INTERACTIVE TALKING PICTURE MACHINE

BACKGROUND OF THE INVENTION

This invention relates generally to the field of electronic talking books. More particularly, this invention relates to an electronic talking picture device which interacts with the reader based upon options selected by the reader. The interactive talking picture machine of the present invention is well suited for young children who enjoy having stories told to them from picture books.

Prior art electronic books which can talk are known in the field. However, such prior art books having high voice and sound quality are relatively expensive. In addition, prior art talking books do not interact with the reader. Also, prior art talking book machines are not programmable to allow the reader (i.e., child) to interact with the unfolding story. While there have been advances and improvements in the field of electronic talking books, there continues to be a need for new and improved electronic talking books which more closely resemble actual live story telling, are low cost like non-talking books, allow the reader more interaction with the story telling machine and provide the reader with more personal input in making the story characters speak, or in the case of animals making appropriate sounds. Additionally, control over the story line and outcome of the story is also desired as well as having the ability to help develop memory retention by asking questions and checking the answers.

SUMMARY OF THE INVENTION

The above-discussed and other drawbacks and deficiencies of the prior art are overcome or alleviated by the interactive talking picture machine of the present invention. In accordance with the present invention, an electronic talking book is presented which permits the human reader to input story line alternatives which affect the outcome of the story. The story (or collection of shorter stories) are encapsulated in relatively inexpensive cartridges (similar cost as to books) where all the pictures, and corresponding speech, sound and branching data are printed preferably on a laminated or plain paper "picture roll". In a preferred embodiment, each picture ("page") uses a four color picture process and fills up a 3×4 inch frame (of course, any other reasonable size is acceptable). Significantly, the story cartridges contain no electronics and so are extremely low cost. The "pages" comprise a frame such that the "story" is made up of a series of spaced frames which are sequentially advanced by winding a crank (or alternatively, using a battery operated motorized winding mechanism), in either case automatically stops at the next picture "page" in the story. While advancing from frame to frame a song is preferably played. The preferred cartridge can be inserted with either the "A" side or the "B" side up. By convention the "A" side is always the starting or dominant side. Each cartridge preferably contains two stories and/or a continuation of the first story on the "B" side. In a less preferable cartridge only one side (the "A" or "B" side) is played. In an also less preferable cartridge a continuous loop is employed thereby eliminating the need to flip sides.

In accordance with an important feature of this invention, information regarding the narration story, songs and the like are recorded on the roll using inexpensive coding means, preferably bar coding (or less preferably, magnetic tape). Printed bar code information corresponding to each "page" or frame in a "story" provides an extremely low cost and easily reproducible (through conventional printing and other reproductive methods) method of recording story information for use by the present invention whose preferred embodiment uses a stationary photo-optic sensor to "read" the code which is moved past the sensor when sequencing in from one frame to the next.

Each story cartridge is removably received in a cavity of a housing. The housing includes the cartridge cavity and a roll-moving spindle means, internal electronics and a plurality of input means (i.e., switches) for advancing the story (moving from frame to frame) and interacting with the story as discussed below. The cartridge cavity has a section coinciding with the cartridges viewing window which includes a multi-key pad (e.g., membrane key board) which may be aligned with objects or characters in a "page" or frame. That is, as a frame of the story is moved completely into the cartridge viewing window, the frame will be superimposed over keys such that pressing selected areas of the frame (picture) will cause speech, sounds, or other similar responses. Each page preferably has both pictures and words. Thus, when the reader touches a printed word in a sentence, an underlying key is actuated and the word or whole sentence is spoken; or when the picture, for example, of an animal is touched, an underlying key is actuated and the appropriate animal sound is heard or appropriate sentence spoken by the animal. There is also a provision for branching a story when the appropriate key pad switch or console switch is pressed.

Another feature of the present invention is that it can be switched between an "automatic" or "press and say" mode. In the latter mode, when the picture appears in the frame the words will not be spoken by the characters. In this way, the reader can read the line. If the reader has trouble, he or she can put their finger on any word on the line and the machine will say the line. In the automatic mode, the characters in the frame speak the printed words once the frame is fully within the window. In addition, other features such as questions and answers can be included by appropriate encoding of the cartridge in the cartridges such that this invention can take the form of a quiz game or educational device.

In another embodiment of this invention, the viewing section is provided with back lighting and the picture roll includes multiple color laminate using a black dot (half tone larger) filter such that the underlying color is only visible only when lit. This alternative embodiment is especially well suited for depicting cartoon or comic-like stories with apparent movement of the characters.

The above-discussed and other features and advantages of the present invention will be appreciated and understood by those skilled in the art from the following detailed description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring now to the drawings wherein like elements are numbered alike in the several FIGURES:

FIG. **1** is a front elevational view of an interactive talking picture machine in accordance with the present invention;

FIG. **2** is a front elevation view of the device of FIG. **1** with the cartridge ommitted;

FIG. **2A** is a top view showing an alternate embodiment of the interactive talking picture machine of FIG. **1**;

FIG. **3** is a rear view of a cartridge containing a roll having a story depicted therein in sequential frames and being provided with bar encoded information;