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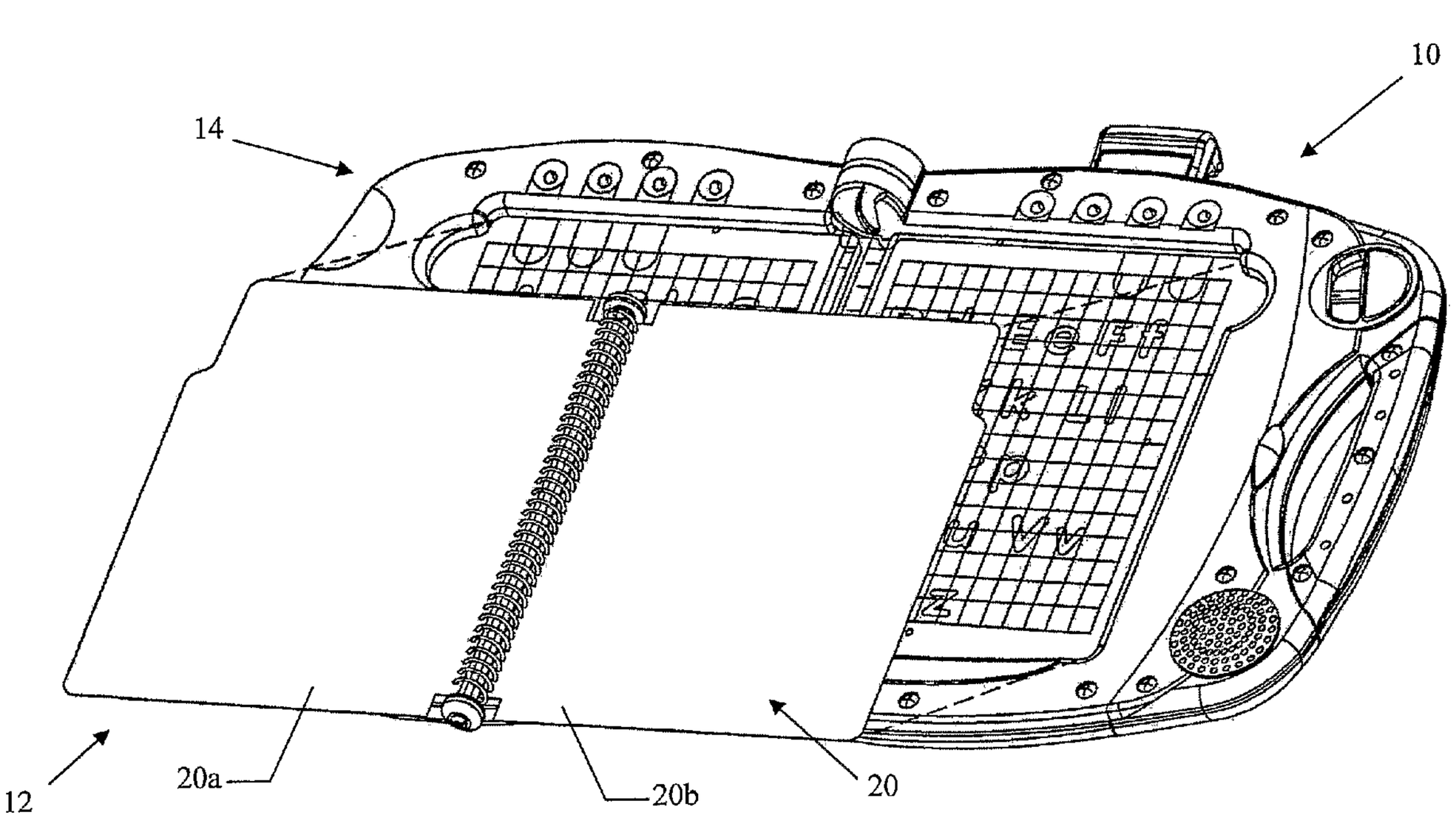

(57) Abrégé/Abstract:
The method for teaching linguistics with an electronic reading system (10) having a book with selectable content and reader having a controller (30) with a plurality of modes of operation and having a memory (32) having stored material associated with selectable book content. The method includes the following steps: allowing a selection of one mode of the plurality of modes of operation (110) ; operating the controller in an active mode corresponding to the one mode if the one mode has been selected (115), otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes or operation.

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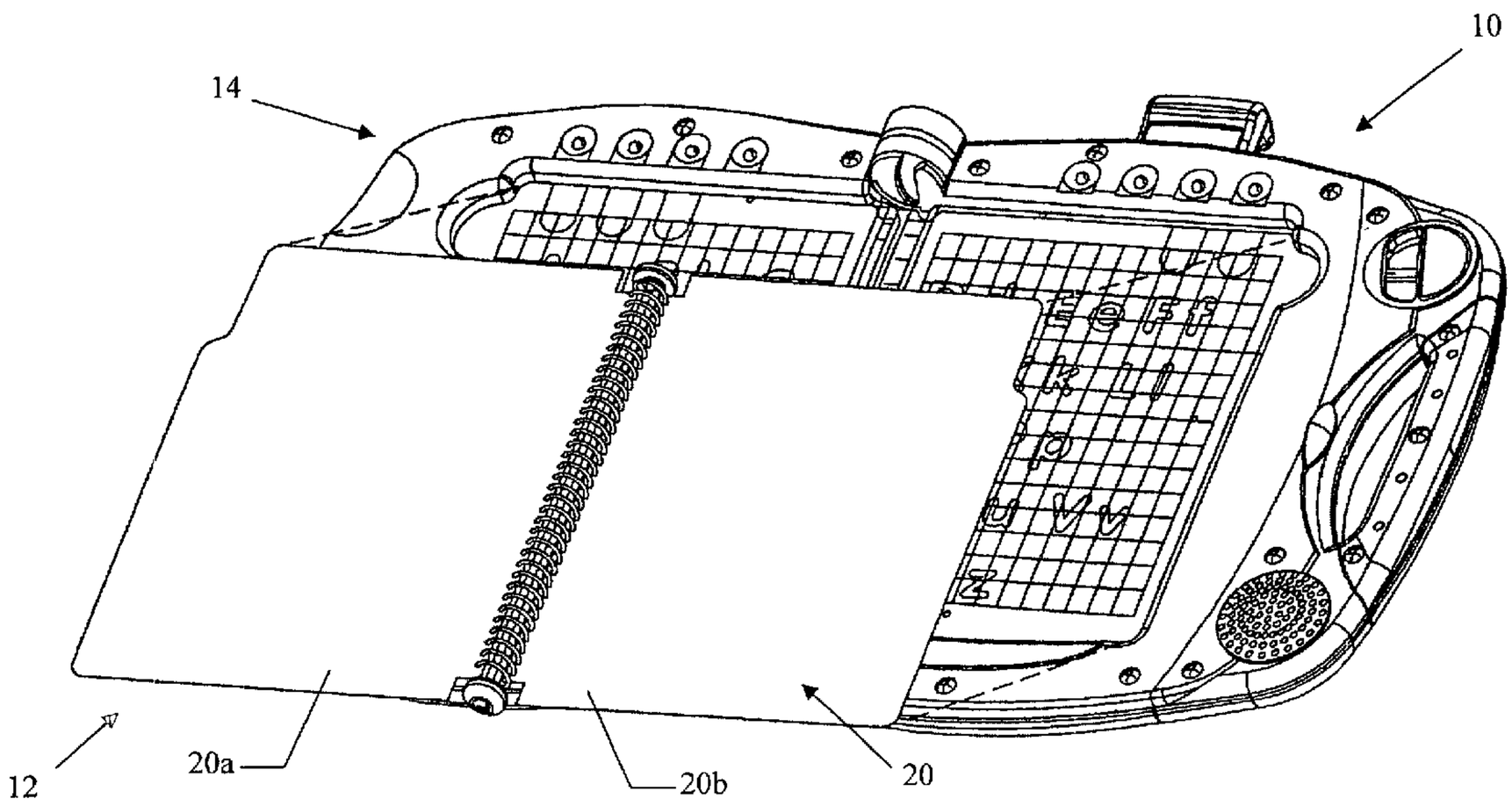

(57) Abstract: The method for teaching linguistics with an electronic reading system (10) having a book with selectable content and reader having a controller (30) with a plurality of modes of operation and having a memory (32) having stored material associated with selectable book content. The method includes the following steps: allowing a selection of one mode of the plurality of modes of operation (110) ; operating the controller in an active mode corresponding to the one mode if the one mode has been selected (115), otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes or operation.

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TITLE OF THE INVENTION

[0001] Method for Teaching Linguistics

BACKGROUND AND SUMMARY OF THE INVENTION

[0002] The present invention relates to a method for teaching linguistics. More particularly, the present invention relates to a method for teaching linguistics by interaction with an electronic learning (or reading) system comprising a book and a reader.

[0003] A typical electronic reading system comprises one or more books each of which has one or more pages with at least one area of selectable content, non-volatile permanent or removable memory having stored therein data associated with the selectable content, a sensor for identifying a specific selection made from the selectable content and a reader configured to produce an output based on the stored data in response to the selection. The selectable content can include letters, words, graphics and the like.

[0004] Although a typical book has selectable content, every word or graphic appearing on the pages in the book is generally not selectable. In such circumstances, a user can become easily frustrated when attempting the repeated selection of content for which there is no output. Even for selectable content the output is generally not multi-sensory and is usually an audible output.

