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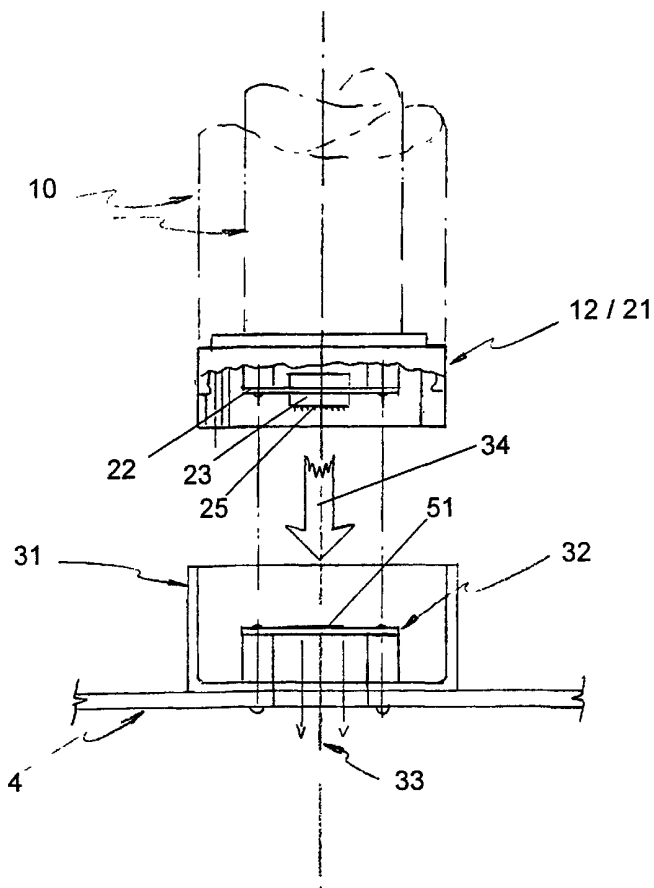
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(54) Title: PRESCRIPTION PLAYBACK AND RECORDING APPARATUS AND METHOD



(57) Abstract: A computerized device for recording voice data pertaining to the proper use of a medical prescription is attached to a prescription bottle (10). The entire bottle assembly, including the computerized device with voice data, is simply inserted into a receptacle of a sound playback enclosure (4). This insertion causes the voice information stored on the computerized device to be spoken out loud through a speaker. Data is initially recorded onto the computerized device by a recording enclosure (4) which is provided to a prescription dispensing agency such as a pharmacy. Here too, the entire bottle assembly, including the computerized device with voice data, is simply inserted into a suitable receptacle, and then the appropriate information is recorded.



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PRESCRIPTION PLAYBACK AND RECORDING APPARATUS AND METHOD

FIELD OF THE INVENTION

This invention relates generally to the field of assistive technology, and specifically, to assisting elderly, blind and other people of limited or impaired capacity understand and follow directions in connection with use of prescription medications.

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BACKGROUND OF THE INVENTION

From time to time virtually everyone finds it necessary to take one or more prescription medications. Often, people who are elderly, ill, or impaired will be taking not one, but several or even multiple prescriptions at one time. Direction for using these medications can be complicated as regards, for example, time and frequency of use, food and liquid intake in relation to the time of consumption, drug interactions, and side effects to watch for. And, it is frequently the very people who take these medications who are least able to properly understand or follow the instructions for their administration.

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Conventional approaches do little to improve this. Most medicines are distributed in a familiar round bottle, typically of 1 ¼ or 2 inches in diameter. Some prescription are also distributed in relatively flat bottles as well, such as the familiar bottles used for many cough medicines. These bottles typically have some limited instructions on them pertaining to the time and frequency of use, and are often accompanied by one or more sheets of written information that provide more detailed information about the prescription. However, these information sheets are easily separated from the medicine bottle and lost, even by a person with full physical and mental capacity. And for someone unable to read due to visual impairment, advanced age, illiteracy, or other incapacity, no amount of written information, however organized and presented in relation to the prescription bottle, will suffice to resolve this problem.

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It would be desirable, therefor, to have available a means by which the prescription information associated with the medicine in a particular bottle can be recorded and audibly read to the user of the prescription, so that reading of written information by the user is not necessary.

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It would further be desirable to have a means by which this audible prescription information can readily be stored (recorded) in connection with the associated medicine and medicine bottle.

It would further be desirable for this prescription information to be associated with, and attachable to, bottles of varying shapes and sizes.

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It would further be desirable for the aforementioned means to provide a sufficient quantity of information (that is, a sufficiently long recorded prescription message) so that all of the information required for the user to properly and safely use the prescription is communicated to the user.

It would further be desirable for the aforementioned means to be extremely easy to use, even for someone of very limited physical or mental capacity.

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SUMMARY OF THE INVENTION

A computerized device for recording voice data pertaining to the proper use of a medical prescription

is attached to a prescription bottle. The entire bottle assembly, including the computerized device with voice data, is simply inserted into a receptacle of a sound playback enclosure. This insertion causes the voice information stored on the computerized device to be spoken out loud through a speaker. Data is initially recorded onto the computerized device by a recording enclosure which is provided to a prescription
5 dispensing agency such as a pharmacy. Here too, the entire bottle assembly, including the computerized device with voice data, is simply inserted into a suitable receptacle, and then the appropriate information is recorded. The design of the bottle and the receptacle are such that suitable electrical contact between the bottle and the receptacle can be made to facilitate playback of the prescription even by someone of limited disability who may not insert or align the bottle into the receptacle very well.

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BRIEF DESCRIPTION OF THE DRAWING

The features of the invention believed to be novel are set forth in the appended claims. The invention, however, together with further objects and advantages thereof, may best be understood by reference to the following description taken in conjunction with the accompanying drawing(s) in which:

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FIG. 1 illustrates side and bottom plan views of a first preferred embodiment of a bottle-to-chip adapter used to attach a prescription information chip module to a prescription bottle, in a first preferred embodiment of the invention.

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FIG. 2 illustrates side and bottom plan views of the prescription information sound recording medium such as a prescription information chip module that is attached to the prescription bottle via the bottle-to-chip adapter of FIG. 1, and which contains prerecorded prescription information regarding the medication within the prescription bottle.

FIG. 3 illustrates a side plan view of a receptacle into which the prescription information chip module of FIG. 2 is placed to play back the prescription information recorded on the sound recording medium, and / or to record this information onto the sound recording medium in the first instance.

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FIG. 4 is a plan view illustrating the recording and playback enclosure device used for playback of the message on the sound recording medium of FIG. 2, and also, for programming recorded information onto the sound recording medium by the pharmacy.

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FIG. 5 is a plan view illustrating the concentric ring configuration used to electronically mate the prescription information chip module of FIG. 2 with the receptacle of FIG. 3 and the enclosure device of FIG. 4, as well as the configuration of the contacts that make electrical contact with these rings.

FIG. 6 is a top and side plan view illustrating a second preferred embodiment of a bottle-to-chip adapter.

FIG. 7 is a top and side plan view illustrating the attachment of the bottle-to-chip adapter of FIG. 6 to a prescription bottle.

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DETAILED DESCRIPTION OF THE INVENTION

The prescription reader apparatus and method disclosed herein assists the visually-impaired determine the type of prescription which is contained in their prescription bottles and / or provide instructions for use and other relevant information. The use of this apparatus and method, however, is not limited to the visually impaired.

This apparatus and method can also be used by people who cannot read, by the elderly, or by others of limited physical or mental capacity. The device is universal since it uses prerecorded and / or digitized speech which can be recorded in any language. In its preferred embodiment, this prescription reader apparatus and method contains a message of up to approximately 60 seconds, though messages of any lengths are considered to be within the scope of this disclosure and its associated claims.

FIG. 1 illustrates a prescription bottle **10** which is typically 1 ¼ or 2 inches in diameter (both sizes are illustrated), but which can be of any suitable bottle size, including larger sizes, within the scope of the invention. Attached to bottom of prescription bottle **10** using adapter attachment means **11** such as but not limited to double-sided adhesive, is a small bottle-to-chip adapter **12**. Bottle-to-chip adapter **12** comprises chip securing means **13** such as, but not limited to, the illustrated three holding tangs, as well as an alignment slot **14** for ensuring that the prescription information chip module **21** (see FIG. 2) is properly aligned for use when it is attached to bottle-to-chip adapter **12**.

As illustrated in FIG. 2, attached to bottle-to-chip adapter **12** is a small, prescription information chip module **21** which snaps securely into place on bottle-to-chip adapter **12** by mating with chip securing means **13** such as the illustrated holding tangs. Prescription information chip module **21** can only be removed with a special chip module removal tool **46** (see FIG. 4) made available only to an authorized prescription dispensing entity, such as a pharmacy. In particular, the top of prescription information chip module **21** is shaped to allow the chip securing means **13** of bottle-to-chip adapter **12** to take a firm grip onto prescription information chip module **21**, and complementary chip securing means **24** such as the illustrated holes are used to mate prescription information chip module **21** with chip securing means **13** such as the aforementioned holding tangs of bottle-to-chip adapter **12**. In the preferred embodiment wherein securing means **13** uses tangs, then to remove prescription information chip module **21** from bottle-to-chip adapter **12**, special chip module removal tool **46** is used to spread the tangs of bottle-to-chip adapter **12** sideways when inserted into the complementary chip securing means **24** of prescription information chip module **21**. When these tangs are spread sideways, prescription information chip module **21** can be separated from bottle-to-chip adapter **12**. Again, this special chip module removal tool is provided only to the prescribing entity such as a pharmacy. Prescription information chip module **21** is reusable, and can be re-recorded with new information by the prescribing entity, from one prescription to the next.

Prescription information chip module **21** comprises a sound recording medium **22** which, in the preferred embodiment, is a small prescription information recording chip mounted on a small printed circuit board. Sound recording medium **22** is aligned and attached to prescription information chip module **21**, for example, using alignment holes **26** and screw holes **27**, using attachment means known in the art such as suitable screws. This enables the printed circuit board of sound recording medium **22** to be accurately located with respect to the outside circumference of prescription information chip module **21**. Prescription information chip module **21** further comprises supporting electronic components and a small miniature recording / playback connector **23** with electronic contacts **25** such as a plurality of suitable spring or similar contacts. In a preferred embodiment, the contacts **25** of connector **23** line up with concentric electronic traces **51** on a receptacle printed circuit board **32** contained in the receptacle of Figure 3. The purpose of these concentric electronic traces **51** will be discussed further in connection with FIG. 5. The entire bottle assembly heretofore disclosed, comprising prescription bottle

10, adapter 12, and chip module 21 are then dispensed to the person for whom the prescription is intended. As will be discussed further below, sound recording medium 22 contains prerecorded prescription information regarding the medication within the prescription bottle, which is played back to the prescription user.

Prescription information chip module 21 is equipped with a key (not shown) which assures that prescription information chip module 21 is correctly placed into alignment slot 14 of bottle-to-chip adapter 12.

