic matter in order to allow the user to control the contents thereof.

[0006] A drawback of this container is that every time the user has to take a drug the container has to be opened by separating the upper portion and the bottom portion from each other. As a consequence there is the danger that all the pills or capsules still contained therein fall to the ground.

[0007] A more serious drawback, typical of all the containers belonging to this first type is that, although it is possible to prepare at the morning all the drugs necessary for the whole day, the risk of an omission is not efficiently prevented, since the times, at which drugs are to be taken, are only entrusted to the memory of the user.

[0008] A second type of containers comprises containers provided with a device suitable for alerting the patient at the time fixed for taking the drug.

[0009] GB2249300 discloses a drug container comprising a device for sound signalling which alerts the user at regular and pre-established intervals of time. The

container consists of a bottle-shape compartment containing the pills or capsules and comprising, in a bottom portion thereof, a timer mechanism, a sounding mechanism and a respective supply battery.

[0010] A drawback of this container is that it is suitable for containing only pills of the same type and is, therefore, uncomfortable for patients having to be subjected to treatments requiring different types of drugs.

[0011] A purpose of the present invention is to provide a container for drugs which is comfortable, handy, which has limited dimensions and particular versatility.

[0012] A further purpose of the present invention is to provide a container for drugs provided with signalling means which prevents the user from forgetting to take the drugs contained therein.

[0013] According to the present invention, a container for drugs is provided comprising programmable signalling means suitable for emitting a signal every time a user has to take said drugs, and a plurality of compartment means suitable for containing said drugs.

[0014] Advantageously, said container is provided with seven compartments, each corresponding to a day of the week.

[0015] In a preferred version, said container has the shape of a flower, said compartments constituting a corolla thereof.

[0016] In a further preferred version said container has the shape of a casket provided with a cover and internally subdivided in said compartments.

[0017] In a further preferred version said container comprises a carousel support to which said compartments, having the shape of small aeroplanes, are supported.

[0018] In a still further preferred version said container has the shape of a shell.

[0019] The invention can be better understood and carried out with reference to the enclosed drawings, which illustrate some exemplifying and not restrictive embodiments thereof, wherein:

Figure 1 is a perspective view of a preferred embodiment of a container according to the invention; Figure 2 is a perspective view of another preferred embodiment of a container according to the invention;

Figure 3 is a perspective view of a further preferred embodiment of a container according to the invention;

Figure 4 is a perspective view of a still further preferred embodiment of a container according to the invention;

Figure 5 is a section taken along a horizontal plane of a compartment of a container and a cover thereof according to the invention, in a preferred embodiment;

Figure 6 is a front view of the cover of Figure 5; Figure 7 is a section taken along a horizontal plane of a compartment of a container according to the

invention closed by the respective cover, in a further preferred embodiment;

Figure 8 is a front view of the cover of Figure 7;

Figure 9 is a top view of a cover like that of Figure 5 and 7, and further comprising drawer means;

Figure 10 is a section taken along a horizontal plane of the cover of Figure 9, inserted into a respective compartment;

Figure 11 is a front view of the cover of Figure 9;

Figure 12 is a top view of a compartment of a preferred version of a container according to the invention;

Figure 13 is a top view, partially sectioned, of a compartment of the container of Figure 3;

Figure 14 is a section taken along the plane XIV-XIV of Figure 13.

[0020] With reference to Figure 1, a container 1 is shown having the shape of a flower, in particular a daisy, comprising seven compartment 2, each corresponding to a day of the week, extending from a central block 3 like a corolla. Each of the above-mentioned compartments 2 is suitable for containing the drugs 5, as pills, or capsules, which constitute the pharmacological therapy of a user. Inside the central block 3 signalling means 6 is housed, which is protected by protecting means 7 having the shape of a dome, which is hinged at one end of the central block 3. Therefore, the protecting means 7 is suitable for being raised when the user has to interact with the signalling means 6.