[0005] Further, in a conventional electronic reading system, false identification by the reader of a page that the user is viewing and with which the user is attempting to interact also is a frequently reoccurring problem as conventional electronic reading systems generally use a single input to identify the turning of a page.

[0006] For the above reasons, it is not uncommon for a user to have a negative experience using the typical electronic reading system.

[0007] A method of teaching linguistics by providing interaction with an electronic learning system that provides multi-mode, multi-sensory interaction with the content appearing on a page and that reduces the false identification of page turning and other errors associated with page synchronization and the selection of objects of interest on a page provides a positive learning experience and makes the use of an electronic learning system more enjoyable.

BRIEF SUMMARY OF THE INVENTION

[0008] Briefly stated, one aspect of the present invention is directed to a method for teaching linguistics with an electronic learning system comprising a book and a reader. The book has selectable content. The reader has a controller and a memory. The controller has a plurality of modes of operation. The memory has stored therein material associated with the selectable content. The method comprises the steps of: allowing a selection of one mode of the plurality of modes of operation; operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation; indicating the active mode of operation of the controller; providing an instruction associated with the active mode of operation; allowing selection of the selectable content based on the instruction; and producing an output based on the material associated with the selectable content and the active mode of operation.

[0009] Another aspect of the present invention is directed to a method for teaching linguistics with an electronic learning system. The method comprises the steps of: allowing selection of letters in succession; determining after a next letter has been selected whether the selected letters spell a reserved word; and producing in response to selection of the next letter an audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing the name or phoneme of the next letter.

[0010] Another aspect of the present invention is directed to a method for teaching linguistics with an electronic reading system comprising a book and a reader for receiving the book. The book has selectable content. The reader has a controller and a memory in a reader housing having selectable indicia. The controller has a plurality of modes of operation. The memory has stored therein material associated with the selectable content and the selectable indicia. The method comprises the steps of: determining autonomously whether the reader has received the book; allowing a selection of one mode of the plurality of modes of operation; operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise corresponding to another mode of the plurality of modes of operation; indicating the active mode of operation of the controller; providing an instruction associated with the active mode of operation; allowing selection of the selectable content based on the instruction if the reader has received the book, otherwise allowing selection of the selectable indicia of the reader housing based on the instruction; and producing an output based on the

material associated with the selectable content or the selectable indicia and the active mode of operation.

According to an aspect of the present invention, there is provided a method for teaching linguistics implemented by an electronic learning system comprising a book and a reader, the book having selectable content, the reader having a controller and a memory, the controller having a plurality of modes of operation, the memory having stored therein material associated with the selectable content, the method comprising the steps of:

allowing a selection of one mode of the plurality of modes of operation;

operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation;

indicating the active mode of operation of the controller;

providing an instruction associated with the active mode of operation;

allowing a selection of the selectable content based on the instruction, the allowing a selection of the selectable content step allowing selection of letters in succession; and

producing an output based on the material associated with the selectable content and the active mode of operation, the producing an output step comprising:

determining after a next letter has been selected whether the selected letters spell a reserved word; and

producing in response to selection of the next letter a first audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing the name or phoneme of the next letter.

According to another aspect of the present invention, there is provided a method for teaching linguistics implemented by an electronic learning system, the method comprising the steps of:

allowing a selection of letters in succession;

determining after a next letter has been selected whether the selected letters spell a reserved word; and

producing in response to a selection of the next letter an audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing a name of the next letter or a phoneme representing the next letter.

According to a further aspect of the present invention, there is provided a method for teaching linguistics implemented by an electronic learning system comprising a book and a reader for receiving the book, the book having selectable content, the reader having a controller and a memory in a reader housing having an upper surface that is configured to receive the book and that includes selectable indicia covered by the book when the book is received on the upper surface, the controller having a plurality of modes of operation, the memory having stored therein material associated with the selectable content and the selectable indicia, the method comprising the steps of:

determining whether the reader has received the book;

allowing a selection of one mode of the plurality of modes of operation;

operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation;

indicating the active mode of operation of the controller;

providing an instruction associated with the active mode of operation;

allowing a selection of the selectable content based on the instruction if the reader has received the book, otherwise allowing a selection of the selectable indicia of the reader housing based on the instruction; and

producing an output based on the active mode of operation and the material associated with the selectable content or the selectable indicia.

In some embodiments, the book has a plurality of two-page spreads, and the determining step comprises identifying at least one of the two-page spreads.

According to a further aspect of the present invention, there is provided an electronic learning system adapted to implement the method as described herein.

According to a further aspect of the present invention, there is provided an electronic learning system comprising:

a book and a reader, the book having selectable content, the reader having a controller and a memory, the controller having a plurality of modes of operation, the memory having stored therein material associated with the selectable content;

means for allowing a selection of one mode of the plurality of modes of operation;

means for operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation;

means for indicating the active mode of operation of the controller;

means for providing an instruction associated with the active mode of operation;

means for allowing a selection of the selectable content based on the instruction, the means for allowing a selection of the selectable content allowing selection of letters in succession; and

means for producing an output based on the material associated with the selectable content and the active mode of operation, the means for producing an output comprising:

means for determining after a next letter has been selected whether the selected letters spell a reserved word; and

means for producing in response to selection of the next letter a first audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing the name or phoneme of the next letter.

According to a further aspect of the present invention, there is provided an electronic learning system comprising:

means for allowing a selection of letters in succession;

means for determining after a next letter has been selected whether the selected letters spell a reserved word; and

means for producing in response to a selection of the next letter an audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing a name of the next letter or a phoneme representing the next letter.

According to a further aspect of the present invention, there is provided an electronic learning system comprising:

a book and a reader for receiving the book, the book having selectable content, the reader having a controller and a memory in a reader housing having an upper surface that is configured to receive the book and that includes selectable indicia covered by the book when the book is received on the upper surface, the controller having a plurality of modes of operation, the memory having stored therein material associated with the selectable content and the selectable indicia;

means for allowing a selection of one mode of the plurality of modes of operation;

means for operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation;

means for indicating the active mode of operation of the controller;

means for providing an instruction associated with the active mode of operation;

means for allowing a selection of the selectable content based on the instruction if the reader has received the book, otherwise allowing a selection of the selectable indicia of the reader housing based on the instruction; and

means for producing an output based on the active mode of operation and the material associated with the selectable content or the selectable indicia.

In some embodiments, the book has a plurality of two-page spreads, and the means for determining comprise means for identifying at least one of the two-page spreads.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0011] The foregoing summary, as well as the following detailed description of preferred embodiments of the invention, will be better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, there is shown in the drawings embodiments, which are presently preferred. It should be understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown.

[0012] In the drawings:

[0013] Fig. 1 is a flow diagram of the steps comprising a preferred method of practicing the present invention;

[0014] Fig. 2 is a top perspective view of a representative electronic learning system suitable for use with the method of teaching linguistics in accordance with the present invention showing a reader partially overlaid with a book open to a two page spread;

[0015] Fig. 3 is a block diagram of a representative book for use with the method of the present invention;

[0016] Fig. 4 is a schematic of a representative book for use with the method of the present invention;

[0017] Fig. 5 is a schematic of a representative two-page story spread of a book suitable for use with the method of teaching linguistics in accordance with the present invention; and

[0018] Fig. 6 is a block diagram of the steps comprising a preferred method of practicing the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Certain terminology is used in the following description for convenience only and is not limiting. The words "right," "left," "lower" and "upper" designate directions in the drawings to which reference is made. The words "inwardly" and "outwardly" refer to directions toward and away from, respectively, the geometric center of the electronic learning system and designated parts thereof. The terminology includes the words noted above, derivatives thereof and words of similar import.

[0020] Additionally, as used in the claims and the corresponding portions of the specification, the word "a" means "at least one." Further, the word "or" has the meaning of a Boolean inclusive "Or". For example, the phrase "A or B" means "A" alone or "B" alone or

both "A" and "B". The term "connected" as used in the claims and in corresponding portions of the specification means that there exists between any two or more elements a structural path, which may include additional elements not explicitly recited.

[0021] Referring to Fig. 1, there is shown a preferred method for teaching linguistics, generally designated 100, and hereinafter referred to as the "linguistics teaching method" 100 in accordance with the present invention. The linguistics teaching method 100 is a method for teaching linguistics with an electronic learning system 10 comprising a book 12 and a reader 14.

[0022] Referring to Figs. 2-5, the book 12 for preferred use with the linguistics teaching method 100 preferably has a front cover 16 and a back cover 18. Between the front and back covers 16, 18, the book 12 suggestably has at least one two-page spread 20 and preferably a plurality of two-page spreads, each two-page spread having a first page 20a and a second page 20b with the selectable content 22 thereon. Preferably, the plurality of two-page spreads includes a first two-page spread 24, a last two-page spread 26 and the at least one two-page spread 20 therebetween. The selectable content 22 comprises a plurality of selectable items 28. For a typical book, such as the book 10, properly oriented for reading and open to a two-page spread, such as the at least one two-page spread 20 shown in Fig. 2, the first and second pages 20a, 20b of the at least one two-page spread 20 correspond to the left and right pages of the book 12, respectively. The two-page spread 20 may not necessarily comprise two separate and distinct pages 20a, 20b connected by a binding as shown in Fig. 2. The two-page spread 20 may be a single unitary sheet having a first (or left) side corresponding to the first page 20a and a second (or right) side corresponding to the second page 20b.