FIG. 3 illustrates a chip module receptacle 31 into which the bottle assembly comprising bottle 10, bottle-to-chip adapter 12 and prescription information chip module 21 are inserted in order to record prescription information onto sound recording medium 22, and / or play prescription information prerecorded on sound recording medium 22, as appropriate. In particular, the user of the prescription only needs (and is only enabled) to play the information on sound recording medium 22, while a pharmacy filling the prescription needs (and is enabled) both to record information onto, and playback information from, sound recording medium 22.

Also illustrated in FIG. 3 is a top surface of a sound playback and optional sound recording enclosure 4 which houses the equipment required to program sound recording medium 22 on prescription bottle 10 with the appropriate prescription information when used by the pharmacy / dispensing agent, and to play back information on sound recording medium 22 for the prescription user as well as for the pharmacy. Sound playback and optional sound recording enclosure 4 comprises chip module receptacle 31 substantially as illustrated in FIGS. 3 and 4, into which the bottle assembly comprising prescription bottle 10 with bottle-to-chip adapter 12 and prescription information chip module 21 is inserted 34.

Chip module receptacle 31 comprises a receptacle computerized device 32 such as the illustrated PC board, which mates electronically with recording / playback connector 23, and thus can record information onto, and playback information recorded on, sound recording medium 22. In a preferred embodiment, electronic contacts 25 of recording / playback connector 23 line up with concentric electronic traces 51 on receptacle computerized device 32, as further outlined in connection with FIG. 5. The location of traces 51 is illustrated in FIG. 3, albeit from a side view. Once the necessary electronic contacts are made between recording / playback connector 23 and receptacle computerized device 32, appropriate enclosure connections 33 route recording and / or playback signals between sound recording medium 22 and the various electronic components of playback and optional sound recording enclosure 4, via recording / playback connector 23 and receptacle computerized device 32.

As shown in FIG. 4, sound playback and optional sound recording enclosure 4 contains auxiliary components which allows the prescription provider to place a message onto sound recording medium 22 through a microphone 41 or similar apparatus of enclosure 4. A small wall transformer providing power via electrical path 42 is one means to provide necessary electrical power, though batteries and other means known in the art are also considered within the scope of this disclosure. Enclosure 4 also comprises a usage mode selector 43 which allows the prescription agent, e.g., pharmacy, to either record a message on sound recording medium 22, or play back the message on sound recording medium 22 through a microphone / speaker 44 also contained in enclosure 4. The prescription user is not given the option to record; playback is the only available function for the prescription user. Optionally, an enclosure lid 45 is used to close receptacle 31. For the prescription dispenser only (not for the user) this lid contains the special removal tool 46 which allows prescription information chip module 21 to be

removed from bottle-to-chip adapter 12, so it can be reused on a different bottle for a different prescription.

Thus, the main difference between the sound recording and sound playback device available to the pharmacy, and the playback-only device available to the user, is the pharmacy device's additional ability to record and playback, and microphone 41 for recording the message on sound recording medium 22. Also, the pharmacy device is equipped with the special removal tool 46 on its lid 45 to separate bottle-to-chip adapter 12 and prescription information chip module 21.

The sound playback device used by a prescription user is thus very similar to the device shown in FIG. 4, and so needs no separate illustration. Again, all it contains is a playback, not a recording capability. A prescription user desiring to play back the message recorded on sound recording medium 22 simply inserts the entire bottle assembly including prescription bottle 10, adapter 12, and chip module 21 into receptacle 31 of enclosure 4, and the message contained on sound recording medium 22 is played back through microphone / speaker 44. Receptacle 4 also contains an optional lid 45 which closes receptacle 4, but without removal tool 46.

Similarly to FIG. 4, receptacle 31 of the playback-only unit also comprises a receptacle computerized device 32, preferably with concentric electronic traces 51 which match with the connector 23 of prescription information chip module 21. The insertion 34 of the full bottle assembly (comprising bottle 10, adapter 12, and chip module 21) into receptacle 31 with a slight downward pressure makes an electrical contact which, in the preferred embodiment, automatically starts the playback of the message contained on the sound recording medium 22 of prescription information chip module 21. Thus, the use of this prescription reader apparatus and method by the prescription user is very simple, and not even the play button part of usage mode selector 43 is needed. The single, simple step of inserting 34 the bottle assembly into receptacle 31 is all that is needed to begin playback of the prescription message.

It has been observed several times earlier that the contacts of connector 23 line up with concentric electronic traces 51 on receptacle printed circuit board 32. FIG. 5 illustrates this in more detail. In particular, since the prescription reader apparatus and method of the various embodiments of the invention is to be used by people who may have limited visual capacity and / or limited dexterity, and since the playback of prescription information is activated simply by virtue of inserting the bottle assembly into receptacle 31 of enclosure 4, it is important to ensure that suitable electronic contact can be established between connector 23 and receptacle printed circuit board 32 even with a less-than-perfect insertion.

As shown in FIG. 5, each concentric electronic trace 51 (shown here in a top plan view) has associated therewith a pair of contacts 25 of connector 23. The dashed concentric circles running through contact 25 are meant to illustrate the alignment between contacts 25 their associated traces 51. A proper contact between either member of a contact 25 pair and the associated concentric electronic trace ring 51 is sufficient to establish the necessary electronic connection; which is to say that the second member of each contact pair is simply added for redundancy. A single, non-redundant contact 25 per trace ring 51 is also permitted within the scope of the invention, but is less preferred. So too, would be more than two contacts 25 per trace ring 51, though this added redundancy may not be cost effective beyond a certain point. This redundancy, coupled with the preferably spring-like character of contacts 25, ensures that suitable electronic contact will be established even if the prescription user inserts the bottle assembly somewhat crookedly into receptacle 31, i.e. somewhat *axially*

misaligned with respect to the axis of insertion 34.

Further, because of the circular configuration of each concentric electronic trace ring 51, a suitable electronic contact will be established regardless of the *angular* orientation at which the bottle assembly is inserted into receptacle 31. That is, the bottle can be inserted at any rotational angle over an entire 360 degree range relative to receptacle 31, and suitable contact will be made. In this way, the prescription user does not have to worry about achieving a particular angular alignment of the bottle assembly in receptacle 31. For someone who is blind, for example, this eliminates the need to feel around for some sort of orientation markers in order to achieve a proper electronic connection, and achieves an important objective of the invention, which is to make the invention easily usable by impaired individuals.

It is also noted that in the preferred embodiment, concentric electronic traces 51 are embodied with receptacle 31 of sound playback and optional sound recording enclosure 4, and that the corresponding contacts 25 are embodied with recording / playback connector 23 and generally in association with prescription bottle 10. This is because it is generally more expensive to produce concentric electronic traces 51 than to produce contacts 25. Since to put this invention into wide scale use, many prescription bottles 10 and particularly, many recording / playback connectors 23 will need to be produced for every one sound playback and optional sound recording enclosure 4, it makes economic sense to associate the less expensive contacts 25 with the higher-volume component, namely, prescription bottles 10 and recording / playback connectors 23; and the more expensive concentric electronic traces 51 with the lower-volume component, namely, enclosure 4. But it is understood that this can be reversed within the scope of the invention and its associated claims, such that concentric electronic traces 51 are embodied with recording / playback connectors 23 and contacts 25 are embodied with enclosure 4.

FIG. 6 illustrates an alternative embodiment for bottle-to-chip adapter 12. The alignment holes 26 and screw holes 27 used to attach sound recording medium 22 to bottle-to-chip adapter 12 are substantially the same as in FIG. 2 above, and overall usage of bottle-to-chip adapter 12 in relation to the overall prescription reader apparatus and method disclosed herein is substantially the same as that of the embodiment earlier disclosed in FIGS. 1 through 4. The primary difference, is that for the embodiment of FIG. 6, bottle-to-chip adapter 12 is attached to bottle 10 somewhat differently.

Bottle-to-chip adapter 12, in the embodiment of FIG. 6, comprises three round-bottle attachment slots 61 oriented substantially radially symmetrically with respect to one another, i.e., differing in radial orientation from one another by about 120 degrees, as shown. It also comprises a fourth flat-bottle attachment slot 62 oriented supplementary to one of the three round-bottle attachment slots 61, i.e. differing in radial orientation from one of the three round-bottle attachment slots 61 by about 180 degrees, also as shown. Proximate the center of bottle-to-chip adapter 12, and forming an opening connecting continuously with bottle attachment slots 61 and 62, is a strap nub receptacle 63 the function of which will be described below.

In this embodiment, adapter attachment means 11 comprises a plurality of (single-sided) adhesive straps as illustrated in FIG. 7, rather than the double-sided adhesive earlier noted. Each such adhesive strap comprises a strap nub 71 which is wider than slots 61 and 62, but narrower than strap nub receptacle 63, as well as a strap nub neck region 72 which is narrower than slots 61 and 62 and strap nub receptacle 63. Slots 61 and 62 are shown in cross sectional view toward the lower right of FIG. 6. It is these slots 61 and 62 which are engaged by strap nubs

71 and strap necks 72 of FIG. 7.

To attach bottle-to-chip adapter 12 to a prescription bottle 10 that is round, three such adhesive straps are used for adapter attachment means 11. The strap nub 71 of each of these three adhesive straps is first introduced through strap nub receptacle 63 proximate the center of bottle-to-chip adapter 12. Then, each strap nub 71 is moved toward the radially outermost region of round-bottle attachment slots 61, such that the strap nubs 71, which are wider than slots 61, securely engage bottle-to-chip adapter 12. The strap nub neck region 72 for each strap, which is narrower than slots 61, passes through as is enveloped by slots 61. Then, bottle-to-chip adapter 12 is brought into contact with prescription bottle 10 proximate the bottom of prescription bottle 10, and the adhesive side of each adhesive strap is simply taped to bottle 10 at approximately 120 degree intervals about bottle 10. The resulting configuration is that of FIG. 7. Flat-bottle attachment slot 62 is unused.

To attach bottle-to-chip adapter 12 to a prescription bottle 10 that is flat (or more precisely, to a prescription bottle that is substantially wider than it is deep, such as many commonly-utilized cough medicine bottles), one instead uses only two adhesive straps. These are connected to bottle-to-chip adapter 12 as described above, but using only flat-bottle attachment slot 62 and the single one of the round-bottle attachment slots 61 that differs in orientation from flat-bottle attachment slot 62 by about 180 degrees. In this instance, once the strap nubs 71 securely engage bottle-to-chip adapter 12 as outlined above, bottle-to-chip adapter 12 is again brought into contact with prescription bottle 10 proximate the bottom of prescription bottle 10. But now, the adhesive side of each adhesive strap is simply taped to "flat" bottle 10 at approximately 180 degree intervals about bottle 10, on opposite sides along the width of bottle 10. The remaining two round-bottle attachment slots 61 are unused.

