

(21) Application No: 1605543.6

(22) Date of Filing: 31.03.2016

(71) Applicant(s):  
Raoul Gomez Johnson  
20 Barleycroft, Waterford, Hertford, Herts, SG14 2QB,  
United Kingdom

(72) Inventor(s):  
Raoul Gomez Johnson

(74) Agent and/or Address for Service:  
Dr Walther Wolff & Co  
Sherwood House, 5 Bluecoats Avenue, Hertford,  
SG14 1PB, United Kingdom

(51) INT CL:  
B42D 1/00 (2006.01) A63H 33/38 (2006.01)  
G09B 5/00 (2006.01) G09B 5/02 (2006.01)

(56) Documents Cited:  
WO 2012/007620 A1 WO 2007/085661 A1  
CN 202965551 U US 20160068002 A1  
US 20130177291 A1 US 20080145828 A1  
US 20050260551 A1

(58) Field of Search:  
INT CL A63H, B42D, G09B  
Other: WPI, EPODOC

(54) Title of the Invention: Educational and/or entertainment product  
Abstract Title: Book with video device

(57) A product comprising a book 11 and an entertainment device 12; the book comprising covers 13, 14 one of which is provided with a housing defining a cavity; the device received in the cavity and comprising a video unit 18 with display screen 19, a memory 20 for storing the recording, a sound output means 21, control means 23 for controlling operation of the video unit, a rechargeable power source 24 and means 25 for transmitting power from a port 28 to the power source; where the entertainment device is enclosing in the housing and the housing has a window towards the pages through which the screen is visible. Preferably the port also passes data signals to save data to the memory. Preferably the video unit is able to be switched on and off by movement of the cover relative to the pages. The device provides multimedia content to the reader.