[0023] A block diagram of the electronic learning system 10 for preferred use with the linguistics teaching method 100 is shown in Fig. 6. The reader 14 of the electronic learning system 10 has a controller 30 and an internal non-volatile memory (or read only memory, "ROM") 32. The controller 30 has a plurality of modes of operation, including at least one reading mode and at least one activity mode. In the typical electronic reader 14, the reading modes may include one or more modes such as a spelling mode, a phonics mode, a words mode, a story mode and the like, and the activity modes may include one or more modes such as a count mode, a find mode, a music mode, a game mode, and the like. The functionality of each of these modes depends on the particular reader being used and the nature of the themes, scripts, and selectable content of the book . Typically, each mode, if a feature of the particular

reader being used, is uniquely associated with either an individual mode selector/switch and a corresponding mode icon or a position of a multiple position mode selector/switch and corresponding mode icons. The internal memory 32 (and/or removable non-volatile external memory 46) has stored therein rules or instructions governing the functionality of the modes of operation and material associated with the selectable content 22 of the book 12. The functionality of the modes of operation and the material associated with the selectable content 22 are further discussed below.

[0024] The controller 30 and the internal ROM 32 are in electrical communication. The controller 30 is also in electrical communication with a speech synthesizer 34, a page identification sensor 36, a mode selector 38, a content selection sensor 40, an audible output device 42 and a visible output device 44 and is able to communicate with removable, non-volatile external memory 46, such as a read only memory cartridge. Preferably, the page identification sensor 36 comprises a page reset sensor and a page locator sensor discussed below. The mode selector 38 and the content selector sensor 40 are well known sensors such as pressure sensitive or operative switches or a variety of proximity sensors that are activated by contact with or the presence of a finger, stylus (manual or electric) or the like. The audio output device 42 and the visible output device 44 are also well known devices such as a speaker and an arrangement of light emitting diodes or a liquid crystal display, respectively, or the like.

[0025] The linguistics teaching method 100 comprises a plurality of steps for teaching linguistics using a typical electronic learning system, such as the electronic learning system 10 discussed above. After the reader 14 of the electronic learning system 10 has been turned on, the presence or absence of a book positioned in the reader 14, the identify of the book, if a book is present, and the identity of a page (front cover, back cover, single or double page spread) being viewed by the user must be determined and communicated to the controller. The book (or page) identification step may require one or more inputs from the user or may occur autonomously depending on the particular book and reader being used. For example, in some reading systems, the user may be instructed "to put a book in the reader" or "to turn the page to play", before an attempt is made to identify the book or the page (or page-spread) to which the book is open.

[0026] If an input is required from the user, the input may be produced by having the user first activate a page-reset sensor, if one is present in the reader, and then a page-locator sensor. The page-reset sensor and the page-locator sensor are well known sensors such as pressure

sensitive or operative switches or a variety of proximity sensors that are activated by contact with or the presence of a finger, stylus (manual or electric) or the like. The page-reset sensor is typically located at a position on the reader proximal to the portion of the page a user is likely to grasp to turn the page or is instructed to grasp to turn the page, such as the upper left and/or right corners of the platform upon which the book is positioned. The page-locator sensor is typically proximal to a page-locator icon, such as an encircled hand in contrasting colors, appearing in a unique, predetermined location of the page. The user is instructed to touch or press the icon by the controller during initialization when the reader is first turned on and each time the page-reset sensor is thereafter activated.

[0027] The page-reset sensor sends a signal to the controller indicating that the current page has been turned and is no longer in view. The page-locator sensor sends a signal to the controller indicating the book is open to the particular page to which the user has turned. Based upon having received sequential signals from both the page-reset sensor and the page-locator sensor, the controller is configured to retrieve from the non-volatile memory material associated with the page presently in view.

[0028] The page identification step is a rule-based step that can include one or more rules, depending on the specific hardware and software configuration of the electronic reading system being used. For example, the rules could include the following:

[0029] Activation of the page-reset sensor causes the controller to output a special sound effect and an audio instruction such as "Touch the green hand to play", (in other words, activate the page-locator sensor). Selection of one of the plurality of items 28, such as an object or word as the next input after activation of the page-reset sensor causes the controller to output an audio instruction such as "Please touch the green hand."

[0030] Those skilled in the art will understand that some electronic readers may only have a page-locator sensor.

[0031] Referring to Fig. 1, after the page being viewed by the user has been identified, the linguistics teaching method 100 additionally comprises a plurality of steps shown therein and discussed below.

[0032] The allowing a selection of one mode step 110 allows a selection of one mode of operation of the plurality of modes of operation of the controller 30 for the reader 14. Preferably, the allowing a selection of one mode step 110 comprises providing to a user a plurality of selectable mode icons 48, each associated with one mode of operation of the

plurality of modes of operation, detecting a selection of one selectable mode icon of the plurality of selectable mode icons 48, and communicating to the controller 30 the one mode associated with the one selectable icon detected in the detecting a selection step.

[0033] As discussed above, the preferred book for use with the method of the present invention suggestably has at least one two-page spread 20 and preferably a plurality of two-page spreads, each at least two-page spread having a first page and a second page with the selectable book content thereon. For a typical book properly oriented for reading and open to a two-page spread, the first and second pages of the two-page spread correspond to the left and right pages of the book, respectively. As also discussed above, the plurality of modes of operation of the preferred reader for use with the preferred method of the present invention comprises at least one reading mode and at least one activity mode.

[0034] To accommodate a reading system having a book and reader with the aforementioned features, the providing a plurality of selectable mode icons step preferable comprises two additional steps. One of the two additional steps is an associating step and associates at least one selectable mode icon (or reading mode icon) 50 of the plurality of selectable mode icons 48 with the at least one reading mode and at least another selectable mode icon (or activity mode icon) 52 of the plurality of selectable mode icons 48 with the at least one activity mode. The other of the two additional steps is a positioning step and positions the at least one reading mode icon 50 on the first page 20a of the at least one two-page spread 20 and the at least one activity mode icon 52 on the second page 20b of the at least one two-page spread 20.

[0035] The operating the controller step 115 operates the controller in an active mode corresponding to the one mode, if the one mode has been selected by the user in the allowing step 110; otherwise, the operating step 115 operates the controller in an active mode corresponding to another mode of the plurality of modes of operation. The operating the controller step 115 preferably comprises as a step changing the active mode of the controller in accordance with predetermined mode change rules stored in the memory. For example, if the selectable content 22 of the book 12 includes the plurality of selectable items 28 and the plurality of modes of operation includes a words mode, the predetermined mode change rules may provide for changing the active mode to the words mode if one item of the plurality of items 28 comprising the selectable content 22 of the book 12 has been selected unless the words mode is the active mode. Further, if the plurality of modes of operation includes both a story

mode and a words mode, the predetermined mode change rules may provide for initially operating the controller 30 in the story mode and making the words mode a default mode. In order to implement such a predetermined mode change rule, the operating the controller step 115 preferably comprises as additional steps initially making the active mode the story mode, changing the active mode from the story mode to the one mode of the plurality of modes of operation, if the one mode has been selected, and changing the active mode from the story mode to the words mode if one item of the plurality of selectable items 28 has been selected. Other predetermined rules for entering and exiting modes of operation also may be included in the operating the controller step 115. For example, making the active mode the story mode if the story mode is part of the functionality of the reader 14, otherwise making the active mode the words mode if the story mode is not present. The predetermined rules could also provide for changing the active mode from story mode to words mode if one item of the plurality of selectable items has not been selected. The above examples have been disclosed for illustrative purposed and are not intended to be inclusive. The predetermined rules for entering and exiting modes may include a wide variety of operational capabilities depending on the themes, scripts and selectable content associated with the books being used.

[0036] The indicating the active mode step 120 indicates the active mode of operation of the controller. Preferably, the indicating the active mode step 120 comprises generating a visible signal associated with the active mode, such as energizing a light emitting diode (LED). Alternatively, the indicating the active mode step 120 may comprise generating an audible signal representative of the active mode. In turn, the generating an audible signal step preferably may comprise retrieving from the memory a sound representative of an attribute of the active mode and producing the sound, and may further include selecting as the attribute the name of the active mode or the functionality of the active mode or a predetermined sound effect uniquely associated with the active mode and producing a audible signal representing the selected attribute.

[0037] The providing an instruction step 125 provides an instruction associated with the active mode of operation. Preferably, the providing an instruction step 125 comprises issuing an instruction in accordance with a predetermined instruction template. For example, if the predetermined instruction template is a question template having a plurality of directives stored in the memory, the providing an instruction step 125 preferably comprises retrieving from the memory one directive of the plurality of directives associated with the selectable content 22 of

the book 12, and generating an audible directive signal representative of the one directive. For example, referring to Fig. 5, the question template may include an instruction, such as "Touch the cookies that are shaped like a __<shape>__", where <shape> is selected from a shape list including "triangle", "circle", and "square" stored in the memory 32 or the removable memory 46. Other instructions may be stored in memory depending on the nature of the themes of the book 12 and the scripts therein.