Again, as noted above, all other aspects of the apparatus and method disclosed herein remain unaltered. Sound recording medium 22 is attached to bottle-to-chip adapter 12 substantially as described earlier (preferably before bottle-to-chip adapter 12 is attached to a bottle 10), the full bottle assembly (comprising bottle 10, adapter 12, and chip module 21) is inserted into receptacle 31 as described earlier, and the entire apparatus and method disclosed herein is used to record and play back prescription information as described earlier.

It is to be noted that when optional sound recording enclosure 4 includes a sound recording function for use by a pharmacy, enclosure 4 can be attached to a pharmacy desktop, notebook or other computer via a computer link such as 47 in FIG. 4. In this situation, computer adapter 47 takes the place of microphone / speaker 44, as the origin of sound information to be recorded onto recording medium 22. Prerecorded messages, stored in the pharmacy desktop or notebook computer, can then be downloaded to prescription information chip module 21. This saves time and expense for the pharmacy, since refill information and other instructions should already be contained in the pharmacy's computer database.

Because people of limited capacity such as those who would use this invention may have difficulty dialing a telephone number, it is also to be observed that the prerecorded message recorded on prescription information chip module 21 may contain a telephone number DTMF touch tone string representing a particular telephone number, for example, the telephone number of the pharmacy. This allows the person playing back the prerecorded message to merely hold sound playback device close to the handset of a telephone. The touch tone string embedded in the prerecorded message automatically dials the telephone number represented by that touch tone string, greatly simplifying the dialing process for the user.

It is also understood that the term "prescription bottle" (reference numeral 10) as used herein is to be broadly interpreted so as to encompass any and all forms of prescription container to which the prescription information modules of this invention can suitably be attached, and not merely a bottle in the narrower sense.

5 Is also to be understood that while the foregoing discussion combines a recording device with a playback device for use by the pharmacy, it would be a straightforward and obvious variation to provide a stand-alone recording device, independent of a playback device. In this situation, recording can be activated simply by placing prescription information chip module 21 into a suitable receptacle of the stand-alone recording device, similarly to how this was earlier done with respect to a stand-alone playback device.

10 While only certain preferred features of the invention have been illustrated and described, many modifications, changes and substitutions will occur to those skilled in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the invention.

What is claimed is:

- 1 1. A prescription information sound playback and recording system, comprising:
 - 2 a sound recording medium (22);
 - 3 a bottle-to-chip adapter (12) for attaching said sound recording medium (22) to a prescription bottle (10);
 - 4 and
 - 5 a sound playback device (4) for playing back sounds recorded on said sound recording medium (22) when
 - 6 said sound playback device (4) engages said sound recording medium (22).
- 1 2. The system of claim 1, wherein:
 - 2 said sound recording medium (22) comprises a recording chip mounted on a circuit board of a
 - 3 prescription information chip module (21);
 - 4 said bottle-to-chip adapter (12) comprises a chip securing apparatus (13, 24) for securing said prescription
 - 5 information chip module (21) thereto, and an adapter attachment (11) for securing said bottle-to-chip adapter (12)
 - 6 to said prescription bottle (10).
- 1 3. The system of claim 2, wherein said adapter attachment (11) comprises double-sided adhesive; and
 - 2 said bottle-to-chip adapter (12) is attached to said prescription bottle (10) by taping said double-sided
 - 3 adhesive to both said bottle-to-chip adapter (12) and said prescription bottle (10).
- 1 4. The system of claim 2, wherein:
 - 2 said bottle-to-chip adapter (12) further comprises a plurality of bottle attachment slots (61) and a strap nub
 - 3 receptacle (63) connecting continuously with said bottle attachment slots (61);
 - 4 said adapter attachment (11) comprises a plurality of adhesive straps, each said adhesive straps comprising
 - 5 a strap nub (71) wider than said bottle attachment slots (61) but narrower than said strap nub receptacle (63), and
 - 6 a strap nub neck region (72) narrower than said bottle attachment slots (61) and said strap nub receptacle (63); and
 - 7 said bottle-to-chip adapter (12) is attached to said prescription bottle (10) by introducing each of said strap
 - 8 nubs (71) through said strap nub receptacle (63) proximate a center of said bottle-to-chip adapter (12), moving
 - 9 each said strap nub (71) toward a radially outermost region of said bottle attachment slots (61), moving said
 - 10 bottle-to-chip adapter (12) proximate said prescription bottle (10), and taping said adhesive straps to said
 - 11 prescription bottle (10).
- 1 5. The system of claim 1, said sound recording medium (22) comprising a recording chip mounted on a circuit
 - 2 board of a prescription information chip module (21), wherein:
 - 3 said prescription information chip module (21) further comprises a recording and playback connector
 - 4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;
 - 5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and
 - 6 to play back said sounds recorded on said sound recording medium (22), said sound playback device (4)
 - 7 engages said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
 - 8 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle
 - 9 (31) of said sound playback device (4) until said electronic contacts (25) make electronic contact with said
 - 10 concentric electronic traces (51).
- 1 6. The system of claim 1, said sound recording medium (22) comprising a recording chip mounted on a circuit

- 2 board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;
5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and
7 to play back said sounds recorded on said sound recording medium (22), said sound playback device (4)
8 engages said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
9 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle
10 (31) of said sound playback device (4) until said concentric electronic traces (51) make electronic contact with said
11 electronic contacts (25).
- 1 7. The system of claim 1, further comprising a sound recording device (4) for recording sounds onto said
2 sound recording medium (22) when said sound recording medium (22) engages said sound recording device
3 (4), said sound playback device (4) and said sound recording device (4) together comprising a sound playback
4 and optional sound recording enclosure (4).
- 1 8. The system of claim 7, said sound recording medium (22) comprising a recording chip mounted on a circuit
2 board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;
5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and
6 to record said sounds onto said sound recording medium (22), said sound playback and optional sound
7 recording enclosure (4) engages said sound recording medium (22) by inserting said prescription information
8 chip module (21) into a chip module receptacle (31) of said sound playback and optional sound recording
9 enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic traces (51),
10 and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is activated to
11 initiate recording.
- 1 9. The system of claim 7, said sound recording medium (22) comprising a recording chip mounted on a circuit
2 board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;
5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and
7 to record said sounds onto said sound recording medium (22), said sound playback and optional sound
8 recording enclosure (4) engages said sound recording medium (22) by inserting said prescription information
9 chip module (21) into a chip module receptacle (31) of said sound playback and optional sound recording
10 enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic contacts (25),
11 and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is activated to
12 initiate recording.
- 1 10. The system of claim 8, wherein:

2 to play back said sounds recorded on said sound recording medium (22), said sound playback and optional
3 sound recording enclosure (4) engages said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic
6 traces (51), and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is
7 activated to initiate playback.

1 11. The system of claim 9, wherein:

2 to play back said sounds recorded on said sound recording medium (22), said sound playback and optional
3 sound recording enclosure (4) engages said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
6 contacts (25), and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is
7 activated to initiate playback.

1 12. The system of claim 7, wherein said sounds are recorded onto said sound recording medium (22) using a
2 microphone (41, 44).

1 13. The system of claim 7, wherein said sounds are recorded onto said sound recording medium (22) using a
2 computer link (47).

1 14. The system of claim 1, wherein said sounds recorded on said sound recording medium (22) comprise
2 telephone DTMF touch tones.

1 15. A prescription information recording device, comprising:

2 a sound recording medium (22);

3 a bottle-to-chip adapter (12) for attaching said sound recording medium (22) to a prescription bottle (10);

4 and

5 a sound recording device (4) for recording sounds onto said sound recording medium (22) when said
6 sound recording medium (22) engages said sound recording device (4).

1 16. The system of claim 15, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;

5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and

6 to record said sounds onto said sound recording medium (22), said sound recording device (4) engages said
7 sound recording medium (22) by inserting said prescription information chip module (21) into a chip module
8 receptacle (31) of said sound recording device (4) until said electronic contacts (25) make electronic contact with
9 said concentric electronic traces (51).

1 17. The system of claim 15, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;

- 5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and
- 7 to record said sounds onto said sound recording medium (22), said sound recording device (4) engages said
8 sound recording medium (22) by inserting said prescription information chip module (21) into a chip module
9 receptacle (31) of said sound recording device (4) until said concentric electronic traces (51) make electronic
10 contact with said electronic contacts (25).
- 1 18. The system of claim 15, wherein said sounds are recorded onto said sound recording medium (22) using
2 a microphone (41, 44).
- 1 19. The system of claim 15, wherein said sounds are recorded onto said sound recording medium (22) using
2 a computer link (47).
- 1 20. A method for recording and playing back prescription information, comprising the steps of:
2 providing a sound recording medium (22);
3 attaching said sound recording medium (22) to a prescription bottle (10), using a bottle-to-chip adapter
4 (12); and
5 playing back sounds recorded on said sound recording medium (22), using a sound playback device (4),
6 when said sound playback device (4) engages said sound recording medium (22).
- 1 21. The method of claim 20, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21); comprising the further steps of:
3 securing said prescription information chip module (21) to said bottle-to-chip adapter (12) using a chip
4 securing apparatus (13, 24) of said bottle-to-chip adapter (12); and
5 securing said bottle-to-chip adapter (12) to said prescription bottle (10) using an adapter attachment (11).
- 1 22. The method of claim 21, said adapter attachment (11) comprising double-sided adhesive; comprising the
2 further steps of:
3 attaching said bottle-to-chip adapter (12) to said prescription bottle (10) by taping said double-sided
4 adhesive to both said bottle-to-chip adapter (12) and said prescription bottle (10).
- 1 23. The method of claim 21, said bottle-to-chip adapter (12) comprising a plurality of bottle attachment slots
2 (61) and a strap nub receptacle (63) connecting continuously with said bottle attachment slots (61); and
3 said adapter attachment (11) comprising a plurality of adhesive straps, each said adhesive straps
4 comprising a strap nub (71) wider than said bottle attachment slots (61) but narrower than said strap nub
5 receptacle (63), and a strap nub neck region (72) narrower than said bottle attachment slots (61) and said strap nub
6 receptacle (63); comprising the further steps of:
7 attaching said bottle-to-chip adapter (12) to said prescription bottle (10) by introducing each of said strap
8 nubs (71) through said strap nub receptacle (63) proximate a center of said bottle-to-chip adapter (12), moving
9 each said strap nub (71) toward a radially outermost region of said bottle attachment slots (61), moving said
10 bottle-to-chip adapter (12) proximate said prescription bottle (10), and taping said adhesive straps to said
11 prescription bottle (10).
- 1 24. The method of claim 20, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a plurality of concentric electronic traces (51); comprising the
6 further steps of:

7 playing back said sounds recorded on said sound recording medium (22) by engaging said playback device
8 with said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
9 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle
10 (31) of said sound playback device (4) until said electronic contacts (25) make electronic contact with said
11 concentric electronic traces (51).

1 25. The method of claim 20, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further steps of:

7 playing back said sounds recorded on said sound recording medium (22) by engaging said sound playback
8 device (4) with said sound recording medium (22) by inserting a bottle assembly comprising said prescription
9 bottle (10), said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip
10 module receptacle (31) of said sound playback device (4) until said concentric electronic traces (51) make
11 electronic contact with said electronic contacts (25).