[0021] In Figures 5 and 6, a compartment 2 associated with a respective cover 8 is shown. In the wall of the cover 8, recess means 9 is obtained which extends around the whole outer surface of the wall; tooth means 10 obtained on the inner surface of the compartment 2 may be coupled with such recess means 9. In order to close the container 1, it is sufficient to slightly press the cover 8 so as the tooth means 10 is forced to enter inside the recess means 9, on the contrary in order to pick up the drugs 5, the cover 8 is slightly pulled, so causing the tooth means 10 to disengage from the recess means 9. In order to allow the user to easily identify the compartment from which the drugs have to be picked up, one or more characters showing a day of the week are obtained in relief on the outer surface of the compartment 2 and the cover 8.

[0022] In Figures 7 and 8 a compartment 2 is shown which may be associated with a cover 8 as described with reference to Figures 5 and 6, in this case the compartment 2 is divided by a wall 13 which defines two portions suitable for containing the drugs designed one for the morning and the other for the afternoon of a same day. In this case on the outer surface of the compartment 2 and the cover 8, in addition to one or more characters showing the day of the week, two more characters referred to the morning and the afternoon are obtained in relief.

[0023] In Figures 9, 10 and 11 a cover 8 is shown com-

prising drawer means 11 suitable for containing the drugs 5. Said drawer means 11 is subdivided in two portions by a partition wall 12 so as to obtain two distinct compartments 11A and 11B, in the first of which the drugs 5 which has to be taken at the morning of a particular day are placed and in the second of which the drugs 5 which has to be taken at the afternoon of that same day are placed, or vice-versa.

[0024] In Figure 12 a compartment 2 is shown whose cover 8C consists of two caps 8A and 8B hinged through hinges 14 to the compartment 2. The compartment 2 is internally subdivided by a wall 13 in two portions suitable for containing the drugs intended for morning and afternoon use on a same day. In order to pick up the drugs, the user acts on one of the caps 8A and 8B into which the cover 8C is subdivided rotating said caps 8A, 8B according to the direction of the arrow F, afterwards slightly tilting the container 1 the user causes exit of the drugs which may be collected on the palm of the hand.

[0025] With reference to the Figure 2, a container 1 is shown comprising a body 17 in which seven compartments 2 are obtained, each corresponding to a day of the week, and suitable for containing drugs as pills and capsules. On closing means 18, hinged to said body, signalling means 6 protected by protection means 7 having the shape of dome is fixed.

[0026] When alerted by the signalling means 6, the user raises the closing means 18 and picks up the needed drugs from the compartment 2 corresponding to the day of the week, either using directly the fingers of the hand or using suitable clamps, not represented.

[0027] With reference to Figure 3, a container 1 comprises a base 19 at the centre of which a support 20 is arranged from which rods 21 radially depart supporting seven compartments 2 having the shape of aeroplanes. Each of the above-mentioned compartments 2 having shape of aeroplane is arranged in order to contain drugs as of pills or capsules into two seats 2E, 2F, each seat 2E, 2F being obtained in one of the wing of the above-mentioned aeroplane. Signalling means 6 is arranged inside the base 19.

[0028] As shown in Figures 13 and 14, each seat 2E is provided with a respective cover 8E. Each of the above-mentioned covers 8E is provided, at the end connected to the seat 2E, with a wall section having a reduced thickness so as to form a plastic hinge 32. In such manner, in order to pick up the drugs 5 from the seat 2E it is sufficient to raise the cover 8E rotate said cover 8E around the plastic hinge 32.

[0029] At the opposite end of the cover 8E blocking means 33 is provided suitable for keeping the cover closed on the seat 2E; the above mentioned blocking means 33 comprises locking means 30 suitable for being coupled with the end wall of the seat 2E and manoeuvring means 31 acting on which the user can open the cover 8E.

[0030] With reference to Figure 4, a container 1 comprises seven compartments 2 arranged side by side and

radially welded together in order to obtain a shell-like a shape. Each compartment 2 is provided with a cover which may be of the type shown in Figures 5 to 8, or in Figures 9 to 11, or in Figure 12, or eventually in Figures 13 and 14.

