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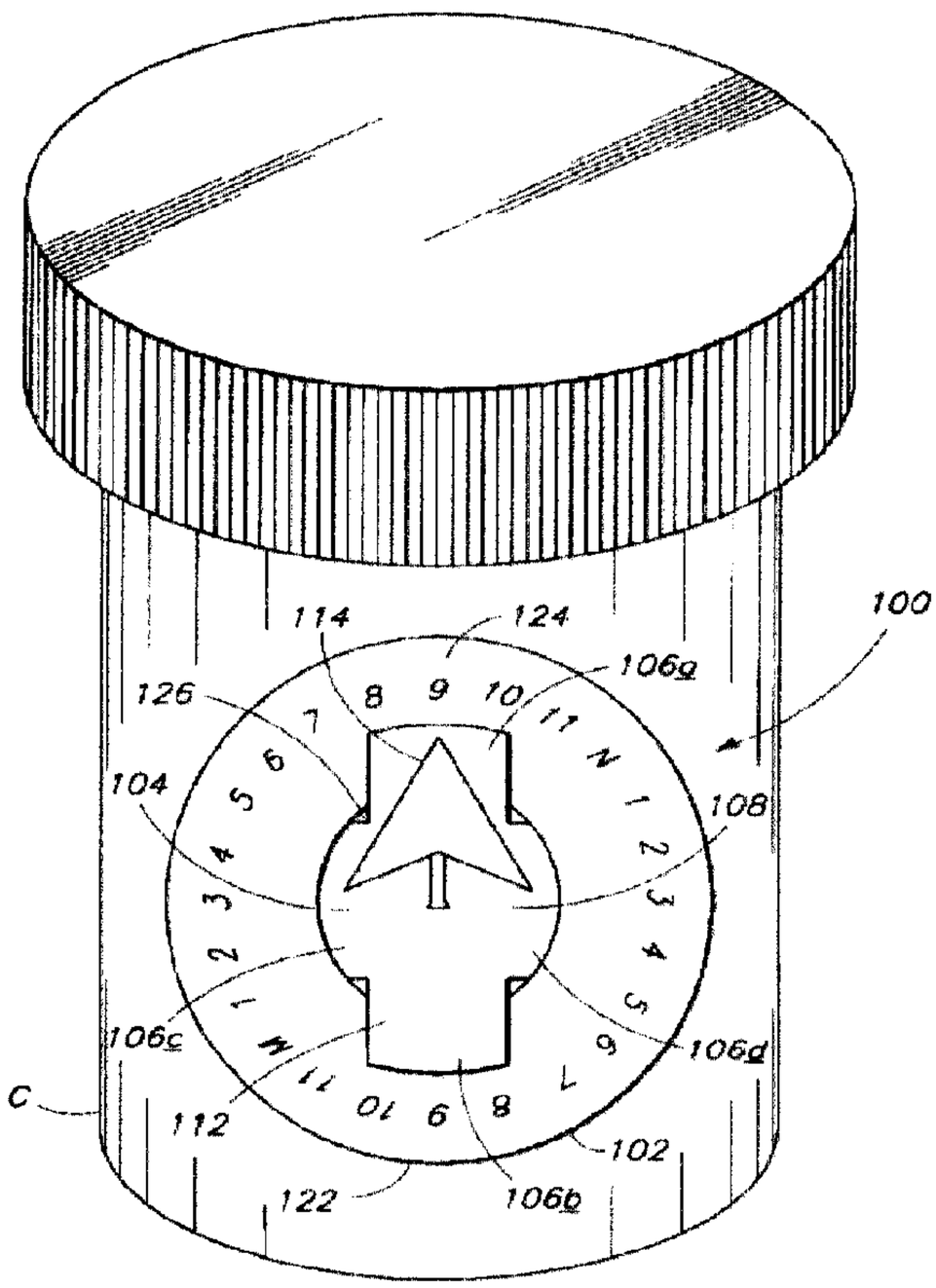


(57) Abrégé/Abstract:
A medication dosage reminder device includes a hub made of paper, or other such flexible material, that attaches to the curved wall of a medication container and an annular dial made of paper, or other such flexible material, that is pinned between an unfixed part of the hub and the container but is otherwise free to rotate about the hub. The dial includes interval segments, such as time of day, and the hub includes a co-operating pointer for indicating the interval segment selected. The dial stands away from the curved surface on each side, allowing a patient to rotate the dial about the hub to indicate the time at which the last dose of medication was taken or the time at which the next dose of medication is due.

Abstract

A medication dosage reminder device includes a hub made of paper, or other such flexible material, that attaches to the curved wall of a medication container and an annular dial made of paper, or other such flexible material, that is pinned between an unfixed part of the hub and the container but is otherwise free to rotate about the hub. The dial includes interval segments, such as time of day, and the hub includes a co-operating pointer for indicating the interval segment selected. The dial stands away from the curved surface on each side, allowing a patient to rotate the dial about the hub to indicate the time at which the last dose of medication was taken or the time at which the next dose of medication is due.

Medication Dosage Reminder Device

By Ronald Grant Mathison

Field

The present invention relates to a device for reminding a patient of his medication time. More specifically, the invention provides a simple visual representation of when a last dose was taken, or, when a next dose is due.