1 26. The method of claim 20, comprising the further step of:

2 recording sounds onto said sound recording medium (22), using a sound recording device (4), when
3 said sound recording medium (22) engages said sound recording device (4), said sound playback device (4)
4 and said sound recording device (4) together comprising a sound playback and optional sound recording
5 enclosure (4).

1 27. The method of claim 26, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a plurality of concentric electronic traces (51); comprising the
6 further steps of:

7 recording said sounds onto said sound recording medium (22), by engaging said sound playback and
8 optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
9 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
10 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic
11 traces (51); and

12 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) to
13 initiate recording.

- 1 28. The method of claim 26, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);
3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and
5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further steps of:
7 recording said sounds onto said sound recording medium (22), by engaging said sound playback and
8 optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
9 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
10 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
11 contacts (25); and
12 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) to
13 initiate recording.
- 1 29. The method of claim 27, comprising the further steps of:
2 playing back said sounds recorded on said sound recording medium (22), by engaging said sound playback
3 and optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic
6 traces (51); and
7 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) to
8 initiate playback.
- 1 30. The method of claim 28, wherein:
2 playing back said sounds recorded on said sound recording medium (22), by engaging said sound playback
3 and optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
6 contacts (25); and
7 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) to
8 initiate playback.
- 1 31. The method of claim 26, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a microphone (41, 44).
- 1 32. The method of claim 26, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a computer link (47).
- 1 33. The method of claim 20, said sounds recorded on said sound recording medium (22) comprising
2 telephone DTMF touch tones.
- 1 34. A method for recording prescription information, comprising the steps of:
2 providing a sound recording medium (22);
3 attaching said sound recording medium (22) to a prescription bottle (10) using a bottle-to-chip adapter (12);

4 and

5 recording sounds onto said sound recording medium (22), using a sound recording device (4), when
6 said sound recording medium (22) engages said sound recording device (4).

1 35. The method of claim 34, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); comprising the
6 further step of:

7 recording said sounds onto said sound recording medium (22), by engaging said sound recording device
8 (4) with said sound recording medium (22) by inserting said prescription information chip module (21) into a
9 chip module receptacle (31) of said sound recording device (4) until said electronic contacts (25) make electronic
10 contact with said concentric electronic traces (51).

1 36. The method of claim 34, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further step of:

7 recording said sounds onto said sound recording medium (22), by engaging said sound recording device
8 (4) with said sound recording medium (22) by inserting said prescription information chip module (21) into a
9 chip module receptacle (31) of said sound recording device (4) until said concentric electronic traces (51) make
10 electronic contact with said electronic contacts (25).

1 37. The method of claim 34, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a microphone (41, 44).

1 38. The method of claim 34, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a computer link (47).

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AMENDED CLAIMS

[received by the International Bureau on 20 December 2000 (20.12.00);
original claims 1-38 replaced by new claims 1-62 (12 pages)]

- 1 1. A prescription information sound playback and recording system, comprising:
2 a sound recording medium (22);
3 a bottle-to-chip adapter (12) for attaching said sound recording medium (22) to a prescription bottle (10);
4 and
5 a sound playback device (4) for playing back sounds recorded on said sound recording medium (22)
6 when said sound playback device (4) engages said sound recording medium (22); wherein:
7 said sound playback device (4) plays back said sounds recorded on said sound recording medium (22)
8 without using a speech synthesizer to synthesize said sounds.
- 1 2. The system of claim 1, wherein:
2 said sound recording medium (22) comprises a recording chip mounted on a circuit board of a
3 prescription information chip module (21);
4 said bottle-to-chip adapter (12) comprises a chip securing apparatus (13, 24) for securing said
5 prescription information chip module (21) thereto, and an adapter attachment (11) for securing said bottle-to-chip
6 adapter (12) to said prescription bottle (10).
- 1 3. The system of claim 2, wherein said adapter attachment (11) comprises double-sided adhesive; and
2 said bottle-to-chip adapter (12) is attached to said prescription bottle (10) by taping said double-sided
3 adhesive to both said bottle-to-chip adapter (12) and said prescription bottle (10).
- 1 4. The system of claim 2, wherein:
2 said bottle-to-chip adapter (12) further comprises a plurality of bottle attachment slots (61) and a strap
3 nub receptacle (63) connecting continuously with said bottle attachment slots (61);
4 said adapter attachment (11) comprises a plurality of adhesive straps, each said adhesive straps
5 comprising a strap nub (71) wider than said bottle attachment slots (61) but narrower than said strap nub
6 receptacle (63), and a strap nub neck region (72) narrower than said bottle attachment slots (61) and said strap nub
7 receptacle (63); and
8 said bottle-to-chip adapter (12) is attached to said prescription bottle (10) by introducing each of said
9 strap nubs (71) through said strap nub receptacle (63) proximate a center of said bottle-to-chip adapter (12),
10 moving each said strap nub (71) toward a radially outermost region of said bottle attachment slots (61), moving
11 said bottle-to-chip adapter (12) proximate said prescription bottle (10), and taping said adhesive straps to said
12 prescription bottle (10).
- 1 5. The system of claim 1, said sound recording medium (22) comprising a recording chip mounted on a circuit
2 board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;
5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and
6 to play back said sounds recorded on said sound recording medium (22), said sound playback device (4)
7 engages said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
8 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle

9 (31) of said sound playback device (4) until said electronic contacts (25) make electronic contact with said
10 concentric electronic traces (51).

1 6. The system of claim 1, said sound recording medium (22) comprising a recording chip mounted on a circuit
2 board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;

5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and

7 to play back said sounds recorded on said sound recording medium (22), said sound playback device (4)
8 engages said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
9 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle
10 (31) of said sound playback device (4) until said concentric electronic traces (51) make electronic contact with said
11 electronic contacts (25).

1 7. The system of claim 1, further comprising a sound recording device (4) for recording sounds onto said
2 sound recording medium (22) when said sound recording medium (22) engages said sound recording device
3 (4), said sound playback device (4) and said sound recording device (4) together comprising a sound playback
4 and optional sound recording enclosure (4).

1 8. The system of claim 7, said sound recording medium (22) comprising a recording chip mounted on a circuit
2 board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;

5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and

6 to record said sounds onto said sound recording medium (22), said sound playback and optional sound
7 recording enclosure (4) engages said sound recording medium (22) by inserting said prescription information
8 chip module (21) into a chip module receptacle (31) of said sound playback and optional sound recording
9 enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic traces (51),
10 and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is activated to
11 initiate recording.

1 9. The system of claim 7, said sound recording medium (22) comprising a recording chip mounted on a circuit
2 board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;

5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and

7 to record said sounds onto said sound recording medium (22), said sound playback and optional sound
8 recording enclosure (4) engages said sound recording medium (22) by inserting said prescription information
9 chip module (21) into a chip module receptacle (31) of said sound playback and optional sound recording
10 enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic contacts (25),

1.1 and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is activated to
1.2 initiate recording.

1 10. The system of claim 8, wherein:

2 to play back said sounds recorded on said sound recording medium (22), said sound playback and
3 optional sound recording enclosure (4) engages said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic
6 traces (51), and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is
7 activated to initiate playback.

1 11. The system of claim 9, wherein:

2 to play back said sounds recorded on said sound recording medium (22), said sound playback and
3 optional sound recording enclosure (4) engages said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
6 contacts (25), and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is
7 activated to initiate playback.

1 12. The system of claim 1, wherein said sounds are recorded onto said sound recording medium (22) using a
2 microphone (41, 44).

1 13. The system of claim 1, wherein said sounds are recorded onto said sound recording medium (22) using a
2 computer link (47).

1 14. The system of claim 1, wherein said sounds recorded on said sound recording medium (22) comprise
2 telephone DTMF touch tones.

1 15. A prescription information recording apparatus, comprising:

2 a sound recording medium (22);

3 a bottle-to-chip adapter (12) for attaching said sound recording medium (22) to a prescription bottle (10);

4 and

5 a sound recording device (4) for recording sounds onto said sound recording medium (22) when said
6 sound recording medium (22) engages said sound recording device (4); wherein:

7 said sounds are recorded onto said sound recording medium (22) using a microphone (41, 44).

1 16. The apparatus of claim 15, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;

5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and

6 to record said sounds onto said sound recording medium (22), said sound recording device (4) engages
7 said sound recording medium (22) by inserting said prescription information chip module (21) into a chip
8 module receptacle (31) of said sound recording device (4) until said electronic contacts (25) make electronic
9 contact with said concentric electronic traces (51).

- 1 17. The apparatus of claim 15, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;
5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and
7 to record said sounds onto said sound recording medium (22), said sound recording device (4) engages
8 said sound recording medium (22) by inserting said prescription information chip module (21) into a chip
9 module receptacle (31) of said sound recording device (4) until said concentric electronic traces (51) make
10 electronic contact with said electronic contacts (25).
- 1 18. The apparatus of claim 15, wherein said sounds are recorded onto said sound recording medium (22)
2 using a computer link (47).
- 1 19. A method for recording and playing back prescription information, comprising the steps of:
2 providing a sound recording medium (22);
3 attaching said sound recording medium (22) to a prescription bottle (10), using a bottle-to-chip adapter
4 (12); and
5 playing back sounds recorded on said sound recording medium (22), using a sound playback device (4),
6 when said sound playback device (4) engages said sound recording medium (22), without using a speech
7 synthesizer to synthesize said sounds.
- 1 20. The method of claim 19, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21); comprising the further steps of:
3 securing said prescription information chip module (21) to said bottle-to-chip adapter (12) using a chip
4 securing apparatus (13, 24) of said bottle-to-chip adapter (12); and
5 securing said bottle-to-chip adapter (12) to said prescription bottle (10) using an adapter attachment (11).
- 1 21. The method of claim 20, said adapter attachment (11) comprising double-sided adhesive; comprising the
2 further steps of:
3 attaching said bottle-to-chip adapter (12) to said prescription bottle (10) by taping said double-sided
4 adhesive to both said bottle-to-chip adapter (12) and said prescription bottle (10).
- 1 22. The method of claim 20, said bottle-to-chip adapter (12) comprising a plurality of bottle attachment slots
2 (61) and a strap nub receptacle (63) connecting continuously with said bottle attachment slots (61); and
3 said adapter attachment (11) comprising a plurality of adhesive straps, each said adhesive straps
4 comprising a strap nub (71) wider than said bottle attachment slots (61) but narrower than said strap nub
5 receptacle (63), and a strap nub neck region (72) narrower than said bottle attachment slots (61) and said strap nub
6 receptacle (63); comprising the further steps of:
7 attaching said bottle-to-chip adapter (12) to said prescription bottle (10) by introducing each of said strap
8 nubs (71) through said strap nub receptacle (63) proximate a center of said bottle-to-chip adapter (12), moving
9 each said strap nub (71) toward a radially outermost region of said bottle attachment slots (61), moving said
10 bottle-to-chip adapter (12) proximate said prescription bottle (10), and taping said adhesive straps to said

11 prescription bottle (10).