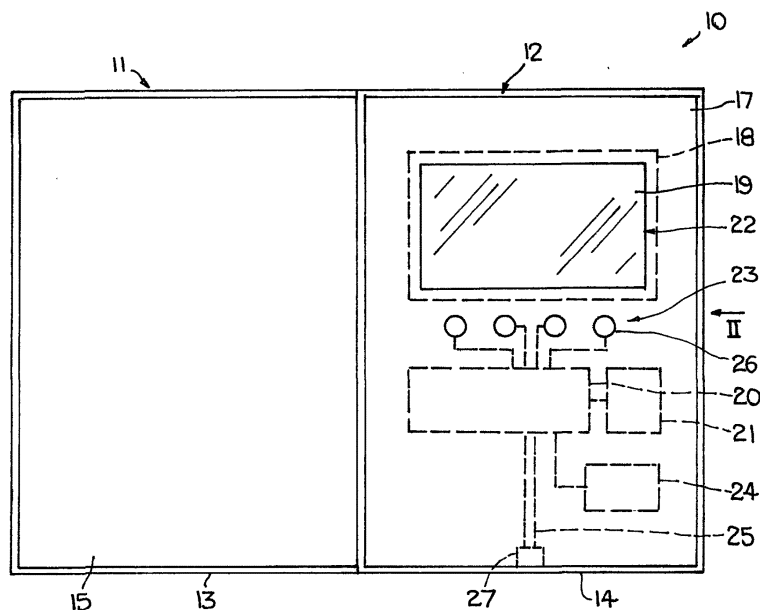


FIG. 1

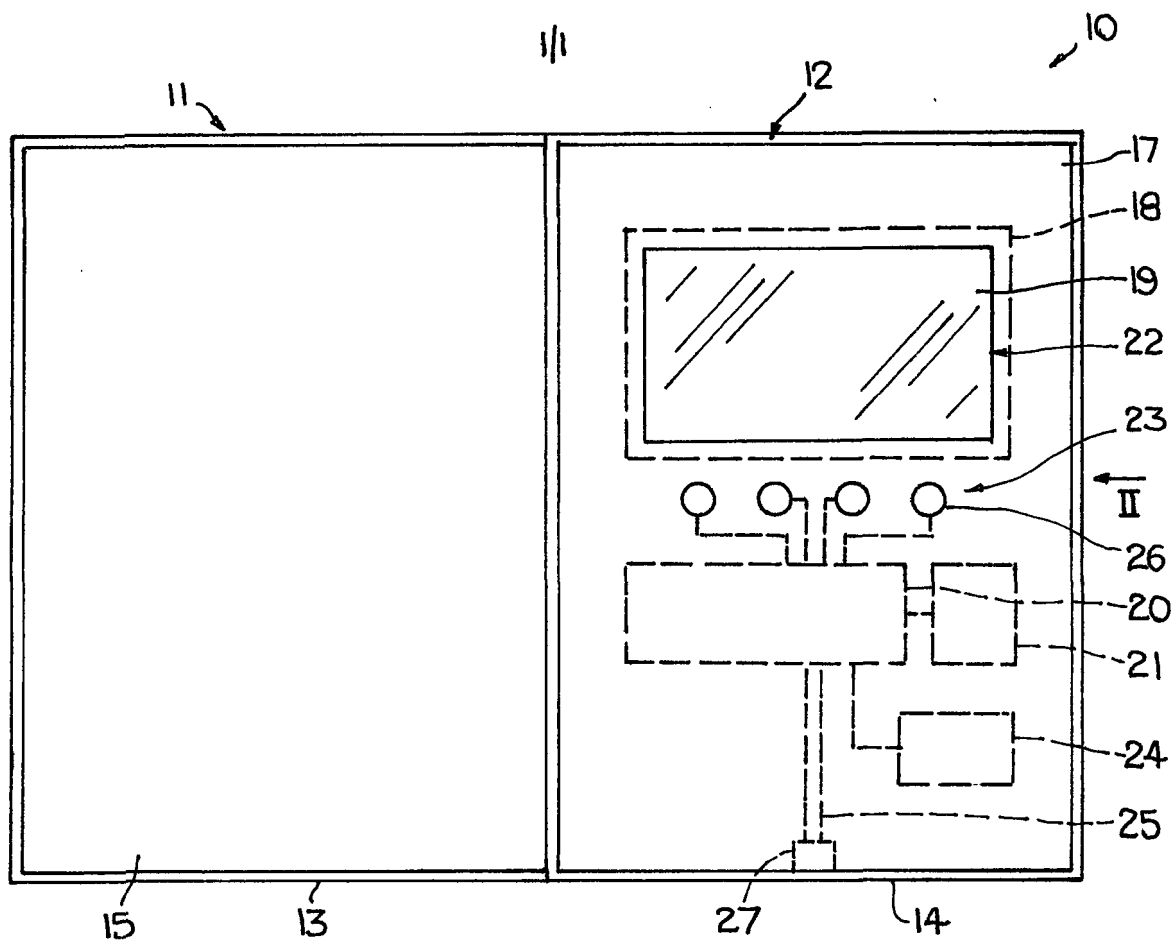


FIG. 1

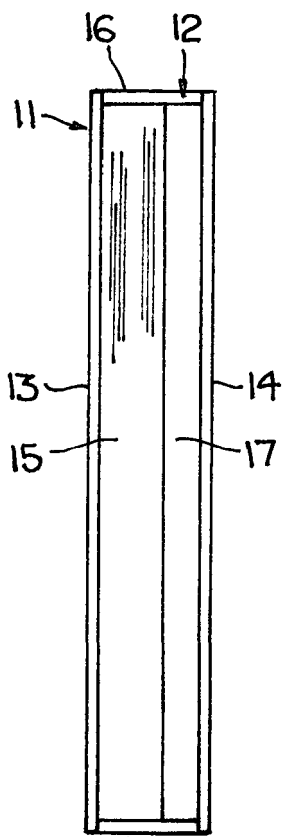


FIG. 2

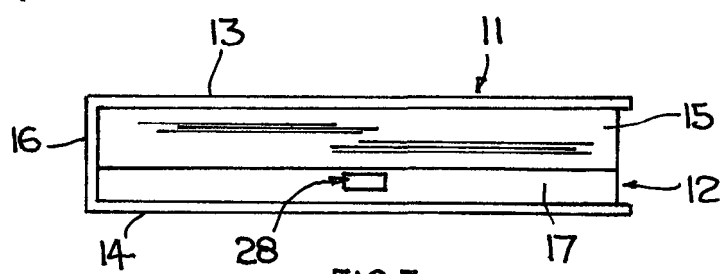


FIG. 3

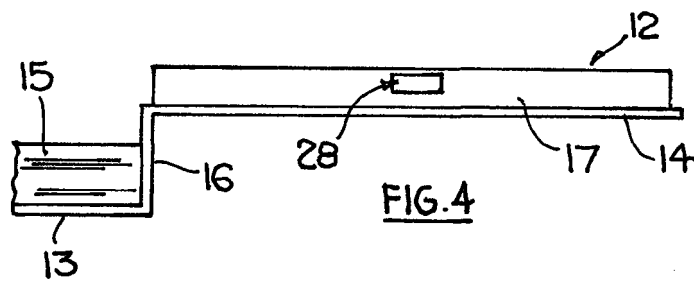


FIG. 4

## EDUCATIONAL AND/OR ENTERTAINMENT PRODUCT

The present invention relates to an educational and/or entertainment product.

Books with textual and/or pictorial content represent one of the most important tools for education, especially in the case of children, for teaching an understanding of language and the identification of objects by recognition of images. Although electronic books are in widespread use, by far the most common, simple and durable and least expensive form of book remains the traditional format of a set or block of printed paper pages sandwiched between hinged, usually rigid, covers, which can be opened to give access to the individual pages. Correspondingly, in widespread use in the entertainment field are electronic video units now commonly forming part of mobile telephones or computers or available as standalone units, for example for playing games. Depending on content, material displayed by such video units can, of course, also have an educational value.

The object of the present invention is to create an educational and/or entertainment product combining passive and active communication, particularly presentation of printed text and/or images as provided by a book and presentation of electronic images and sound as provided by a video unit.

Other objects and advantages of the invention will be apparent from the following description.

According to the present invention there is provided an educational and/or entertainment product composed of a book comprising a front cover, a back cover and a set of pages therebetween, one of the covers being provided with a housing defining a cavity, and an entertainment device received in the cavity of the housing and comprising a video unit with a display screen for displaying images of a video recording, a memory for storing the recording and sound output means for