[0038] The allowing a selection of the selectable content step 130 allows a selection of the selectable content of the book based on the instruction provided in the providing an instruction step 125. As discussed above, the preferred book for use with the method of the present invention preferably has a plurality of two-page spreads, each two-page spread having a first page and a second page with the selectable content thereon. Preferably, the plurality of two-page spreads includes a first two-page spread, a last two-page spread and at least one two-page spread therebetween. To accommodate a reading system having a book with the aforementioned features, the allowing a selection of the selectable content step 130 preferably comprises providing at least one selectable item of the plurality of selectable items on the first page of at least one two-page spread and another selectable item of the plurality of selectable items on the second page of the at least one two-page spread, detecting a selection of the one selectable item or the another selectable item, and sending a selected-item signal representative of the selection to the controller. The providing at least one selectable item step, in turn, provides a story spread on the at least one two-page spread 20 of the plurality of two-page spreads. The story spread comprises a plurality of selectable words forming a sentence of a story which includes a narrative 54 and visual objects. The providing at least one selectable item step preferably also provides a story starter on the first two-page spread 24 and a story wrap-up on the last two-page spread 26.

[0039] The story starter comprises selectable items of the plurality of selectable items 28 that visually foreshadow the story and the narrative 54. For example, if the story spread comprising the narratives 54 on each of the at least two-page spreads 20 of the plurality of two-page spreads of the book 12 is directed to the theme "imagine the things you can be", and each of the at least two-page spreads 20 has a narrative 54 directed to a particular occupation, such as a baker (Fig. 5) and a plurality of selectable items 28 associated with the occupation, such as graphics of a baker and a plurality of star, circle, square, or triangular shaped cookies, the story starter may have selectable content 22 comprising a arrangement of graphics of individuals

representing the various occupations. Similarly, the story wrap-up may comprise an arrangement of selectable items that visually summarize the story and one or more of the narratives.

[0040] The producing an output step 135 produces an output based on the material associated with the selectable content of the book and the active mode of operation. Preferably, the producing an output step 135 comprises generating an audible or visible signal in accordance with a predetermined output template. For example, if the predetermined output template is a correct response template having a plurality of affirmative acknowledgements stored in the memory, the producing an output step comprises generating an audible or visible signal representative of one of the affirmative acknowledgements if a selection was made in the allowing selection of the selectable content step 130 and the selection is in a correct list stored in the memory 22. For example, the correct response template may include responses in a format such as "__<affirmative acknowledgement>__. That's a __<correct shape>__", where <affirmative acknowledgement> is selected form an affirmative acknowledgement list including "Good job", "That's right", and "Got it".

[0041] Alternatively, if the predetermined output template is an incorrect response template having a plurality of negative acknowledgements stored in the memory, the producing an output step 135 comprises generating an audible or visible signal representative of one of the negative acknowledgements if a selection was made in the allowing a selection of the selectable content step 130 and the selection is in an incorrect list stored in the memory 22. For example, the incorrect response template may include responses in a format such as "__<negative acknowledgement>__. That's a __<incorrect shape>__", where <negative acknowledgement> is selected from a negative acknowledgement list including "Oops", "Try again", and "Whoa", and <incorrect shape> is the name of the shape incorrectly selected and is stored in an incorrect shape list associated with the question asked.

[0042] If the controller is configured to discern the intent of the user based on the instruction provided in the providing an instruction step 125, the incorrect response template may identify the incorrectly selected item and repeat the instruction. For example, if the instruction is to "find a large triangle" and the user selects a small triangle, the incorrect response template may include responses in another format such as "That's a small triangle; Find the large triangle."

[0043] Sound effects stored in a sound effects list may be included with any of the aforementioned templates. The artisan will understand that the nature and form of the templates and the output of the producing an output step 135 depend on the themes of the book, the nature of the scripts for the story including scripted interaction between the user and the narratives 54 and visual objects comprising the story and the active mode of operation. Examples of the possible functionality and outputs for different modes of operation are discussed below.

[0044] When a page is first located, if a story mode is present, the story narrative is automatically read without manual activation of the story mode icon. If a story mode is not present when a page is first located or identified, then the controller automatically defaults to words mode discussed below. In story mode, the controller outputs the story text that appears on the spread as if it were being read by a narrator. If a word or object is touched while the controller is in the story mode, the controller immediately defaults to words mode and indicates that the active mode has changed by executing the indicating the active mode step 120 discussed above). To return into story mode, the user may select the story icon.

[0045] When the controller is in words mode, any word that is selected causes the controller to output the pronunciation of the word. Any illustrated object that is selected causes the controller to output the scripted line or the scripted sound effect associated with the object. Subsequent selection of active words and objects scripted with responses other than just sound effects have more than one response if that word or object is used in any of the activities on that page. Referring to Fig. 5 for example, if the object "triangle" is selected and in another mode there is a later instruction "find the picture that begins with T?", the response in words mode if a triangle is selected, will be "Triangle." "Triangle begins with the letter T".

[0046] When the controller is in phonics mode, any word subsequently selected will cause the controller to output the phonemic elements forming the sounds comprising the word according to the pattern, <WORD> < SEPARATE PHONEMIC ELEMENTS> < WORD>.

[0047] When the controller is in spelling mode, any word subsequently selected will cause the controller to output the spelling of the word according to the pattern <WORD> <SEPARATE LETTERS> <WORD>.

[0048] When the controller is in find mode, the controller causes the user's visual discrimination skills to be enhanced by outputting a prompt asking the user to find and touch various words (e.g. based on beginning or end letters, rhymes or phonics) and objects (e.g.

based on story content, rhymes, beginning or end letters or phonics) in the illustration in response.

[0049] Game (or surprise) mode is like a wild card. When the controller is in game mode, the user participates in an activity that may not fit into any of the other modes. Some examples of activities that may be in this mode include: rhyming, matching, patterning, including mazes—even jokes and riddles. Also, any activity that involves compound selections such as the following scripted interaction: "Find something big…(user selects a big triangle)…Great! That triangle is big…Now select a small triangle." (Fig. 5)

[0050] When the controller is in count mode, the controller will cause the output to ask the user to find a certain number of objects in the illustration. Referring to Fig. 5 for example, the controller will output "Find 5 triangles". Each new triangle pointed to in will 'sound off' with it's number. Order of objects touched is unimportant. Objects that have already been counted will elicit "You've already counted me, can you find another triangle?" Until all objects have been counted.

[0051] When the controller is in music mode, the controller outputs a prompt instructing the user to select an object to hear a song and may prompt the user to select a sequence of objects to make a song.

[0052] Embedded in one or more of the above modes may be a bad (or reserved) words mode with the following functionality. If the allowing a selection of the selectable content step 130 allows the selection of individual letters in succession, the producing an output step 135 comprises the additional steps of determining after a next letter has been selected whether the selected letters spell a reserved word, and producing in response to a selection of the next letter an audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing the name or phoneme of the next letter or realizing that the word is vulgar and not allowing the spelling or sounding of the last letter and replacing the last letter or sound with a prescribed phrase..

[0053] While the linguistics teaching method 100 in accordance with the present invention has been disclosed with reference to the use of a preferred embodiment of a book and a reader, the linguistics teaching method 100 may be practiced with a wide variety of reading systems. For example, the linguistics teaching method 100 is not limited to a bound book openable into a plurality of two-page spreads and a reader only configured to receive such a book. In general, the linguistics teaching method 100 is applicable to a reading system comprising any print

media having selectable content and a corresponding reader for receiving the print media. Further, the linguistics teaching method 100 may be practiced with reading systems that do not have a book if the reader has an interface presenting to the user selectable content. Still further, the linguistics teaching method 100 may be practiced with other types of electronic interactive systems, such as smart game boards or puzzle-like platforms having the general functionality, either totally or partially, of the systems disclosed above.

[0054] Accordingly, those skilled in the art will understand that changes could be made to the embodiments described above without departing from the broad inventive concept thereof. It is understood, therefore, that this invention is not limited to the particular embodiments disclosed, but it is intended to cover modifications within the spirit and scope of the present invention as disclosed herein and defined by the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for teaching linguistics implemented by an electronic learning system comprising a book and a reader, the book having selectable content, the reader having a controller and a memory, the controller having a plurality of modes of operation, the memory having stored therein material associated with the selectable content, the method comprising the steps of:

allowing a selection of one mode of the plurality of modes of operation;

operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation;

indicating the active mode of operation of the controller;

providing an instruction associated with the active mode of operation;

allowing a selection of the selectable content based on the instruction, the allowing a selection of the selectable content step allowing selection of letters in succession; and

producing an output based on the material associated with the selectable content and the active mode of operation, the producing an output step comprising:

determining after a next letter has been selected whether the selected letters spell a reserved word; and

producing in response to selection of the next letter a first audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing the name or phoneme of the next letter.

2. The method for teaching linguistics according to claim 1, wherein the allowing a selection of one mode step comprises:

providing a plurality of selectable mode icons, each associated with one mode of operation of the plurality of modes of operation;

detecting a selection of one selectable mode icon of the plurality of selectable mode icons; and

communicating to the controller the one mode associated with the one selectable icon detected in the detecting a selection step.