Claims

1. Container for drugs (5) comprising programmable signalling means (6) suitable for emitting a signal every time a user has to take said drugs (5), and a plurality of compartment means (2; 2E) suitable for containing said drugs (5).
2. Container according to claim 1, wherein said container (1) comprises seven compartment means (2; 2E), each of said seven compartment means (2; 2E) corresponding to a day of the week.
3. Container according to any one of the preceding claims, wherein said compartment means (2; 2E) is associable to cover means (8; 8C; 8E).
4. Container according to any one of the preceding claims, wherein said compartment means (2; 2E) and/or said cover means (8; 8C; 8E) comprises a set of characters obtained on an outer surface thereof.
5. Container according to claim 4, wherein said set of characters comprises at least a character indicating a day of the week.
6. Container according to claim 5, wherein said set of characters further comprises at least a character indicating the morning and at least a character indicating the afternoon.
7. Container according to any one of claims 4 to 6, wherein said set of characters protrudes in relief from said cover means (8; 8C; 8E).
8. Container according to any one of claims 3 to 7, wherein said cover means (8; 8E) comprises blocking means (9; 33) suitable for keeping said cover means (8; 8E) closed on said compartment means (2; 2E).
9. Container according to claim 8, wherein said blocking means comprises recess means (9) suitable for coupling with respective tooth means (10) obtained in said compartment means (2).
10. Container according to any one of claims 3 to 9, wherein said cover means (8) comprises drawer means (11) suitable for containing said drugs (5).
11. Container according to claim 10, wherein said drawer means (11) is subdivided into two compartments (11A, 11B) separated by partition wall means (12).
12. Container according to claim 11, wherein one of said two compartments (11A; 11B) is suitable for containing drugs (5) to be taken at the morning of a certain day and the other of said two compartments (11B; 11A) is suitable for containing drugs (5) to be taken at the afternoon of that same day.
13. Container according to any one of claims 1 to 9, wherein each of said compartment means (2) comprises wall means (13) which divides said compartment means (2) into two portions (2A, 2B).
14. Container according to claim 13, wherein one of said two portions (2A, 2B) is suitable for containing drugs (5) to be taken at the morning of a certain day and the other of said two portions (2B, 2A) is suitable for containing drugs (5) to be taken at the afternoon of that same day.
15. Container according to any one of claims 3 to 7, or according to claim 13, or 14, as appended to one of the claims 3 to 7, wherein said cover means (8C) comprises two caps (8A, 8B) hinged to said compartment means (2) through hinges (14).
16. Container according to any one of claims 3 to 7, or according to claim 13, or 14, as appended to one of the claims 3 to 7, wherein said cover means (8E) comprises a wall section having a reduced thickness so as to form a plastic hinge (32) suitable for connecting said cover means (8E) with said compartment means (2E).