output of sound associated with images when displayed on the screen, control means for controlling operation of the video unit, a rechargeable power source for supplying operating power to the video unit and conducting means for conducting charging power to the power source, wherein the entertainment device is permanently enclosed in the housing and the housing has a window, which is open towards the set of pages and through which images on the screen are viewable, and a port for external access to the conducting means.

Such a product provides passive and active communication in the form of a combination of printed textual and/or pictorial material, as determined by the content of the pages, and electronically reproduced video images with accompanying sound in a single package having the basic form of a book able to be handled and used in similar manner to a conventional book. The product, depending on content, is suitable for all ages and can be wholly informative (educational) or wholly entertainment-oriented in its purpose, but is envisaged as being a particularly appropriate tool for both teaching and entertaining young children. Typically, reading and/or viewing the material on the pages can be followed by viewing the moving images of a stored video, in which case the preferred location for the housing with the entertainment device is the back cover. Permanent enclosure of the device in the housing safeguards against loss and, importantly, intentional removal, so that the device can be used only in conjunction with the rest of the book and not as a separate entertainment unit. By "permanent" enclosure there is to be understood non-releasable enclosure, in particular enclosure in the sense that release is not possible without destructive or partially destructive action on the product. Consequently, there is a deterrent to attempted removal of the entertainment device, in whole or in part, by a child. The provision of a rechargeable battery and an access port for access to the conducting means for recharging current enables long-term utility of the entertainment device.