3. The method for teaching linguistics according to claim 2, wherein the book has at least one two-page spread having a first page and a second page, the selectable content is on the at least one two-page spread, the plurality of modes of operation comprises at least one reading mode and at least one activity mode, and the providing a plurality of selectable mode icons step comprises:

associating at least one of the plurality of selectable mode icons with the at least one reading mode and at least another of the plurality of selectable mode icons with the at least one activity mode; and

positioning the at least one reading mode icon on the first page of the at least one two-page spread and the at least one activity mode icon on the second page of the at least one two-page spread.

4. The method for teaching linguistics according to any one of claims 1 to 3, wherein the operating the controller step comprises changing the active mode in accordance with a predetermined mode change rule stored in the memory.

5. The method for teaching linguistics according to any one of claims 1 to 4, wherein the selectable content includes a plurality of selectable items, the plurality of modes of operation includes a story mode and a words mode, and the operating the controller step comprises:

making the active mode the story mode;

changing the active mode from the story mode to the one mode if the one mode has been selected; and

changing the active mode from the story mode to the words mode if one item of the plurality of selectable items has been selected.

6. The method for teaching linguistics according to claim 5, wherein the operating the controller step further comprises changing the active mode to the words mode if one item of the plurality of selectable items has been selected unless the words mode is the active mode.

7. The method for teaching linguistics according to any one of claims 1 to 6, wherein the indicating the active mode step comprises generating a visible signal associated with the active mode.

8. The method for teaching linguistics according to claim 7, wherein the generating a visible signal step comprises energizing a light emitting diode.

9. The method for teaching linguistics according to any one of claims 1 to 6, wherein the indicating the active mode step comprises generating a second audible signal representative of the active mode.

10. The method for teaching linguistics according to claim 9, wherein the generating a second audible signal step comprises retrieving from the memory a sound representative of an attribute of the active mode and producing the sound.

11. The method for teaching linguistics according to claim 10, wherein the retrieving step further comprises selecting as the attribute the name of the active mode or the functionality of the active mode or a predetermined sound effect uniquely associated with the active mode.

12. The method for teaching linguistics according to any one of claims 1 to 11, wherein the providing an instruction step comprises issuing an instruction in accordance with a predetermined instruction template.

13. The method for teaching linguistics according to claim 12, wherein the predetermined template is a question template having a plurality of directives stored in the memory and the providing an instruction step comprises:

retrieving from the memory one directive of the plurality of directives; and

generating an audible directive signal representative of the one directive.

14. The method for teaching linguistics according to claim 1, wherein the book has a plurality of two-page spreads, each two-page spread having a first page and a second

page, the selectable content includes a plurality of selectable items and the allowing selection of the selectable content step comprises:

providing at least one selectable item of the plurality of selectable items on the first page and another selectable item of the plurality of selectable items on the second page;

detecting a selection of the one selectable item or the another selectable item; and sending a selected-item signal representative of the selection to the controller.

15. The method for teaching linguistics according to claim 14, wherein the providing step provides a story spread on at least one two-page spread of the plurality of two-page spreads, the story spread comprising a plurality of selectable words forming a sentence of a story including a narrative.

16. The method for teaching linguistics according to claim 15, wherein the plurality of two-page spreads includes a first two-page spread and the providing step further comprises providing a story starter on the first two-page spread, the story starter comprising selectable items that visually foreshadow the story.

17. The method for teaching linguistics according to claim 16, wherein the plurality of two-page spreads includes a final two-page spread and the providing step further comprises providing a story wrap-up on the final two-page spread, the story wrap-up comprising selectable items that visually summarize the story.

18. The method for teaching linguistics according to any one of claims 1 to 8, wherein the producing an output step comprises generating a second audible signal or a visible signal in accordance with a predetermined output template.

19. The method for teaching linguistics according to claim 18, wherein the predetermined output template is a correct response template having a plurality of affirmative acknowledgements stored in the memory and the producing an output step comprises generating a second audible signal or a visible signal representative of one of the affirmative acknowledgements if a selection was made in the allowing a selection of the selectable content step and the selection is in a correct list stored in the memory.

20. The method for teaching linguistics according to claim 18, wherein the predetermined output template is an incorrect response template having a plurality of negative acknowledgements stored in the memory and the producing an output step comprises generating an audible or visible signal representative of one of the negative acknowledgements if a selection was made in the allowing a selection of the selectable content step and the selection is in an incorrect list stored the memory.

21. An electronic learning system comprising:

means for allowing a selection of letters in succession;

means for determining after a next letter has been selected whether the selected letters spell a reserved word; and

means for producing in response to a selection of the next letter an audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing a name of the next letter or a phoneme representing the next letter.

22. An electronic learning system comprising:

a book and a reader, the book having selectable content, the reader having a controller and a memory, the controller having a plurality of modes of operation, the memory having stored therein material associated with the selectable content;

means for allowing a selection of one mode of the plurality of modes of operation;

means for operating the controller in an active mode corresponding to the one mode if the one mode has been selected, otherwise operating the controller in an active mode corresponding to another mode of the plurality of modes of operation;

means for indicating the active mode of operation of the controller;

means for providing an instruction associated with the active mode of operation;

means for allowing a selection of the selectable content based on the instruction, the means for allowing a selection of the selectable content allowing selection of letters in succession; and

means for producing an output based on the material associated with the selectable content and the active mode of operation, the means for producing an output comprising:

means for determining after a next letter has been selected whether the selected letters spell a reserved word; and

means for producing in response to selection of the next letter a first audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing the name or phoneme of the next letter.

23. The electronic learning system according to claim 22, wherein the means for allowing a selection of one mode comprise:

means for providing a plurality of selectable mode icons, each associated with one mode of operation of the plurality of modes of operation;

means for detecting a selection of one selectable mode icon of the plurality of selectable mode icons; and

means for communicating to the controller the one mode associated with the one selectable icon detected by the means for detecting a selection.

24. The electronic learning system according to claim 23, wherein the book has at least one two-page spread having a first page and a second page, the selectable content is on the at least one two-page spread, the plurality of modes of operation comprises at least one reading mode and at least one activity mode, and the means for providing a plurality of selectable mode icons comprise:

means for associating at least one of the plurality of selectable mode icons with the at least one reading mode and at least another of the plurality of selectable mode icons with the at least one activity mode; and

means for positioning the at least one reading mode icon on the first page of the at least one two-page spread and the at least one activity mode icon on the second page of the at least one two-page spread.

25. The electronic learning system according to any one of claims 22 to 24, wherein the means for operating the controller comprises changing the active mode in accordance with a predetermined mode change rule stored in the memory.

26. The electronic learning system according to any one of claims 22 to 25, wherein the selectable content includes a plurality of selectable items, the plurality of modes of operation includes a story mode and a words mode, and the means for operating the controller comprise:

means for making the active mode the story mode;

means for changing the active mode from the story mode to the one mode if the one mode has been selected; and

means for changing the active mode from the story mode to the words mode if one item of the plurality of selectable items has been selected.

27. The electronic learning system according to claim 26, wherein the means for operating the controller further comprises means for changing the active mode to the words mode if one item of the plurality of selectable items has been selected unless the words mode is the active mode.

28. The electronic learning system according to any one of claims 22 to 27, wherein the means for indicating the active mode comprises means for generating a visible signal associated with the active mode.

29. The electronic learning system according to claim 28, wherein the means for generating a visible signal comprise means for energizing a light emitting diode.

30. The electronic learning system according to any one of claims 22 to 27, wherein the means for indicating the active mode comprise means for generating a second audible signal representative of the active mode.

31. The electronic learning system according to claim 30, wherein the means for generating a second audible signal comprise means for retrieving from the memory a sound representative of an attribute of the active mode and producing the sound.

32. The electronic learning system according to claim 31, wherein the means for retrieving further comprise means for selecting as the attribute the name of the active

mode or the functionality of the active mode or a predetermined sound effect uniquely associated with the active mode.

33. The electronic learning system according to any one of claims 22 to 32, wherein the means for providing an instruction comprise means for issuing an instruction in accordance with a predetermined instruction template.

34. The electronic learning system according to claim 33, wherein the predetermined template is a question template having a plurality of directives stored in the memory and the means for providing an instruction comprises:

means for retrieving from the memory one directive of the plurality of directives; and

means for generating an audible directive signal representative of the one directive.

35. The electronic learning system according to claim 22, wherein the book has a plurality of two-page spreads, each two-page spread having a first page and a second page, the selectable content includes a plurality of selectable items, and the means for allowing selection of the selectable content comprise:

means for providing at least one selectable item of the plurality of selectable items on the first page and another selectable item of the plurality of selectable items on the second page;

means for detecting a selection of the one selectable item or the another selectable item; and

means for sending a selected-item signal representative of the selection to the controller.

36. The electronic learning system according to claim 35, wherein the means for providing provides a story spread on at least one two-page spread of the plurality of two-page spreads, the story spread comprising a plurality of selectable words forming a sentence of a story including a narrative.

37. The electronic learning system according to claim 36, wherein the plurality of two-page spreads includes a first two-page spread and the means for providing further comprises means for providing a story starter on the first two-page spread, the story starter comprising selectable items that visually foreshadow the story.

38. The electronic learning system according to claim 37, wherein the plurality of two-page spreads includes a final two-page spread and the means for providing further comprises means for providing a story wrap-up on the final two-page spread, the story wrap-up comprising selectable items that visually summarize the story.