Background

Modern medicine has produced a number of powerful and beneficial medications, including drugs to combat cystic fibroses, heart disease, cancer and AIDS. However, it is usually important that these drugs be taken at prescribed intervals; the drugs can be ineffective or dangerous if taken at the incorrect time.

What is needed is a simple graphic device to remind patients when to take their medications. Such devices are especially important for the elderly patient with failing memory or the AIDS patient who takes a large number of different medications.

Many such devices exist in the art, including a number that represent an analogue clock having manually operable hands or dial. Such devices do not seem to have become widely available and it is believed that the major shortcomings of such prior devices are their undue complexity and cost of manufacture.

For example, United States patent number 3,921,568 granted to William Joseph Fish on July 25, 1973 for a "Self Adhering Medication Time Reminder", describes a six part device mountable on a medication container. Some of these parts are made of plastic and some are made of metal. The rigid construction of the device permits it to engage only flat surfaces such as the top of a pill bottle lid, a location where it might be jarred or damaged when the patient removes the lid.

United States patent number 4,345,541 granted to Antony-Euclid C. Villa-Real for a "Mono-Ringed Rotary Medication Reminder" has only two parts and replaces the medication container's existing cap. However, because medication containers have various shapes and sizes of openings, a wide variety of such devices would have to be

manufactured and, even then, the device would not be suitable for use on a curved surface.

United States patent number 5,377,614 granted to Bradley M. Glazer on January 3, 1995 for a "Reminder Device for Pill Containers" describes an invention which has as many as nine parts, making it relatively expensive and complicated to manufacture. Glazer's device is attached to the container cap with metal nails or tacks. These tacks might stress or crack the cap during installation or even destroy the container's seal.

United States patent number 5,271,353 granted to Gerard Besthorne on December 21, 1993 describes a clock-like device which is attached to the side of a medicine container by means of a V-notch cut into the back of the device and an elastic strap which encircles and grips the bottle. The device has eight parts and adds greatly to the overall size of the container, making it unbalanced and awkward to transport.

A simpler device is described in United States patent number 2,587,147 issued to

Henry A. Guion and Evelyn Arnold. The device is a clock face with one hand turning on a metal stud or axle. This simple device has three parts but no obvious means of attachment to a container. The device is made of rigid material and would not easily adhere to a curved surface.

What is needed is a device which is simple in form and cheap to produce that could be economically included with a medication container by a pharmaceutical company or dispensed as a courtesy by a pharmacist. The device should be so inexpensive that a patient would not hesitate to throw it out with the empty container when finished. Ideally this product would be made entirely of sheet material such as paper, cardboard or plastic, making production of the device more like publishing than manufacture. The present invention is directed to such a device.

Summary

The invention is a medication dosage reminder device constructed in two pieces from sheet stock such as paper, cardboard or plastic. The first piece is a hub having an

indicator pointer. The second piece is an annular dial having time interval markings. When the dial circumscribes the hub, the indicator pointer and the time interval markings form a reminder indicating either the time at which the last dose was taken or the time at which the next dose is due. The hub may be adhesively fixed to a medication container such that the dial is free to rotate about the hub.

According to one aspect of the invention there is provided a device, mountable on a curved surface, for indicating the time at which a task was last completed or is next due, comprising: a sheet member having a central aperture and adapted to abut the surface; a hub having a diameter greater than the diameter of the central aperture of said sheet member; means for fixing a portion of said hub to the surface through the central aperture of said sheet member such that said sheet member is retained against the surface but is free to rotate about said hub and said fixing means; and co-operating markings on said hub and said sheet member for indicating a time.

Preferably, said hub further includes a first pair of opposing protrusions extending radially outward from the periphery of said hub and adapted to oppose the surface

and to constrain said sheet member against the surface. Preferably, said hub further includes a second pair of opposing protrusions extending radially outward from the periphery of said hub and adapted to oppose said first pair of opposing protrusions such that said sheet member is constrained between said first and second pairs of opposing protrusions. Said sheet member and said pairs of opposing protrusions may be flexible.

According to another aspect of the invention, there is provided a device for indicating one member of a set, the device comprising: a sheet member defining a central aperture; a hub having: a central pivot having a diameter less than the diameter of the central aperture in said sheet member; a first pair of opposing protrusions extending radially outward from the periphery of the pivot and having a span greater than the diameter of the central aperture in said sheet member, the second pair of opposing protrusions define between them a discrete annular channel adapted to receive for rotation there within said sheet member such that the central aperture of the sheet member encircles the pivot; and markings on the hub and the sheet member for

indicating one member of the set. Preferably, the co-operating marking includes: an annular arrangement of set members on said sheet member and a pointer on the pivot of said hub adapted to point to any one of said set members.

Alternately, the co-operating segments and pointer can consist of an annular arrangement of set members on the pivot of said hub and a pointer on said sheet member adapted to point to any one of said set members. Preferably, the device further includes means for affixing said hub to a surface such that said sheet member may rotate thereabout.

Brief Description of the Drawings

These and other features, aspects, and advantages of the present invention will become better understood with reference to the following description, appended claims, and accompanying drawings where:

Figure 1 is a perspective view of a medication dosage reminder device embodying a first aspect of the invention, the device being

mounted to a medication container which is not part of the invention;

Figure 2 is a front view of the device of Figure 1;

Figure 3 is a front view of the hub of the device of Figure 1;

Figure 4 is a rear view of the hub of the device of Figure 1;

Figure 5 is a front view of the dial of the device of Figure 1;

Figure 6 is an exploded rear perspective view of a medication dosage reminder device embodying a second aspect of the invention.