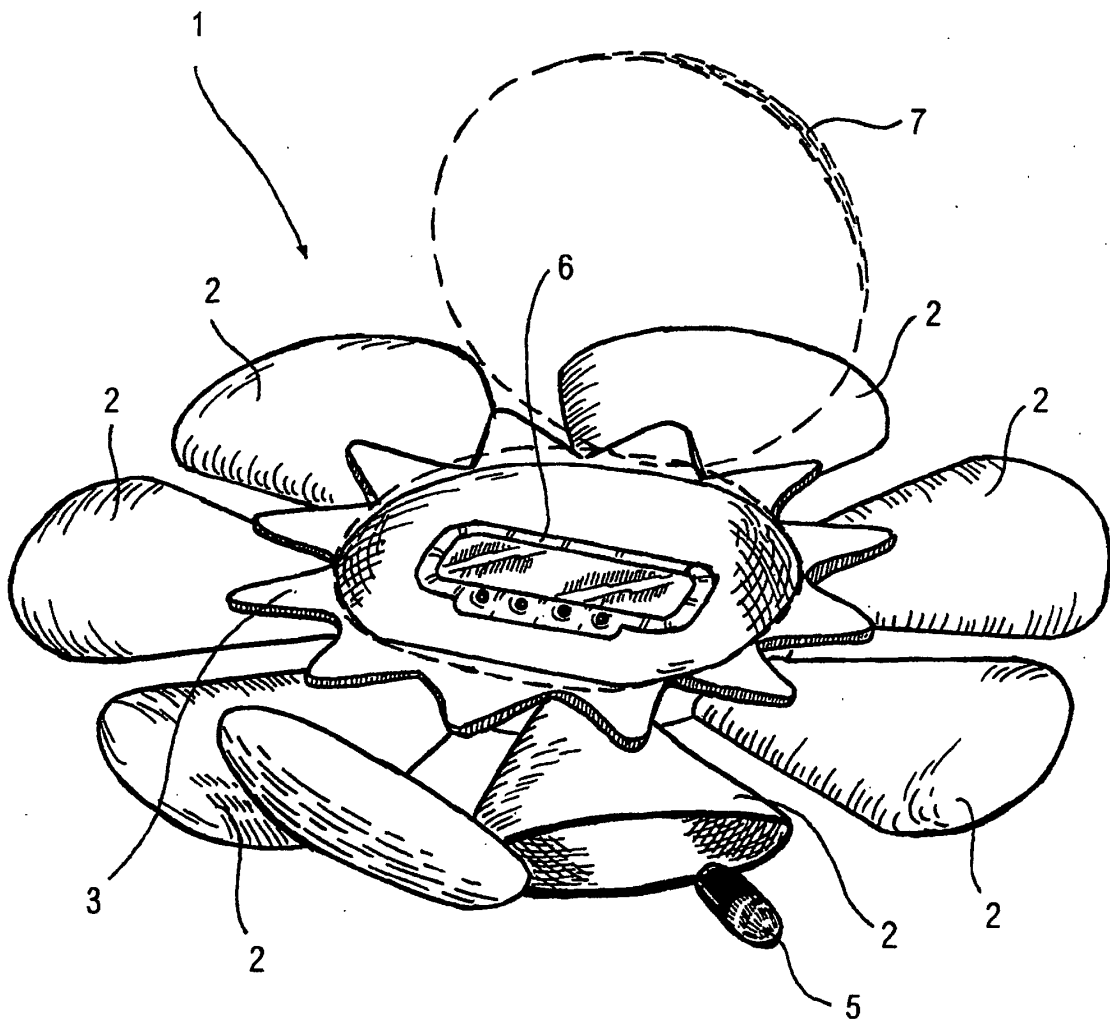


Fig.1

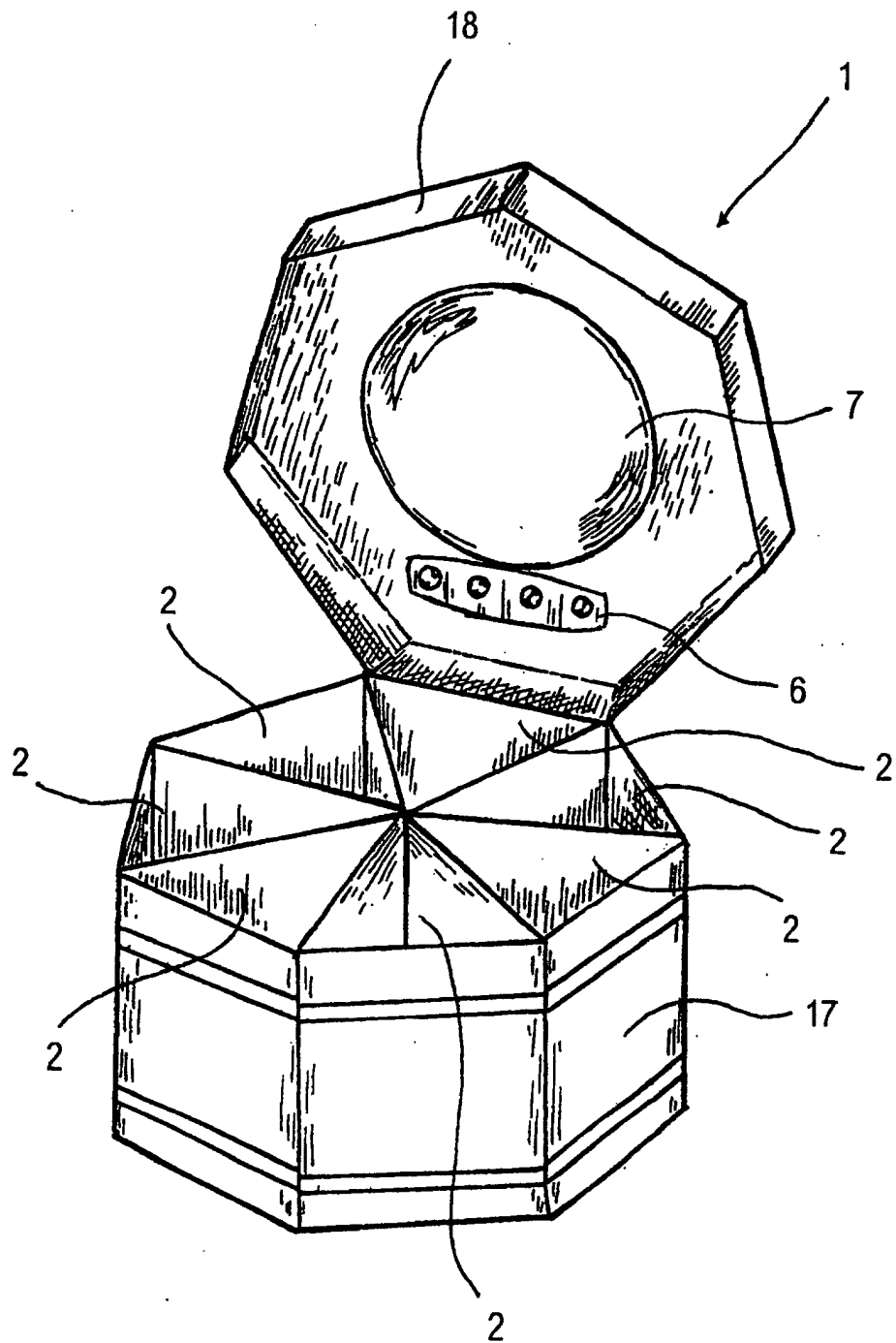


Fig. 2