39. The electronic learning system according to any one of claims 22 to 29, wherein the means for producing an output comprises means for generating a second audible signal or a visible signal in accordance with a predetermined output template.

40. The electronic learning system according to claim 39, wherein the predetermined output template is a correct response template having a plurality of affirmative acknowledgements stored in the memory and the means for producing an output comprise means for generating a second audible signal or a visible signal representative of one of the affirmative acknowledgements if a selection was made in the means for allowing a selection of the selectable content step and the selection is in a correct list stored in the memory.

41. The electronic learning system according to claim 39, wherein the predetermined output template is an incorrect response template having a plurality of negative acknowledgements stored in the memory and the means for producing an output comprise generating a second audible signal or a visible signal representative of one of the negative acknowledgements if a selection was made in the means for allowing a selection of the selectable content and the selection is in an incorrect list stored in the memory.

42. A method for teaching linguistics implemented by an electronic learning system, the method comprising the steps of:

allowing a selection of letters in succession;

determining after a next letter has been selected whether the selected letters spell a reserved word; and

producing in response to a selection of the next letter an audible signal representing a word starting with the next letter if the reserved word has been formed, otherwise producing a name of the next letter or a phoneme representing the next letter.

LINGUISTICS TEACHING METHOD

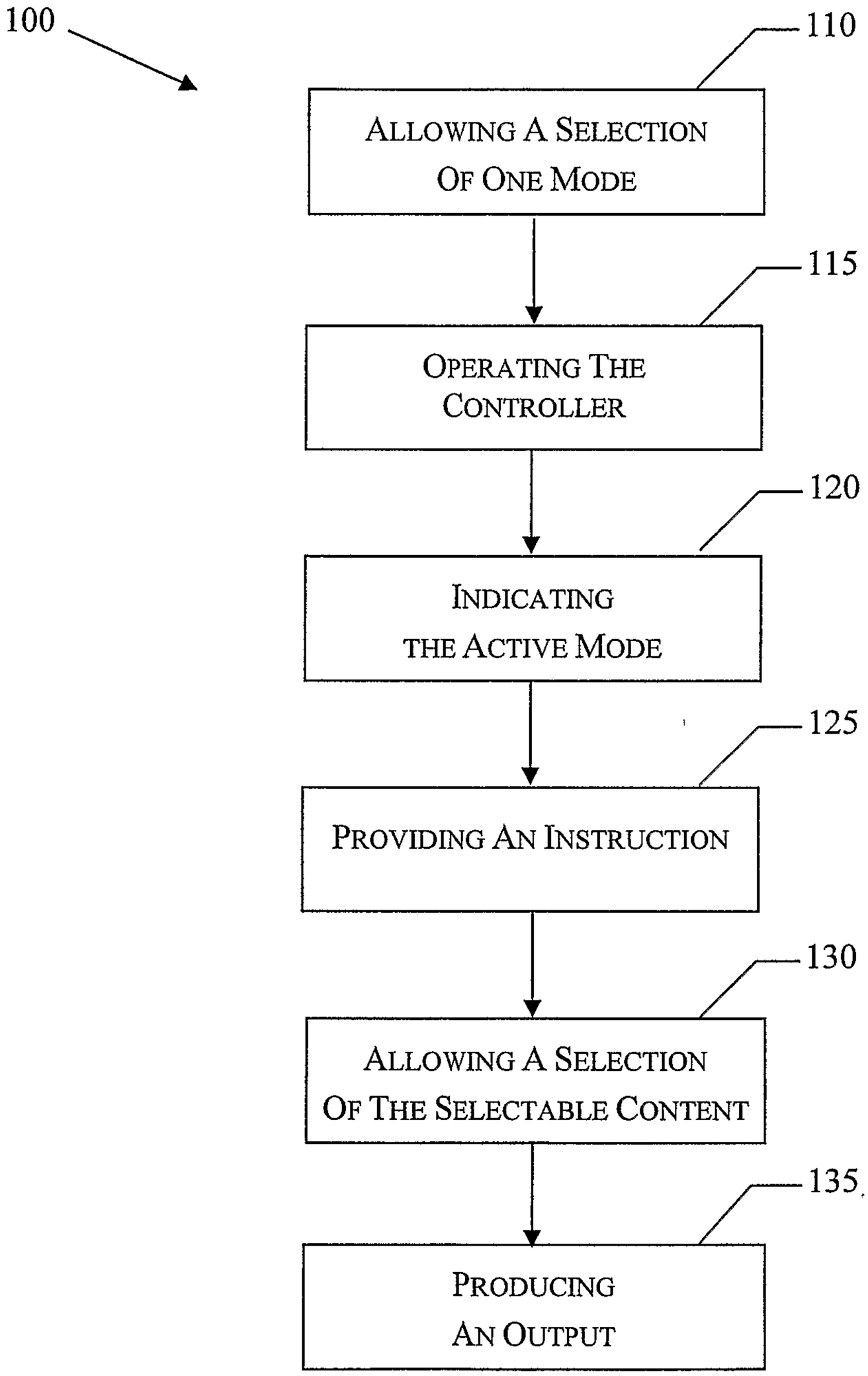


Fig. 1

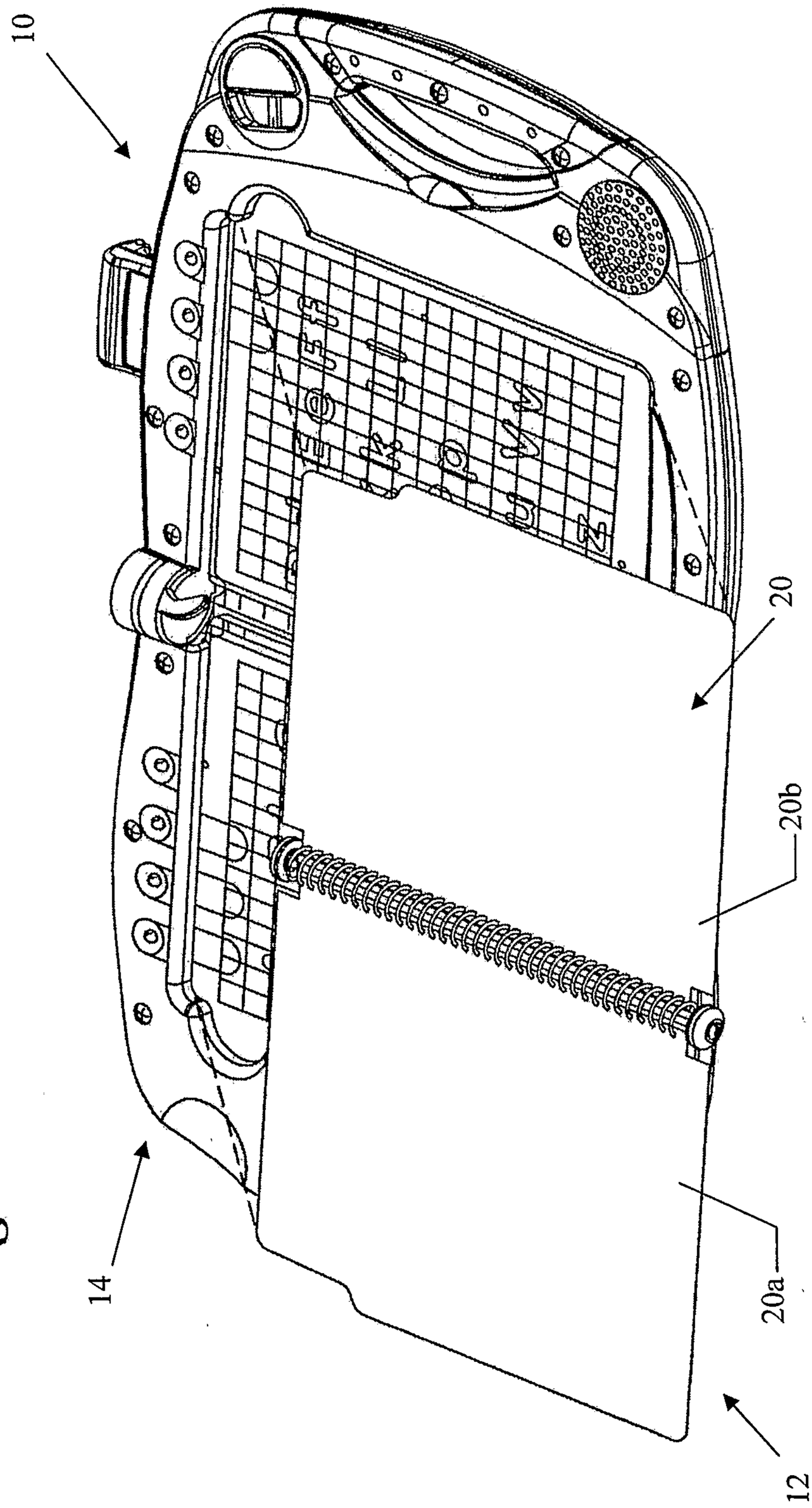


Fig. 2

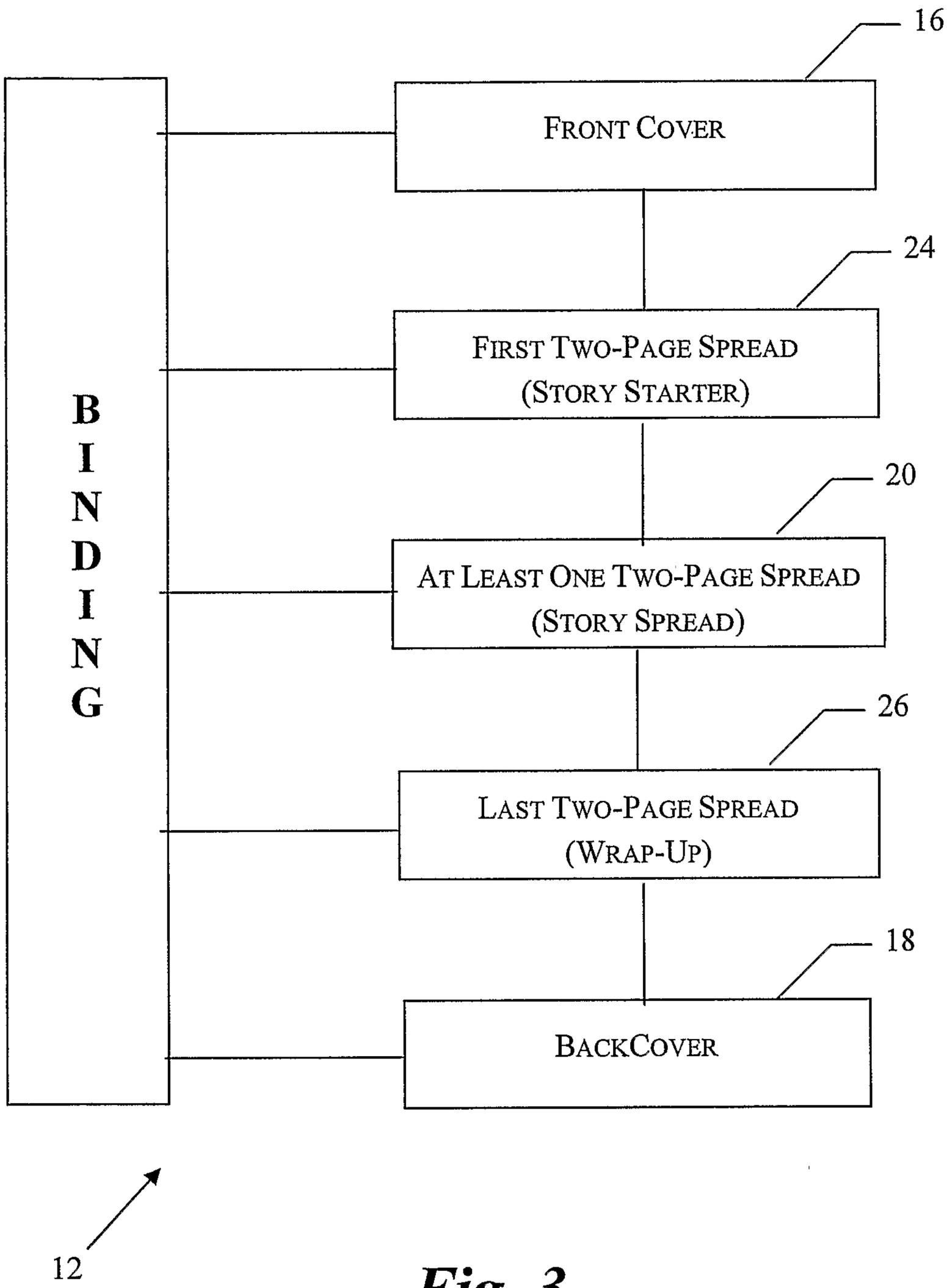

16
FRONT COVER
24
FIRST TWO-PAGE SPREAD
(STORY STARTER)
20
AT LEAST ONE TWO-PAGE SPREAD
(STORY SPREAD)
26
LAST TWO-PAGE SPREAD
(WRAP-UP)
18
BACKCOVER
BINDING
12