In an enhancement of the product the conducting means can additionally serve for conducting data signals to the video unit to enable supply to and storage in the memory of video recordings from an external source, in which case, for example, provision can be made for downloading recordings from, in particular, the Internet on a suitable basis such as by individual payment or subscription. The range of images and sound able to be provided by the entertainment device can thus be regularly extended, updated or otherwise varied to maintain novelty of the entertainment aspect of the product while retaining the familiarity of the textual and/or pictorial aspect of the product, which can be an important consideration in connection with a child's adoption of a 'favourite', i.e. preferred and regularly used, book.

In this connection, it is possible for the memory to be configured to store a plurality of video recordings and to be controllable by the control means for selective issue of the stored recordings for display of the respective images on the display screen and output of the associated sound by the sound output means. It is thus possible to view different

video recordings on the screen and to provide, for example, different video films relating to different aspects of the material contained in the pages. However, it is equally possible, in a simple version of the product, for the memory to store merely a single recording which is either replaceable or permanently stored.

The conducting means is preferably terminated at the port by a socket for removable attachment of a lead, for example a socket in the form of a USB socket of standard form. Such a socket may allow recharging of the battery at any location where, for example, a personal computer or other equipment with a compatible charging facility is available.

In one preferred embodiment the cover provided with the housing, for example, the back cover, can be a substantially rigid component formed by a board with an enclosure forming the housing and fixed to the board. In that case, the enclosure can be formed by, for example, a flat box-shaped body or sleeve of folded cardboard, moulded or extruded plastic or any other appropriate material, preferably with emphasis on low cost. Such a housing can be glued in place or attached to the board by any other suitable method. In an alternative embodiment the cover provided with the housing can have the form of a substantially rigid unitary element incorporating the housing, thus a fully integrated cover and housing. This could be produced from, for example, a suitable cardboard sheet appropriately dimensioned, cut and folded to form both the cover and at the same time one main wall of the housing, a further main wall parallel to and spaced from the cover, and edge walls connecting the two main walls, the edge walls being in part integrally formed with and in part attached by adhesive or other suitable means to the main walls.

The control means can be arranged to be operable by way of pressable control zones demarcated on the housing, for example control means in the form of pushbuttons operable by pressing on the housing material - which if of suitably thin cardboard or plastic sheet will have a degree of resilient flexibility - in zones marked to identify the locations of the pushbuttons. Alternatively or additionally, the control means can be provided by touch-sensitive control zones displayed or displayable on the display screen, such zones frequently being a feature of electronic display equipment with selectable display content. In either case, the control means can include an on and off facility for the screen display and a volume adjustment facility.

It is also possible for the control means to comprise switching means for switching the

video unit on and off by, respectively, opening and closing the front cover, the back cover or either one of the covers in relation to the set of pages. In that case, the entertainment unit can be activated automatically when the book is used in the usual way for reading purposes.

A further preferred feature of the product is provision in the sound output means of a feed for a headset, in which case the housing can have a further port for external connection with the feed. The port can include a socket for coupling with a standard headset or headphones plug. This feature enables use of the entertainment unit with the output sound confined to the audio range the actual user of the product.

A preferred embodiment of the educational and/or entertainment product will now be more particularly described by way of example with reference to the accompanying drawings, in which:

Fig. 1 is a schematic view of an educational and/or entertainment product embodying the invention with covers of a book of the product opened to expose an entertainment unit of the product;

Fig. 2 is an end view, in the direction II of Fig. 1, of the product in a closed state of the book;

Fig. 3 is an underneath view, in the direction III of Fig. 2, of the product in the closed state of the book; and

Fig. 4 is a view similar to Fig. 4, but in the open state of the book.