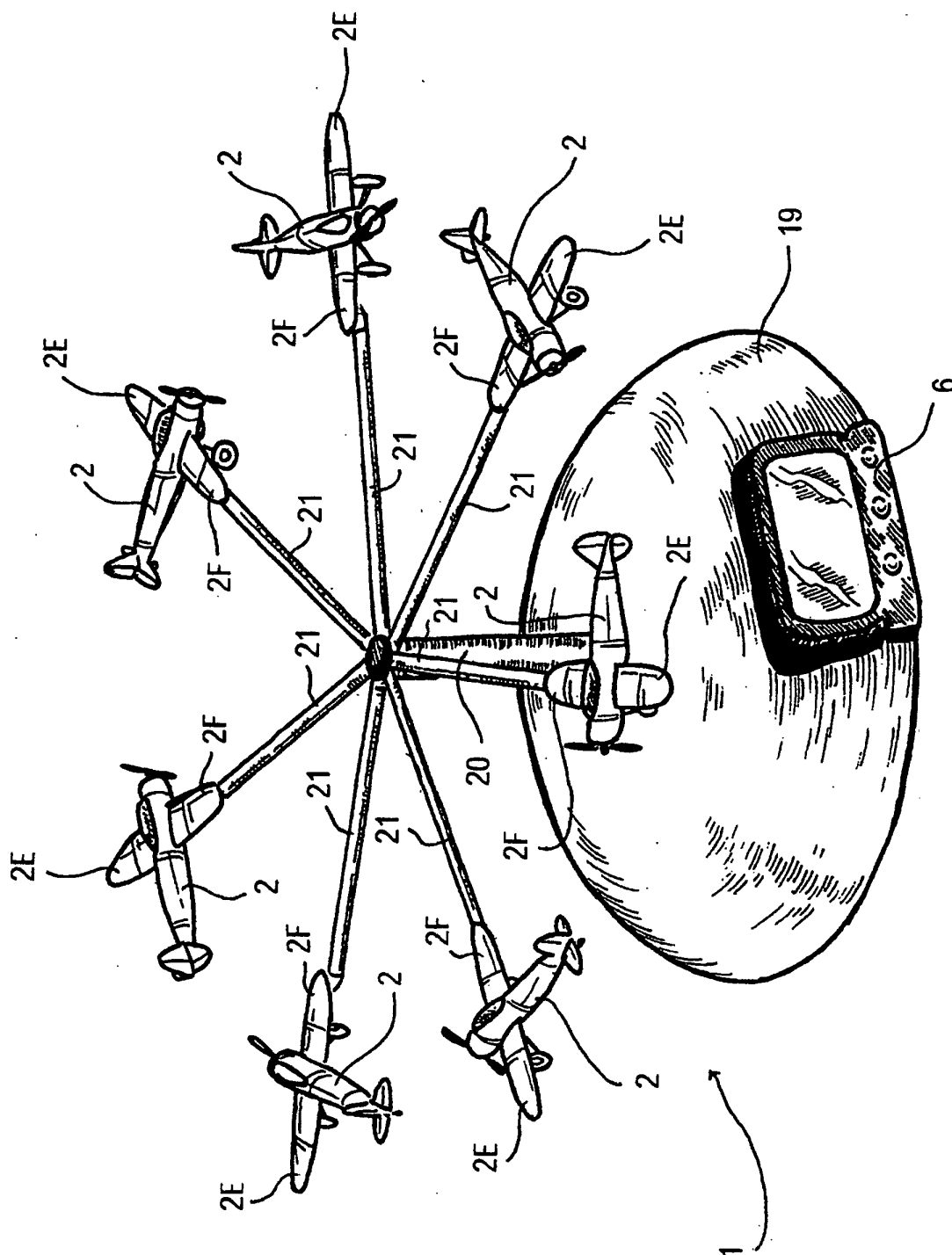


Fig. 3

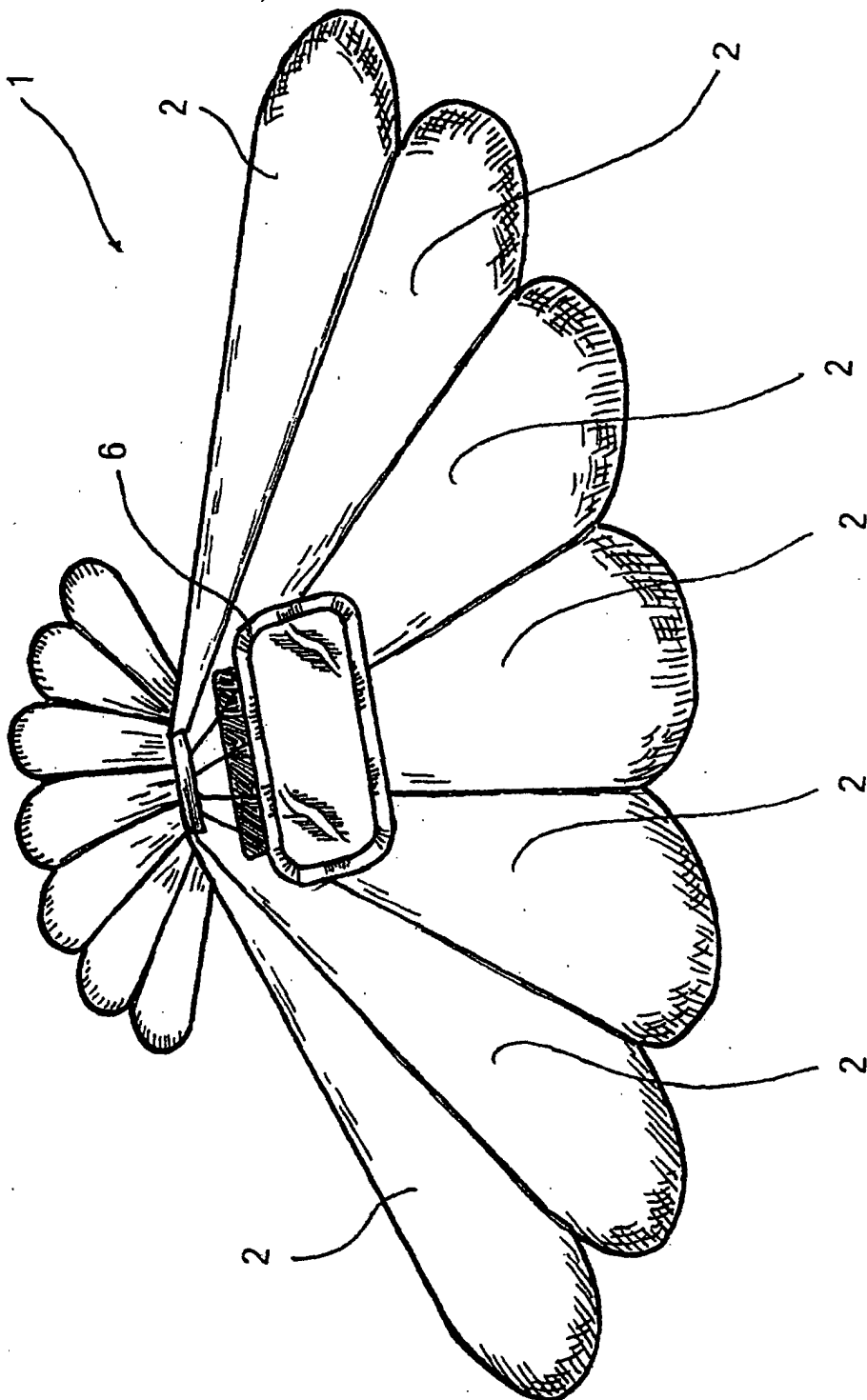


Fig. 4

Fig. 8