Description

With reference now to Figures 1 through 5, a medication dosage reminder device embodying a first aspect of the invention is generally illustrated at 100. The reminder device 100 is formed from two parts: an annular dial 102 and a hub 104. The dial 102 and the hub 104 are preferably formed from flexible sheet stock such as paper, cardboard or plastic and may be punched, cut or similarly formed; however, more rigid material or material otherwise formed would also work in many

applications.

The hub 104 has two longitudinal tabs 106a, 106b and two lateral tabs 106c, 106d which define at their intersection a pivot 108 having a diameter 110. Printed on the front surface 112 of the hub 104 and extending along the longitudinal tabs 106a, 106b is an arrow 114 accompanied by a legend 116, for example, "LAST DOSAGE TIME". The rear surface 118 of the hub 104 retains a strip of adhesive 120 extending along the lateral tabs 106c, 106d. This adhesive strip 120 serves to attach the hub to a medicine container C, not part of the invention. Printed on the front surface 122 of the dial 102 along its perimeter is a scale 124 defining intervals, such as time of day. This scale 124 preferably includes indicia for clearly distinguishing A.M. from P.M. times. Substantially concentric with and defined within the annular scale 124 is a central aperture 126 passing through the dial 102 and having a diameter 128 which is slightly larger than the diameter 110 of the hub 104. In the device's 100 assembled configuration, the dial 102 is mounted on the hub 104, interwoven between the tabs 106. Specifically, the front surface 112 of the lateral tabs 106c,

106d abuts the dial 102 and the rear surface 118 of the longitudinal tabs 106a, 106b abuts the dial 102 such that the dial 102 is locked onto the hub 104 but remains free to rotate about the pivot 108. Preferably the dial 102 and the hub 104 are somewhat frictional such that they will not rotate on their own accord but only under the control of the patient or other user.

In use, the patient places a reminder device 100 on each of his medication containers C by securing the rear surface 118 of the hub 104 to the container C with the adhesive strip 120, the lateral tabs 106c, 106d embracing the container C and conforming to its exterior surface to increase the available mounting surface area. The longitudinal tabs 106a, 106b are deformed in order to slip both of them through the central aperture 126 in the dial 102 from the rear or the latitudinal tabs 106c, 106d are deformed in order to slip both of them through the central aperture 126 in the dial 102 from the front. Restoring the longitudinal tabs 106a, 106b or the latitudinal tabs 106c, 106d to substantially their original orientation locks the annular dial 102 onto the pivot 108. After taking a dose of medication at a prescribed time, the patient

might rotate the dial 102 until the hub 104 "LAST DOSAGE TIME" indicator 114, 116 and the dial 102 scale 124 indicate the time that the current dose was taken.

Subsequently, the patient could be reminded when he had last taken medication and calculate when to take the next dose.

With reference now to Figure 6, a second embodiment 200 of a medical dosage reminder device is illustrated. In this second embodiment 200, the new hub 204 is similar to the original hub 104 except that the new hub 204 uses two unfixed diagonal corners in place of the longitudinal tabs106a, 106b and the adjacent diagonal corners 206a, 206b as the lateral tabs 106c, 106d. The lateral corners are deformed through the aperture of dial 202 and affixed to C by the adhesive strip extending from 206a to 206b, allowing the unfixed corners to hold the dial 202 against C, interweaving the dial 202 within the hub 204 as dial 102 is interwoven into hub 104.

In both the first and second embodiments, the reminder device 100, 200 would be installed by affixing the adhesive strip of the hub to the curved wall of a container.

This arrangement lends itself to mechanization such that the dosage reminder device

100, 200 could be attached during the packaging or labeling process.

In these embodiments, the dosage reminder device 100, 200 is preferably made of paper or other relatively flexible material. This characteristic and the relatively loose connection between the dial 102, 202 and the hub 104, 204 permits the dosage reminder device 100, 200 to work while wrapped around a curved surface. Therefore, the dosage reminder device 100, 200 might be placed on a medication bottle, instead of on the bottle cap, so that it is more visible and less subject to damage caused by manipulating a 'child-proof' cap.

Although a specific embodiment of the present invention has been described and illustrated, the present invention is not limited to the features of this embodiment, but includes all variations and modifications within the scope of the claims. For example, the specific shape of the hub and dial may be varied so long as one is fixable to the container and the other can rotate thereabout while being otherwise retained in place.

It is also contemplated that the interval segments could be placed on the hub while the indicator arrow could be placed on the dial. The interval segments could be set in minutes, hours, days, weeks or any other interval. It is still further contemplated that the device might find use in non-medical applications where tasks are repeated at intervals and a simple and handy reminder device would be of assistance. It is even further contemplated that a different scale might be used to represent members of a set rather than time segments, for example people, places or things.

Finally, it is contemplated that the adhesive strip could include any affixing means including various chemical adhesives, magnets and mechanical couplers or fasteners.