1 23. The method of claim 19, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a plurality of concentric electronic traces (51); comprising the
6 further steps of:

7 playing back said sounds recorded on said sound recording medium (22) by engaging said playback
8 device with said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle
9 (10), said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module
10 receptacle (31) of said sound playback device (4) until said electronic contacts (25) make electronic contact with
11 said concentric electronic traces (51).

1 24. The method of claim 19, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further steps of:

7 playing back said sounds recorded on said sound recording medium (22) by engaging said sound
8 playback device (4) with said sound recording medium (22) by inserting a bottle assembly comprising said
9 prescription bottle (10), said bottle-to-chip adapter (12) and said prescription information chip module (21) into a
10 chip module receptacle (31) of said sound playback device (4) until said concentric electronic traces (51) make
11 electronic contact with said electronic contacts (25).

1 25. The method of claim 19, comprising the further step of:

2 recording sounds onto said sound recording medium (22), using a sound recording device (4), when
3 said sound recording medium (22) engages said sound recording device (4), said sound playback device (4)
4 and said sound recording device (4) together comprising a sound playback and optional sound recording
5 enclosure (4).

1 26. The method of claim 25, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a plurality of concentric electronic traces (51); comprising the
6 further steps of:

7 recording said sounds onto said sound recording medium (22), by engaging said sound playback and
8 optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
9 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
10 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic

- 11 traces (51); and
12 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
13 to initiate recording.
- 1 27. The method of claim 25, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);
3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and
5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further steps of:
7 recording said sounds onto said sound recording medium (22), by engaging said sound playback and
8 optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
9 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
10 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
11 contacts (25); and
12 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
13 to initiate recording.
- 1 28. The method of claim 26, comprising the further steps of:
2 playing back said sounds recorded on said sound recording medium (22), by engaging said sound
3 playback and optional sound recording enclosure (4) with said sound recording medium (22) by inserting said
4 prescription information chip module (21) into a chip module receptacle (31) of said sound playback and optional
5 sound recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric
6 electronic traces (51); and
7 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
8 to initiate playback.
- 1 29. The method of claim 27, wherein:
2 playing back said sounds recorded on said sound recording medium (22), by engaging said sound
3 playback and optional sound recording enclosure (4) with said sound recording medium (22) by inserting said
4 prescription information chip module (21) into a chip module receptacle (31) of said sound playback and optional
5 sound recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said
6 electronic contacts (25); and
7 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
8 to initiate playback.
- 1 30. The method of claim 19, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a microphone (41, 44).
- 1 31. The method of claim 19, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a computer link (47).
- 1 32. The method of claim 19, said sounds recorded on said sound recording medium (22) comprising
2 telephone DTMF touch tones.

- 1 33. A method for recording prescription information, comprising the steps of:
2 providing a sound recording medium (22);
3 attaching said sound recording medium (22) to a prescription bottle (10) using a bottle-to-chip adapter
4 (12);
5 recording sounds onto said sound recording medium (22), using a sound recording device (4), when
6 said sound recording medium (22) engages said sound recording device (4); and
7 recording said sounds onto said sound recording medium (22) using a microphone (41, 44).
- 1 34. The method of claim 33, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);
3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and
5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); comprising the
6 further step of:
7 recording said sounds onto said sound recording medium (22), by engaging said sound recording device
8 (4) with said sound recording medium (22) by inserting said prescription information chip module (21) into a
9 chip module receptacle (31) of said sound recording device (4) until said electronic contacts (25) make electronic
10 contact with said concentric electronic traces (51).
- 1 35. The method of claim 33, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);
3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and
5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further step of:
7 recording said sounds onto said sound recording medium (22), by engaging said sound recording device
8 (4) with said sound recording medium (22) by inserting said prescription information chip module (21) into a
9 chip module receptacle (31) of said sound recording device (4) until said concentric electronic traces (51) make
10 electronic contact with said electronic contacts (25).
- 1 36. The method of claim 33, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a computer link (47).
- 1 37. (start new) A prescription information sound playback and recording system, comprising:
2 a sound recording medium (22);
3 a bottle-to-chip adapter (12) for attaching said sound recording medium (22) to a prescription bottle (10);
4 and
5 a sound playback device (4) for playing back sounds recorded on said sound recording medium (22)
6 when said sound playback device (4) engages said sound recording medium (22); wherein:
7 said sounds are recorded onto said sound recording medium (22) using a microphone (41, 44).
- 1 38. The system of claim 37, wherein:
2 said sound recording medium (22) comprises a recording chip mounted on a circuit board of a

- 3 prescription information chip module (21);
4 said bottle-to-chip adapter (12) comprises a chip securing apparatus (13, 24) for securing said
5 prescription information chip module (21) thereto, and an adapter attachment (11) for securing said bottle-to-chip
6 adapter (12) to said prescription bottle (10).
- 1 39. The system of claim 38, wherein said adapter attachment (11) comprises double-sided adhesive; and
2 said bottle-to-chip adapter (12) is attached to said prescription bottle (10) by taping said double-sided
3 adhesive to both said bottle-to-chip adapter (12) and said prescription bottle (10).
- 1 40. The system of claim 38, wherein:
2 said bottle-to-chip adapter (12) further comprises a plurality of bottle attachment slots (61) and a strap
3 nub receptacle (63) connecting continuously with said bottle attachment slots (61);
4 said adapter attachment (11) comprises a plurality of adhesive straps, each said adhesive straps
5 comprising a strap nub (71) wider than said bottle attachment slots (61) but narrower than said strap nub
6 receptacle (63), and a strap nub neck region (72) narrower than said bottle attachment slots (61) and said strap nub
7 receptacle (63); and
8 said bottle-to-chip adapter (12) is attached to said prescription bottle (10) by introducing each of said
9 strap nubs (71) through said strap nub receptacle (63) proximate a center of said bottle-to-chip adapter (12),
10 moving each said strap nub (71) toward a radially outermost region of said bottle attachment slots (61), moving
11 said bottle-to-chip adapter (12) proximate said prescription bottle (10), and taping said adhesive straps to said
12 prescription bottle (10).
- 1 41. The system of claim 37, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;
5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and
6 to play back said sounds recorded on said sound recording medium (22), said sound playback device (4)
7 engages said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
8 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle
9 (31) of said sound playback device (4) until said electronic contacts (25) make electronic contact with said
10 concentric electronic traces (51).
- 1 42. The system of claim 37, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:
3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;
5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and
7 to play back said sounds recorded on said sound recording medium (22), said sound playback device (4)
8 engages said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle (10),
9 said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module receptacle

10 (31) of said sound playback device (4) until said concentric electronic traces (51) make electronic contact with said
11 electronic contacts (25).

1 43. The system of claim 37, further comprising a sound recording device (4) for recording sounds onto said
2 sound recording medium (22) when said sound recording medium (22) engages said sound recording device
3 (4), said sound playback device (4) and said sound recording device (4) together comprising a sound playback
4 and optional sound recording enclosure (4).

1 44. The system of claim 43, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip;

5 said sound playback device (4) comprises a plurality of concentric electronic traces (51); and

6 to record said sounds onto said sound recording medium (22), said sound playback and optional sound
7 recording enclosure (4) engages said sound recording medium (22) by inserting said prescription information
8 chip module (21) into a chip module receptacle (31) of said sound playback and optional sound recording
9 enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic traces (51),
10 and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is activated to
11 initiate recording.

1 45. The system of claim 43, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21), wherein:

3 said prescription information chip module (21) further comprises a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip;

5 said sound playback device (4) comprises a recording and playback connector (23) with a plurality of
6 electronic contacts (25); and

7 to record said sounds onto said sound recording medium (22), said sound playback and optional sound
8 recording enclosure (4) engages said sound recording medium (22) by inserting said prescription information
9 chip module (21) into a chip module receptacle (31) of said sound playback and optional sound recording
10 enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic contacts (25),
11 and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is activated to
12 initiate recording.

1 46. The system of claim 44, wherein:

2 to play back said sounds recorded on said sound recording medium (22), said sound playback and
3 optional sound recording enclosure (4) engages said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic
6 traces (51), and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is
7 activated to initiate playback.

1 47. The system of claim 45, wherein:

2 to play back said sounds recorded on said sound recording medium (22), said sound playback and

3 optional sound recording enclosure (4) engages said sound recording medium (22) by inserting said prescription
4 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
5 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
6 contacts (25), and a usage mode selector (43) of said sound playback and optional sound recording enclosure (4) is
7 activated to initiate playback.

1 48. The system of claim 43, wherein said sounds are recorded onto said sound recording medium (22) using
2 a computer link (47).

1 49. The system of claim 37, wherein said sounds recorded on said sound recording medium (22) comprise
2 telephone DTMF touch tones.

1 50. A method for recording and playing back prescription information, comprising the steps of:

2 providing a sound recording medium (22);

3 attaching said sound recording medium (22) to a prescription bottle (10), using a bottle-to-chip adapter
4 (12);

5 recording said sounds onto said sound recording medium (22) using a microphone (41, 44); and

6 playing back sounds recorded on said sound recording medium (22), using a sound playback device (4),

7 when said sound playback device (4) engages said sound recording medium (22).

1 51. The method of claim 50, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21); comprising the further steps of:

3 securing said prescription information chip module (21) to said bottle-to-chip adapter (12) using a chip
4 securing apparatus (13, 24) of said bottle-to-chip adapter (12); and

5 securing said bottle-to-chip adapter (12) to said prescription bottle (10) using an adapter attachment (11).

1 52. The method of claim 51, said adapter attachment (11) comprising double-sided adhesive; comprising the
2 further steps of:

3 attaching said bottle-to-chip adapter (12) to said prescription bottle (10) by taping said double-sided
4 adhesive to both said bottle-to-chip adapter (12) and said prescription bottle (10).

1 53. The method of claim 51, said bottle-to-chip adapter (12) comprising a plurality of bottle attachment slots
2 (61) and a strap nub receptacle (63) connecting continuously with said bottle attachment slots (61); and

3 said adapter attachment (11) comprising a plurality of adhesive straps, each said adhesive straps
4 comprising a strap nub (71) wider than said bottle attachment slots (61) but narrower than said strap nub
5 receptacle (63), and a strap nub neck region (72) narrower than said bottle attachment slots (61) and said strap nub
6 receptacle (63); comprising the further steps of:

7 attaching said bottle-to-chip adapter (12) to said prescription bottle (10) by introducing each of said strap
8 nubs (71) through said strap nub receptacle (63) proximate a center of said bottle-to-chip adapter (12), moving
9 each said strap nub (71) toward a radially outermost region of said bottle attachment slots (61), moving said
10 bottle-to-chip adapter (12) proximate said prescription bottle (10), and taping said adhesive straps to said
11 prescription bottle (10).