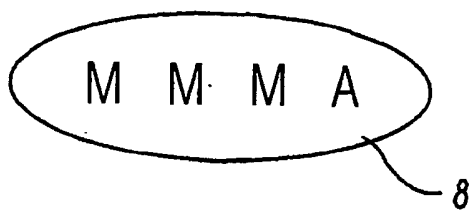


Fig. 7

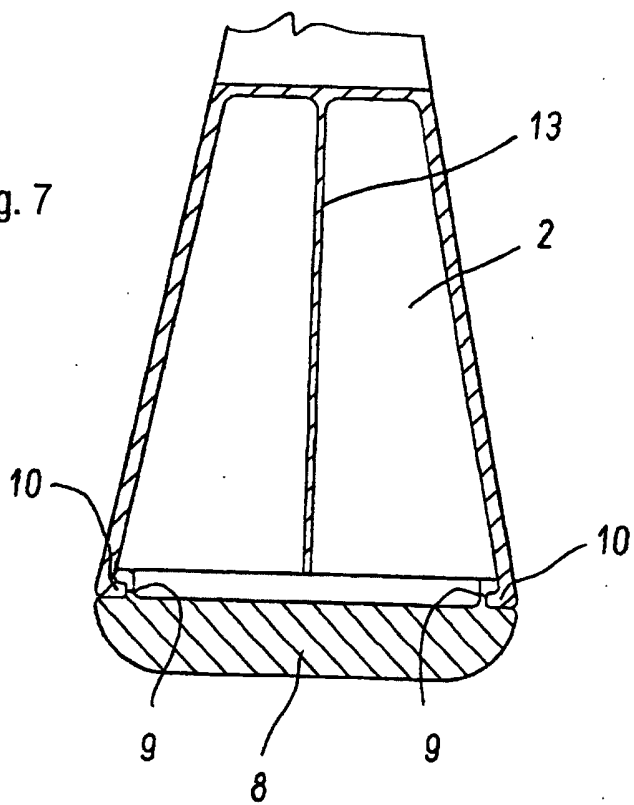


Fig. 6