CLAIMS

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1) A device for mounting on a curved surface, to measure intervals such as the time at which a task was last completed or is next due, comprising:

a) a sheet member made from paper, cardboard or plastic, having a central aperture, the central vertical axis of which is mounted to abut the curved surface and an annular arrangement of interval segments surrounding the central aperture;

b) a hub made from paper, cardboard or plastic, having a diameter greater than the diameter of the central aperture of said sheet member, including a pivotal area within said hub having a diameter less than the diameter of the central aperture of said sheet member, said hub to include:

i) a first pair of unfixed opposing protrusions extending radially outward from the periphery of the pivotal area of said hub and

adapted to constrain the sheet member against the central vertical axis of the curved surface;

and

ii) a second pair of opposing protrusions extending radially outward from the periphery of the pivotal area of said hub and adapted through the aperture and under the sheet member to oppose said first pair of opposing protrusions such that said sheet member is constrained between the first and second pairs of opposing protrusions;

c) a means for fixing a central strip of the hub and the second pair of protrusions to the curved surface such that the sheet member is retained between the central vertical axis of the curved surface and the unfixed first pair of protrusions but the sheet member extending outward from each side of the curved surface is free to rotate within said hub and about said fixing means; and

d) a pointer on said hub co-operating with the interval segments on the

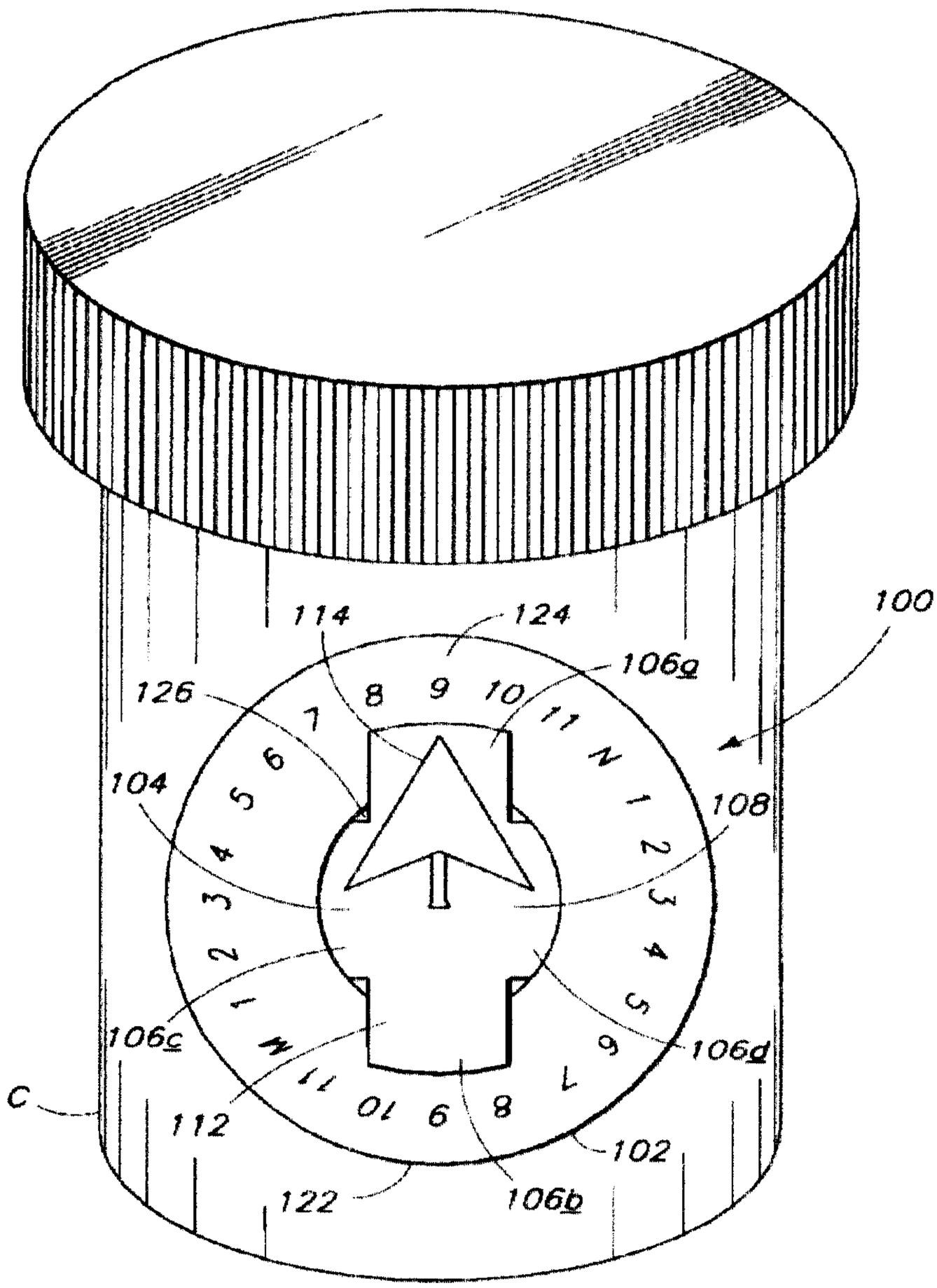
sheet member for indicating the interval segment.

2) The device as in Claim 1 wherein the device includes:

a) the annular arrangement of the interval segments on the pivotal area of said hub;

and

b) the pointer on said sheet member adapted to point to any one of said interval segments.