Referring now to the drawings there is shown an educational and/or entertainment product 10 composed of a book 11 and an entertainment device 12, the two being combined to form a composite unit having external dimensions determined principally by the book except in the case of thickness, to which the entertainment device makes a substantial contribution. The book 11 comprises, as conventional, a hinged front cover 13, a hinged back cover 14 and a set of pages 15 sandwiched between the covers and attached primarily to a spine 16 connecting the covers.

The covers 13 and 14 and the set of pages are, in this embodiment, of oblong format defining a length and width, but the format can be of any suitable size and shape within the constraints of utility of the book. The covers 13 and 14 are preferably of rigid card, thus a 'hardback' book. The pages are printed with text, images or both, depending on the purpose of the book. In the case of a book serving as an aid to learning and comprehension by, especially, a child at the ab initio reading stage, cognition is typically promoted by an association language and images and accordingly in this application of the product the pages will have both textual and pictorial content.

In the case of the product 10, the learning or simple enjoyment aspect by the book 10 is supplemented by the entertainment device 12, which is integrated in the product to provide an extra dimension to the book preferably in association with, but possibly also in distinction from, the content of the book. In particular, the entertainment device 12 allows playing of a pre-recorded video of a subject, which for preference is the same as or connected with the subject of the book, and the output of sound, especially a narrative, to accompany the images produced by the video when played. For that purpose the book 11 is provided on one of its covers - in the preferred embodiment the back cover 14 - and specifically at the inside of that cover with a housing 17 defining a cavity (not designated in the drawings) in which the entertainment device 12 is received to be permanently housed in the housing 17, i.e. housed in such a way that the device or components thereof are not removable without at least partial destruction of the housing.

The housing 17 can be constructed in various ways, but in a preferred embodiment is a folded cardboard enclosure in the form of a flat box, the enclosure being secured, such as by glueing, to the inside of the back cover 14. In another embodiment the housing 17 has the form of a folded cardboard enclosure formed integrally with the back cover 14 so that the cover 14 at the same time defines a first major wall of the enclosure. An extension of the cover is folded to define a second major wall parallel to the first major wall and connecting edge walls for connecting the two major walls. The edge walls can thus be integral with one of the major walls and attached, where required, to the other major wall, i.e. to the back cover 14. The mentioned forms of construction of the housing are merely examples and a suitable housing can be constructed in various ways and from various materials, including plastic.

The entertainment device 12 essentially comprises a video unit 18, which basically

consists of a display screen 19 for displaying images of a video recording, a memory included in and thus forming part of an electronic printed circuitboard 20, and a speaker 21 for output of sound associated with displayed images. The screen 19 is preferably a flat liquid crystal display of standard or customised size with a JPEG, JPG or GIF picture format. Viewing of the screen 19 is made possible by provision of a window, denoted generally by 22, in the form of a cut-out in that one of the major walls of the housing 17 which in the closed state of the cover provided with the housing faces the set of pages 15. The circuitboard memory preferably has a storage capacity of 128 megabytes to 4 gigabytes and a capability of storing, inter alia, video formats AVI, WMV, MP4 and 3GP. The speaker 21 preferably operates with an audio format of MP3 or WAV.

In addition to the video unit 18 the entertainment device 12 comprises a control arrangement 23 for controlling operation of the video unit, a rechargeable battery 24 for supplying operating power to the video unit 17 and a conductor 25 for conducting charging power to the battery. The control arrangement 23 can, in fact, be provided wholly or in part by touch-sensitive zones of the screen display when the screen 19 is activated, but in the illustrated embodiment the control has the form of individual pushbuttons, indicated generally by 26, delineated by circles printed on the housing wall with the window 22 and positioned below this window, thus below the screen 19. The pushbuttons are operated by pressing on the circles to flex the constituent cardboard of the housing 17; the size of the housing wall with the circles, the thickness of cardboard suitable for producing the housing and the weakening provided by the cut-out defining the window 22 will generally be such as to impart sufficient flexibility for the purpose of transmission of a selectively applied operating force to the individual pushbuttons. The pushbuttons forming the control arrangement provide, for example, on/off switching of the entertainment device, increase and decrease in the volume of the sound output by the speaker 21 and video viewing options, for example, fast-forward, reverse, pause, etc.