Fig. 3

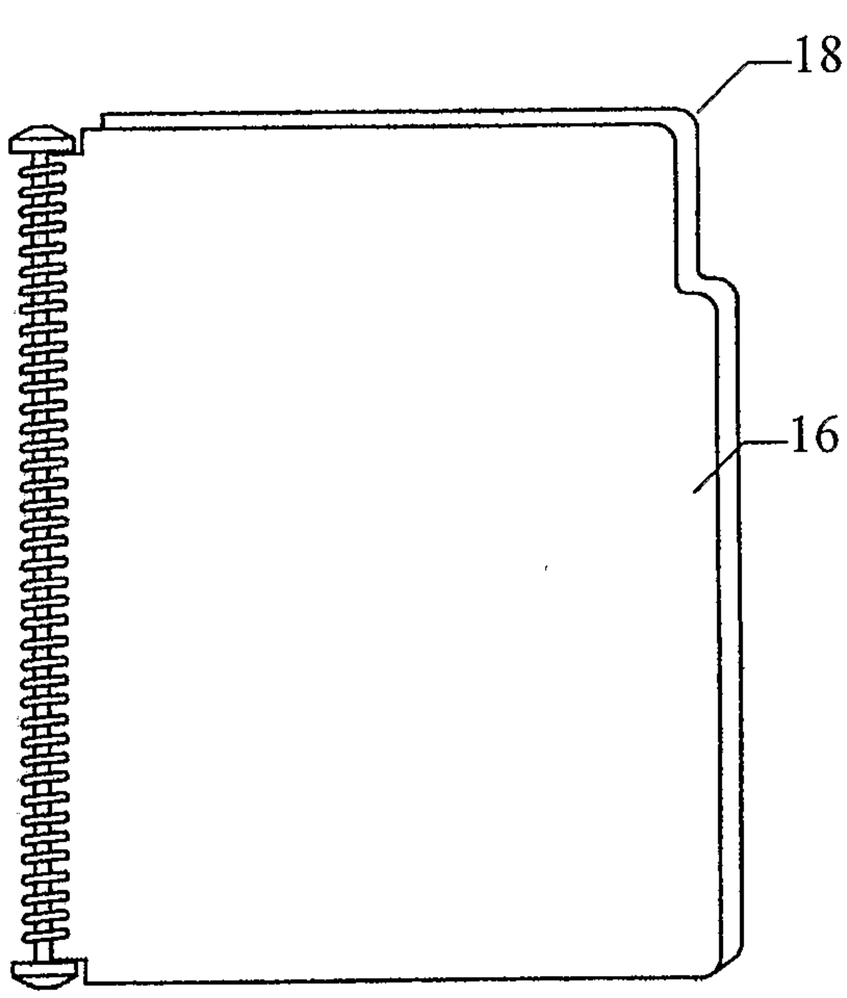

12
18
16

Fig. 4

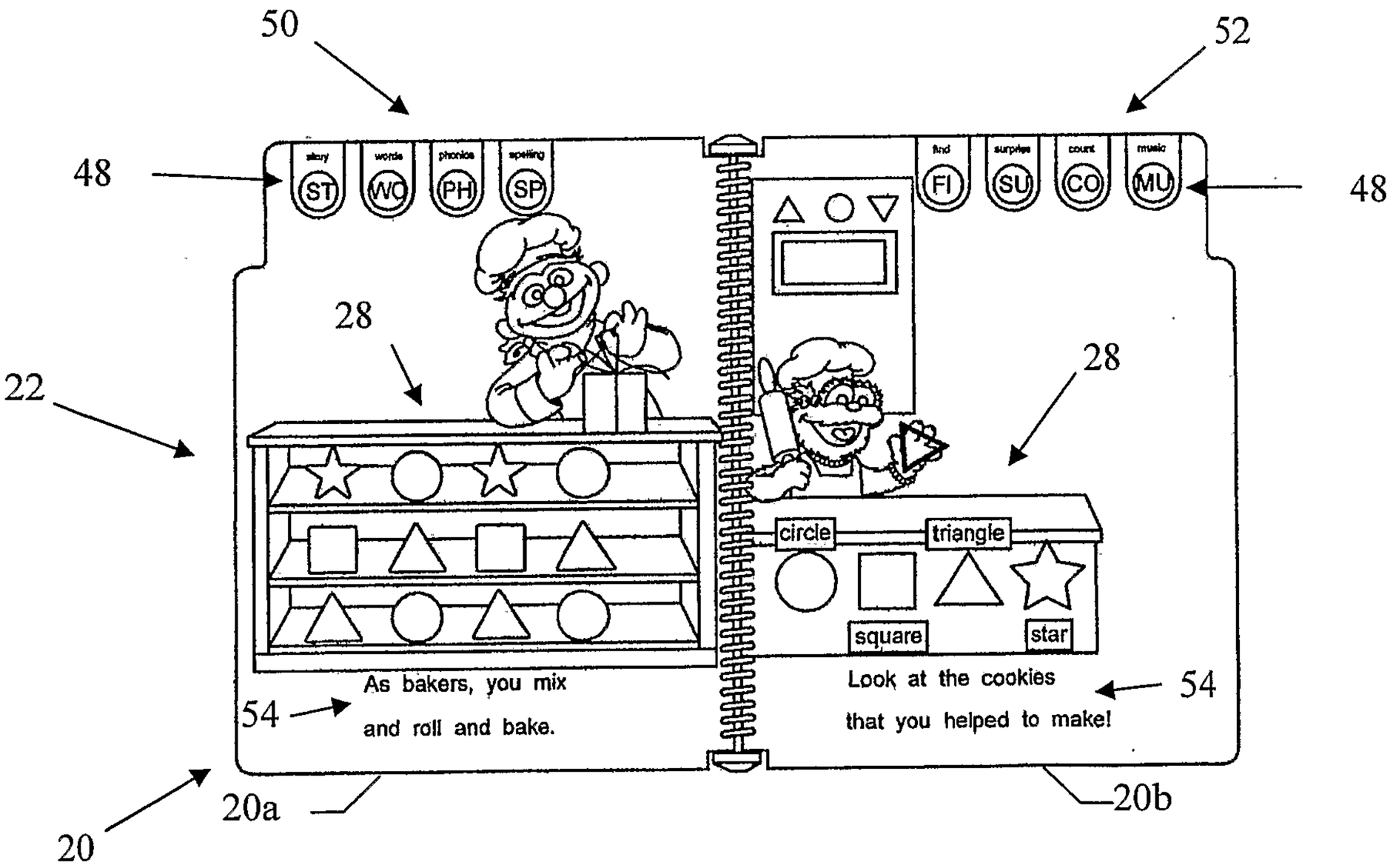

50
52
48
48
story
words
phonics
spelling
find
surprise
count
music
ST
WO
PH
SP
FI
SU
CO
MU
28
28
22
circle
triangle
square
star