100
114
124
126
106a
104
108
106c
106d
C
112
102
122
106b
N
1
2
3
4
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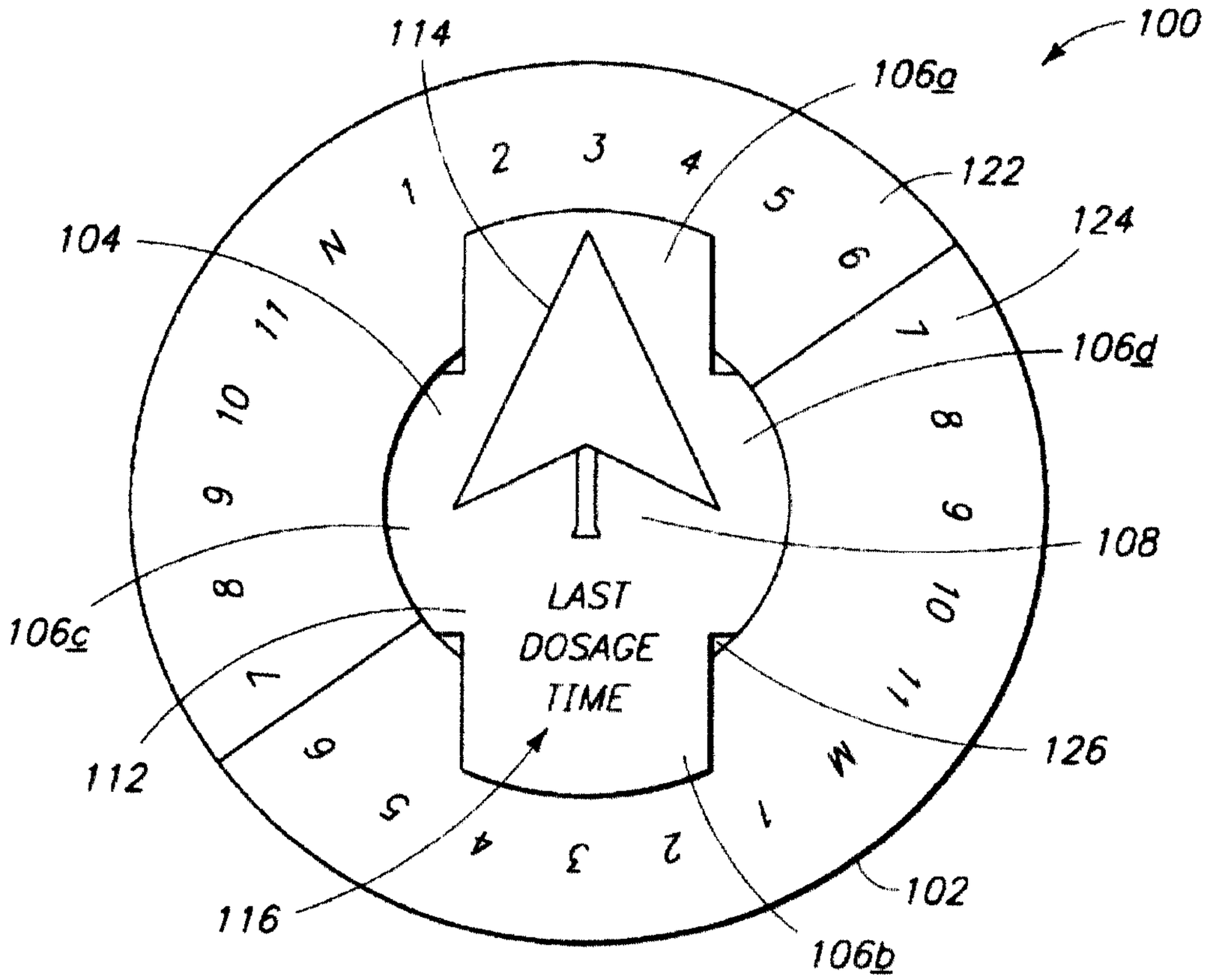
8
9
10
11
12