The conductor 25 is connected at a lower side edge of the housing 17 with a USB socket 27 accessible via a port 28 formed in the edge wall boundary at that lower side edge. The conductor 25 comprises a plurality of lines leading to the circuitboard 20 and battery 24 for transmission of data signals to the former and recharging power to the latter, these data signals and the recharging power being derivable from, for example, a USB port of a personal computer and transferred by way of a standard lead to the socket 27. The memory of the circuitboard 20 preferably has the capability of storage of a video recording



transmitted as data signals and downloaded from an Internet site by way of a computer connectible to the Internet. The writing of a new recording into the memory can be conjunctive with erasure of an already stored recording, but the memory can also be configured to store multiple recordings and, in that case, the control arrangement 23 can control the memory to issue any selected one of the stored recordings for display on the screen 19 in conjunction with output by the speaker 21 of an associated audio narrative or other sound.

The control 23 can also include a switch (not shown) constructed and arranged to be operable by the action of opening a specific one, or simply either one, of the front and back covers 13 and 14 and when so operated to switch on the video unit 18. Correspondingly, the unit 18 can be switched off by closing the cover or covers co-operable with the switch. The entertainment device 12 is in that case activated automatically by an action associated with reading the book, specifically by turning to the front face of the first sheet of the set of pages 15 or back face of the last sheet of these pages.

In addition, the speaker 21 of the device can be connected by audio feed lines to a socket (not shown) for a headset, the socket being accessible by way of a further port (not shown) again at an edge wall of the housing 17. Sound output by the speaker can in that case be confined to the headset to allow audio use of the product 10 without disturbance to others.

The preferred embodiment of the product 10 hereinbefore described constitutes merely an exemplifying form of the product, in which, in particular, the entertainment device 12 can be modified in various ways depending on the level of complexity or simplicity desired. The product 10 combines both reading material and entertainment, the latter preferably associated with the content of the reading material, and is particularly suitable for, but not confined to, use by young children.

CLAIMS

1. An educational and/or entertainment product composed of  
  
a book comprising a front cover, a back cover and a set of pages therebetween, one of the covers being provided with a housing defining a cavity,  
  
and an entertainment device received in the cavity of the housing and comprising a video unit with a display screen for displaying images of a video recording, a memory for storing the recording and sound output means for output of sound associated with images when displayed on the screen, control means for controlling operation of the video unit, a rechargeable power source for supplying operating power to the video unit and conducting means for conducting charging power to the power source,  
  
wherein the entertainment device is permanently enclosed in the housing and the housing has a window, which is open towards the set of pages and through which images on the screen are viewable, and a port for external access to the conducting means.
2. A product according to claim 1, wherein the conducting means additionally serves for conducting data signals to the video unit to enable supply to and storage in the memory of video recordings from an external source.
3. A product according to claim 1 or claim 2, wherein the memory is configured to store a plurality of video recordings and is controllable by the control means for selective issue of the stored recordings for display of the respective images on the display screen and output of the associated sound by the sound output means.
4. A product according to any one of the preceding claims, wherein the conducting means is terminated at the port by a socket for removable attachment of a lead.
5. A product according to any one of the preceding claims, wherein said one of the covers is a substantially rigid component formed by a board with an enclosure forming the housing and fixed to the board.
6. A product according to any one of claims 1 to 4, wherein said one of the covers is a

substantially rigid unitary element incorporating the housing.

7. A product according to any one of the preceding claims, the control means being operable by way of pressable control zones demarcated on the housing.