1 54. The method of claim 50, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a plurality of concentric electronic traces (51); comprising the
6 further steps of:

7 playing back said sounds recorded on said sound recording medium (22) by engaging said playback
8 device with said sound recording medium (22) by inserting a bottle assembly comprising said prescription bottle
9 (10), said bottle-to-chip adapter (12) and said prescription information chip module (21) into a chip module
10 receptacle (31) of said sound playback device (4) until said electronic contacts (25) make electronic contact with
11 said concentric electronic traces (51).

1 55. The method of claim 50, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further steps of:

7 playing back said sounds recorded on said sound recording medium (22) by engaging said sound
8 playback device (4) with said sound recording medium (22) by inserting a bottle assembly comprising said
9 prescription bottle (10), said bottle-to-chip adapter (12) and said prescription information chip module (21) into a
10 chip module receptacle (31) of said sound playback device (4) until said concentric electronic traces (51) make
11 electronic contact with said electronic contacts (25).

1 56. The method of claim 50, comprising the further step of:

2 recording sounds onto said sound recording medium (22), using a sound recording device (4), when
3 said sound recording medium (22) engages said sound recording device (4), said sound playback device (4)
4 and said sound recording device (4) together comprising a sound playback and optional sound recording
5 enclosure (4).

1 57. The method of claim 56, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a recording and playback connector
4 (23) with a plurality of electronic contacts (25) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a plurality of concentric electronic traces (51); comprising the
6 further steps of:

7 recording said sounds onto said sound recording medium (22), by engaging said sound playback and
8 optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
9 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
10 recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric electronic
11 traces (51); and

12 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
13 to initiate recording.

1 58. The method of claim 56, said sound recording medium (22) comprising a recording chip mounted on a
2 circuit board of a prescription information chip module (21);

3 said prescription information chip module (21) further comprising a plurality of concentric electronic
4 traces (51) electronically connected to said recording chip; and

5 said sound playback device (4) comprising a recording and playback connector (23) with a plurality of
6 electronic contacts (25); comprising the further steps of:

7 recording said sounds onto said sound recording medium (22), by engaging said sound playback and
8 optional sound recording enclosure (4) with said sound recording medium (22) by inserting said prescription
9 information chip module (21) into a chip module receptacle (31) of said sound playback and optional sound
10 recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said electronic
11 contacts (25); and

12 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
13 to initiate recording.

1 59. The method of claim 57, comprising the further steps of:

2 playing back said sounds recorded on said sound recording medium (22), by engaging said sound
3 playback and optional sound recording enclosure (4) with said sound recording medium (22) by inserting said
4 prescription information chip module (21) into a chip module receptacle (31) of said sound playback and optional
5 sound recording enclosure (4) until said electronic contacts (25) make electronic contact with said concentric
6 electronic traces (51); and

7 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
8 to initiate playback.

1 60. The method of claim 58, wherein:

2 playing back said sounds recorded on said sound recording medium (22), by engaging said sound
3 playback and optional sound recording enclosure (4) with said sound recording medium (22) by inserting said
4 prescription information chip module (21) into a chip module receptacle (31) of said sound playback and optional
5 sound recording enclosure (4) until said concentric electronic traces (51) make electronic contact with said
6 electronic contacts (25); and

7 activating a usage mode selector (43) of said sound playback and optional sound recording enclosure (4)
8 to initiate playback.

1 61. The method of claim 26, comprising the further step of recording said sounds onto said sound recording
2 medium (22) using a computer link (47).

1 62. The method of claim 20, said sounds recorded on said sound recording medium (22) comprising
2 telephone DTMF touch tones.

STATEMENT UNDER ARTICLE 19 (1)

Following amendment, claims 1, 15, 19, 33, 37 and 50 are independent. Claims 1 and 37 are for a *system*, and claims 19 and 50 a *method*, for *both* recording *and* playback. Claim 15 is for an *apparatus*, and claim 33 a *method*, for *recording only* (no playback). Claims 1 and 19 require *playback "without using a speech synthesizer."* Claims 15, 33, 37, and 50 require *recording "using a microphone."*

Patent US 5,812,064, cited in the international search report, states:

"Production of an audible signal including *synthetic speech* can be achieved by *tapping into the systems now widely used* by major drugstores which print out labels. . . for each individual prescription. . . . Selected data . . . *flowing from the personal computer* of the pharmacist to a . . . printer is *intercepted* and transferred to [a] memory unit" (column 1, lines 43 through 60) "A digital data block *from computer 26* is . . . transferred . . . *to the memory unit 11.*" (column 3, lines 9 through 18) "Data is transferred *from the memory unit . . . to the speech synthesizer 60.*" (column 3, lines 42 through 48) "*Synthetic voice instruction* based on the information recorded on the [memory unit] chip is supplied to the loud speaker. . . ." (abstract)

US 5,812,064 does not disclose or suggest recording sounds onto the memory unit "*using a microphone*" as in applicants' independent claims 15, 33, 37, and 50. It teaches oppositely, since its whole objective is "tapping into" existing pharmacy computer systems to create a "voice label" in a new way additional to (intercepted from) ordinary printing of a "print label." The use of a microphone would be irrelevant and add nothing to the objectives of US 5,812,064. This view is supported by the search report itself, which *does not* implicate any of original claims 12, 18, 31 and 37 that require recording "*using a microphone*" for lack of novelty or inventive step under US 5,812,064. As amended, independent claims 15, 33, 37, and 50 all incorporate these original claims 12, 18, 31 and 37, and thus, pursuant to the search report, are also not implicated by US 5,812,064.

Additionally, given the transfer of digitized data from the pharmacy computer to the memory unit, it becomes *essential* for US 5,812,064 include a *speech synthesizer*, since there is *no other way* to play back the digital data block that originated on the pharmacy computer. Thus, US 5,812,064 does not disclose or suggest playing back this data "*without using a speech synthesizer*" as in applicants' claims 1 and 19, and indeed, this would be *impossible* to do given the nature of the data in US 5,812,064 that is stored on the memory unit. Amended independent claims 1 and 19 require that a speech synthesizer element be *omitted*, which greatly simplifies and reduces the cost of applicant's invention over US 5,812,064, and averts any implication for lack of obviousness or inventive step under US 5,812,064.