FIG. 1


100
114
106a
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106d
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106c
LAST
DOSAGE
TIME
112
126
102
116
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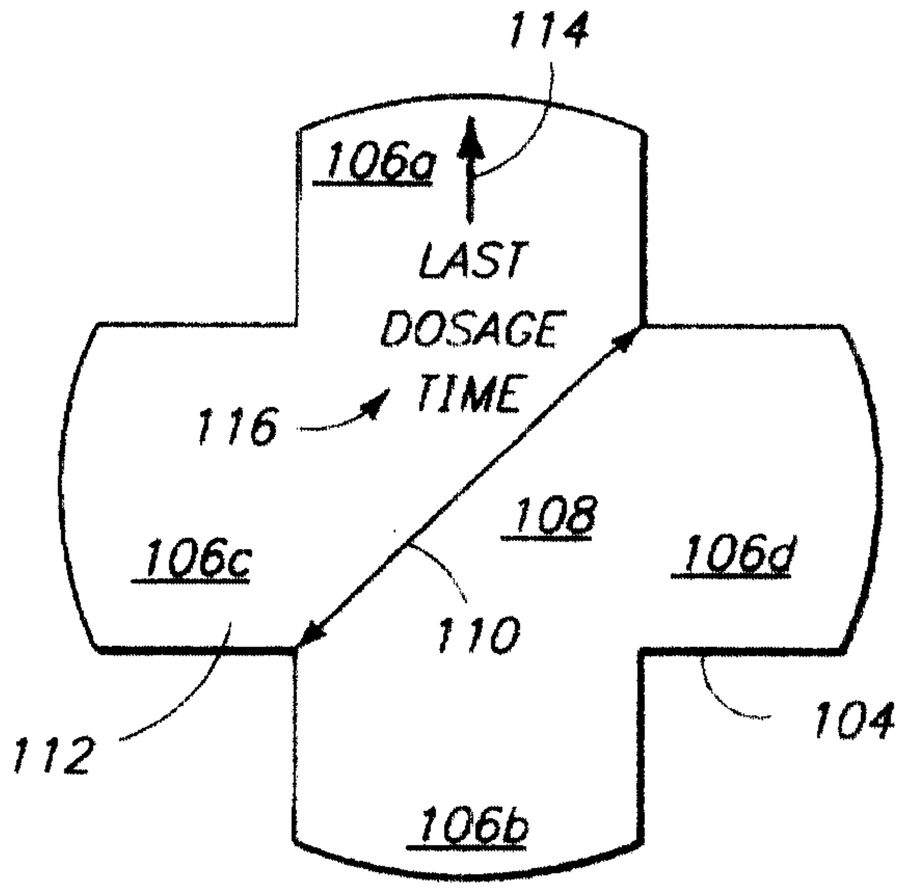
FIG. 2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106a
LAST
DOSAGE
TIME
116
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110
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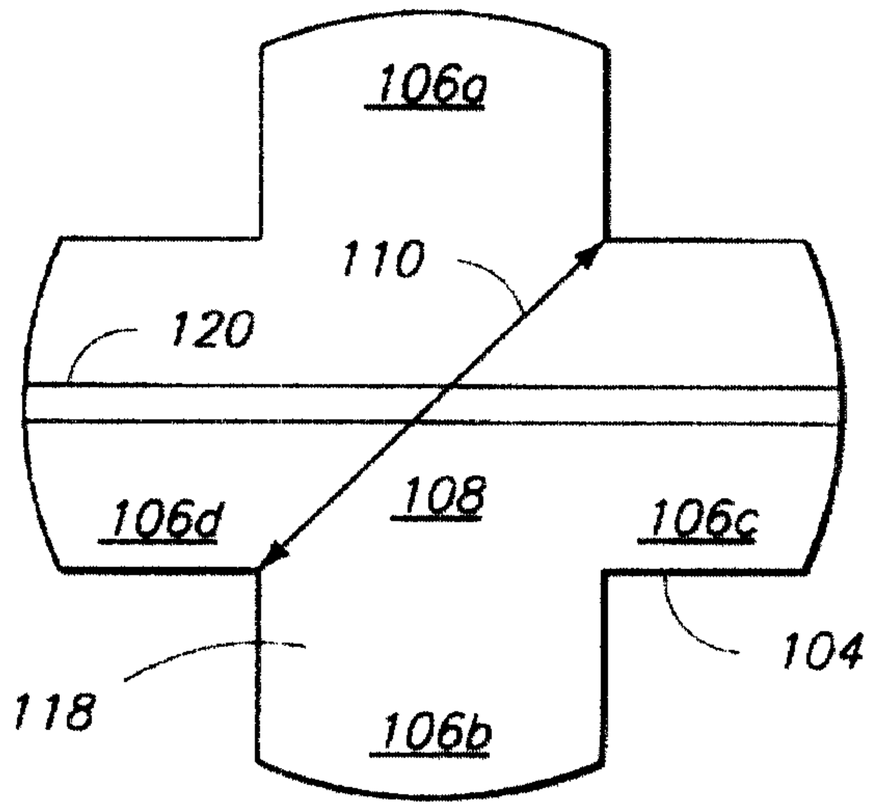
104
106b

FIG. 3


106a
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120
108
106d
106c
104
118
106b