As bakers, you mix
and roll and bake.
54
Look at the cookies
that you helped to make!
54
20a
20b
20

Fig. 5

ELECTRONIC LEARNING SYSTEM

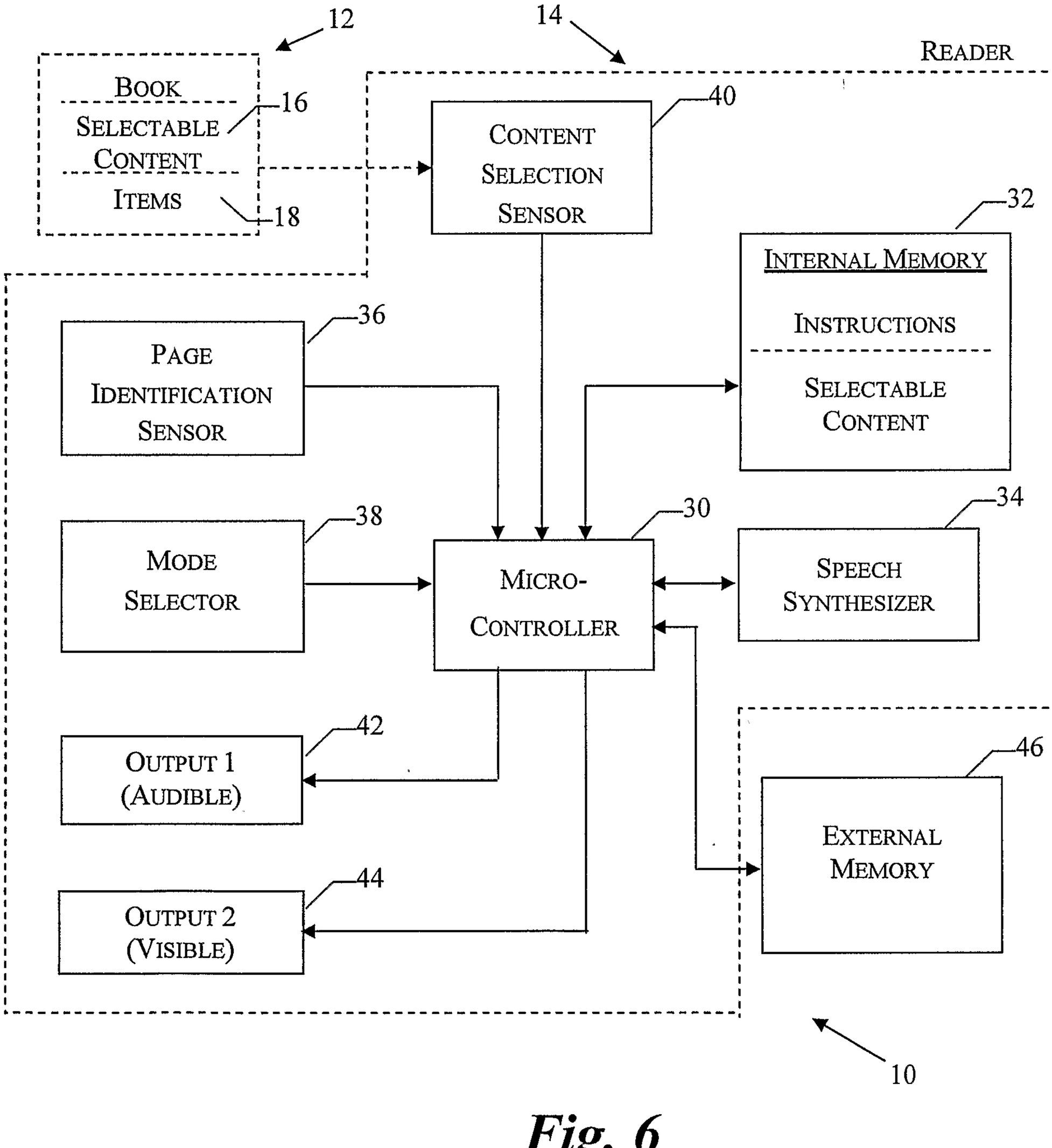
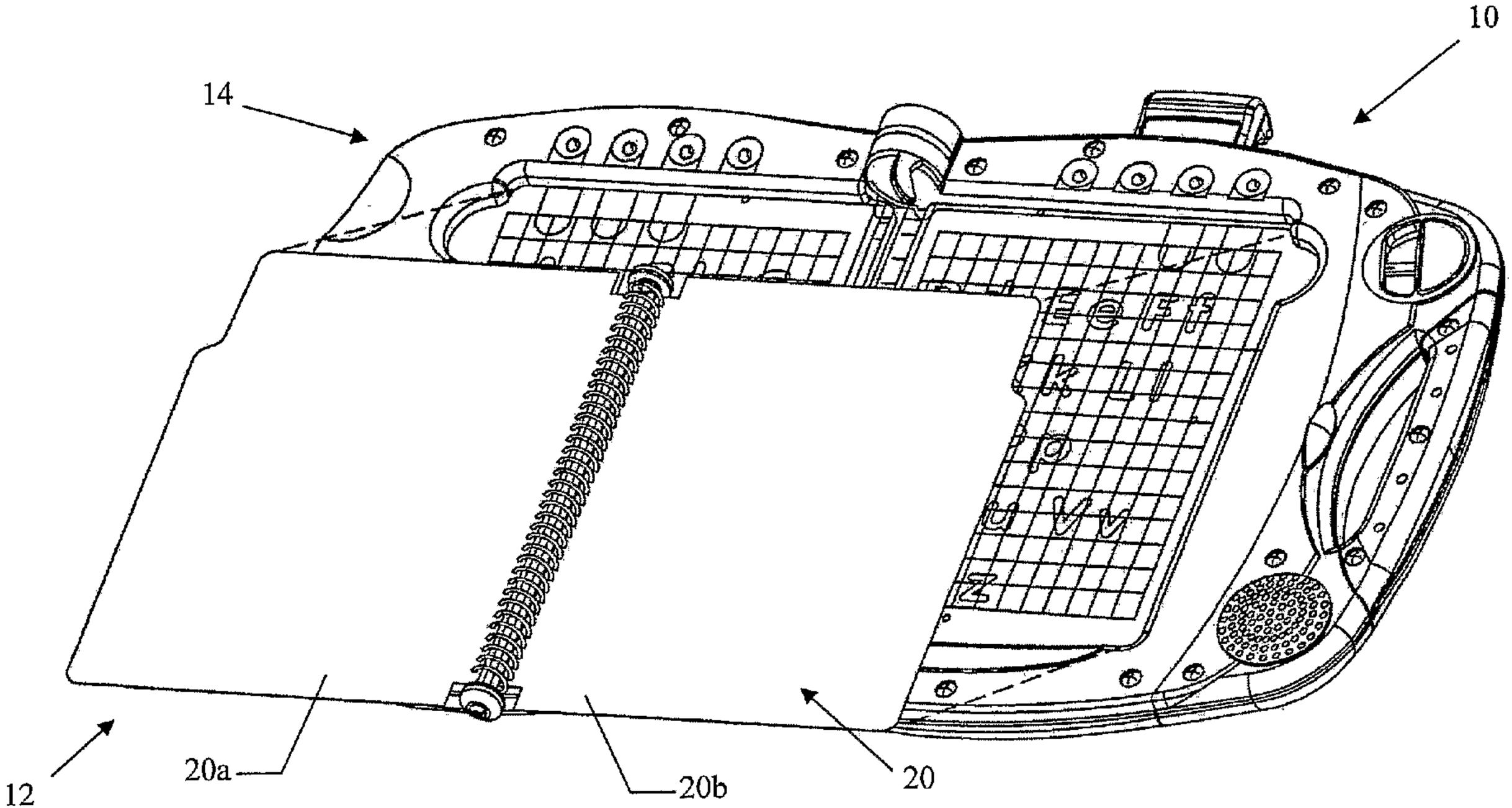


Fig. 6


10
14
12
20a
20b
20