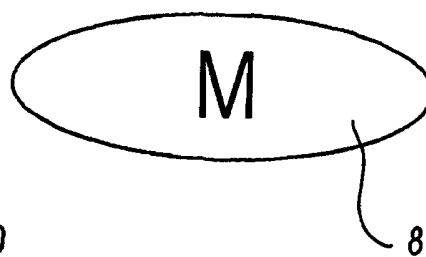


Fig. 5

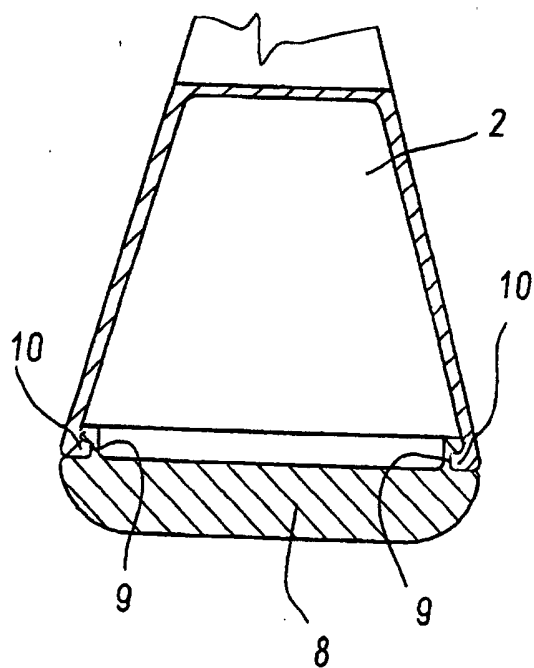


Fig. 11