FIG. 4

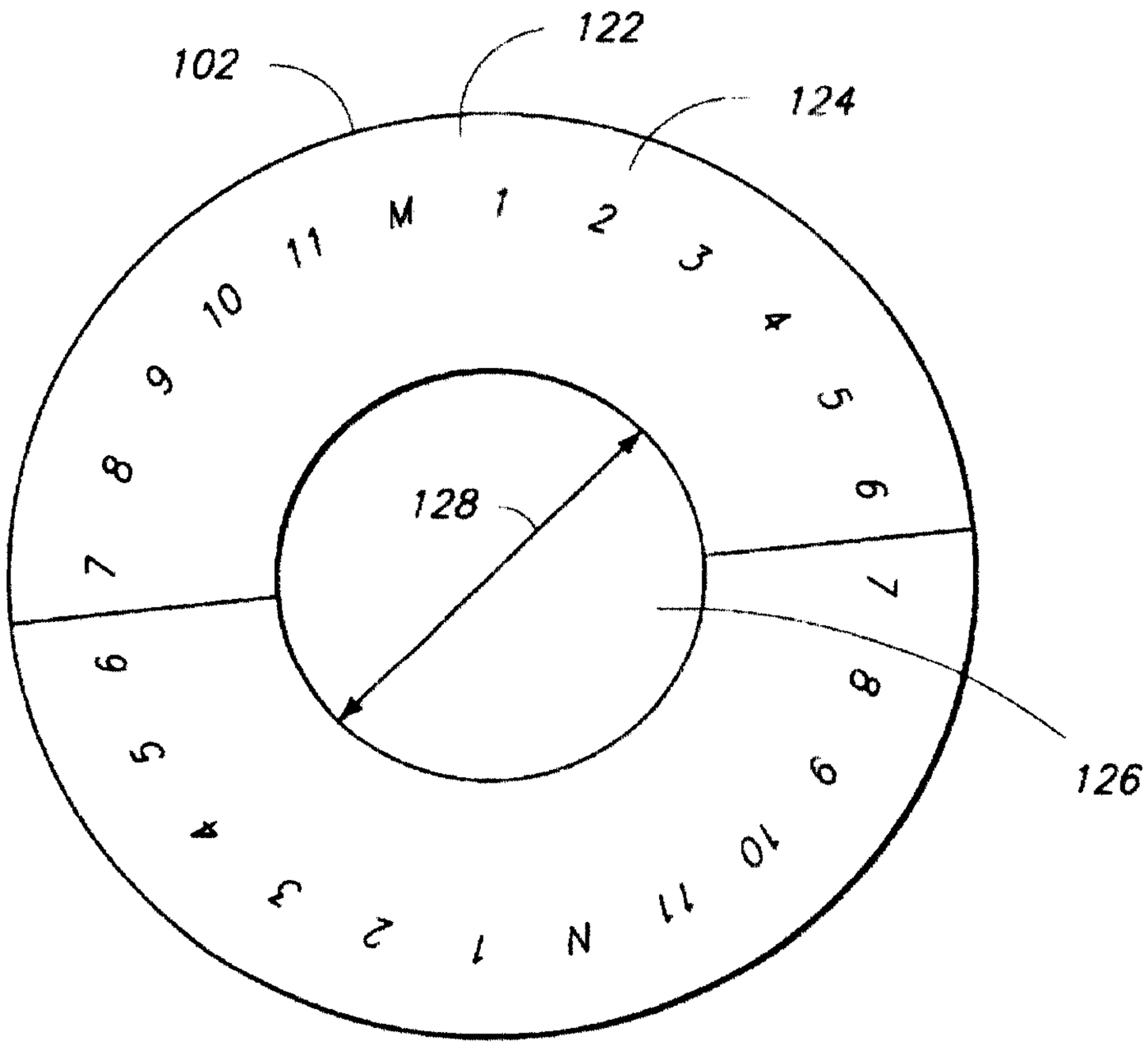

102
122
124
M 1 2 3 4 5 6 7 8 9 10 11
128
126
N 1 2 3 4 5 6 7 8 9 10 11

FIG. 5

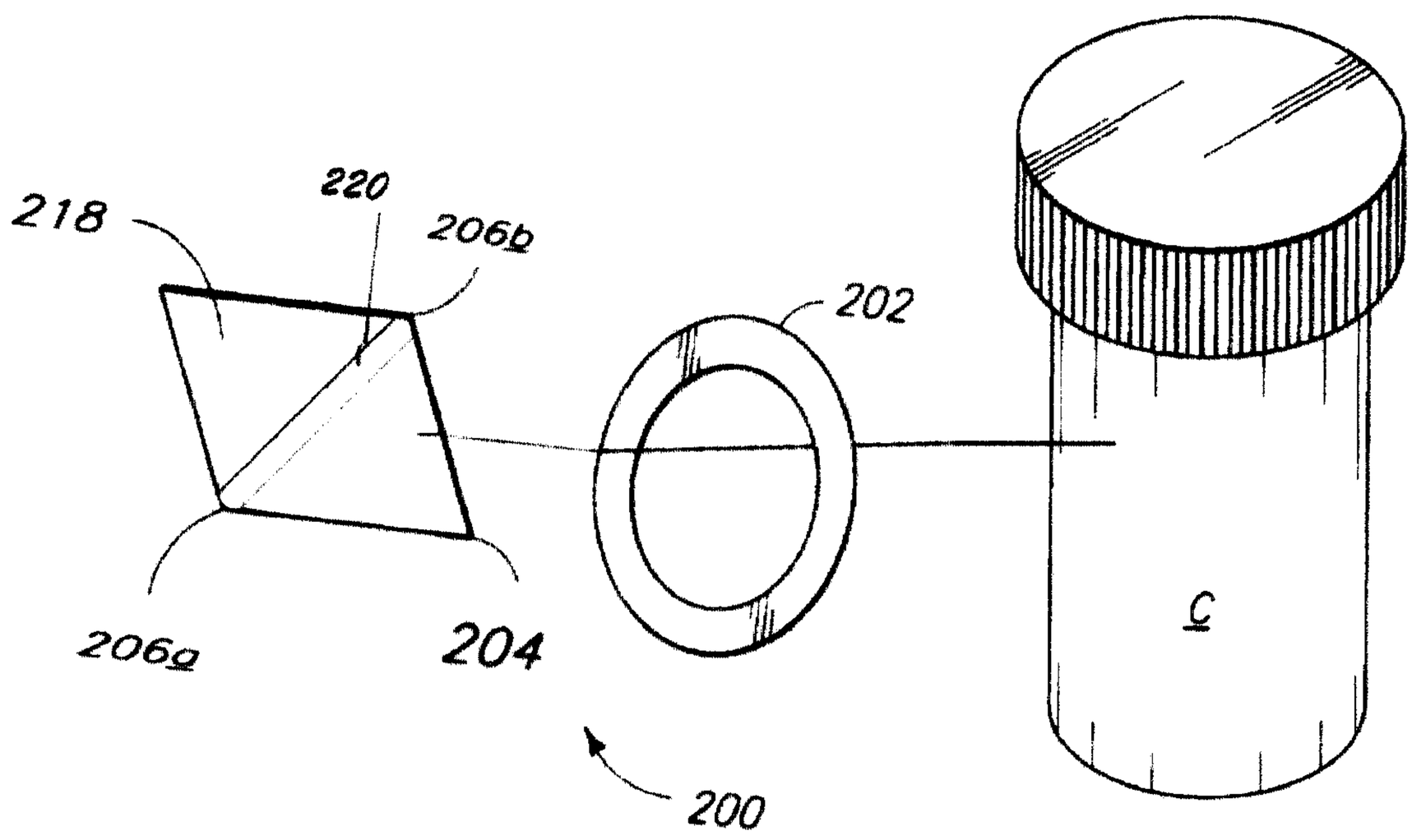
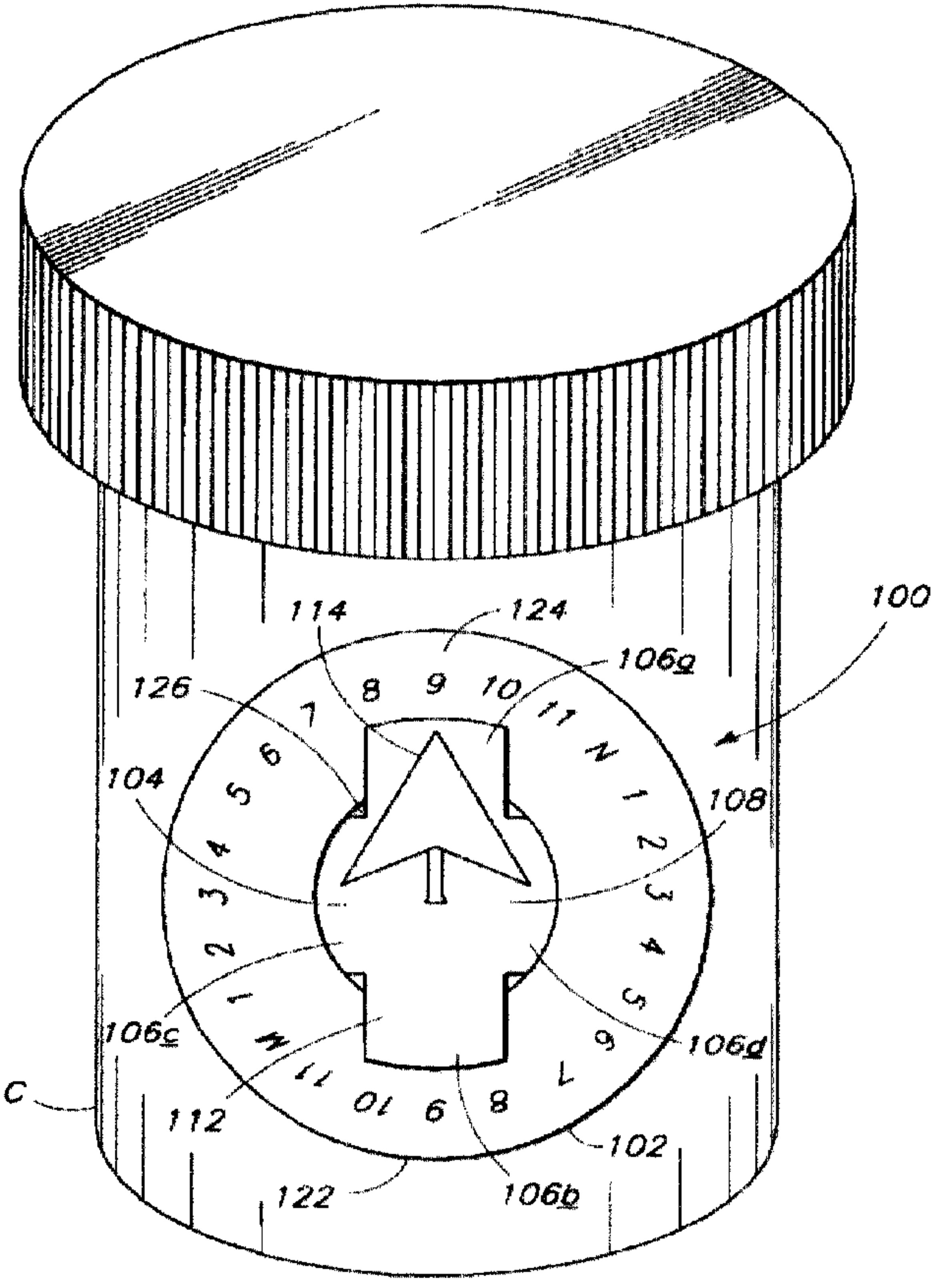


FIG. 6


100
114
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106a
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104
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106c
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C
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106b
102