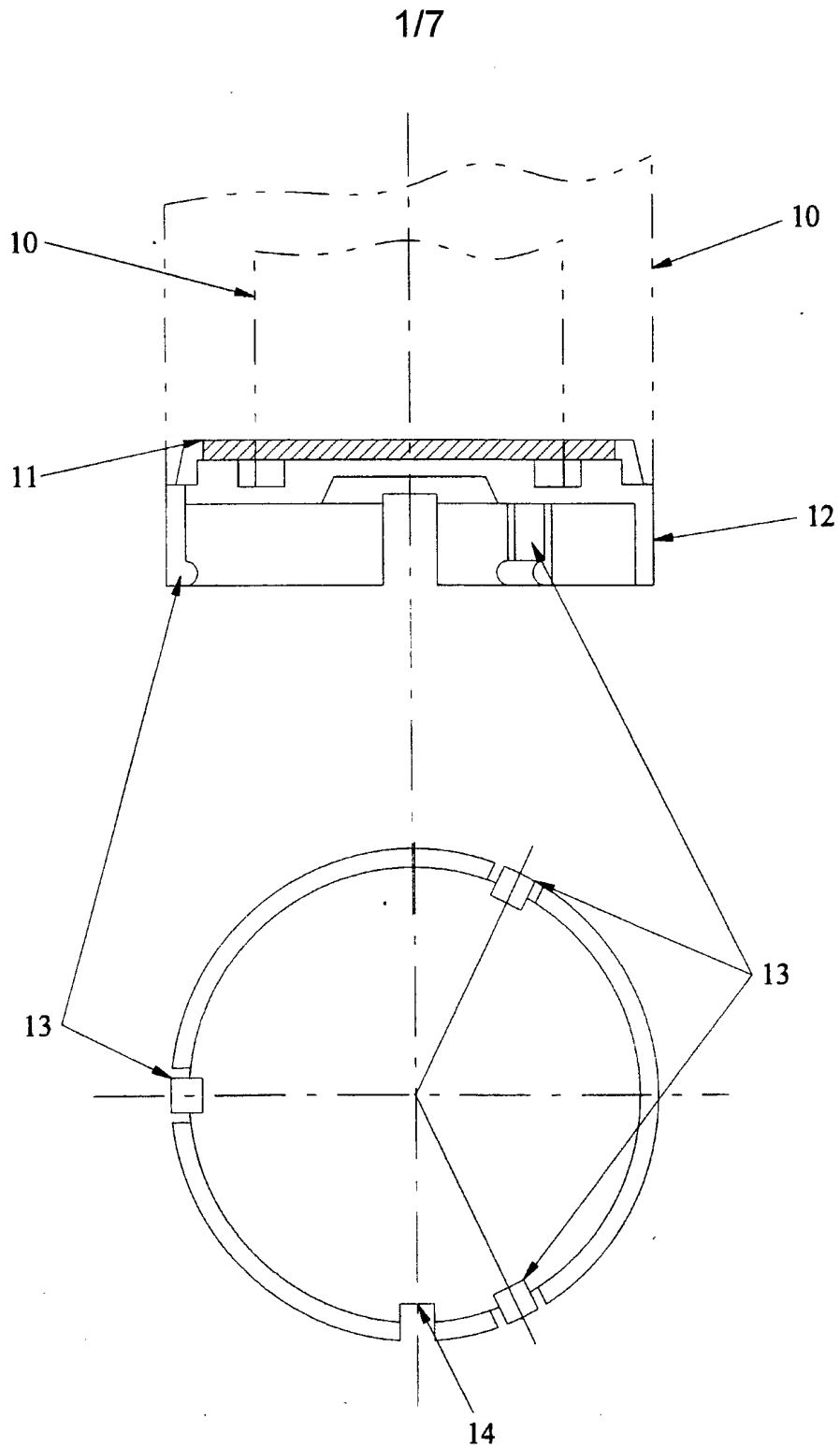


FIG. 1

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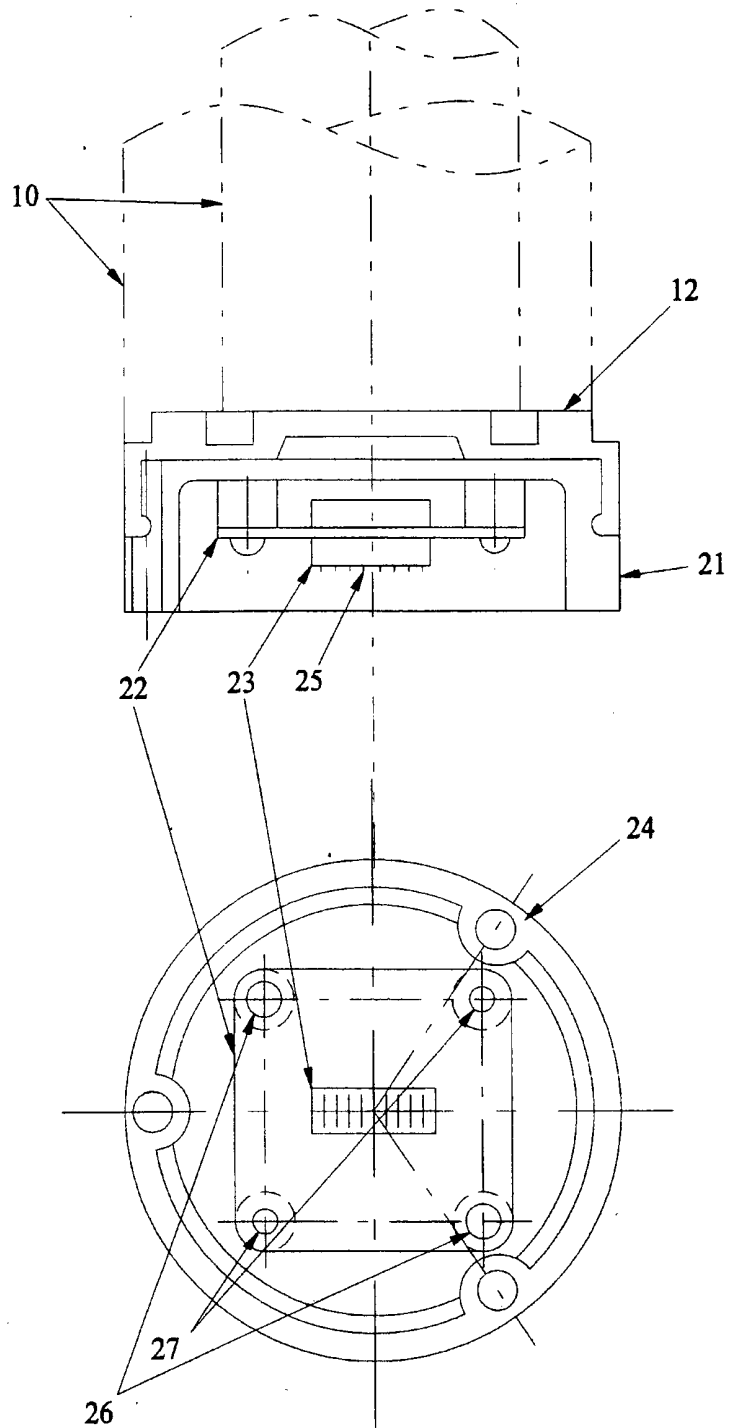


FIG. 2

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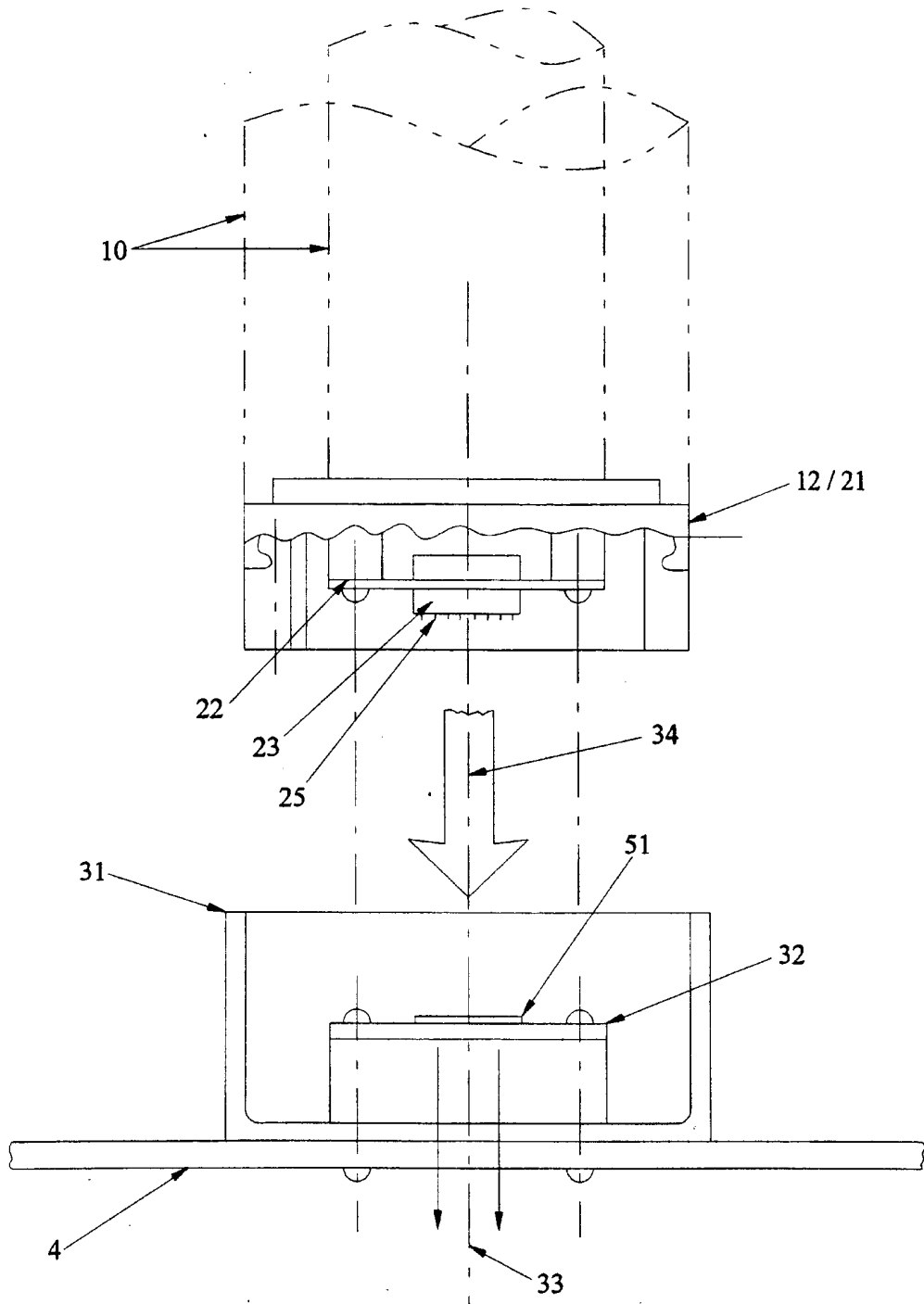


FIG. 3

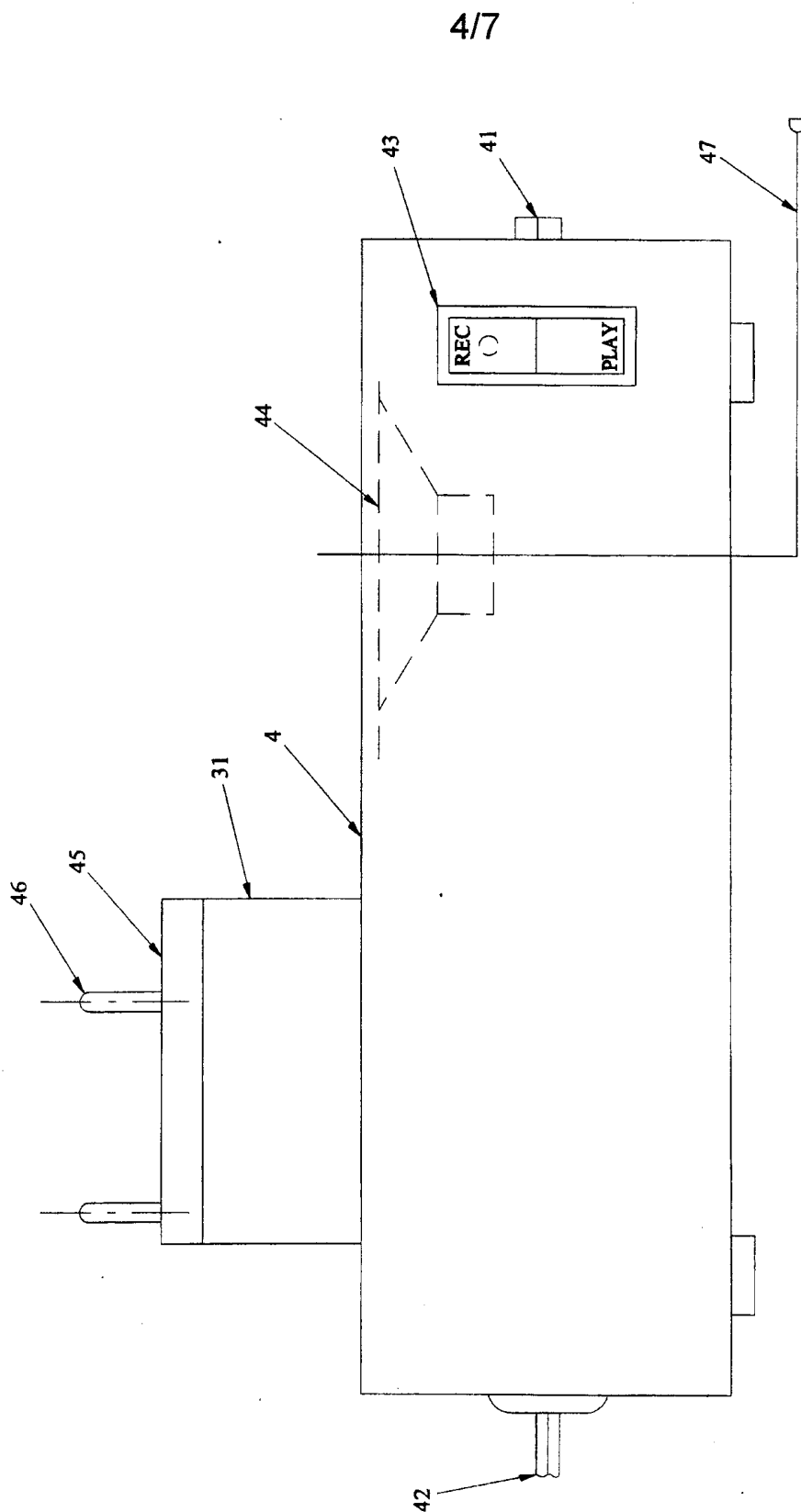


FIG. 4

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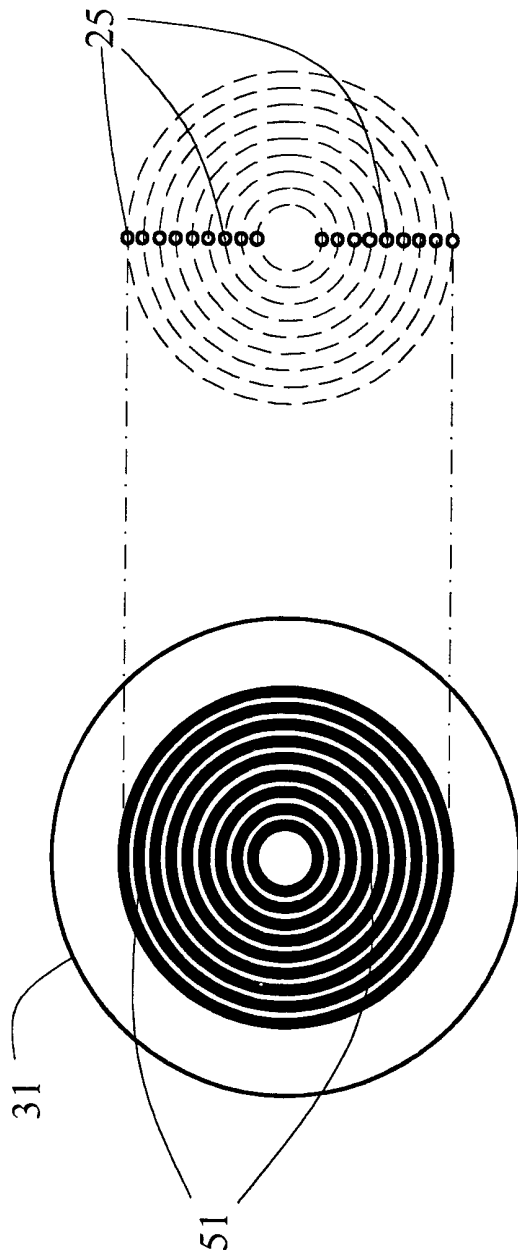