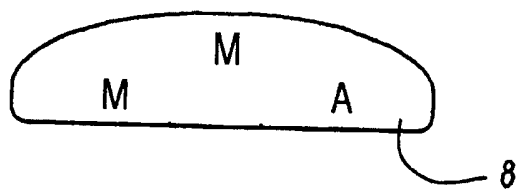


Fig. 10

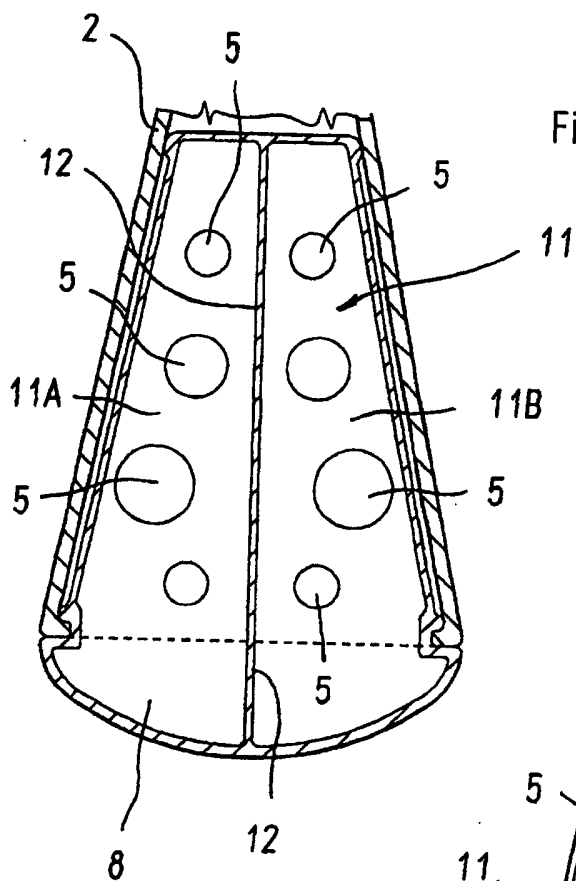


Fig. 9