8. A product according to any one of the preceding claims, the control means comprising touch-sensitive control zones displayed or displayable on the display screen.

9. A product according to any one of the preceding claims, the control means comprising switching means for switching the video unit on and off by, respectively, opening and closing the front cover, the back cover or either one of the covers in relation to the set of pages.

10. A product according to any one of the preceding claims, wherein the sound output means comprises a feed for a headset and the housing has a further port for external connection with the feed.

## CLAIMS

1. An educational and/or entertainment product composed of

a book comprising a front cover, a back cover and a set of pages therebetween, one of the covers being provided with a housing defining a cavity,

and an entertainment device received in the cavity of the housing and comprising a video unit with a display screen for displaying images of a video recording, a memory for storing the recording, sound output means for output of sound associated with images when displayed on the screen, control means for controlling operation of the video unit, a rechargeable power source for supplying operating power to the video unit and conducting means for conducting charging power to the power source,

wherein the entertainment device is permanently enclosed in the housing and the housing has a window, which is open towards the set of pages and through which images on the screen are viewable, and a port for external access to the conducting means.

2. A product according to claim 1, wherein the conducting means additionally serves for conducting data signals to the video unit to enable supply to and storage in the memory of video recordings from an external source.

3. A product according to claim 1 or claim 2, wherein the memory is configured to store a plurality of video recordings and is controllable by the control means for selective issue of the stored recordings for display of the respective images on the display screen and output of the associated sound by the sound output means.

4. A product according to any one of the preceding claims, wherein the conducting means is terminated at the port by a socket for removable attachment of a lead.

5. A product according to any one of the preceding claims, wherein said one of the covers is a substantially rigid component formed by a board with an enclosure forming the housing and fixed to the board.

6. A product according to any one of claims 1 to 4, wherein said one of the covers is a

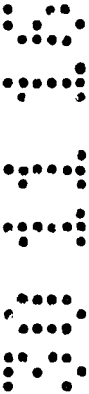
substantially rigid unitary element incorporating the housing.

7. A product according to any one of the preceding claims, the control means being operable by way of pressable control zones demarcated on the housing.

8. A product according to any one of the preceding claims, the control means comprising touch-sensitive control zones displayed or displayable on the display screen.

9. A product according to any one of the preceding claims, the control means comprising switching means for switching the video unit on and off by, respectively, opening and closing the front cover, the back cover or a selectable one of the covers in relation to the set of pages.

10. A product according to any one of the preceding claims, wherein the sound output means comprises a feed for a headset and the housing has a further port for external connection with the feed.





**Application No:** GB1605543.6

**Examiner:** Mr Chris Morris

**Claims searched:** 1-10

**Date of search:** 29 September 2016

**Patents Act 1977: Search Report under Section 17**

**Documents considered to be relevant:**

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-2, 4-6, 9-10	US 2016/068002 A1 (KELLER) Figures; Description 0005-0007, 0022-0023
X	1-10	US 2013/177291 A1 (AMERICHIP) Figures, especially 6-7; Description 0066, 0081-0082
X	1-8, 10	US 2008/145828 A1 (YU) Figures, especially 4, 9-10; Description 0028-0030
X	1-8, 10	US 2005/260551 A1 (RUBIN) Figures
X	1-8, 10	WO 2012/007620 A1 (LIMERES) Figures, especially 2A
X	1-8, 10	CN 202965551 U (ZHAO) Figures, Abstract
X	1-8, 10	WO 2007/085661 A1 (DEPLANQUE) Figures, especially 1a-d

**Categories:**

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

**Field of Search:**

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>X</sup> :

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Worldwide search of patent documents classified in the following areas of the IPC

A63H; B42D; G09B

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC



B42D	0001/00	
A63H	0033/38	01/01/2006
G09B	0005/00	01/01/2006
G09B	0005/02	01/01/2006
		01/01/2006