FIG. 5

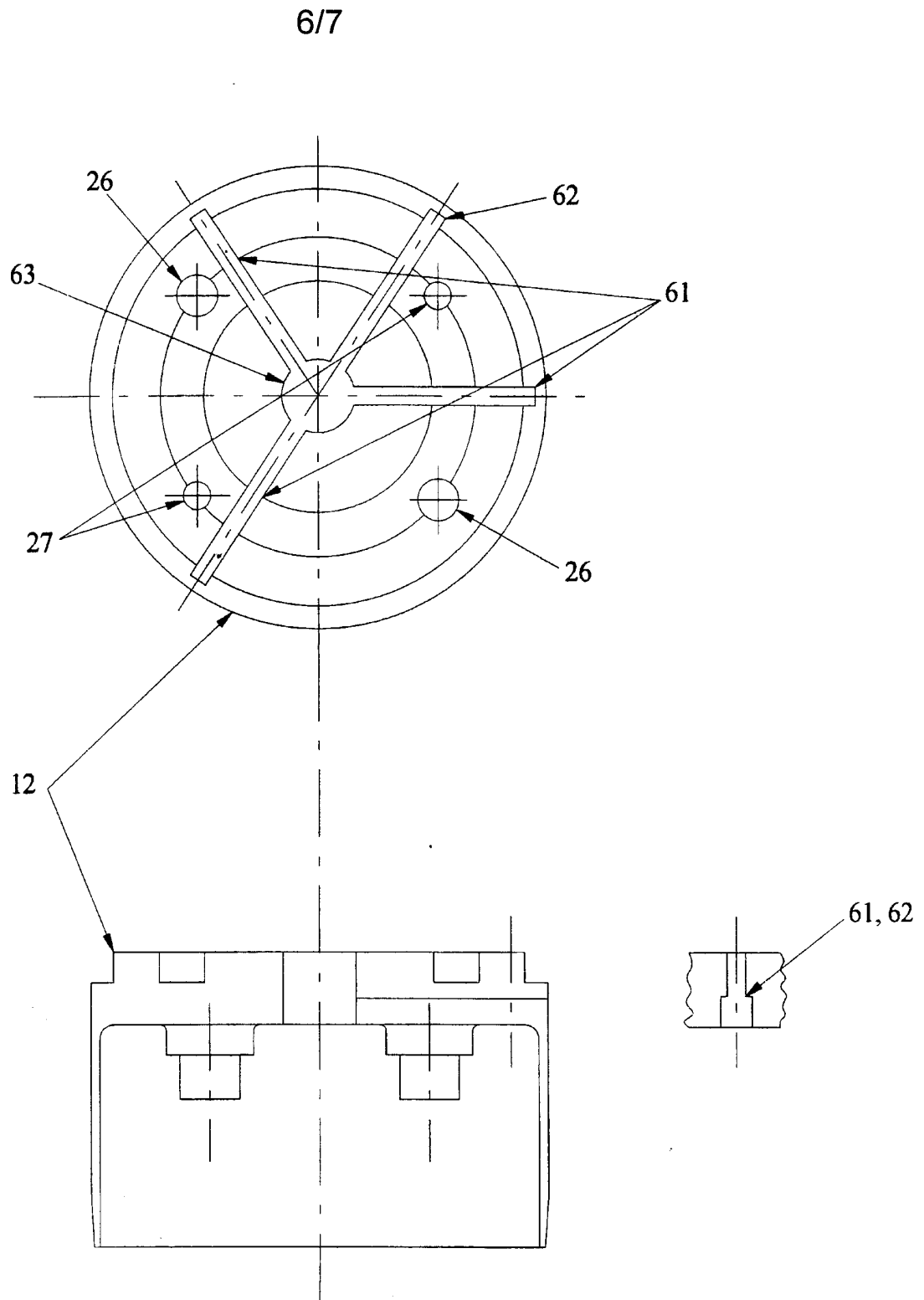


FIG. 6

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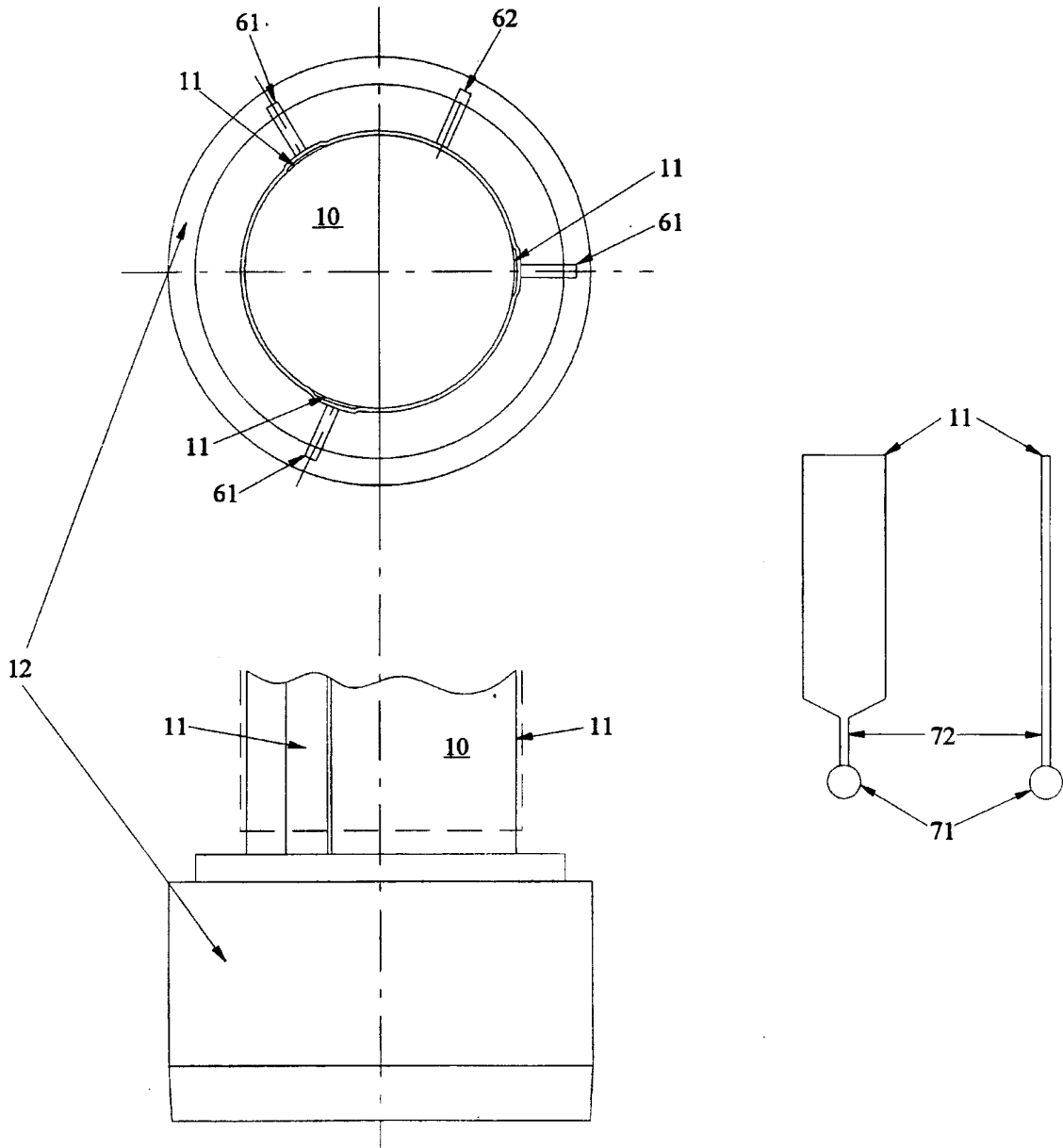


FIG. 7

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/19753

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61J7/04 A61J1/03				
According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61J				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	US 5 812 064 A (BARBOUR WILLIAM P) 22 September 1998 (1998-09-22) the whole document ---	1, 2, 5-11, 13, 15-17, 19-22, 24-30, 32, 34-36, 38		
A	GB 2 325 768 A (BIGNALL SIMON) 2 December 1998 (1998-12-02) abstract; claims; figures ---	1, 15, 20, 34		
A	US 5 823 346 A (WEINER STEVEN L) 20 October 1998 (1998-10-20) column 3, line 31 - line 54; figures 2, 9 --- -/--	2		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. </td> <td style="width: 50%; border: none;"> <input checked="" type="checkbox"/> Patent family members are listed in annex. </td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.	<input checked="" type="checkbox"/> Patent family members are listed in annex.
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.	<input checked="" type="checkbox"/> Patent family members are listed in annex.			
° Special categories of cited documents :				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed </td> <td style="width: 50%; border: none; vertical-align: top;"> "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family			
Date of the actual completion of the international search <p style="text-align: center; font-size: 1.2em;">25 October 2000</p>		Date of mailing of the international search report <p style="text-align: center; font-size: 1.2em;">03/11/2000</p>		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer <p style="text-align: center; font-size: 1.2em;">Baert, F</p>		

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/19753

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 504 153 A (SCHOLLMAYER THOMAS A ET AL) 12 March 1985 (1985-03-12) column 4, line 59 -column 5, line 12; figures 9A,9B ---	3
A	US 5 706 258 A (POE LINDA ROARK ET AL) 6 January 1998 (1998-01-06) column 4, line 49 - line 62 ---	12,18, 31,37
A	EP 0 408 781 A (TO PING KUAN) 23 January 1991 (1991-01-23) abstract; claims; figures ---	1
A	US 5 489 893 A (AHN MYUNG WON ET AL) 6 February 1996 (1996-02-06) abstract; claims; figures -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No PCT/US 00/19753

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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GB 2325768 A	02-12-1998	NONE	
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